ATTACHMENT 4 – DETAILED SITE INVESTIGATION

FORMER CSU SOUTH CAMPUS

20 HELY AVENUE TURVEY PARK NSW 2650

DETAILED SITE INVESTIGATION STAGES 1 & 2

DECEMBER 2019

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Report type

Detailed Site Investigation
Stages 1 & 2

Site address

Former Charles Sturt University
South Campus
20 Hely Avenue
Turvey Park NSW 2650

Report number

6459

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1.0 Executive summary

DM McMahon Pty Ltd (McMahon) conducted a Detailed Site Investigation (DSI) with site inspections and sampling conducted in October and November 2019 on the former Charles Sturt University (CSU) South Campus that is proposed to be developed as an aged care facility. The site is proposed to be developed in two stages with soil excavated from Stage 2 being used as structural fill on Stage 1.

The objective of the DSI is to determine if potential soil contamination poses any unacceptable health risk under the proposed land use associated with the historical use of the site, especially in regard to previous structures that may have contained asbestos, lead paint and have had pesticides/herbicides applied.

The scope of the assessment was developed by reference to the following guidelines and standards namely:

- The Western Australia (WA) Department of Health (DoH) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009).
- The National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (2013).

Specifically, the scope of assessment is summarised as follows:

- An inspection of surface and near surface for bonded Asbestos Containing Material (ACM) on a 10m x 10m grid across the subject site by handpicking, bi-directional raking and bi-directional tilling. .
- Sampling to a depth of 0 to 0.3m in natural soil, or fill when encountered, for bonded ACM and friable asbestos quantification. Sampling was conducted in areas based on likelihood of asbestos from results of the previous inspection and location of previous structures.
- Inspection of water and stormwater services, and telecommunication boxes for potential asbestos containing cement in select locations.
- Sampling for heavy metals analysis (As, Cd, Cr, Cu, Pb, Ni, Zn) analysis within areas where previous structures have need identified.
- Sampling for Organochlorine Pesticides (OCP)/Organophosphate Pesticides (OPP) and phenoxy herbicide analysis within areas where previous structures have need identified.
- Sampling for OCP/OPP and phenoxy herbicide analysis where historically open grassed areas have been identified.
- Comparison of results to the adopted criteria for human health risk assessment.

Based on the inspection and laboratory analytical results the following findings were made:

- The surface and near surface inspection found bonded ACM fragments in 120 of the 1,138 grids investigated.
- Bonded ACM fragments were found during pit sampling.
- Fibrous asbestos was found in three of the 235 asbestos quantification pits sampled.
- The water and stormwater pipes inspected contained no asbestos, but one decommissioned telecommunication box uncovered during sample pit excavation did.
- All 72 previous structures and open space sites sampled for heavy metals, OCP/OPP and phenoxy herbicide analysis returned results below Method Detection Limits (MDLs) and/or the Health Investigation Level (HIL) criteria for Residential ‘A’ land use.

McMahon offer the following assessment and conclusions based on the findings of this DSI:

- Bonded ACM fragments were found in the surface and near surface soil during inspection and sampling in areas where previous structures were located. These bonded ACM fragments where found were removed and as a result of inspection and sampling, the surface of the subject site has been substantially remediated of bonded ACM.
- Fibrous asbestos was found in the near surface soil at three sample points within **Area 3** which is outside the Stage 2 development area and outside of the footprint for the Stage 1 Aged Care Development Application (DA) footprint.
- Asbestos cement was found in one decommissioned telecommunication box and there is the potential for further finds of this nature during development.
- A Remedial Action Plan (RAP) and appraisal of remediation options is required to be completed with the objective of rendering the site suitable for the proposed retirement housing and community centre use. The strategy should consider areas of ACM in soil as well as detected asbestos fibres in soil, and options assessed to ensure health risk and soil management are rendered suitable for the construction process as well as the long term planned use of the site. It is understood the developer wishes the site not be encumbered by long term environmental management requirements, and the remediation strategy should therefore include complete site remediation, so long as complete site remediation is assessed as feasible in the RAP.
- An unexpected findings protocol is required to be developed and implemented by Croft Development Pty Ltd for asbestos including any additional asbestos cement telecommunication boxes found during excavation.
- Data gaps exists for asbestos in the form of testing asbestos on current buildings, in the soil underneath existing buildings and in the soil underneath sealed surfaces. Asbestos or other indications of potential contamination identified in these areas can be managed under an unexpected findings protocol, including the validation process during development.
- The enquiries, research, investigation and assessment conducted as part of the DSI are considered adequate for the purpose of the development proposal.
- The potential contamination sources, pathways and receptors have been identified along with the areas of concern, if unexpected findings occur in these areas then further assessment is recommended.

2.0 Introduction

2.1 Background

At the request of Croft Development Pty Ltd (Croft), McMahon conducted a Detailed Site Investigation (DSI) on 20 (Lot 2) Hely Avenue, Turvey Park NSW. McMahon consultants conducted site visits and sampling in October and November 2019 with this report produced thereafter. The site is formerly a tertiary education facility and RAAF hospital and has been proposed to be developed into an aged care facility.

The development will occur in two stages with Stage 1 (3.46ha) being developed into an aged care facility with assisted living units. Stage 2 (the remaining 7.86ha) will consist of retirement housing with a community centre on the eastern boundary midway along Hely Avenue. A plan of the proposed development can be seen in Figure 1, **Attachment A**. The land occupied by the Riverina Conservatorium of Music and the CSU Regional Archives will be subdivided off.

2.2 Scope of work

The scope of work included a review of the preceding PSI (Stage 1 and 2) and DSI (Stage 1) and further site inspection to formulate a sampling plan for the identified areas on concern on site, with soil sampling and screening undertaken thereafter. The objective of this report, which dictates the scope of work, is to identify any potential contamination sources from previous land use and to provide an assessment of site contamination. This report also aims to assess the site suitability in regard to the proposed development. As such, the DSI objectives include the following:

- Conduct the DSI on Stages 1 & 2 in consideration of the recommendations of the Preliminary Site Investigation (PSI) conducted by McMahon in 2018 (Report number 5340) and Detailed Site Investigation (DSI) conducted by McMahon in June 2019 (Report number 5901).
- Undertake a site inspection and sampling in the areas of concern with interpretation of field and laboratory results.
- Advise on the potential contamination risk and the need, or otherwise, for further investigation and/or assessment.
- Advise on the suitability of the development in relation to the potential contamination risk.

The investigation and assessment were undertaken in accordance with the relevant guidelines and standards, namely:

- The WA DoH Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009).
- NSW OEH Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites (2011).
- State Environmental Planning Policy 55 – Remediation of Land (SEPP 55).
- National Environment Protection (Assessment of Site Contamination) Measure (NEPM), (2013).

2.3 Site identification

Details of the site identification can be seen as follows, **Table 1**.

Table 1: *Site identification*

Identifier	Details
Address	20 Hely Avenue, Turvey Park NSW 2650
Real property description	Lot 2 DP 1183166
Centre co-ordinate	531800E 6112600N MGA GDA z55H
Property size	13.32 hectares (total) 3.46 hectares (Stage 1) (approximately) 7.86 hectares (Stage 2) (approximately) 2.00 hectares (subdivision) (approximately)
Owner(s)	Charles Sturt University
Local Government Area	Wagga Wagga
Present use	Infrastructure
Development Application reference	DA18/0175, DA19/0001

A plan of the staged development can be seen in Figure 2, **Attachment A**.

3.0 Site history

3.1 Land use and site history

The western section of the site is used for primary and secondary education in the form of Saint Mary McKillop College whilst Building 514, houses the CSU Regional Archives and the Riverina Conservatorium of Music. All other buildings on site are vacant.

A 2013 map of the Stage 1 and Stage 2 areas shows the current buildings and buildings demolished since 2013 (red) can be seen in Figure 3, **Attachment A**.

Since European settlement, the site has been used for broad acre farming until development in 1944-1946 of the No.1 RAAF Hospital; the hospital was transferred to the nearby RAAF Base in Forest Hill with 150 beds. A plan of the RAAF hospital layout can be seen in Figure 4, **Attachment A**. The hospital closed in 1946 and later that year, the site reopened as the Wagga Wagga Teachers College. Works including various renovations and the dismantling of two buildings facilitated the conversion.

Later, extensive development of the site involved construction of the Riverina Murray Institute of Higher Education - Riverina College of Advanced Education (RCAE) South Campus, with the first year of enrolments in 1972. The building footprint increased dramatically to accommodate for the increased student numbers throughout the late 1970s as can be seen in Figure 5, **Attachment A**.

Due to the construction of the RCAE main campus in Boorooma on the northern outskirts of Wagga Wagga in the 1970s, South Campus teaching and accommodation gradually transferred to the main campus to accommodate for growth. This process started during the 1970s and continued into the 2000s. In 1989, the RCAE was transformed into Charles Sturt University (CSU) and the South Campus was becoming redundant. By 2011, numerous buildings had become derelict and a Development Application was approved to demolish many buildings between 2014 and 2016.

A plan of all demolished previous structures from both the RAAF Hospital, RCAE and CSU South Campus can be seen in Figure 6, **Attachment A**.

Saint Mary Mackillop College took ownership of the western section of the site in 2014 and erected two demountable classrooms. The College is still currently in operation. Building 514 houses two entities, the CSU Regional Archives and The Riverina Conservatorium of Music, Wagga Wagga.

The historical Land Records Viewer database was investigated for land use and ownership history, LPI (2017). Some gaps exist, but the data demonstrates lot sizes are maintained until development of the site as a large educational institute, **Table 2**.

Table 2: *Site history from LPI records*

Year	Data	Ownership
1889	Parish map	Cha McRudden, Lot 98 (Lot 2), 48 acres J.D. Thompson, Lot 97 (Lot 2), 48 acres Elias Ingram, Lot 96 (Lot 2) 48 acres
1910	Parish map	Cha McRudden, Lot 98 (Lot 2), 48 acres J.D. Thompson, Lot 97 (Lot 2), 48 acres Elias Ingram, Lot 96 (Lot 2) 48 acres
1921	Parish map	Cha McRudden, Lot 98 (Lot 2), 48 acres J.D. Thompson, Lot 97 (Lot 2), 48 acres Elias Ingram, Lot 96 (Lot 2) 48 acres
1928	Parish map	Cha McRudden, Lot 98 (Lot 2), 48 acres J.D. Thompson, Lot 97 (Lot 2), 48 acres Elias Ingram, Lot 96 (Lot 2) 48 acres
1937	Parish map	Cha McRudden, Lot 98 (Lot 2), 48 acres J.D. Thompson, Lot 97 (Lot 2), 48 acres Elias Ingram, Lot 96 (Lot 2) 48 acres
1967	LTO Charting Map	Wagga Wagga Teachers College, Lot 98,97,96 (Lot 2).
1973	Regional Charting Map	Riverina Murray Institute of Higher Education, Lot 96-98(Lot 2).

Ownership details from 1973 to the current owners were not available at the time of reporting, however, Charles Sturt University are known to have purchased the site in 1989.

3.2 Review of aerial photographs

A review of the available historical aerial photography is summarised as follows, **Table 3**. The aerial photographs can be seen in **Attachment B**.

Table 3: *Observations from historical aerial photography*

Year	Site	Surrounding land
1944	Various buildings consistent with the 1943 RAAF site plan supplied in the PSI existed on site. 10 houses existed along Hely Avenue and Fernleigh Road. The remainder of the site is vacant land.	Surrounding land is predominantly vacant with farming land to the south and west, light density residential areas are observed to the north and east. The Wagga Showgrounds site exists to the north and the railway line sits to the northwest of the showgrounds.
1966	Extensive development has taken place on site. All RAAF structures have been removed apart from what appears to be a few service buildings. New structures have been built throughout, associated with the Teachers College. All residential dwellings described above have been removed apart from one residence with a small shed on Hely Avenue.	Extensive residential development has taken place to the north, east and south with vacant fields and paddocks to the west. A sporting field has been constructed in the southwest corner of the block.
1971	New structures have been built in the centre of the site, associated with the Teachers College.	Surrounding areas have remained relatively unchanged.
1980	The site has remained relatively unchanged.	Surrounding areas have remained relatively unchanged.
1990	Buildings have been removed in the south west corner of the site (Business Studies Offices). A single building has been erected in the south of the site around the former student accommodation. The remaining residence on Hely Avenue has been removed.	The Juvenile Justice Centre has been constructed to the west as have significant roadworks.
1998	Vegetation has been cleared where the Business Studies Offices have been removed	The Juvenile Justice Centre has undergone further development. Commercial development has taken place opposite the Justice Centre
2004	Buildings have been removed in the centre of the site (Central Store, Kitchen, Dining Hall, Bank and Administration, Offices of the Principal, the Dean of Teacher Education and the Sub-Dean of Teacher Education)	Surrounding land has undergone further development on all sides.
2007	The site has remained relatively unchanged.	Surrounding areas have remained relatively unchanged. The veterinary clinic on Urana Street has started construction.
2009	The site has remained relatively unchanged.	Surrounding areas have remained relatively unchanged. The veterinary clinic on Urana Street is still under construction.
2012	The site has remained relatively unchanged.	Surrounding areas have remained relatively unchanged. The veterinary clinic on Urana Street has finished construction.
2014	The site has remained relatively unchanged.	Minor residential development has taken place to the north west.

2016	Most buildings on site have been removed apart from the Riverina Conservatorium of Music and the former student accommodation in the far north and south of the site. Demountable buildings occupied by the Saint Mary McKillop College have been placed on site west of the Riverina Conservatorium of Music.	Minor residential development has taken place to the north west. The Wagga Wagga NSW Ambulance station has started construction on Fernleigh Road, to the south of the site.
2018	The site has remained relatively unchanged.	Residential development has taken place to the north west. The Wagga Wagga NSW Ambulance station has finished construction on Fernleigh Road, to the south of the site.
2019	Two of the large student accommodation buildings (502 & 503) were destroyed by fire and have been removed, the remainder of the site is unchanged.	Residential development has taken place to the north west.

3.3 Development controls

EPA records

A search of the NSW EPA contaminated lands register and the NSW licensing, applications and notices register returned no results for the subject site in relation to current licences, applications, notices, audits, pollution studies and reduction programs, Preliminary Investigation Orders, Declaration of Significantly Contaminated Land, Approved Voluntary Management Plans, Management Orders, Ongoing Maintenance Orders, Repeal Revocation or Variation Notice, Site Audit Statement, or Notice of Completion or Withdrawal of Approved VMP. This information can be found in the attachments of the PSI, McMahon (2018).

Council records

Section 10.7 (2) planning certificates (previously Section 149) were supplied by Salvestro Planning with the findings indicating that no matters are arising under the Contaminated Land Management Act 1997. The 10.7 (2) certificates can be found in the attachments of the PSI, McMahon (2018).

SafeWork NSW records

A Safework NSW Hazardous Chemicals on Premises search was conducted with the following statement made by SafeWork NSW:

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

The SafeWork search results can be found in the attachments of the PSI, McMahon (2018).

Information supplied by CSU

Hazardous Material Survey reports were provided by Cheryl Honey from CSU, in an email dated 10 July 2018. Prepared by Noel Arnold and Associates Pty Ltd in August 2008 for CSU, the surveys identified representative construction materials and assessed hazardous materials including asbestos, Synthetic Mineral Fibre (SMF), Polychlorinated Biphenyls (PCBs) and lead containing paint. The buildings are identified below, **Table 4**.

Table 4: *Buildings identified in Hazardous Material Survey reports*

Building number	Building age	Building name
501	c.1950s	Mary Gilmore Hall A
502	c.1950s	Mary Gilmore Hall B
504	c.1950s	Riverina Theatre Company
505	c.1950s	Central Laundry South
506	c.1950s	Sturt Hall
507	c.1990s	Dining Hall
510	c.1950s	Furniture Store
512	c.1970s	Music Centre Annexe
514	c.1970	Blakemore Building
519	c.1970	Preschool
521	c.1950s	Auditorium
523	c.1950	Newell Hall
524	c.1950	RAD Cottage
525	c.1950s	Hamilton Hume Block W
526	c.1950s	Hamilton Hume Block X
527	c.1950	Cottage 22
528	c.1950s	Cottage No. 2
529	c.1950s	Cottage No. 4
533	c.1950s	Old Boiler House
534	c.1950	Maintenance Workshop
535	c.1950	Gardeners Stores
537	c.1950	Old Laundry

4.0 Site condition and surrounding environment

4.1 Site condition

The subject site is no longer operating as the CSU South Campus, aside from one building that houses the Regional Archives and the Conservatorium of Music. Saint Mary Mackillop College is in operation on the western part of the site and the remaining buildings are disused and vacant. Vegetation on the site is predominantly lawns in varied condition (as shown by the site photographs) with eucalypts and other large native trees around the border of the site and sparsely scattered throughout. Some introduced tree species are scattered throughout the site, usually around existing buildings and gardens.

4.2 Site improvements

There have been numerous improvements made to the site over the years as identified from the site research and historical aerial photography conducted as part of the PSI, McMahon (2018). Current buildings on site include three large U-shaped housing blocks with a central communal area and bedrooms in the wings on either side that were former student accommodation associated with the RCAE. One housing block (501) exists on the southern portion of the site (Stage 2) while two (525 and 526) exist in the far north west corner (Stage 1).

Two other buildings exist in the central section of the site namely, Building 514 (Archives /Conservatorium) and Building 510 (ancillary). These two buildings are the only buildings in operation for the site apart from the neighbouring Saint Mary McKillop College. Building 507 (Recreation Hall) resides in the middle of Buildings 501, 502 and 503 on the southern portion of the site. Buildings 502 and 503 were destroyed by fire on 29 April 2019 and 19 September 2019 respectively and were removed. All the above-mentioned buildings are constructed primarily of brick walls and corrugated iron roofing from visual inspection.

There are also two large carports, one is adjacent carpark P61 and the other above carpark P67. They are both constructed of steel truss/brick walls and ceilings with corrugated iron roofing.

There is one other small building on site, just to the west of the entrance at the Charleville Road and College Avenue intersection. The building has a similar construction to that of the old residences.

There are four sealed roads with associated drainage systems. An extensive network of above and below ground stormwater drainage, underground services, access pits are visible across the site and were usually built of reinforced concrete and structural steel.

4.3 Services

The site has communications, drainage, electrical, irrigation, gas, water, stormwater and sewerage services across the site. All services have been located and surveyed and a plan of these services can be seen in Figure 7, **Attachment A**.

4.4 No-access areas

There were areas that were unable to be inspected for hazardous materials and potential of contamination sources at the time of the inspection including:

- All vacant buildings – locked and sealed.
- Building 507 caged area – locked.

- Building 514 and 510 – locked and in use.
- Some pits and trenches – sealed entry points.
- Underneath sealed roads and carparks.

4.5 Environmental characteristics of the site and surrounds

A desktop review and investigation of the topography, hydrology, soil, lithology, geology and hydrogeology of Stage 1 and 2 has been undertaken and are as follows:

Vegetation

The site is home to annual and perennial grasses with sparsely scattered Eucalyptus trees observed throughout. Limited introduced tree species were noted adjacent to existent buildings.

Natural Resources Sensitivity

A search of the WWCC online mapping found that the subject lot is in a natural resource's sensitivity area for groundwater vulnerability with minimal, sparse and isolated areas of biodiversity; no areas classed as vulnerable lands or riparian lands/waterways were identified, WWCC (2018).

Topography

The Lake Albert 1:25,000 Topographic Map (Sheet 8327-1-S) indicates that the site is located at an elevation range of approximately 190 to 220m AHD. The site landform is classed as gentle to undulating rises, foot slopes, plains and a few low hills while stream channels are erosional, tributary and widely spaced with moderately broad drainage depressions. No local crests are present on site, the closest local crest is approximately 200m to the southeast with a height of 200m AHD. Slope on the site is fairly consistent with the majority of the site sloping generally towards the north west, the northern portion of the site flattens out with a very gradual slope towards the west, see Figure 8, **Attachment A**

Hydrology

The site is part of the Murrumbidgee River catchment with overland flow in a generally north west direction. The Flowerdale Lagoon and Murrumbidgee River are located approximately 2 to 2.5km north of the site. There is limited run-on water to the site owing to the WWCC stormwater system. Run off from the site would eventually end up in the Flowerdale Lagoon via the Council stormwater network. Due to the incline and surface of the site, rainfall is likely to both run off and infiltrate the relatively permeable topsoils. The site has no flood risk owing to the distance from and elevation above the flood plain, WWCC (2018).

Weather

The average rainfall for Wagga Wagga is approximately 526.8mm per annum, with the wettest months being October, June and July respectively. Annual mean evaporation for the region is 1716.3mm with mean daily evaporation ranges from 1.2mm in July to 9.2mm in January. Wagga Wagga is characterised by cold wet winters and hot dry summers with mean maximum temperatures ranging from 11.9ºC in July to 31.5 ºC in January and mean minimum temperatures ranging from 3.0ºC in July to 17.0ºC in February. Rainfall, temperature and evaporation data observed from Wagga Wagga Agricultural Institute site 73127 (www.bom.gov.au).

Soil & Landform

The site lies within the mapping units **bk** and **pu** from the Soil Landscapes of the Wagga Wagga 1:100 000 Sheet (DLWC, 1997). The map units **bk** and **pu** are described in order as follows:

bk - Becks Lane (Transferral landscape)

Landscape: gently inclined foot slopes adjacent to hills on Ordovician metasedimentary rocks. Local relief 5–15 m; slopes 2–4%. Long (>300 m) waning slopes and mostly parallel shallow drainage lines. Almost completely cleared tall woodland.

Soils: moderately deep (80–100 cm) Haplic and Bleached Red and Brown Chromosols (Red Podzolic Soils) on slopes. Moderately deep (80–150 cm) Bleached-Mottled and Bleached Brown Chromosols (Brown Podzolic Soils) and Sodosols (Solodic Soils) near drainage lines.

Limitations: high erosion hazard; foundation hazard (localised); acidity; locally hardsetting soils; localised poor drainage; seasonal waterlogging.

pu - Pulletop (Erosional landscape)

Landscape: undulating rises of Ordovician metasedimentary rocks. Local relief 15 - 40 m; slope gradients 3 - 10%. Broad crests and ridges, long, waning slopes and moderately broad drainage depressions. Extensively to completely cleared tall woodland.

Soils: shallow to moderately deep (40 - 100 cm) Mesotrophic Red Chromosols on crests, ridges and upper slopes; moderately deep (80 - 150 cm) bleached and Haplic Red Chromosols on mid to lower slopes, and moderately deep (80 - 150 cm) mottled Subnatric Brown Sodosols in drainage lines.

Limitations: erosion hazard, foundation hazard (localised), salinity (localised), strongly acid and locally shallow and stony soil.

The underlying geology is weathered Ordovician metasedimentary rocks, with thick usually greater than 2m thick slope wash and alluvial clayey sediments occurring on the lower slopes and drainage depressions, that in the western catchment of Wagga Wagga would be synonymous with the Becks Lane soil landscape.

Geology & Regolith

The geology and lithology of the site is slightly complex and variable as it runs across two different landscape profiles. Main rock types include undivided Ordovician metasedimentary rocks and colluvium including thinly interbedded siltstone, sandstone, shale, hornfels phyllites, minor schists (including quartz mica and graphite) and quartzite deposits. Lithology can vary over short distances with thick slope-washed and alluvial clayey sediments occurring on the lower slopes and drainage depressions.

The catchment that is the focus of this report where the proposed development is located consists of Ordovician metasediments. Overlying the weather zone are colluvial clayey sediments, especially in the lower elevation areas of the catchment.

Hydrogeology

From the Geoscience Australia hydrogeology dataset, the groundwater beneath the site is described as mainly highly extensive, porous aquifers of moderate to high productivity.

Based on the monitoring data from the Wagga Wagga City Council groundwater monitoring network, WWCC (2017) and the work by Cook et al. (2001), a conceptual model of the

groundwater has been developed to place the proposed development within the west Wagga Wagga catchment.

The groundwater gradient in the area is a muted reflection of the natural topography of the catchment with it converging at the confluence of the Murrumbidgee alluvium catchment to the direct north of the site.

The colluvial and alluvial clays would become thinner as the elevation increases on the eastern, western and southern margins of the basin. This material and the contact margin with the underlying weathered metamorphic sediments is likely to contain a shallow water table. This water table would be associated with urban recharge as identified by Cook et al (2001). There would have been likely pre-existing shallow groundwater level in the lower areas of the catchment, but urban recharge has exacerbated this.

Two registered groundwater bores are located on site and 23 registered groundwater bores located within 500m of the site, see Figure 9**, Attachment A** (DPI, 2018).

The details of the bore construction are shown as follows, **Table 5** (BOM, 2018).

Table 5: *Registered groundwater bores in the locale*

Bore ID	Drilled depth (m)	Water bearing zone (m)	Standing water level (m)	Location compared to subject site	AHD	Purpose
GW400450	4.10	-	-	ON SITE	186.24	Monitoring
GW400446	13.2	-	-	ON SITE	216	Monitoring
GW400449	4.30	-	-	135m	191	Monitoring
GW400448	4.20	-	-	98m	199	Monitoring
GW400447	3.90	-	-	66m	202	Monitoring
GW400444	-	-	-	238m	195	Monitoring
GW400443	7.30	-	-	333m	186	Monitoring
GW414473	15.0	-	6.00	262m	192	Monitoring
GW401239	15.15	-	-	293m	187	Monitoring
GW401238	4.05	-	-	295m	187	Monitoring
GW401233	20.3	-	-	321m	186	Monitoring
GW401235	4.05	-	-	412m	184	Monitoring
GW401234	15.15	-	-	417m	185	Monitoring
GW401236	15.15	-	-	423m	185	Monitoring
GW401237	4.05	-	-	424m	185	Monitoring
GW020219	70.10	62.8-67.1	30.50	490m	184	Industrial
GW401242	15.0	-	-	497m	184	Monitoring
GW401243	8.10	-	-	498m	184	Monitoring
GW400445	10.0	-	-	276m	199	Monitoring
GW402857	10.0	-	-	436m	186	Test Bore
GW402858	10.0	-	-	478m	187	Test Bore
GW414481	7.50	-	0.50	422m	193	Monitoring
GW414480	7.50	-	2.50	461m	193	Monitoring
GW033948	106.7	85.3-85.4 100.3-100.4	-	287m	193	Recreation
GW414331	106.0	40-41 71-72 90-91	15.0	269m	193	Recreation

As part of their urban salinity monitoring, Wagga Wagga City Council have produced a contour map interpolated from the monthly standing water levels measured in Councils bore network in 2016 - 2017, see Figure 10 **Attachment A**. The data indicates that the standing water level west of the subject site is from 0 – 2m below ground level, WWCC (2017).

From the above information, groundwater is likely to be within 4 and 10m of the surface at the subject site. Drilling undertaken as part of a recent geotechnical investigation supports this, with groundwater being encountered at one location in Stage 1 at a low elevation in the north west corner at 4.5m depth, McMahon (2018).

4.6 Potential receptors and exposure pathways

Based on a proposed aged care land use of the site and potential sources of contamination outlined above, potential receptors from contamination, if present, were considered to comprise of:

- Aged care residents and commercial users of the site from:
  - direct contact (dermal contact and ingestion) with contaminated soil and dust; and
  - inhalation of asbestos fibres.
- Shallow and intrusive maintenance and excavation by workers (by chronic and acute exposure) from:
  - Direct contact (dermal contact and ingestion) with contaminated soil, dust and fibres; and
  - Asbestos fibre and lead-based paint dust inhalation from removal/demolition works or in-situ bonded ACM disturbance.

4.7 Data gaps

McMahon identified data gaps from the PSI and DSI including a lack of clearance certificates and hazardous materials reports for existing buildings on site and buildings that have been demolished. There is also uncertainty around the location of demolished buildings as identified in the 'Lack of Building Identification' row of **Table 6**.

It is recommended that the below data gaps be rectified via supplying the relevant information to help clear areas and reduce areas for further investigation. A log of on-site buildings has been provided in the attachments of the PSI, highlighting data gaps as well as building timelines and demolition periods. The relevant data gaps are provided below in **Table 6**.

Table 6: *Data gaps*

Data gap/source	Affected buildings/locations/ items
Asbestos Clearance Reports	All buildings which have previously been demolished. With priority for buildings: 201, 511, 512, 514, 519, 525, 526, 527, 528, 529, 536 537, 502 and 503.
Hazardous Material Reports	Required for Buildings 510, structure south of parking (P61), structure west of Building 519, structure on west side of College Avenue – adjacent entrance.
Lack of Building Identification	Appropriate mapping is required to determine locations of buildings: 201, 511, 512, 524, 528, 529, 532, 533, 535, 536 and 537.
Hazardous Material Clearances	Required for buildings which have been demolished and were identified as harbouring hazardous materials: 201, 504, 505, 506, 512, 521, 523, 524, 527, 528, 529, 533, 534, 535 and 537.
DA details – Certificates of Compliance	DA14/0041

5.0 Site inspection

Multiple site inspections took place in 2018 and 2019 by David McMahon and Zach Bradley of McMahon, with detail paid to the areas of interest identified from the aerial photographs, historical searches and on-site observations. Photographs and their locations from site visits can be seen in McMahon PSI (2018) and DSI (2019).

From the site inspection the following applies:

- Bonded ACM fragments were found on the soil surface in some areas on previous structures.
- The site surface was mostly natural soil with some shallow fill noted on two recently demolished structure footprints (Buildings 502 & 503). See the log sheets from the pit sampling can be seen in **Attachment C**.
- There were no areas of stained soil or fill.
- There were no unusual odours.
- Site vegetation at the time of inspection and sampling was very light owing to below average rainfall in the preceding months.

5.1 Areas of concern

The following areas of concern have been identified from the site inspection, research and enquiries:

- The previous structures on site are an area of concern with the surface and near surface soil potentially impacted from asbestos, lead paint and pesticides/herbicides.
- The soil and near surface soil across the proposed development site is an area of concern due to potential tracking of asbestos across the site during previous structure demolition.
- Underground services have the potential to contain asbestos.
- Areas of open spaces are an area of concern from potential herbicide/pesticide application.

5.2 Potentially affected media

The following potentially affected media have been identified from the site inspection, research and enquiries:

- In-situ natural soils and fill in and around previous structures.
- In-situ natural soil and fill between previous structures.
- In-situ natural soil in areas of open spaces.

6.0 Revised Conceptual Site Model

The revised Conceptual Site Model has been developed in accordance with Section 4 of Schedule B2 of the NEPM (2013) and NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (2011).

6.1 Known and potential sources of contamination

By reference to SEPP 55, NSW EPA (1997), NSW EPA (2014) and the preceding PSI to this report, the updated historical and current land use has the following contamination risk from the typical chemical used, **Table 7**.

Table 7: *SEPP 55 contamination sources*

Industry	Type of chemical/ contamination	Associated chemicals/contaminant
Building materials	Bonded ACM Lead based paints	Chrysotile, amosite and crocidolite asbestos fibres Lead
Service pits and pipes	Bonded ACM	Chrysotile, amosite and crocidolite asbestos fibres
Pest control Weed control	Pesticide & herbicides	OCP/OPP and phenoxy acid herbicides

6.2 Summary of the revised Conceptual Site Model

Based on the findings of the site inspection, research and enquires there is a risk to future site workers and users of potential soil and fill contamination from:

- Potentially hazardous building materials from previous structures.
- Underground services associated with these buildings also have the potential to be made of bonded ACM material.
- Pesticides and herbicides from previous use.

The revised Conceptual Site Model in tabular format can be seen as follows, **Table 8**.

Table 8: *Revised Conceptual Site Model (Asbestos)*

Known and Potential Contamination Sources	Impacted Media	Contaminants of Concern	Existing and Potential Exposure routes	Human Receptors		Comments
				Current	*Future*	
Building materials, Service pits and pipes	*Soil* *Fill*	Chrysotile, amosite and crocidolite asbestos	- Accumulation - Tracking of asbestos fibres across the site during earthworks/development. - Inhalation of fibres/particles	Site users	Construction workers Residents Site users	10mx10m grid survey completed and found surface ACM concentrated around demolished previous structures. Areas for quantification investigation divided into units for further investigation based on potential risk of soil asbestos. Three areas of fibrous asbestos found. Remediation of asbestos required to be managed though a RAP. Unexpected findings protocol required for any future finds.
	Air		Inhalation of fibres/particles	Site users	Construction workers Residents Site users	
Lead paint	*Groundwater*	Lead	Ingestion (Drinking)	Site users	Construction workers Residents Site users	Limited exposure pathways. No planned future groundwater use. Low risk.
	Soil		Dust Ingestion Dermal Absorption	Site users	Construction workers Residents Site users	Most likely risk of potential contamination. Investigation required.
	Vapour		Inhalation of vapours	Site users	Construction workers Residents Site users	Some risk of potential contamination from soil. Investigation required.
	Surface waters		Ingestion (Drinking) Bioaccumulation	Site users	Construction workers Residents Site users	Limited migration and exposure pathways. Limited off-site receivers. Low risk.
Pesticides and herbicides	*Groundwater*	OCP/OPP and Phenoxy acid herbicides	Ingestion (Drinking)	Site users	Construction workers Residents Site users	Limited exposure pathways. No planned future groundwater use. Low risk.

	Soil		Dust Ingestion Dermal Absorption	Site users	Construction workers Residents Site users	Most likely risk of potential contamination. Investigation required.
	Vapour		Inhalation of vapours	Site users	Construction workers Residents Site users	Some risk of potential contamination from soil. Investigation required.
	Surface waters		Ingestion (Drinking) Bioaccumulation	Site users	Construction workers Residents Site users	Limited migration and exposure pathways. Limited off-site receivers. Low risk.

7.0 Sampling, Analysis and Quality Plan

A Sampling, Analysis and Quality Plan (SAQP) has been developed for the areas of concern identified in **Section 5.1**. The nature and extent of potential contamination from asbestos, lead paint and herbicides/pesticides need to be defined to assess risk and provide sufficient scope for any required remediation or management during development. The following data quality objectives have been used to assess the level and extent of asbestos contamination at the subject site.

7.1 Data Quality Objectives

The Data Quality Objectives (DQO) of the site assessment have been developed to define the type and quality of data to meet the project objectives for the assessment of potential harm to human health and/or the environment from the planned development. DQOs have been identified against the main media of concern for investigation, identified to be soil and fill based on the environmental parameters and potential contamination sources. The DQOs have been developed in accordance with the seven step DQO process as outlined in AS 4482.1.2005, **Table 9**.

Table 9: *Data Quality Objectives*

DQO	Comment
1. State the problem	There is potential asbestos, lead paint and herbicide/pesticide contamination that could affect the suitability, or otherwise, of the site for the proposed use. • With earthworks and soil access this could cause risk to future users and site workers.
2. Identify the decision	• Is there any asbestos, lead paint or herbicide/pesticide contamination in or on soil or fill that will pose a risk to future users and workers from the planned development? • Does the investigation and assessment follow NEPM (2013), NSW OEH (2011) and WA DoH (2009) guidelines? • Have soils and fill been assessed against the adopted criteria? • Have impacts to future site users and workers from potential contaminant been assessed? • Is remediation or site management required?
3. Identify inputs to the decision	• Visual assessment of surface bonded ACM by grid-based inspection. • Quantifiable data as collected by soil and fill sampling in high risk areas after the grid-based walkover and analysis for FA+AF, lead and pesticides/herbicides. • Soil and fill to be assessed against the adopted criteria, see **Section 5**. • Site condition. • Geology, regolith and hydrogeology. • Site history. • Conceptual Site Model reviewed and updated based on proposed sampling works and findings of further investigation and assessment.
4. Define the study boundaries	• **Asbestos** – Entire 13.32ha site. • **Lead paint** – On previous structures. • **Herbicides/pesticides** – On previous structures and in open areas.
5. Develop a decision rule	The key decision rules for the DSI were: 1) Have the analytical data collected as part of the limited testing met the data quality indicators identified below? If they have then the data can be used to answer the decision rule/s and the decision statements developed in Step 2. If not, then the need to collect additional data may be required. 2) Do contaminant concentrations exceed the investigation and screening criteria? If not, then the contamination does not pose an above low level of risk. Where results exceed the investigation and screening criteria, this may indicate an unacceptable level of risk. Further risk assessment and investigations may be warranted to determine the potential for impacts.

6. Specify limits on decision errors	There are two key types of decision errors that can occur for the assessment: Accepting the null hypothesis (false acceptance decision error). The consequences of this is expense of remediation where it is not required. Rejecting the null hypothesis (false rejection decision error). The consequence of this is risk to human health and/or the environment. Liability for future damages and/or remediation costs. It can be seen that the more extreme consequence from decision errors resides with potential impact on health and/or the environment. Therefore, a conservative approach has been adopted to minimise the likelihood of this decision error. In addition to the above the following predetermined data quality indicators have been adopted; • Precision: A quantitative measure of the reproducibility of data; • Accuracy: A quantitative measure of the proximity of reported data to the calculated correct value; • Representativeness: A quantitative measure of the confidence that data is representative of its respective media; • Completeness: A measurement of the amount of useable data from data collection; and • Comparability: A quantitative measure of the confidence that data may be considered to be similar for each sampling/analysis activity. This specifically involves: **Asbestos** • The surface bonded ACM inspection conducted in a grid-based pattern by reference to section 4.10 of Schedule B1 of the NEPM (2013). • The surface bonded ACM inspection level is at an appropriate intensity so that a decision for further quantification sampling. • If asbestos levels exceed the adopted criteria further investigation and/or assessment will be required for site remediation and/or management. **Lead paint** • The surface, near surface and fill lead paint sampling conducted on a judgemental sampling pattern based at the location of previous structures. • The sampling level is at an appropriate intensity so a decision can be based off. • If lead levels exceed the adopted criteria further investigation and/or assessment will be required for site remediation and/or management. **Herbicides/pesticides** • The surface, near surface and fill sampling conducted on a judgemental sampling pattern based at the location of previous structures. • Samples taken in areas of historical and current open space from the surface and near surface soil. • The sampling level is at an appropriate intensity so a decision can be based off. • If herbicide/pesticide levels exceed the adopted criteria further investigation and/or assessment will be required for site remediation and/or management.
7. Optimise the design for obtaining data – Initial sampling	**Asbestos** ***Step 1*** A visual inspection of surface ACM across the site on a 10m x 10m grid basis. At each 10m x 10m grid soil raking in two directions with a 90° direction change, using a rake with teeth <= 7mm spaced apart and > 10cm long. The penetration of the rake into the soil at each grid recorded. Vegetation removed via the use of harrows and/or tilling where raking cannot be achieved.

At each 10m x 10m grid the location and weight of asbestos recorded and the % contamination calculated as per the following calculation:

$$\% \text{ Soil Asbestos} = \frac{\% \text{ Asbestos Content x ACM (kg)}}{\text{Soil Volume (L) x Soil Density}}$$

To calculate the soil volume the 1cm as soil depth for hand picking or rake teeth penetration depth of up to 10cm was used as appropriate.

Soil density on select samples measured in our NATA accredited laboratory for a representative value.

Once **Step 1** is completed, the results reviewed, and areas of high risk defined based on the ACM observations for further asbestos quantification, see **Step 2**. Each individual risk area included a unique grid identification, GPS coordinate of the grid centroid, reported area, and required investigation regime based on the level of risk.

Step 2
After the inspection and assessment of bonded ACM on the soil surface as outlined in **Step 1,** a review of the defined high-risk areas for asbestos quantification sampling was undertaken prior to sampling. The asbestos quantification sampling was undertaken using the following procedure.

One 10L sample will be taken from a select location within each grid, collected from an excavated test pit or trench to a depth of 0 to 0.3m in natural soil or to the bottom level of fill encountered. The tests pits delineated the level of fill.

A calibrated 10L unit mass container from our NATA accredited laboratory was used to measure the sample. The 10L sample was weighed and manually screened through a <7 mm sieve in our NATA accredited laboratory. If clayey soil was encountered which does not pass through the sieve, it was spread out across the sieve and inspected for bonded ACM. The soil passing the sieve was weighed using a calibrated digital balance in our NATA accredited laboratory. Obvious bonded ACM and FA retained on the sieve was removed and weighed using the digital balance. The % of soil asbestos was calculated using the following formula:

$$\% \text{ Soil Asbestos} = \frac{\% \text{ Asbestos Content x ACM (kg)}}{\text{Soil Volume (L) x Soil Density}}$$

Additionally, a representative 500 ml sample was collected from each discretionary test pit and analysed following AS4964(2004), CRC CARE (20013) and NEPM (2013) guidelines (FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence).

Underground services
In addition to surface ACM inspection, water and stormwater services, and telecommunication boxes were excavated and visually inspected for containing potential asbestos cement in select locations. The service locations have been visually identified and marked on site and this corelates with the services detailed survey supplied by Croft dated 16/04/2018 (Drawing DT01 Job No. 18029). Where visual inspection cannot confirm asset composition, a non-destructive sample was obtained by chipping or scraping, and analysis conducted for presence/absence of asbestos by reference to AS4964 (2004).

Lead paint
A sample was taken from for heavy metals analysis (As, Cd, Cr, Cu, Pb, Ni, Zn) analysis within areas where previous structures have need identified. Sample depth was 0-0.3m in natural soil or to the bottom level of fill encountered. The tests pits delineated the level of fill.

Herbicides/pesticides
A sample will be taken from for OCP/OPP and phenoxy herbicide analysis within areas where previous structures have need identified.
Sample depth will be 0-0.3m in natural soil or to the bottom level of fill encountered. The tests pits delineated the level of fill.

Limited sampling of the surface and near surface soil will also be conducted on three historically open grassed areas across the site that are considered most likely to have had herbicides and pesticides applied at some point in time. The analysis reflects the typical herbicides and pesticides used for weeds and pest control in open spaces and gardens.

7.2 Sampling objectives

The nature and extent of potential contamination needs to be defined, if gross contamination is present on site, it is recommended that further investigation and/or assessment be undertaken to assess risk and provide sufficient scope for remediation if required. Further sampling should be undertaken following remediation, if required, on the areas of concern to validate the removal area from the contamination sources. It is recommended the following sampling objectives are used to assess the level and extent of contamination of the subject site, **Table 10**.

Table 10: *Sampling objectives*

Sampling objective	Comments
Assess Contamination in Soil	Assess soil as per the adopted sampling pattern and strategy and if soils are above adopted investigation and screening criteria, further assessment may be required.
Assess Contamination in Groundwater	If soil assessment indicates gross contamination on site, groundwater investigation may be required.
Assess Contamination in Surface Water	If soil and/or groundwater contamination indicate gross contamination on site, surface water investigation may be required.
Assess Contamination in Air / Vapour	Low risk of vapour present on site from the results of the McMahon PSI (2018) and DSI (2019). Risk of lead paint contamination so sampling undertaken to assess such.
Assess Contamination Dust	Assess soil against the adopted health screening level outlined in the screening criteria if required.

7.3 Rationale for sampling pattern and strategy

The sampling pattern and strategy allows for and dictate the extent of potential contamination for horizontal and vertical delineation.

Asbestos

The rationale for the surface inspection as outlined in **Step 1** of the DQO is that asbestos fragments have been observed across a large surface area, therefore the 10m x 10m grid size is reasonable, Section 4.10 of Schedule B1 of the NEPM (2013).

Underground services also have the potential to contain asbestos and these were inspected and sampled in select locations.

Asbestos, lead paint and herbicides/pesticides

The proposed sampling ensures that potential contamination is adequately characterised before earthworks for the development begin. As such, the sampling pattern and strategy devised on site history, land uses, aerial imagery, site inspection, database search and applicable sampling design guidelines, contaminants of concern and areas of concern is utilised. All aerial photographs have been reviewed as part of the PSI from 1945 to present day and plans of previous structures associated with the previous land use of the RAAF hospital, Teachers College and CSU South Campus are available. These plans correlate with the historical aerial photography meaning the site history provides sufficient information to be able to identify the areas of environmental concern.

The requirements of NEPM (2013), OEH (2011) and WA DoH (2009) are considered when compiling the sampling pattern and strategy. The sampling and analysis quality plan is developed by reference to AS 4482.1-2005. As follows is a description of the sampling pattern and strategy used, **Table 11**.

Table 11: *Sampling pattern*

Four types of sampling pattern	N/A	Applied	Notes
1) **Judgemental sampling pattern** -Sample points chosen on the basis of the investigator's knowledge of probable distribution of the site. - Utilises site history and field observations.	-	✓	**Asbestos** **Step 1** – 10m x 10m grid. **Step 2** - Grid sampling to the investigation regime based on likelihood of asbestos by refence to WA DoH (2009). See **Section 7.4**. **Lead paint** Sample points chosen on basis of previous structures. **Herbicides/pesticides** Sample points chosen on basis of previous structures Sample points selected on areas of open space and potential herbicide/pesticide application.
2) **Random sampling pattern** A random number generator determines the sampling points (not recommended in contaminated site investigations).	✓	-	-
3) **Systematic sampling pattern** -Sample points are selected at regular and even intervals - Statistically unbiased once the initial sample point is chosen at random.	-	✓	**Step 1** - 10m x 10m grid. **Step 2** - Grid sampling to the investigation regime based on likelihood of asbestos by refence to WA DoH (2009). See **Section 7.5**.
4) **Stratified sampling pattern** -The subject site is divided into sub-areas based on: -Previous and current site features, nature of asbestos contamination, former usage pattern of the site, intended future use of the sub area, and other relevant factors. - Each sub area can then be treated as individual sites with different sampling patterns and sampling densities. - Suited to large sites with complex potential contaminant distributions.	-	-	-

7.4 Areas of environmental concern

Asbestos

The entire 13.32ha site is an area of concern as a large surface area is potentially impacted.

Marking pegs were placed into geo-referenced position at each 10m x 10m grid intersection point and navigated to using a GPS. A unique identification protocol was used for each grid investigated, see Figure 11, **Attachment A**.

Marking pegs were placed into geo-referenced position at each asbestos quantification location and navigated to using a GPS. A unique identification protocol was used for each sample point investigated, see Figure 12, **Attachment A**.

Underground services have been surveyed and mapped and were adequately inspected and marked with a GPS with a unique sample identification, see Figure 14, **Attachment A**.

Lead paint

Lead paint samples were collected in areas of previous structures, see Figure 13, **Attachment A**.

Sample points were navigated to and managed by:

- Reference to the previous structures in Figure 6, **Attachment A.**
- Georeferenced aerial photos and plans navigated to using current site features and GPS.
- Remnants of previous structure footprints visible on site.
- A unique identification protocol was used for sample points.

Herbicides/pesticides

Sample points selected on areas of open space and potential herbicide/pesticide application, Figure 13, **Attachment A**.

Sample points will be navigated to and managed by:

- Reference to the previous structures in Figure 6, **Attachment A.**
- Georeferenced aerial photos and plans navigated to using current site features and GPS.
- Remnants of previous structure footprints visible on site.
- A unique identification protocol was used for sample points.

By reference to the DQOs, sampling objectives, pattern and strategy the map of the soil inspection and sampling points from the identified areas of concern can be seen in Figure 11, Figure 12 and Figure 13, **Attachment A**.

7.5 Sampling reasoning

The sampling reasoning for the asbestos can be seen as follows, **Table 12**. A map of the corresponding sample Area ID can be seen in Figure 12, **Attachment A**.

Table 12: *Sampling reasoning (Asbestos)*

Area ID and size of area in m²	Description of features in specific area and specific site history details relating to that area. i.e. clearance certificates or dates of demolition	Details of asbestos finds on surface. Other observations in site inspection. i.e. surface debris, building materials, rubbish etc…	Description of likely impacts. Essentially explain why this area has been defined as such based on the evidence you have to date i.e. site history, site inspections and asbestos finds.	Sampling program proposed. i.e. Grid size, number of samples, analytes proposed and QC sampling.
1 – 23,326m²	Current CSU Buildings 525 & 526. Former RAAF buildings. Former CSU Buildings 521, 523 & 534 as well as 5 ancillary buildings. Clearance reports for Buildings 525 & 526. See McMahon PSI (2018).	ACM fragments removed from the soil surface during 10mx10m grid survey. ACM fragments lined up with demolished previous structures. Some isolated concrete & bricks noted around demolished previous structures. Mostly natural soil. Some tilling conducted where vegetation hampered visual inspection, see Figure 15, **Attachment A**.	ACM is known to exist on the soil surface around demolished previous structures. This entire area is deemed to potentially contain soil asbestos so double density soil sampling is warranted to assess such.	Grid sampling at 2 x CSMS. Grid size 18.5m No. samples 68 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)
2 – 19,717m²	No current CSU buildings. Former RAAF buildings. Former CSU Buildings 504, 505, 506, 510 & 527. Clearance reports for Buildings 504, 505, 506 & 527. See McMahon PSI (2018).	ACM fragments removed from the soil surface during 10mx10m grid survey. ACM fragments lined up with demolished previous structures. Some isolated concrete & bricks noted around demolished previous structures. Surface is natural soil, roads and hardstand.	ACM is known to exist on the soil surface around demolished previous structures. This entire area is deemed to potentially contain soil asbestos so double density soil sampling is warranted to assess such.	Grid sampling at 2 x CSMS. Grid size 18.15m No. samples 60 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)

3 – 6262m^2	Current CSU Building 507. No former RAAF buildings. Former CSU Building 503. No clearance reports for buildings. See McMahon PSI (2018).	ACM fragments removed from the soil surface during 10mx10m grid survey. ACM fragments lined up with demolished previous structure. Fill material with isolated concrete & bricks noted around demolished previous structures. Surface is natural soil and disturbed soil/fill where Building 503 was located. Some tilling conducted where vegetation hampered visual inspection, see Figure 15, **Attachment A**.	ACM is known to exist on the soil surface around demolished previous structures. This entire area is deemed to potentially contain soil asbestos so double density soil sampling is warranted to assess such.	Grid sampling at 2 x CSMS. Grid size 14.0m No. samples 32 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)
4 – 6947m^2	No current CSU buildings. No former RAAF buildings. Former CSU Building 502 (burnt down in 2019). No clearance report for building. See McMahon PSI (2018).	ACM fragments removed from the soil surface during 10mx10m grid survey. ACM fragments lined up with demolished previous structure. Fill material with many concrete pieces & bricks noted around demolished previous structures. Surface is natural soil and disturbed soil/fill where Building 502 was located. Some tilling conducted where vegetation hampered visual inspection, see Figure 15, **Attachment A**.	ACM is known to exist on the soil surface around demolished previous structures. This entire area is deemed to potentially contain soil asbestos so double density soil sampling is warranted to assess such.	Grid sampling at 2 x CSMS. Grid size 14.3m No. samples 39 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)
5 – 100m^2	No current CSU buildings. No former RAAF buildings. No former residences. See McMahon PSI (2018).	ACM fragment removed from the soil surface during 10mx10m grid survey. This is isolated but further investigation is warranted.	ACM is known to exist on the soil surface. This entire area is deemed to potentially contain soil asbestos so double density soil sampling is warranted to assess such.	Grid sampling at 2 x CSMS. Grid size 7.1m No. samples 2 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres –

				presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)
6 – 3689m^2	No current CSU buildings. No former RAAF buildings. Former residences and sheds. No clearance reports for buildings. See McMahon PSI (2018).	ACM fragments removed from the soil surface during 10mx10m grid survey. ACM fragments lined up with demolished previous structures. Isolated concrete & bricks noted around demolished previous structures. Mostly natural soil. Some tilling conducted where vegetation hampered visual inspection, see Figure 15, **Attachment A**.	ACM is known to exist on the soil surface around demolished previous structures. This entire area is deemed to potentially contain soil asbestos so double density soil sampling is warranted to assess such.	Grid sampling at 2 x CSMS. Grid size 13.0m No. samples 23 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)
7 – 245m^2	No current CSU buildings. No former RAAF buildings. Former CSU ancillary building. No clearance report for CSU ancillary building. See McMahon PSI (2018).	No ACM fragments on the soil surface during 10mx10m grid survey. Soil surface was natural ground.	ACM is suspect based on the demolished previous structure. Single density soil sampling is warranted.	Grid sampling at 1 x CSMS. Grid size 9.0m No. samples 3 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)

8 – 142m^2	No current CSU buildings. No former RAAF buildings. Former CSU ancillary building. No clearance report for CSU ancillary building. See McMahon PSI (2018).	No ACM fragments on the soil surface during 10mx10m grid survey. Soil surface was natural ground.	ACM is suspect based on the demolished previous structure. Single density soil sampling is warranted.	Grid sampling at 1 x CSMS. Grid size 8.4m No. samples 2 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)
9 – 613m^2	No current CSU buildings. Former RAAF buildings. No clearance report for CSU ancillary building. See McMahon PSI (2018).	No ACM fragments on the soil surface during 10mx10m grid survey. Soil surface was natural ground.	ACM is suspect based on the demolished previous structure. Single density soil sampling is warranted.	Grid sampling at 1 x CSMS. Grid size 10.1m No. samples 6 Analytes: • % soil asbestos (10L) • FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence (500ml) QC sampling: Split sample (one per 40) Duplicate (one per 20)

7.6 Sampling methods and procedures

The following sampling methods will be used as part of this investigation, **Table 13**.

Table 13: *Sampling methods*

Sampling methods	Comment
Sample containers and types of seals	**Asbestos** **Step 1** -10x10m grid. -Bi-directional raking from 1 to 10cm. -Vegetation removed by harrowing or tilling if required, see Figure 15**.** **Attachment A**. -Any bonded ACM fragments placed in plastic bags **Step 2** - 10L sample taken in plastic bag taken from a calibrated unit mass container sampled from test pit. - 500ml plastic bag taken from test pit. **Underground services** – Plastic bag for scrapings. **Lead and herbicides/pesticides** 150ml glass jar with Teflon lined lid.
Sampling devices and equipment	**Asbestos** - Grid sampling based on areas of risk. - 0.3m wide excavator bucket to 0.3m deep (grid sampling). - Excavator bucket & shovel (services inspection/sampling). **Lead paint** - 0.3m wide excavator bucket to 0.3m deep (grid sampling). **Herbicides/pesticides** - 0.3m wide excavator bucket to 0.3m deep (grid sampling).
Equipment decontamination procedures	**Asbestos** Wet decontamination - involves using disposable rags to wipe contaminated surfaces and objects. If a bucket of water is being used, rags must not be re-wetted in the bucket as this would contaminate the water making it asbestos waste. All rags must then be disposed of as asbestos-contaminated waste. **Lead paint and herbicides/pesticides** - Removal of soils adhering to the sampling device by brush or knife. - Washing of the sampling devices thoroughly in a Decon 90 solution. - Rinsing the sampling device in potable water.
Sample handling procedures	Nitrile gloves disposed of between samples.
Sample preservation methods	**Asbestos** Not applicable. **Lead paint and herbicides/pesticides** Esky and ice bricks for chemical analysis.
Field screening protocols	**Asbestos** The entire site will be visually screened for ACM with hand picking. The number, size, condition and distribution of surface ACM fragments will be recorded and calculated by a suitably qualified licenced asbestos assessor. **Lead paint and herbicides/pesticides** No screening used as no VOCs tested.

7.7 Sampling depth

Asbestos

The sampling depth for **Step 1** will be to a maximum depth of the raking – 10cm.

The sampling depth for **Step 2** will be to 0.3m, this investigation depth is expected to pass through any minor fill, if found which is limited to the previous structure footprints, when present. If deeper fill is found during investigation, which is unlikely, then the sampling depth will be to the bottom of or just beneath the fill layer and will be delineated during test pitting.

The sampling depth to assess underground services for ACM will be determined during the sampling procedure as the depth of the services are currently unknown.

Lead paint and herbicides/pesticides

Sample depth will be 0-0.3m in natural soil or to the bottom level of fill encountered. The tests pits will delineate the level of fill.

7.8 Samples for analysis and samples not analysed

Asbestos

- All samples will be taken for analysis but in the case of samples not being analysed, they will be stored within the McMahon laboratory if additional asbestos analysis is required.

Lead paint and herbicides/pesticides

- All samples will be taken for analysis.
- In the case of samples not being analysed, they will be stored within the McMahon laboratory with suitable preservation supplied. If additional chemical analysis is needed and the samples are outside of the withholding times, then resampling is required.

7.9 Analytical methods

Asbestos

- Bonded ACM fragments method quantification conducted by McMahon to DoH (2009) and NEPM (2013).
- Non bonded asbestos (FA + AF) analysis methods conducted by ALS laboratory to AS4964 (2004), CRC CARE (2013) and NEPM (2013).
- Presence/absence of asbestos in bulk solids for underground services conducted by ALS laboratory to AS4964 (2004).

Lead

- Chemical analysis for As, Cd, Cr, Cu, Pb, Pb, Zn (ALS method EG005T – APHA 3120, USEAP SW 846-6010).

Herbicides/pesticides

- OC/OP (ALS EP068A & EP068B – USEPA 3510/8270)
- Phenoxy acid herbicides (ALS EP202 – In house method LC/MS).

7.10Analytes for samples

Asbestos

The following analytes are selected for analysis based on AECs and asbestos risk, **Table 14**.

Table 14: *Asbestos analytes for samples*

AECs	Analytes
Entire site (Previous structures – see Figure 6, **Attachment A**)	**Step 1** - Visual inspection for bonded ACM fragments by hand picking within the 10m x 10m grid size. **Step 2** - 10L sample collected from the designated grid size and weighed and manually screened through a <7 mm sieve in the McMahon NATA laboratory. If clayey soil is encountered which does not pass through the sieve, it will be spread out across the sieve and inspected for bonded ACM & FA. The soil passing the sieve will be weighed using a calibrated digital scale in our laboratory. Obvious asbestos containing materials retained on the sieve will removed and weighed using the digital scale. The % of soil asbestos will be calculated using the following WA DOH (2009) formula: $\% \text{ Soil Asbestos} = \frac{\% \text{ Asbestos Content x ACM (kg)}}{\text{Soil Volume (L) x Soil Density (kg/L)}}$ - A representative 500 ml sample of the soil will be collected from the sample pit at the same time as 10L samples are collected, and analysed following NEPM (2013) guidelines (FA+AF weight and calculated % as asbestos in soil plus free fibres – presence/absence).
Underground services (particularly water and stormwater assets) that may made of asbestos cement.	- Visual inspection for potential bonded ACM material. - Laboratory testing for presence/absence of asbestos if suspected.

Lead paint and herbicides/pesticides

The following analytes are selected for analysis based on AECs and COPC, **Table 15**.

Table 15: *Lead paint and herbicide/pesticide analytes for samples*

AEC and COPC	Analytes
1. Lead paint used on former structures.	As, Cd, Cr, Cu, Pb, Ni, Zn
2. Potential pesticide and herbicide use on former structures and on open areas and gardens.	OCP/OPP phenoxy acid herbicides

8.0 Field quality assurance and quality control (QA/QC)

The following Quality Assurances and Quality Control (QA/QC) procedures are adopted during field works, **Table 16**.

Table 16: *Field QA/QC procedures*

Field QA/QC	Comment
Sampling team	David McMahon – Team leader Zach Bradley – Environmental consultant & asbestos assessor James Halse - Technician
Decontamination procedures between sampling events	- Removal of soils adhering to the sampling device by brush or knife. - Washing of the sampling devices thoroughly in potable water.
Logs for each sample collected	Documented to AS1726:2017 Geotechnical Site Investigations.
Chain of Custody	Documented and sent to laboratory.
Sample splitting technique	- Split samples collected by initially collecting twice as much volume as is normally collected. - The material was apportioned, after mixing, if appropriate, into two sets of containers. - One split sample will be taken for every 40 samples taken
Duplicate frequency	- One intra-laboratory sample for every 20 field samples. - One inter-laboratory sample in addition to intra-laboratory duplicate per 40 samples.
Field blanks	Not used for this investigation.
Background samples	Not used for this investigation.
Rinsate samples	Used for this investigation.
Trip spikes	Not used for this investigation as no VOCs tested.
Trip blanks	Not used for this investigation as no VOCs tested.
Field instrument calibration	Not used for this investigation as no VOCs tested.

9.0 Laboratory QA/QC

The following laboratory Quality Assurances and Quality Control (QA/QC) procedures are assessed as part of this investigation, **Table 17**.

Table 17: *Laboratory QA/QC*

Laboratory QA/QC	Comment
Signed Chain of Custody forms	Used for this investigation
Record of holding times & comparison with method specifications	Used for this investigation
Analytical methods used	**Asbestos** AS4964 – 2004, CRC CARE 2013, NEPM 2013. **Metals** ALS method EG005T – APHA 3120, USEAP SW 846-6010. **Herbicides/pesticides** OC/OP – S-12 Phenoxy acid herbicides – EP202
Laboratory accreditation	NATA accreditation 6649
Laboratory performance	Detailed in the laboratory QA/QC & QCI report.
Description of surrogates and spikes used	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Percent recovery of spikes and surrogates	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Instrument detection limits	Detailed in the laboratory QA/QC & QCI report.
Method detection limits	Detailed in the laboratory QA/QC & QCI report.
Matrix or practical quantification limits	Detailed in the laboratory QA/QC & QCI report.
Standard solution results	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Reference sample results	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Reference check sample results	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Daily check sample results	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.

Laboratory duplicate results	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Laboratory blank results	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.
Laboratory standard charts	**Asbestos** Usually not detailed in the laboratory QA/QC & QCI report. **Metals and herbicides/pesticides** Detailed in the laboratory QA/QC & QCI report.

10.0 QA/QC data evaluation

Data Quality Indicators (DQIs) are typically developed to provide goals for the quality of data required to sufficiently meet the site-specific objectives of an investigation. Precision, accuracy, representativeness, comparability and completeness (PARCC), are all indicators of data quality. The DQIs for the soil investigation were reviewed following the compilation of the report. The DQIs used to assess the PARCC parameters for this investigation are as follows, **Table 18**.

Table 18: *Data Quality Indicators*

DQI	Comment
Precision	- Standard operating practices (SOPs) to be assessed. - Laboratory and field duplicates to be assessed. - Calculation of RPD between sample and duplicate.
Accuracy	- Methodology and procedures to be assessed. - Standard operating practices (SOPs) to be assessed. - Analysis of soil sample duplicate to be assessed. - Limited available bias opportunity to be assessed.
Representativeness	- Appropriate media and locations to be investigated. - All samples to be analysed according to sampling plan. - Appropriate collection, storage and preservation techniques to be used. - Sample homogeneity to be assessed. - Samples representative of wider medium (i.e. soil and limited fill)
Comparability	- Repeated standard operating practices on each sample point. - Uniform sample sizes, container and weather conditions to be assessed. - Analysis to be undertaken in NATA accredited laboratories. - Uniform analysis methods to be used.
Completeness	- Surface, near surface soils and fill to be investigated. - Standard operating practices (SOPs) to be complied with. - Experienced and qualified samplers. - Sample documentation to be completed. - Holding times are indefinite for asbestos. - Holding times apply for lead and herbicides/pesticides.

Metals and Pesticides

Five samples were taken for intra-laboratory duplicate testing: D1 (261), D2 (314), D3 (3003), D4 (2031) and D5 (2002). The intra-laboratory analysis returned identical and below Limit of Reporting (LOR) results for all pesticides except dieldrin in sample D4/2031. This result had a Relative Percentage Difference (RPD) of 30.4% which is well below the adopted criteria of 50%. Heavy metal concentrations in all duplicate samples were below the adopted limit of 30%, with the exception of the following results:

- Zinc RPD of 78% in sample D1/261, (D1<10xLOR).
- Chromium RPD of 58% in sample D5/2002, (2002<10xLOR).

These RPD exceedance were assessed to not unduly impact the quality and/or reliability of results. With these conditions considered, the data was considered fit for purpose.

Two samples were taken for inter-laboratory split testing including SP1 (2009) and SP2 (2023). The inter-laboratory analysis returned identical results with below method detection limits for all pesticides. RPD for metals were all below 30% with the exception of sample SP2/2023 which had a Lead RPD of 51%. Both SP2 and 2023 lead values were well below 10 times the LOR with the RPD calculation providing limited reliability for these values. With these conditions considered, the data was considered fit for purpose.

Asbestos

12 duplicate samples and six split samples were taken for asbestos in soil analysis QAQC procedures. All samples returned identical results to their referenced samples. With these conditions considered, the data was considered fit for purpose.

The QA/QC criteria and DQOs have been evaluated and the relevant sampling and analysis requirements have been met.

11.0 Adopted assessment criteria

Asbestos criteria

Tier 1 Residential A, Residential B and Recreational C criteria will be adopted based on specific land uses within the proposed development, **Table 19**. The specific land use areas for application of the appropriate criteria are required to be updated once final plans become available. In the case of above criteria results, a Tier 2 site specific assessment may be undertaken.

Table 19: *Adopted asbestos criteria*

Contaminant	Relevant Guideline	Adopted criteria
Asbestos	- NEPM (2013) - WA DoH (2009)	

	Health Screening Level (w/w)			
Form of asbestos	Residential A[1]	Residential B[2]	Recreational C[3]	Commercial/ Industrial D[4]
Bonded ACM	0.01%	0.04%	0.02%	0.05%
FA and AF[5] (friable asbestos)	0.001%			
All forms of asbestos	No visible asbestos for surface soil			

(A) Residential A – Residential with garden accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), includes childcare centres, preschools and primary schools.

(B) Residential B – Residential with minimal opportunities for soil access; includes dwellings and fully and permanently paved yard space such as high-rise buildings and apartments.

(C) Recreational C – Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential exposure is lower and where a site-specific assessment may be more appropriate.

Lead and herbicide/pesticide criteria

Tier 1 Residential A, Residential B and Recreational C criteria will be adopted based on specific land uses within the proposed development, **Table 20**. The specific land use areas for application of the appropriate criteria are required to be updated once final plans become available. In the case of above criteria results, a Tier 2 site specific assessment may be formulated.

Table 20: *Adopted lead paint and herbicide/pesticide criteria*

Contaminant	Relevant Guideline	Adopted criteria (mg/kg)
Arsenic **Cadmium** **Chromium** **Copper** **Lead** **Nickel** **Zinc**	- National Environmental Protection (Assessment of Site Contamination) Measure 2013	100 (A) 500 (B) 300 (C) 20 (A) 150 (B) 90 (C) No data 6000 (A) 30000 (B) 17000 (C) 300 (A) 1200 (B) 600 (C) 400 (A) 1200 (B) 1200 (C) 7400 (A) 60000 (B) 30000 (C)
Organochlorine pesticides	- National Environmental Protection (Assessment of Site Contamination) Measure 2013	• DDT+DDE+DDD 240 (A) 600 (B) 400 (C) • Aldrin and dieldrin 6 (A) 10 (B) 10 (C) • Chlordane 50 (A) 90 (B) 70 (C) • Endosulfan 270 (A) 400 (B) 340 (C) • Endrin 10 (A) 20 (B) 20 (C) • Heptachlor 6 (A) 10 (B) 10 (C) • HCB 10 (A) 15 (B) 10 (C) • Methoxychlor 300 (A) 500 (B) 400 (C) • Mirex 10 (A) 20 (B) 20 (B) • Toxaphene 20 (A) 30 (B) 30 (C) • 2,4,5-T 600 (A) 900 (B) 800 (C) • 2,4-D 900 (A) 1600 (B) 1300 (C) • MCPA 600 (A) 900 (B) 800 (C) • MCPB 600 (A) 900 (B) 800 (C) • Mecoprop 600 (A) 900 (B) 800 (C) • Picloram 4500 (A) 6600 (B) 5700 (C)

(A) Residential A – Residential with garden accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), includes childcare centres, preschools and primary schools.

(B) Residential B – Residential with minimal opportunities for soil access; includes dwellings and fully and permanently paved yard space such as high-rise buildings and apartments.

(C) Recreational C – Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential exposure is lower and where a site-specific assessment may be more appropriate.

12.0 Results

A summary of the asbestos investigation is as follows:

- The surface and near surface inspection found bonded ACM fragments in 120 of the 1,138 grids investigated, see Table 1, **Attachment D**.
- From the pit sampling bonded ACM was found in six locations with two being above the adopted criteria, see Table 2, Attachment D.
- Bonded ACM fragments found during the inspection (Table 1, **Attachment D**) and sampling (noted in the log sheets in **Attachment C**) were removed from the surface and near surface soil. As a result of inspection and sampling, the surface and near surface of the subject site has been substantially remediated of surface and near surface bonded ACM.
- Bonded ACM fragments (as asbestos fines <7mm) were noted at sample points 347, 708 and 866 during sampling after quantitative samples were taken (noted in the log sheets in **Attachment C**).
- The water and stormwater pipes inspected contained no asbestos, but one decommissioned telecommunication box uncovered during pit excavation did, see Figure 14, **Attachment A**.
- A final clearance of the soil surface was undertaken by a site walkover and from this visual inspection the site surface is assessed to be free of visible asbestos, however unexcepted findings may occur during development and should be dealt with under an unexpected findings protocol.

A map showing 10m x 10m grid locations and the surface and near surface bonded ACM finds can be seen in Figure 16, **Attachment A** and the calculated % asbestos can be seen in Figure 1, **Attachment D.**

A summary of the laboratory analysis is as follows:

- Fibrous asbestos at levels above the adopted criteria was found in three locations on site. A map of the fibrous asbestos locations can be seen in Figure 17, **Attachment A**. These sample locations and concentrations are:
    - Sample 4 in Area 3 at 0-0.3m depth with a reading of 0.003% (FA+AF).
    - Sample 18 in Area 3 at 0-0.3m depth with a reading of 0.002% (FA+AF).
    - Sample 347 in Area 3 at 0-0.3m depth with a reading of 2.42% (FA+AF). At this sample location a small quantity of lagging (<0.002m^3) was located in the near surface soil. Sample points 708 and 866 where ACM fragments (as asbestos fines <7mm) were noted returned results below the adopted criteria.
    - These three sample points are in the Stage 2 development area and outside of the footprint for the Stage 1 Aged Care Development Application (DA) footprint.
- From the pit sampling bonded ACM was found in six locations with two being above the adopted criteria, see Table 2, **Attachment D**. The bonded ACM fragments found during the sampling were removed from the surface and near surface soil. As a result of sampling, the surface and near surface of the subject site has been substantially remediated of bonded ACM.
- Metals concentrations within the soils tested are below the laboratory MDLs and/or the Residential A criteria, the most sensitive land use.
- OCP & PCP concentrations within the soils tested are below the laboratory MDLs and/or the Residential A criteria, the most sensitive land use.
- Phenoxy acid herbicides concentrations within the soils tested are below the laboratory MDLs and/or the Residential A criteria, the most sensitive land use.

A map showing the asbestos quantification soil sampling locations can be seen in Figure 12 **Attachment A**. A map showing the metals, pesticide and herbicide sampling locations can be seen in Figure 13, **Attachment A.** A tabulated summary of the laboratory results for the asbestos quantification (Table 3) and metals, pesticide and herbicide analysis (Table 4) can be seen in **Attachment D**. Laboratory results including the QA/QC reports can be seen in **Attachment E**.

13.0 Site characterisation

From the assessment undertaken the following conclusion can be drawn in relation to site characterisation, **Table 21**.

Table 21: *Sampling media and characterisation*

Sampling media	Characterisation
Contamination of soil	The results of the soil analysis are below the adopted assessment criteria for all contaminants with the exception of fibrous asbestos at three sample locations in the Stage 2 development area.
Contamination of groundwater	It is assessed that there is no gross soil contamination across the site therefore groundwater assessment is not warranted.
Contamination of surface water	It is assessed that there is no gross soil contamination across the site and surface water assessment is not warranted.
Contamination of air / vapour	Gross air/vapour contamination is not present on site, the laboratory results for lead paint and PID screening from the PSI (McMahon 2018) and DSI (McMahon 2019) indicates a very low potential air/vapour contamination.
Contamination by asbestos	Soil and fill material were inspected, and laboratory tested for asbestos in soil with three sample points returning above the adopted criteria for fibrous asbestos. Bonded ACM fragments were also found on the surface and near surface soil during inspection and sampling. The areas of concern from the asbestos sampling (see **Figure 19**) and site characterisation can be seen in **Table 22**.

Table 22: *Areas of environmental concern and site characterisation*

AECs	Observations	Inspection/Sampling results	Impacted soil depth (mbgl)	Impacted area
Area 1	Current CSU Buildings 525 & 526. Former RAAF buildings. Former CSU Buildings 521, 523 & 534 as well as 5 ancillary buildings. Clearance reports for Buildings 525 & 526. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 1. See **Figure 19.**
Area 2	No current CSU buildings. Former RAAF buildings. Former CSU Buildings 504, 505, 506, 510 & 527. Clearance reports for Buildings 504, 505, 506 & 527. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 2. See **Figure 19.**
Area 3	Current CSU Building 507. No former RAAF buildings. Former CSU Building 503. No clearance reports for buildings. See McMahon PSI (2018).	a. Surface and near surface ACM noted. b. Fibrous asbestos detected in pits 4,18 & 347 (see **Figure 18**).	a. <0.1 b. <0.3	a. Parts of Area 3, **Figure 19**. b. 3 x grids totalling 490m^2. See **Figure 18.**
Area 4	No current CSU buildings. No former RAAF buildings. Former CSU Building 502 (burnt down in 2019). No clearance report for building. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 4. See **Figure 19.**
Area 5	No current CSU buildings. No former RAAF buildings. No former residences. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 5. See **Figure 19.**
Area 6	No current CSU buildings. No former RAAF buildings. Former residences and sheds. No clearance reports for buildings. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 6. See **Figure 19.**

Area 7	No current CSU buildings. No former RAAF buildings. Former CSU ancillary building. No clearance report for CSU ancillary building. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 7. See **Figure 19.**
Area 8	No current CSU buildings. No former RAAF buildings. Former CSU ancillary building. No clearance report for CSU ancillary building. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 8. See **Figure 19.**
Area 9	No current CSU buildings. Former RAAF buildings. No clearance report for CSU ancillary building. See McMahon PSI (2018).	Surface and near surface ACM noted.	<0.1	Parts of Area 9. See **Figure 19.**

13.1Review of revised Conceptual Site Model

A ‘source–pathway–receptor’ approach has been used to assess the potential risks of harm being caused to human receptors from contamination sources on or in the vicinity of the site, via transport pathways. It is considered that the CSM adopted is sufficient to assess risk to receptors via pathways from contamination sources.

14.0 Conclusions and recommendations

This DSI has been undertaken in accordance with the relevant guidelines and standards, namely:

- The WA DoH Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009).
- NSW OEH Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites (2011).
- State Environmental Planning Policy 55 – Remediation of Land (SEPP 55); and
- National Environment Protection (Assessment of Site Contamination) Measure (NEPM), (2013).

McMahon offer the following assessment and conclusions based on the findings of this DSI:

- Bonded ACM fragments were found in the surface and near surface soil during inspection and sampling in areas where previous structures were located. These bonded ACM fragments where found were removed and as a result of inspection and sampling, the surface of the subject site has been substantially remediated of bonded ACM.
- Fibrous asbestos was found in the near surface soil at three sample points within **Area 3** which is outside the Stage 2 development area and outside of the footprint for the Stage 1 Aged Care Development Application (DA) footprint.
- Asbestos cement was found in one decommissioned telecommunication box and there is the potential for further finds of this nature during development.
- A Remedial Action Plan (RAP) and appraisal of remediation options is required to be completed with the objective of rendering the site suitable for the proposed retirement housing and community centre use. The strategy should consider areas of ACM in soil as well as detected asbestos fibres in soil, and options assessed to ensure health risk and soil management are rendered suitable for the construction process as well as the long term planned use of the site. It is understood the developer wishes the site not be encumbered by long term environmental management requirements, and the remediation strategy should therefore include complete site remediation, so long as complete site remediation is assessed as feasible in the RAP.
- An unexpected findings protocol is required to be developed and implemented by Croft Development Pty Ltd for asbestos including any additional asbestos cement telecommunication boxes found during excavation.
- Data gaps exists for asbestos in the form of testing asbestos on current buildings, in the soil underneath existing buildings and in the soil underneath sealed surfaces. Asbestos or other indications of potential contamination identified in these areas can be managed under an unexpected findings protocol, including the validation process during development.
- The enquiries, research, investigation and assessment conducted as part of the DSI are considered adequate for the purpose of the development proposal.
- The potential contamination sources, pathways and receptors have been identified along with the areas of concern, if unexpected findings occur in these areas then further assessment is recommended.

15.0 Unexpected findings

If any suspect asbestos, unconsolidated, odorous, stained or deleterious soils are encountered during any further excavation, suspected historical contaminating activities are encountered, or conditions that are not alike the above descriptions, the site supervisor should be informed, the work stopped, and this office be contacted immediately for further evaluation by an appropriately qualified environmental consultant. The unexpected findings may trigger the need for more investigation and assessment dependant on the scope and context of the unexpected finding

16.0 Historical data integrity assessment

Accurate information on the subject site identification, history and condition has been presented in this report by DM McMahon Pty Ltd. This is justified firstly by sourcing information from reliable sources including the NSW EPA, Wagga Wagga City Council, The Bureau of Meteorology, NSW Land Registry Services and the Land and Property Information Agency. Information presented in this report is directed by requirements set out by the applicable guidelines and regulations. This in turn highlights specific assessment criteria for consultants to direct research around. Research was carried out by reference to guidelines within NSW EPA Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites (2011), State Environmental Planning Policy 55 (1998) and National Environment Protection (Assessment of Site Contamination) Measure (2013).

DM McMahon Pty Ltd used a site modified uniform approach when conducting field studies and desktop reviews, to maintain data consistency and cover all areas of consideration. This is directed by sourcing site specific information from reliable information databases and implementing in field quality assurance procedures such as revised site-specific field sheets and best practice methods for assessment. In conducting this assessment, particular reliance has been placed on data provided by DM McMahon Pty Ltd employees, which through revised and documented training and experience, have been recognised as suitably qualified to deliver. Limitations apply to the accuracy of sourced information used by DM McMahon Pty Ltd and the information provided in this report is subject of all the limitations of previous reports, data and information.

17.0 Disclaimer

The information contained in this report has been extracted from field and laboratory sources believed to be reliable and accurate. DM McMahon Pty Ltd nor Mark Mitchell assume any responsibility for the misinterpretation of information supplied in this report. The accuracy and reliability of recommendations identified in this report need to be evaluated with due care according to individual circumstances. It should be noted that the recommendations and findings in this report are based solely upon the said site location and the ground level conditions at the time of testing. The results of the said investigations undertaken are an overall representation of the conditions encountered. The properties of the soil within the location may change due to variations in ground conditions outside of the tested area. The author has no control or liability over site variability that may warrant further investigation that may lead to significant design changes.

Temporal and spatial limitations of this report apply, if a change of land use is noted between the time of writing this report and the proposed development then further assessment may need to be carried out.

18.0 Notice of Copyright

19.0 References

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Standards Australia AS 3798: 2007, Guidelines on earthworks for commercial and residential developments.

Standards Australia AS 4482.1: 2005, Guide to the sampling and investigation of potentially contaminated soil – Non-volatile and semi-volatile compounds.

Standards Australia AS 4482.2: 1999, Guide to the sampling and investigation of potentially contaminated soil - Volatile substances.

The WA DoH Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009).

20.0 Attachments

Attachments proceeding this document:

Attachments	Details
A. Site plans and figures	19 pages
B. Aerial photographs	14 pages
C. Log sheets	39 pages
D. Tabulated results	16 pages
E. Laboratory reports (inc QA/QC)	214 pages

McMahon EARTH SCIENCE

DOCUMENT ATTACHMENTS

REPORT 6459

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Attachment A : *Site plans and figures*

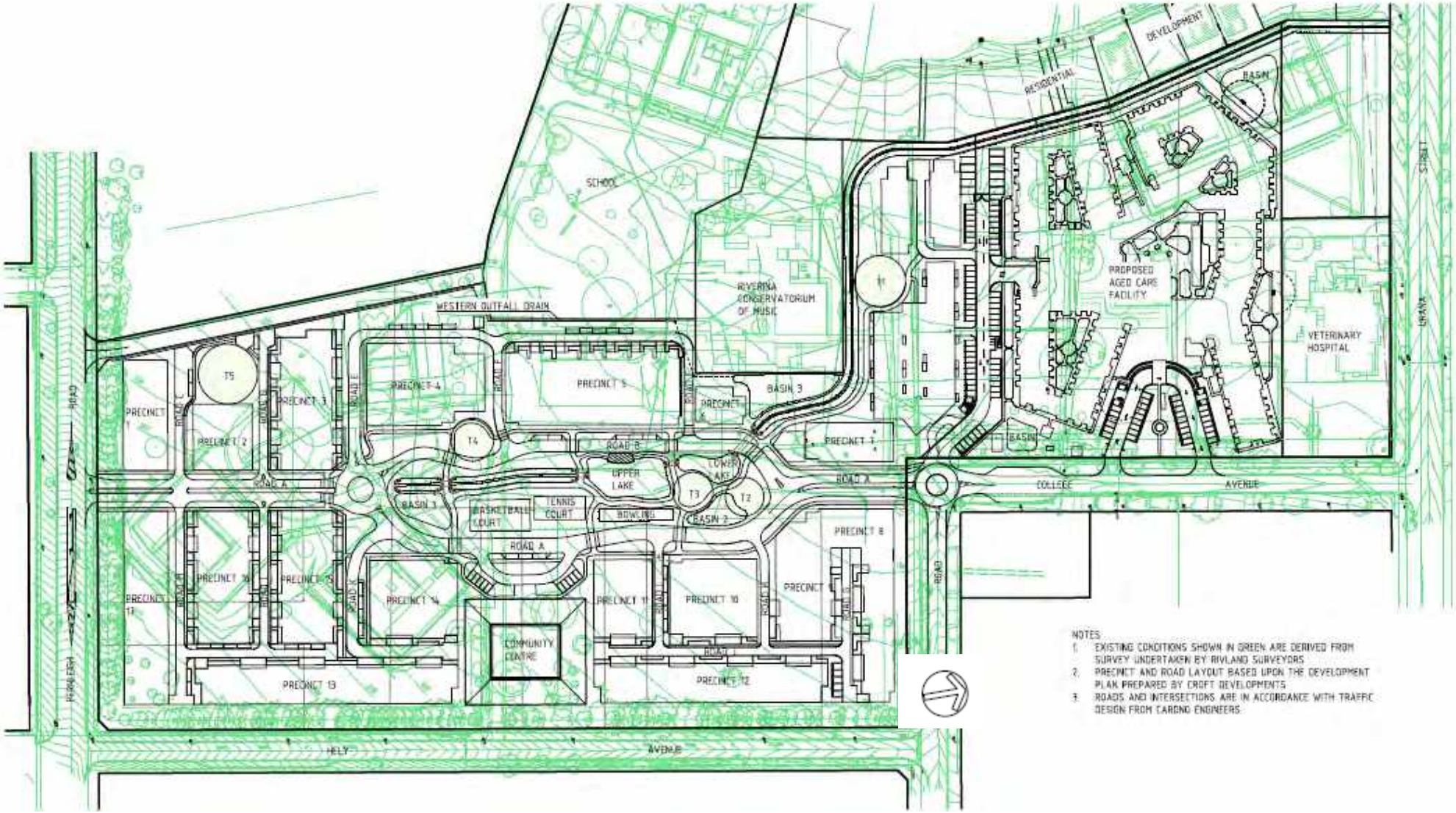

Figure 1: *Proposed development*

Figure 2: *Staged development plan*

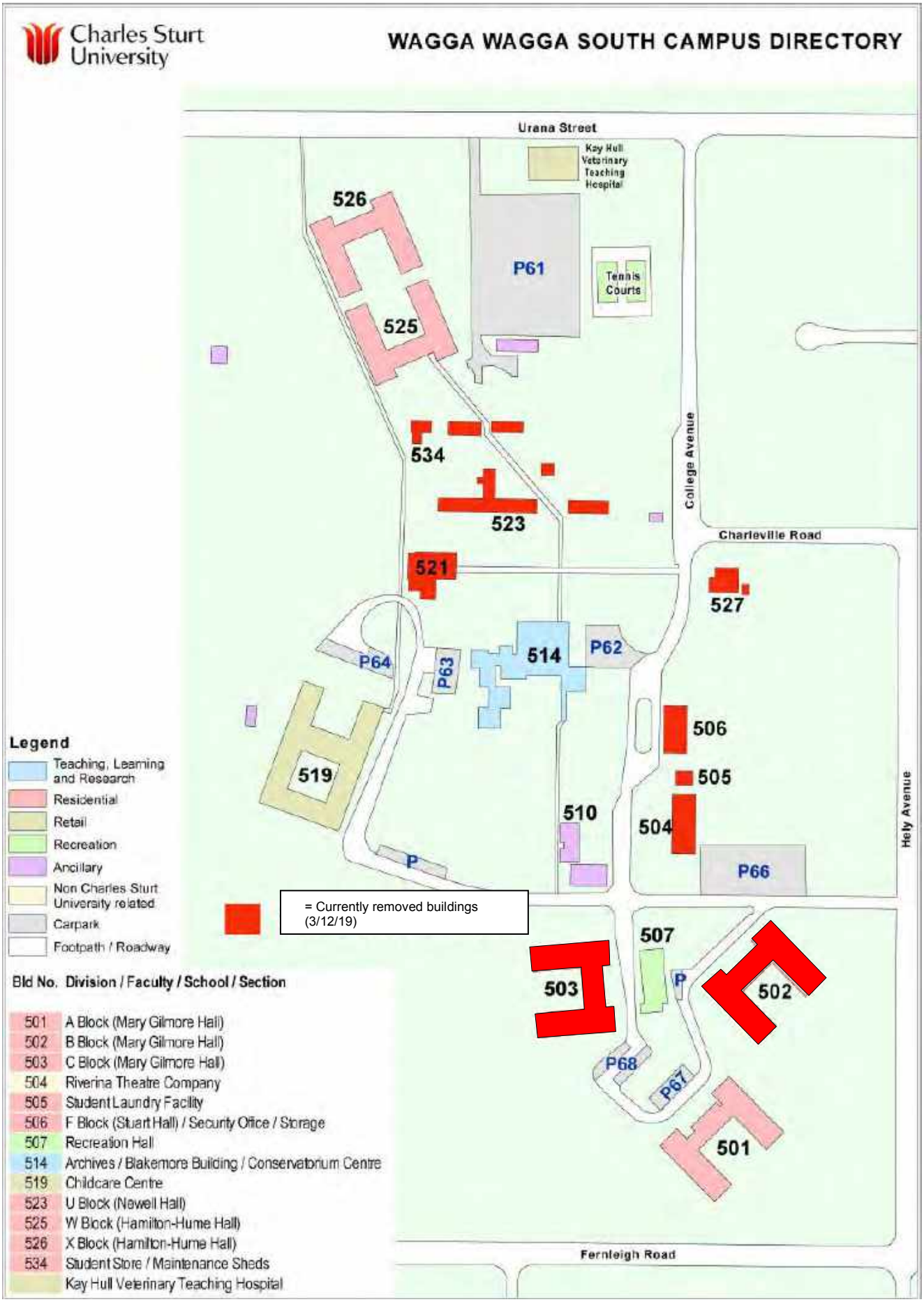

Figure 3: *CSU South Campus demolition plan*

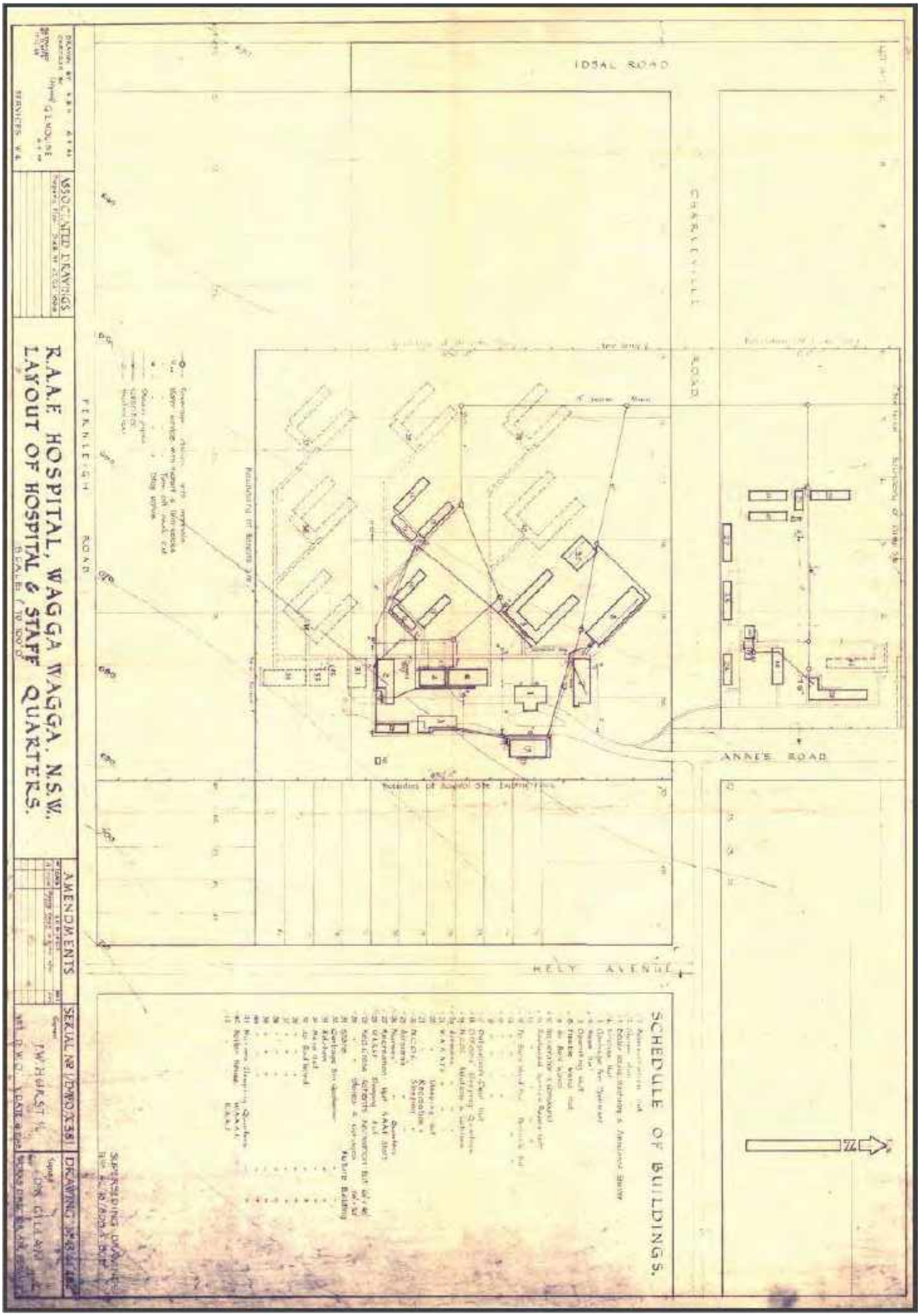

Figure 4: *Plan of No.1 RAAF Hospital, December 1943*

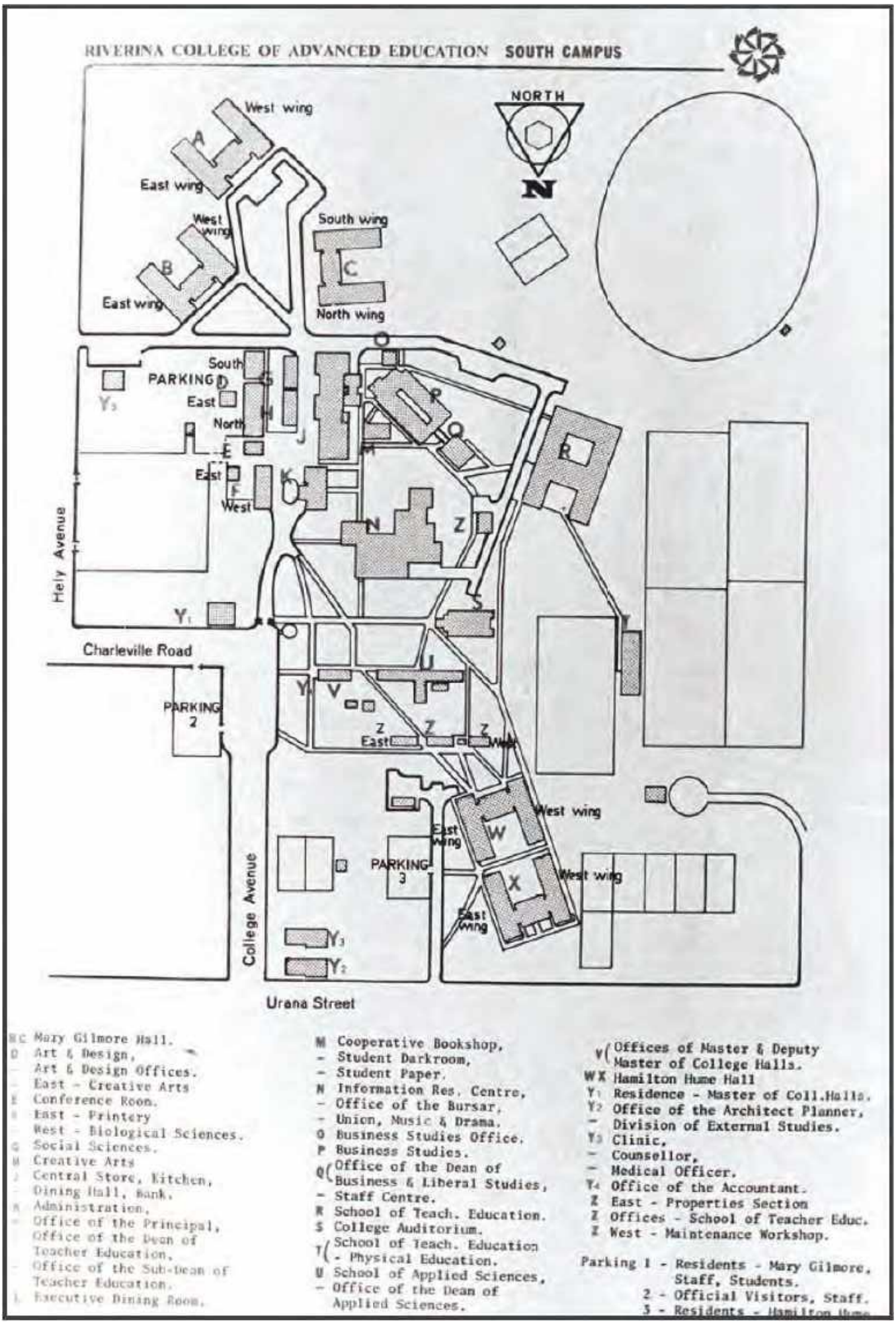

Figure 5: *RCAE map of building sites and their early 1970's functions*

Figure 6: Previous structure footprints

Figure 7: Services

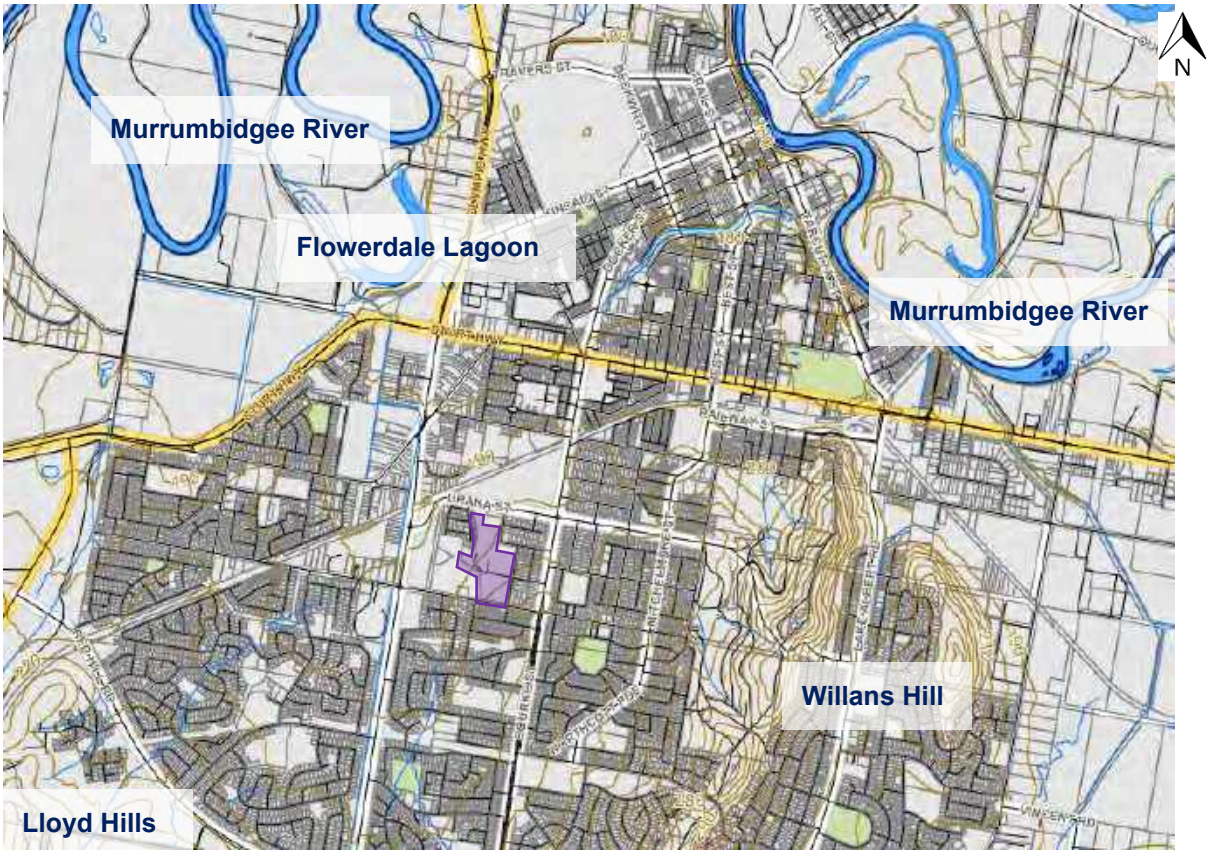

Figure 8: *Topography*

Figure 9: *Registered groundwater bores*

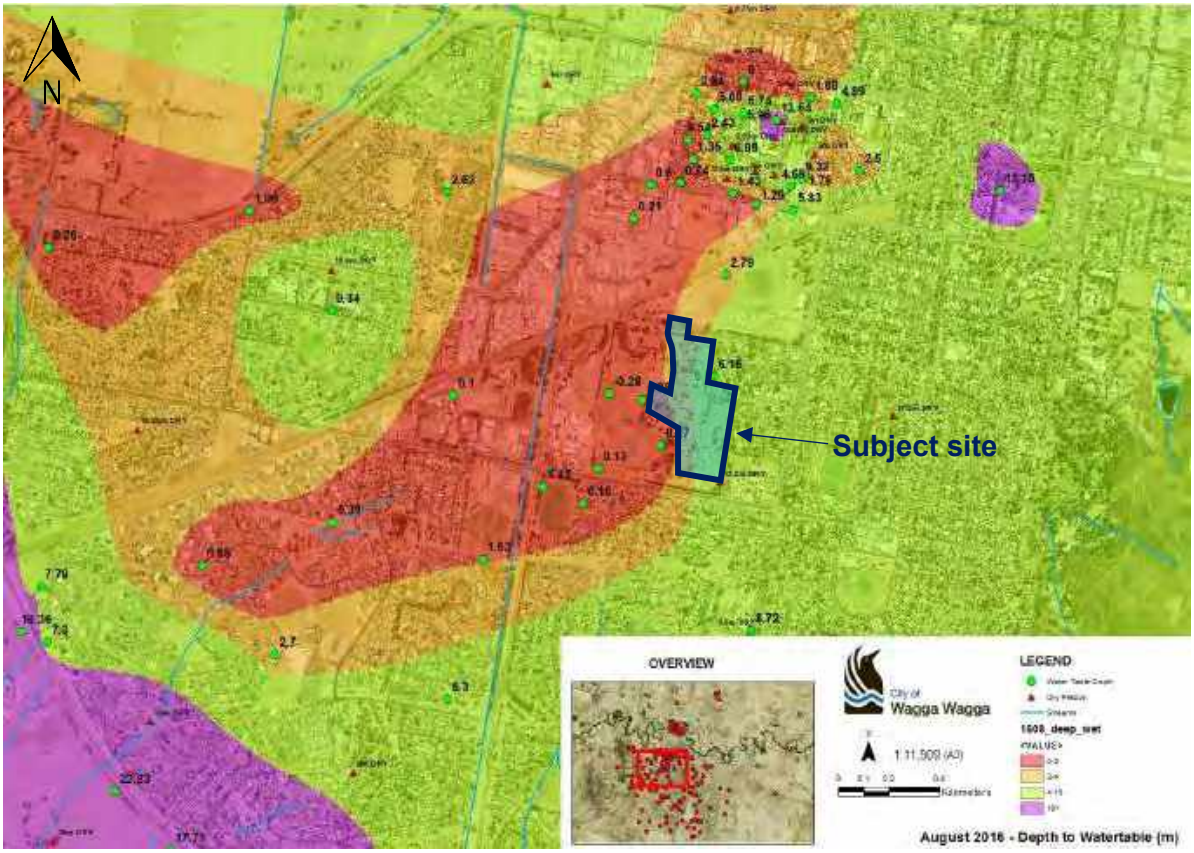

Figure 10: *Standing water level contour map*

Figure 11: *Asbestos grid inspection plan*

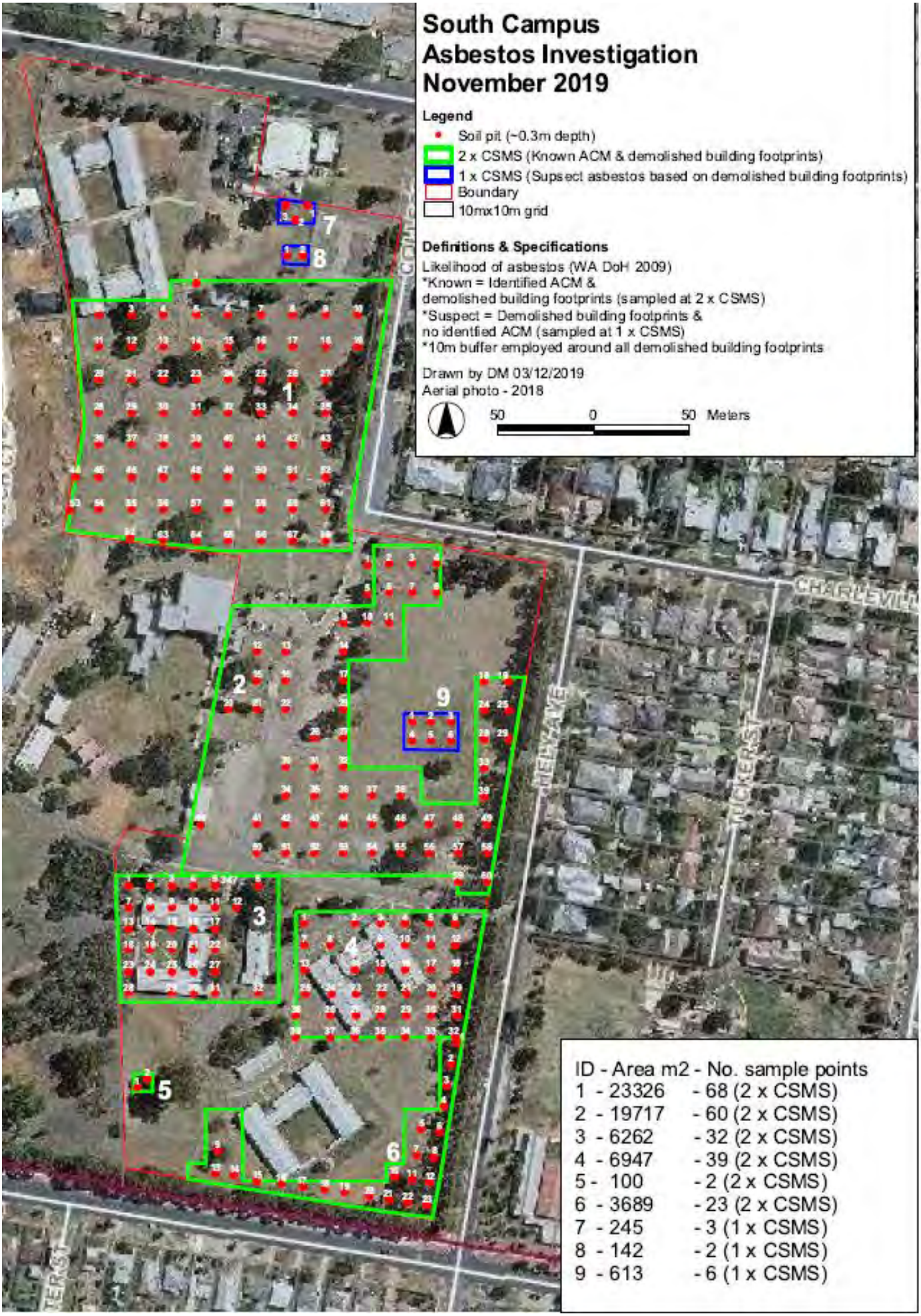

Figure 12: *Asbestos soil sampling plan*

Figure 13: *Metals and pesticide/herbicide sampling plan*

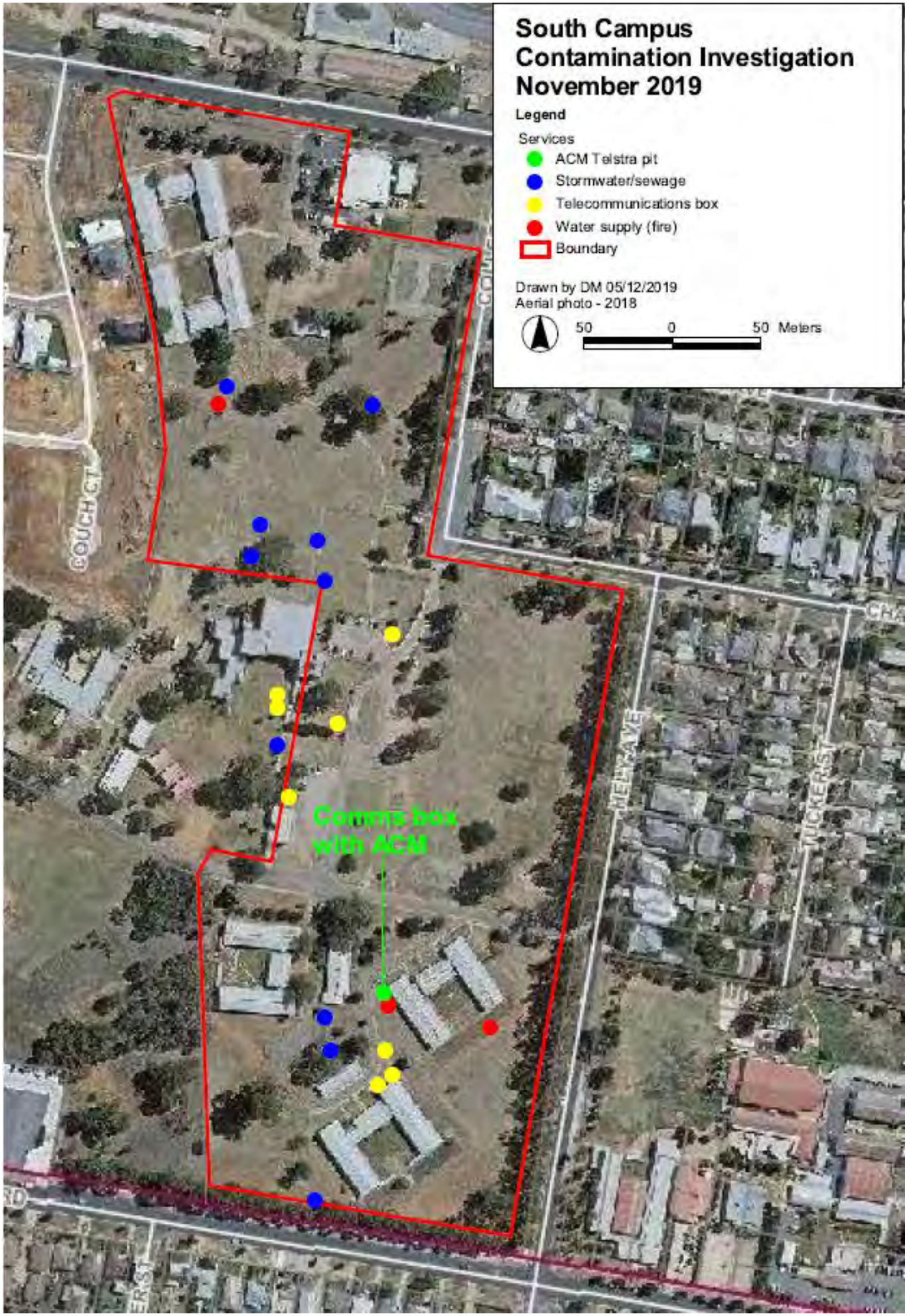

Figure 14: *Services*

Figure 15: *Bonded ACM finds from grid inspection*

Figure 16: *Fibrous asbestos finds from sampling*

Attachment B : *Aerial photographs*

1944


URANA ST
URANA ST
URANA ST
PEACOCK DR
GALLOP AVE
WADE ST
COLLEGE AVE
LUSHER AVE
LUSHER AVE
BOURKE ST
CHARLEVILLE RD
HELY AVE
TUCKER ST
BLAMEY ST
BLUETT CRES
FERNLEIGH RD

1966

1971


URANA ST
URANA ST
URANA ST
PEACOCK DR
GALLOP AVE
WADE ST
COLLEGE AVE
LUSHER AVE
LUSHER AVE
BOURKE ST
CHARLEVILLE RD
HELY AVE
TUCKER ST
BLAMEY ST
BLUETT CRES
FERNLEIGH RD
QUAIL ST


1980


1990

1998


2004


2007
College Ave
Charleville R
Kelly Ave
Quail St

2009
Quan St
Holy Ave
Tucker St
Clarendale Rd
Lusher Ave

2012


URANA ST
URANA ST
URANA ST
PEACOCK DR
GALLOP AVE
WADE ST
COLLEGE AVE
LUSHER AVE
LUSHER AVE
BOURKE ST
CHARLEVILLE RD
HELY AVE
TUCKER ST
BLAMEY ST
ELWEN CRES
FERNLEIGH RD
ODXIL ST
NTIER ST

2014


URANA ST
PEACOCK DR
GALLOP AVE
WADE ST
COLLEGE AVE
LUSHER AVE
LUSHER AVE
CHARLEVILLE
HELY AVE
TUCKER ST
FERNLEIGH RD
QUAIL ST


2016
URANA ST
URANA ST
URANA ST
PEACOCK DR
CALLOP AVE
WADE ST
COLLEGE AVE
LUSHER AVE
LUSHER AVE
CHARLEVILLE
HELY AVE
TUCKER ST
FERNLEIGH RD
QUAIL ST

2018


URANA ST
URANA ST
PEACOCK DR
GALLOP AVE
WADE ST
COLLEGE AVE
LUSHER AVE
LUSHER AVE
CHARLEY
HELY AVE
TUCKER ST
FERNLEIGH RD
QUAIL ST


2019
Quail St
Hely Ave
Tucker St
Charleville Rd
College Ave
Tucker Ave

Attachment C : *Log sheets*

McMahon EARTH SCIENCE

Job No:	6459	**Landform:**	Simple Slope
Client:	Croft Developments	**Slope:**	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	**Vegetation/Surface:**	Bare ground/dead grass weeds
Date:	25/11/2019	**Logged By:**	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/1		531805	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112820	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/2		531751	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112802	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/3		531769	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112802	0.1	0.4	CL	silty CLAY	F	BR	-		St	-	T	Residual	NAD
1/4		531787	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112802	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/5		531805	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112802	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/6		531823	0.0	0.1	OL	sandy CLAY	F	+B	-	M	F	-	D	Topsoil	NAD
		6112802	0.1	0.3	CL	sandy CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/7		531841	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	Topsoil	Asbestos detected
		6112802	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/8		531859	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112802	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/9		531877	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	T	Topsoil	NAD
		6112802	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/10		531895	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112802	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/11		531751	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112784	0.1	0.3	CL	sandy silty CLAY	F	+BR	-	M	St	-	D	Residual	NAD
1/12		531769	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112784	0.1	0.4	CL	silty CLAY	F	BY	-	M	St	-	D	Residual	NAD
1/13		531787	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112784	0.1	0.3	CL	silty CLAY	F	BY	-	M	St	-	D	Residual	NAD
1/14		531805	0.0	0.1	OL	sandy CLAY	F	RB	-	M	F	-	D	Topsoil	NAD
		6112784	0.1	0.3	CL	sandy CLAY	F	+RB	-	M	St	-	D	Residual	NAD
1/15		531823	0.0	0.1	OL	sandy CLAY	F	-RB	-	M	F	-	T	Topsoil	NAD
		6112784	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	T	Residual	NAD
1/16		531841	0.0	0.1	OL	sandy CLAY	F	-RB	-	M	F	-	T	Topsoil	NAD
		6112784	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/17		531858.5	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112783.8	0.1	0.2	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/18		531876.5	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112783.8	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/19		531894.5	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112783.8	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/20		531750.5	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112765.8	0.1	0.2	CL	sandy CLAY	F	YB	-	M	St	-	T	Residual	NAD
1/21		531768.5	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112765.8	0.1	0.3	CL	sandy CLAY	F	+B	-	M	St	-	T	Residual	NAD
1/22		531786.5	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112765.8	0.1	0.2	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/23		531804.5	0.0	0.1	OL	sandy CLAY	F	+B	-	M	F	-	T	Topsoil	NAD
		6112765.8	0.1	0.3	CL	sandy silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
1/24		531822.5	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112765.8	0.1	0.2	CL	sandy CLAY	F	-RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

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Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/25		531841	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112766	0.1	0.2	CL	sandy CLAY	F	-RB	-	M	St	-	D	Residual	NAD
1/26		531859	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112766	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/27		531877	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112766	0.1	0.2	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/28		531751	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112748	0.1	0.3	OL	sandy silty CLAY	F	+B	-	M	St	-	T	Residual	NAD
1/29		531769	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112748	0.1	0.3	OL	sandy silty CLAY	F	+B	-	M	St	-	T	Residual	NAD
1/30		531787	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	T	Topsoil	Small bonded ACM fragments x 1
		6112748	0.1	0.3	OL	sandy silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
1/31		531805	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	T	Topsoil	NAD
		6112748	0.1	0.2	OL	sandy CLAY	F	-YB	-	M	St	-	T	Residual	NAD
1/32		531823	0.0	0.1	OL	sandy silty CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112748	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
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Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/33		531841	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112748	0.1	0.3	CL	sandy silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
1/34		531859	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	Topsoil	NAD
		6112748	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/35		531877	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112748	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/36		531751	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	Small bonded ACM fragment.
		6112730	0.1	0.3	CL	silty CLAY	F	YR	-	M	St	-	D	Residual	NAD
1/37		531769	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	--B	-	M	St	-	D	Residual	NAD
1/38		531787	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	Small bonded ACM fragments x 2.
1/39		531805	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	--B	-	M	St	-	D	Residual	NAD
1/40		531823	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
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Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/41		531841	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/42		531859	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
1/43		531877	0.0	0.1	OL	sand SILT	F	B	-	M	F	-	D	Topsoil	NAD
		6112730	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/44		531737	0.0	0.1	OL	sandy silty CLAY	F	-YB	-	M	F	-	T	Topsoil	Small Bonded ACM Fragments x 2
		6112712	0.1	0.3	CL	silty CLAY	F	-YB	-	M	St	-	M	Residual	NAD
1/45		531751	0.0	0.1	OL	sandy silty CLAY	F	B	-	T	F	-	D	Topsoil	NAD
		6112712	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
1/46		531769	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112712	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
1/47		531787	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112712	0.1	0.3	CL	clay SILT	F	--B	-	M	St	-	D	Residual	NAD
1/48		531805	0.0	0.1	OL	clay SILT	F	-B	-	M	F	-	D	Topsoil	NAD
		6112712	0.1	0.3	CL	clay SILT	F	--B	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	**Landform:**	Simple Slope
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Date:	25/11/2019	**Logged By:**	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/49		531823	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112712	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/50		531841	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112712	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/51		531859	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112712	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/52		531877	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112712	0.1	0.4	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
1/53		531735	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/54		531751	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
1/55		531769	0.0	0.1	OL	sandy GRAVEL	F	-B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
1/56		531787	0.0	0.1	SP	sandy GRAVEL	F	-B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/57		531805	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
1/58		531823	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	-BR	-	M	St	-	T	Residual	NAD
1/59		531841	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/60		531859	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/61		531877	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	Topsoil	NAD
		6112694	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
1/62		531768	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112678	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1/63		531787	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112676	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/64		531805	0.0	0.1	OL	sandy silty CLAY	F	-BR	-	M	F	-	D	Topsoil	NAD
		6112676	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
1/65		531823	0.0	0.1	OL	sandy silty CLAY	F	-BR	-	M	F	-	D	Topsoil	NAD
		6112676	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/66		531841	0.0	0.1	OL	sandy silty CLAY	F	-BR	-	M	F	-	D	Topsoil	NAD
		6112676	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/67		531859	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	T	Topsoil	NAD
		6112676	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
1/68		531877	0.0	0.1	SP	sandy GRAVEL	F	-B	-	M	F	-	D	Topsoil	NAD
		6112676	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
2/1		531900	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112662	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/2		531912	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	Rubble. Small Bonded ACM Fragment x 1
		6112664	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	Rubble.
2/3		531925	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112664	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/4		531938	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112663	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/5		531900	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	Topsoil	NAD
		6112646	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/6		531912	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	Topsoil	NAD
		6112648	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/7		531925	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	Topsoil	NAD
		6112648	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/8		531938	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	Topsoil	NAD
		6112647	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/9		531887	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	Topsoil	NAD
		6112630	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/10		531900	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	Topsoil	NAD
		6112630	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/11		531912	0.0	0.1	OL	sandy silty CLAY	F	-BR	-	M	F	-	D	Topsoil	NAD
		6112630	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/12		531839	0.0	0.1	SM	silty SAND	F	-B	-	M	F	-	D	FILL	NAD
		6112614	0.1	0.3	CL	sandy CLAY	F	BR	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/13		531855	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD. Black and White deposits.
		6112614	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/14		531887	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	Bonded ACM Pipe Fragment x 1
		6112614	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/15		531839	0.0	0.1	SM	silty SAND	F	-B	-	M	F	-	D	FILL	NAD
		6112598	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
2/16		531855	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112598	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/17		531887	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112598	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/18		531965	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112598	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/19		531978	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112598	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/20		531823	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	T	TOPSOIL	NAD
		6112582	0.1	0.2	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/21		531839	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112582	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/22		531855	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112582	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/23		531887	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112582	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/24		531965	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112582	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/25		531978	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	Small Bonded ACM Fragment x 1
		6112582	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/26		531871	0.0	0.1	GP	GRAVEL	C	BL	-	M	F	-	D	FILL	C.A.<20mm; Asphalt road. NAD
		6112566	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/27		531887	0.0	0.1	OL	silty CLAY	F/C	BR	-	M	F	-	D	FILL	C.A.<20mm. NAD
		6112566	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/28		531965	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112566	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/29		531978	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	Small Bonded ACM Fragment x 1
		6112566	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/30		531855	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112550	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/31		531871	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112550	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/32		531887	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112550	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/33		531965	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112550	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/34		531855	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112534	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/35		531871	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	FILL	Rubble. NAD.
		6112534	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
2/36		531887	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112534	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
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Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/37		531903	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112534	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/38		531919	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	T	TOPSOIL	NAD
		6112534	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/39		531965	0.0	0.1	OL	silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112534	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/40		531807	0.0	0.1	GM	gravel SILT	F/C	--B	-	M	F	-	D	FILL	Road base. NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/41		531839	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	Small Bonded ACM Fragment x 4.
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/42		531855	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/43		531871	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	-RB	-	M	St	-	T	Residual	NAD
2/44		531887	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	-RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/45		531903	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/46		531919	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/47		531935	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/48		531951	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/49		531967	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112518	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/50		531839	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112502	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/51		531855	0.0	0.1	SM	sandy SILT	F	B	-	M	F	-	D	FILL	Asphalt. NAD
		6112502	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/52		531871	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112502	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2/53		531887	0.0	0.1	GM	silt GRAVEL	F	--B	-	M	F	-	D	FILL	Road base. NAD.
		6112502	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2/54		531903	0.0	0.1	GM	silt GRAVEL	F	--B	-	M	F	-	D	FILL	Road base. NAD.
		6112502	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
2/55		531919	0.0	0.1	GM	silt GRAVEL	F	--B	-	M	F	-	D	FILL	Road base. NAD.
		6112502	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
2/56		531935	0.0	0.1	GM	silt GRAVEL	F	--B	-	M	F	-	D	FILL	Road base. NAD.
		6112502	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
2/57		531951	0.0	0.1	SM	silty SAND	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112502	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/58		531967	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112502	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/59		531951	0.0	0.1	GP	GRAVEL	C	BL	-	M	F	-	D	FILL	C.A.<20mm; Asphalt road. NAD
		6112486	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2/60		531967	0.0	0.1	GP	GRAVEL	C	BL	-	M	F	-	D	FILL	C.A.<20mm; Asphalt road. NAD
		6112486	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
3/1		531767	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112485	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3/2		531779	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112485	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/3		531791	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112485	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/4		531803	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112485	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/5		531815	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112485	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/6		531839	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112485	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/7		531767	0.0	0.1	CL	sandy CLAY	F	-RB	-	M	F	-	D	FILL	NAD
		6112473	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/8		531779	0.0	0.1	CL	sandy CLAY	F	RB	-	M	F	-	D	FILL	NAD
		6112473	0.1	0.3	CL	silty CLAY	F	`	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
3/9		531791	0.0	0.1	CL	sandy CLAY	F	RB	-	M	F	-	D	FILL	NAD
		6112473	0.1	0.3	CL	silty CLAY	F	`	-	M	St	-	T	Residual	NAD
3/10		531803	0.0	0.1	CL	sandy CLAY	F	RB	-	M	F	-	D	FILL	NAD
		6112473	0.1	0.3	CL	silty CLAY	F	`	-	M	St	-	T	Residual	NAD
3/11		531815	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112473	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/12		531827	0.0	0.1	OL	sandy GRAVEL	F	B	-	M	F	-	D	FILL	NAD
		6112473	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/13		531767	0.0	0.1	CL	silty CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112461	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/14		531779	0.0	0.1	CL	silty CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112461	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/15		531791	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112461	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/16		531803	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112461	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
3/17		531815	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112461	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/18		531767	0.0	0.1	CL	sandy CLAY	F	BR	-	M	F	-	D	FILL	NAD
		6112449	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/19		531779	0.0	0.1	CL	sandy CLAY	F	BR	-	M	F	-	D	FILL	NAD
		6112449	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
3/20		531791	0.0	0.1	SM	silty SAND	F	-B	-	M	F	-	D	FILL	NAD
		6112449	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	M	Residual	NAD
3/21		531803	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112449	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
3/22		531815	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112449	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3/23		531767	0.0	0.1	CL	sandy silty CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112437	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3/24		531779	0.0	0.1	OL	sandy CLAY	F	RB	-	M	F	-	T	TOPSOIL	NAD
		6112437	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
3/25		531791	0.0	0.1	OL	sandy CLAY	F	RB	-	M	F	-	T	TOPSOIL	Small bonded ACM Fragment x 1
		6112437	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
3/26		531803	0.0	0.1	OL	sandy clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112437	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
3/27		531815	0.0	0.1	OL	sandy clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112437	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/28		531767	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	T	FILL	NAD
		6112425	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3/29		531791	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	T	FILL	NAD
		6112425	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3/30		531803	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112425	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3/31		531815	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112425	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3/32		531839	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112425	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
4/1		531865	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112463	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/2		531893	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	Rubble. Large Bonded ACM Fragments x >5
		6112463	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	Rubble. NAD.
4/3		531907	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112463	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/4		531921	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112463	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/5		531935	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112463	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/6		531949	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112463	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/7		531865	0.0	0.1	OL	sandy clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112451	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
4/8		531879	0.0	0.1	CL	sandy CLAY	F	B	Bl	M	F	-	D	FILL	NAD
		6112451	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
4/9		531907	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112451	0.1	0.3	CL	CLAY	F	YB	-	M	St	-	D	Residual	NAD
4/10		531921	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	Bonded ACM Fragments <3
		6112451	0.1	0.3	CL	CLAY	F	YB	-	M	St	-	D	Residual	NAD
4/11		531935	0.0	0.1	CL	sandy CLAY	F	B	-	M	F	-	D	FILL	NAD
		6112451	0.1	0.3	CL	CLAY	F	YB	-	M	St	-	D	Residual	NAD
4/12		531949	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112451	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/13		531865	0.0	0.1	CL	sandy CLAY	F	RB	-	M	F	-	D	TOPSOIL	Small Bonded ACM Fragment x 1
		6112438	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
4/14		531893	0.0	0.1	CL	sandy CLAY	F	BR	-	M	F	-	D	FILL	NAD
		6112438	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/15		531907	0.0	0.1	CL	sandy CLAY	F	YB	-	M	F	-	D	FILL	NAD
		6112438	0.1	0.3	CL	sandy CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/16		531921	0.0	0.1	CL	sandy CLAY	F	YB	-	M	F	-	D	FILL	NAD
		6112438	0.1	0.3	CL	sandy CLAY	F	YB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
4/17		531935	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112438	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
4/18		531949	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112438	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
4/19		531950	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112424	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
4/20		531936	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112424	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
4/21		531922	0.0	0.1	OL	sandy silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112424	0.1	0.3	CL	sandy CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/22		531908	0.0	0.1	SM	silty SAND	F	-B	-	M	F	-	D	FILL	NAD
		6112424	0.1	0.3	CL	sandy CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/23		531894	0.0	0.1	CL	sandy CLAY	F	RB	-	M	F	-	D	FILL	NAD
		6112424	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/24		531880	0.0	0.1	OL	sandy CLAY	F	BY	-	M	F	-	D	TOPSOIL	NAD
		6112424	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
4/25		531866	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112424	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/26		531879	0.0	0.1	OL	silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112412	0.1	0.3	CL	sandy silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/27		531893	0.0	0.1	CL	sandy CLAY	F	-BY	-	M	F	-	D	FILL	NAD
		6112412	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD
4/28		531907	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112412	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/29		531921	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112412	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/30		531935	0.0	0.1	OL	sandy silty CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112412	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
4/31		531949	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112412	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
4/32		531949	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
4/33		531935	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	T	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
4/34		531921	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	NAD
4/35		531907	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
4/36		531893	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
4/37		531879	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	BY	-	M	St	-	D	Residual	NAD
4/38		531860	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112412	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
4/39		531860	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112400	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
5/1		531772	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112372	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
5/2		531778	0.0	0.1	SM	silty SAND	F	-B	-	M	F	-	D	FILL	NAD
		6112377	0.1	0.3	CL	sandy silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/1		531949	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112397	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/2		531947	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112385	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/3		531944	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112373	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/4		531942	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112362	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/5		531930	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	Small Bonded ACM Fragments x 2
		6112349	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/6		531940	0.0	0.1	OL	CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112347	0.1	0.3	CL	CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/7		531927	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112334	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
6/8		531937	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112333	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/9		531817	0.0	0.1	OL	sandy CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112337	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/10		531915	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	Samll Bonded ACM Fragments x 2
		6112323	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/11		531925	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112321	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/12		531935	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	Samll Bonded ACM Fragments x 2
		6112320	0.1	0.2	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/13		531815	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112325	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/14		531826	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112323	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/15		531839	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112320	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	getation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
6/16		531852	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112319	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/17		531864	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112317	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
6/18		531876	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	T	TOPSOIL	NAD
		6112315	0.1	0.2	CL	silty CLAY	F	-RB	-	M	St	-	T	Residual	NAD
6/19		531887	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	T	TOPSOIL	NAD
		6112314	0.1	0.3	CL	silty CLAY	F	-RB	-	M	St	-	T	Residual	NAD
6/20		531901	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112312	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
6/21		531912	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112310	0.1	0.2	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/22		531922	0.0	0.1	OL	sandy CLAY	F/C	-B	-	M	F	-	D	TOPSOIL	C.A. Slate <5. Small Bonded ACM Fragments x 5.
		6112308	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
6/23		531933	0.0	0.1	OL	CLAY	F	RB	-	M	F	-	D	TOPSOIL	NAD
		6112306	0.1	0.2	CL	CLAY	F	R	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
7/1		531854	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112863	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
7/2		531866	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112863	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
8/1		531855	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112835	0.1	0.4	CL	silty CLAY	F	YR	-	M	St	-	D	Residual	NAD
8/2		531864	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112835	0.1	0.4	CL	silty CLAY	F	YR	-	M	St	-	D	Residual	NAD
9/1		531924	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112575	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
9/2		531935	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112576	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
9/3		531946	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112575	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
9/4		531924	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112565	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	**Landform:**	Simple Slope
Client:	Croft Developments	**Slope:**	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	**Vegetation/Surface:**	Bare ground/dead grass weeds
Date:	25/11/2019	**Logged By:**	ZB/JH/ZD

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
9/5		531935	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112565	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
9/6		531946	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112565	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	**Landform:**	Simple Slope
Client:	Croft Developments	**Slope:**	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	**Vegetation/Surface:**	Bare ground/dead grass weeds
Date:	25/11/2019	**Logged By:**	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
42		531745	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	M	TOPSOIL	NAD
		6112685	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
75		531755	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	M	TOPSOIL	NAD
		6112745	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
125		531765	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112775	0.1	0.4	CL	silty CLAY	F	YB	-	M	St	-	D	Residual	NAD
163		531775	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	M	TOPSOIL	NAD
		6112685	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	M	Residual	NAD
169		531775	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112745	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
203		531785	0.0	0.1	OL	silty CLAY	F	-BR	-	M	F	-	T	TOPSOIL	NAD
		6112465	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	T	Residual	NAD
247		531795	0.0	0.1	OL	silty CLAY	F	-BR	-	M	F	-	D	TOPSOIL	Asbestos detected
		6112435	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	Residual	NAD
261		531798	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112723	0.1	0.3	CL	silty CLAY	F	-B	-	M	St	-	D	Residual	NAD. Duplicate(D1)

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
262		531795	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112735	0.1	0.3	CL	silty CLAY	F	-B	-	M	St	-	D	Residual	NAD
294		531805	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	M	TOPSOIL	Rubble; NAD.
		6112445	0.1	0.4	CL	sandy CLAY	F	YB	-	M	St	-	M	FILL	Rubble; NAD.
314		531805	0.0	0.1	OL	silty CLAY	F	YB	-	M	F	-	D	TOPSOIL	NAD
		6112765	0.1	0.3	CL	silty CLAY	F	-B	-	M	St	-	D	Residual	NAD. Duplicate (D2)
334		531815	0.0	0.1	OL	sandy SILT	F	B	-	L	F	-	D	TOPSOIL	NAD
		6112355	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
347		531815	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112487	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	F.A.- ABANDONED
429		531825	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112735	0.1	0.4	CL	silty CLAY	F	-B	-	M	St	-	D	Residual	NAD
492		531836	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112746	0.1	0.4	CL	silty CLAY	F	-B	-	M	St	-	D	Residual	NAD
542		531845	0.0	0.1	OH	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112625	0.1	0.3	CL	silty CLAY	F	YB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	getation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
593		531855	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112545	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	T	Residual	NAD
610		531855	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112715	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
626		531865	0.0	0.1	OH	sandy CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112315	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
695		531875	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	T	FILL	Bonded ACM fragment x 1
		6112445	0.1	0.3	CL	CLAY	F	RB	-	H	St	-	T	FILL	Rubble; NAD
705		531875	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	T	FILL	Rubble; NAD.
		6112545	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	FILL	Rubble; NAD.
706		531875	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	T	FILL	Rubble; NAD.
		6112555	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	FILL	Rubble; NAD.
708		531875	0.0	0.1	OH	sandy CLAY	F	BR	-	M	F	-	T	FILL	Rubble. Bonded ACM pipe fragment x 1
		6112575	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	FILL	Rubble; Asbestos F.A.
752		531885	0.0	0.1	OL	silty CLAY	F	-BR	-	M	F	-	T	TOPSOIL	Rubble; ashy. NAD
		6112445	0.1	0.3	CL	CLAY	F	RB	-	M	St	-	T	FILL	Rubble; ashy. NAD

McMahon EARTH SCIENCE

Job No:	6459	**Landform:**	Simple Slope
Client:	Croft Developments	**Slope:**	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	**Vegetation/Surface:**	Bare ground/dead grass weeds
Date:	25/11/2019	**Logged By:**	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
866		531905	0.0	0.1	OL	silty CLAY	F	BR	-	M	F	-	D	FILL	Rubble. Large Bonded ACM fragments.
		6112465	0.1	0.3	CL	sandy CLAY	F	RB	-	M	St	-	D	FILL	Rubble. F.A. detected.
977		531925	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	T	TOPSOIL	NAD
		6112655	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
985		531935	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	T	TOPSOIL	NAD
		6112355	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
1036		531946	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112511	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
1058		531955	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112445	0.1	0.4	CL	silty CLAY	F	YR	-	M	St	-	D	Residual	NAD
1088		531965	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112515	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2001		531873	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112784	0.1	0.4	CH	CLAY	F	YR	-	H	VSt	-	D	Residual	NAD
2002		531857	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112834	0.1	0.4	CH	CLAY	F	YR	-	H	VSt	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2003		531817	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112806	0.1	0.4	CH	CLAY	F	YR	-	H	VSt	-	D	Residual	NAD
2004		531858	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112862	0.1	0.4	CH	CLAY	F	R	-	H	VSt	-	D	Residual	NAD
2005		531822	0.0	0.1	GC	clay GRAVEL	F	--B	-	M	F	-	D	FILL	Road Base. NAD.
		6112553	0.1	0.3	CH	CLAY	F	+B	-	H	VSt	-	T	Residual	Black deposits; C.A. <5mm. NAD.
2006		531814	0.0	0.1	GC	clay GRAVEL	F	--B	-	M	F	-	D	FILL	Road Base. NAD.
		6112513	0.1	0.3	CL	sandy CLAY	F	RB	-	H	VSt	-	T	Residual	C.A. <5mm. NAD.
2007		531930	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112571	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2008		531940	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112576	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2009		531907	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112627	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2010		531979	0.0	0.1	OL	silty CLAY	F	-RB	-	M	F	-	D	TOPSOIL	Small Bonded ACM Fragment x 1
		6112572	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
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Date:	25/11/2019	Logged By:	ZB/JH

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Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2011		531979	0.0	0.1	OL	silty CLAY	F	-RB	-	M	F	-	D	TOPSOIL	NAD
		6112551	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2012		531966	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112551	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2013		531964	0.0	0.1	SM	silt SAND	F	--B	-	M	F	-	D	FILL	C.A. <10mm. NAD.
		6112486	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2014		531837	0.0	0.1	OL	sand SILT	F	BR	-	M	F	-	T	FILL	Rubble. NAD.
		6112375	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	FILL	Rubble. NAD.
2015		531882	0.0	0.1	OL	silty CLAY	F	RB	-	M	F	-	D	Residual	NAD
		6112701	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2017		531935	0.0	0.1	OL	clay SILT	F	-BR	-	M	F	-	D	TOPSOIL	NAD
		6112307	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
2018		531917	0.0	0.1	OL	clay SILT	F	-BR	-	M	F	-	D	TOPSOIL	NAD
		6112306	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	M	Residual	NAD
2019		531784	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112767	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
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Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2020		531929	0.0	0.1	OL	sand CLAY	F	B	-	M	F	-	T	TOPSOIL	NAD
		6112315	0.1	0.3	CL	silty CLAY	F	R	-	M	St	-	M	Residual	NAD
2021		531912	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	M	TOPSOIL	NAD
		6112538	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2022		531954	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112430	0.1	0.4	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2023		531842	0.0	0.1	OL	sandy CLAY	F	-BR	-	M	F	-	D	FILL	Rubble. Small Bonded ACM fragment x 3
		6112508	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	FILL	Rubble. NAD
2024		531840	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	Rubble; Painted Masonite.
		6112594	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	T	Residual	Rubble; Painted Masonite.
2025		531926	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112543	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2026		531787	0.0	0.1	OL	silty CLAY	F	-B	-	M	F	-	D	TOPSOIL	Bonded ACM Fragments x 2
		6112674	0.1	0.3	CL	silty CLAY	F	-BR	-	M	St	-	D	Residual	NAD
2027		531832	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112718	0.1	0.4	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	Landform:	Simple Slope
Client:	Croft Developments	Slope:	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	Vegetation/Surface:	Bare ground/dead grass weeds
Date:	25/11/2019	Logged By:	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2028		531840	0.0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112736	0.1	0.3	CL	silty CLAY	F	-B	-	M	St	-	D	Residual	NAD
2029		531875	0.0	0.1	OL	sandy CLAY	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112798	0.1	0.3	CL	silty CLAY	F	BR	-	M	St	-	D	Residual	NAD
2030		531777	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112724	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2031		531913	0.0	0.1	OL	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112661	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	Rubble. Small Bonded ACM Fragment x 1
2032		531838	0	0.1	SM	silty SAND	F	-B	-	L	F	-	D	TOPSOIL	NAD
		6112623	0.1	0.3	CL	sandy CLAY	F	BR	-	M	St	-	D	Residual	NAD
2033		531849	0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112587	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2034		531879	0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112586	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2035		531822	0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112576	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD

McMahon EARTH SCIENCE

Job No:	6459	**Landform:**	Simple Slope
Client:	Croft Developments	**Slope:**	Gently Inclined
Site:	20 Hely Avenue, Turvey Park NSW 2650	**Vegetation/Surface:**	Bare ground/dead grass weeds
Date:	25/11/2019	**Logged By:**	ZB/JH

Sheet: 'Geotech Field Sheet_rev2'

Sampling Method: AS1289.1.2.1-1998: cl. [ ] 6.5.1 - Hand Excavated [ ] 6.5.2 - Hand Auger [ ] 6.5.3 - Power Auger [√] 6.5.4 - Machine Excavated Other:_____

Site Identity	Sample	Co-ordinates MGA GDA94 z55	Depth to Top of Layer (m)	Depth to Bottom of Layer (m)	Classification (AS1726:2017 Table 9 & 10)	Soil Name (BLOCK LETTERS)	Grain Size (Fine / Coarse)	Primary Colour	Mottle Colour	Plasticity	Consistency (Cohesive soils)	Relative Density (Non-cohesive)	Moisture	Soil Origin	Comments (Coarse Fragments, Size, %, Structure (Zoning, Defects, Cementing etc.))
2037		531840	0.0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112736	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2039		531875	0.0	0.1	OL	clay SILT	F	BR	-	M	F	-	D	TOPSOIL	Small bonded ACM Fragment x 1
		6112798	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
2040		531868	0.0	0.1	OL	clay SILT	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112519	0.1	0.3	CL	silty CLAY	F	-RB	-	M	St	-	D	Residual	NAD
2041		531806	0.0	0.1	OL	silt Gravel	F	-B	-	M	F	-	D	TOPSOIL	NAD
		6112514	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
2042		531867	0	0.1	SM	sandy CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112504	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3001		531934	0	0.1	OL	sandy CLAY	F	BR	-	M	F	-	D	TOPSOIL	NAD
		6112604	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	D	Residual	NAD
3002		531908	0	0.1	OL	silty CLAY	F	BR	-	M	F	-	T	TOPSOIL	NAD
		6112391	0.1	0.3	CL	silty CLAY	F	RB	-	M	St	-	T	Residual	NAD
3003		531791	0	0.1	OL	silty CLAY	F	B	-	M	F	-	D	TOPSOIL	NAD
		6112894	0.1	0.4	CL	CLAY	F	YR	-	M	St	-	T	Residual	NAD. Duplicated (D3)

Attachment D : *Tabulated results*

Table: *Asbestos results summary*

Parameter	Limit	Unit	Sample ID													
			1/1	1/2	1/3	1/4	1/5	1/6	1/7	1/8	1/9	1/10	1/11	1/12	1/13	1/14
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			1/15	1/16	1/17	1/18	1/19	1/20	1/21	1/22	1/23	1/24	1/25	1/26	1/27	1/28
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			1/29	1/30	1/31	1/32	1/33	1/34	1/35	1/36	1/37	1/38	1/39	1/40	1/41	1/42
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			1/43	1/44	1/45	1/46	1/47	1/48	1/49	1/50	1/51	1/52	1/53	1/54	1/55	1/56
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			1/57	1/58	1/59	1/60	1/61	1/62	1/63	1/64	1/65	1/66	1/67	1/68	2/1	2/2
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Table: *Asbestos results summary*

Parameter	Limit	Unit	Sample ID													
			2/3	2/4	2/5	2/6	2/7	2/8	2/9	2/10	2/11	2/12	2/13	2/14	2/15	2/16
Asbestos Detected	Presence	g/kg	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	Ch	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			2/17	2/18	2/19	2/20	2/21	2/22	2/23	2/24	2/25	2/26	2/27	2/28	2/29	2/30
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			2/31	2/32	2/33	2/34	2/35	2/36	2/37	2/38	2/39	2/40	2/41	2/42	2/43	2/44
Asbestos Detected	Presence	g/kg	No	No	No	No	No*	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	Ch + Am	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			2/45	2/46	2/47	2/48	2/49	2/50	2/51	2/52	2/53	2/54	2/55	2/56	2/57	2/58
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			2/59	2/60	3/1	3/2	3/3	3/4	3/5	3/6	3/7	3/8	3/9	3/10	3/11	3/12
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No*	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	Ch + Am	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Table: *Asbestos results summary*

Parameter	Limit	Unit	Sample ID													
			3/13	3/14	3/15	3/16	3/17	3/18	3/19	3/20	3/21	3/22	3/23	3/24	3/25	3/26
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No*	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	Ch+Am+Cr	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			3/27	3/28	3/29	3/30	3/31	3/32	4/1	4/2	4/3	4/4	4/5	4/6	4/7	4/8
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			4/9	4/10	4/11	4/12	4/13	4/14	4/15	4/16	4/17	4/18	4/19	4/20	4/21	4/22
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			4/23	4/24	4/25	4/26	4/27	4/28	4/29	4/30	4/31	4/32	4/33	4/34	4/35	4/36
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			4/37	4/38	4/39	5/1	5/2	6/1	6/2	6/3	6/4	6/5	6/6	6/7	6/8	6/9
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Table: *Asbestos results summary*

Parameter	Limit	Unit	Sample ID													
			6/10	6/11	6/12	6/13	6/14	6/15	6/16	6/17	6/18	6/19	6/20	6/21	6/22	6/23
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			7/1	7/2	7/3	8/1	8/2	9/1	9/2	9/3	9/4	9/5	9/6	FA-00 (347)	FA-01	FA-02
Asbestos Detected	Presence	g/kg	No	No	No	No	Yes	No	No	No	No	No	No	Yes	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Asbestos Type	Presence	g/kg	-	-	-	-	Ch + Am	-	-	-	-	-	-	Ch + Am + C	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	2.42	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			FA-03	FA-04	AD01	AD02	AD03	AD04	AD05	AD06	AD07	AD08	AD09	AD10	AD11	AD12
Asbestos Detected	Presence	g/kg	No*	No*	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Asbestos Type	Presence	g/kg	Ch + Am	Ch + Am	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Parameter	Limit	Unit	Sample ID													
			AS01	AS02	AS03	AS04	AS05	AS06	-	-	-	-	-	-	-	-
Asbestos Detected	Presence	g/kg	No	No	No	No	No	No	-	-	-	-	-	-	-	-
Asbestos (Trace)	Presence	g/kg	No	No	No	No	No	No	-	-	-	-	-	-	-	-
Asbestos Type	Presence	g/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonded ACM	0.01[A]	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Fines and Fibrous FA + AF	0.001[A]	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-

A National Environmental Protection Measure (Assesment of Site Contamination) 2013. Section 4: Table 7. Health Screening Levels Residential A

Table: *Metals, pesticide and herbicide results summary*

Parameter	LOR	Limit	Unit	Sample Identification													
				42	75	125	163	169	203	247	261	262	294	314	334	347	347
Moisture	1	-	%	6.2	7.1	3.9	4.1	7.8	11.6	12.3	6.0	4.8	13.7	9.6	9.5	6.2	6.2
Arsenic	5	100	mg/kg	28	<5	<5	<5	<5	5	8	7	<5	8	<5	7	<5	<5
Cadmium	1	20	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	2	-	mg/kg	32	26	32	24	34	52	42	30	20	38	38	83	30	30
Copper	5	6000	mg/kg	22	8	11	10	12	16	19	11	10	19	12	10	11	11
Lead	5	300	mg/kg	32	12	14	17	15	11	11	16	27	12	12	12	22	22
Nickel	2	400	mg/kg	12	9	8	10	10	13	20	7	8	22	10	12	9	9
Zinc	5	7400	mg/kg	146	23	33	45	33	14	16	32	57	40	17	12	63	63
alpha-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	6	mg/kg	<0.05	<0.05	1.83	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	-	mg/kg	<0.05	<0.05	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	0.05	50	mg/kg	<0.05	<0.05	2.42	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	0.05	-	mg/kg	<0.05	<0.05	2.19	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	0.05	-	mg/kg	<0.05	<0.05	0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan (sum)	0.05	270	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	0.2	300	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sum of DDD + DDE + DDT	0.05	240	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sum of Aldrin + Dieldrin	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorvos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	0.05	160	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chlorophenoxy acetic acid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	0.02	900	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	0.02	4500	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Limit - NEPM 2013. Table 1A(1) HILs for soil contaminants: Residential A

Table: *Metals, pesticide and herbicide results summary*

Parameter	LOR	Limit	Unit	Sample Identification													
				492	542	593	610	626	695	705	706	708	752	866	977	985	985
Moisture	1	-	%	6.0	8.8	4.1	8.5	8.4	13.5	8.2	7.8	4.8	16.0	11.1	8.6	4.8	4.8
Arsenic	5	100	mg/kg	7	<5	<5	<5	9	6	6	6	<5	7	7	<5	8	8
Cadmium	1	20	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
Chromium	2	-	mg/kg	41	18	20	22	55	51	33	36	33	47	44	31	66	66
Copper	5	6000	mg/kg	18	7	12	45	15	16	15	15	11	17	18	10	12	12
Lead	5	300	mg/kg	47	15	35	21	17	12	36	19	17	12	26	12	51	51
Nickel	2	400	mg/kg	10	12	5	9	16	15	16	14	12	14	17	9	10	10
Zinc	5	7400	mg/kg	74	29	256	57	19	13	136	38	49	13	59	17	82	82
alpha-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	0.05	50	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan (sum)	0.05	270	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	0.2	300	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sum of DDD + DDE + DDT	0.05	240	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sum of Aldrin + Dieldrin	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorvos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	0.05	160	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chlorophenoxy acetic acid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	0.02	900	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	0.02	4500	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Limit - NEPM 2013. Table 1A(1) HILs for soil contaminants: Residential A

Table: *Metals, pesticide and herbicide results summary*

Parameter	LOR	Limit	Unit	Sample Identification													
				1058	1088	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011
Moisture	1	-	%	8.7	6.3	6.8	10.1	8.7	8.9	14.4	8.9	7.7	9.3	4.7	6.3	7.8	7.8
Arsenic	5	100	mg/kg	7	91	<5	<5	<5	6	7	6	<5	<5	<5	5	6	6
Cadmium	1	20	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
Chromium	2	-	mg/kg	38	71	46	31	32	106	32	61	38	44	26	58	47	47
Copper	5	6000	mg/kg	14	21	12	11	11	14	19	15	11	10	9	13	14	14
Lead	5	300	mg/kg	105	139	12	13	11	40	18	12	17	17	14	16	14	14
Nickel	2	400	mg/kg	12	13	11	11	11	11	22	12	10	9	8	10	10	10
Zinc	5	7400	mg/kg	173	597	14	27	13	98	45	14	53	37	29	22	15	15
alpha-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	0.05	50	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	0.05	-	mg/kg	0.06	0.24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan (sum)	0.05	270	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	0.2	300	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sum of DDD + DDE + DDT	0.05	240	mg/kg	0.06	0.24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sum of Aldrin + Dieldrin	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorvos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	0.05	160	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chlorophenoxy acetic acid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	0.02	900	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	0.02	4500	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Limit - NEPM 2013. Table 1A(1) HILs for soil contaminants: Residential A

Table: *Metals, pesticide and herbicide results summary*

Parameter	LOR	Limit	Unit	Sample Identification													
				2013	2014	2015	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2026
Moisture	1	-	%	6.7	9.4	3.5	8.0	4.1	8.3	10.9	8.3	6.8	7.0	12.0	11.8	6.1	6.1
Arsenic	5	100	mg/kg	10	7	<5	9	7	10	11	6	6	<5	<5	5	<5	<5
Cadmium	1	20	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	2	-	mg/kg	43	48	24	49	33	38	57	45	47	37	23	48	21	21
Copper	5	6000	mg/kg	15	22	13	12	11	15	21	12	20	10	10	12	11	11
Lead	5	300	mg/kg	14	54	38	14	18	18	50	30	23	13	32	12	20	20
Nickel	2	400	mg/kg	14	13	10	12	10	9	18	11	12	10	9	12	10	10
Zinc	5	7400	mg/kg	27	119	56	17	26	161	90	163	40	22	87	22	50	50
alpha-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	0.05	50	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan (sum)	0.05	270	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	0.2	300	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sum of DDD + DDE + DDT	0.05	240	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sum of Aldrin + Dieldrin	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorvos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	0.05	160	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chlorophenoxy acetic acid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	0.02	900	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	0.02	4500	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Limit - NEPM 2013. Table 1A(1) HILs for soil contaminants: Residential A

Table: *Metals, pesticide and herbicide results summary*

Parameter	LOR	Limit	Unit	Sample Identification													
				2028	2029	2030	2031	2032	2033	2034	2035	2037	2039	2040	2041	-	-
Moisture	1	-	%	5.1	10.7	8.3	10.8	4.7	10.2	2.9	11.7	6.0	11.2	10.3	10.5	-	-
Arsenic	5	100	mg/kg	<5	<5	8	5	<5	<5	<5	<5	<5	6	6	6	-	-
Cadmium	1	20	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-
Chromium	2	-	mg/kg	33	31	25	32	19	26	24	26	48	47	32	48	-	-
Copper	5	6000	mg/kg	21	11	12	14	9	10	7	8	10	17	18	12	-	-
Lead	5	300	mg/kg	16	14	16	29	11	14	13	14	19	13	17	11	-	-
Nickel	2	400	mg/kg	9	10	11	12	8	11	6	8	9	15	22	12	-	-
Zinc	5	7400	mg/kg	26	25	36	318	65	43	38	54	75	22	71	35	-	-
alpha-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Hexachlorobenzene (HCB)	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
beta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
gamma-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
delta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Heptachlor	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Aldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Heptachlor epoxide	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
^ Total Chlordane (sum)	0.05	50	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
trans-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
alpha-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
cis-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Dieldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	1.44	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
4.4`-DDE	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Endrin	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
beta-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Endosulfan (sum)	0.05	270	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
4.4`-DDD	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Endrin aldehyde	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Endosulfan sulfate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
4.4`-DDT	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
Endrin ketone	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Methoxychlor	0.2	300	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
Sum of DDD + DDE + DDT	0.05	240	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Sum of Aldrin + Dieldrin	0.05	6	mg/kg	<0.05	<0.05	<0.05	1.44	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Dichlorvos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Demeton-S-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Monocrotophos	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
Dimethoate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Diazinon	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Chlorpyrifos-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Parathion-methyl	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
Malathion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Fenthion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Chlorpyrifos	0.05	160	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Parathion	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
Pirimphos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Chlorfenvinphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Bromophos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Fenamiphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Prothiofos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Ethion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Carbophenothion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
Azinphos Methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
4-Chlorophenoxy acetic acid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
2.4-DB	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
Dicamba	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
Mecoprop	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
MCPA	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
2.4-DP	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
2.4-D	0.02	900	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
Triclopyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
2.4.5-TP (Silvex)	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
2.4.5-T	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
MCPB	0.02	600	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
Picloram	0.02	4500	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
Clopyralid	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-
Fluroxypyr	0.02	-	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	-

Limit - NEPM 2013. Table 1A(1) HILs for soil contaminants: Residential A

Table: *Metals, pesticide and herbicide results summary*

Parameter	LOR	Limit	Unit	Sample Identification													
				2042	3001	3002	3003	D1	D2	D3	D4	D5	SP1	SP2	-	-	-
Moisture	1	-	%	4.0	6.8	6.2	3.8	6.2	10.7	3.7	10.8	11.2	6.1	8.0	-	-	-
Arsenic	5	100	mg/kg	<5	----	----	----	<5	<5	----	5	<5	<5	<5	-	-	-
Cadmium	1	20	mg/kg	<1	----	----	----	<1	<1	----	<1	<1	<1	<1	-	-	-
Chromium	2	-	mg/kg	21	----	----	----	25	43	----	28	54	32	43	-	-	-
Copper	5	6000	mg/kg	14	----	----	----	9	11	----	15	12	10	10	-	-	-
Lead	5	300	mg/kg	16	----	----	----	12	15	----	31	15	16	22	-	-	-
Nickel	2	400	mg/kg	9	----	----	----	6	9	----	14	13	9	9	-	-	-
Zinc	5	7400	mg/kg	45	----	----	----	14	19	----	365	28	30	18	-	-	-
alpha-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Hexachlorobenzene (HCB)	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
beta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
gamma-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
delta-BHC	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Heptachlor	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Aldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Heptachlor epoxide	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
^ Total Chlordane (sum)	0.05	50	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
trans-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
alpha-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
cis-Chlordane	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Dieldrin	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.06	<0.05	<0.05	<0.05	-	-	-
4.4`-DDE	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Endrin	0.05	10	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
beta-Endosulfan	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Endosulfan (sum)	0.05	270	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
4.4`-DDD	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Endrin aldehyde	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Endosulfan sulfate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
4.4`-DDT	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-
Endrin ketone	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Methoxychlor	0.2	300	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-
Sum of DDD + DDE + DDT	0.05	240	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Sum of Aldrin + Dieldrin	0.05	6	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.06	<0.05	<0.05	<0.05	-	-	-
Dichlorvos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Demeton-S-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Monocrotophos	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-
Dimethoate	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Diazinon	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Chlorpyrifos-methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Parathion-methyl	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-
Malathion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Fenthion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Chlorpyrifos	0.05	160	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Parathion	0.2	-	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-
Pirimphos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Chlorfenvinphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Bromophos-ethyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Fenamiphos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Prothiofos	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Ethion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Carbophenothion	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Azinphos Methyl	0.05	-	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
4-Chlorophenoxy acetic acid	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
2.4-DB	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
Dicamba	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
Mecoprop	0.02	600	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
MCPA	0.02	600	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
2.4-DP	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
2.4-D	0.02	900	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
Triclopyr	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
2.4.5-TP (Silvex)	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
2.4.5-T	0.02	600	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
MCPB	0.02	600	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
Picloram	0.02	4500	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
Clopyralid	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-
Fluroxypyr	0.02	-	mg/kg	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	-	-	-

Limit - NEPM 2013. Table 1A(1) HILs for soil contaminants: Residential A

Attachment E : *Laboratory reports (inc. QA/QC)*

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1938340**	Page	: 1 of 23
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019 13:00
Order number	: 6459	Date Analysis Commenced	: 23-Nov-2019
C-O-C number	: ----	Issue Date	: 26-Nov-2019 10:27
Sampler	: Zach Bradley		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 90		
No. of samples analysed	: 90		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 1	1 2	1 3	1 4	1 5
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-001	ES1938340-002	ES1938340-003	ES1938340-004	ES1938340-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	275	359	213	261	344
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.275	0.359	0.213	0.261	0.344
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 6	1 7	1 8	1 9	1 10
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-006	ES1938340-007	ES1938340-008	ES1938340-009	ES1938340-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	235	312	210	324	189
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.235	0.312	0.210	0.324	0.189
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 11	1 12	1 13	1 14	1 15
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-011	ES1938340-012	ES1938340-013	ES1938340-014	ES1938340-015
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	327	247	226	365	290
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.327	0.247	0.226	0.365	0.290
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 16	1 17	1 18	1 19	1 20
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-016	ES1938340-017	ES1938340-018	ES1938340-019	ES1938340-020
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	289	315	287	302	306
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.289	0.315	0.287	0.302	0.306
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 21	1 22	1 23	1 24	1 25
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-021	ES1938340-022	ES1938340-023	ES1938340-024	ES1938340-025
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	329	337	245	262	264
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.329	0.337	0.245	0.262	0.264
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 26	1 27	1 28	1 29	1 30
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-026	ES1938340-027	ES1938340-028	ES1938340-029	ES1938340-030
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	294	240	404	287	262
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.294	0.240	0.404	0.287	0.262
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 31	1 32	1 33	1 34	1 35
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-031	ES1938340-032	ES1938340-033	ES1938340-034	ES1938340-035
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	358	328	333	315	806
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.358	0.328	0.333	0.315	0.806
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 36	1 37	1 38	1 39	1 40
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-036	ES1938340-037	ES1938340-038	ES1938340-039	ES1938340-040
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	621	619	605	577	689
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.621	0.619	0.605	0.577	0.689
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 41	1 42	1 43	1 44	1 45
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-041	ES1938340-042	ES1938340-043	ES1938340-044	ES1938340-045
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	707	317	382	425	441
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.707	0.317	0.382	0.425	0.441
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 46	1 47	1 48	1 49	1 50
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-046	ES1938340-047	ES1938340-048	ES1938340-049	ES1938340-050
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	463	373	396	413	406
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.463	0.373	0.396	0.413	0.406
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 51	1 52	1 53	1 54	1 55
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-051	ES1938340-052	ES1938340-053	ES1938340-054	ES1938340-055
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	565	478	474	477	515
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.565	0.478	0.474	0.477	0.515
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 56	1 57	1 58	1 59	1 60
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-056	ES1938340-057	ES1938340-058	ES1938340-059	ES1938340-060
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	478	443	426	444	416
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.478	0.443	0.426	0.444	0.416
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 61	1 62	1 63	1 64	4 37
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-061	ES1938340-062	ES1938340-063	ES1938340-064	ES1938340-065
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	459	484	490	505	463
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.459	0.484	0.490	0.505	0.463
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 38	4 39	5 1	5 2	6 1
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-066	ES1938340-067	ES1938340-068	ES1938340-069	ES1938340-070
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	379	542	458	398	726
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.379	0.542	0.458	0.398	0.726
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	6 2	6 3	6 4	6 5	6 6
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-071	ES1938340-072	ES1938340-073	ES1938340-074	ES1938340-075
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	508	651	548	579	688
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	C. OWLER	C. OWLER	C. OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.508	0.651	0.548	0.579	0.688
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	6 7	6 8	6 9	6 10	6 11
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-076	ES1938340-077	ES1938340-078	ES1938340-079	ES1938340-080
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	630	244	483	669	537
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C. OWLER	C. OWLER	C. OWLER	C. OWLER	C. OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.630	0.244	0.483	0.669	0.537
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	6 12	6 13	6 14	6 15	6 16
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-081	ES1938340-082	ES1938340-083	ES1938340-084	ES1938340-085
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	545	553	535	420	545
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C. OWLER	C. OWLER	C. OWLER	C. OWLER	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.545	0.553	0.535	0.420	0.545
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	6 17	6 18	6 19	6 20	6 21
			Client sampling date / time	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00	13-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938340-086	ES1938340-087	ES1938340-088	ES1938340-089	ES1938340-090
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	563	597	696	759	637
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.563	0.597	0.696	0.759	0.637
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	11 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	12 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	13 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	14 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	15 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	16 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	17 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	18 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	19 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	110 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	111 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	112 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	113 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	114 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	115 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	116 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	117 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	118 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	119 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	120 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	121 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	122 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	123 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	124 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	125 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	126 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	127 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	128 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	129 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	130 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	131 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	132 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	133 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	134 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	135 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	136 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	137 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	138 - 13-Nov-2019 00:00	Mid brown soil.

Sub-Matrix: **SOIL**

Method: Compound	*Client sample ID - Client sampling date / time*	*Analytical Results*
EA200: Description	139 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	140 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	141 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	142 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	143 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	144 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	145 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	146 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	147 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	148 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	149 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	150 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	151 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	152 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	153 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	154 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	155 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	156 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	157 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	158 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	159 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	160 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	161 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	162 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	163 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	164 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	437 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	438 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	439 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	51 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	52 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	61 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	62 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	63 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	64 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	65 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	66 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	67 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	68 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	69 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	610 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	611 - 13-Nov-2019 00:00	Mid brown soil.

Sub-Matrix: **SOIL**

Method: Compound	*Client sample ID - Client sampling date / time*	*Analytical Results*
EA200: Description	612 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	613 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	614 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	615 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	616 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	617 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	618 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	619 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	620 - 13-Nov-2019 00:00	Mid brown soil.
EA200: Description	621 - 13-Nov-2019 00:00	Mid brown soil.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1938340**	Page	: 1 of 3
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Order number	: 6459	Date Analysis Commenced	: 23-Nov-2019
C-O-C number	: ----	Issue Date	: 26-Nov-2019
Sampler	: Zach Bradley		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 90		
No. of samples analysed	: 90		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

- **No Method Blank (MB) or Laboratory Control Spike (LCS) Results are required to be reported.**

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1938340**	Page	: 1 of 9
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Site	: ----	Issue Date	: 26-Nov-2019
Sampler	: Zach Bradley	No. of samples received	: 90
Order number	: 6459	No. of samples analysed	: 90

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag: Separate bag received (EA200)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils - Continued								
1 - 1,	1 - 2,	13-Nov-2019	----	----	----	23-Nov-2019	11-May-2020	✓
1 - 3,	1 - 4,							
1 - 5,	1 - 6,							
1 - 7,	1 - 8,							
1 - 9,	1 - 10,							
1 - 11,	1 - 12,							
1 - 13,	1 - 14,							
1 - 15,	1 - 16,							
1 - 17,	1 - 18,							
1 - 19,	1 - 20,							
1 - 21,	1 - 22,							
1 - 23,	1 - 24,							
1 - 25,	1 - 26,							
1 - 27,	1 - 28,							
1 - 29,	1 - 30,							
1 - 31,	1 - 32,							
1 - 33,	1 - 34,							
1 - 35,	1 - 36,							
1 - 37,	1 - 38,							
1 - 39,	1 - 40,							
1 - 41,	1 - 42,							
1 - 43,	1 - 44,							
1 - 45,	1 - 46,							
1 - 47,	1 - 48,							
1 - 49,	1 - 50,							
1 - 51,	1 - 52,							
1 - 53,	1 - 54,							
1 - 55,	1 - 56,							
1 - 57,	1 - 58,							
1 - 59,	1 - 60,							
1 - 61,	1 - 62,							
1 - 63,	1 - 64,							
4 - 37,	4 - 38,							
4 - 39,	5 - 1,							
5 - 2,	6 - 1,							
6 - 2,	6 - 3,							
6 - 4,	6 - 5,							
6 - 6,	6 - 7,							
6 - 8,	6 - 9,							
6 - 10,	6 - 11,							
6 - 12,	6 - 13,							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils - Continued							
6 - 14, 6 - 15, 6 - 16, 6 - 17, 6 - 18, 6 - 19, 6 - 20, 6 - 21							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200N: Asbestos Quantification (non-NATA)							
Snap Lock Bag: Separate bag received (EA200N)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200N: Asbestos Quantification (non-NATA) - Continued								
1 - 1,	1 - 2,	13-Nov-2019	----	----	----	23-Nov-2019	11-May-2020	✓
1 - 3,	1 - 4,							
1 - 5,	1 - 6,							
1 - 7,	1 - 8,							
1 - 9,	1 - 10,							
1 - 11,	1 - 12,							
1 - 13,	1 - 14,							
1 - 15,	1 - 16,							
1 - 17,	1 - 18,							
1 - 19,	1 - 20,							
1 - 21,	1 - 22,							
1 - 23,	1 - 24,							
1 - 25,	1 - 26,							
1 - 27,	1 - 28,							
1 - 29,	1 - 30,							
1 - 31,	1 - 32,							
1 - 33,	1 - 34,							
1 - 35,	1 - 36,							
1 - 37,	1 - 38,							
1 - 39,	1 - 40,							
1 - 41,	1 - 42,							
1 - 43,	1 - 44,							
1 - 45,	1 - 46,							
1 - 47,	1 - 48,							
1 - 49,	1 - 50,							
1 - 51,	1 - 52,							
1 - 53,	1 - 54,							
1 - 55,	1 - 56,							
1 - 57,	1 - 58,							
1 - 59,	1 - 60,							
1 - 61,	1 - 62,							
1 - 63,	1 - 64,							
4 - 37,	4 - 38,							
4 - 39,	5 - 1,							
5 - 2,	6 - 1,							
6 - 2,	6 - 3,							
6 - 4,	6 - 5,							
6 - 6,	6 - 7,							
6 - 8,	6 - 9,							
6 - 10,	6 - 11,							
6 - 12,	6 - 13,							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200N: Asbestos Quantification (non-NATA) - Continued							
6 - 14, 6 - 15, 6 - 16, 6 - 17, 6 - 18, 6 - 19, 6 - 20, 6 - 21							

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM 2013 with Confirmation of Identification by AS 4964 - 2004 Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).

McMahon EARTH SCIENCE

Chain of Custody

DM McMahon Pty Ltd
PO Box 6118
6 Jones St, Wagga Wagga NSW 2650
Ph: (02) 69 310 510

Relinquished by: Zach Bradley
Date: 14-11-19
Signature:

Received by:
Date:
Signature: 20/11/19

Relinquished by:
Date:
Signature:

Received by:
Date:
Signature:

Turnaround Requirements: ☑ Standard TAT ☐ Non Standard or Urgent TAT (List Due Date):

Analysing Laboratory: ALS -Sydney
Project: CSU Sth - ACM
Order No.: 6459
Project Manager: Zach Bradley
Contact Ph: (02) 69 310 510
Sampling Officer: Z.Bradley
Report Format: Default
Email Reports to: admin@dmmcmahon.com.a
cc: zach@dmmcmahon.com.au
Email Invoice to: admin@dmmcmahon.com.a

Lab Comments:

QUOTE NO.: SY/608/19

COC SEQUENCE NUMBER
COC:
OF: Esky 1 of 10.

LAB ID	SAMPLE TYPE	DATE/TIME	MATRIX (ref below)	TYPE & PRESERVATIVE (see codes below)	TOTAL CONTAINERS	EA200F	S-01	S-12	EP202(solids)					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
	A	13-15/11/2019	Soil	Glass Jar + Bag	258	X								See Attached
	P + M	13-15/11/2019	Soil	Glass Jar + Bag	75		X	X	X					See Attached
	P	13-15/11/2019	Soil	Glass Jar + Bag	4			X	X					See Attached
					TOTAL	337								

Supplier / Forward Lab (Spab Wo)
Lab / Analysis: ES1938506
Organised By / Date: ES1938509
Relinquished By / Date:
Connote / Courier:
WO No: ~~Asbestos Pickup~~
Attach By PO / Internal Sheet:

Environmental Division
Sydney
Work Order Reference
ES1938340

Telephone : + 61-2-8784 8555

Matrix: W- Water; S - Soil; Sed - Sediment; Sl - Sludge; A - Air; D - Dust.

Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Stente Bottles; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

All samples to Newcastle

C:\Users\itsstech\Documents\ZB_DMM_CoC_Blank_rev0

SENDING TO ALS-6459

	SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
1	1	1	A	EA200F
2	1	2	A	EA200F
3	1	3	A	EA200F
4	1	4	A	EA200F
5	1	5	A	EA200F
6	1	6	A	EA200F
7	1	7	A	EA200F
8	1	8	A	EA200F
9	1	9	A	EA200F
10	1	10	A	EA200F
11	1	11	A	EA200F
12	1	12	A	EA200F
13	1	13	A	EA200F
14	1	14	A	EA200F
15	1	15	A	EA200F
16	1	16	A	EA200F
17	1	17	A	EA200F
18	1	18	A	EA200F
19	1	19	A	EA200F
20	1	20	A	EA200F
21	1	21	A	EA200F
22	1	22	A	EA200F
23	1	23	A	EA200F
24	1	24	A	EA200F
25	1	25	A	EA200F
26	1	26	A	EA200F
27	1	27	A	EA200F
28	1	28	A	EA200F
29	1	29	A	EA200F
30	1	30	A	EA200F
31	1	31	A	EA200F
32	1	32	A	EA200F
33	1	33	A	EA200F
34	1	34	A	EA200F
35	1	35	A	EA200F
36	1	36	A	EA200F
37	1	37	A	EA200F
38	1	38	A	EA200F
39	1	39	A	EA200F
40	1	40	A	EA200F
41	1	41	A	EA200F
42	1	42	A	EA200F
43	1	43	A	EA200F
44	1	44	A	EA200F
45	1	45	A	EA200F
46	1	46	A	EA200F
47	1	47	A	EA200F
48	1	48	A	EA200F
49	1	49	A	EA200F
50	1	50	A	EA200F
51	1	51	A	EA200F
52	1	52	A	EA200F
53	1	53	A	EA200F
54	1	54	A	EA200F
55	1	55	A	EA200F
56	1	56	A	EA200F
57	1	57	A	EA200F
58	1	58	A	EA200F
59	1	59	A	EA200F
60	1	60	A	EA200F
61	1	61	A	EA200F
62	1	62	A	EA200F
63	1	63	A	EA200F
64	1	64	A	EA200F

SENDING TO ALS-6459

	SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
65	4	37	A	EA200F
66	4	38	A	EA200F
67	4	39	A	EA200F
68	5	1	A	EA200F
69	5	2	A	EA200F
70	6	1	A	EA200F
71	6	2	A	EA200F
72	6	3	A	EA200F
73	6	4	A	EA200F
74	6	5	A	EA200F
75	6	6	A	EA200F
76	6	7	A	EA200F
77	6	8	A	EA200F
78	6	9	A	EA200F
79	6	10	A	EA200F
80	6	11	A	EA200F
81	6	12	A	EA200F
82	6	13	A	EA200F
83	6	14	A	EA200F
84	6	15	A	EA200F
85	6	16	A	EA200F
86	6	17	A	EA200F
87	6	18	A	EA200F
88	6	19	A	EA200F
89	6	20	A	EA200F
90	6	21	A	EA200F
	6	22	A	EA200F
	6	23	A	EA200F
	7	1	A	EA200F
	7	2	A	EA200F
	7	3	A	EA200F
	8	1	A	EA200F
	8	2	A	EA200F
	9	1	A	EA200F
	9	2	A	EA200F
	9	3	A	EA200F
	9	4	A	EA200F
	9	5	A	EA200F
	9	6	A	EA200F
	42	-	P+M	S-01, S-12, EP202
	75	-	P+M	S-01, S-12, EP202
	125	-	P+M	S-01, S-12, EP202
	163	-	P+M	S-01, S-12, EP202
	169	-	P+M	S-01, S-12, EP202
	203	-	P+M	S-01, S-12, EP202
	247	-	P+M	S-01, S-12, EP202
	261	-	P+M	S-01, S-12, EP202
	262	-	P+M	S-01, S-12, EP202
	294	-	P+M	S-01, S-12, EP202
	314	-	P+M	S-01, S-12, EP202
	334	-	P+M	S-01, S-12, EP202
	347	-	P+M	S-01, S-12, EP202
	429	-	P+M	S-01, S-12, EP202
	492	-	P+M	S-01, S-12, EP202
	542	-	P+M	S-01, S-12, EP202
	593	-	P+M	S-01, S-12, EP202
	610	-	P+M	S-01, S-12, EP202
	626	-	P+M	S-01, S-12, EP202
	695	-	P+M	S-01, S-12, EP202
	705	-	P+M	S-01, S-12, EP202
	706	-	P+M	S-01, S-12, EP202
	708	-	P+M	S-01, S-12, EP202
	752	-	P+M	S-01, S-12, EP202
	866	-	P+M	S-01, S-12, EP202

1	65	A	EA200F
1	66	A	EA200F
1	67	A	EA200F
1	68	A	EA200F
2	1	A	EA200F
2	2	A	EA200F
2	3	A	EA200F
2	4	A	EA200F
2	5	A	EA200F
2	6	A	EA200F
2	7	A	EA200F
2	8	A	EA200F
2	9	A	EA200F
2	10	A	EA200F
2	11	A	EA200F
2	12	A	EA200F
2	13	A	EA200F
2	14	A	EA200F
2	15	A	EA200F
2	16	A	EA200F
2	17	A	EA200F
2	18	A	EA200F
2	19	A	EA200F
2	20	A	EA200F
2	21	A	EA200F
2	22	A	EA200F
2	23	A	EA200F
2	24	A	EA200F
2	25	A	EA200F
2	26	A	EA200F
2	27	A	EA200F
2	28	A	EA200F
2	29	A	EA200F
2	30	A	EA200F
2	31	A	EA200F
2	32	A	EA200F
2	33	A	EA200F
2	34	A	EA200F
2	35	A	EA200F
2	36	A	EA200F
2	37	A	EA200F
2	38	A	EA200F
2	39	A	EA200F
2	40	A	EA200F
2	41	A	EA200F
2	42	A	EA200F
2	43	A	EA200F
2	44	A	EA200F
2	45	A	EA200F
2	46	A	EA200F
2	47	A	EA200F
2	48	A	EA200F
2	49	A	EA200F
2	50	A	EA200F
2	51	A	EA200F
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2	54	A	EA200F
2	55	A	EA200F
2	56	A	EA200F
2	57	A	EA200F
2	58	A	EA200F
2	59	A	EA200F
2	60	A	EA200F
3	1	A	EA200F
3	2	A	EA200F
3	3	A	EA200F

977	-	P+M	S-01, S-12, EP202
985	-	P+M	S-01, S-12, EP202
1036	-	P+M	S-01, S-12, EP202
1058	-	P+M	S-01, S-12, EP202
1088	-	P+M	S-01, S-12, EP202
2001	-	P+M	S-01, S-12, EP202
2002	-	P+M	S-01, S-12, EP202
2003	-	P+M	S-01, S-12, EP202
2004	-	P+M	S-01, S-12, EP202
2005	-	P+M	S-01, S-12, EP202
2006	-	P+M	S-01, S-12, EP202
2007	-	P+M	S-01, S-12, EP202
2008	-	P+M	S-01, S-12, EP202
2009	-	P+M	S-01, S-12, EP202
2010	-	P+M	S-01, S-12, EP202
2011	-	P+M	S-01, S-12, EP202
2012	-	P+M	S-01, S-12, EP202
2013	-	P+M	S-01, S-12, EP202
2014	-	P+M	S-01, S-12, EP202
2015	-	P+M	S-01, S-12, EP202
2017	-	P+M	S-01, S-12, EP202
2018	-	P+M	S-01, S-12, EP202
2019	-	P+M	S-01, S-12, EP202
2020	-	P+M	S-01, S-12, EP202
2021	-	P+M	S-01, S-12, EP202
2022	-	P+M	S-01, S-12, EP202
2023	-	P+M	S-01, S-12, EP202
2024	-	P+M	S-01, S-12, EP202
2025	-	P+M	S-01, S-12, EP202
2026	-	P+M	S-01, S-12, EP202
2027	-	P+M	S-01, S-12, EP202
2028	-	P+M	S-01, S-12, EP202
2029	-	P+M	S-01, S-12, EP202
2030	-	P+M	S-01, S-12, EP202
2031	-	P+M	S-01, S-12, EP202
2032	-	P+M	S-01, S-12, EP202
2033	-	P+M	S-01, S-12, EP202
2034	-	P+M	S-01, S-12, EP202
2035	-	P+M	S-01, S-12, EP202
2037	-	P+M	S-01, S-12, EP202
2039	-	P+M	S-01, S-12, EP202
2040	-	P+M	S-01, S-12, EP202
2041	-	P+M	S-01, S-12, EP202
2042	-	P+M	S-01, S-12, EP202
3001	-	P	S-12, EP202
3002	-	P	S-12, EP202
3003	-	P	S-12, EP202
FA-00	-	A	EA200F
FA-01	-	A	EA200F
FA-02	-	A	EA200F
FA-03	-	A	EA200F
FA-04	-	A	EA200F
D1	-	P+M	S-01, S-12, EP202
D2	-	P+M	S-01, S-12, EP202
D3	-	P	S-12, EP202
D4	-	P+M	S-01, S-12, EP202
D5	-	P+M	S-01, S-12, EP202
SP1	-	P+M	S-01, S-12, EP202
SP2	-	P+M	S-01, S-12, EP202
AD01	-	A	EA200F
AD02	-	A	EA200F
AD03	-	A	EA200F
AD04	-	A	EA200F
AD05	-	A	EA200F
AD06	-	A	EA200F
AD07	-	A	EA200F
AD08	-	A	EA200F

3	4	A	EA200F
3	5	A	EA200F
3	6	A	EA200F
3	7	A	EA200F
3	8	A	EA200F
3	9	A	EA200F
3	10	A	EA200F
3	11	A	EA200F
3	12	A	EA200F
3	13	A	EA200F
3	14	A	EA200F
3	15	A	EA200F
3	16	A	EA200F
3	17	A	EA200F
3	18	A	EA200F
3	19	A	EA200F
3	20	A	EA200F
3	21	A	EA200F
3	22	A	EA200F
3	23	A	EA200F
3	24	A	EA200F
3	25	A	EA200F
3	26	A	EA200F
3	27	A	EA200F
3	28	A	EA200F
3	29	A	EA200F
3	30	A	EA200F
3	31	A	EA200F
3	32	A	EA200F
4	1	A	EA200F
4	2	A	EA200F
4	3	A	EA200F
4	4	A	EA200F
4	5	A	EA200F
4	6	A	EA200F
4	7	A	EA200F
4	8	A	EA200F
4	9	A	EA200F
4	10	A	EA200F
4	11	A	EA200F
4	12	A	EA200F
4	13	A	EA200F
4	14	A	EA200F
4	15	A	EA200F
4	16	A	EA200F
4	17	A	EA200F
4	18	A	EA200F
4	19	A	EA200F
4	20	A	EA200F
4	21	A	EA200F
4	22	A	EA200F
4	23	A	EA200F
4	24	A	EA200F
4	25	A	EA200F
4	26	A	EA200F
4	27	A	EA200F
4	28	A	EA200F
4	29	A	EA200F
4	30	A	EA200F
4	31	A	EA200F
4	32	A	EA200F
4	33	A	EA200F
4	34	A	EA200F
4	35	A	EA200F
4	36	A	EA200F

AD09	-	A	EA200F
AD10	-	A	EA200F
AD11	-	A	EA200F
AD12	-	A	EA200F
AS01	-	A	EA200F
AS02	-	A	EA200F
AS03	-	A	EA200F
AS04	-	A	EA200F
AS05	-	A	EA200F
AS06	-	A	EA200F

Notes:

Australian Laboratory Services Pty Ltd
277-289 Woodpark Road, Smithfield NSW Australia
T +61-2-8784 8555 | F +61-2-8784 8500

Tailored Analytical Services & Charges: Soil

Parameter	ALS Code	Technique/ Method Reference	Limit Of Reporting (LOR)	No.	Price per Sample ($)	Total ($)
7 Metals (incl. Digestion): As, Cd, Cr, Cu, Ni, Pb, Zn	S-01	USEPA 6010, In house	1 - 5 mg/kg, 1 %	40	15.20	608.00
Asbestos Quantitation (FA+AF) in Soil by WA/NEPM Guidelines - Non-NATA	EA200F	AS 4964 - 2004	0.0004 - 0.01 g, 0.001 %, 5 Fibres, 0.1 g/kg, 0.0001 kg	120	56.00	6,720.00
Asbestos Identification in Bulk Solids (Excluding SOILS)	EA200B	AS 4964 - 2004	5 Fibres, 0.1 g/kg, 0.01 g	5	24.00	120.00
OC/OP Pesticides	S-12	USEPA 8270D, In house	0.05 - 0.2 mg/kg, 1 %	3	44.00	132.00
Phenoxyacetic acids	EP202(solids)	In house (LCMS)	0.02 mg/kg	3	60.00	180.00
						7,760.00

Administration Charges

An administration fee of $40.00 (excl. GST) is charged per analytical report produced (ie. per ALS work order). Additional administrative charges may apply for subsequent report generation.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1938502**	Page	: 1 of 35
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019 13:00
Order number	: 6459	Date Analysis Commenced	: 22-Nov-2019
C-O-C number	: ----	Issue Date	: 28-Nov-2019 18:29
Sampler	: Zach Bradley		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 90		
No. of samples analysed	: 90		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Gaston Allende	R&D Chemist	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP068: Positive results have been confirmed by re-extraction and re-analysis.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	6 22	6 23	7 1	7 2	7 3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-001	ES1938502-002	ES1938502-003	ES1938502-004	ES1938502-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	658	528	210	291	342
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C. OWLER	C. OWLER	C. OWLER	C. OWLER	C. OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.658	0.528	0.210	0.291	0.342
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	8 1	8 2	9 1	9 2	9 3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-006	ES1938502-007	ES1938502-008	ES1938502-009	ES1938502-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	Yes	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	Ch + Am	-	-	-
Sample weight (dry)	----	0.01	g	495	408	447	257	466
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C. OWLER	C. OWLER	C. OWLER	C. OWLER	C. OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	%	----	0.03	----	----	----
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.495	0.408	0.447	0.257	0.466
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos Containing Material	1332-21-4	0.1	g	----	0.8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	9 4	9 5	9 6	42	75
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-011	ES1938502-012	ES1938502-013	ES1938502-014	ES1938502-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	----	----	6.2	7.1
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	----
Asbestos Type	1332-21-4	-	--	-	-	-	----	----
Sample weight (dry)	----	0.01	g	438	429	401	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	----
Organic Fibre	----	0.1	g/kg	No	No	No	----	----
APPROVED IDENTIFIER:	----	-	--	C. OWLER	C. OWLER	A. SMYLIE	----	----
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	----	----
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	----	----
ø Weight Used for % Calculation	----	0.0001	kg	0.438	0.429	0.401	----	----
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	28	<5
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	32	26
Copper	7440-50-8	5	mg/kg	----	----	----	22	8
Lead	7439-92-1	5	mg/kg	----	----	----	32	12
Nickel	7440-02-0	2	mg/kg	----	----	----	12	9
Zinc	7440-66-6	5	mg/kg	----	----	----	146	23
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	9 4	9 5	9 6	42	75
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-011	ES1938502-012	ES1938502-013	ES1938502-014	ES1938502-015
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	9 4	9 5	9 6	42	75
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-011	ES1938502-012	ES1938502-013	ES1938502-014	ES1938502-015
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	----	----	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	----	----	----	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	----	----	----	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	----	----	----	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	----	----	----	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	----	----	----	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	----	----	----	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	----	----	----	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	----	----	----	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	----	----	----	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	----	----	----	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	----	----	----	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg	----	----	----	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	----	----	----	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	94.8	97.7
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	----	98.5	97.6
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	----	----	----	62.8	62.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	125	163	169	203	247
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-016	ES1938502-017	ES1938502-018	ES1938502-019	ES1938502-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	3.9	4.1	7.8	11.6	12.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	5	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	32	24	34	52	42
Copper	7440-50-8	5	mg/kg	11	10	12	16	19
Lead	7439-92-1	5	mg/kg	14	17	15	11	11
Nickel	7440-02-0	2	mg/kg	8	10	10	13	20
Zinc	7440-66-6	5	mg/kg	33	45	33	14	16
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	1.83	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	0.50	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	2.42	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	2.19	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	0.23	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	125	163	169	203	247
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-016	ES1938502-017	ES1938502-018	ES1938502-019	ES1938502-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	125	163	169	203	247
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-016	ES1938502-017	ES1938502-018	ES1938502-019	ES1938502-020
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	97.6	88.0	109	90.4	118
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	76.5	84.5	102	69.0	86.2
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	66.7	61.6	69.1	64.2	60.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	261	262	294	314	334
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-021	ES1938502-022	ES1938502-023	ES1938502-024	ES1938502-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.0	4.8	13.7	9.6	9.5
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	<5	8	<5	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	30	20	38	38	83
Copper	7440-50-8	5	mg/kg	11	10	19	12	10
Lead	7439-92-1	5	mg/kg	16	27	12	12	12
Nickel	7440-02-0	2	mg/kg	7	8	22	10	12
Zinc	7440-66-6	5	mg/kg	32	57	40	17	12
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	261	262	294	314	334
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-021	ES1938502-022	ES1938502-023	ES1938502-024	ES1938502-025
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	261	262	294	314	334
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-021	ES1938502-022	ES1938502-023	ES1938502-024	ES1938502-025
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	94.9	99.9	126	105	93.3
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	79.7	81.5	95.0	84.9	64.2
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	71.9	61.3	58.1	62.5	56.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	347	429	492	542	593
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-026	ES1938502-027	ES1938502-028	ES1938502-029	ES1938502-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.2	4.3	6.0	8.8	4.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	7	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	30	52	41	18	20
Copper	7440-50-8	5	mg/kg	11	10	18	7	12
Lead	7439-92-1	5	mg/kg	22	14	47	15	35
Nickel	7440-02-0	2	mg/kg	9	10	10	12	5
Zinc	7440-66-6	5	mg/kg	63	19	74	29	256
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	347	429	492	542	593
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-026	ES1938502-027	ES1938502-028	ES1938502-029	ES1938502-030
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	347	429	492	542	593
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-026	ES1938502-027	ES1938502-028	ES1938502-029	ES1938502-030
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	94.4	80.8	86.8	98.5	90.4
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	76.9	74.2	71.1	76.6	71.6
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	59.9	59.5	59.2	57.7	58.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	610	626	695	705	706
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-031	ES1938502-032	ES1938502-033	ES1938502-034	ES1938502-035
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	8.5	8.4	13.5	8.2	7.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	9	6	6	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	22	55	51	33	36
Copper	7440-50-8	5	mg/kg	45	15	16	15	15
Lead	7439-92-1	5	mg/kg	21	17	12	36	19
Nickel	7440-02-0	2	mg/kg	9	16	15	16	14
Zinc	7440-66-6	5	mg/kg	57	19	13	136	38
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	610	626	695	705	706
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-031	ES1938502-032	ES1938502-033	ES1938502-034	ES1938502-035
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	610	626	695	705	706
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-031	ES1938502-032	ES1938502-033	ES1938502-034	ES1938502-035
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	111	100	93.8	101	130
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	83.1	70.1	80.1	102	68.0
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	58.4	56.1	56.7	59.2	60.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	708	752	866	1 65	1 66
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-036	ES1938502-037	ES1938502-038	ES1938502-039	ES1938502-040
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	4.8	16.0	11.1	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	----	No	No
Asbestos Type	1332-21-4	-	--	----	----	----	-	-
Sample weight (dry)	----	0.01	g	----	----	----	491	486
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	----	No	No
Organic Fibre	----	0.1	g/kg	----	----	----	No	No
APPROVED IDENTIFIER:	----	-	--	----	----	----	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	----	----	----	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	----	----	----	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	----	----	----	0.491	0.486
ø Fibrous Asbestos >7mm	----	0.0004	g	----	----	----	<0.0004	<0.0004
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	7	7	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	33	47	44	----	----
Copper	7440-50-8	5	mg/kg	11	17	18	----	----
Lead	7439-92-1	5	mg/kg	17	12	26	----	----
Nickel	7440-02-0	2	mg/kg	12	14	17	----	----
Zinc	7440-66-6	5	mg/kg	49	13	59	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	708	752	866	1 65	1 66
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-036	ES1938502-037	ES1938502-038	ES1938502-039	ES1938502-040
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	708	752	866	1 65	1 66
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-036	ES1938502-037	ES1938502-038	ES1938502-039	ES1938502-040
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	95.8	140	74.1	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	94.8	130	73.5	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	55.4	63.1	63.9	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	1 67	1 68	2 1	2 2	2 3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-041	ES1938502-042	ES1938502-043	ES1938502-044	ES1938502-045
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	Yes
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	Ch
Sample weight (dry)	----	0.01	g	510	428	397	249	518
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	%	----	----	----	----	0.17
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.510	0.428	0.397	0.249	0.518
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos Containing Material	1332-21-4	0.1	g	----	----	----	----	5.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 4	2 5	2 6	2 7	2 8
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-046	ES1938502-047	ES1938502-048	ES1938502-049	ES1938502-050
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Sample weight (dry)	----	0.01	g	**480**	**321**	**453**	**442**	**599**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
APPROVED IDENTIFIER:	----	-	--	**C.OWLER**	**C.OWLER**	**C.OWLER**	**C.OWLER**	**C.OWLER**
EA200N: Asbestos Quantification (non-NATA)								
ø **Asbestos (Fines and Fibrous <7mm)**	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø **Asbestos (Fines and Fibrous FA+AF)**	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø **Weight Used for % Calculation**	----	0.0001	kg	**0.480**	**0.321**	**0.453**	**0.442**	**0.599**
ø **Fibrous Asbestos >7mm**	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 9	2 10	2 11	2 12	2 13
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-051	ES1938502-052	ES1938502-053	ES1938502-054	ES1938502-055
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	509	285	381	411	465
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.509	0.285	0.381	0.411	0.465
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 14	2 15	2 16	2 17	2 18
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-056	ES1938502-057	ES1938502-058	ES1938502-059	ES1938502-060
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	478	219	418	240	459
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.478	0.219	0.418	0.240	0.459
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 19	2 20	2 21	2 22	2 23
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-061	ES1938502-062	ES1938502-063	ES1938502-064	ES1938502-065
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	370	466	360	437	471
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.370	0.466	0.360	0.437	0.471
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 24	2 25	2 26	2 27	2 28
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-066	ES1938502-067	ES1938502-068	ES1938502-069	ES1938502-070
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	532	575	445	447	480
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.532	0.575	0.445	0.447	0.480
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 29	2 30	2 31	2 32	2 33
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-071	ES1938502-072	ES1938502-073	ES1938502-074	ES1938502-075
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	713	540	492	369	480
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.713	0.540	0.492	0.369	0.480
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 34	2 35	2 36	2 37	2 38
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-076	ES1938502-077	ES1938502-078	ES1938502-079	ES1938502-080
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No*	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	Ch + Am	-	-	-
Sample weight (dry)	----	0.01	g	433	606	471	459	454
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	0.0070	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.433	0.606	0.471	0.459	0.454
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 39	2 40	2 41	2 42	2 43
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-081	ES1938502-082	ES1938502-083	ES1938502-084	ES1938502-085
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	443	512	345	444	448
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.443	0.512	0.345	0.444	0.448
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 44	2 45	2 46	2 47	2 48
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938502-086	ES1938502-087	ES1938502-088	ES1938502-089	ES1938502-090
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	449	480	422	499	393
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.449	0.480	0.422	0.499	0.393
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	622 - [13-Nov-2019]	Mid brown soil.
EA200: Description	623 - [13-Nov-2019]	Mid brown soil.
EA200: Description	71 - [13-Nov-2019]	Mid brown soil.
EA200: Description	72 - [13-Nov-2019]	Mid brown soil.
EA200: Description	73 - [13-Nov-2019]	Mid brown soil.
EA200: Description	81 - [13-Nov-2019]	Mid brown soil.
EA200: Description	82 - [13-Nov-2019]	Mid brown soil plus one piece of asbestos cement sheeting approximately 20x15x5mm.
EA200: Description	91 - [13-Nov-2019]	Mid brown soil.
EA200: Description	92 - [13-Nov-2019]	Mid brown soil.
EA200: Description	93 - [13-Nov-2019]	Mid brown soil.
EA200: Description	94 - [13-Nov-2019]	Mid brown soil.
EA200: Description	95 - [13-Nov-2019]	Mid brown soil.
EA200: Description	96 - [13-Nov-2019]	Mid brown soil.
EA200: Description	165 - [13-Nov-2019]	Mid brown soil.
EA200: Description	166 - [13-Nov-2019]	Mid brown soil.
EA200: Description	167 - [13-Nov-2019]	Mid brown soil.
EA200: Description	168 - [13-Nov-2019]	Mid brown soil.
EA200: Description	21 - [13-Nov-2019]	Mid brown soil.
EA200: Description	22 - [13-Nov-2019]	Mid brown soil.
EA200: Description	23 - [13-Nov-2019]	Mid brown soil containing two pieces of asbestos cement sheeting approximately 30x30x5mm.
EA200: Description	24 - [13-Nov-2019]	Mid brown soil.
EA200: Description	25 - [13-Nov-2019]	Mid brown soil.
EA200: Description	26 - [13-Nov-2019]	Mid brown soil.
EA200: Description	27 - [13-Nov-2019]	Mid brown soil.
EA200: Description	28 - [13-Nov-2019]	Mid brown soil.
EA200: Description	29 - [13-Nov-2019]	Mid brown soil.
EA200: Description	210 - [13-Nov-2019]	Mid brown soil.
EA200: Description	211 - [13-Nov-2019]	Mid brown soil.
EA200: Description	212 - [13-Nov-2019]	Mid brown soil.
EA200: Description	213 - [13-Nov-2019]	Mid brown soil.
EA200: Description	214 - [13-Nov-2019]	Mid brown soil.
EA200: Description	215 - [13-Nov-2019]	Mid brown soil.
EA200: Description	216 - [13-Nov-2019]	Mid brown soil.
EA200: Description	217 - [13-Nov-2019]	Mid brown soil.
EA200: Description	218 - [13-Nov-2019]	Mid brown soil.
EA200: Description	219 - [13-Nov-2019]	Mid brown soil.
EA200: Description	220 - [13-Nov-2019]	Mid brown soil.
EA200: Description	221 - [13-Nov-2019]	Mid brown soil.

Sub-Matrix: **SOIL**

Method: Compound	*Client sample ID - Client sampling date / time*	*Analytical Results*
EA200: Description	222 - [13-Nov-2019]	Mid brown soil.
EA200: Description	223 - [13-Nov-2019]	Mid brown soil.
EA200: Description	224 - [13-Nov-2019]	Mid brown soil.
EA200: Description	225 - [13-Nov-2019]	Mid brown soil.
EA200: Description	226 - [13-Nov-2019]	Mid brown soil.
EA200: Description	227 - [13-Nov-2019]	Mid brown soil.
EA200: Description	228 - [13-Nov-2019]	Mid brown soil.
EA200: Description	229 - [13-Nov-2019]	Mid brown soil.
EA200: Description	230 - [13-Nov-2019]	Mid brown soil.
EA200: Description	231 - [13-Nov-2019]	Mid brown soil.
EA200: Description	232 - [13-Nov-2019]	Mid brown soil.
EA200: Description	233 - [13-Nov-2019]	Mid brown soil.
EA200: Description	234 - [13-Nov-2019]	Mid brown soil.
EA200: Description	235 - [13-Nov-2019]	Mid brown soil containing one fragment of asbestos cement sheeting approx. 3 x 3 x 1mm.
EA200: Description	236 - [13-Nov-2019]	Mid brown soil.
EA200: Description	237 - [13-Nov-2019]	Mid brown soil.
EA200: Description	238 - [13-Nov-2019]	Mid brown soil.
EA200: Description	239 - [13-Nov-2019]	Mid brown soil.
EA200: Description	240 - [13-Nov-2019]	Mid brown soil.
EA200: Description	241 - [13-Nov-2019]	Mid brown soil.
EA200: Description	242 - [13-Nov-2019]	Mid brown soil.
EA200: Description	243 - [13-Nov-2019]	Mid brown soil.
EA200: Description	244 - [13-Nov-2019]	Mid brown soil.
EA200: Description	245 - [13-Nov-2019]	Mid brown soil.
EA200: Description	246 - [13-Nov-2019]	Mid brown soil.
EA200: Description	247 - [13-Nov-2019]	Mid brown soil.
EA200: Description	248 - [13-Nov-2019]	Mid brown soil.

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	45	139

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1938502**	Page	: 1 of 14
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Order number	: 6459	Date Analysis Commenced	: 22-Nov-2019
C-O-C number	: ----	Issue Date	: 28-Nov-2019
Sampler	: Zach Bradley		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 90		
No. of samples analysed	: 90		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Gaston Allende	R&D Chemist	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723563)									
ES1938502-016	125	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	32	35	8.62	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	10	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	33	31	6.41	No Limit
ES1938486-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	8	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	13	7.87	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	53	49	8.34	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	44	42	3.66	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723564)									
ES1938502-029	542	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	23	21.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	12	13	8.78	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	10	28.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	12	22.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	29	28	0.00	No Limit
ES1938502-036	708	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	33	30	7.10	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	18.3	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723564) - continued									
ES1938502-036	708	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	12	8.83	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	19	8.56	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	49	49	0.00	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2723565)									
ES1938486-008	Anonymous	EA055: Moisture Content	----	0.1	%	9.1	10.1	10.8	0% - 50%
ES1938502-023	294	EA055: Moisture Content	----	0.1	%	13.7	17.6	24.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2723566)									
ES1938502-032	626	EA055: Moisture Content	----	0.1	%	8.4	8.1	4.53	No Limit
ES1938506-068	Anonymous	EA055: Moisture Content	----	0.1	%	6.2	6.4	2.88	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718391)									
ES1938502-014	42	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938502-024	314	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718391) - continued									
ES1938502-024	314	EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718396)									
ES1938502-034	705	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-021	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718396) - continued									
ES1938506-021	Anonymous	EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718391)									
ES1938502-014	42	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938502-024	314	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718391) - continued									
ES1938502-024	314	EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718396)									
ES1938502-034	705	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-021	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718396) - continued									
ES1938506-021	Anonymous	EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718501)									
ES1938502-014	42	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
ES1938502-024	314	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718501) - continued									
ES1938502-024	314	EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718502)									
ES1938502-029	542	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723563)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	106	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	104	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	104	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	102	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	110	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	113	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	111	80.0	122
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723564)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	101	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.8	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	99.8	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	94.1	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	97.4	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	105	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	102	80.0	122
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718391)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.4	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.9	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	62.0	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718391) - continued								
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	105	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	103	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	99.3	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718396)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	79.8	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	78.6	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.1	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.4	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.5	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	97.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	84.5	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718391)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	82.0	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	81.0	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	79.7	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	76.9	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	80.8	69.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718391) - continued								
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	83.7	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718396)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	78.9	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	80.1	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.3	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	84.6	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	81.9	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	100	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	92.3	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	81.9	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	72.4	41.0	123
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718501)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	96.9	54.4	128
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	85.7	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	105	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	91.2	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	94.8	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	100	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	94.5	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	101	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	87.5	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	101	57.4	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	86.2	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	88.0	48.7	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718501) - continued								
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	78.5	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	91.6	53.2	128
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718502)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	65.4	54.4	128
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	79.6	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	67.2	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	64.0	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	60.6	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	65.9	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	86.2	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	68.4	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	62.5	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	67.8	57.4	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	73.3	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	67.0	48.7	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	70.5	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	74.4	53.2	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	Recovery Limits (%) High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723563)							
ES1938486-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.5	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	101	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	101	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.4	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723564)							
ES1938502-029	542	EG005T: Arsenic	7440-38-2	50 mg/kg	93.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.6	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	105	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	99.2	70.0	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723564) - continued							
ES1938502-029	542	EG005T: Lead	7439-92-1	250 mg/kg	95.2	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718391)							
ES1938502-014	42	EP068: gamma-BHC	58-89-9	0.5 mg/kg	120	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	97.7	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	97.2	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	84.6	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	90.0	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	96.2	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718396)							
ES1938502-034	705	EP068: gamma-BHC	58-89-9	0.5 mg/kg	82.5	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	95.6	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	99.6	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	90.0	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	95.0	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	109	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718391)							
ES1938502-014	42	EP068: Diazinon	333-41-5	0.5 mg/kg	88.2	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	80.8	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	76.9	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	83.9	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.0	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718396)							
ES1938502-034	705	EP068: Diazinon	333-41-5	0.5 mg/kg	100	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	89.8	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	107	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	92.6	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	99.9	70.0	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718501)							
ES1938502-014	42	EP202: Mecoprop	93-65-2	0.1 mg/kg	66.4	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	72.3	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	76.6	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	73.2	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	82.0	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	58.1	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	53.3	49.0	149

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718502)							
ES1938502-029	542	EP202: Mecoprop	93-65-2	0.1 mg/kg	73.8	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	73.5	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	71.8	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	69.2	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	75.3	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	76.7	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	71.3	49.0	149

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1938502**	Page	: 1 of 8
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Site	: ----	Issue Date	: 28-Nov-2019
Sampler	: Zach Bradley	No. of samples received	: 90
Order number	: 6459	No. of samples analysed	: 90

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*		***Sample Date***	*Extraction / Preparation*			*Analysis*		
			Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
42,	75,	**13-Nov-2019**	**----**	----	----	**25-Nov-2019**	27-Nov-2019	✓
125,	163,							
169,	203,							
247,	261,							
262,	294,							
314,	334,							
347,	429,							
492,	542,							
593,	610,							
626,	695,							
705,	706,							
708,	752,							
866								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag: Separate bag received (EA200)								
6 - 22,	6 - 23,	**13-Nov-2019**	**----**	----	----	**23-Nov-2019**	11-May-2020	✓
7 - 1,	7 - 2,							
7 - 3,	8 - 1,							
8 - 2,	9 - 1,							
9 - 2,	9 - 3,							
9 - 4,	9 - 5,							
9 - 6,	1 - 65,							
1 - 66,	1 - 67,							
1 - 68,	2 - 1,							
2 - 2,	2 - 3,							
2 - 4,	2 - 5,							
2 - 6,	2 - 7,							
2 - 8,	2 - 9,							
2 - 10,	2 - 11,							
2 - 12,	2 - 13,							
2 - 14,	2 - 15,							
2 - 16,	2 - 17,							
2 - 18,	2 - 19,							
2 - 20,	2 - 21,							
2 - 22,	2 - 23,							
2 - 24,	2 - 25,							
2 - 26,	2 - 27,							
2 - 28,	2 - 29,							
2 - 30,	2 - 31,							
2 - 32,	2 - 33,							
2 - 34,	2 - 35,							
2 - 36,	2 - 37,							
2 - 38,	2 - 39,							
2 - 40,	2 - 41,							
2 - 42,	2 - 43,							
2 - 44,	2 - 45,							
2 - 46,	2 - 47,							
2 - 48								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200N: Asbestos Quantification (non-NATA)								
Snap Lock Bag: Separate bag received (EA200N)								
6 - 22,	6 - 23,	**13-Nov-2019**	**----**	----	----	**23-Nov-2019**	11-May-2020	✓
7 - 1,	7 - 2,							
7 - 3,	8 - 1,							
8 - 2,	9 - 1,							
9 - 2,	9 - 3,							
9 - 4,	9 - 5,							
9 - 6,	1 - 65,							
1 - 66,	1 - 67,							
1 - 68,	2 - 1,							
2 - 2,	2 - 3,							
2 - 4,	2 - 5,							
2 - 6,	2 - 7,							
2 - 8,	2 - 9,							
2 - 10,	2 - 11,							
2 - 12,	2 - 13,							
2 - 14,	2 - 15,							
2 - 16,	2 - 17,							
2 - 18,	2 - 19,							
2 - 20,	2 - 21,							
2 - 22,	2 - 23,							
2 - 24,	2 - 25,							
2 - 26,	2 - 27,							
2 - 28,	2 - 29,							
2 - 30,	2 - 31,							
2 - 32,	2 - 33,							
2 - 34,	2 - 35,							
2 - 36,	2 - 37,							
2 - 38,	2 - 39,							
2 - 40,	2 - 41,							
2 - 42,	2 - 43,							
2 - 44,	2 - 45,							
2 - 46,	2 - 47,							
2 - 48								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) 42, 75, 125, 163, 169, 203, 247, 261, 262, 294, 314, 334, 347, 429, 492, 542, 593, 610, 626, 695, 705, 706, 708, 752, 866	**13-Nov-2019**	**25-Nov-2019**	11-May-2020	✓	**26-Nov-2019**	11-May-2020	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) 42, 75, 125, 163, 169, 203, 247, 261, 262, 294, 314, 334, 347, 429, 492, 542, 593, 610, 626, 695	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**25-Nov-2019**	01-Jan-2020	✓
Soil Glass Jar - Unpreserved (EP068) 705, 706, 708, 752, 866	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**26-Nov-2019**	01-Jan-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
42,	75,	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**25-Nov-2019**	01-Jan-2020	✓
125,	163,							
169,	203,							
247,	261,							
262,	294,							
314,	334,							
347,	429,							
492,	542,							
593,	610,							
626,	695							
Soil Glass Jar - Unpreserved (EP068)								
705,	706,	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**26-Nov-2019**	01-Jan-2020	✓
708,	752,							
866								
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
Soil Glass Jar - Unpreserved (EP202)								
42,	75,	**13-Nov-2019**	**25-Nov-2019**	27-Nov-2019	✓	**25-Nov-2019**	04-Jan-2020	✓
125,	163,							
169,	203,							
247,	261,							
262,	294,							
314,	334,							
347,	429,							
492,	542,							
593,	610,							
626,	695,							
705,	706,							
708,	752,							
866								

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	3	25	**12.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Pesticides by GCMS	EP068	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	25	**8.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Pesticides by GCMS	EP068	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	25	**8.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Pesticides by GCMS	EP068	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	25	**8.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 6.1 and Table 1 (14 day holding time).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM 2013 with Confirmation of Identification by AS 4964 - 2004 Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In house: LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

McMahon EARTH SCIENCE

Chain of Custody

DM McMahon Pty Ltd
PO Box 5118
6 Jones St, Wagga Wagga NSW 2650
Ph: (02) 69 310 510

Relinquished by: Zach Bradley
Date: 19-11-19
Signature:

Received by:
Date:
Signature: 20/11/19

Relinquished by:
Date:
Signature:

Received by:
Date:
Signature:

Turnaround Requirements: ☑ Standard TAT ☐ Non Standard or Urgent TAT (List Due Date):

Analysing Laboratory: ALS -Sydney
Project: CSU Sth - ACM
Order No.: 6459
Project Manager: Zach Bradley
Contact Ph: (02) 69 310 510
Sampling Officer: Z.Bradley
Report Format: Default
Email Reports to: admin@dmmcmahon.com.a
cc: zach@dmmcmahon.com.au
Email Invoice to: admin@dmmcmahon.com.a

Lab Comments:

QUOTE NO.: SY/608/19

COC SEQUENCE NUMBER
COC:
OF: Eby 1 of 10.

LAB ID	SAMPLE TYPE	DATE/TIME	MATRIX (ref below)	TYPE & PRESERVATIVE (see codes below)	TOTAL CONTAINERS	EA200F	S-01	S-12	EP202(solids)					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	A	13-15/11/2019	Soil	Glass Jar + Bag	258	X								See Attached
	P + M	13-15/11/2019	Soil	Glass Jar + Bag	75		X	X	X					See Attached
	P	13-15/11/2019	Soil	Glass Jar + Bag	4			X	X					See Attached
					337									

Subcon / Forward Lab / Split WO
Lab / Analysis: ES1938340, ES1938506
Organised By / Date: ES1938509
Relinquished By / Date:
Courier:
WO No: Newcastle - Asbestos
Attach By PO / Internal Sheet:

Environmental Division
Sydney
Work Order Reference
ES1938502

Telephone : - 61-2-8784 8555

W- Water; S - Soil; Sed - Sediment; Sl - Sludge; A - Air; D - Dust.

P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic, V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic, HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils, B = Unpreserved Bag

SENDING TO ALS-6459

SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
1	1	A	EA200F
1	2	A	EA200F
1	3	A	EA200F
1	4	A	EA200F
1	5	A	EA200F
1	6	A	EA200F
1	7	A	EA200F
1	8	A	EA200F
1	9	A	EA200F
1	10	A	EA200F
1	11	A	EA200F
1	12	A	EA200F
1	13	A	EA200F
1	14	A	EA200F
1	15	A	EA200F
1	16	A	EA200F
1	17	A	EA200F
1	18	A	EA200F
1	19	A	EA200F
1	20	A	EA200F
1	21	A	EA200F
1	22	A	EA200F
1	23	A	EA200F
1	24	A	EA200F
1	25	A	EA200F
1	26	A	EA200F
1	27	A	EA200F
1	28	A	EA200F
1	29	A	EA200F
1	30	A	EA200F
1	31	A	EA200F
1	32	A	EA200F
1	33	A	EA200F
1	34	A	EA200F
1	35	A	EA200F
1	36	A	EA200F
1	37	A	EA200F
1	38	A	EA200F
1	39	A	EA200F
1	40	A	EA200F
1	41	A	EA200F
1	42	A	EA200F
1	43	A	EA200F
1	44	A	EA200F
1	45	A	EA200F
1	46	A	EA200F
1	47	A	EA200F
1	48	A	EA200F
1	49	A	EA200F
1	50	A	EA200F
1	51	A	EA200F
1	52	A	EA200F
1	53	A	EA200F
1	54	A	EA200F
1	55	A	EA200F
1	56	A	EA200F
1	57	A	EA200F
1	58	A	EA200F
1	59	A	EA200F
1	60	A	EA200F
1	61	A	EA200F
1	62	A	EA200F
1	63	A	EA200F
1	64	A	EA200F

SENDING TO ALS-6459

	SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
	4	37	A	EA200F
	4	38	A	EA200F
	4	39	A	EA200F
	5	1	A	EA200F
	5	2	A	EA200F
	6	1	A	EA200F
	6	2	A	EA200F
	6	3	A	EA200F
	6	4	A	EA200F
	6	5	A	EA200F
	6	6	A	EA200F
	6	7	A	EA200F
	6	8	A	EA200F
	6	9	A	EA200F
	6	10	A	EA200F
	6	11	A	EA200F
	6	12	A	EA200F
	6	13	A	EA200F
	6	14	A	EA200F
	6	15	A	EA200F
	6	16	A	EA200F
	6	17	A	EA200F
	6	18	A	EA200F
	6	19	A	EA200F
	6	20	A	EA200F
	6	21	A	EA200F
1	6	22	A	EA200F
2	6	23	A	EA200F
3	7	1	A	EA200F
4	7	2	A	EA200F
5	7	3	A	EA200F
6	8	1	A	EA200F
7	8	2	A	EA200F
8	9	1	A	EA200F
9	9	2	A	EA200F
10	9	3	A	EA200F
11	9	4	A	EA200F
12	9	5	A	EA200F
13	9	6	A	EA200F
14	42	-	P+M	S-01, S-12, EP202
15	75	-	P+M	S-01, S-12, EP202
16	125	-	P+M	S-01, S-12, EP202
17	163	-	P+M	S-01, S-12, EP202
18	169	-	P+M	S-01, S-12, EP202
19	203	-	P+M	S-01, S-12, EP202
20	247	-	P+M	S-01, S-12, EP202
21	261	-	P+M	S-01, S-12, EP202
22	262	-	P+M	S-01, S-12, EP202
23	294	-	P+M	S-01, S-12, EP202
24	314	-	P+M	S-01, S-12, EP202
25	334	-	P+M	S-01, S-12, EP202
26	347	-	P+M	S-01, S-12, EP202
27	429	-	P+M	S-01, S-12, EP202
28	492	-	P+M	S-01, S-12, EP202
29	542	-	P+M	S-01, S-12, EP202
30	593	-	P+M	S-01, S-12, EP202
31	610	-	P+M	S-01, S-12, EP202
32	626	-	P+M	S-01, S-12, EP202
33	695	-	P+M	S-01, S-12, EP202
34	705	-	P+M	S-01, S-12, EP202
35	706	-	P+M	S-01, S-12, EP202
36	708	-	P+M	S-01, S-12, EP202
37	752	-	P+M	S-01, S-12, EP202
38	866	-	P+M	S-01, S-12, EP202

39	1	65	A	EA200F
40	1	66	A	EA200F
41	1	67	A	EA200F
42	1	68	A	EA200F
43	2	1	A	EA200F
44	2	2	A	EA200F
45	2	3	A	EA200F
46	2	4	A	EA200F
47	2	5	A	EA200F
48	2	6	A	EA200F
49	2	7	A	EA200F
50	2	8	A	EA200F
51	2	9	A	EA200F
52	2	10	A	EA200F
53	2	11	A	EA200F
54	2	12	A	EA200F
55	2	13	A	EA200F
56	2	14	A	EA200F
57	2	15	A	EA200F
58	2	16	A	EA200F
59	2	17	A	EA200F
60	2	18	A	EA200F
61	2	19	A	EA200F
62	2	20	A	EA200F
63	2	21	A	EA200F
64	2	22	A	EA200F
65	2	23	A	EA200F
66	2	24	A	EA200F
67	2	25	A	EA200F
68	2	26	A	EA200F
69	2	27	A	EA200F
70	2	28	A	EA200F
71	2	29	A	EA200F
72	2	30	A	EA200F
73	2	31	A	EA200F
74	2	32	A	EA200F
75	2	33	A	EA200F
76	2	34	A	EA200F
77	2	35	A	EA200F
78	2	36	A	EA200F
79	2	37	A	EA200F
80	2	38	A	EA200F
81	2	39	A	EA200F
82	2	40	A	EA200F
83	2	41	A	EA200F
84	2	42	A	EA200F
85	2	43	A	EA200F
86	2	44	A	EA200F
87	2	45	A	EA200F
88	2	46	A	EA200F
89	2	47	A	EA200F
90	2	48	A	EA200F
	2	49	A	EA200F
	2	50	A	EA200F
	2	51	A	EA200F
	2	52	A	EA200F
	2	53	A	EA200F
	2	54	A	EA200F
	2	55	A	EA200F
	2	56	A	EA200F
	2	57	A	EA200F
	2	58	A	EA200F
	2	59	A	EA200F
	2	60	A	EA200F
	3	1	A	EA200F
	3	2	A	EA200F
	3	3	A	EA200F

977	-	P+M	S-01, S-12, EP202
985	-	P+M	S-01, S-12, EP202
1036	-	P+M	S-01, S-12, EP202
1058	-	P+M	S-01, S-12, EP202
1088	-	P+M	S-01, S-12, EP202
2001	-	P+M	S-01, S-12, EP202
2002	-	P+M	S-01, S-12, EP202
2003	-	P+M	S-01, S-12, EP202
2004	-	P+M	S-01, S-12, EP202
2005	-	P+M	S-01, S-12, EP202
2006	-	P+M	S-01, S-12, EP202
2007	-	P+M	S-01, S-12, EP202
2008	-	P+M	S-01, S-12, EP202
2009	-	P+M	S-01, S-12, EP202
2010	-	P+M	S-01, S-12, EP202
2011	-	P+M	S-01, S-12, EP202
2012	-	P+M	S-01, S-12, EP202
2013	-	P+M	S-01, S-12, EP202
2014	-	P+M	S-01, S-12, EP202
2015	-	P+M	S-01, S-12, EP202
2017	-	P+M	S-01, S-12, EP202
2018	-	P+M	S-01, S-12, EP202
2019	-	P+M	S-01, S-12, EP202
2020	-	P+M	S-01, S-12, EP202
2021	-	P+M	S-01, S-12, EP202
2022	-	P+M	S-01, S-12, EP202
2023	-	P+M	S-01, S-12, EP202
2024	-	P+M	S-01, S-12, EP202
2025	-	P+M	S-01, S-12, EP202
2026	-	P+M	S-01, S-12, EP202
2027	-	P+M	S-01, S-12, EP202
2028	-	P+M	S-01, S-12, EP202
2029	-	P+M	S-01, S-12, EP202
2030	-	P+M	S-01, S-12, EP202
2031	-	P+M	S-01, S-12, EP202
2032	-	P+M	S-01, S-12, EP202
2033	-	P+M	S-01, S-12, EP202
2034	-	P+M	S-01, S-12, EP202
2035	-	P+M	S-01, S-12, EP202
2037	-	P+M	S-01, S-12, EP202
2039	-	P+M	S-01, S-12, EP202
2040	-	P+M	S-01, S-12, EP202
2041	-	P+M	S-01, S-12, EP202
2042	-	P+M	S-01, S-12, EP202
3001	-	P	S-12, EP202
3002	-	P	S-12, EP202
3003	-	P	S-12, EP202
FA-00	-	A	EA200F
FA-01	-	A	EA200F
FA-02	-	A	EA200F
FA-03	-	A	EA200F
FA-04	-	A	EA200F
D1	-	P+M	S-01, S-12, EP202
D2	-	P+M	S-01, S-12, EP202
D3	-	P	S-12, EP202
D4	-	P+M	S-01, S-12, EP202
D5	-	P+M	S-01, S-12, EP202
SP1	-	P+M	S-01, S-12, EP202
SP2	-	P+M	S-01, S-12, EP202
AD01	-	A	EA200F
AD02	-	A	EA200F
AD03	-	A	EA200F
AD04	-	A	EA200F
AD05	-	A	EA200F
AD06	-	A	EA200F
AD07	-	A	EA200F
AD08	-	A	EA200F

3	4	A	EA200F
3	5	A	EA200F
3	6	A	EA200F
3	7	A	EA200F
3	8	A	EA200F
3	9	A	EA200F
3	10	A	EA200F
3	11	A	EA200F
3	12	A	EA200F
3	13	A	EA200F
3	14	A	EA200F
3	15	A	EA200F
3	16	A	EA200F
3	17	A	EA200F
3	18	A	EA200F
3	19	A	EA200F
3	20	A	EA200F
3	21	A	EA200F
3	22	A	EA200F
3	23	A	EA200F
3	24	A	EA200F
3	25	A	EA200F
3	26	A	EA200F
3	27	A	EA200F
3	28	A	EA200F
3	29	A	EA200F
3	30	A	EA200F
3	31	A	EA200F
3	32	A	EA200F
4	1	A	EA200F
4	2	A	EA200F
4	3	A	EA200F
4	4	A	EA200F
4	5	A	EA200F
4	6	A	EA200F
4	7	A	EA200F
4	8	A	EA200F
4	9	A	EA200F
4	10	A	EA200F
4	11	A	EA200F
4	12	A	EA200F
4	13	A	EA200F
4	14	A	EA200F
4	15	A	EA200F
4	16	A	EA200F
4	17	A	EA200F
4	18	A	EA200F
4	19	A	EA200F
4	20	A	EA200F
4	21	A	EA200F
4	22	A	EA200F
4	23	A	EA200F
4	24	A	EA200F
4	25	A	EA200F
4	26	A	EA200F
4	27	A	EA200F
4	28	A	EA200F
4	29	A	EA200F
4	30	A	EA200F
4	31	A	EA200F
4	32	A	EA200F
4	33	A	EA200F
4	34	A	EA200F
4	35	A	EA200F
4	36	A	EA200F

AD09	-	A	EA200F
AD10	-	A	EA200F
AD11	-	A	EA200F
AD12	-	A	EA200F
AS01	-	A	EA200F
AS02	-	A	EA200F
AS03	-	A	EA200F
AS04	-	A	EA200F
AS05	-	A	EA200F
AS06	-	A	EA200F

Notes:

Australian Laboratory Services Pty Ltd
277-289 Woodpark Road, Smithfield NSW Australia
T +61-2-8784 8555 F +61-2-8784 8500

Tailored Analytical Services & Charges: Soil

Parameter	ALS Code	Technique/ Method Reference	Limit Of Reporting (LOR)	No.	Price per Sample ($)	Total ($)
7 Metals (incl. Digestion): As, Cd, Cr, Cu, Ni, Pb, Zn	S-01	USEPA 6010, In house	1 - 5 mg/kg, 1 %	40	15.20	608.00
Asbestos Quantitation (FA+AF) in Soil by WA/NEPM Guidelines - Non-NATA	EA200F	AS 4964 - 2004	0.0004 - 0.01 g, 0.001 %, 5 Fibres, 0.1 g/kg, 0.0001 kg	120	56.00	6,720.00
Asbestos Identification in Bulk Solids (Excluding SOILS)	EA200B	AS 4964 - 2004	5 Fibres, 0.1 g/kg, 0.01 g	5	24.00	120.00
OC/OP Pesticides	S-12	USEPA 8270D, In house	0.05 - 0.2 mg/kg, 1 %	3	44.00	132.00
Phenoxyacetic acids	EP202(solids)	In house (LCMS)	0.02 mg/kg	3	60.00	180.00
						7,760.00

Administration Charges

An administration fee of $40.00 (excl. GST) is charged per analytical report produced (*ie.* per ALS work order). Additional administrative charges may apply for subsequent report generation.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1938506**	Page	: 1 of 45
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019 13:00
Order number	: 6459	Date Analysis Commenced	: 22-Nov-2019
C-O-C number	: ----	Issue Date	: 02-Dec-2019 11:26
Sampler	: Z. Bradley		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 82		
No. of samples analysed	: 82		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP068: Positive results have been confirmed by re-extraction and re-analysis.
- EP202: Particular samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 49	2 50	2 51	2 52	2 53
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-001	ES1938506-002	ES1938506-003	ES1938506-004	ES1938506-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	476	562	510	602	299
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.476	0.562	0.510	0.602	0.299
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 54	2 55	2 56	2 57	2 58
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-006	ES1938506-007	ES1938506-008	ES1938506-009	ES1938506-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	275	694	289	241	259
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.275	0.694	0.289	0.241	0.259
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2 59	2 60	3 1	3 2	3 3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-011	ES1938506-012	ES1938506-013	ES1938506-014	ES1938506-015
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	485	583	473	615	561
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.485	0.583	0.473	0.615	0.561
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	977	985	1036	1058	1088
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-016	ES1938506-017	ES1938506-018	ES1938506-019	ES1938506-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	8.6	4.8	5.7	8.7	6.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	8	48	7	91
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	31	66	33	38	71
Copper	7440-50-8	5	mg/kg	10	12	16	14	21
Lead	7439-92-1	5	mg/kg	12	51	57	105	139
Nickel	7440-02-0	2	mg/kg	9	10	11	12	13
Zinc	7440-66-6	5	mg/kg	17	82	146	173	597
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.08	0.06	0.24
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	977	985	1036	1058	1088
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-016	ES1938506-017	ES1938506-018	ES1938506-019	ES1938506-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	**0.08**	**0.06**	**0.24**
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	977	985	1036	1058	1088
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-016	ES1938506-017	ES1938506-018	ES1938506-019	ES1938506-020
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	75.1	84.4	98.2	84.4	94.8
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	71.1	96.9	90.2	81.8	67.7
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	74.9	76.0	76.6	74.1	71.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2001	2002	2003	2004	2005
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-021	ES1938506-022	ES1938506-023	ES1938506-024	ES1938506-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.8	10.1	8.7	8.9	14.4
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	6	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	46	31	32	106	32
Copper	7440-50-8	5	mg/kg	12	11	11	14	19
Lead	7439-92-1	5	mg/kg	12	13	11	40	18
Nickel	7440-02-0	2	mg/kg	11	11	11	11	22
Zinc	7440-66-6	5	mg/kg	14	27	13	98	45
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2001	2002	2003	2004	2005
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-021	ES1938506-022	ES1938506-023	ES1938506-024	ES1938506-025
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2001	2002	2003	2004	2005
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-021	ES1938506-022	ES1938506-023	ES1938506-024	ES1938506-025
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	90.2	95.4	121	83.0	89.3
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	82.8	102	114	69.7	94.2
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	86.0	73.5	80.5	74.3	72.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2006	2007	2008	2009	2010
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-026	ES1938506-027	ES1938506-028	ES1938506-029	ES1938506-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	8.9	7.7	9.3	4.7	6.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	<5	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	61	38	44	26	58
Copper	7440-50-8	5	mg/kg	15	11	10	9	13
Lead	7439-92-1	5	mg/kg	12	17	17	14	16
Nickel	7440-02-0	2	mg/kg	12	10	9	8	10
Zinc	7440-66-6	5	mg/kg	14	53	37	29	22
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2006	2007	2008	2009	2010
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-026	ES1938506-027	ES1938506-028	ES1938506-029	ES1938506-030
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2006	2007	2008	2009	2010
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-026	ES1938506-027	ES1938506-028	ES1938506-029	ES1938506-030
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	95.2	87.6	84.2	114	81.7
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	64.3	93.9	111	114	75.6
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	69.1	77.0	81.1	62.4	66.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2011	2012	2013	2014	2015
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-031	ES1938506-032	ES1938506-033	ES1938506-034	ES1938506-035
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	7.8	8.2	6.7	9.4	3.5
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	6	10	7	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	47	55	43	48	24
Copper	7440-50-8	5	mg/kg	14	15	15	22	13
Lead	7439-92-1	5	mg/kg	14	19	14	54	38
Nickel	7440-02-0	2	mg/kg	10	12	14	13	10
Zinc	7440-66-6	5	mg/kg	15	23	27	119	56
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2011	2012	2013	2014	2015
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-031	ES1938506-032	ES1938506-033	ES1938506-034	ES1938506-035
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2011	2012	2013	2014	2015
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-031	ES1938506-032	ES1938506-033	ES1938506-034	ES1938506-035
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	75.0	89.5	100	95.4	109
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	80.8	67.2	81.1	80.4	86.6
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	81.5	62.8	67.6	65.2	68.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2017	2018	2019	2020	2021
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-036	ES1938506-037	ES1938506-038	ES1938506-039	ES1938506-040
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	8.0	4.1	8.3	10.9	8.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	7	10	11	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	49	33	38	57	45
Copper	7440-50-8	5	mg/kg	12	11	15	21	12
Lead	7439-92-1	5	mg/kg	14	18	18	50	30
Nickel	7440-02-0	2	mg/kg	12	10	9	18	11
Zinc	7440-66-6	5	mg/kg	17	26	161	90	163
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2017	2018	2019	2020	2021
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-036	ES1938506-037	ES1938506-038	ES1938506-039	ES1938506-040
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2017	2018	2019	2020	2021
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-036	ES1938506-037	ES1938506-038	ES1938506-039	ES1938506-040
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**94.1**	**116**	**108**	**108**	**98.1**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**76.9**	**97.8**	**83.2**	**79.4**	**73.4**
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	**62.8**	**61.1**	**62.7**	**60.7**	**63.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2022	2023	2024	2025	2026
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-041	ES1938506-042	ES1938506-043	ES1938506-044	ES1938506-045
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.8	7.0	12.0	11.8	6.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	47	37	23	48	21
Copper	7440-50-8	5	mg/kg	20	10	10	12	11
Lead	7439-92-1	5	mg/kg	23	13	32	12	20
Nickel	7440-02-0	2	mg/kg	12	10	9	12	10
Zinc	7440-66-6	5	mg/kg	40	22	87	22	50
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2022	2023	2024	2025	2026
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-041	ES1938506-042	ES1938506-043	ES1938506-044	ES1938506-045
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2022	2023	2024	2025	2026
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-041	ES1938506-042	ES1938506-043	ES1938506-044	ES1938506-045
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	118	106	83.0	73.5	104
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	79.7	74.7	65.1	97.0	78.5
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	61.4	57.0	60.1	59.4	64.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2027	2028	2029	2030	2031
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-046	ES1938506-047	ES1938506-048	ES1938506-049	ES1938506-050
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.9	5.1	10.7	8.3	10.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	8	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	28	33	31	25	32
Copper	7440-50-8	5	mg/kg	13	21	11	12	14
Lead	7439-92-1	5	mg/kg	25	16	14	16	29
Nickel	7440-02-0	2	mg/kg	9	9	10	11	12
Zinc	7440-66-6	5	mg/kg	195	26	25	36	318
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	1.44
4.4`-DDE	72-55-9	0.05	mg/kg	0.14	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	1.44

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2027	2028	2029	2030	2031
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-046	ES1938506-047	ES1938506-048	ES1938506-049	ES1938506-050
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	**0.14**	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2027	2028	2029	2030	2031
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-046	ES1938506-047	ES1938506-048	ES1938506-049	ES1938506-050
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	108	111	117	87.4	106
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	100.0	78.8	95.4	65.8	73.3
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	66.6	63.8	67.3	64.8	59.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2032	2033	2034	2035	2037
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-051	ES1938506-052	ES1938506-053	ES1938506-054	ES1938506-055
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	4.7	10.2	2.9	11.7	6.0
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	26	24	26	48
Copper	7440-50-8	5	mg/kg	9	10	7	8	10
Lead	7439-92-1	5	mg/kg	11	14	13	14	19
Nickel	7440-02-0	2	mg/kg	8	11	6	8	9
Zinc	7440-66-6	5	mg/kg	65	43	38	54	75
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2032	2033	2034	2035	2037
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-051	ES1938506-052	ES1938506-053	ES1938506-054	ES1938506-055
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2032	2033	2034	2035	2037
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-051	ES1938506-052	ES1938506-053	ES1938506-054	ES1938506-055
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.04	<0.04	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	105	76.9	107	97.2	111
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	112	80.3	120	112	109
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	68.5	62.9	59.6	64.4	61.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2039	2040	2041	2042	3001
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-056	ES1938506-057	ES1938506-058	ES1938506-059	ES1938506-060
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.2	10.3	10.5	4.0	6.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	6	6	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	47	32	48	21	----
Copper	7440-50-8	5	mg/kg	17	18	12	14	----
Lead	7439-92-1	5	mg/kg	13	17	11	16	----
Nickel	7440-02-0	2	mg/kg	15	22	12	9	----
Zinc	7440-66-6	5	mg/kg	22	71	35	45	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2039	2040	2041	2042	3001
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-056	ES1938506-057	ES1938506-058	ES1938506-059	ES1938506-060
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	2039	2040	2041	2042	3001
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-056	ES1938506-057	ES1938506-058	ES1938506-059	ES1938506-060
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	110	99.9	95.8	107	104
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	98.6	99.0	92.9	94.6	84.6
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	65.0	80.7	65.5	71.4	73.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3002	3003	FA-00	FA-01	FA-02
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-061	ES1938506-062	ES1938506-063	ES1938506-064	ES1938506-065
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.2	3.8	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	Yes	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	Yes	No	No
Asbestos Type	1332-21-4	-	--	----	----	Ch + Am + Cr	-	-
Sample weight (dry)	----	0.01	g	----	----	415	463	445
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	No	No	No
Organic Fibre	----	0.1	g/kg	----	----	No	No	No
APPROVED IDENTIFIER:	----	-	--	----	----	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	----	----	4.61	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	----	----	2.42	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	----	----	0.415	0.463	0.445
ø Fibrous Asbestos >7mm	----	0.0004	g	----	----	5.45	<0.0004	<0.0004
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3002	3003	FA-00	FA-01	FA-02
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-061	ES1938506-062	ES1938506-063	ES1938506-064	ES1938506-065
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.04	<0.02	----	----	----
2.4-DB	94-82-6	0.02	mg/kg	<0.04	<0.02	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	<0.04	<0.02	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	<0.04	<0.02	----	----	----
MCPA	94-74-6	0.02	mg/kg	<0.04	<0.02	----	----	----
2.4-DP	120-36-5	0.02	mg/kg	<0.04	<0.02	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3002	3003	FA-00	FA-01	FA-02
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-061	ES1938506-062	ES1938506-063	ES1938506-064	ES1938506-065
				Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued								
2.4-D	94-75-7	0.02	mg/kg	<0.04	<0.02	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.04	<0.02	----	----	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.04	<0.02	----	----	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.04	<0.02	----	----	----
MCPB	94-81-5	0.02	mg/kg	<0.04	<0.02	----	----	----
Picloram	1918-02-1	0.02	mg/kg	<0.04	<0.02	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.04	<0.02	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.04	<0.02	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	123	97.3	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	116	67.3	----	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	68.9	64.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	FA-03	FA-04	D1	D2	D3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-066	ES1938506-067	ES1938506-068	ES1938506-069	ES1938506-070
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	----	6.2	10.7	3.7
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No*	No*	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----
Asbestos Type	1332-21-4	-	--	Ch + Am	Ch + Am	----	----	----
Sample weight (dry)	----	0.01	g	424	471	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----
Organic Fibre	----	0.1	g/kg	No	No	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	----	----	----
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	%	----	<0.01	----	----	----
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	0.0128	<0.0004	----	----	----
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	0.003	<0.001	----	----	----
ø Weight Used for % Calculation	----	0.0001	kg	0.424	0.471	----	----	----
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	----	----	----
ø Asbestos Containing Material	1332-21-4	0.1	g	----	0.2	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	----	----	<1	<1	----
Chromium	7440-47-3	2	mg/kg	----	----	25	43	----
Copper	7440-50-8	5	mg/kg	----	----	9	11	----
Lead	7439-92-1	5	mg/kg	----	----	12	15	----
Nickel	7440-02-0	2	mg/kg	----	----	6	9	----
Zinc	7440-66-6	5	mg/kg	----	----	14	19	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	FA-03	FA-04	D1	D2	D3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-066	ES1938506-067	ES1938506-068	ES1938506-069	ES1938506-070
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	----	----	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	FA-03	FA-04	D1	D2	D3
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-066	ES1938506-067	ES1938506-068	ES1938506-069	ES1938506-070
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Prothiofos	34643-46-4	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	----	----	<0.02	<0.02	<0.02
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	**98.3**	**88.7**	**96.1**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	**84.8**	**91.0**	**87.2**
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	----	----	**95.4**	**62.8**	**70.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	D4	D5	SP1	SP2	AD01
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-071	ES1938506-072	ES1938506-073	ES1938506-074	ES1938506-075
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	10.8	11.2	6.1	8.0	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	----	----	No
Asbestos Type	1332-21-4	-	--	----	----	----	----	-
Sample weight (dry)	----	0.01	g	----	----	----	----	283
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	----	----	No
Organic Fibre	----	0.1	g/kg	----	----	----	----	No
APPROVED IDENTIFIER:	----	-	--	----	----	----	----	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	----	----	----	----	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	----	----	----	----	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	----	----	----	----	0.283
ø Fibrous Asbestos >7mm	----	0.0004	g	----	----	----	----	<0.0004
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	5	<5	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	28	54	32	43	----
Copper	7440-50-8	5	mg/kg	15	12	10	10	----
Lead	7439-92-1	5	mg/kg	31	15	16	22	----
Nickel	7440-02-0	2	mg/kg	14	13	9	9	----
Zinc	7440-66-6	5	mg/kg	365	28	30	18	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	D4	D5	SP1	SP2	AD01
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-071	ES1938506-072	ES1938506-073	ES1938506-074	ES1938506-075
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	**1.06**	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	**1.06**	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	D4	D5	SP1	SP2	AD01
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-071	ES1938506-072	ES1938506-073	ES1938506-074	ES1938506-075
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.04	<0.02	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**114**	**89.5**	**79.8**	**102**	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**65.0**	**84.6**	**77.5**	**87.5**	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	**56.2**	**60.1**	**55.8**	**67.2**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	AD02	AD03	AD04	AD05	AD06
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938506-076	ES1938506-077	ES1938506-078	ES1938506-079	ES1938506-080
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	278	363	245	237	351
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.278	0.363	0.245	0.237	0.351
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	AD07	AD08	----	----	----
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	----	----	----
Compound	CAS Number	LOR	Unit	ES1938506-081	ES1938506-082	--------	--------	--------
				Result	Result	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----
Asbestos Type	1332-21-4	-	--	-	-	----	----	----
Sample weight (dry)	----	0.01	g	286	264	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----
Organic Fibre	----	0.1	g/kg	No	No	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	----	----	----
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	----	----	----
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	----	----	----
ø Weight Used for % Calculation	----	0.0001	kg	0.286	0.264	----	----	----
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	249 - [13-Nov-2019]	Mid brown soil.
EA200: Description	250 - [13-Nov-2019]	Mid brown soil.
EA200: Description	251 - [13-Nov-2019]	Mid brown soil.
EA200: Description	252 - [13-Nov-2019]	Mid brown soil.
EA200: Description	253 - [13-Nov-2019]	Mid brown soil.
EA200: Description	254 - [13-Nov-2019]	Mid brown soil.
EA200: Description	255 - [13-Nov-2019]	Mid brown soil.
EA200: Description	256 - [13-Nov-2019]	Mid brown soil.
EA200: Description	257 - [13-Nov-2019]	Mid brown soil.
EA200: Description	258 - [13-Nov-2019]	Mid brown soil.
EA200: Description	259 - [13-Nov-2019]	Mid brown soil.
EA200: Description	260 - [13-Nov-2019]	Mid brown soil.
EA200: Description	31 - [13-Nov-2019]	Mid brown soil.
EA200: Description	32 - [13-Nov-2019]	Mid brown soil.
EA200: Description	33 - [13-Nov-2019]	Mid brown soil.
EA200: Description	FA-00 - [13-Nov-2019]	Mid brown soil containing many fragments of fibrous asbestos fibre board ranging from approximately 2x1x1mm - 25x10x5mm. Plenty of loose asbestos fibre bundles throughout and trace asbestos detected.
EA200: Description	FA-01 - [13-Nov-2019]	Mid brown soil.
EA200: Description	FA-02 - [13-Nov-2019]	Mid brown soil.
EA200: Description	FA-03 - [13-Nov-2019]	Mid brown soil containing several fragments of asbestos cement debris approximately 3x1x1mm and two loose asbestos fibre bundles approximately 50x1x1mm.
EA200: Description	FA-04 - [13-Nov-2019]	Mid brown soil containing one piece of asbestos cement sheeting approximately 12x10x2mm.
EA200: Description	AD01 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD02 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD03 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD04 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD05 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD06 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD07 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD08 - [13-Nov-2019]	Mid brown soil.

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	45	139

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1938506**	Page	: 1 of 20
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Order number	: 6459	Date Analysis Commenced	: 22-Nov-2019
C-O-C number	: ----	Issue Date	: 02-Dec-2019
Sampler	: Z. Bradley		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 82		
No. of samples analysed	: 82		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723550)									
ES1938506-016	977	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	31	33	6.07	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	9	9	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	10	10	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	13	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	0.00	No Limit
ES1938506-026	2006	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	61	55	11.1	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	12	12	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	15	14	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	11	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	14	0.00	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723551)									
ES1938506-036	2017	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	49	41	18.4	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	14.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	12	28.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	15	19.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	19	6.88	No Limit
ES1938506-046	2027	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	28	24	17.1	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	9	9	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723551) - continued									
ES1938506-046	2027	EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	13	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	25	29	12.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	195	192	1.81	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2723564)									
ES1938502-029	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	23	21.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	12	13	8.78	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	10	28.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	12	22.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	29	28	0.00	No Limit
ES1938502-036	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	33	30	7.10	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	18.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	12	8.83	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	19	8.56	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	49	49	0.00	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2723552)									
ES1938506-018	1036	EA055: Moisture Content	----	0.1	%	5.7	6.0	6.65	No Limit
ES1938506-029	2009	EA055: Moisture Content	----	0.1	%	4.7	4.9	4.19	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2723553)									
ES1938506-038	2019	EA055: Moisture Content	----	0.1	%	8.3	7.8	6.61	No Limit
ES1938506-049	2030	EA055: Moisture Content	----	0.1	%	8.3	8.2	0.00	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2723566)									
ES1938502-032	Anonymous	EA055: Moisture Content	----	0.1	%	8.4	8.1	4.53	No Limit
ES1938506-068	D1	EA055: Moisture Content	----	0.1	%	6.2	6.4	2.88	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2727999)									
EM1919890-002	Anonymous	EA055: Moisture Content	----	0.1	%	25.5	26.0	1.82	0% - 20%
ES1938317-001	Anonymous	EA055: Moisture Content	----	0.1	%	47.5	47.4	0.222	0% - 20%
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718396)									
ES1938502-034	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718396) - continued									
ES1938502-034	Anonymous	EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-021	2001	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718399)									
ES1938506-031	2011	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718399) - continued									
ES1938506-031	2011	EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-041	2022	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718410)									
ES1938506-051	2032	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718410) - continued									
ES1938506-051	2032	EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-061	3002	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2718410) - continued									
ES1938506-061	3002	EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718396)									
ES1938502-034	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-021	2001	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718399)									
ES1938506-031	2011	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-041	2022	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718410)									
ES1938506-051	2032	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2718410) - continued									
ES1938506-051	2032	EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES1938506-061	3002	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718503)									
ES1938506-016	977	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718503) - continued									
ES1938506-016	977	EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
ES1938506-026	2006	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718504)									
ES1938506-036	2017	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718504) - continued									
ES1938506-036	2017	EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
ES1938506-046	2027	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718505)									
ES1938506-056	2039	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
ES1938506-071	D4	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 2718505) - continued									
ES1938506-071	D4	EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723550)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	99.1	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.8	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	96.2	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	98.0	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	93.9	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	103	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	105	80.0	122
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723551)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	101	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.1	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	96.6	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	95.3	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	96.1	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	101	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	105	80.0	122
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723564)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	101	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.8	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	99.8	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	94.1	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	97.4	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	105	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	102	80.0	122
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718396)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	79.8	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	78.6	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	66.0	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718396) - continued								
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.1	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.4	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.5	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	97.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	84.5	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718399)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.7	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.9	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	80.2	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.8	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	92.8	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	88.3	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718410)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	96.8	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	65.0	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718410) - continued								
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	103	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	105	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	83.9	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	79.3	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718396)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	78.9	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	80.1	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.3	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	84.6	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	81.9	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	100	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	92.3	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	81.9	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	72.4	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718399)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	77.8	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	62.0	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718399) - continued								
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	96.8	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	80.1	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.1	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	81.7	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	77.5	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.9	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.7	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	84.8	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	65.2	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718410)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.8	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	78.8	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	83.8	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.5	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	82.5	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.1	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	77.3	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	81.1	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	66.7	41.0	123
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718503)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	78.5	54.4	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718503) - continued								
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	75.6	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	78.6	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	76.1	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	76.7	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	79.8	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	75.5	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	84.1	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	70.9	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	91.6	57.4	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	79.2	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	73.7	48.7	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	61.0	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	74.7	53.2	128
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718504)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	92.7	54.4	128
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	73.0	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	87.8	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	72.8	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	77.3	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	78.1	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	80.6	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	95.8	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	92.8	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	97.1	57.4	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	76.5	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	72.2	48.7	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	90.2	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	91.0	53.2	128
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718505)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	68.7	54.4	128
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	81.7	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	69.3	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	87.8	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	71.3	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	68.3	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	75.1	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	75.1	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	74.1	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	84.4	57.4	139

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718505) - continued								
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	72.0	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	76.5	48.7	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	75.4	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	78.5	53.2	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	Recovery Limits (%) High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723550)							
ES1938506-016	977	EG005T: Arsenic	7440-38-2	50 mg/kg	92.5	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	110	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	96.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	95.6	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.8	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.5	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723551)							
ES1938506-036	2017	EG005T: Arsenic	7440-38-2	50 mg/kg	87.8	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	72.7	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	97.3	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	92.5	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.6	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	94.7	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2723564)							
ES1938502-029	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	93.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.6	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	105	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	99.2	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	95.2	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718396)							
ES1938502-034	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	82.5	70.0	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718396) - continued							
ES1938502-034	Anonymous	EP068: Heptachlor	76-44-8	0.5 mg/kg	95.6	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	99.6	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	90.0	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	95.0	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	109	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718399)							
ES1938506-031	2011	EP068: gamma-BHC	58-89-9	0.5 mg/kg	103	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	77.9	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	86.9	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	83.8	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	102	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	82.4	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2718410)							
ES1938506-051	2032	EP068: gamma-BHC	58-89-9	0.5 mg/kg	101	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	80.4	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	83.2	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	83.4	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	79.4	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	88.6	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718396)							
ES1938502-034	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	100	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	89.8	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	107	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	92.6	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	99.9	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718399)							
ES1938506-031	2011	EP068: Diazinon	333-41-5	0.5 mg/kg	83.9	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	78.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	72.6	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	80.4	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	74.6	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2718410)							
ES1938506-051	2032	EP068: Diazinon	333-41-5	0.5 mg/kg	90.1	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	74.5	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	72.4	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	82.4	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	74.2	70.0	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718503)							
ES1938506-016	977	EP202: Mecoprop	93-65-2	0.1 mg/kg	82.8	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	79.8	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	78.0	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	85.1	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	93.8	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	74.1	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	75.2	49.0	149
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718504)							
ES1938506-036	2017	EP202: Mecoprop	93-65-2	0.1 mg/kg	75.5	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	69.5	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	96.5	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	82.0	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	91.0	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	73.0	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	68.1	49.0	149
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 2718505)							
ES1938506-056	2039	EP202: Mecoprop	93-65-2	0.1 mg/kg	65.0	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	68.7	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	80.9	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	70.6	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	66.5	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	65.2	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	62.3	49.0	149

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1938506**	Page	: 1 of 9
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Site	: ----	Issue Date	: 02-Dec-2019
Sampler	: Z. Bradley	No. of samples received	: 82
Order number	: 6459	No. of samples analysed	: 82

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) 977, 985, 1036, 1058, 1088, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2037, 2039, 2040, 2041, 2042, D1, D2, D4, D5, SP1, SP2	**13-Nov-2019**	**----**	----	----	**25-Nov-2019**	27-Nov-2019	✓
Soil Glass Jar - Unpreserved (EA055) 3001, 3002, 3003, D3	**13-Nov-2019**	**----**	----	----	**27-Nov-2019**	27-Nov-2019	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag: Separate bag received (EA200)								
2 - 49,	2 - 50,	**13-Nov-2019**	**----**	----	----	**23-Nov-2019**	11-May-2020	✓
2 - 51,	2 - 52,							
2 - 53,	2 - 54,							
2 - 55,	2 - 56,							
2 - 57,	2 - 58,							
2 - 59,	2 - 60,							
3 - 1,	3 - 2,							
3 - 3,	FA-00,							
FA-01,	FA-02,							
FA-03,	FA-04,							
AD01,	AD02,							
AD03,	AD04,							
AD05,	AD06,							
AD07,	AD08							
EA200N: Asbestos Quantification (non-NATA)								
Snap Lock Bag: Separate bag received (EA200N)								
2 - 49,	2 - 50,	**13-Nov-2019**	**----**	----	----	**23-Nov-2019**	11-May-2020	✓
2 - 51,	2 - 52,							
2 - 53,	2 - 54,							
2 - 55,	2 - 56,							
2 - 57,	2 - 58,							
2 - 59,	2 - 60,							
3 - 1,	3 - 2,							
3 - 3,	FA-00,							
FA-01,	FA-02,							
FA-03,	FA-04,							
AD01,	AD02,							
AD03,	AD04,							
AD05,	AD06,							
AD07,	AD08							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
977,	985,	**13-Nov-2019**	**25-Nov-2019**	11-May-2020	✓	**26-Nov-2019**	11-May-2020	✓
1036,	1058,							
1088,	2001,							
2002,	2003,							
2004,	2005,							
2006,	2007,							
2008,	2009,							
2010,	2011,							
2012,	2013,							
2014,	2015,							
2017,	2018,							
2019,	2020,							
2021,	2022,							
2023,	2024,							
2025,	2026,							
2027,	2028,							
2029,	2030,							
2031,	2032,							
2033,	2034,							
2035,	2037,							
2039,	2040,							
2041,	2042,							
D1,	D2,							
D4,	D5,							
SP1,	SP2							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) 2032, 2033, 2034, 2035, 2037, 2039, 2040, 2041, 2042, 3001, 3002, 3003, D1, D2, D3, D4, D5, SP1, SP2	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**25-Nov-2019**	01-Jan-2020	✓
Soil Glass Jar - Unpreserved (EP068) 977, 985, 1036, 1058, 1088, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**26-Nov-2019**	01-Jan-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) 2032, 2033, 2034, 2035, 2037, 2039, 2040, 2041, 2042, 3001, 3002, 3003, D1, D2, D3, D4, D5, SP1, SP2	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**25-Nov-2019**	01-Jan-2020	✓
Soil Glass Jar - Unpreserved (EP068) 977, 985, 1036, 1058, 1088, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031	**13-Nov-2019**	**22-Nov-2019**	27-Nov-2019	✓	**26-Nov-2019**	01-Jan-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Soil Glass Jar - Unpreserved (EP202) 977, 985, 1036, 1058, 1088, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015	**13-Nov-2019**	**26-Nov-2019**	27-Nov-2019	✓	**26-Nov-2019**	05-Jan-2020	✓
Soil Glass Jar - Unpreserved (EP202) 2039, 2040, 2041, 2042, 3001, 3002, 3003, D1, D2, D3, D4, D5, SP1, SP2	**13-Nov-2019**	**27-Nov-2019**	27-Nov-2019	✓	**27-Nov-2019**	06-Jan-2020	✓
Soil Glass Jar - Unpreserved (EP202) 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2037	**13-Nov-2019**	**27-Nov-2019**	27-Nov-2019	✓	**29-Nov-2019**	06-Jan-2020	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	8	80	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	6	59	**10.17**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	6	54	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	60	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Pesticides by GCMS	EP068	3	59	**5.08**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	3	54	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Pesticides by GCMS	EP068	3	59	**5.08**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	3	54	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Pesticides by GCMS	EP068	3	59	**5.08**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	3	54	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 6.1 and Table 1 (14 day holding time).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM 2013 with Confirmation of Identification by AS 4964 - 2004 Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In house: LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

McMahon EARTH SCIENCE

Chain of Custody

DM McMahon Pty Ltd
PO Box 6118
6 Baines St, Wagga Wagga NSW 2650
Ph: (02) 69 310 510

Turnaround Requirements: ☑ Standard TAT ☐ Non Standard or Urgent TAT (List Due Date):

Analysing Laboratory: ALS -Sydney
Project: CSU Sth - ACM
Order No.: 6459
Project Manager: Zach Bradley
Contact Ph: (02) 69 310 510
Sampling Officer: Z.Bradley
Report Format: Default
Email Reports to: admin@dmmcmahon.com.a
cc: zach@dmmcmahon.com.au
Email Invoice to: admin@dmmcmahon.com.a

Lab Comments:

QUOTE NO.: SY/608/19

COC SEQUENCE NUMBER
COC:
OF: Entry 1 of 10.

Relinquished by: Zach Bradley
Date: 19-11-19
Signature:

Received by:
Date: 17/11
Signature: 20/11/19 1pm

Relinquished by:
Date:
Signature:

Received by:
Date:
Signature:

LAB ID	SAMPLE TYPE	DATE/TIME	MATRIX (ref below)	TYPE & PRESERVATIVE (see codes below)	TOTAL CONTAINERS	EA200F	S-01	S-12	EP202(solids)					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	A	13-15/11/2019	Soil	Glass Jar + Bag	258	X								See Attached
	P + M	13-15/11/2019	Soil	Glass Jar + Bag	75		X	X	X					See Attached
	P	13-15/11/2019	Soil	Glass Jar + Bag	4			X	X					See Attached
					337									

Subcon / Forward Lab: ALL MM
Lab / Analysis: ES1938507 ES1938340
Organised by / Date: ES1938509
Relinquished by / Date:
Compote / Courier: ALS Sydney

Environmental Division
Sydney
Work Order Reference
ES1938506
Telephone : + 61-2-8784 8555

W- Water; S - Soil; Sed - Sediment; Sl - Sludge; A - Air; D - Dust.

P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass. H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SENDING TO ALS-6459

SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
1	1	A	EA200F
1	2	A	EA200F
1	3	A	EA200F
1	4	A	EA200F
1	5	A	EA200F
1	6	A	EA200F
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1	64	A	EA200F

SENDING TO ALS-6459

SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
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4	39	A	EA200F
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9	6	A	EA200F
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125	-	P+M	S-01, S-12, EP202
163	-	P+M	S-01, S-12, EP202
169	-	P+M	S-01, S-12, EP202
203	-	P+M	S-01, S-12, EP202
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626	-	P+M	S-01, S-12, EP202
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866	-	P+M	S-01, S-12, EP202

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21	2001	-	P+M	S-01, S-12, EP202
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23	2003	-	P+M	S-01, S-12, EP202
24	2004	-	P+M	S-01, S-12, EP202
25	2005	-	P+M	S-01, S-12, EP202
26	2006	-	P+M	S-01, S-12, EP202
27	2007	-	P+M	S-01, S-12, EP202
28	2008	-	P+M	S-01, S-12, EP202
29	2009	-	P+M	S-01, S-12, EP202
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31	2011	-	P+M	S-01, S-12, EP202
32	2012	-	P+M	S-01, S-12, EP202
33	2013	-	P+M	S-01, S-12, EP202
34	2014	-	P+M	S-01, S-12, EP202
35	2015	-	P+M	S-01, S-12, EP202
36	2017	-	P+M	S-01, S-12, EP202
37	2018	-	P+M	S-01, S-12, EP202
38	2019	-	P+M	S-01, S-12, EP202
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52	2033	-	P+M	S-01, S-12, EP202
53	2034	-	P+M	S-01, S-12, EP202
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55	2037	-	P+M	S-01, S-12, EP202
56	2039	-	P+M	S-01, S-12, EP202
57	2040	-	P+M	S-01, S-12, EP202
58	2041	-	P+M	S-01, S-12, EP202
59	2042	-	P+M	S-01, S-12, EP202
60	3001	-	P	S-12, EP202
61	3002	-	P	S-12, EP202
62	3003	-	P	S-12, EP202
63	FA-00	-	A	EA200F
64	FA-01	-	A	EA200F
65	FA-02	-	A	EA200F
66	FA-03	-	A	EA200F
67	FA-04	-	A	EA200F
68	D1	-	P+M	S-01, S-12, EP202
69	D2	-	P+M	S-01, S-12, EP202
70	D3	-	P	S-12, EP202
71	D4	-	P+M	S-01, S-12, EP202
72	D5	-	P+M	S-01, S-12, EP202
73	SP1	-	P+M	S-01, S-12, EP202
74	SP2	-	P+M	S-01, S-12, EP202
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81	AD07	-	A	EA200F
82	AD08	-	A	EA200F

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AD09	-	A	EA200F
AD10	-	A	EA200F
AD11	-	A	EA200F
AD12	-	A	EA200F
AS01	-	A	EA200F
AS02	-	A	EA200F
AS03	-	A	EA200F
AS04	-	A	EA200F
AS05	-	A	EA200F
AS06	-	A	EA200F

Notes:

Australian Laboratory Services Pty Ltd
277-289 Woodpark Road, Smithfield NSW Australia
T +61-2-8784 8555 | F +61-2-8784 8500

Tailored Analytical Services & Charges: Soil

Parameter	ALS Code	Technique/ Method Reference	Limit Of Reporting (LOR)	No.	Price per Sample ($)	Total ($)
7 Metals (Incl. Digestion): As, Cd, Cr, Cu, Ni, Pb, Zn	S-01	USEPA 6010, In house	1 - 5 mg/kg, 1 %	40	15.20	608.00
Asbestos Quantitation (FA+AF) in Soil by WA/NEPM Guidelines - Non-NATA	EA200F	AS 4964 - 2004	0.0004 - 0.01 g, 0.001 %, 5 Fibres, 0.1 g/kg, 0.0001 kg	120	56.00	6,720.00
Asbestos Identification in Bulk Solids (Excluding SOILS)	EA200B	AS 4964 - 2004	5 Fibres, 0.1 g/kg, 0.01 g	5	24.00	120.00
OC/OP Pesticides	S-12	USEPA 8270D, In house	0.05 - 0.2 mg/kg, 1 %	3	44.00	132.00
Phenoxyacetic acids	EP202(solids)	In house (LCMS)	0.02 mg/kg	3	60.00	180.00
[illegible]						7,760.00

Administration Charges

An administration fee of $40.00 (excl. GST) is charged per analytical report produced (ie. per ALS work order). Additional administrative charges may apply for subsequent report generation.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1938509**	Page	: 1 of 19
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019 13:00
Order number	: 6459	Date Analysis Commenced	: 23-Nov-2019
C-O-C number	: ----	Issue Date	: 26-Nov-2019 15:56
Sampler	: ----		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 75		
No. of samples analysed	: 75		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alexander Ristoski	Laboratory Technican	Newcastle - Asbestos, Mayfield West, NSW
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3 4	3 5	3 6	3 7	3 8
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-001	ES1938509-002	ES1938509-003	ES1938509-004	ES1938509-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No***	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**Ch + Am**	**-**	**-**	**-**	**-**
Sample weight (dry)	----	0.01	g	**383**	**539**	**571**	**448**	**615**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
APPROVED IDENTIFIER:	----	-	--	**A. RISTOSKI**	**A. RISTOSKI**	**A. RISTOSKI**	**A. RISTOSKI**	**A. RISTOSKI**
EA200N: Asbestos Quantification (non-NATA)								
ø **Asbestos (Fines and Fibrous <7mm)**	1332-21-4	0.0004	g	**0.0126**	<0.0004	<0.0004	<0.0004	<0.0004
ø **Asbestos (Fines and Fibrous FA+AF)**	----	0.001	% (w/w)	**0.003**	<0.001	<0.001	<0.001	<0.001
ø **Weight Used for % Calculation**	----	0.0001	kg	**0.383**	**0.539**	**0.571**	**0.448**	**0.615**
ø **Fibrous Asbestos >7mm**	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3 9	3 10	3 11	3 12	3 13
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-006	ES1938509-007	ES1938509-008	ES1938509-009	ES1938509-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	513	474	488	926	449
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. RISTOSKI	A. RISTOSKI	A. RISTOSKI	A. RISTOSKI	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.513	0.474	0.488	0.926	0.449
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3 14	3 15	3 16	3 17	3 18
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-011	ES1938509-012	ES1938509-013	ES1938509-014	ES1938509-015
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No*
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	Ch + Am + Cr
Sample weight (dry)	----	0.01	g	670	490	382	534	519
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	0.0128
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	0.002
ø Weight Used for % Calculation	----	0.0001	kg	0.670	0.490	0.382	0.534	0.519
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3 19	3 20	3 21	3 22	3 23
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-016	ES1938509-017	ES1938509-018	ES1938509-019	ES1938509-020
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	640	444	525	468	484
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.640	0.444	0.525	0.468	0.484
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3 24	3 25	3 26	3 27	3 28
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-021	ES1938509-022	ES1938509-023	ES1938509-024	ES1938509-025
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	484	566	443	283	310
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.484	0.566	0.443	0.283	0.310
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	3 29	3 30	3 31	3 32	4 1
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-026	ES1938509-027	ES1938509-028	ES1938509-029	ES1938509-030
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	526	291	656	549	433
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	C. OWLER	C. OWLER	C. OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.526	0.291	0.656	0.549	0.433
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 2	4 3	4 4	4 5	4 6
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-031	ES1938509-032	ES1938509-033	ES1938509-034	ES1938509-035
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Sample weight (dry)	----	0.01	g	**484**	**383**	**365**	**431**	**255**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
APPROVED IDENTIFIER:	----	-	--	**C. OWLER**	**C. OWLER**	**C. OWLER**	**A. SMYLIE**	**A. SMYLIE**
EA200N: Asbestos Quantification (non-NATA)								
ø **Asbestos (Fines and Fibrous <7mm)**	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø **Asbestos (Fines and Fibrous FA+AF)**	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø **Weight Used for % Calculation**	----	0.0001	kg	**0.484**	**0.383**	**0.365**	**0.431**	**0.255**
ø **Fibrous Asbestos >7mm**	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 7	4 8	4 9	4 10	4 11
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-036	ES1938509-037	ES1938509-038	ES1938509-039	ES1938509-040
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	504	479	422	418	393
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.504	0.479	0.422	0.418	0.393
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 12	4 13	4 14	4 15	4 16
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-041	ES1938509-042	ES1938509-043	ES1938509-044	ES1938509-045
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	517	388	516	446	461
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.517	0.388	0.516	0.446	0.461
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 17	4 18	4 19	4 20	4 21
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-046	ES1938509-047	ES1938509-048	ES1938509-049	ES1938509-050
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	370	427	465	546	422
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.370	0.427	0.465	0.546	0.422
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 22	4 23	4 24	4 25	4 26
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-051	ES1938509-052	ES1938509-053	ES1938509-054	ES1938509-055
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	543	535	426	499	413
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.543	0.535	0.426	0.499	0.413
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 27	4 28	4 29	4 30	4 31
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-056	ES1938509-057	ES1938509-058	ES1938509-059	ES1938509-060
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	536	536	495	332	504
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE	A.SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.536	0.536	0.495	0.332	0.504
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	4 32	4 33	4 34	4 35	4 36
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-061	ES1938509-062	ES1938509-063	ES1938509-064	ES1938509-065
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	235	448	551	512	384
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.SMYLIE	A.SMYLIE	A.SMYLIE	C.OWLER	C.OWLER
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.235	0.448	0.551	0.512	0.384
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	AD09	AD10	AD11	AD12	AS01
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-066	ES1938509-067	ES1938509-068	ES1938509-069	ES1938509-070
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	227	330	288	205	352
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	A.RISTOSKI
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.227	0.330	0.288	0.205	0.352
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	AS02	AS03	AS04	AS05	AS06
			Client sampling date / time	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]	[13-Nov-2019]
Compound	CAS Number	LOR	Unit	ES1938509-071	ES1938509-072	ES1938509-073	ES1938509-074	ES1938509-075
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	377	267	295	249	280
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A.RISTOSKI	A.RISTOSKI	A.RISTOSKI	A.RISTOSKI	A.RISTOSKI
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg	0.377	0.267	0.295	0.249	0.280
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	34 - [13-Nov-2019]	Mid brown soil containing one fragment of degraded asbestos cement sheeting approximately 10x5x3mm.
EA200: Description	35 - [13-Nov-2019]	Mid brown soil.
EA200: Description	36 - [13-Nov-2019]	Mid brown soil.
EA200: Description	37 - [13-Nov-2019]	Mid brown soil.
EA200: Description	38 - [13-Nov-2019]	Mid brown soil.
EA200: Description	39 - [13-Nov-2019]	Mid brown soil.
EA200: Description	310 - [13-Nov-2019]	Mid brown soil.
EA200: Description	311 - [13-Nov-2019]	Mid brown soil.
EA200: Description	312 - [13-Nov-2019]	Mid brown soil.
EA200: Description	313 - [13-Nov-2019]	Mid brown soil.
EA200: Description	314 - [13-Nov-2019]	Mid brown soil.
EA200: Description	315 - [13-Nov-2019]	Mid brown soil.
EA200: Description	316 - [13-Nov-2019]	Mid brown soil.
EA200: Description	317 - [13-Nov-2019]	Mid brown soil.
EA200: Description	318 - [13-Nov-2019]	Mid brown soil containing one fragment of degraded asbestos cement debris approximately 4x2x1mm.
EA200: Description	319 - [13-Nov-2019]	Mid brown soil.
EA200: Description	320 - [13-Nov-2019]	Mid brown soil.
EA200: Description	321 - [13-Nov-2019]	Mid brown soil.
EA200: Description	322 - [13-Nov-2019]	Mid brown soil.
EA200: Description	323 - [13-Nov-2019]	Mid brown soil.
EA200: Description	324 - [13-Nov-2019]	Mid brown soil.
EA200: Description	325 - [13-Nov-2019]	Mid brown soil.
EA200: Description	326 - [13-Nov-2019]	Mid brown soil.
EA200: Description	327 - [13-Nov-2019]	Mid brown soil.
EA200: Description	328 - [13-Nov-2019]	Mid brown soil.
EA200: Description	329 - [13-Nov-2019]	Mid brown soil.
EA200: Description	330 - [13-Nov-2019]	Mid brown soil.
EA200: Description	331 - [13-Nov-2019]	Mid brown soil.
EA200: Description	332 - [13-Nov-2019]	Mid brown soil.
EA200: Description	41 - [13-Nov-2019]	Mid brown soil.
EA200: Description	42 - [13-Nov-2019]	Mid brown soil.
EA200: Description	43 - [13-Nov-2019]	Mid brown soil.
EA200: Description	44 - [13-Nov-2019]	Mid brown soil.
EA200: Description	45 - [13-Nov-2019]	Mid brown soil.
EA200: Description	46 - [13-Nov-2019]	Mid brown soil.
EA200: Description	47 - [13-Nov-2019]	Mid brown soil.
EA200: Description	48 - [13-Nov-2019]	Mid brown soil.
EA200: Description	49 - [13-Nov-2019]	Mid brown soil.

Sub-Matrix: **SOIL**

Method: Compound	*Client sample ID - Client sampling date / time*	*Analytical Results*
EA200: Description	410 - [13-Nov-2019]	Mid brown soil.
EA200: Description	411 - [13-Nov-2019]	Mid brown soil.
EA200: Description	412 - [13-Nov-2019]	Mid brown soil.
EA200: Description	413 - [13-Nov-2019]	Mid brown soil.
EA200: Description	414 - [13-Nov-2019]	Mid brown soil.
EA200: Description	415 - [13-Nov-2019]	Mid brown soil.
EA200: Description	416 - [13-Nov-2019]	Mid brown soil.
EA200: Description	417 - [13-Nov-2019]	Mid brown soil.
EA200: Description	418 - [13-Nov-2019]	Mid brown soil.
EA200: Description	419 - [13-Nov-2019]	Mid brown soil.
EA200: Description	420 - [13-Nov-2019]	Mid brown soil.
EA200: Description	421 - [13-Nov-2019]	Mid brown soil.
EA200: Description	422 - [13-Nov-2019]	Mid brown soil.
EA200: Description	423 - [13-Nov-2019]	Mid brown soil.
EA200: Description	424 - [13-Nov-2019]	Mid brown soil.
EA200: Description	425 - [13-Nov-2019]	Mid brown soil.
EA200: Description	426 - [13-Nov-2019]	Mid brown soil.
EA200: Description	427 - [13-Nov-2019]	Mid brown soil.
EA200: Description	428 - [13-Nov-2019]	Mid brown soil.
EA200: Description	429 - [13-Nov-2019]	Mid brown soil.
EA200: Description	430 - [13-Nov-2019]	Mid brown soil.
EA200: Description	431 - [13-Nov-2019]	Mid brown soil.
EA200: Description	432 - [13-Nov-2019]	Mid brown soil.
EA200: Description	433 - [13-Nov-2019]	Mid brown soil.
EA200: Description	434 - [13-Nov-2019]	Mid brown soil.
EA200: Description	435 - [13-Nov-2019]	Mid brown soil.
EA200: Description	436 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD09 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD10 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD11 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AD12 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AS01 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AS02 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AS03 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AS04 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AS05 - [13-Nov-2019]	Mid brown soil.
EA200: Description	AS06 - [13-Nov-2019]	Mid brown soil.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1938509**	Page	: 1 of 3
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Contact	: Customer Services ES
Address	: 6 JONES ST Wagga Wagga NSW, AUSTRALIA 2650	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Order number	: 6459	Date Analysis Commenced	: 23-Nov-2019
C-O-C number	: ----	Issue Date	: 26-Nov-2019
Sampler	: ----		
Site	: ----		
Quote number	: SY/608/19		
No. of samples received	: 75		
No. of samples analysed	: 75		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alexander Ristoski	Laboratory Technican	Newcastle - Asbestos, Mayfield West, NSW
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

- **No Method Blank (MB) or Laboratory Control Spike (LCS) Results are required to be reported.**

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1938509**	Page	: 1 of 6
Client	: **DM MCMAHON PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ZACH	Telephone	: +61-2-8784 8555
Project	: CSU Sth - ACM	Date Samples Received	: 20-Nov-2019
Site	: ----	Issue Date	: 26-Nov-2019
Sampler	: ----	No. of samples received	: 75
Order number	: 6459	No. of samples analysed	: 75

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag: Separate bag received (EA200)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils - Continued							
3 - 4, 3 - 5, 3 - 6, 3 - 7, 3 - 8, 3 - 9, 3 - 10, 3 - 11, 3 - 12, 3 - 13, 3 - 14, 3 - 15, 3 - 16, 3 - 17, 3 - 18, 3 - 19, 3 - 20, 3 - 21, 3 - 22, 3 - 23, 3 - 24, 3 - 25, 3 - 26, 3 - 27, 3 - 28, 3 - 29, 3 - 30, 3 - 31, 3 - 32, 4 - 1, 4 - 2, 4 - 3, AD09, 4 - 4, 4 - 5, 4 - 6, 4 - 7, 4 - 8, 4 - 9, 4 - 10, 4 - 11, 4 - 12, 4 - 13, 4 - 14, 4 - 15, 4 - 16, 4 - 17, 4 - 18, 4 - 19, 4 - 20, 4 - 21, 4 - 22, 4 - 23, 4 - 24, 4 - 25, 4 - 26, 4 - 27, 4 - 28, 4 - 29, 4 - 30, 4 - 31, 4 - 32, 4 - 33, 4 - 34, 4 - 35, 4 - 36, AD10, AD11, AD12, AS01, AS02, AS03, AS04, AS05, AS06	**13-Nov-2019**	**----**	----	----	**23-Nov-2019**	11-May-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200N: Asbestos Quantification (non-NATA)							
Snap Lock Bag: Separate bag received (EA200N)							
3 - 4, 3 - 5, 3 - 6, 3 - 7, 3 - 8, 3 - 9, 3 - 10, 3 - 11, 3 - 12, 3 - 13, 3 - 14, 3 - 15, 3 - 16, 3 - 17, 3 - 18, 3 - 19, 3 - 20, 3 - 21, 3 - 22, 3 - 23, 3 - 24, 3 - 25, 3 - 26, 3 - 27, 3 - 28, 3 - 29, 3 - 30, 3 - 31, 3 - 32, 4 - 1, 4 - 2, 4 - 3, AD09, 4 - 4, 4 - 5, 4 - 6, 4 - 7, 4 - 8, 4 - 9, 4 - 10, 4 - 11, 4 - 12, 4 - 13, 4 - 14, 4 - 15, 4 - 16, 4 - 17, 4 - 18, 4 - 19, 4 - 20, 4 - 21, 4 - 22, 4 - 23, 4 - 24, 4 - 25, 4 - 26, 4 - 27, 4 - 28, 4 - 29, 4 - 30, 4 - 31, 4 - 32, 4 - 33, 4 - 34, 4 - 35, 4 - 36, AD10, AD11, AD12, AS01, AS02, AS03, AS04, AS05, AS06	**13-Nov-2019**	**----**	----	----	**23-Nov-2019**	11-May-2020	✓

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM 2013 with Confirmation of Identification by AS 4964 - 2004 Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).

McMahon EARTH SCIENCE

[illegible] Sydney
[illegible] NSW 2090

Relinquished by: Zach Bradley
Date: 19-11-19
Signature:

Received by:
Date:
Signature: 20/11/19 1pm

Relinquished by:
Date:
Signature:

Received by:
Date:
Signature:

Turnaround Requirements: ☑ Standard TAT ☐ Non Standard or Urgent TAT (List Due Date):

Analysing Laboratory: ALS -Sydney
Project: CSU Sth - ACM
Order No.: 6459
Project Manager: Zach Bradley
Contact Ph: (02) 69 310 510
Sampling Officer: Z.Bradley
Report Format: Default
Email Reports to: admin@dmmcmahon.com.a
cc: zach@dmmcmahon.com.au
Email Invoice to: admin@dmmcmahon.com.a

Lab Comments:

QUOTE NO.: SY/608/19

COC SEQUENCE NUMBER

COC:
OF: Esky 1 of 10.

LAB ID	SAMPLE TYPE	DATE/TIME	MATRIX (ref below)	TYPE & PRESERVATIVE (see codes below)	TOTAL CONTAINERS	EA200F	S-01	S-12	EP202(solids)					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	A	13-15/11/2019	Soil	Glass Jar + Bag	258	X								See Attached
	P + M	13-15/11/2019	Soil	Glass Jar + Bag	75		X	X	X					See Attached
	P	13-15/11/2019	Soil	Glass Jar + Bag	4			X	X					See Attached
					337									

Subcon / Forward Lab / Split WO
Lab / Analysis: ES1938502, ES1938502A
Organised By / Date: ES1936340
Relinquished By / Date:
Connote / Courier:
WO No: Asbestos - Newcastle
Attach Re-NO / Internal Sheet:

Environmental Division Sydney
Work Order Reference
ES1938509

Telephone : + 61-2-8784 8555

W- Water; S - Soil; Sed - Sediment; Sl Sludge; A - Air; D - Dust.

P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV - Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
1	1	A	EA200F
1	2	A	EA200F
1	3	A	EA200F
1	4	A	EA200F
1	5	A	EA200F
1	6	A	EA200F
1	7	A	EA200F
1	8	A	EA200F
1	9	A	EA200F
1	10	A	EA200F
1	11	A	EA200F
1	12	A	EA200F
1	13	A	EA200F
1	14	A	EA200F
1	15	A	EA200F
1	16	A	EA200F
1	17	A	EA200F
1	18	A	EA200F
1	19	A	EA200F
1	20	A	EA200F
1	21	A	EA200F
1	22	A	EA200F
1	23	A	EA200F
1	24	A	EA200F
1	25	A	EA200F
1	26	A	EA200F
1	27	A	EA200F
1	28	A	EA200F
1	29	A	EA200F
1	30	A	EA200F
1	31	A	EA200F
1	32	A	EA200F
1	33	A	EA200F
1	34	A	EA200F
1	35	A	EA200F
1	36	A	EA200F
1	37	A	EA200F
1	38	A	EA200F
1	39	A	EA200F
1	40	A	EA200F
1	41	A	EA200F
1	42	A	EA200F
1	43	A	EA200F
1	44	A	EA200F
1	45	A	EA200F
1	46	A	EA200F
1	47	A	EA200F
1	48	A	EA200F
1	49	A	EA200F
1	50	A	EA200F
1	51	A	EA200F
1	52	A	EA200F
1	53	A	EA200F
1	54	A	EA200F
1	55	A	EA200F
1	56	A	EA200F
1	57	A	EA200F
1	58	A	EA200F
1	59	A	EA200F
1	60	A	EA200F
1	61	A	EA200F
1	62	A	EA200F
1	63	A	EA200F
1	64	A	EA200F

SAMPLE	ID	TYPE	ANALYSIS PARAMETERS
4	37	A	EA200F
4	38	A	EA200F
4	39	A	EA200F
5	1	A	EA200F
5	2	A	EA200F
6	1	A	EA200F
6	2	A	EA200F
6	3	A	EA200F
6	4	A	EA200F
6	5	A	EA200F
6	6	A	EA200F
6	7	A	EA200F
6	8	A	EA200F
6	9	A	EA200F
6	10	A	EA200F
6	11	A	EA200F
6	12	A	EA200F
6	13	A	EA200F
6	14	A	EA200F
6	15	A	EA200F
6	16	A	EA200F
6	17	A	EA200F
6	18	A	EA200F
6	19	A	EA200F
6	20	A	EA200F
6	21	A	EA200F
6	22	A	EA200F
6	23	A	EA200F
7	1	A	EA200F
7	2	A	EA200F
7	3	A	EA200F
8	1	A	EA200F
8	2	A	EA200F
9	1	A	EA200F
9	2	A	EA200F
9	3	A	EA200F
9	4	A	EA200F
9	5	A	EA200F
9	6	A	EA200F
42	-	P+M	S-01, S-12, EP202
75	-	P+M	S-01, S-12, EP202
125	-	P+M	S-01, S-12, EP202
163	-	P+M	S-01, S-12, EP202
169	-	P+M	S-01, S-12, EP202
203	-	P+M	S-01, S-12, EP202
247	-	P+M	S-01, S-12, EP202
261	-	P+M	S-01, S-12, EP202
262	-	P+M	S-01, S-12, EP202
294	-	P+M	S-01, S-12, EP202
314	-	P+M	S-01, S-12, EP202
334	-	P+M	S-01, S-12, EP202
347	-	P+M	S-01, S-12, EP202
429	-	P+M	S-01, S-12, EP202
492	-	P+M	S-01, S-12, EP202
542	-	P+M	S-01, S-12, EP202
593	-	P+M	S-01, S-12, EP202
610	-	P+M	S-01, S-12, EP202
626	-	P+M	S-01, S-12, EP202
695	-	P+M	S-01, S-12, EP202
705	-	P+M	S-01, S-12, EP202
706	-	P+M	S-01, S-12, EP202
708	-	P+M	S-01, S-12, EP202
752	-	P+M	S-01, S-12, EP202
866	-	P+M	S-01, S-12, EP202

1	65	A	EA200F
1	66	A	EA200F
1	67	A	EA200F
1	68	A	EA200F
2	1	A	EA200F
2	2	A	EA200F
2	3	A	EA200F
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2	11	A	EA200F
2	12	A	EA200F
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2	58	A	EA200F
2	59	A	EA200F
2	60	A	EA200F
3	1	A	EA200F
3	2	A	EA200F
3	3	A	EA200F

977	-	P+M	S-01, S-12, EP202
985	-	P+M	S-01, S-12, EP202
1036	-	P+M	S-01, S-12, EP202
1058	-	P+M	S-01, S-12, EP202
1088	-	P+M	S-01, S-12, EP202
2001	-	P+M	S-01, S-12, EP202
2002	-	P+M	S-01, S-12, EP202
2003	-	P+M	S-01, S-12, EP202
2004	-	P+M	S-01, S-12, EP202
2005	-	P+M	S-01, S-12, EP202
2006	-	P+M	S-01, S-12, EP202
2007	-	P+M	S-01, S-12, EP202
2008	-	P+M	S-01, S-12, EP202
2009	-	P+M	S-01, S-12, EP202
2010	-	P+M	S-01, S-12, EP202
2011	-	P+M	S-01, S-12, EP202
2012	-	P+M	S-01, S-12, EP202
2013	-	P+M	S-01, S-12, EP202
2014	-	P+M	S-01, S-12, EP202
2015	-	P+M	S-01, S-12, EP202
2017	-	P+M	S-01, S-12, EP202
2018	-	P+M	S-01, S-12, EP202
2019	-	P+M	S-01, S-12, EP202
2020	-	P+M	S-01, S-12, EP202
2021	-	P+M	S-01, S-12, EP202
2022	-	P+M	S-01, S-12, EP202
2023	-	P+M	S-01, S-12, EP202
2024	-	P+M	S-01, S-12, EP202
2025	-	P+M	S-01, S-12, EP202
2026	-	P+M	S-01, S-12, EP202
2027	-	P+M	S-01, S-12, EP202
2028	-	P+M	S-01, S-12, EP202
2029	-	P+M	S-01, S-12, EP202
2030	-	P+M	S-01, S-12, EP202
2031	-	P+M	S-01, S-12, EP202
2032	-	P+M	S-01, S-12, EP202
2033	-	P+M	S-01, S-12, EP202
2034	-	P+M	S-01, S-12, EP202
2035	-	P+M	S-01, S-12, EP202
2037	-	P+M	S-01, S-12, EP202
2039	-	P+M	S-01, S-12, EP202
2040	-	P+M	S-01, S-12, EP202
2041	-	P+M	S-01, S-12, EP202
2042	-	P+M	S-01, S-12, EP202
3001	-	P	S-12, EP202
3002	-	P	S-12, EP202
3003	-	P	S-12, EP202
FA-00	-	A	EA200F
FA-01	-	A	EA200F
FA-02	-	A	EA200F
FA-03	-	A	EA200F
FA-04	-	A	EA200F
D1	-	P+M	S-01, S-12, EP202
D2	-	P+M	S-01, S-12, EP202
D3	-	P	S-12, EP202
D4	-	P+M	S-01, S-12, EP202
D5	-	P+M	S-01, S-12, EP202
SP1	-	P+M	S-01, S-12, EP202
SP2	-	P+M	S-01, S-12, EP202
AD01	-	A	EA200F
AD02	-	A	EA200F
AD03	-	A	EA200F
AD04	-	A	EA200F
AD05	-	A	EA200F
AD06	-	A	EA200F
AD07	-	A	EA200F
AD08	-	A	EA200F

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27	3	30	A	EA200F
28	3	31	A	EA200F
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61	4	32	A	EA200F
62	4	33	A	EA200F
63	4	34	A	EA200F
64	4	35	A	EA200F
65	4	36	A	EA200F

66	AD09	-	A	EA200F
67	AD10	-	A	EA200F
68	AD11	-	A	EA200F
69	AD12	-	A	EA200F
70	AS01	-	A	EA200F
71	AS02	-	A	EA200F
72	AS03	-	A	EA200F
73	AS04	-	A	EA200F
74	AS05	-	A	EA200F
75	AS06	-	A	EA200F

Notes:

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Tailored Analytical Services & Charges: Soil

Parameter	ALS Code	Technique/ Method Reference	Limit Of Reporting (LOR)	No.	Price per Sample ($)	Total ($)
7 Metals (Incl. Digestion): As, Cd, Cr, Cu, Ni, Pb, Zn	S-01	USEPA 6010, In house	1 - 5 mg/kg, 1 %	40	15.20	608.00
Asbestos Quantitation (FA+AF) in Soil by WA/NEPM Guidelines - Non-NATA	EA200F	AS 4964 - 2004	0.0004 - 0.01 g, 0.001 %, 5 Fibres, 0.1 g/kg, 0.0001 kg	120	56.00	6,720.00
Asbestos Identification in Bulk Solids (Excluding SOILS)	EA200B	AS 4964 - 2004	5 Fibres, 0.1 g/kg, 0.01 g	5	24.00	120.00
OC/OP Pesticides	S-12	USEPA 8270D, In house	0.05 - 0.2 mg/kg, 1 %	3	44.00	132.00
Phenoxyacetic acids	EP202(solids)	In house (LCMS)	0.02 mg/kg	3	60.00	180.00
						7,760.00

Administration Charges

An administration fee of $40.00 (excl. GST) is charged per analytical report produced (ie. per ALS work order). Additional administrative charges may apply for subsequent report generation.