Preliminary & Detailed Environmental Site Assessment - 54 Pullen Street, Woolgoolga

12 June 2024

For: Precise Planning

Authored by: Strider Duerinckx

Ref	Ver	Date	Distribution
2324-178-02	A	12/6/24	Client

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1 Introduction

Earth Water Consulting Pty Limited (EWC) was engaged by Precise Planning (the "Client") to undertake a combined Preliminary Environmental Site Assessment and Detailed Environmental Site Assessment (PESA / DESA) for the proposed residential subdivision development at 54 Pullen Street, Woolgoolga (the "Site") (Figure 1).

1.1 Objectives

The objectives of the PESA and DESA are to:

- Investigate the Site history and identify potentially contaminating activities that are currently being performed on the Site or that may have been performed on the Site in the past; and
- Make a preliminary assessment of potential contamination issues for residential development based on the Site history review.

1.2 Suitability to Undertake Works

Strider Duerinckx has project managed and signs off on this investigation. Strider is an environmental geologist with +25 years experience in contaminated sites investigations. Strider is a CEnvP (Site Contamination Specialist) accredited.

2 Proposed Development

Based on plans of the proposed subdivision layout by deGroot & Benson, it is understood that it is proposed to subdivide the subject property into 20 Lots of ~500m^2 -700m^2 as follows in **Table 1** and shown in Figure 2.

Table 1: Property Details

Existing Property	Lot & DP	Existing Size (m^2)	Proposed No. of Lots	Proposed Lot Size (m2)
54 Pullen Street, Woolgoolga	L12 DP1059040	27,902	20	486 – 1,586

3 Scope of Work

This combined PESA and DESA has been undertaken in reference to the relevant sections in the *Consultants Reporting on Contaminated Land* (NSW EPA 2020), and *SEPP2021*.

The assessment included:

- A desktop review of geology soils, topography and historical conditions and activities on the Site including:
    - Historical aerial photographs review (to map change in use over time);

  - NSW EPA contaminated land and POEO notices and records (onsite or offsite contamination presence or significant activities),
  - A search of advertising directories, and databases on significant contaminating activities
  - Historical ownership records; and
  - Review of geology, topography and hydrogeology including groundwater bores (risk of contamination migration); and
- A site walkover of the property to visually assess the current site layout and surface conditions;
- Undertaking a detailed soil sampling and analytical program of the 2,500m^2 proposed residential based on the Areas of Environmental Concern (AEC) and Contaminants of Concern (CoC);
- Collection of 28 samples analysed in 7 composites, 1 background sample and analysis for heavy metals and OCP pesticides;
- Preparation of a Conceptual Site Model (CSM); and
- Presentation of this combined DESA report detailing the results of the desktop review and site walkover, analytical results in comparison to guidelines, and assessment of contamination risks, conclusions regarding the contamination status of the Site in the vicinity of the proposed dwelling, and recommendations for further investigations (if required).

4 Site Description

4.1 Site Identification

The Site is known as Lot 12 DP 1059040 is zoned R2 (Low Density Residential).

4.2 Location and Features

The Site is located in a semi-rural location on the southern side of Pullen Street (Figure 3). The Site inspection was undertaken on 16 May 2024, and observations include:

- The Site slopes radially down to the northwest, north and north east from a central mid slope hill ridge to the north of Pullen Street flanked by gullies draining towards Woolgoolga Creek to the north and alluvial terraces to the north east, from an elevation at between 10-20m to a low point of <10m AHD.
- The majority of the Site is cleared with a scattering of several mature trees across the Site and neat the northwestern corner riparian zone. Offsite trees border sections of the boundary to the north, east, south and west;
- A small relic cattle yard and Galvanised Iron (GI) roofed shed are located in the upper southern portion of the Site;
- No evidence of past contaminating activities, including chemical odour, staining or asbestos containing material;
- The gated entry accessing the Site at the east gully from Pullen ST was extremely wet; and
- The whole Site had been ploughed prior to the Site inspection and detailed investigation.

4.3 Surrounding Land Use

The surrounding land use is detailed in **Table 2**.

Table 2: Surrounding Land use

North	South	East	West
C2 (Environmental Conservation) and W2 (Recreational Waterways).of Woolgoolga CK and R2 properties.	Pullen St and R2 properties.	R2 properties.	R5 (Large Lot Residential) and C2 (Environmental Conservation) riparian zone.

Photographs of site features at the proposed shed are presented below, and locations shown on Figure 2.

Photograph 1 – Looking north along the western boundary to the left towards the northwestern boundary

Photograph 2 – Looking northeast from the southern boundary to the northeastern boundary.

Photograph 3 – Looking southwest from the northeast boundary corner towards the offsite existing lots affronting Pullen St.

Photograph 4 – Looking west along the

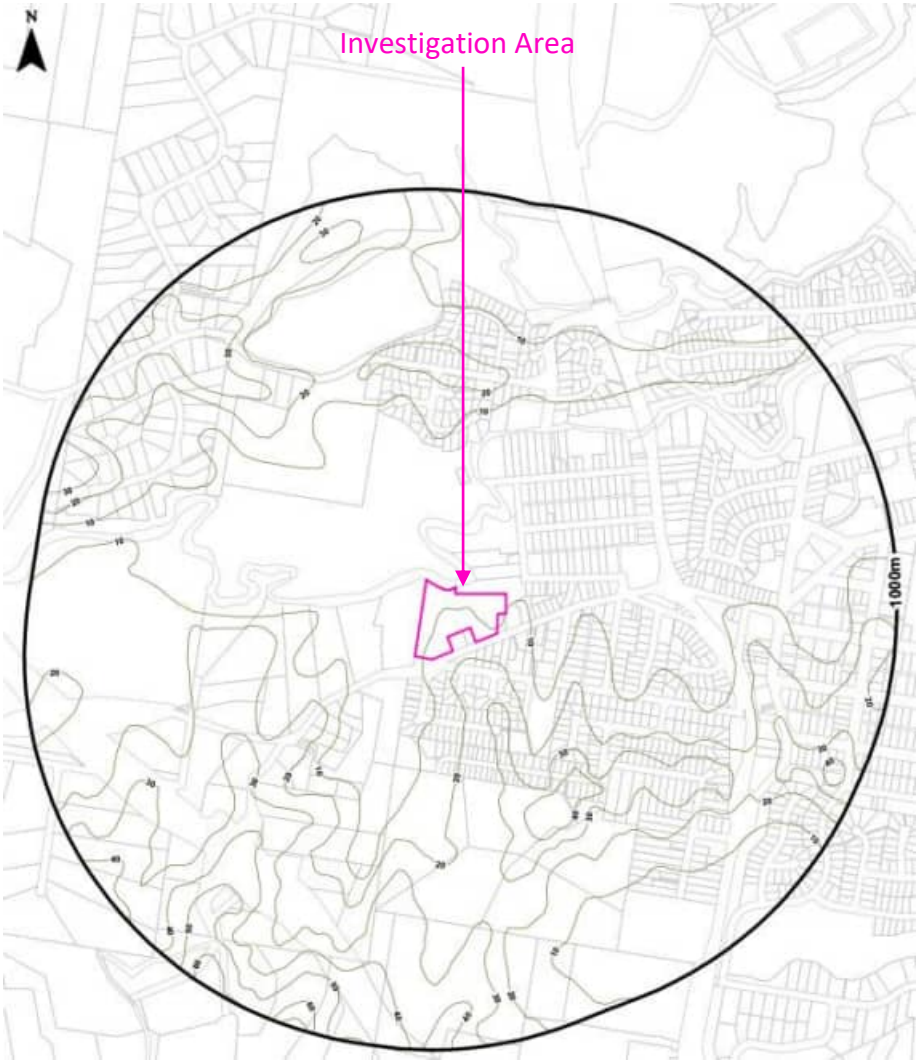
Photograph 5 – Looking south at the cattle yard, loading ramp and small shed.

Photograph 6 – Looking east from the southwest corner upslope towards the existing lot offsite affronting Pullen St.

5 Geology, Hydrogeology and Topography

5.1 Topography

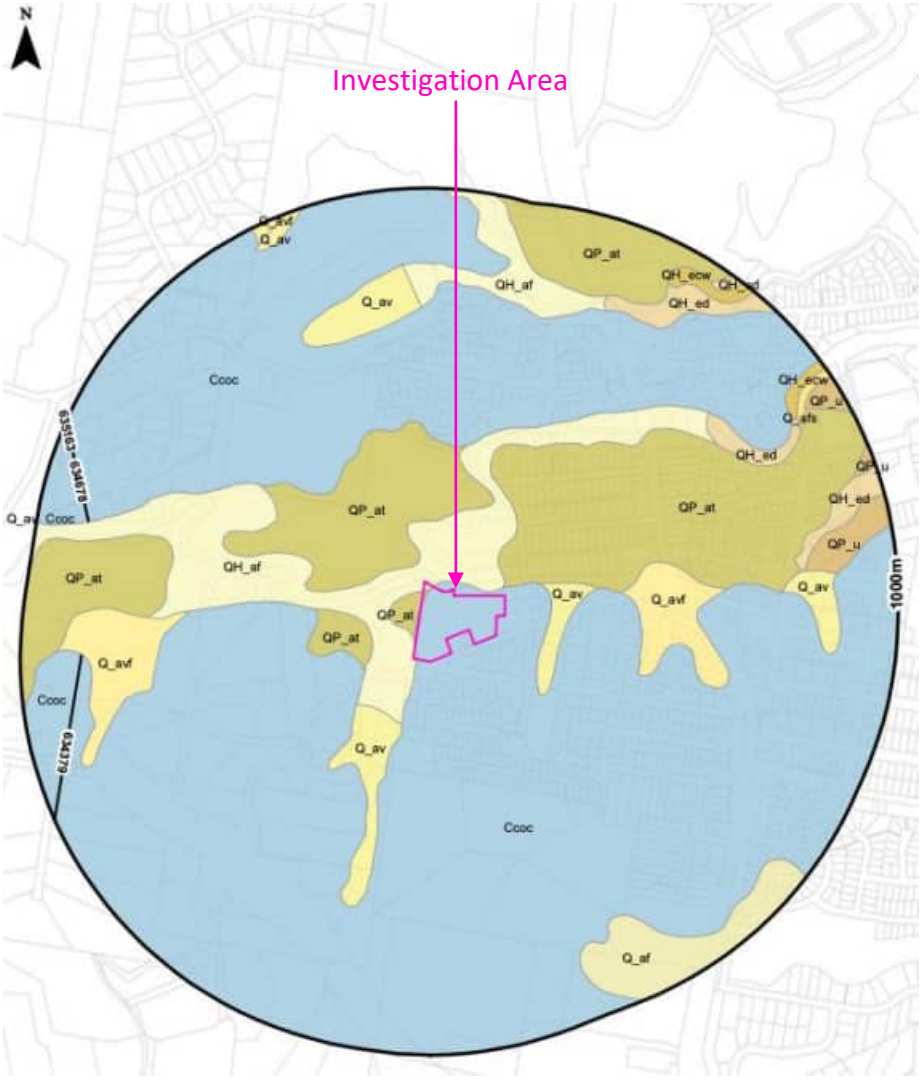
The Site ground surface falls from Pullen Street at approximately between 10-20mAHD radially down the lower slope ridgeline towards an intermittent drainage and neighbouring property to the northwest, to Woolgoolga Creek at approximately <10mAHD to the north and to a low-lying alluvial area to the northeast.



Photograph 7 – Mapped Topography

5.2 Geology

In review of the Lotsearch report (LS056002 EP), which indicates the majority of the Site is underlain by Coramba beds (Ccoc) Tournaisian (base) to Carboniferous (Pennsylvanian-top) aged sandstone-high-stand facies, comprised of Lithofeldspathic wacke, minor siltstone, siliceous siltstone, mudstone, metabasalt, chert and jasper, rare calcareous siltstone and felsic volcanics. Minor low-lying areas along the western boundary and northwestern corner are associated with alluvial floodplain deposits and terrace deposits zones with silt predominating composition.



Photograph 8 – Mapped Geology

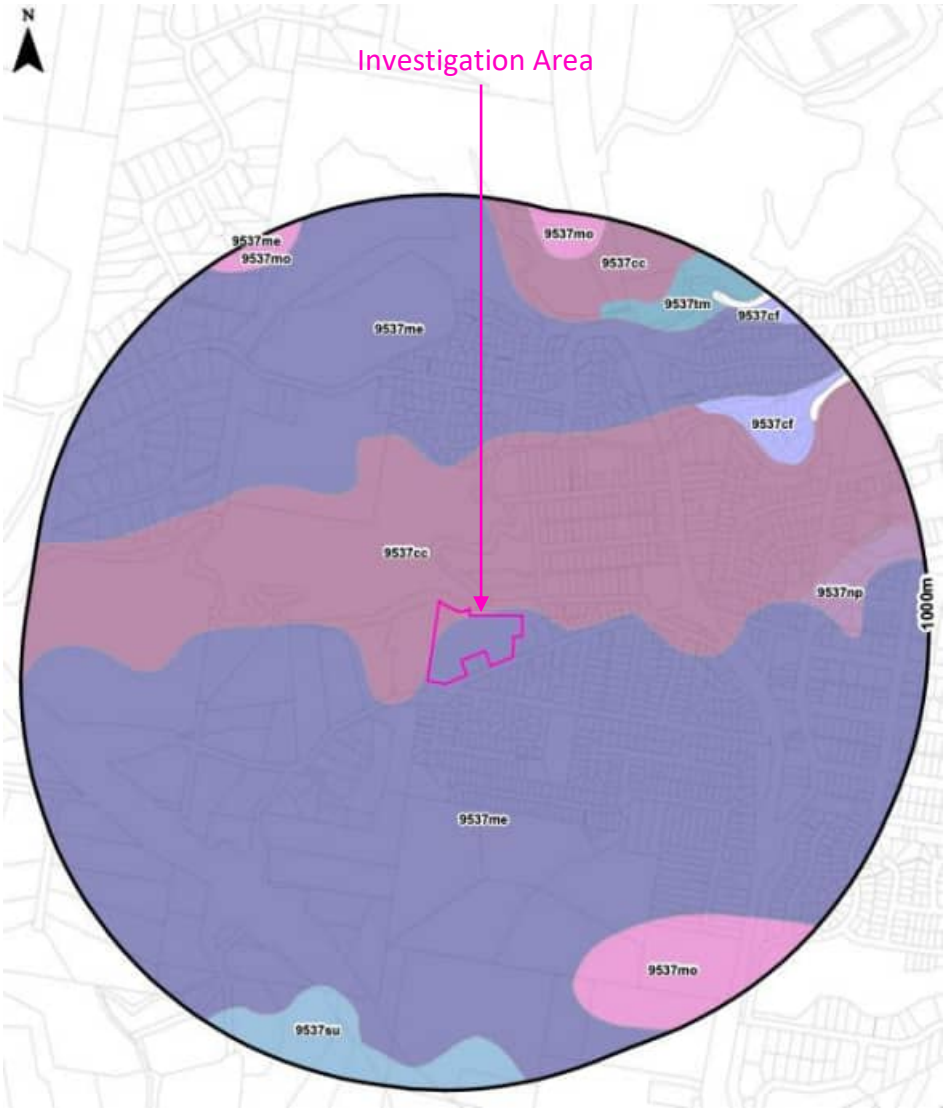
5.3 Soils

According to the Soil Landscapes of Central and Eastern NSW the Site is underlain by the Megan erosional soil landscape (me) across the majority of the Site and the Coffs Creek alluvial landscape (cc) in the low lying riparian areas towards the northwest corner (**Table 3**).

Table 3: Soil Landscapes

Code	Name	Soil Group	Typical Description
me	Megan	Erosional	Landscape - rolling low hills to hills on on Late Carboniferous metasediments of the Coffs Harbour association in the Coast Range and Gleniffer-Bonville Hill Soils – moderately deep to deep (>100 cm), well-drained, structured Red Earths (Gn3.21), Brown Podzolic Soils (Db4.11) and Red Podzolic Soils (Dr2.11).

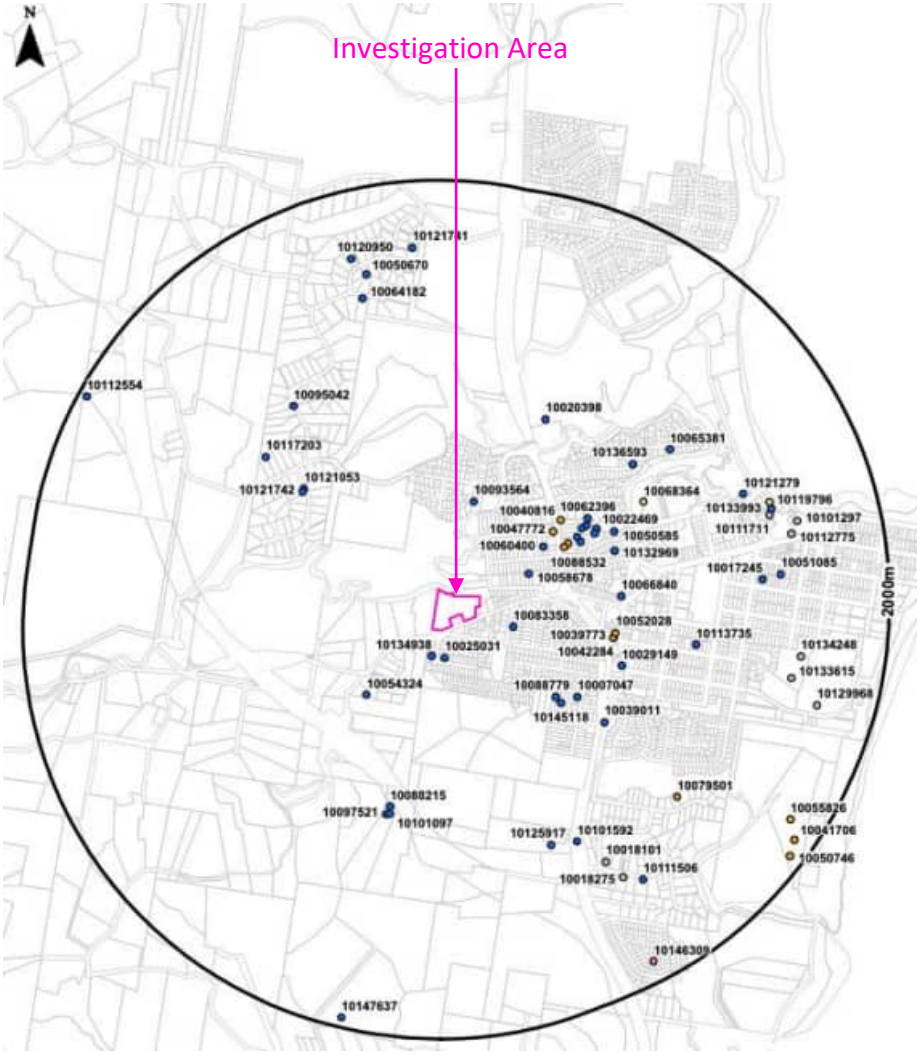
Code	Name	Soil Group	Typical Description
			Limitations - Strongly acid, stony soils with aluminium toxicity potential.
cc	Coffs Creek	Alluvial	Landscape - level to gently undulating floodplains, inset floodplains and terraces on Quaternary alluvium in the lower catchments of coastal streams draining the Gleniffer-Bonville Hills Soils - deep, moderately poorly drained Alluvial Soils (Um4.23, Uc6.11), Yellow Podzolic soils (Dy4.11; Dy4.51; 5.61) and Yellow Earths (Gn2.61) on floodplains. Limitations - strong to very strong acidity (localised) and aluminium toxicity potential (localised).



Photograph 9 – Mapped Soil Landscape

5.4 Hydrogeology

The mapped regional aquifer is fractured or fissured, extensive aquifers of low to moderate productivity. There are several registered groundwater bores within 2000m of the Site. These are registered for mainly water supply and monitoring, and drilled to between 12-120m depth for water supply bores. Monitoring bores to the northwest are for petrol station usage.



Photograph 10 – Mapped Groundwater Bores

6 Site History

In order to provide a detailed desktop review, a search was undertaken of the Lotsearch Pty Ltd environmental database. Aerial photo excerpts from this report are included in Appendix A.

6.1 Previous Environmental Investigations

No previous environmental investigations are known to have been undertaken on the property.

6.2 Aerial Photographs

A review of aerial photographs from 1943-2023 was undertaken, and summarised in Table 4. The aerials are included in Appendix A.

Photograph 11 – 1943 Site Aerial Imagery.

Table 4: Aerial Photograph Review

Year	Site	Surrounding Land
1943	The central and eastern segment of the Site is cleared and cultivated with some form of crop plantings while the western segment extending from Pullen Road to Woolgoolga Ck is vegetated with shrubs and small trees. No structures present on Site.	Substantial land clearing for grazing use in all directions, with riparian vegetation bordering Woolgoolga Creek. A small shed structure near the eastern boundary, and several dwellings in all directions. A cleared sports field to the west.

Year	Site	Surrounding Land
1956	Regrowth and succession of vegetation of the western segment. The central and eastern segment is open pasture.	Construction of several dwellings in the Site vicinity to the south and east, including in the lot north of Pullen ST surrounded by the Site. Evidence of erosive stormwater flows near the NE property corner. An additional cleared sports field to the west.
1964	As per 1956. Regrowth on central segment.	As per 1964. Clearing of forest to the south. Fields
1974	As per 1964.	An intermittent drainage connecting the waterbody to the SW has defined its course adjacent the western property boundary. Subdivision development to the NE.
1984	As per 1974.	Shed structure in allotment north of Pullen St. Further residential subdivision development to the NE. Damming of waterbody to the west.
1994	Complete clearing of western segment vegetation for grazing use. Trees buffering western and NW boundaries. Livestock yard with small shed and concrete pad constructed at southern boundary.	Large residential subdivision development south of Pullen St and infilling of subdivision to the NE.
2001	As per 1994.	Infilling of subdivision to the south.
2011	As per 2001.	As per 2001.
2019	As per 2011.	Subdivision development to the NW, north of Woolgoolga Creek.
2023	As per 2019.	Infilling of subdivision to the NW.

6.3 NSW EPA Records

A search of the NSW EPA's contaminated land record revealed no investigation or remediation notices have been issued on the property or adjacent lots for contamination or 'significant risk of harm' under Section 58 of the Contaminated Land Management Act 1997.

A search of the public register under Section 308 of the Protection of the Environment Operations Act indicated that no current and recently surrendered licenses have been held for potentially contaminating activities on the Site or adjacent lots.

6.4 Other Contaminating Sites

The Site is not listed for Defence sites, former gasworks, PFAS contaminated, loose fill asbestos insulation registered, cattle tick dip, dry cleaners, fire rescue, gas terminals, liquid fuel depots, active mines or quarries, derelict mines, power stations, electrical substations, telephone exchanges, active or historical waste management facilities (landfills) or wastewater treatment facilities, nor are any located in the vicinity.

A BP and United petrol station are located approximately 446m and 470m to the northeast, with a current contaminated land notice for the United petrol station.

6.5 Adjacent Business Operations

A search of published business directories indicates a registered businesses operated at 42 Pullen St, to the east of the Site, engaged in gravel and soil supplies. No other registered or advertising businesses operated from the Site or immediate surrounds from 1950 through 1991.

6.6 Historical ownership

A search of historical owners was undertaken of the Site. These are summarised in Table 5, and the results are included in Appendix B.

Table 5: Historical Ownership

Date	Detail
17.01.1921 (1921 to 1949)	James Martin Johnson (Sawmiller)
19.12.1949 (1949 to 1952)	Allen Taylor and Company Limited
30.06.1952 (1952 to 1953)	Alfred Johnson (Sawmiller)
01.08.1953 (1953 to 1958)	Thomas Searls Johnson (Banana Grower)
21.08.1958 (1958 to 1971)	Joyce Margaret Johnson (Widow) (Section 94 Application – not investigated)
26.07.1971 (1971 to 1980)	Robert John Johnson (Manual Air Mechanic) Richard Johnson (Technician) Anne Margaret Johnson (School Teacher)
13.10.1980 (1980 to 1981)	Robert John Johnson (Manual Air Mechanic) Richard Johnson (Technician) Annette Margaret Johnson (School Teacher) Thomas Alfred Johnson (Log Hauler)
14.07.1981 (1981 to 1985)	Annette Margaret Johnson (School Teacher)
07.02.1985 (1985 to 2005)	Eric Bennett Ina Margaret Bennett
08.12.2005 (2005 to 2023)	Brown Cavallo Pty Limited
28.11.2023 (2023 to current)	PEAC Property Group

6.7 Summary of Site History

Based on the desktop review, the history of the property has identified:

- The central and eastern segment of the Site had been extensively cleared and under some form of crop cultivation (no banana), since at least 1943, with crop production ceasing before 1954 and subsequently used for grazing;
- No dwelling or structures have been present on the current site allotment since 1943, excluding a small lean to shed in the livestock pen;
- No aerial evidence of banana plantations onsite or in the immediate surrounds since at least 1943, possibly limited by excessive soil moisture in the local landscape due to upslope wetlands, however property ownership was by a banana farmer between 1953 to 1958;
- Some regrowth of central segment vegetation up to between 1984 and 1994 with complete clearing of western segment vegetation for grazing use between 1984 and 1994; and
- A livestock yard with small shed and concrete pad constructed at southern boundary between 1984 and 1994.

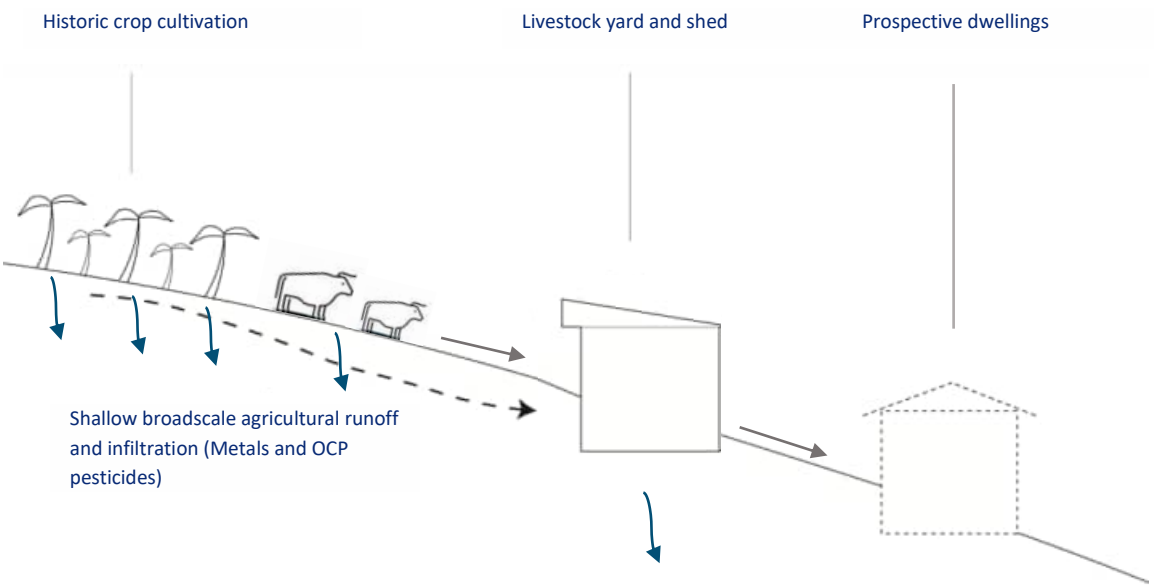
7 Conceptual Site Model

The Conceptual Site Model (CSM) for the proposed development area is presented in **Table 6** and shown in **Photograph 8**.

Table 6: Conceptual Site Model Pathways

Element	Sub-Element	Comment
Mechanism of Contamination		Near surface inorganic and organic contaminants may be present from former farming practices located in the proposed development area. With rainfall, surface runoff could occur downslope.
Potentially Affected Media	Soil	Yes, if contamination is present and disturbed.
	Sediment	Yes, in the newly constructed sediment retention basin after site rotary hoeing disturbances.
	Groundwater	Groundwater is not expected until >20m depth. Groundwater impacts are not expected.
	Surface Water	No
	Indoor	No for the chemicals of concern.
	Ambient Air	No for the chemicals of concern.
Receptors	Human	The primary human receptors are long term residents with soil contact and ingestion.
	Ecological	Minimal future ecological exposure pathways are expected with lawn.

Element	Sub-Element	Comment
		If widespread contamination is present in surface soils, some migration to the downslope drainage could have occurred.
Exposure Pathways	Potential	Given proposed residential usage, future exposure routes are likely soil dermal contact and ingestion, with ingestion a secondary risk.
	Complete	Complete human or environmental exposure routes have not been identified at this time.



Photograph 14 – Conceptual Site Model

8 Potential Areas and Contaminants of Concern

Based on the site history and a walkover, Areas of Environmental Concern (AECs) and associated Contaminants of Concern (CoC) were identified for the Site. These are presented in **Table 7**.

Table 7: Potential AEC and CoC

AEC	Area	Potential Contaminating Activity	CoC	Likelihood of Contamination	Comment
1	Proposed building areas	Allotment area of former broadscale grazing and historical cropping area.	OCP, heavy metals	Low	NSW DEC (2005) Guidelines for Assessing Former Orchards and Market Gardens
Notes **OCP = Organochlorine Pesticides**					

9 Investigation Criteria

The National Environmental Protection (Assessment of Site Contamination) Amendment Measure 1999 was amended in 2013 (NEPC 2013) and has been accepted for use in NSW by the NSW EPA.

NEPM 2013 presents Health based Investigation levels (HIL) for different land uses (e.g., industrial/commercial, residential, recreational open space etc.) as well as provisional Ecological Investigation Levels (EIL), Ecological Screening Levels (ESL), Health Screening Levels (HSL) and Management Limits (ML).

The HILs, HSLs and MLs were developed from significant review of toxicological data and risk assessment modelling undertaken and originally published by the National Environmental Protection Council (NEPC) in the NEPM 1999 document.

"*The HILs are scientifically based, generic assessment criteria to be used in the first stage (Tier 1) of an assessment of potential risks to human health from chronic exposure to contaminants. They are intentionally conservative and are based on a reasonable worst-case scenario*".

"*HILs are investigation or screening levels, and are not clean-up or response levels, nor are they desirable soil quality criteria. They are intended to be used to trigger consideration of an appropriate site-specific risk-based approach or appropriate risk-based management options when they are exceeded*". (NEPC 2013 Schedule B1 p4).

As the Site is proposed for use as residential, the adopted screening/investigation levels for the Site are for "HIL A".

The NEPM 2013 provided revised EIL for common heavy metals including arsenic, chromium III, copper, Lead, nickel, mercury and zinc. The approach for deriving EILs for heavy metals is to combine background concentrations (i.e., naturally occurring) with an added contaminant limit (ACL), that is EIL = background + ACL. Preliminary EILs have been calculated for the Site based on a collected sample of background conditions.

The investigation criteria for the Site are included in the attached summary Tables LR1-LR2.

9.1 HIL Adjustment

The Guidelines for Assessing Former Orchards and Market Gardens contamination (OCP, heavy metal) (NSW EPA, 1997) confirmed that the chemical analysis of a composite sample only provides the average contaminant concentration of its sub-samples. This approach can obscure a sub-sample with a high contaminant concentration (hotspot), by diluting it with concentrations in other sub-samples. The problem of hotspot dilution can be resolved by comparing the analytical results with a set of 'adjusted' HILs. EILs are not adjusted.

The approach for deriving adjusted HILs where background concentration is available: Adjusted HIL = (n-1) x background + unadjusted HIL / n. Where n is the number of sub-samples in each composite sample, background is the estimated local background concentration.

A background sample (B-1) was collected and the calculation undertaken to adjust the HIL. The adjusted HIL is provided in the attached Table LR1 as well as the background sample analytical results.

10 Sampling Plan

The sampling program was developed for the objectives of the investigation and adjusted for sampling soils in cultivated areas for a uniform distribution of contaminants. Given the widespread the low risk of identified contamination, Table 2 of the NSW EPA Sampling Design Guideline (2022) suggests that a minimum of 28 locations be assessed for a development area of 1.8ha.

The NSW DEC (2005) Guideline allows for composite analysis of collected samples, and as such the 28 samples were composited into 7 composites for analysis for the CoCs.

Samples were collected from 0-150mm depth into laboratory supplied jars and shipped under chain of custody arrangements.

11 Data Quality Objectives

In determining the type, quantity and quality of data needed to support decisions relating to the environmental condition of the Site, EWC undertook a seven-step process to develop the DQOs in accordance with NSW EPA (2017). This step-by-step approach defined the criteria for data collection design, including when, where, how many, and how to collect samples or measurements, as well as limits on the tolerable decision error. The DQOs are presented in Table 8.

Table 8. Data Quality Objectives

DQO	Description	Solution
Environmental Problem	Residential redevelopment.	Undertake desktop review and environmental sampling.
Decisions Required	Is the Site suitable for the proposed residential redevelopment?	Historical review, development of CSM and sampling plan for detailed ESA investigations
Inputs Required	Historical information obtained in this investigation. Sampling and analysis and then 95% UCLs assessed to confirm contamination status.	Sampling in accordance with the sampling plan.
Study Boundaries	The boundary of investigation area is the residential development extents.	Figures 1 and 2.

DQO	Description	Solution
Decision Rule	All analytical must be compared to the adopted investigation criteria	The investigation criteria are presented in this report.
	Appropriate field QA/QC techniques should be employed.	Field QA/QC will be considered sufficient if: -All field works are undertaken to industry standards including use of laboratory supplied jars, disposable latex gloves between each sample, equipment decontamination between each sample collection. Field duplicates to be collected at 1in10 samples. RPDs calculated for results X10 the LOR. RPD to be <50%
	Appropriate Laboratory QA/QC techniques and methods are employed	Laboratory QA/QC will be considered sufficient if: -All laboratory analyses are undertaken using NATA registered methods and reports are appropriately signed; -Laboratory quality assurance analyses are undertaken and reported favourably in the analytical reporting. If the analytical results, field QA/QC or laboratory QA/QC do not meet the DQO criteria then additional investigations may be required, or limits placed on the dataset.
Limits on Decision Errors	Statistical analysis of the investigation dataset is required where appropriate	The Site will be deemed suitable for the proposed residential landuse without further investigations or remediation if: • The 95% UCL of the respective contaminants are less than the investigation criteria; or • Any single sample result does not exceed the investigation criteria by 2.5 times. The 95% UCL is the statistical parameter that can also be used to characterise the investigation dataset when comparing to HIL derived criteria. The 95% UCL is based on a 95% probability that the average concentration of contaminants do not exceed the respective adopted validation criteria. The 95% UCL is based on a 5% probability that a Type 1 error has been made whereby a site is validated when it is still contaminated (false negative).
	Field QA/QC should be within acceptable error limits.	No limits.

DQO	Description	Solution
	Laboratory QA/QC should be within acceptable error limits.	Laboratory QA/QC will be considered sufficient if they meet internal laboratory reporting requirements. If the investigation results, field QA/QC or laboratory QA/QC do not meet the DQO criteria then additional investigations may be required, or limits placed on the dataset.
Data Optimisation	The most resource effective sampling and analyses are undertaken to meet the DQOs	Based on the developed CSM composite samples are considered reliable for the former orchard and agricultural portion of the property.

12 Analytical Results

Samples were forwarded to Eurofins for analysis. The analytical results are summarised in the attached Table LR1 and the analytical report is included in Appendix C. Comparison of sample results to the adjusted investigation criteria for residential landuse indicated that:

- Concentrations of OCP pesticides were reported below the laboratory Limit of Reporting (LOR) and investigation criteria for all samples analysed;
- Concentrations of Cadmium and Mercury were reported below the laboratory LOR for all samples analysed; and
- Concentrations of the remaining heavy metals analysed were reported below the adjusted Investigation Criteria for all samples analysed.

13 Quality Assurance and Quality Control

13.1.1 Field Quality Control

Environmental sampling activities were based on industry accepted standard practices.

The sampling equipment was decontaminated between sampling locations by washing with detergent and rinsing with clean water. A new pair of disposable gloves was used when handling each soil sample. Samples were collected in laboratory supplied jars and shipped in a chilled esky to the laboratory.

13.1.2 Laboratory Quality Control

Primary samples were submitted to Eurofins Laboratory, which is a national laboratory that undertakes analyses to NATA accredited analytical methodologies and participates in NATA endorsed laboratory round robin analyses. Laboratory Quality Control included testing and reporting of reagent blanks, laboratory control samples (LCS), matrix spikes and surrogate spikes, and laboratory duplicates to assess laboratory quality control. Triplicate samples were forwarded to ALS Laboratory.

The laboratory quality assurance results are included within the laboratory report attached in Appendix C. No exceptions to the laboratory quality control reportable limits were noted.

13.1.3 Relative Percentage Differences

Field duplicates were collected of discrete samples during the primary sampling regime. Field duplicates are problematic for composite samples due to the averaging process involved. In total 7 composites and 1 field duplicate were analysed.

This equates to a ratio of 1in7, exceeding the DQI of 1in10 samples.

Relative Percentage Difference (RPD) results are presented in Table LR2. Where able to be calculated all RPDs were less than 50%.

13.1.4 Data Quality Check

The quality assurance and quality control of the field and laboratory methods is considered sufficiently robust for the investigation undertaken. Given this it is concluded that the analytical results dataset reliably represents soil concentrations in the field as sampled.

14 Discussion

The history of the Site is of part of a broadscale grazing area since before the 1950's with the low-lying alluvial floodplain areas remaining vegetated and unimpacted since this time. No historic farm shed associated with broadscale agriculture was located on the Site, though a wooden corral and small lean-to suggests some stock grazing or horse agistment has been undertaken. As such the risk of contamination is low source and if present to be located in surface soils.

The site inspection revealed a healthy grass groundcover and ecological impacts are not prevalent.

15 Conclusions and Recommendations

The PESA has identified that the subject property was potentially developed briefly for former market garden and subsequent broadscale agricultural grazing activities from at least 1954.

All samples collected and analysed confirmed no contamination of the investigation area.

Based on the DESA it is confirmed that the Site and investigation area is suitable for the proposed subdivision and residnetial development, and no further environmental works are required.

References

Coffs Harbour City Council. 2017. Contaminated Land Management Policy

Coffs Harbour City Council. 2018. Contaminated Land Management Procedure

Coffs Harbour Local Environmental Plan (2013).

NEPC. (2013). National Environment Protection (Assessment of Site Contamination) Measure. Schedule B1-Schedule B1 Guideline on Investigation Levels For Soil and Groundwater. National Environment Protection Council.

NSW DEC. (2005). *Contaminated sites: guidelines for assessing former orchards and market gardens.* NSW Dept. of Environment and Conservation.

NSW EPA (2020). Consultants Reporting on Contaminated Land. NSW Environment Protection Authority.

NSW EPA (2022). Sampling Design Part 1 and 2. Contaminated Land Guidelines. NSW Environment Protection Authority.

TABLES

Table LR1: Summary of Soil Analytical Results

Sample ID		LOR	Investigation Criteria			B-1	C-1	C-2	C-3	C-4	C-5
Date Collected			NSW EPA	NEPM		16/05/2024					
Type of Sample						Background	Composite				
Depth Collected (m)	Units	Eurofins	BP	HIL (A)	HIL (A) Adj	0-0.15	0-0.15				
% Moisture	%	1	-		-	29	56	44	39	31	36
Heavy Metals											
Arsenic	mg/kg	2	100	100	29.05	5.4	11	9.8	9	17	9.8
Cadmium	mg/kg	0.4	-	20	5.3	< 0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	-	100	-	13	13	17	14	11	15
Copper	mg/kg	5	-	6000	259.75	13	23	31	19	14	26
Lead	mg/kg	5	300	300	93	24	47	50	38	22	38
Mercury	mg/kg	0.1	-	40	3.825	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	-	400	-	< 5	<5	7.5	<5	<5	7.2
Zinc	mg/kg	5	-	7400	1765	20	57	74	36	27	57
Organochlorine Pesticides											
4.4'-DDD	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	mg/kg	0.05	50	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin and Dieldrin (Total)*	mg/kg	0.05	10	6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes - Total	mg/kg	0.1	-	50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	mg/kg	0.05	-	240		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	mg/kg	0.05	-	270		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	mg/kg	0.05	-			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	mg/kg	0.05	-	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	mg/kg	0.05	-	6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	mg/kg	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene (HCB)	mg/kg	0.05	-	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	mg/kg	0.05	-	300		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	mg/kg	0.1	-	20		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes

Indicates sample concentration exceeds investigation criteria value

Indicates sample concentration exceeds investigation criteria value by >250%

Table LR2: Summary of QA/QC Analytical Results

Sample ID	Units	LOR	C-2	Q-8	RPD
Date Collected			16/05/2024		
Depth Collected (m)	Units	Eurofins	0-0.15	0-0.15	
% Moisture	%	1	44	51	NA
Heavy Metals					
Arsenic	mg/kg	2	9.8	16	48
Cadmium	mg/kg	0.4	<0.4	<0.4	NA
Chromium	mg/kg	5	17	15	13
Copper	mg/kg	5	31	28	10
Lead	mg/kg	5	50	63	23
Mercury	mg/kg	0.1	<0.1	<0.1	NA
Nickel	mg/kg	5	7.5	6	22
Zinc	mg/kg	5	74	78	5
Organochlorine Pesticides					
4.4'-DDD	mg/kg	0.05	< 0.05	< 0.05	NA
4.4'-DDE	mg/kg	0.05	< 0.05	< 0.05	NA
4.4'-DDT	mg/kg	0.05	< 0.05	< 0.05	NA
a-BHC	mg/kg	0.05	< 0.05	< 0.05	NA
Aldrin	mg/kg	0.05	< 0.05	< 0.05	NA
Aldrin and Dieldrin (Total)*	mg/kg	0.05	< 0.05	< 0.05	NA
b-BHC	mg/kg	0.05	< 0.05	< 0.05	NA
Chlordanes - Total	mg/kg	0.1	< 0.1	< 0.1	NA
d-BHC	mg/kg	0.05	< 0.05	< 0.05	NA
DDT + DDE + DDD (Total)*	mg/kg	0.05	< 0.05	< 0.05	NA
Dieldrin	mg/kg	0.05	< 0.05	< 0.05	NA
Endosulfan I	mg/kg	0.05	< 0.05	< 0.05	NA
Endosulfan II	mg/kg	0.05	< 0.05	< 0.05	NA
Endosulfan sulphate	mg/kg	0.05	< 0.05	< 0.05	NA
Endrin	mg/kg	0.05	< 0.05	< 0.05	NA
Endrin aldehyde	mg/kg	0.05	< 0.05	< 0.05	NA
Endrin ketone	mg/kg	0.05	< 0.05	< 0.05	NA
g-BHC (Lindane)	mg/kg	0.05	< 0.05	< 0.05	NA
Heptachlor	mg/kg	0.05	< 0.05	< 0.05	NA
Heptachlor epoxide	mg/kg	0.05	< 0.05	< 0.05	NA
Hexachlorobenzene (HCB)	mg/kg	0.05	< 0.05	< 0.05	NA
Methoxychlor	mg/kg	0.05	< 0.05	< 0.05	NA
Toxaphene	mg/kg	0.1	< 0.5	< 0.5	NA

Notes

Indicates sample concentration exceeds RPD 50%

FIGURES

0 80 120 160

Horizontal Scale (metres) 1:4000

EARTH WATER CONSULTING

LEGEND

- Property Boundary
- Contour (10m)
- Drainage Alignment

TITLE: Site Location			PROJECT: DESA for 54 Pullen Street, Woolgoolga		CLIENT: Precise Planning
FIGURE: Figure 1					
SHEET: 1 OF 1	ISSUE: A	AUTHOR: SD	DATE: 5/06/24	SCALE: 1:4000	PROJECT: 2324-178

0 20 30 40

Horizontal Scale (metres) 1:1000

LEGEND

- Property Boundary
- Drainage Alignment
- Proposed Subdivision Boundary

TITLE: Proposed Development Layout			FIGURE: Figure 2
			SHEET: 1 OF1 ISSUE: A
PROJECT: DESA for Lot 12 DP 1059040 54 Pullen Street, Woolgoolga			CLIENT: Precise Planning
AUTHOR: SD	DATE: 5/06/24	SCALE: 1:1000	PROJECT: 2324–178

0 20 30 40

Horizontal Scale (metres) 1:1000

EARTH WATER CONSULTING

LEGEND

- Property Boundary
- Contour Line (1m)
- Drainage Alignment
- Proposed Subdivision Boundary
- Sample Locations

TITLE: Site Layout & Sample Locations			FIGURE: Figure 3
			SHEET: 1 OF 1 ISSUE: A
PROJECT: DESA for Lot 12 DP 1059040 54 Pullen Street, Woolgoolga			CLIENT: Precise Planning
AUTHOR: SD	DATE: 5/06/24	SCALE: 1:1000	PROJECT: 2324-178

APPENDIX A

Aerial Imagery 2023

5 llen ree lglga 25

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 10 May 2024
0 30 60 90 120 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

Aerial Imagery 2019

5 llen ree lglga 25

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 10 May 2024
0 30 60 90 120 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

Aerial Imagery 2017

54 Pullen Street, Woolgoolga, NSW 2456

Aerial Imagery 2013

54 Pullen Street, Woolgoolga, NSW 2456

Aerial Imagery 2011

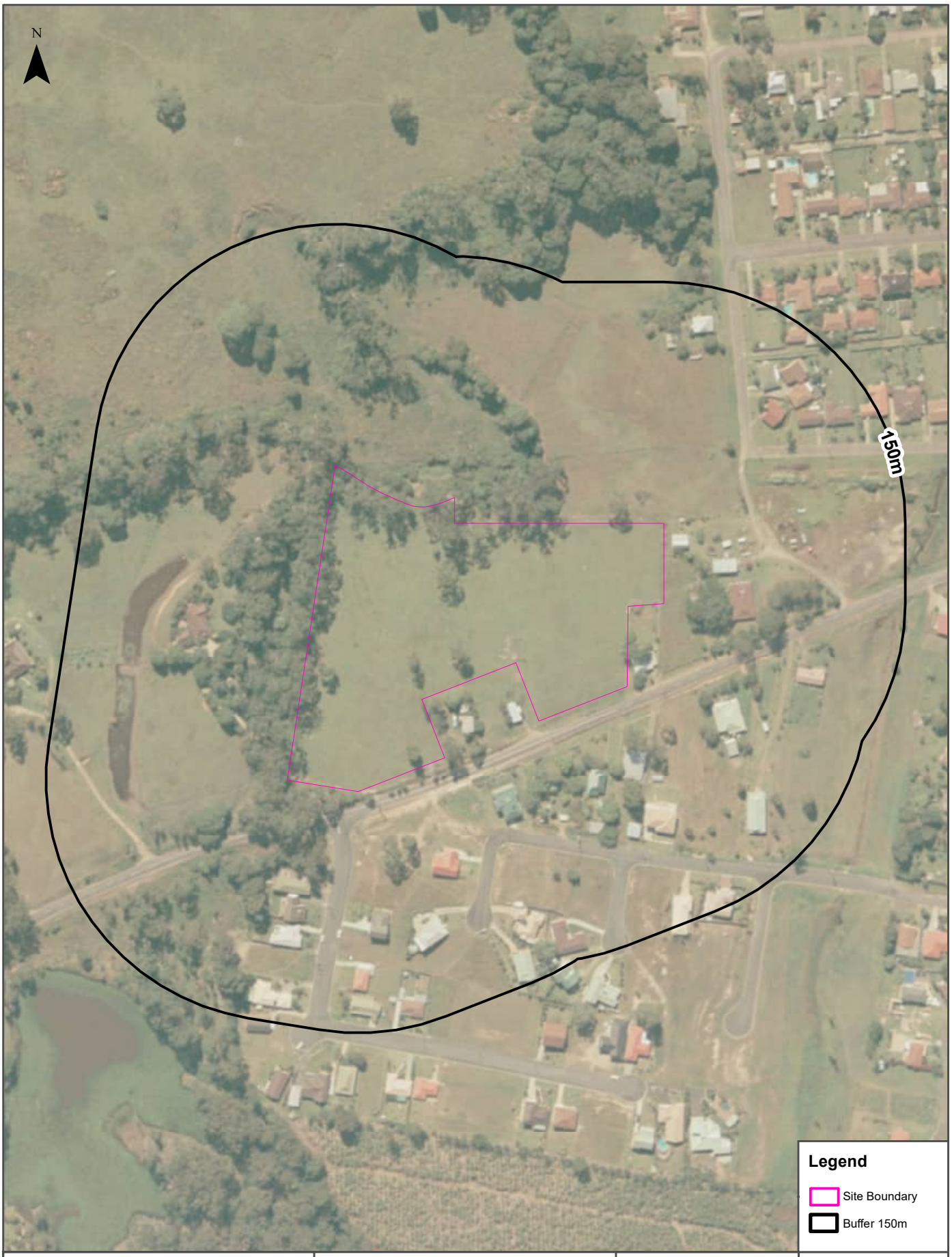
54 Pullen Street, Woolgoolga, NSW 2456

Aerial Imagery 2001

54 Pullen Street, Woolgoolga, NSW 2456

Aerial Imagery 1994

54 Pullen Street, Woolgoolga, NSW 2456



Aerial Imagery 1984

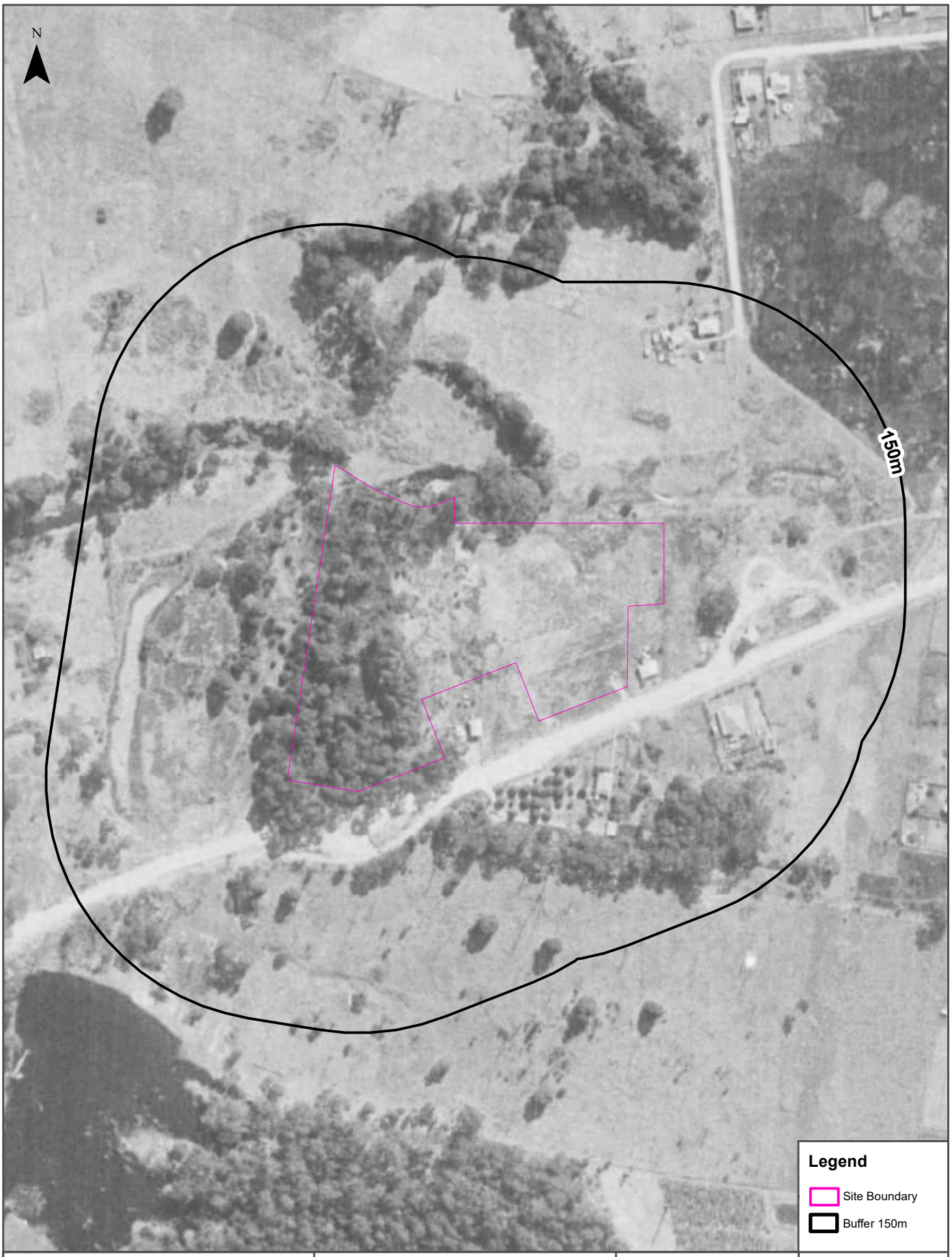
54 Pullen Street, Woolgoolga, NSW 2456

Aerial Imagery 1974

54 Pullen Street, Woolgoolga, NSW 2456

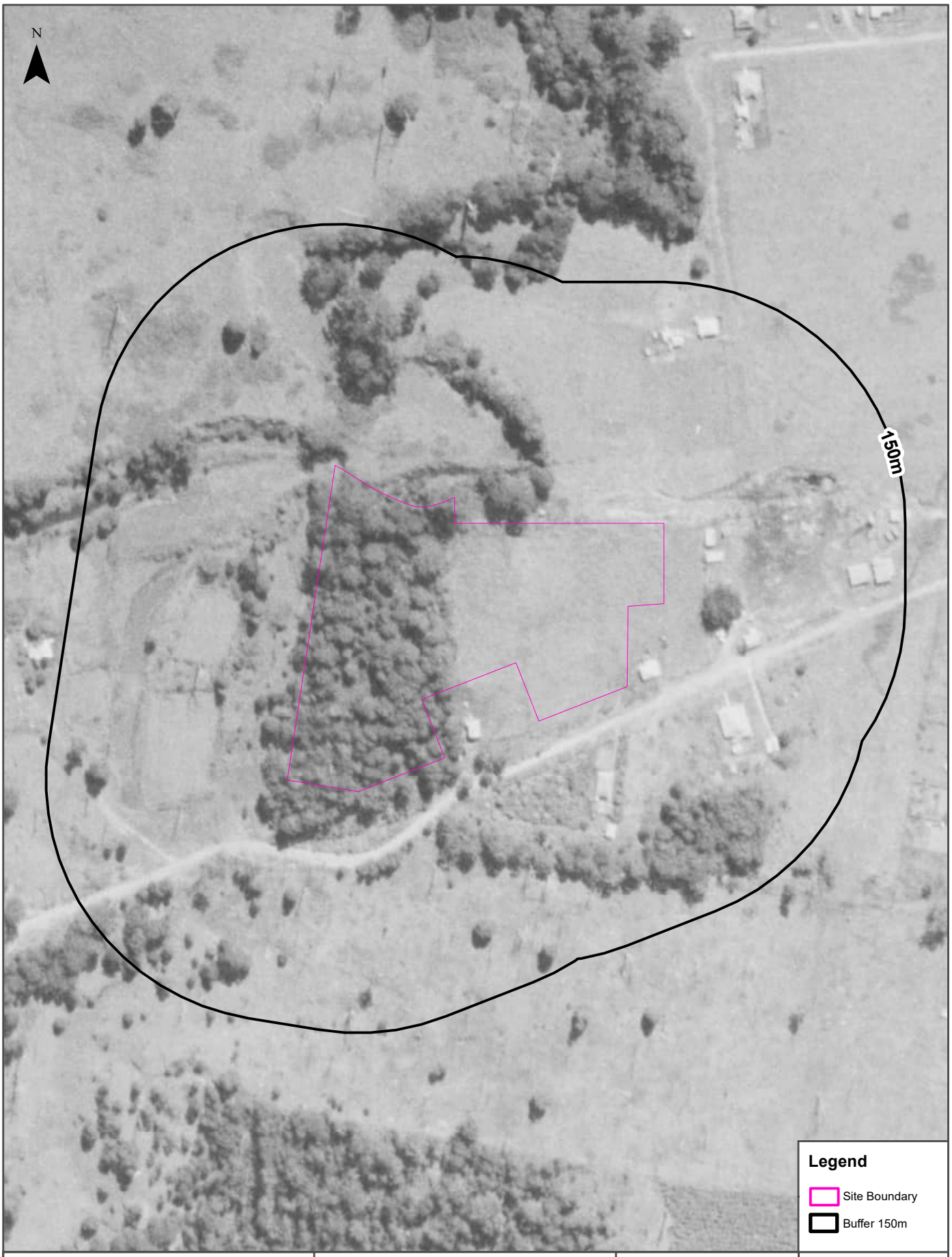
Aerial Imagery 1964

54 Pullen Street, Woolgoolga, NSW 2456



Aerial Imagery 1956

54 Pullen Street, Woolgoolga, NSW 2456



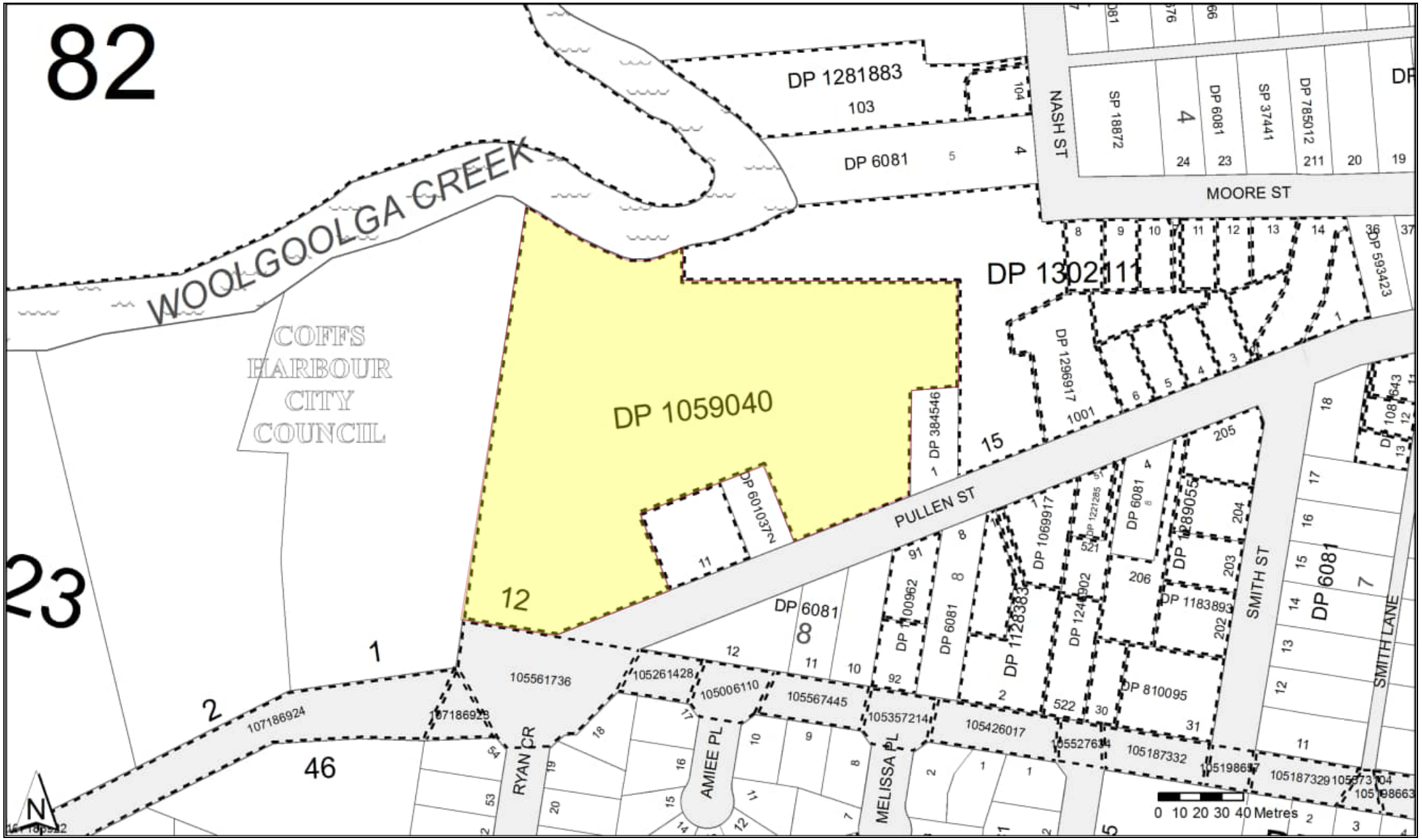
Aerial Imagery 1943

54 Pullen Street, Woolgoolga, NSW 2456

APPENDIX B

Cadastral Records Enquiry Report : Lot 12 DP 1059040

Locality : WOOLGOOLGA
Parish : WOOLGOOLGA
LGA : COFFS HARBOUR
County : FITZROY



This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

PLAN FORM 2

SIGNATURE AND SEALS ONLY

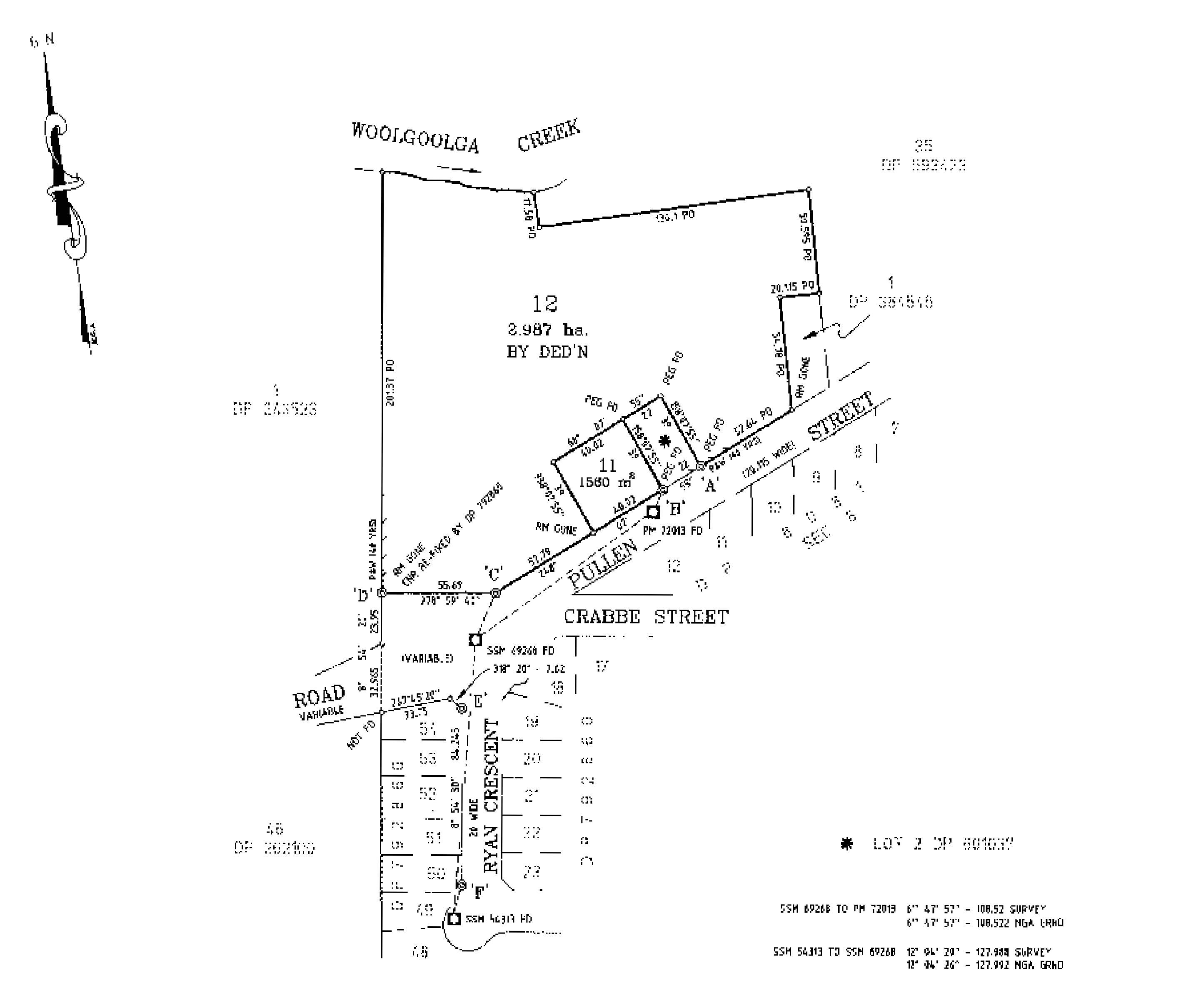
Mortgagee under Mortgage No. ... Signed at Sydney the 14th day of ... by Australia Bank Limited ABN 12 004 044 937 by Fiona Mary FERGUSON its duly constituted Attorney under Power of Attorney Book 4... No ...

Manager

Witness/Bank Officer KYLIE GRIFFITH

255 George Street, Sydney NSW

Plan Drawing only to appear in this space



REFERENCE MARKS

MARK	BEARING	DISTANCE	REMARKS
A	138° 08'	0.5	RMGIP FD (DP 601037)
B	57° 15' 50"	14.635	PM 72013 FD
C	37° 02' 30"	28.575	SSM 69268 FD
D	28° 09'	4.5	DH&W IN CONCRETE HEADWALL
E	278° 55'	3.9 & 16.1	DH&W'S FD IN KERB (DP 792860)
F	278° 55'	3.9 & 16.05	DH&W'S FD IN KERB (DP 792860)
F	26° 39' 40"	14.085	SSM 54313 FD

MAP GRID OF AUSTRALIA CO-ORDINATES

SOURCE S.C.I.M.S. 29-10-2002

MARK	CO-ORDINATES ZONE 56		CLASS	ORDER	CSF
	EASTING	NORTHING			
SSM 54313	517 698.553	6 668 377.724	B	2	0.999602
SSM 69268	517 725.315	6 668 502.831	B	2	0.999601
PM 72013	517 870.917	6 668 594.094	B	2	0.999601

Crown Lands Office Approval

PLAN APPROVED .
Authorised Officer
Land District
Paper No.
Field Book
pages

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to the proposed

SUBDIVISION

(Insert 'subdivision' or 'new road') set out herein

Authorised person/General Manager/Accredited Certifier

Consent Authority : COFFS HARBOUR CITY COUNCIL
Date of endorsement : 30 10 2003
Accreditation No :
Subdivision Certificate No : ... 2003
File No :

Note :
When plan is to be lodged electronically in the Land Titles Office, it should include a signature in an electronic or digital format approved by the Registrar-General

* Delete whichever is inapplicable

SURVEYOR'S REFERENCE 5450 File 2002M7100 11225I Partial Survey

DP1059040

Registered 25-9-2003

C/T: SEE CERTIFICATE

Title System: TORRENS

Purpose: SUBDIVISION

Ref Map: COFFS HARBOUR SHT 18

Last Plan: DP601037 (DP6031*)

PLAN OF SUBDIVISION OF

LOTS 1 & 3 DP 601037

Lengths are in metres Reduction Ratio 1:1500

LGA: COFFS HARBOUR

Locality: WOOLGOOLGA

Parish: WOOLGOOLGA

County: FITZROY

~~This is sheet 1 of my plan in ... sheets~~
(Delete if inapplicable)

Survey Certificate
Surveyors (Practice) Regulation 1996

I, IAN GRAHAM EVISON

of PO BOX 6136 COFFS HARBOUR. 2450

a surveyor registered under the Surveyors Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 2001 and was completed on 6 NOVEMBER 2002

The survey relates to

LOT 11

(here specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey)

Datum Line: SSM 69268 TO PM 72013

Zone: Suburban/~~Country~~

(Signature) ...

Surveyor registered under the Surveyors Act 1929

Plans used in preparation of survey/compilation

DP 601037
DP 792860

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

13821007

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted]L PROPERTY ACT, 1900

Vol. 13821 Fol. 7

Crown Grant Vol.1107 Fol.160

Prior Title Vol.6849 Fol.207

EDITION ISSUED

6 3 1979

13821 Fol. 7

(Page 1) Vol. .....

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

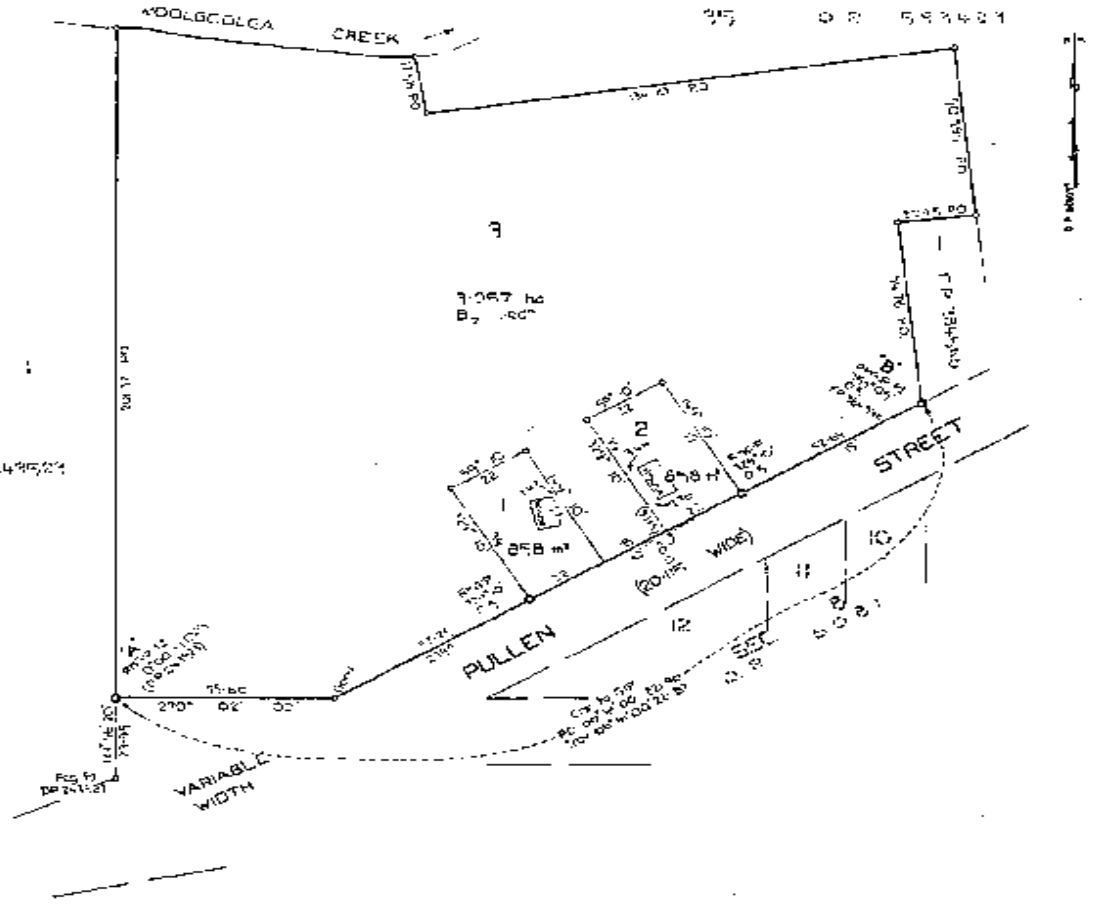
CANCELLED

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 in Deposited Plan 601037 at Woolgoolga in the Shire of Coffs Harbour Parish of Woolgoolga and County of Fitzroy. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~ROBERT JOHN JOHNSON of Nowra, Manual Adv Mechanic, RICHARD JOHNSON of Meadow Bank, Technician and ANNETTE MARGARET JOHNSON of Campsie, School Teacher as tenants in common in equal shares~~.

SECOND SCHEDULE

GRM

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Vol. 13821 Fol. 7

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General
Robert John Johnson of Nowra, Manual Air Mechanic, in ¼ share, Richard Johnson of Gorindi, Technician in ¼ share, Annette Margaret Johnson of Waverley, School Teacher in ¼ share and Thomas Alfred Johnson of Gorindi, Log Hauler in ¼ share, tenancy in common	Transfer	S89952	13-10-1980	
Annette Margaret Johnson by Transfer S574502. Registered 14-7-1981				
Eric Bennett and Ina Margaret Bennett as joint tenants by Transfer V557191. Registered 7-2-1985				

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
S578505 Mortgage to The National Bank of Australasia Limited. Registered 14-7-1981					Discharged	V557190

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
15/5/2024 3:07PM

FOLIO: 3/601037

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 13821 FOL 7

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
13/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
25/9/2003	DP1059040	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

54 Pullen Street

PRINTED ON 15/5/2024

LAND REGISTRY SERVICES Historical Search

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

15/5/2024 3:07PM

FOLIO: 12/1059040

First Title(s): OLD SYSTEM
Prior Title(s): 3/601037

Recorded	Number	Type of Instrument	C.T. Issue
25/9/2003	DP1059040	DEPOSITED PLAN	FOLIO CREATED EDITION 1
8/12/2005	AB971425	TRANSFER	EDITION 2
14/3/2006	AC50145	MORTGAGE	EDITION 3
6/6/2007	AD168501	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	
6/6/2007	AD168502	DISCHARGE OF MORTGAGE	EDITION 4
30/6/2007	AD241872	MORTGAGE	EDITION 5
28/11/2023	AT639993	DISCHARGE OF MORTGAGE	
28/11/2023	AT639994	TRANSFER	EDITION 6

*** END OF SEARCH ***

54 Pullen Street

PRINTED ON 15/5/2024

Form: 01T
Release: 3.0
www.lands.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900

AB971425U

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar-General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

NEW SOUTH WALES DUTY
08-12-2005 0003144552-001
SECTION 18(2)
DUTY $ **********2.00

STAMP DUTY Office of State Revenue use only

(A) **TORRENS TITLE** 12/1059040

(B) **LODGED BY**

Document Collection Box	Name, Address or DX and Telephone	CODES
624H	Leonara Legal 1234567Q Reference:	T TW (Sheriff)

(C) **TRANSFEROR** Eric Bennett and Ina Margaret Bennett
54 Pullen Street, Woolgoolga NSW 2456

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 400,000.00 and as regards

(E) **ESTATE** the land specified above transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED** Whole

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** Brown Cavallo Pty Limited ~~as Trustee for The Cavallo Family Trust~~ (ACN 111 739 103)

(I) **TENANCY**: CLICK & PICK >>>

DATE

(J) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: Stephen Jones
Address of witness: 7 54 Pullen Street Woolgoolga

Certified correct for the purposes of the Real Property Act 1900 by the transferor.

Signature of transferor: E M Bennett
E Bennett

Certified correct for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: Michael John Leonard
Signatory's capacity: Solicitor for the transferee

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.
0507

DEPARTMENT OF LANDS
LAND AND PROPERTY INFORMATION DIVISION

Reg 15

LAND REGISTRY SERVICES

Title Search

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 12/1059040

SEARCH DATE	TIME	EDITION NO	DATE
15/5/2024	3:02 PM	6	28/11/2023

LAND

LOT 12 IN DEPOSITED PLAN 1059040
AT WOOLGOOLGA
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF WOOLGOOLGA COUNTY OF FITZROY
TITLE DIAGRAM DP1059040

FIRST SCHEDULE

PEAC PROPERTY GROUP PTY LTD (T AT639994)

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

APPENDIX C

Earth Water Consulting Pty Limited
2-16 Lourdes Avenue
Urunga
NSW 2455

Attention: **Strider Duerinckx**

Report **1098877-S-V2**
Project name PULLEN ST
Project ID 2324-178
Received Date May 20, 2024

Client Sample ID			**C-1**	**C-2**	**C-3**	**C-4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S24-My0054937**	**S24-My0054942**	**S24-My0054947**	**S24-My0054952**
Date Sampled			**May 16, 2024**	**May 16, 2024**	**May 16, 2024**	**May 16, 2024**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	[Q09]INT	50	51	59
Tetrachloro-m-xylene (surr.)	1	%	59	59	57	64
Heavy Metals						
Arsenic	2	mg/kg	11	9.8	9.0	17
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	17	14	11
Copper	5	mg/kg	23	31	19	14
Lead	5	mg/kg	47	50	38	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	7.5	< 5	< 5
Zinc	5	mg/kg	57	74	36	27

Client Sample ID			C-1	C-2	C-3	C-4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-My0054937	S24-My0054942	S24-My0054947	S24-My0054952
Date Sampled			May 16, 2024	May 16, 2024	May 16, 2024	May 16, 2024
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	56	44	39	31

Client Sample ID			C-5	C-6	C-7	Q-8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-My0054957	S24-My0054962	S24-My0054967	S24-My0054972
Date Sampled			May 16, 2024	May 16, 2024	May 16, 2024	May 16, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	85	57	52	51
Tetrachloro-m-xylene (surr.)	1	%	85	69	70	62
Heavy Metals						
Arsenic	2	mg/kg	9.8	7.6	5.3	16
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	15	16	9.3	15
Copper	5	mg/kg	26	21	14	28
Lead	5	mg/kg	38	62	34	63
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.2	< 5	< 5	6.0
Zinc	5	mg/kg	57	79	34	78
Sample Properties						
% Moisture	1	%	36	31	39	51

Client Sample ID			B-1
Sample Matrix			Soil
Eurofins Sample No.			S24-My0054973
Date Sampled			May 16, 2024
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-HCH	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-HCH	0.05	mg/kg	< 0.05
d-HCH	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	0.5	mg/kg	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	81
Tetrachloro-m-xylene (surr.)	1	%	90
Heavy Metals			
Arsenic	2	mg/kg	5.4
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	13
Copper	5	mg/kg	13
Lead	5	mg/kg	24
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	< 5
Zinc	5	mg/kg	20
Sample Properties			
% Moisture	1	%	29

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides	Sydney	May 27, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	May 27, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	May 20, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Earth Water Consulting Pty Limited
Address: 2-16 Lourdes Avenue
Urunga
NSW 2455

Project Name: PULLEN ST
Project ID: 2324-178

Order No.: 2324-178
Report #: 1098877
Phone: 0402 6083 96
Fax:

Received: May 20, 2024 10:10 PM
Due: May 27, 2024
Priority: 5 Day
Contact Name: Strider Duerinckx

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Organochlorine Pesticides	Metals M8	Moisture Set
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	C-1	May 16, 2024		Soil	S24-My0054937	X	X	X
2	C-2	May 16, 2024		Soil	S24-My0054942	X	X	X
3	C-3	May 16, 2024		Soil	S24-My0054947	X	X	X
4	C-4	May 16, 2024		Soil	S24-My0054952	X	X	X
5	C-5	May 16, 2024		Soil	S24-My0054957	X	X	X
6	C-6	May 16, 2024		Soil	S24-My0054962	X	X	X
7	C-7	May 16, 2024		Soil	S24-My0054967	X	X	X
8	Q-8	May 16, 2024		Soil	S24-My0054972	X	X	X
9	B-1	May 16, 2024		Soil	S24-My0054973	X	X	X
Test Counts						9	9	9

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	99			70-130	Pass	
4.4'-DDD	%	91			70-130	Pass	
4.4'-DDE	%	101			70-130	Pass	
4.4'-DDT	%	100			70-130	Pass	
a-HCH	%	94			70-130	Pass	
Aldrin	%	98			70-130	Pass	
b-HCH	%	93			70-130	Pass	
d-HCH	%	95			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	101			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endosulfan sulphate	%	101			70-130	Pass	
Endrin	%	108			70-130	Pass	
Endrin aldehyde	%	97			70-130	Pass	
Endrin ketone	%	106			70-130	Pass	
g-HCH (Lindane)	%	102			70-130	Pass	
Heptachlor	%	101			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide			%	100			70-130	Pass	
Hexachlorobenzene			%	99			70-130	Pass	
Methoxychlor			%	87			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	114			80-120	Pass	
Cadmium			%	110			80-120	Pass	
Chromium			%	117			80-120	Pass	
Copper			%	115			80-120	Pass	
Lead			%	112			80-120	Pass	
Mercury			%	114			80-120	Pass	
Nickel			%	116			80-120	Pass	
Zinc			%	115			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDT	S24-My0051296	NCP	%	89			70-130	Pass	
Endosulfan sulphate	S24-My0051296	NCP	%	102			70-130	Pass	
Endrin	S24-My0051296	NCP	%	102			70-130	Pass	
Endrin aldehyde	S24-My0051296	NCP	%	109			70-130	Pass	
Endrin ketone	S24-My0051296	NCP	%	115			70-130	Pass	
Heptachlor	S24-My0051296	NCP	%	92			70-130	Pass	
Methoxychlor	S24-My0051296	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	N24-My0053082	NCP	%	88			75-125	Pass	
Cadmium	N24-My0053082	NCP	%	79			75-125	Pass	
Chromium	N24-My0053082	NCP	%	77			75-125	Pass	
Copper	N24-My0053082	NCP	%	88			75-125	Pass	
Lead	N24-My0053082	NCP	%	86			75-125	Pass	
Mercury	N24-My0053082	NCP	%	78			75-125	Pass	
Nickel	N24-My0053082	NCP	%	76			75-125	Pass	
Zinc	N24-My0053082	NCP	%	125			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S24-My0054972	CP	%	75			70-130	Pass	
4.4'-DDD	S24-My0054972	CP	%	71			70-130	Pass	
4.4'-DDE	S24-My0054972	CP	%	77			70-130	Pass	
a-HCH	S24-My0054972	CP	%	76			70-130	Pass	
Aldrin	S24-My0054972	CP	%	74			70-130	Pass	
b-HCH	S24-My0054972	CP	%	73			70-130	Pass	
d-HCH	S24-My0054972	CP	%	78			70-130	Pass	
Dieldrin	S24-My0054972	CP	%	78			70-130	Pass	
Endosulfan I	S24-My0054972	CP	%	79			70-130	Pass	
Endosulfan II	S24-My0054972	CP	%	72			70-130	Pass	
g-HCH (Lindane)	S24-My0054972	CP	%	84			70-130	Pass	
Heptachlor epoxide	S24-My0054972	CP	%	70			70-130	Pass	
Hexachlorobenzene	S24-My0054972	CP	%	78			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S24-My0054947	CP	mg/kg	9.0	10	14	30%	Pass	
Cadmium	S24-My0054947	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S24-My0054947	CP	mg/kg	14	16	14	30%	Pass	
Copper	S24-My0054947	CP	mg/kg	19	22	13	30%	Pass	
Lead	S24-My0054947	CP	mg/kg	38	44	15	30%	Pass	
Mercury	S24-My0054947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S24-My0054947	CP	mg/kg	< 5	5.1	19	30%	Pass	
Zinc	S24-My0054947	CP	mg/kg	36	42	14	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S24-My0054952	CP	mg/kg	17	17	2.0	30%	Pass	
Cadmium	S24-My0054952	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S24-My0054952	CP	mg/kg	11	11	<1	30%	Pass	
Copper	S24-My0054952	CP	mg/kg	14	14	2.0	30%	Pass	
Lead	S24-My0054952	CP	mg/kg	22	22	<1	30%	Pass	
Mercury	S24-My0054952	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S24-My0054952	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S24-My0054952	CP	mg/kg	27	27	2.7	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S24-My0054967	CP	%	39	38	2.3	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S24-My0054972	CP	%	51	35	37	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S24-My0054973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S24-My0054973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S24-My0054973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

V2- new version with amended sample ID on My0054973 that was incorrectly labelled compared to COC.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Andrew Black	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Sample Properties

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

CHAIN OF CUSTODY RECORD

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104 0817

- [x] **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com
- [ ] **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com
- [ ] **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com
- [ ] **Melbourne Laboratory** 2 Kingston Town Close Oakleigh VIC 3166 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 3 / 1A MArina Crescent, Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402808398
Special Directions	
Purchase Order	~~2223-~~ 2324-178
Quote ID №	Earth Water Consulting
Project №	~~2223-~~ 2324-178
Project Name	PULLEN ST
Project Manager	SD
EDD Format (ESdat, EQuIS, etc)	
Sampler(s)	RL
Handed over by	RL
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers: Change container type & size if necessary

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) / Water (W))	COMPOSITE	COMP ID	M8	OCP	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL Vial	500mL PFAS PET	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-1	16.5.24	S	}										✓	
2	S-2	↓	↓	}	C-1	✓	✓							✓	
3	S-3	↓	↓	}										✓	
4	S-4	↓	↓	}										✓	
5	S-5	↓	↓	}										✓	
6	S-6	↓	↓	}	C-2	✓	✓							✓	
7	S-7	↓	↓	}										✓	
8	S-8	↓	↓	}										✓	
9	S-9	↓	↓	}	C-3									✓	
10	S-10	↓	↓	}										✓	
			Total Counts		3	2	2							10	

Required Turnaround Time (Default will be 5 days if not ticked)

*Surcharge will apply

- [ ] Overnight (reporting by 9am)*
- [ ] Same day*
- [ ] 1 day*
- [ ] 2 days*
- [ ] 3 days*
- [x] 5 days (Standard)
- [ ] Other ( )

Method of Shipment	[x] Courier (#)	[ ] Hand Delivered	[ ] Postal	Name	ROB	Signature	[signature]	Date 16.5.24	Time
Eurofins | mgt Laboratory Use Only	Received By	[signature]	(SYD) | BNE | MEL | PER | ADL | NTL | DRW	Signature	[signature]	Date 20/5	Time 10.10	Temperature 19.5
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

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- [x] Sydney Laboratory — Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066, 02 9900 8400, EnviroSampleNSW@eurofins.com
- [ ] Brisbane Laboratory — Unit 1 21 Smallwood Place Murarrie QLD 4172, 07 3902 4600, EnviroSampleQLD@eurofins.com
- [ ] Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105, 08 9251 9600, EnviroSampleWA@eurofins.com
- [ ] Melbourne Laboratory — 6 Monterey Road Dandenong South VIC 3175, 03 8564 5000, EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 6 / 1A Marina Crescent Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402606396
Special Directions	
Purchase Order	~~2223-~~ 2324-178
Quote ID №	Earth Water Consulting
Project №	~~2223-~~ 2324-178
Project Name	PULLEN ST
Project Manager	SD
EDD Format (ESdat, EQuIS etc)	
Sampler(s)	RL
Handed over by	RL
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing.

Containers: Change container type & size if necessary. (500mL Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL Vial, 500mL PFAS Pot, Jar (Glass or HDPE))

Required Turnaround Time (Default will be 5 days if not ticked) — *Surcharge will apply
- [ ] Overnight (reporting by 9am)*
- [ ] Same day*
- [ ] 1 day*
- [ ] 2 days*
- [ ] 3 days*
- [x] 5 days (Standard)
- [ ] Other ( )

№	Client Sample ID	Sampled Date/Time	Matrix (Solid (S), Water (W))	COMPOSITE	COMP ID	M8	OCP	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-11	16-5-24	S	}	C3	✓	✓	✓	
2	S-12	↓	↓	}				✓	
3	S-13	↓	↓	}				✓	
4	S-14	↓	↓	}	C-4	✓	✓	✓	
5	S-15	↓	↓	}				✓	
6	S-16	↓	↓	}				✓	
7	S-17	↓	↓	}				✓	
8	S-18	↓	↓	}	C-5	✓	✓	✓	
9	S-19	↓	↓	}				✓	
10	S-20	↓	↓	}				✓	
			Total Counts		3	3	3	10	

Method of Shipment: [x] Courier (#) [ ] Hand Delivered [ ] Postal — Name: ROB — Signature: [signature] — Date: 16.5.24 — Time:

Eurofins | mgt Laboratory Use Only						
Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Temperature
Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report №

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- [ ] Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105, 08 9251 9600, EnviroSampleWA@eurofins.com
- [ ] Melbourne Laboratory — 2 Kingston Town Close Oakleigh VIC 3166, 03 8564 5000, EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited	Project №	~~2023-~~ 2324-178	Project Manager	SD	Sampler(s)	RL
Address	Unit 8 / 1A Marina Crescent, Gunga NSW 2455	Project Name	PULLEN ST	EDD Format		Handed over by	RL
Contact Name	Strider Duerinckx					Email for Invoice	strider@ewcon.com.au
Phone №	0402808396					Email for Results	strider@ewcon.com.au
Special Directions							
Purchase Order	~~2023-~~ 2324-178						
Quote ID №	Earth Water Consulting						

Required Turnaround Time (Default will be 5 days if not ticked; * Surcharge will apply):
- [ ] Overnight (reporting by 9am)*
- [ ] Same day*
- [ ] 1 day*
- [ ] 2 days*
- [ ] 3 days*
- [x] 5 days (Standard)
- [ ] Other ( )

Analyses: COMPOSITE | COMP ID | M8 | OCP

Containers: 500mL Plastic | 250mL Plastic | 125mL Plastic | 200mL Amber Glass | 40mL Vial | 500mL PFAS PET | Jar (Glass or HDPE)

№	Client Sample ID	Sampled Date/Time	Matrix (Solid (S) Water (W))	COMPOSITE	COMP ID	M8	OCP	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-21	16.5.24	S	}				✓	
2	S-22	↓	↓	}	C-6	✓	✓	✓	
3	S-23	↓	↓	}				✓	
4	S-24	↓	↓	}				✓	
5	S-25	↓	↓	}				✓	
6	S-26	↓	↓	}	C-7	✓	✓	✓	
7	S-27	↓	↓	}				✓	
8	S-28	↓	↓	}				✓	
9	Q-1	↓	↓	}	Q-8	✓	✓	✓	
10	Q-2	↓	↓	}				✓	
			Total Counts		3	3	3	10	

Method of Shipment: [x] Courier (#) [ ] Hand Delivered [ ] Postal — Name: ROB — Signature: [signature] — Date: 16.5.24 — Time:

Eurofins | mgt Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Temperature
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report №

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- [x] **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com
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- [ ] **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com
- [ ] **Melbourne Laboratory** 2 Kingston Town Close Oakleigh VIC 3166 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 3 / 1A MAma Crescent, Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402606396
Special Directions	
Purchase Order	2324-178
Quote ID №	Earth Water Consulting
Project №	2324-178
Project Name	PULLEN ST
Project Manager	SD
EDD Format (ESdat, EQuIS etc)	
Sampler(s)	RL
Handed over by	RL
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing.

Containers: Change to Same type & size if necessary

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix (Solid (S) Water (W))	COMPOSITE	COMP ID	M8	OCP	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL Vial	500mL PFAS PET	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	Q-3	16.5.24	S	}	Q-8									✓	
2	Q-4	↓	↓	}										✓	
3	B-1	↓	↓			/	/							✓	
4															
5															
6															
7															
8															
9															
10															
	Total Counts														

Required Turnaround Time — Default will be 5 days if not ticked

♦Surcharge will apply

- [ ] Overnight (reporting by 9am)♦
- [ ] Same day♦
- [ ] 1 day♦
- [ ] 2 days♦
- [ ] 3 days♦
- [x] 5 days (Standard)
- [ ] Other( )

Method of Shipment: [x] Courier (#) [ ] Hand Delivered [ ] Postal — Name: RoB — Signature: [signature] — Date: 16.5.24 — Time:

Eurofins | mgt Laboratory Use Only					
Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Temperature
Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report №

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