

APPENDIX 1

Gingin Mine Soil Review
Golders Associates 2009



September 2009

Gingin Mine - Soil Review

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REPORT



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Executive Summary

Golder Associates (Golder) was engaged by Cindy Walker of Iluka Resources Pty Ltd to undertake a review of acidic soils data acquired for the Gingin Mine Site. The Gingin mine is situated along the Brand Highway approximately 4 km north-west of Gingin, which is approximately 75 km north of Perth, Western Australia. Mining of mineral sands commenced in mid 2005 and ceased in May 2009. It is expected that closure and rehabilitation will continue until 2010.

The objective of the review is to assess the risk posed by acidic soils at the mine after closure.

Oracle Soils and Land Pty Ltd (Oracle) 2002 defined three soil management units from their review of the soils at the proposed mine site, i.e.

- SMU 1 is described as Yellow/Red coarse sands at elevated topographic positions.
- SMU 2 is described as Pale Grey coarse sands at low topographic positions; and
- SMU 3 is described as Fine to coarse alluvium; stream channels and flood plains.

All soils were interpreted as originating from the adjacent Gingin Scarp and Dandaragan Plateau. They were described as predominantly siliceous in character and were thought to have been deposited by alluvial, fluvial and colluvial processes.

The sampling strategy adopted by Iluka throughout the pre-mining phase for the assessment of the acid generating potential of the soils at Gingin has not been provided in a stand alone document. From a review of the reports and data provided to Golder it was concluded that the soil assessment strategy adopted was suitable for the objectives of the project.

Three phases of soil sampling were undertaken at the mine site between 2003 and 2004, by Environmental Geochemistry International (EGi), Oracle Soil and Land (OSL), and Soil Water Consultants (SWC). The soils from these sampling phases were assessed for the presence of acidity, the presence of acid sulfate soils and a limited number of samples were assessed for their metal content.

Although acid sulfate soils (ASS) were not recorded at the site, acidic soil pHs were recorded across the mine site. The reports from these studies did not provide descriptions of the soils analysed and therefore it was not possible to assess whether all soils types at the site had been assessed for their acid generating potential, and thus whether there was one particular soil that was the source of the acidity. To resolve the soil types, Golder compared the locations of the cores that were sampled for the geochemical assessments to the Iluka mining block model and to soil logs generated during the installation of groundwater monitoring bores across the mine site. The results of this assessment found that, in general, it was likely that most soil units were represented in the sampling and analysis undertaken between 2002 and 2004. Comparing the results of the revised block model and the interpretation of soil management unit (SMU) by Oracle (2002), it can be inferred that where sand is encountered more frequently the soil pH is higher than where clays are the dominant lithology. However, one soil (a mudstone) was unlikely to have been assessed as it was only described in the groundwater bore logs and not in any other report and was therefore not in the Iluka block model. From these groundwater well logs it can be inferred that the mudstone layer dips to the north-east, as it appears to be encountered at depths ranging from 1m (at GS14S&D) to 25 m below surface. The boreholes where the mudstone/shale was intersected include GS11, GS07, GSP4 and GS08, at the southern extent of the mine, GS04, GS15 and GS16 in the centre of the site and GS02 in the northern extent of the site.

Only a small amount of sulfur was detected in soils through the ASS assessments and soil mineralogical assessments undertaken to date. Sulfate in groundwater is thus probably sourced from alternative non-pyrite related sources.



Soils at the Gingin site are generally oxidised and include sands, silts and clays interspersed with gravels, ferruginised sands, ironstone, mudstones and shales and are physically very similar throughout the soil profile.

Comparing the results of the revised block model and the interpretation of soil management units (SMU) by Oracle (2002), it can be inferred that where sand is encountered more frequently the soil pH is higher than where clays are the dominant lithology. It is noted, however, that the mudstone which was recorded at various locations across the site by URS may not have been sampled.

All chemical analysis undertaken to date on the soils at the Gingin Mine have recorded very low sulfur contents (maximum 0.02% S by XRF, 0.01% S by SPOCAS methods) and therefore from these data it cannot be interpreted that there are ASS present. Furthermore, the evidence presented supports the conclusion of all the foregoing soil reports (EGi, 2003, Oracle 2004 and SWC, 2004) that the soils acidity is most probably due to the hydrolysis of Fe and Al bearing clays.

One form of acidity that has not been put forward previously is organic acidity. It is described that the topsoil at the site can contain appreciable organic matter (in excess of 4% TOC). In concert with the observed tannic groundwater, it is likely that both the soils and groundwater at Gingin contain organic acids.

The periodic dewatering in the vicinity of the central wetland area is likely to lead to groundwater level fluctuations and the exposure of the wetland sediments to air. Sediments in the central wetland area are highly likely to contain peaty organic rich soils, which upon exposure to air, could oxidise leading to the release of organic acids. Following the cessation of dewatering, the recovery of groundwater levels could allow these organic acids to enter the groundwater system. Such sporadic release of acidity makes the deconvolution of spatial versus seasonal variability in groundwater composition more complex.

There seems to be a disparity between the results of the chemical analysis and the recommended management of soils at the site. All data collected to date regarding the source of acidity at the site has been interpreted as non-sulfidic acidity. This acidity is retained within the soils and is not being released to the environment. This is supported by pH_{fox} and pH_{KCl} being similar to pH_f , thus indicating that the acidity is not leachable. The existence of rapidly leachable acidity and the recommendation by Soil Water Consultants (2007) that special measures be taken when dealing with such soils is thus not supported.

Acidic regions need special management to maintain their acidic character. Liming is only required to neutralise leachable acidity and the liming rate should be modified to ensure that the pH of soils remains in the acidic range in an effort to limit any change in conditions at the site from the original background levels, as the local ecology is adapted to such conditions.

Groundwater

Alkalinity is highly variable at the site although it can generally be considered to be at levels above 60 mg/l $CaCO_3$ equivalents. Al has been recorded at levels in excess of 1 mg/L in GYP1 and GS21S during license related groundwater monitoring, however, it is not clear from the results provided whether these values are total Al or dissolved Al values. It is important that such information is recorded in future monitoring events. Only limited Al results are available for bores pre-mining and therefore it cannot be determined whether Al was already elevated in these bores prior to the initiation of ground disturbance at the mine.

It is likely that the groundwater composition at the mine site reflects the composition of the soils into which the monitoring bore was constructed. A review of the bore logs for the construction of the groundwater wells did not indicate a substantial variability on soil types and thus did not provide an answer to the question of why some bores, particularly GS10, have lower pH than others at the site. The role of organic acidity should be further investigated at the site as organic acids may play a role in lowering the pH of groundwater across the site. Organic acids may be leaching from trees and shrubs in the catchment area and, therefore, there will be little correlation between groundwater pH and soil type for this type of acidity. The role of organic acids in the pH of groundwater can be assessed by measuring the total mineral acidity by means of the Total Titratable Acidity field testing kit.



Nevertheless, generalisations can be made regarding the groundwater quality at the site over the nine year monitoring period. Average pH over the license monitoring period (2003-2009) for all bores is 6.35 (0.7 standard deviation) and can therefore be considered generally constant. Alkalinity is variable with values between <1 mg/L to 240 mg/L being recorded. Sulfate concentrations were more variable with average values varying up to approximately 300% (166 (324) mg/L). Aluminium was recorded in two bores at levels in excess of the recommended maximum of 1 mg/L and pH of groundwater has been recorded below pH 4. As a consequence, the groundwater composition may be considered potentially toxic to some plant species. This composition may not be a direct result of the mining activities, however, with the limited background data available in regards to metal speciation this cannot be ruled out unequivocally.

It should be noted that the water quality analyses were in some cases undertaken without calculating an ionic balance. Also the pH readings were anomalous for a number of sampling events during operation; Iluka has indicated that the contractor's pH meter wasn't working in some instances.

To better assess the risk of acidification, the source of acidity in any of the low pH water should be further investigated. If the total acidity of any sample collected were to be recorded in together with a determination of the methyl orange acidity field test, the contribution of mineral acidity in the sample could be assessed. Following this assessment, the likelihood of ASS oxidation being the source of lower pH values in some locations could be evaluated.

Surface Water

Based on the limited data provided, it is not possible to fully assess the impacts of the mining activities at the Gingin site on the quality of surface water discharging from streams at the site. It is clear that the southern stream is likely to have been diverted to accommodate mining in the area. Moreover, as a result of mining in the area, the central stream may no longer act as a present day drainage channel.

Significant variation in surface water chemistry is indicated between pre-mining and mining phase monitoring events. These variations, however, are not limited to downstream monitoring locations, with locations upstream of the mining pit being equally variable. The limited data provided for surface water chemistry and inconsistent stream flow data, preclude an assessment of the effect of mining on surface water quality (physical and chemical) from the Gingin mine site area.

Summary

The soil profile at the Gingin site consists of a highly weathered and oxidised, acidic soil profile. The sandstone/siltstone (ferruginous hardpan) which forms the base of the overburden profile is also considered to be the main ore lithology. The basal soils are coloured grey and may bear reduced forms of iron within their matrix. Sulfate salts, apparently unrelated to sulphide minerals, contribute to the soils acidity together with hydrolysed clays within the soil structure. Elevated iron and aluminium in the local groundwater and possibly surface waters is likely to be attributable to clay and sesquioxide hydrolysis. Furthermore, the presence of black to grey mudstones indicate periods of anoxic deposition at the site and it is possible that pyrite may be present in these mudstone as a consequence.

The area known as the central wetland may contribute acidity through the release of organic acids. Sulfides may also be present in the peaty soils which are commonly found in wetland areas. The oxidation of these sulfides may thus produce sulfuric acid during dewatering where if peat dries out an oxygen ingress occurs. When groundwater levels return to their pre-dewatering levels the released acidity is dissolved in the groundwater and could potentially cause the mobilisation of metals and nutrients from surrounding soils through the lowering of pH.

Although the groundwater which flows through the soil profile is of varying composition, it is generally sufficiently alkaline to buffer the measured acidity. From a risk perspective; the probability of metal mobilisation from soils due to acidic groundwater is therefore limited.

RECOMMENDATIONS

The following recommendations are made to improve the level of certainty regarding risk management for Acid Sulfate Soils at the Gingin mine site:



GINGIN MINE - SOIL REVIEW

- The block model should be updated to include all boreholes that have been drilled across the site for all stages of the project (groundwater well log details should also be included). This will aid in the development of a sampling and analysis plan for future sampling of the soils at the site for closure purposes.
- A review of the quality control and quality assurance data associated with all ground and surface water data acquired to date should be undertaken. This will improve the confidence in the data already acquired, and consequently monitoring periods may be reduced through the use of existing data.
- Field testing should consider the following:
 - Include a test for total titratable acidity, using a suitable field kit, as part of the groundwater and surface water licence monitoring programme. This test will provide an indication of the source of the acidity in the groundwater with respect to its mineral or organic origin.
 - Record whether water quality analysis are conducted on filtered (using a 0.45µm filter as standard) or unfiltered samples and whether metal samples are acidified. This is important to understand metal speciation and toxicity and to ensure that correct sample preparation procedures were implemented.

In order to provide details on sampling methodology including quality control measures required, it is recommended that sampling of any soil or water should be undertaken in accordance with the relevant Australian Standard (Water quality sampling – AS/NZ 5667.1:1998 for sampling Soils, AS 4482:1-2005). Guidance should also be taken from the recently released DEC guidance on sampling for ASS: Western Australian Government, Department of Environment and Conservation “Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes” May 2009. In accordance with these guidelines, the following analytical parameters should be analysed, which requires additional analyses to those already specified in Table 7:

- Total: acidity, alkalinity, pH, sulfate, chloride, ammoniacal nitrogen, EC, TDS, DO, redox potential, total nitrogen, total phosphorous, filterable reactive phosphorous (FRP);
- Filtered and acidified sample: Al, As, Cr, Cd, Fe, Mn, Ni, Zn, Se.

Consideration should also be given to ARD sampling and analysis strategies detailed in:

- Australian Government, Department of Industry, Tourism and Resources, Managing Acid and Metalliferous Drainage, February 2007.

Based on the available data, it is not recommended to lime soils at the mine site as the acidity recorded is not leachable and there is available alkalinity in the groundwater in quantities deemed sufficient to neutralise any potential acid generation. Management procedures developed for the site should take into consideration that soil at the site was acidic prior to the initiation of ground disturbing activities and thus should remain so following the cessation of these works. However, as mentioned above, it is necessary to assess the wetland soils and the mudstone lithology before this conclusion can be generally applied.



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Limitations



1.0 INTRODUCTION

Golder Associates (Golder) was engaged by Cindy Walker of Iluka Resources Pty Ltd to undertake a review of acidic soils data acquired for the Gingin Mine Site. The Gingin mine is situated along the Brand Highway approximately 75 km north of Perth. Mining of mineral sands commenced in mid 2005 and ceased in May 2009. It is expected that closure and rehabilitation will continue until 2010.

In this report the following reports were provided by Iluka and reviewed by Golder:

- Oracle Soil and Land Pty Ltd 2002, Pre-mining Soil Survey and Characterisation in the Proposed Gingin Mine site – Final Project Report.
- Soil Water Consultants 2007, Review of Acidic Soil Studies Conducted at the Gingin Mine site, Final Report.
- Iluka Resources Ltd 2007, Water Resources Management Plan, Gingin Mineral Sands Project.

The following data was also provided by Iluka:

- Groundwater analytical results (Excel file).
- Groundwater well locations (Shape file).
- Surface water analytical results (Excel file).
- Details of soil bore locations – for selected boreholes (Excel file).
- Landgate image of the extent of the mine site.
- Figure depicting the location of the Central Wetland.
- Block model of mine (Data mine).
- File for transformation of co-ordinates in block model (Excel file).
- Borehole logs for groundwater wells extracted from URS report on the Gingin deposit-Impacts of Mining on Shallow Groundwater Resources (PDF).

1.1 Objectives

The objective of the review is to assess the risk posed by acidic soils at the mine site with respect to the closure of the mine in the future.

1.2 Scope of Works

- Desktop study and analysis to evaluate the extent of Acidic Soils at the Gingin Mine site based on the geological database, Total Sulfur tests completed on HMC during mining, previous work on Acid Sulfate Soils (ASS), soil studies as well as groundwater abstraction, groundwater and surface water quality monitoring.
- Detailed geological interpretation of the area, with specific reference to the unconsolidated profile, including, but not limited to, a detailed discussion of the probability of acid sulfate soils forming in this specific environment. Previous studies need to be considered and where relevant, data should be re-assessed and previous interpretations discussed.
- Provide a recommended monitoring program for the Closure Phase of the Gingin Mine site, to ensure impacts of acidic soils in groundwater and surface water systems continue to be monitored and managed appropriately following cessation of mining activities.



1.3 Background – Acid Sulfate Soils

Acid Sulfate Soil (ASS) is a general term applying to both a soil horizon that contains sulfides (i.e. Potential Acid Sulfate Soil - PASS) and an acid soil horizon affected by oxidation of sulfides (i.e. Actual Acid Sulfate Soil - AASS).

ASS are those soils that contain reduced inorganic pyrite that when oxidised, either by exposure to air through excavation or by exposure to air during water level changes occurring as part of dewatering, can leach sulfuric acid. This poses a risk to the environment due to the increased acidity of soil and groundwater and can result in the mobilisation of heavy metals in groundwater. Increased acidity can also lead to corrosive conditions and reduce the life of buried concrete and steel structures.

Soils that have fully or partially undergone this oxidation process are termed Actual Acid Sulfate Soils (AASS) and generally are in aerobic conditions above the groundwater table. Potential Acid Sulfate Soils (PASS) are those soils that have the potential to oxidise if exposed to the air and are generally below the groundwater table, located in anaerobic conditions.

General characteristics of ASS generating areas in summary are:

Site location:

- Areas at or below 5 m above AHD.
- Riverine and coastal lowlands.
- Water logged areas such as wetlands, swamps, marsh lands, sump lands.
- Scalded areas (where there has been significant flora die back).
- Saline inland areas.
- Areas with sulfate rich groundwater.

Geological characteristics:

- Sulfide mineral bearing lithologies.
- Former marine and estuarine environments i.e. shales and sediments.
- Coal deposits.
- Mineral sand deposits.
- Areas with peat.
- Recent sand units; grey sand +/- iron cemented organic rich sands (coffee rock).

Hydrogeological characteristics of ASS environments:

- Areas where the highest known water table is within 3 m of the ground surface.

Acidic soils are generally those recording a pH in water of 4.5 or less. Acidic soils are not always associated with ASS, acidity can be present which has not been caused by the oxidation of sulfides.

The Suspended Peroxide Oxidation Combined Acidity Suite (SPOCAS) is a test which provides an accounting method of the acidic and basic components of a soil; known as acid-base accounting. If there are more acidic components in a soil, a total amount of basic component required (i.e. lime) will be reported by the analysing laboratory.



The two key results provided by the SPOCAS suite of tests that are used to interpret the acidity of a sample are sulfidic Titratable Actual Acidity (sTAA) and the sulfidic Peroxide Oxidisable Sulfur (S_{pos}). Sulfidic Titratable Peroxide Acidity (sTPA) is a calculation of the Net Acidity which includes Acid Neutralising Capacity (ANC), this value is not used when assessing the initial acid generating risk of a sample because of the ANC component. For the initial risk assessment ANC is not included as it is not known how available the ANC is for the neutralisation of any acid generated. The results from the sTAA test can indicate the presence of actual acidity in the soil at the time of sampling. However, soils considered as actual sulfate soils are generally above the groundwater in aerobic conditions. Soils exhibiting high levels of potential acidity are generally located beneath the water table. The S_{pos} result from the SPOCAS test is a measure of potential acidity and indicates whether or not there is potential for sulfuric acid to be generated by the soils if exposed to aerobic conditions.

2.0 SITE DESCRIPTION

2.1 Site Identification

The mine site is located approximately 4 km north-west of Gingin, a small town approximately 75 km north of Perth in Western Australia.

2.2 Planning Information

2.2.1 Heritage Listing

A search on the Heritage Council of Western Australia website returned 3 heritage listings on the Brand Highway within the suburb of Gingin and 4 heritage listings on Dewar Road within the suburb of Gingin. A search on the Department of Indigenous Affairs website returned 14 registered Aboriginal Heritage Sites within the vicinity of the site. Results from the Heritage Council of Western Australia and the Department of Indigenous Affairs are presented in Appendix A.

2.3 Wetlands and Surface Water

Gingin Brook is located approximately 2 km west, south and east of the site. Wallering Brook is located approximately 3.5 km north of the site.

The mine site is traversed by several small tributaries which flow during the winter months until early summer each year. These tributaries are currently diverted to avoid water entering the mine pit. It is expected that these tributaries will be returned to their original pathway following closure.

2.4 Climate

The closest weather station to the site in Gingin Aero Station; meteorological conditions have been recorded at the station since 1968. Mean daily maximum temperatures recorded range from 18.3°C (July) to 32.9°C (February), while mean daily minimum temperatures range from 6.2°C (August) to 16.6°C (February) (Bureau of Meteorology, March 2009).

Gingin Aero Station has an average annual rainfall of 667.3 mm per year (Bureau of Meteorology, March 2009), with the majority of rainfall falling during the winter months. The highest mean rainfall days have been recorded during the period of June to August.

2.5 Geology

The 1:50,000 Gingin Sheet of the Environmental Geology Map Series provides an indication of the geology of the site. The map indicated that the western portion of the site is situated on Guildford Formation sediments, while the eastern portion is situated on colluvium material, soil and undifferentiated sand.

The Gingin heavy mineral deposit is approximately 3 km in length and 300 m wide, it's emplacement has been interpreted as being syngenous with the Gingin Shoreline (Baxter 2007 in Oracle 2002) having formed in sequences of beach, dune, lagoon and estuarine sediments. The mineral deposit itself is contained within a massive, cemented clay matrix with interbedded brownish grey to white sand. Oracle 2002 record that the



boundary between mineralised and unmineralised material is difficult to define in the field as the basal portion of the overburden (the material directly on top of the mineralised zone) is set in a cemented siliceous/ferruginous hardpan similar to the underlying ore body.

The portion of the Gingin Sheet of the Environmental Geology Map Series that includes the site is presented in Appendix B.

2.6 Regional Hydrogeology and Groundwater Use

Enquiries were made to the Department of Water (DOW) regarding the presence of licensed groundwater wells within a 5 km radius of the sites. According to the DOW, there were approximately 92 registered groundwater wells within a 5 km radius of the sites. Groundwater information provided by the DOW is presented in Appendix C.

2.7 Acid Sulfate Soils (ASS)

The Australian Soil Resource Information System (ASRIS) was used to assess the potential risk of ASS occurring in the vicinity of the site. The western portion of the site showed “Low Probability of Occurrence” of ASS and the eastern portion showed “Extremely Low Probability of Occurrence” of ASS (Appendix D).

2.8 Environmental Protection and Biodiversity Conservation Act Protected Matters

The EPBC Act website was consulted for information pertaining to the sites. The search reported that, within 5 km of the site, there were 6 threatened species and 7 migratory species that are matters of national environmental significance.

Results of this search are contained in Appendix E.

2.9 Western Australia Land Information Systems

A search of the WALIS database was conducted to ascertain land issues surrounding the sites. The search did not identify any noteworthy items.

3.0 COMPARISON OF SAMPLING STRATEGY UNDERTAKEN AT THE SITE WITH CURRENT REGULATORY GUIDANCE

The general consensus of the recommended guidance available for sampling soils whether it be for the assessment of acid generation potential, ore evaluation or for contaminated sites assessment is that the sampling strategy should ensure that the soils and or rock at the site be sufficiently characterised to ensure that the data quality objectives for the project are met. For the Gingin mine site, the following regulatory documents have been considered relevant:

- Western Australian Government, Department of Environment and Conservation “Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes” May 2009.
- Australian Government, Department of Industry, Tourism and Resources, Managing Acid and Metalliferous Drainage, February 2007.

Guidance from DEC stipulates that a low density of sampling locations per site may be identified when assessing for ASS, however, high resolution sampling at each location is recommended. It is recommended that the sampling should be undertaken at 0.25 m intervals to 1 m below the expected depth of disturbance. This density is recommended because of the nature of the formation of ASS. The microbial communities involved in the formation of iron sulfides, which in turn form the acid sulfate soils, tend to be spatially distributed in a very patchy manner.

However, from a mining perspective the sampling density recommended is less specific. For a mine site, according to the Australian Government, “sampling should represent all geological material that will be mined or exposed, and each waste type” all material sampled should be assessed for its acid generating potential.



The number and type of samples taken is dependant on the size of the mine and the phase of the project but must be sufficient to represent the variability/heterogeneity within each geological unit and waste type. They recommend that all samples be assayed for total sulfur as a minimum. They further recommend that not only ore should be evaluated but host and country lithologies should also be included in any sampling strategy.

The sampling strategy for the assessment of the acid generating potential of the soils at Gingin has not been provided in a stand alone document. From a review of the reports and data provided to Golder it appears that the strategy adopted was as follows:

- Soil bores were drilled across the site to include areas outside the mine extent.
- The depth to which these bores were drilled represented the maximum depth of mining in that area. Samples were collected every metre and were analysed for pH_f and pH_{ox} for all samples. Selected samples were analysed for pH and a suite of metals. Further samples were selected for total sulfur analysis.

It is noted that there does not seem to have been a discussion to assess the number of samples to be collected to be statistically representative of the number of soil units present at the site.

4.0 DESCRIPTION OF PRE-MINING SOILS

4.1 Previous Investigations

Prior to the initiation of mining at the Gingin site, Iluka engaged Oracle Soils and Land Pty Ltd (Oracle) to undertake an investigation into the types and characteristics of the soils at the Gingin Mine site. The results of this investigation were reported in the Final Project Report, 2002. Oracle (2002) defined three main soil types:

- SMU 1 Yellow/Red coarse sands; elevated topographic positions.
- SMU 2 Pale Grey coarse sands; low topographic positions.
- SMU 3 Fine to coarse alluvium; stream channels and flood plains.

All soils were interpreted as originating from the adjacent Gingin Scarp and Dandaragan Plateau, the soils were described as predominantly siliceous in character, and were thought to have been deposited by alluvial, fluvial and colluvial processes.

In the centre of the site, the soils (SMU 2) were described as being seasonally waterlogged. This area is in the portion of the site known as the central wetland (refer to Figure 2 for location).

Field and laboratory analysis was undertaken by Oracle (2002) to characterise the soils physical, chemical and mineralogical nature. In summary, all soils tested recorded pH_{water} in the acidic range (<7; 5.0-6.8), EC ranged from 1.1 – 27.4 mS/m, Phosphorus Retention Indices (PRI) ranged from 0.9-261 mg/kg, reactive iron (Fe) ranged from 336-3066 mg/kg, in subsurface soils, organic contents were generally low ranging from 0.06-0.13%, however, they were higher in the topsoils where organic contents up to 4.39% were recorded. An assessment was also carried out on the milli-equivalents of exchangeable cations in each soil type. It was notable that the basic cations (calcium (Ca) and magnesium (Mg)) were dominant in all soil types assessed, although it should also be noted that aluminium (Al) exchange was only undertaken for the top soil and not for any subsurface lithologies.

The summary of the physical and chemical data (Oracle 2002) describes the top soil as having “high exchange acidity”, although the cations that are generally associated with exchangeable acidity (sodium (Na), potassium (K), aluminium (Al)) were not the dominant exchangeable cations in this soil. One plausible explanation for this may be that the cation exchange capacity may have been mis-interpreted as exchangeable acidity. Exchangeable acidity appears during the soil genesis process (e.g. podolisation) can be regarded as a deterioration of the exchange surfaces and is associated with the release of Al. Clay can



undergo hydrolysis (acidolysis, acidocomplexolysis) which causes the destabilisation of the 2:1 lattice arrangements of the clay structure resulting in some of the Al^{3+} cations of the octahedral layer passing into exchangeable positions. So the surface exchange cations gradually decrease and the pH of the soil follows suit.

What may be argued is that the topsoils contain an appreciable amount of reactive iron and therefore there is a strong possibility that acidity may be generated through the hydrolysis of iron bearing oxides and hydroxides; the breakdown of a hydroxide to an oxide releases a proton and therefore increases the acidity of a solution. In addition to the acidity generated by iron hydrolysis, exchangeable acidity may also be present, however, it is unclear how much exchangeable acidity is present due to the lack of Al analysis for the soils.

Manganese (Mn) is also another element that contributes to the total acidity of a soil.

The test for exchangeable acidity is known as a pH_{KCl} test. If the sample of soils is treated with potassium chloride (KCl) the Al ions are released into the solution with the concomitant release of protons and a decrease of the solutions pH. It does not appear that this test has been undertaken for the soils at Gingin with any great density. The additional pH test carried out on the soils by Oracle was undertaken in a solution of $CaCl_2$, which is a test designed to give a more accurate reading of the pH of a soil and does not provide an indication of the exchangeable acidity.

Elemental analysis (possibly X-ray Fluorescence, (XRF) analysis) was undertaken on the soils, sulfur was included in this analysis. The %S in the lithologies ranged from 0.0–0.02% total sulfur, with the highest reading being recorded in the sandstone/siltstone, which also recorded one of the highest Al concentrations of 5.46% (Oracle 2002). The sedimentological descriptions provided by Oracle of SMU1 discuss the siliceous ferruginous hard pan which is the sandstone/siltstone as being derived from a lacustrine evaporative environment. Such an environment would likely have led to the deposition of sulfate salts from the evaporation of potentially brackish water and hence provides a source for the sulfur in the sandstones.

X-ray diffraction (XRD), a qualitative mineralogical analytical technique recorded the presence of goethite/haematite in the sands and red clays indicating oxidised soil mineralogy. The grey clay contained hydrated halloysite which is an aluminium silicate. The grey clay also recorded significantly less quartz content than all other lithologies analysed (Oracle 2002).

A limited analysis of the surficial aquifer groundwater quality was undertaken in Oracle's study (Oracle 2002). The surficial groundwater composition (once salt solubility was taken into account) it was said "generally reflects the chemistry of the soils in each location sampled", however, an analysis of the data to substantiate this claim was not provided in the report. One notable omission in the water quality analysis detailed in the report is that alkalinity was not recorded, and therefore is not possible to calculate an ionic balance.

Soils showed a colour change and mottling at depth in the clays, siltstones and gravels, which was correlated with what Oracle described as a higher exchangeable cation concentration. These data may be considered together to assume that the colour difference is due to more reducing conditions. However, where redox conditions in groundwater were recorded (Iluka pers. comm.) all results were positive, suggesting that groundwater is oxidised and thus not affected by the reduced soil chemistry. Nevertheless, localised reducing conditions could be present due to the presence of organic matter, which during its oxidation, may have reduced the surrounding soils and resident minerals to cause the mottling.

5.0 ASSESSMENT FOR THE PRESENCE OF ACID SULFATE SOILS

5.1 DEC ASS Investigation Guidelines

The Western Australian Government Department of Environment and Conservation (DEC) document "Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes" (May 2009) provides practical guidance on the minimum level of investigation required to identify the presence/absence, nature and extent of acid sulfate soils for an urban development.



The DEC recommends that a staged approach to ASS identification and investigation be carried out which would start with a discussion on the type of development proposed, the potential area of disturbance with a discussion on the likely hood of disturbing ASS and or groundwater at the site. This would generally be followed by an intrusive investigation of the soils and groundwater conditions which ultimately would provide advice on the soil types present and groundwater quality. If development of the site was to proceed, the DEC recommend that in ASS and acidic landscapes, such development be conducted under prescribed management conditions which should be closely monitored. It is recommended that all monitoring data pre, during and post-development be submitted to the DEC for review.

DEC guidance also recommends the frequency of sampling locations for any development. At a minimum, 4 locations per site should be sampled. For larger sites, a density of 2 locations per hectare are recommended, however, for very large sites, the DEC recommend that reduced sampling densities may be agreed upon demonstration of an understanding of the local geological and hydrogeological characteristics. Soil sampling should extend 1 m below the maximum depth of ground disturbance or where groundwater level alteration is required. The DEC advises that samples should be collected at a minimum rate of 1 per 250 mm, or from each lithology unit, whichever is most frequent.

The DEC ASS investigation guidelines recommend that field testing should be carried out on all soil samples collected. Field tests cannot be used to assess the risk of acid generation of a lithology and these tests must be followed by laboratory analysis using the SPOCAS method. The DEC recommend that samples are assessed by the SPOCAS method at a rate of 1 per 0.5 m. In addition, where changes in lithology occur at a rate of less than 0.5 m, samples should be submitted for SPOCAS analysis for each discrete lithological interval. The DEC guidance also recommends that soils samples should be further analysed for the chromium reducible sulfur (CRS) suite to aid in the differentiation between various sources of acidity recorded in SPOCAS analysis.

It should be noted that the DEC discuss in their guidance that not all soils at a site need to be sampled for their acid generating potential. If soils at the site exist in landscapes which have never been disturbed and have historically always remained dry, it is not necessary to perform the full acid base accounting laboratory analysis on these soils.

5.2 Summary of ASS Investigations – Gingin Mine Site

Three phases of soil sampling were undertaken at the mine site between 2003 and 2004, by Environmental Geochemistry International (EGI), Oracle Soil and Land (OSL), and Soil Water Consultants (SWC). The soils from these sampling phases were assessed for the presence of acidity, the presence of acid sulfate soils and a limited number of samples were assessed for their metal content. The report by Oracle Soil and Land Pty Ltd (OSL) in 2004 is a review of analysis to assess the likelihood of encountering acid sulfate soils at the mine site, undertaken by the Chemistry Centre of Western Australia in 2003.

A summary of the work carried out in each phase of ASS investigations is provided below:

Phase One:

- Soil sampling was carried out at 3 locations, one in each of the southern, central and northern section of the mine site extent. Borehole depths ranged between 14 and 26 m below ground level (bgl).
- Soil samples were collected at a rate of one per metre from each borehole.
- pH_i and pH_{tox} measurements were not carried out.
- Every second sample was submitted for SPOCAS analysis (total of 29).
- No PASS/AASS was indicated from the results of SPOCAS analysis.
- Soils collected from the top 10 m of the northern borehole recorded Net Acidities above the DEC criteria, ranging between 37 and 92 mol H^+ /t (DEC criteria = 18 mol H^+ /t).



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- Based on SPOCAS analysis, all acidic soils were attributed to acidity derived from sources other than the oxidation of acid sulfate soils.

Phase Two:

- Soil sampling was carried out from a total of 15 borehole locations to depths ranging between 12 and 27 m bgl.
- Borehole locations concentrated around both the northern and southern stream lines at the north and south of the mine site.
- Soil samples were collected at a rate of one per metre from each borehole.
- pH_f and pH_{fox} measurements (field test) were carried out on a total of 255 soil samples, pH_f ranged between 4 and 7.8 with all pH_f results below 4.5 being recorded from samples collected in the vicinity of the northern stream line. pH_{fox} ranged between 3.3 and 8.8.
- A total of 37 soil samples were submitted for SPOCAS analysis, all samples recorded S_{KCl} results below the laboratory's detection limit (0.01%S).
- Based on SPOCAS analysis, all acidic soils were attributed to acidity derived from sources other than the oxidation of acid sulfate soils. The results of field and laboratory testing indicated that acidic soils were present near the northern stream line.

Phase Three:

- Soil sampling was carried out from a total of 22 bore holes locations to depths ranging between 14 and 29 m bgl.
- Borehole locations were spread across the entire extent of the mine site footprint.
- A total of 489 soil samples were collected, field tests were carried out on each samples to determine pH_f and pH_{fox} values.
- Based on the correlation of field test results (pH_f) with laboratory results (TAA) from Phase 2 ASS investigations, a pH_f result of 5 was considered to be adequately conservative as a trigger value for the presence of soils with a TAA in excess of the DEC net acidity criteria of 18 mol H^+ /t.
- 26 samples recorded a pH_f of less than 5, the distribution of the average acidity recorded during Phases 2 and 3 of the ASS investigation are shown in Figure 1 and Figure 2 below.

In all phases of sampling and assessment where pH was assessed, the soils were recorded as acidic. In Phases 1 and 2 an assessment of the soils ASS potential was undertaken and in both cases the soils were found not to be acid sulfate soils. In general the soils recorded sulfur in low concentration (either on or below laboratory limits of reporting (LOR)), and did not exceed the most conservative criteria for ASS which is 0.03%S (DEC, 2009).

In an attempt to summarise all the field screening analysis undertaken during this period, Golder has presented the average pH_f and pH_{fox} values for each location sampled, on Figure 1 and Figure 2 respectively. Figure 1 depicts lateral variation of pH_f across the mine area and Figure 2 depicts lateral variation of pH_{fox} . Essentially the data presented in each figure is an average pH of the core at the location sampled. This was deemed suitable as there is little variation in pH with depth for each location.

Comparison of Figure 1 and Figure 3 (Figure 3 is copied from the Oracle 2002 report), indicates that the most acidic soils correspond to the SMU 3 unit. The soils in SMU 3 were interpreted by Oracle as sodosol, however, the definition of a sodosol provided in the same report is one which is not strongly acidic so therefore these soils may be mis-classified.



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The block model provided by Iluka details 46 lithological codes, thus it can be summarised that 46 lithological types have been recorded at the Gingin mine site. From the information summarised above, approximately 800 samples have been submitted for analysis.



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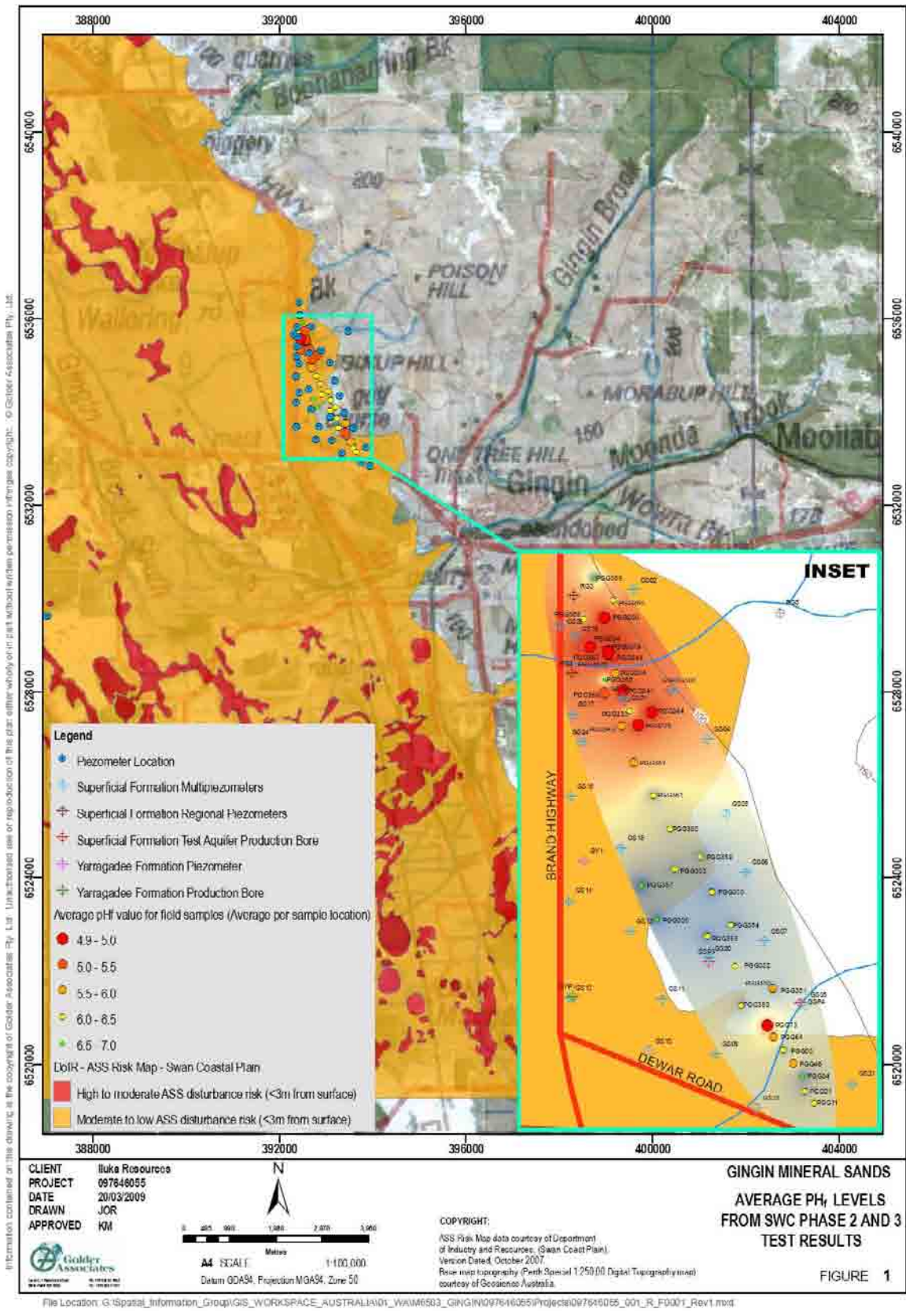


Figure 1: Average pH_f Levels from SWC Phase 2 and 3 Test Results with Groundwater Bore Locations



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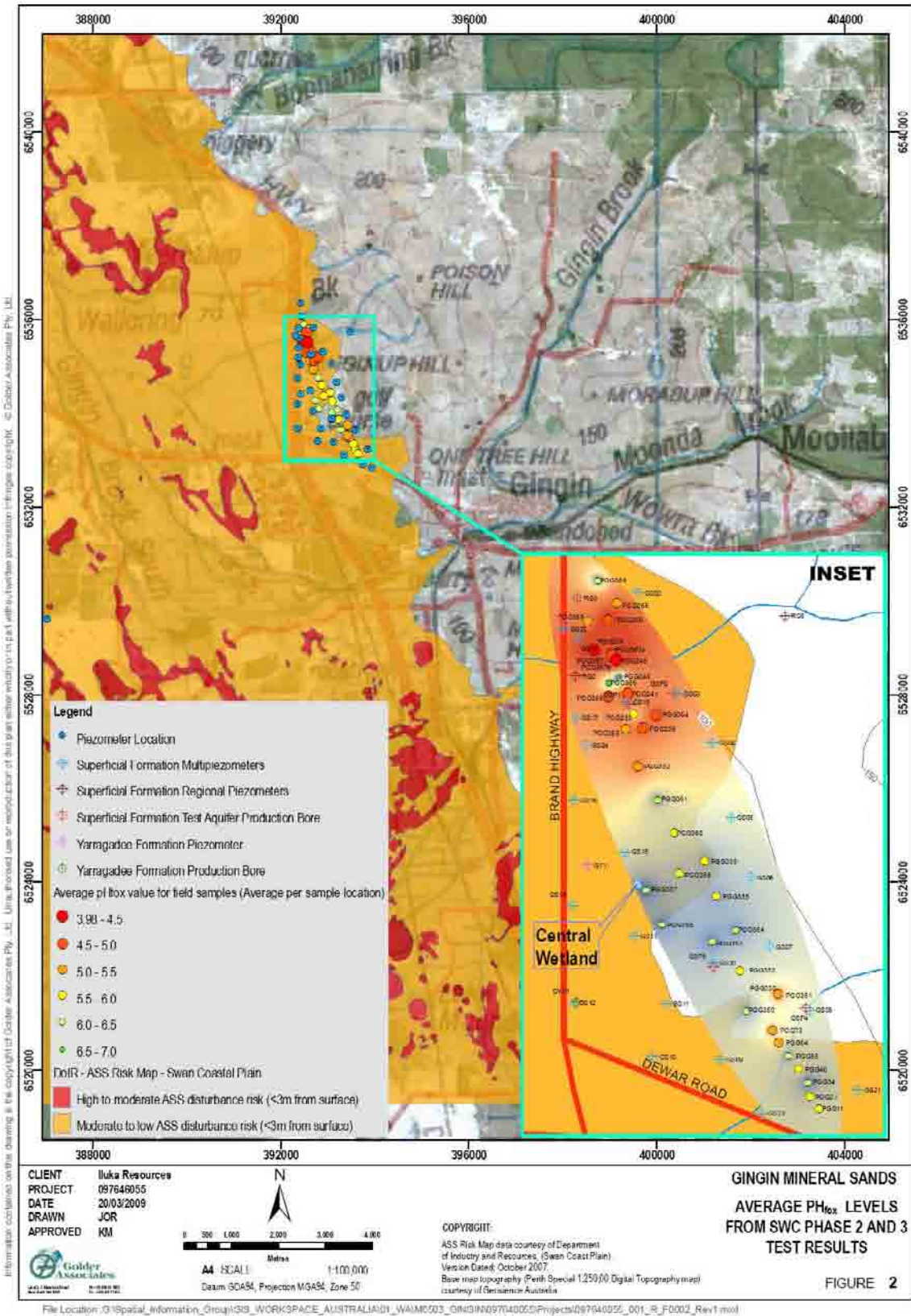


Figure 2: Average pH_{fox} Levels from SWC Phase 2 and 3 Test Results

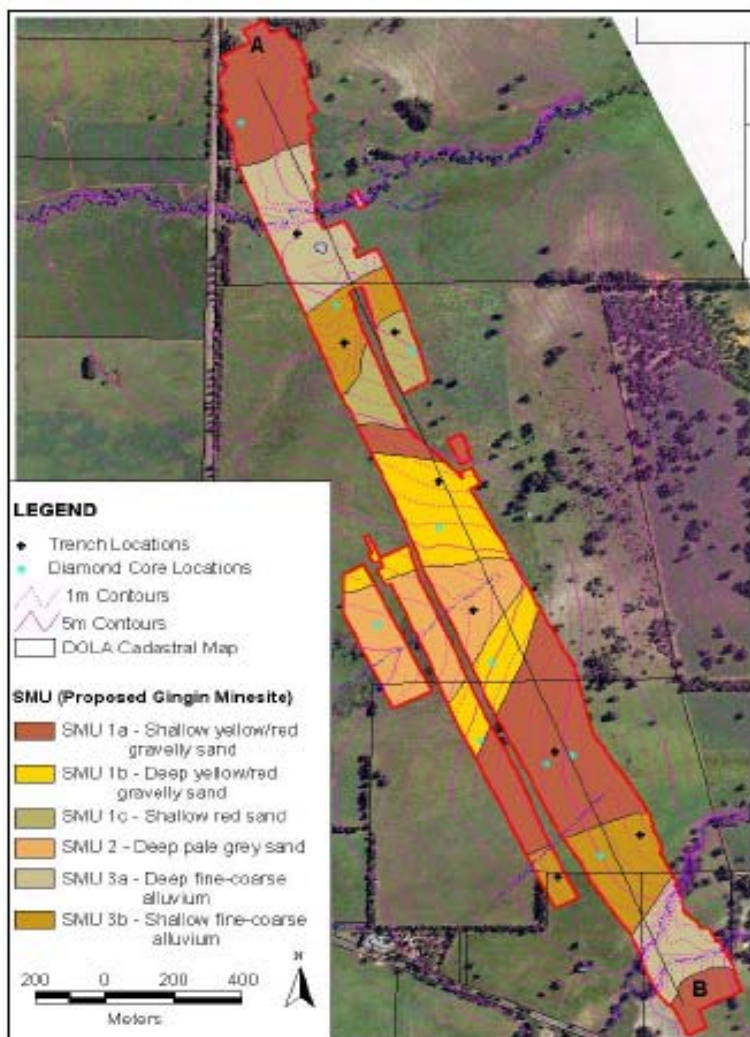


Figure 3: Distribution of SMU within the Gingin Mine Site taken from Oracle, 2002

5.3 Output from the Block Model

Iluka provided Golder with a Datamine block model in mine coordinates. All data regarding the samples collected for ASS assessment were only provided in latitude and longitude format, therefore, in order to assess whether the sampling undertaken for ASS was representative of the soils at Gingin, all the data provided in the block model had to be converted using a conversion factor provided by Iluka. These data were then imported into VULCAN software for the purposes of this review.

The objectives of the review of the block model were:

- To store all relevant soil lithological information in the one dataset.
- To provide an indication of the soil types sampled during the ASS assessments undertaken at the site.
- To compare groundwater pH data with the spatial distribution and pH of the soils at the site.

Iluka's block model was created from the sampling of a selection of the boreholes drilled at the site. The boreholes used to construct the block model ranged from GG1052 to GG2548. Soil bores sampled in Phase 1 were GG1296, GG1644, and GG1768. It was noted that the boreholes sampled during Phase 2 and Phase 3 had different identifiers to those bores in the block model. All the bores in the block model start with GG, all the bores sampled during Phase 2 and Phase 3 sampling start with PGG and, therefore, it was



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assumed that these bore were not included in the block model development. Lithological codes used for the block model are included in Table 1. Golder added the locations of Phase 2 and Phase 3 sampling boreholes to the block model (Figure 5 and Figure 6 below).

Table 1: Lithology Codes Extracted from Iluka Block Model

LITHCODE	LITH1	LITH2	LITHCODE	LITH1	LITH2
1	clay		24	sand/clay	ironstone
2	clay	clay/sand	25	sand/clay	laterite
3	clay	Granite	26	gravel	
4	clay	Gravel	27	quartz	
5	clay	gritty sand	28	sand	
6	clay	Ironstone	29	sand	clay
7	clay	Laterite	30	sand	clay/sand
8	clay	Quartz	31	sand	granite
9	clay	Rock	32	sand	gravel
10	clay	Sand	33	sand	hm
11	clay	sand/clay	34	silt	
12	clay/sand		35	sand	ironstone
13	clay/sand	Clay	36	sand	laterite
14	silt	Sand	37	sand	quartz
15	clay/sand	clay/sand	38	sand	sand
16	clay/sand	Granite	39	sand	sandstone
17	clay/sand	Gravel	40	silty sand	
18	clay/sand	Hm	41	sandstone	
19	clay/sand	Ironstone	42	basalt	
20	clay/sand	Laterite	43	ironstone	
21	clay/sand	Quartz	44	laterite	
22	clay/sand	Rock	45	laterite	clay
23	sand/clay		46	laterite	sand

Figure 4 to Figure 6 depict the Gingin block model with selected cross sections. It should be noted that the lithological code provided in Figure 5 (referring to Table 1) is valid for all three these figures and are.



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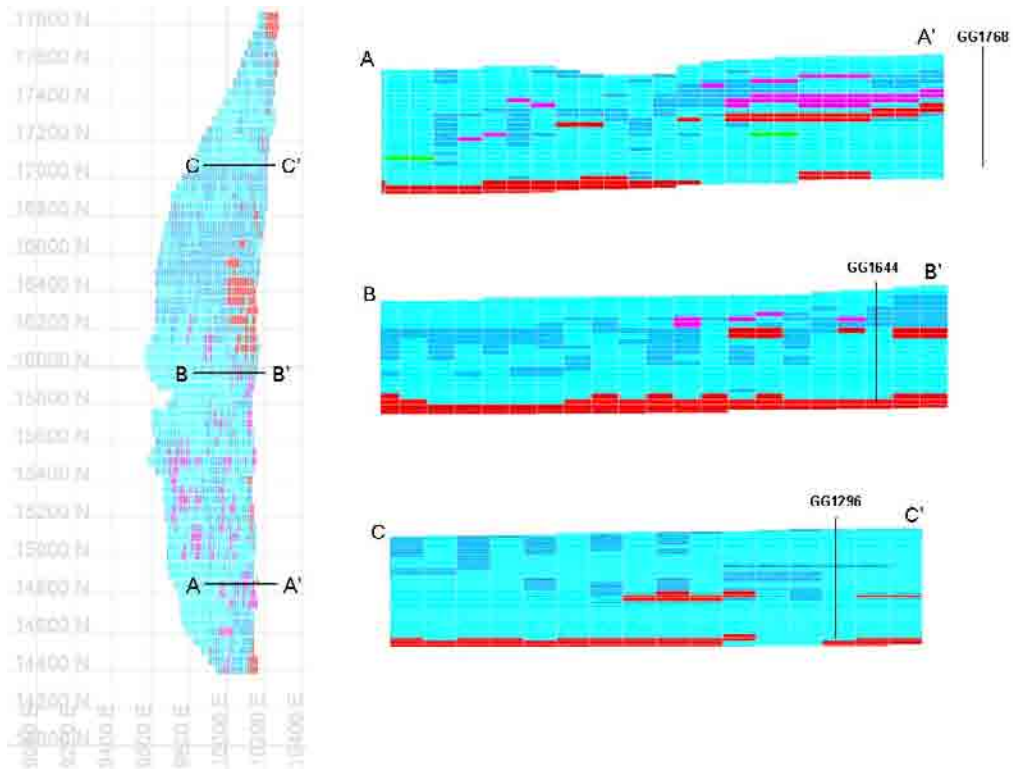


Figure 4: Gingin Block Model Depicting Phase 1 Sampling Locations



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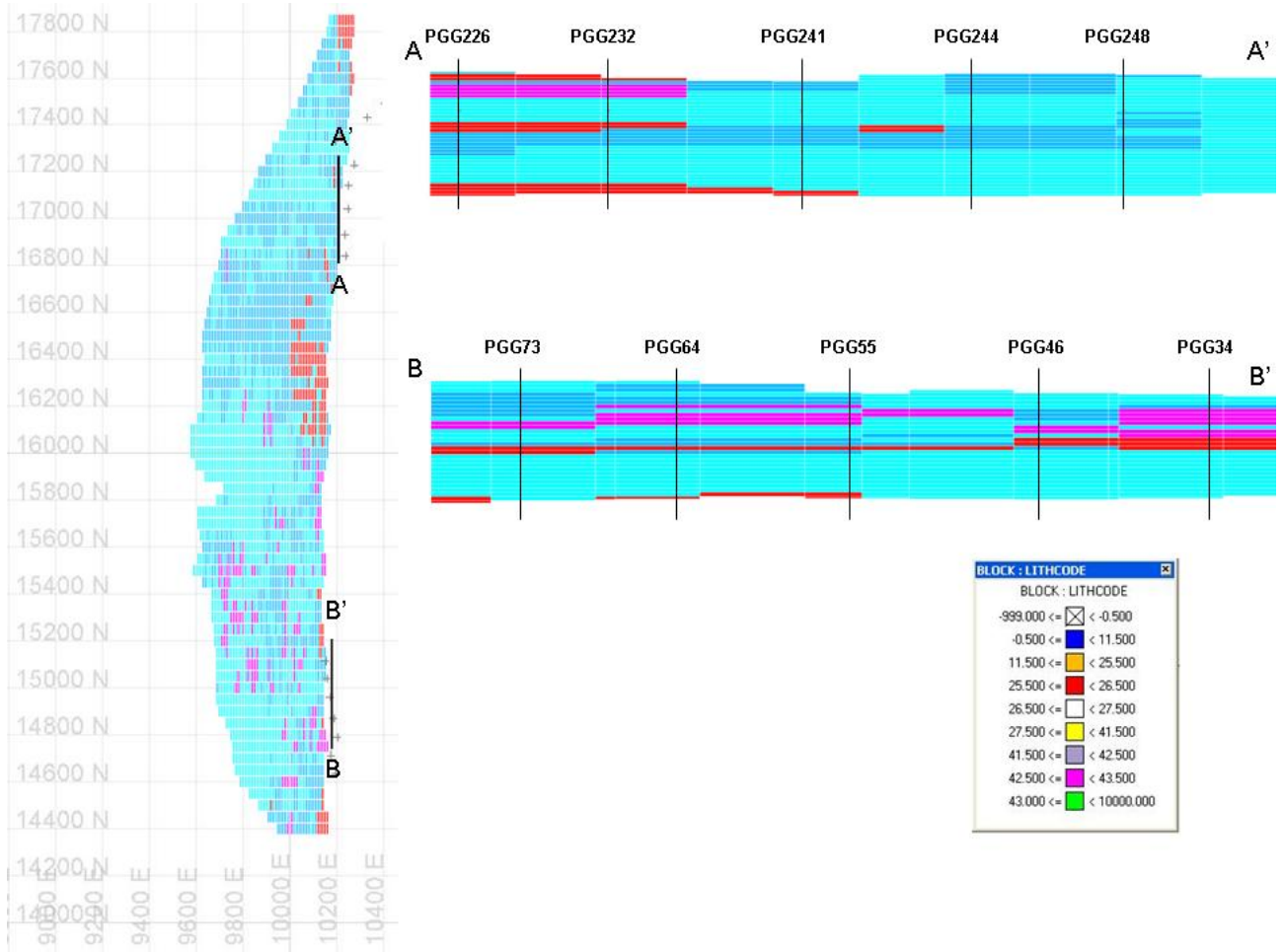


Figure 5: Ginging Block Model with Phase 2 Sampling Locations and Selected Cross Sections



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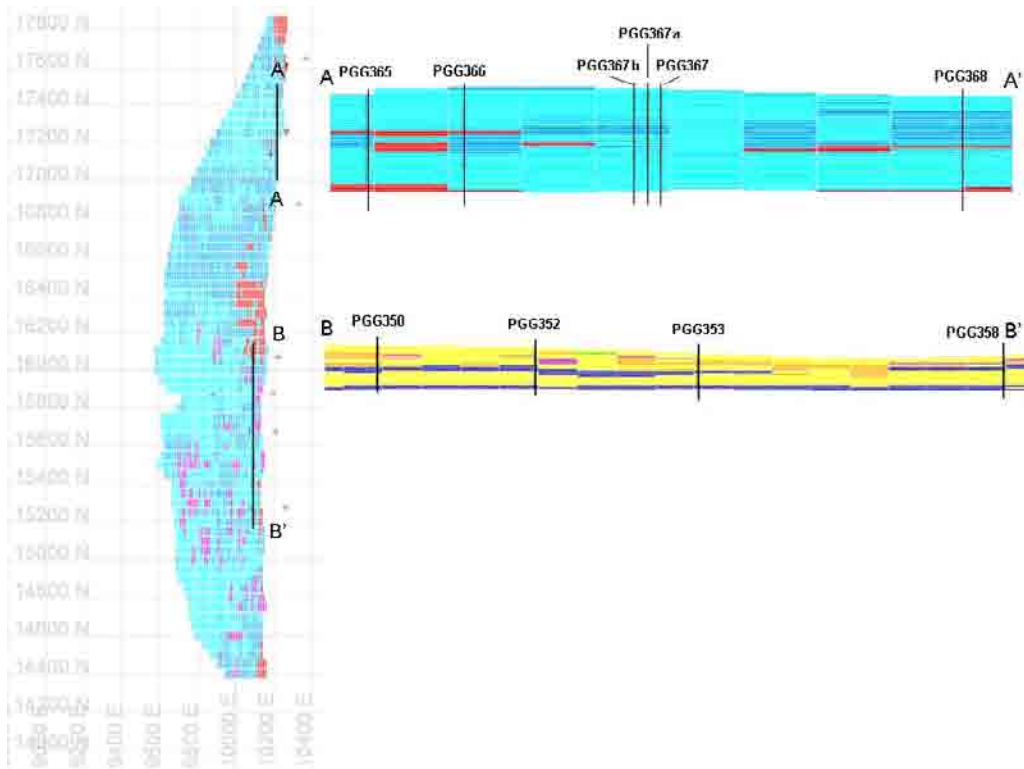


Figure 6: Gingin Block Model with Phase 3 Sampling Locations

Comparing the results of the revised block model and the interpretation of soil management units (SMU) by Oracle (2002), it can be inferred that the soil pH is higher where sands are dominant, compared with locations where clays are the dominant lithology.



5.4 Review of URS GW Well Installation Bore Logs

Iluka provided Golder with a PDF copy of a selection of the groundwater well installation soil logs which were extracted from a URS report dated 20/4/2001. Soil logs were provided for the following wells:

Table 2: URS Groundwater Well Logs Provided by Iluka

Name of Well	Easting	Northing	RL m AHD
GSP1	392437	6535119	95.85
GSP2	392693	6535177	100.03
GSP3	392694	6535269	88.7
GSP4	392901	6535327	94.68
GS2S,D	392901	6533890	99.35
GS7S,D	392901	6533707	93.48
GS4S,D	393083	6536086	99.17
GS8S,D	393083	6535861	94.58
GS9S,D	393180	6535859	84.05
GS10S,M,D	393182	6535325	79.51
GS11S,D	393286	6535327	82.97
GS12S,D	393287	6535328	75.50
GS13S,M,D	393598	6535072	78.47
GS14S,D	393597	6535070	78.93
GS15S,D	393125	6534676	82.36
GS16S,D	393126	6534676	84.99
GS17S,D	392775	6534365	91.18
GS18S,D	392775	6534363	84.99
GS19S,M,D	392775	6533664	95.44
GS20S,M,D	392844	6533661	88.88
GS21S,D	392845	6533402	94.16
GS22S,D	392354	6533402	NP
GS23S,D	392354		82.85

Note: the report relating to the installation of these wells was not provided, it is assumed that the identifiers S, M and D relate to S=shallow, M=Moderate and D=Deep. Shallow wells extend to 15 m below ground surface, moderate wells extend to 20 m below ground surface and deep wells extend to 30 m below ground surface. The wells are not nested wells, there is a separate bore for each depth, but only 1 log for all wells at that location. No details are provided as to how far apart wells are from one another. NP = Not Provided.

Most lithologies described in these logs correspond with the descriptions of the soils at the site provided by other reports with the exception of a mudstone which has not been previously described. GS2S & D describes presence of mudstone/shale black grading to puggy mudstone shale with increasing depth. This lithology was also encountered in GSP4, GS7S&D, GS8S&D, GS11S&D, GS15S&D, and GS16S&D. From these groundwater well logs it can be inferred that the mudstone layer dips to the north-east, as it appears to



be encountered at depths ranging from 25 m to almost outcropping at GS14S&D (depth encountered 1 m below surface). This lithology is not detailed in the lithological legend in the block model provided by Iluka. Bands of this mudstone in the URS logs range from 1 m to 7 m in thickness.

The boreholes where the mudstone/shale was intersected are clustered with GS11, GS07, GSP4 and GS08 at the southern extent of the mine, GS04, GS15 and GS16 in the centre of the site and GS02 in the northern extent of the site (refer to Figure 2 for well locations).

The extent of the shale may be patchy and thus this lithology may not have been sampled during any phases of sampling for chemical analysis undertaken at the Gingin site to date.

6.0 COMPARISON OF THE pH OF PRE-MINING WITH THE pH OF SOILS DURING MINING

Limited information on current soil conditions was provided by Iluka. pH_f and pH_{fox} of nine soil samples collected in 2009 were assessed against the average pH_f and pH_{fox} data detailed in the SWC (2007) report. The nine samples were collected between co-ordinates 6535405 N 392588 E and 6535409 N and 392506 E in February 2009. pH_f ranged between 4.71-6.56, pH_{fox} ranged between 4.28-5.77, and the largest pH difference between pH_f and pH_{fox} recorded was 0.8 pH units. These data are within the same range as the data collected for the soils prior to the initiation of mining as depicted in Figure 1 and Figure 2. Please refer to Appendix F for raw data from February 2009.

7.0 SURFACE WATER QUALITY

Surface water data was provided to Golder by Iluka for the three streams which intersected the mine site area prior to the commencement of mining. Throughout the data, each stream is identified by its location with respect to the mining area; either northern, central or southern. The northern stream was monitored at 2 locations, the central stream at 3 locations and the southern stream at 3 locations. The co-ordinates and reference levels of each monitoring point supplied by Iluka are provided in the Table 3, and are shown in Figure 7 and Figure 8.

It should be noted that the streams shown on Figures 1 to 3 have been included based on the alignment of both the supplied sampling location co-ordinates and historical locations of stream lines as indicated by historical aerial photographs.

A review of the supplied surface water chemistry data was carried out to assess whether trends could be seen both on average between sampling locations for the entire record of data and also at each location prior to (Figure 7) and following (Figure 8) the commencement of mining. The following sections provide a summary of and comment on the data reviewed for each stream.



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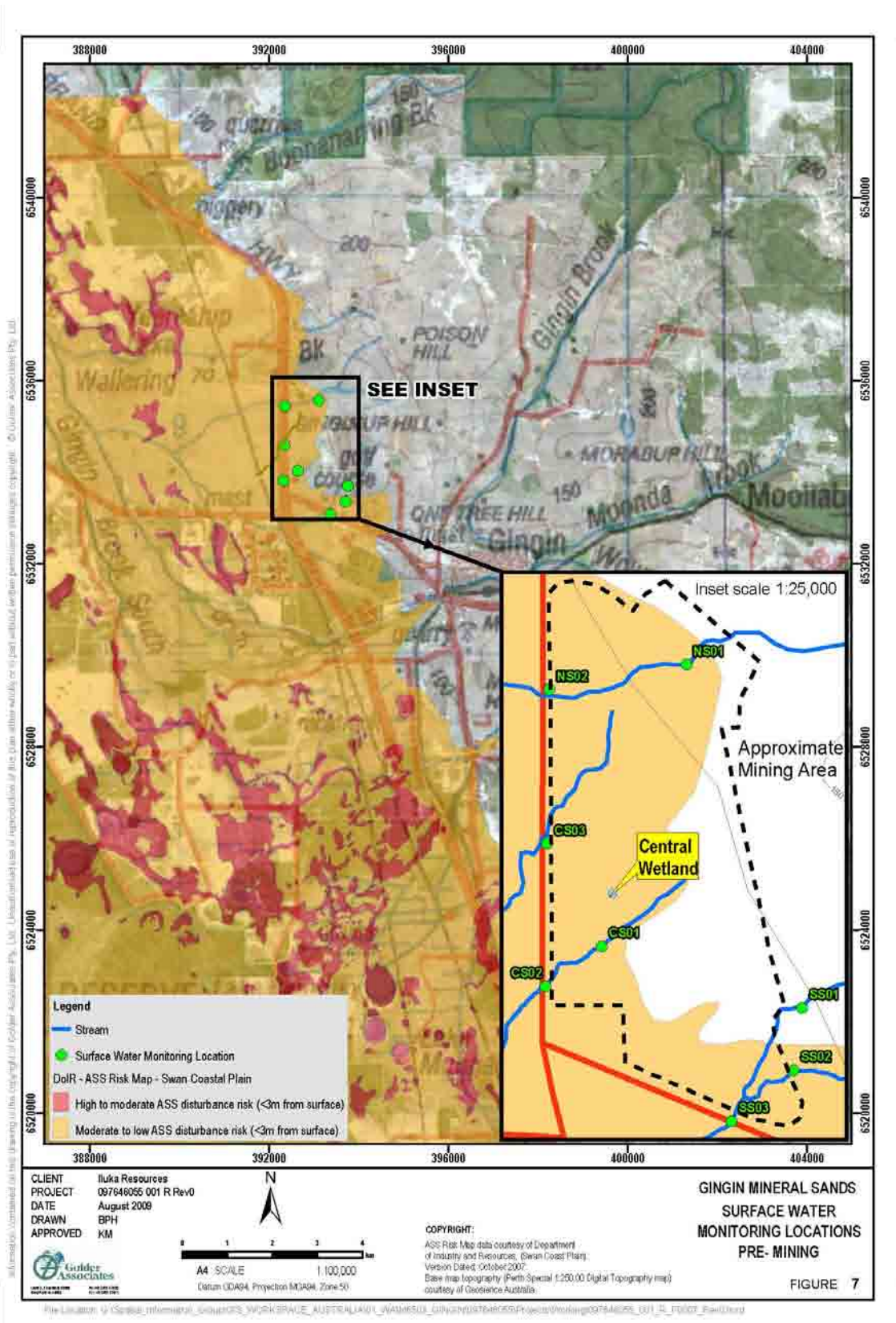


Figure 7: Surface Water Monitoring Locations Pre-Mining



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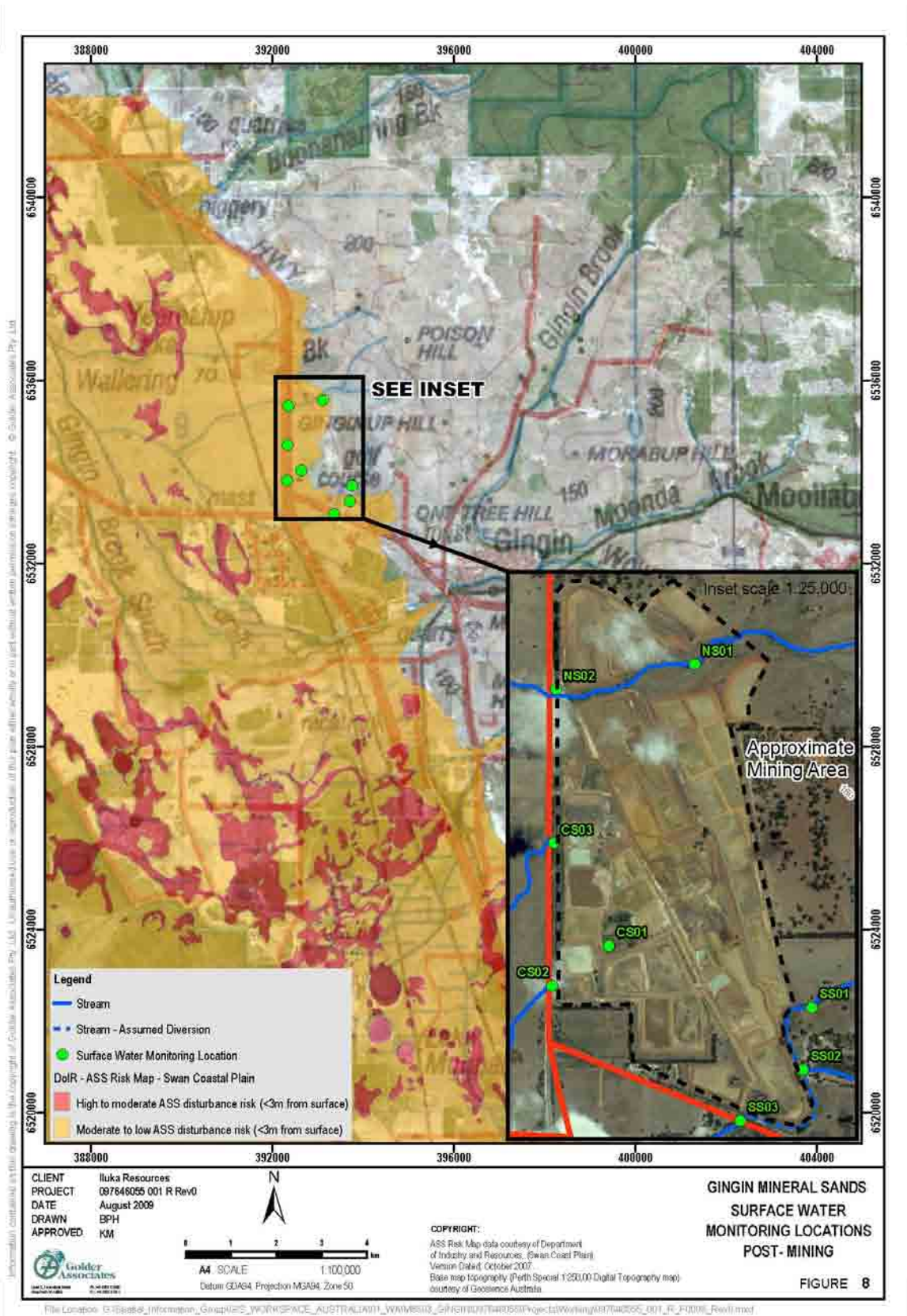


Figure 8: Surface Water Monitoring Locations Post-Mining



Table 3: Surface Water Monitoring Locations

Description		AMG		RL Ground m AHD
		Northing	Easting	
South Stream	SS01	6533690.260	393749.429	95.261
	SS02	6533350.053	393701.968	88.379
	SS03	6533070.719	393356.302	80.984
North Stream	NS01	6535565.656	393105.385	101.918
	NS02	6535429.135	392340.127	88.542
Central Stream	CS01	6534028.080	392632.899	77.363
	CS02	6533808.317	392317.979	73.991
	CS03	6534588.473	392327.827	82.139

7.1 South Stream

Based on the locations of surface water monitoring points shown in Figure 7 and Figure 8, SS01 and SS02 are both up slope of the mining operations and SS03 is down slope. Historically, it is likely that the southern stream was made up of two tributaries which met towards the southern part of the mine pit. The current understanding is that the southern creek was re-routed around the southern edge of the mine area, however, the exact route (following the commencement of mining) is not known. Based on recent aerial photography, the current path of the southern stream is assumed to be as shown on Figure 8. Table 4 summarises both the average chemical analysis results for each monitoring point between 2001 and 2008, and a comparison of the same averages for the pre-mining (2001 to 2004) and once mining had commenced in the area (2004 to 2008).

Differences between the results of chemical analysis for before and during mining were assessed by calculating relative percentage difference (% RPD) based on the following equation:

$$\% RPD = \left(\frac{Conc.A - Conc.B}{Conc.A + Conc.B} \right) * 200$$

Where Conc. A is the concentration of a given chemical analytes prior to the commencement of mining and Conc. B is the concentration of that same analyte once mining had begun.

Where the result of the %RPD calculation was greater than 50%, the analyte was highlighted as having changed significantly following the commencement of mining. In the event that the %RPD was greater than 50% and the results of each chemical analysis were close to the laboratories detection limit, the percentage difference was not considered to indicate a significant change in results.

Analytes which were highlighted as having changed significantly between the pre-mining and during mining data are summarised in Table 4



Table 4: Summary of RPDs Greater than 50% for SS01, SS02 and SS03

Location	Sampling Period	Conductivity (mS/cm)	Suspended Solids (mg/L)	Turbidity (NTU)	Al (mg/L)	SO ⁴⁻⁻ (mg/L)	NO ³⁻ (mg/L)
SS01	Pre-Mining	81.33	15.67	18.43	0.14	50.88	0.38
	During Mining	389.29	47.46	91.68	0.26	29.49	0.19
	% RPD	131	101	133	60	53	67
SS02	Pre-Mining	72.08	-	-	-	49.80	-
	During Mining	454.17	-	-	-	29.54	-
	% RPD	145	-	-	-	51	-
SS03	Pre-Mining	129.33	-	-	0.33	-	-
	During Mining	536.00	-	-	0.06	-	-
	% RPD	122	-	-	138	-	-

Based on the results summarised in Table 4, it is apparent that there is more variations in pre-mining and during mining chemical analysis results is seen from surface water monitoring point SS01 when compared to SS02 and SS03. A few significant variations were also recorded for SS02 and SS03. Based on this information it is not possible to comment on whether mining activities have had a considerable effect on the surface water quality from the southern stream. It appears that the surface water chemistry has changed significantly (for the analytes listed above) in response to another influence, unique to the position of SS01.

Golder cannot comment further on the likely source of surface water chemistry variation since information on the altered path of the southern streamline is not known. An assessment of the possible correlation between rainfall and changes in surface water chemistry was attempted. However, the interpretation of rainfall and stream flow data for the southern creek was not able to provide an indication on any such correlation. This was primarily due to the absence of stream flow data for the years 2002, 2004, 2006 and 2008, the potential inaccuracies in the 2003 data and that it was unclear which set of data corresponded to 2005 stream flow data.

7.2 Central Stream

Based on the locations of surface water monitoring locations shown in Figure 7 and Figure 8, CS01 is located within the mining area and CS02 is located down slope of the mining area on the central streamline near its intersection with the Brand Highway. Based on recent aerial photography the current path of this central stream is assumed to be as shown on Figure 8, namely that now only exists to the west of the mining operations. Table 5 summarises both the average chemical analysis results for each monitoring point between 2001 and 2008. A comparison of the same averages for the pre-mining period (2001 to 2005) and once mining had commenced in the area (2005 to 2008) is also included.

CS03 appears to be situated further north on a separate stream line for, which no surface water chemistry monitoring data was supplied by Iluka.

RPDs were calculated for each set of data as per the method described for the southern stream. It is not possible to easily summarise the occurrences where pre-mining and during mining data has been deemed to vary significantly. A number of the outlying RPD's which are greater than 50% and occur in both sets of data (CS01 and CS02) have been summarised in Table 5.



Table 5: Summary of Outlying RPDs Occurring in Both CS01 and CS02

Location	Sampling Period	Conductivity (mS/cm)	Suspended Solids (mg/L)	Turbidity (NTU)	Na (mg/L)	Cl (mg/L)	Fe (mg/L)	SO ⁴⁻ (mg/L)
CS01	Pre-Mining	52.35	14.75	335.00	78.63	102.75	3.18	14.75
	During Mining	145.00	595.00	1280.00	328.00	517.00	0.53	59.10
	% RPD	94	190	117	123	134	143	120
CS02	Pre-Mining	44.66	15.00	346.86	67.03	89.57	5.40	17.40
	During Mining	1578.50	489.33	1290.00	363.33	594.67	0.67	74.00
	% RPD	189	188	115	138	148	156	124

The results summarised in Table 5 indicate that notable changes in surface water chemistry have occurred following the commencement of mining. CS01 is located within the mining area, however, it is unclear from the information provided and aerial photography, what the drainage behaviour of the mined area, and through monitoring point CS01, is. CS02 is located west of the mining area is not in an area which has been mined and as such it has been assumed that it is still located in an area which is down stream (of drainage) of the mine area.

Significant increases in conductivity, suspended solids, turbidity, sodium, chloride and sulfate are indicated by the data presented in Table 5, in response to the commencement of mining. A reduction in iron is indicated by the same data. Due to the lack of data, it is not possible to definitively attribute these changes in surface water chemistry to an exact cause. However, it is likely that mining has caused disturbance to the run off magnitude across areas leading into the central creek and through the monitoring points within this area. It is possible that the elevated concentrations of certain parameters may be a response to increased sediment load of streams due to this altered run off pattern.

7.3 Northern Stream

Based on the locations of surface water monitoring points shown in Figure 7 and Figure 8, NS01 is up-stream of the mining activities and NS02 is down-stream. Golder has not been provided information on the management of mining activities in the vicinity of the northern creek, however, based on recent aerial photography, it is likely that it has not been disturbed or re-routed significantly during mining. Table 6 summarises both the average chemical analysis results for each monitoring point between 2001 and 2007 and a comparison of the same averages for the pre-mining (2001–2007) and during mining period (2007–2009) are also included.

RPDs were calculated for each set of data as per the method described for the southern stream. There were a number of cases for both NS01 and NS02 where notable changes were recorded in the surface water chemistry between pre-mining and during mining levels.



Table 6: Summary of RPDs Greater than 50% for NS01 and NS02

Location	Sampling Period	Conductivity (mS/cm)	Suspended Solids (mg/L)	Turbidity (NTU)	Al (mg/L)	Fe (mg/L)	NO ₂ ²⁻ (mg/L)	NO ₃ ²⁻ (mg/L)	NH ₃ ⁺ (mg/L)
NS01	Pre-Mining	535.54	76.50	49.42	0.18	0.69	0.15	3.44	0.07
	During Mining	1706.00	17.33	170.48	0.04	0.28	0.01	1.19	0.13
	% RPD	104	126	110	122	85	170	97	58
NS02	Pre-Mining	268.45	65.29	38.52	0.15	0.70	-	1.15	0.08
	During Mining	1518.00	175.22	193.31	0.07	0.32	-	3.77	0.18
	% RPD	140	91	134	80	75	-	107	77

The results summarised in Table 6 indicate that, although aerial photographs suggest that the northern stream has not been significantly altered by mining, changes have occurred to the surface water chemistry between pre-mining and during mining data. It is not possible to determine the cause of this variability, although it is plausible that mining may have had an effect in the area. Changes in the stream conditions further up stream may have induced the variability seen or a change in rainfall levels over the years for which monitoring has been carried out may have been the primary cause. It is also possible that all the factors mentioned played a role in the changes recorded. Furthermore, Figure 7 and Figure 8 show that an access road has been constructed over the northern streamline and this may have had an effect on down stream surface water quality. However, based on the data available, is not possible to further discuss the impact of this construction on the site.

Stream flow data for monitoring location NS02 has only been provided for 2001, 2003 and 2005. For the 2003 data, it has been noted that there may be some inaccuracies due to faulty data collection (Iluka pers. comm.).

7.4 Surface Water Summary

Based on the data provided, it is not possible to fully assess the impacts of the mining activities at the Gingin site on the surface water quality discharging from the streams at the site. It is apparent that the southern stream is likely to have been re-routed to accommodate mining in the area. Moreover, as a result of mining in the area, the central stream may no longer act as a present day drainage channel.

Data collection points appear to show significant surface water chemistry data variation between pre-mining and during mining monitoring events. These variations, however, are not limited to down stream monitoring locations, locations upstream of the mining pit being equally variable. Consequently, due to the limited data provided for the surface water chemistry data and considering the inconsistent stream flow data recorded to date, it is not possible to clearly ascertain how much of the water quality (physical and chemical) variability of surface water discharges from the Gingin mine site area is attributable to mining.

8.0 GROUNDWATER

8.1 Baseline Groundwater Conditions

Baseline groundwater monitoring was undertaken by URS between July 2002 and October 2003. The results were reported in the Water Resources Management Plan – Gingin Mineral Sands Project, Iluka, November 2007.

Only limited geochemical information was presented in the URS report; pH and TDS were presented for a limited number of bores at the site. These data were further limited by the patchy data quality with large periods of time where data was not acquired for each analyte. Furthermore, the pH data presented for the



period June 2003 shows decreasing pH in 5 of the 7 bores analysed. It is not clear whether these data are 'real' or induced due to instrument malfunction. The bores in question are spatially dispersed and are likely to be located in varying soil profiles and thus it is difficult to interpret why this variation in pH occurred at this time.

From the un-interpreted data provided by Iluka, groundwater samples taken between 2003 and 2004 recorded lateral variability in groundwater quality. Some bores recorded appreciable alkalinity (in excess of 100 mg/L; max value recorded = 270 mg/L GS13) and others very little (<40 mg/L). Concentrations of TDS varied from those indicative of fresh waters (min value recorded <1 mg/L in GS13D) to saline (max. value recorded = 5200 mg/L in GS3S).

Notably GS13 water quality was highly variable with respect to alkalinity and TDS. This bore is the one located in closest proximity to the central wetland. It is known that the TDS of wetlands can vary in orders of magnitude between seasons (ANZECC 2000) and therefore this variability is not of concern. From the groundwater installation soil logs, there is an appreciable amount of silt at this location; silty sand logged from 7 m to 16.5 m below ground surface.

8.2 Groundwater Quality Monitoring

In accordance with the regulatory license and mine operating strategy (not viewed in this review) groundwater monitoring was undertaken between 2007 and 2009, the monitoring suite for each bore is provided in the table below.



GINGIN MINE - SOIL REVIEW

Table 7: Water Monitoring Program taken from Iluka Resources Ltd Water Resources Management Plan, November 2007

Source	Locations	Monitoring Parameters ¹	Monitoring Frequency
Streamflow	NS2, CS2, SS3	Streamflow	Continuous
	NS1, NS2, CS1, SS1, SS2, SS3, Raw water Dam, Process water Dam	EC, TDS, TSS, turbidity, pH, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Al, Mn, HCO ₃ , Total Alkalinity, Ammonia, NO ₃ , NO ₂ , Total P, Total Kjeldahl Nitrogen and Filterable, Reactive Phosphorous	Quarterly
	NS2, CS3, SS3	Erosion stability – visual assessment	Bi-annually ²
	Gingin Deposit	Rainfall	Minimum daily
	Dewar Dam	Dam water content	Weekly in summer
Superficial Formations	Sump-pumps	Abstraction volumes, operating hours	Weekly
		Cumulative abstraction	Monthly
	GS1 to GS25, excluding GS1S, GS3S&D, GS9D, GS10s, GS12S, GS14S, GS16S, GS17S, GS18S&D, GS19S, M&D	Groundwater levels	Monthly
	RG1, RG3, RG4, RG5	Groundwater levels	Monthly
	GSP4	Groundwater levels	Monthly
	B1, W1, Golf Course	Groundwater levels	Monthly
	GS2, GS8, GS13, GS17, GS21	pH, TDS, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Al, Mn, Total Alkalinity, HCO ₃	Quarterly
Yarragadee Formation	GYP1	Abstraction rates and volumes	Weekly
	GYP1	Groundwater levels	Opportunistic
	GY1	Groundwater levels	Weekly
	GB1, AM16A, GB5, AM4, AM4A, AM6	Groundwater levels	Monthly
	GYP1	EC, pH, temperature, TDS, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Mn, Total Alkalinity, HCO ₃	

Notes: 1: After initial monitoring it is likely that the qualitative parameters can be scaled back, focussing on likely indicators of pollution and off-site impacts.

2: Also after large run-off events.



GINGIN MINE - SOIL REVIEW

Groundwater at the Gingin site generally has low alkalinity (compared to buffering capacity of groundwater assessment levels published by the DEC adapted from the Swedish EPA, 2002), neutral pH and TDS below 2500 mg/L (fresh water, ANZECC, 2000). A review of the limited Eh data available shows that Eh readings were not taken until 2009, all readings taken have recorded positive values therefore it may be inferred that the groundwater conditions at the site at present are oxidising. It is noted that Ionic balance is not available for monitoring data between 2007 and 2008, furthermore, pH readings may be spurious for some monitoring events due to equipment failure (pers. comm. Cindy Walker).



9.0 Comparison of Current Groundwater Results with Baseline Water Quality

Average pH over the monitoring period for all bores is 6.35 (SD 0.7) and can therefore be considered generally constant. There is one notable outlier, bore GS10M which through the monitoring period from 2003 to date has recorded consistently lower pH (4.71 in 2003 to 3.8 in 2009). This bore has also consistently recorded low alkalinity, with below LOR readings recorded in 2009. This bore is located in an area of moderate ASS risk close to Dewar Road. It is not located within the mining area and thus there is limited data available regarding the types of soils that this bore is situated within. The bore log (URS 2001) shows the soils at this locality consist of clay, lateritic sands, sandy clay and silty sands. Some mottling was described within the lateritic sands, which could be interpreted as the soils in this area having experienced some change in redox conditions over time, however, considering the information provided to date, there are no obvious reasons why the water sampled from this bore would be expected to have a lower pH than others in the area.

All other analytes are generally highly variable with values varying up to 100% from the mean. The potential reasons for this variability are numerous, although difficult to interpret due to the lack of information regarding sampling and quality control measures. Nevertheless, from an assessment of the location of the wells with respect to soil pH it can be interpreted that the pH of groundwater is not directly proportional to soil pH as the bore that has recorded the lowest pH to date is not located in the area that has recorded the lowest soil pH to date. In fact quite the opposite is true, with those bores located within soils with the lowest pH, such as GS17, recording some of the highest groundwater pH readings (pH 7.4).

The groundwater at the site was described as tannic (EMP, Iluka 2007), thus low pH readings may be related to the presence of organic acids and organic sulfur compounds released from the surrounding soils and vegetation.

9.1 Interpretation of Groundwater Chemical Results with Respect to Risk of Impact from Potential Acid Generation

In order to assess the risk of impact from the release of acidity to groundwater, the data from Gingin were compared to the criteria provided by the Western Australian Governments Department of Environment and Conservations in their document entitled "Treatment and Management of Soils and Water in Acid Sulfate Soil Landscapes" (January 2009). This document states:

- 1) If Alkalinity > 60 mg/L and pH > 6.0, the buffering capacity of groundwater is adequate to maintain acceptable level in the future;
- 2) Chemical indicators that may indicate that groundwater is being affected by, or has already been affected by, the oxidation of sulfides include:
 - A sulfate/chloride ratio > 0.5 (mainly related to salt water and not freshwater).
 - An alkalinity/sulfate ratio < 0.5.
 - pH < 5.
 - A soluble aluminium > 1.0 mg/L.

Thus with the pH of the groundwater at the mine site on average above pH 6.0 and alkalinity on average above 60 mg/L (average values for license monitoring = 69 mg/L the buffering capacity of the groundwater can be considered adequate to maintain suitable pH levels.

However, if one calculates the Alkalinity/sulfate ratio, some bores at the mine site do indicate that they have elevated levels of sulfate compared to their alkalinity. A list of the bores where this ratio indicates a risk of acidification is provided in Table 8 below:



Table 8: Bores Where Alkalinity vs Sulfate Ratio <0.5 at the Gingin Mine

Bore	Alk/SO ₄	Bore	Alk/SO ₄
GS11S	0.02	GS6S	0.16
GS8S	0.06	RG1	0.17
GS11D	0.08	GS23D	0.18
GSP4	0.10	RG5	0.18
GS13D	0.11	GS23S	0.20
GS22S	0.12	GYP1	0.22
GS8D	0.13	GS13S	0.25
GS9D	0.34	GS21S	0.28
GS15D	0.14	GS21D	0.32
GS22S	0.15	GS16D	0.33
GS12D	0.15	GS17D	0.38
GS13D	0.46	GS20S	0.41

Al has been recorded at levels in excess of 1 mg/L in GYP1 and GS21S during license groundwater monitoring, however, it is not clear from the results provided whether these values are for total Al or dissolved Al. Al results are only available for two bores pre-mining and it was not at these two bores where the Al values were recorded. It can thus not be determined whether Al was already elevated prior to the initiation of mining.

As discussed above, only a small amount of sulfur has been recorded in soils through the ASS assessments and soil mineralogical assessments undertaken to date. It has been noted that sulfate in groundwater may be sourced from other non-pyrite related sources such as precipitated salts in pore spaces of coastal sediments due to the provenance of the soils at the mine site. Therefore, although the ratio of alkalinity to sulfate is <0.5 for the above bores, it may not be due to impact from ASS in this case.

10.0 DISCUSSION AND CONCLUSIONS

10.1 Soils

Soils at the Gingin site are generally oxidised sands, silts and clays interspersed with gravels, ferruginised sands, ironstone, mudstones and shales. The soils were sampled at 1 m intervals, with only 1 sample every 2 m selected for laboratory analysis. From the description of the geology and the soils provided by Oracle in their pre-mining soils report (Oracle 2002) it was described as difficult to define the boundary of the ore in the field, therefore, it is reasonable to assume that the soils are physically very similar throughout the soil profile.

From a review of the soil logs recorded during the installation of the groundwater wells (URS 2001) it appears that the soils are layered in bands of 1 m or greater thicknesses. Consequently, a sampling strategy of 1 sample per metre should be suitable to collect representative samples of the soil profile. However, one must also consider the guidance available for ASS. Guidance from DEC stipulates that a low density of sampling locations per site may be identified when assessing for ASS, however, high resolution sampling at each location is recommended. The DEC recommend sampling should be undertaken at 0.25 m intervals to 1 m below the expected depth of disturbance. This density is recommended because of the nature of the formation of ASS. The microbial communities involved tend to be spatially distributed in a very patchy manner. Consequently the sulfides in the soils may be finely disseminated in random pattern within a particular soil horizon. A coarse sampling strategy with depth may miss the sulfides. What one should consider here, for this site, is that sampling in areas where ASS is more likely to form should be more



detailed than in areas where the soils are less variable and do not display ASS characteristics. The area close to the central wetland would be one area where the risk of ASS is higher than the rest of the site.

As many of the cores sampled are not included in the block model, and the soil chemical reports do not include soil descriptions, it cannot be assessed at this stage whether all the lithologies present at the site were sampled and analysed. An attempt was made by Golder to determine the likely soils sampled by plotting the locations of the soil bores sampled in each phase of soil sampling in the block model. Comparing the results of the revised block model and the interpretation of soil management units (SMU) by Oracle (2002), it can be inferred that where sand is encountered more frequently the soil pH is higher than where clays are the dominant lithology. It is noted however that the mudstone which was recorded at various locations across the site by URS may not have been sampled.

All chemical analysis undertaken to date on the soils at the Gingin Mine have recorded very low sulfur contents (maximum 0.02%S by XRF, 0.01%S by SPOCAS methods) and therefore from these data it cannot be interpreted that ASS is present. Furthermore, there is no evidence presented to refute the conclusion of all soil previous reports (EGi, 2003, Oracle 2004 and SWC, 2004) that the soils acidity is most probably due to the hydrolysis of Fe and Al bearing clays.

One form of acidity that has not been put forward is organic acidity. It is described that the top soil at the site can contain appreciable organic matter contents (in excess of 4% TOC). The observed tannic groundwater is indicative that both the soils and groundwater at Gingin contain organic acids. The periodic dewatering in the vicinity of the central wetland area is likely to lead to groundwater level fluctuations and the exposure of the wetland sediments to air. Sediments in the central wetland area are highly likely to contain peaty organic rich soils which, upon exposure to air, could oxidise leading to the release of organic acids. Following the cessation of dewatering, the recovery of groundwater levels could allow these organic acids to enter the groundwater system. Such sporadic release of acidity makes the deconvolution of spatial versus seasonal variability in groundwater composition more complex.

There seems to be a disparity between the results of the chemical analysis and the recommended management of soils at the site. All data collected to date regarding the source of acidity at the site has been interpreted as non-sulfidic acidity. This acidity is retained within the soils and is not being released to the environment as pH_{tox} and pH_{KCl} are similar to pH_f , thus indicating that the acidity is not leachable. This contradicts the findings of Soil Water Consultants (2007) that special measures be taken when dealing with acidic soils at the mine site due to "the rapidly leached" acidity.

Acidic regions, such as identified at Gingin, need special management to maintain their acidic character. Liming is only required to neutralise leachable acidity and the liming rate should be modified to ensure that the pH of soils remains in the moderately acidic range in an effort to limit any change in conditions at the site from the original background levels, as the ecosystems are adapted to these conditions.

10.2 Groundwater

It is likely that the groundwater composition at the mine site reflects the composition of the soils into which the monitoring bore was constructed. A review of the bore logs for the construction of the groundwater wells did not indicate a substantial variability on soil types and thus did not provide an answer to the question of why some bores, particularly GS10, have lower pH than others at the site. As discussed above, the role of organic acidity should be further investigated at the site as organic acids may play a role in lowering the pH of groundwater across the site. Organic acids may be leaching from trees and shrubs in the catchment area and, therefore, there will be little correlation between groundwater pH and soil type for this type of acidity.

Nevertheless, generalisations can be made regarding the groundwater quality at the site over the nine year monitoring period. Average pH over the license monitoring period (2003-2009) for all bores is 6.35 (SD 0.7) and can therefore be considered generally constant. Alkalinity is variable with values recorded from <1 mg/L to 240 mg/L. Sulfate concentrations were more variable with average values varying up to approximately 300% (166 (324) mg/L). Aluminium was recorded in two bores at levels in excess of the recommended maximum of 1 mg/L and pH of groundwater has been recorded below pH 4. As a consequence, the groundwater composition may be considered potentially toxic to some plant species that are not adapted to



such conditions. This composition may not be a direct result of the mining activities, however, with the limited background data available, regarding metal speciation, this cannot be ruled out unequivocally.

It should be noted that the water quality analyses were in some cases undertaken without calculating an ionic balance. Also the pH readings were anomalous for a number of sampling events during operation; Iluka has indicated that the contractor's pH meter wasn't working in some instances.

To better assess the risk of acidification the source of acidity in any of the low pH water should be further investigated. If the total acidity of any sample collected were to be recorded in concert with a determination of the methyl orange acidity field test, one would be able to assess the contribution of mineral acidity in the sample. Following this assessment, one would be able to assess the likelihood of ASS oxidation being the source of the lower pH values noted at some locations.

11.0 CONCEPTUAL SITE MODEL

The soil lithologies generally consist of the following units:

- Topsoil.
- Yellow Sand.
- Red Sand.
- Pale Grey Sand.
- Gravelly Clay.
- Grey Clay.
- Fine-coarse Alluvium.
- Sandstone/Siltstone.
- Mudstone.

These units form a highly oxidised acidic weathered soil profile. The sandstone/siltstone (ferruginous hardpan) which forms the base of the overburden profile is also considered to be the main lithology which hosts the ore. The basal soils with their grey colouration may represent the base of the oxidised profile and may bear reduced forms of iron within their matrix. Sulfate salts deposited within the soil profile contribute to the soils acidity, together with the hydrolysis of the clays within the soil structure. The clay hydrolysis may contribute to elevated iron and aluminium in the local ground and possibly surface waters. Furthermore, the presence of black to grey mudstones indicate periods of anoxic deposition at the site and it is possible that pyrite may be present in these mudstones as a consequence of these anoxic conditions and the presence of iron and sulphate.

The area known as the central wetland may add to this acidity through the release of organic acids. Sulfides may also be present in the peaty soils which are commonly found in wetland areas. During dewatering where this peat may be allowed to dry out, the oxidation of this sulfide may produce sulfuric acid. When groundwater levels return to their pre-dewatering levels this acid, may be dissolved in groundwater and could potentially cause the mobilisation of metals and nutrients from surrounding soils.

Although the groundwater which flows through this soil profile is of varying composition, it can be generalised as having sufficient alkalinity to buffer the acidity present in the soil profile. From a risk perspective, the risk of metal mobilisation due to leaching of soils via acidic groundwater is therefore likely to be limited.

12.0 RECOMMENDATIONS

The following recommendations are made to improve the level of certainty regarding risk management for Acid Sulfate Soils at the Gingin mine site:



- The block model should be updated to include all boreholes that have been drilled across the site for all stages of the project (groundwater well log details should also be included). This will aid in the development of a sampling and analysis plan for future sampling of the soils at the site for closure purposes.
- A review of the quality control and quality assurance data associated with all ground and surface water data acquired to date should be undertaken. This will improve the confidence in the data already acquired, and consequently monitoring periods may be reduced through the use of existing data.
- Field testing should consider the following:
 - Include a test for total titratable acidity, using a suitable field kit, as part of the groundwater and surface water licence monitoring programme. This test will provide an indication of the source of the acidity in the groundwater with respect to its mineral or organic origin.
 - Record whether water quality analysis are conducted on filtered (using a 0.45µm filter as standard) or unfiltered samples and whether metal samples are acidified. This is important to understand metal speciation and toxicity and to ensure that correct sample preparation procedures were implemented.

In order to provide details on sampling methodology including quality control measures required, it is recommended that sampling of any soil or water should be undertaken in accordance with the relevant Australian Standard (Water quality sampling – AS/NZ 5667.1:1998 for sampling Soils, AS 4482:1-2005). Guidance should also be taken from the recently released DEC guidance on sampling for ASS: Western Australian Government, Department of Environment and Conservation “Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes” May 2009. In accordance with these guidelines, the following analytical parameters should be analysed, which requires additional analyses to those already specified in Table 7:

- Total: acidity, alkalinity, pH, sulfate, chloride, ammoniacal nitrogen, EC, TDS, DO, redox potential, total nitrogen, total phosphorous, filterable reactive phosphorous (FRP);
- Filtered and acidified sample: Al, As, Cr, Cd, Fe, Mn, Ni, Zn, Se.

Consideration should also be given to ARD sampling and analysis strategies detailed in:

- Australian Government, Department of Industry, Tourism and Resources, Managing Acid and Metalliferous Drainage, February 2007.

Based on the available data, it is not recommended to lime soils at the mine site as the acidity recorded is not leachable and there is available alkalinity in the groundwater in quantities deemed sufficient to neutralise any potential acid generation. Management procedures developed for the site should take into consideration that soil at the site was acidic prior to the initiation of ground disturbing activities and thus should remain so following the cessation of these works. However, as mentioned above, it is necessary to assess the wetland soils and the mudstone lithology before this conclusion can be generally applied.



Report Signature Page

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APPENDIX A

Heritage

Search Criteria

14 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6531748	390014
6537883	396097

Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

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Legend

Restriction	Access	Coordinate Accuracy
N No restriction	C Closed	Accuracy is shown as a code in brackets following the site coordinates.
M Male access only	O Open	[Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
F Female access	V Vulnerable	[Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Status

L Lodged	IR Insufficient Information (as assessed by Site Assessment Group)	Site Assessment Group (SAG)
I Insufficient Information	PR Permanent register (as assessed by Site Assessment Group)	Sites lodged with the Department are assessed under the direction of the Registrar of Aboriginal Sites. These are not to be considered the final assessment.
P Permanent register	SR Stored data (as assessed by Site Assessment Group)	
S Stored data		Final assessment will be determined by the Aboriginal Cultural Material Committee (ACMC).

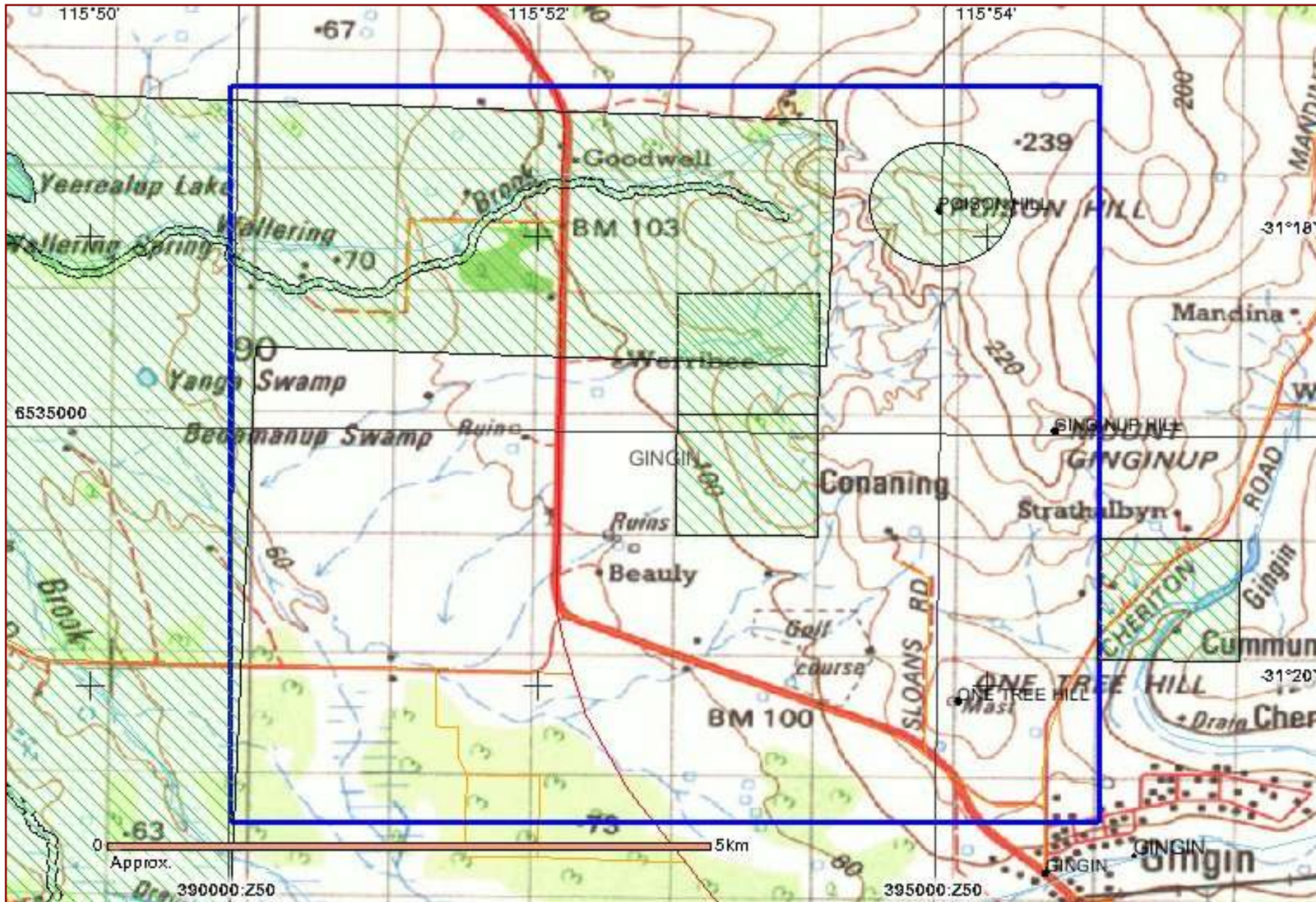
Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
3187	S	O	N	Gingin	Artefacts / Scatter			396639mE 6533649mN Zone 50 [Unreliable]	S00545
3320	I	O	N	Yarrimie A.	Artefacts / Scatter	Camp		393639mE 6534649mN Zone 50 [Unreliable]	S00164
3321	I	O	N	Werribie.	Artefacts / Scatter	Camp		393639mE 6535649mN Zone 50 [Unreliable]	S00165
3322	I	O	N	Poison Hill.	Artefacts / Scatter	Camp		394989mE 6536899mN Zone 50 [Unreliable]	S00166
19138	S	O	N	Wetlands & Watercourses Moore River To Bullsbrook	Mythological		*Registered Informant names available from DIA.	396128mE 6561778mN Zone 50 [Reliable]	
19183	S	O	N	Red Gully Creek	Mythological	Plant Resource	*Registered Informant names available from DIA.	396128mE 6561778mN Zone 50 [Reliable]	
20008	P	C	N	Gingin Brook Waggyl Site	Mythological, Historical	Plant Resource, Camp, Hunting Place, Water Source	*Registered Informant names available from DIA.	Not available for closed sites	
20650	L	O	N	Lennard Brook	Mythological	Natural Feature, Water Source, [Other: Creek]	*Registered Informant names available from DIA.	389582mE 6549648mN Zone 50 [Reliable]	
20749	P	O	N	Moore River Waugal	Mythological		*Registered Informant names available from DIA.	389582mE 6549648mN Zone 50 [Reliable]	
21616	I	O	N	Boonanarring Brook	Mythological		*Registered Informant names available from DIA.	396128mE 6561778mN Zone 50 [Reliable]	



Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
21617	I	O	N	Wallering Brook	Mythological		*Registered Informant names available from DIA.	396128mE 6561778mN Zone 50 [Reliable]	
21618	I	O	N	Nullilla Brook	Mythological		*Registered Informant names available from DIA.	396128mE 6561778mN Zone 50 [Reliable]	
21619	I	O	N	Breera Brook	Mythological		*Registered Informant names available from DIA.	396128mE 6561778mN Zone 50 [Reliable]	
21620	P	O	N	Chandala Brook	Mythological		*Registered Informant names available from DIA.	389626mE 6549540mN Zone 50 [Reliable]	



Legend

- Highlighted Area
- Town
- Map Area
- Search Area

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For further important information on using this information please see the Department of Indigenous Affairs' Terms of Use statement at <http://www.dia.wa.gov.au/Terms-Of-Use/>

Place No: 11789 Name: Dacresfield - Site

Other Name: Beaully

Lot 2 Brand Hwy
Gingin

LGA: Gingin
Region: Avon Arc

Construction date: 1890

Year of demolition: 0

Demolished: Yes

Place Type: Individual Building or Group

	General	Specific
Historical:	RESIDENTIAL	Single storey residence
Present Use:	OTHER	Other

	General	Specific
Wall: EARTH		Adobe {Mud Brick}
Wall: STONE		Other Stone

Place No: 17910 Name: Ralph Dewar's Home – Site

Brand Highway
Gingin

LGA: Gingin
Region: Avon Arc

All that remains of the mud bat homestead and outbuildings is a stone well. The land is currently used for pasture.

Construction date: 1860
Year of demolition: 0
Demolished: No

Place Type: Individual Building or Group

	General	Specific
Historical:	RESIDENTIAL	Single storey residence
Present Use:	FARMINGPASTORAL	Other

General	Specific
DEMOGRAPHIC SETTLEMENT & MOBILITY	Settlements
OCCUPATIONS	Grazing, pastoralism & dairying
PEOPLE	Early settlers

	General	Specific
Wall:	EARTH	Adobe {Mud Brick}

Place No: 17914 Name: William Smart Dewar's Home – Site

Other Names: The Farm; Hillview

Brand Highway
Gingin

LGA: Gingin
Region: Avon Arc

A flourishing farm establishment once stood here, with the home built on the bank of a winter stream. The main house consisted of three rooms, living and bedrooms, a separate kitchen and store rooms, dairy with cellar below, stables, cowsheds and an underground fresh water tank, etc. The masonry was mud bat plus limestone and ironstone with floors of sawn timber blocks. The roof was shingled. Part of the old house was used as a school room between 1903 and 1909. The whole establishment was destroyed by fire in 1914.

Construction date: 1862

Year of demolition: 0

Demolished: No

Place Type: Individual Building or Group

	General	Specific
Educational:	EDUCATIONAL	Combined School
Historical:	FARMINGPASTORAL	Homestead

General	Specific
DEMOGRAPHIC SETTLEMENT & MOBILITY	Settlements
OCCUPATIONS	Grazing, pastoralism & dairying
SOCIAL & CIVIC ACTIVITIES	Education & science

	General	Specific
Wall:	EARTH	Adobe {Mud Brick}
Wall:	STONE	Limestone
Roof:	TIMBER	Shingle

Place No: 01087 Name: Beedamanup Homestead

Other Name: Old Dewar Homestead

Gingin Rd (Dewar Flats)
Gingin

LGA: Gingin
Region: Avon Arc

Area: 6

It is described as Colonial Georgian with walls of a form of Casuarina stone, which was mined nearby. There are three big chimneys of stone and the roof was originally shingled. There are six big rooms upstairs and six downstairs with a simply constructed staircase in the centre. Out buildings included a cellar, dairy, stables, and blacksmith's shop, stockyards and cow bails. One room upstairs in the northeast corner had no window so as to exclude thieves from stores kept there.

Construction date: 1855

Year of demolition: 0

Demolished: No

Place Type: Individual Building or Group

	General	Specific
Historical:	FARMINGPASTORAL	Homestead
Present Use:	FARMINGPASTORAL	Homestead

General	Specific
DEMOGRAPHIC SETTLEMENT & MOBILITY	Settlements
OCCUPATIONS	Grazing, pastoralism & dairying

	General	Specific
Roof:	METAL	Corrugated Iron
Wall:	STONE	Local Stone

Place No: 17717 Name: Gingin Cemetery

Dewar Road
Gingin

LGA: Gingin
Region: Avon Arc

The Cemetery is a high point overlooking Gingin town. Apart from head stones tracing the social history of the region, the Cemetery site is notable for its native vegetation, principally hybridated Kangaroo Paws which are unique to this site. Cleared from six acres of Edgar's paddock in 1903, the first burial occurred in 1904. An ashes pavilion with stone walls and a shingled roof was added to the cemetery c1992.

Construction date: 1903

Year of demolition: 0

Demolished: No

Place Type: Other Built Type

	General	Specific
Present Use:	MONUMENTCEMETERY	Cemetery
Historical:	FARMINGPASTORAL	Other

General	Specific
DEMOGRAPHIC SETTLEMENT & MOBILITY	Settlements
SOCIAL & CIVIC ACTIVITIES	Religion
SOCIAL & CIVIC ACTIVITIES	Community services & utilities
PEOPLE	Early settlers

Place No: 17818 Name: Gingin Golf Course

Lot 61 Dewar Road
Gingin

LGA: Gingin
Region: Avon Arc

Construction date: 1930
Year of demolition: 0
Demolished: No

Place Type: Landscape

	General	Specific
Historical:	SOCIALRECREATIONAL	Other
Present Use:	SOCIALRECREATIONAL	Other

Place No: 17909 Name: One Tree Hill

Dewar Rd
Gingin

LGA: Gingin
Region: Avon Arc

The limestone here is rich in fossils of both plant and animal species. It is believed that the Gingin chalk belongs to the Lower Santonian Age deposits, being laid down more than 65 million years ago. More recently, lime kilns were operating here by 1898 and continued until 1925. A radio mast serving to link Gingin, Guilderton and Lancelin was erected here in 1963/1964.

Construction date: 0
Year of demolition: 0
Demolished: No

Place Type: Landscape

	General	Specific
Historical:	MINING	Other
Present Use:	FARMINGPASTORAL	Other

General	Specific
TRANSPORT & COMMUNICATIONS	Telecommunications
OCCUPATIONS	Mining {incl. mineral processing}
OTHER	Other Sub-Theme



APPENDIX B

Environmental Geology Map



APPENDIX C

DoW Borehole Database Search

Acknowledgment

This information is supplied on the condition that if used in a study or publication the Department of Water is acknowledged as the source of the information. Citations may take the following form:

- Water INformation (WIN) database - discrete sample data. [Date provided]. Department of Water, Water Information Provision section, Perth Western Australia.
- Hydstra database - time-series data. [Date provided]. Department of Water, Water Information Provision section, Perth Western Australia.

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Disclaimer /Potentially Contaminated Sites

As of 1 December 2006, the Department of Water (DoW) cannot provide SiteLEGACI data, as this data is no longer held in DoW's databases.

Information on known or suspected contaminated sites in Western Australia is held by the **Department of Environment and Conservation (DEC)**. Up to date information on confirmed contaminated sites is available via the Contaminated Sites Database on www.dec.wa.gov.au/contaminatedsites.

Information on other sites on the DEC's records may be accessed by requesting a summary of records - please see www.dec.wa.gov.au/or ring the DEC's Contaminated Sites Section on 1300 762 982 for further information. The majority of the SiteLEGACI data formerly provided by DoW was drawn from Hirschberg J.-K., 1991. Inventory of known and inferred point sources of groundwater contamination in the Perth Basin, W.A. GSWA Record 1991/7; this document can be obtained by contacting the Information Centre, Department of Industry and Resources, 100 Plain Street, East Perth, WA 6004. Ph: 9222 3459.

Additional Notes:

The Department of Health (DOH) considers it an unsafe practice to drink or swim in untreated groundwater as experience has shown that groundwater may contain microbiological and chemical contamination. Groundwater should always be tested, assessed by an experienced person, and then treated appropriately to ensure that it is safe for the intended use.

Datums

WIN Site Id	Numbering System	Reference	Datum Plane	Elevation Datum	Elevation Reliability	Elevation (m)	Margin Of Error (m)
6349	AWRC	61710103	Australian Height Datum	Top of casing	~	63.200	
6349	AWRC	61710103	Not Applicable	Ground level	~	0.000	
6349	AWRC	61710103	Not Applicable	(none)	~	0.000	
6349	AWRC	61710103	Standard Level Elevation	Top of casing	~	100.000	
6355	AWRC	61710109	Australian Height Datum	Top of casing	~	75.509	
6355	AWRC	61710109	Not Applicable	(none)	~	0.000	
6355	AWRC	61710109	Standard Level Elevation	Top of casing	~	100.000	
6482	AWRC	61719031	Not Applicable	Ground level	=	0.000	
6482	AWRC	61719031	Standard Level Elevation	Top of casing	~	100.000	
6482	AWRC	61719031	Not Applicable	(none)	~	0.000	
6487	AWRC	61719036	Standard Level Elevation	Top of casing	~	138.725	
6487	AWRC	61719036	Not Applicable	(none)	~	0.000	
6487	AWRC	61719036	Local Height Datum	Air line	=	138.725	
6488	AWRC	61719037	Standard Level Elevation	Top of casing	~	141.775	
6488	AWRC	61719037	Not Applicable	(none)	~	0.000	
6488	AWRC	61719037	Local Height Datum	Air line	=	141.775	
6489	AWRC	61719038	Standard Level Elevation	Top of casing	~	80.610	
6489	AWRC	61719038	Not Applicable	(none)	~	0.000	
6489	AWRC	61719038	Local Height Datum	Air line	=	80.610	
6490	AWRC	61719039	Standard Level Elevation	Top of casing	~	59.080	
6490	AWRC	61719039	Not Applicable	(none)	~	0.000	
6490	AWRC	61719039	Local Height Datum	Air line	=	59.080	
9065836	AWRC	61720001	Standard Level Elevation	Top of casing	~	100.000	
20031292	AWRC	61711542	Not Applicable	Ground level	=	0.000	
20031294	AWRC	61711544	Not Applicable	Ground level	=	0.000	
20031296	AWRC	61711545	Not Applicable	Ground level	=	0.000	
20031297	AWRC	61711546	Australian Height Datum	Ground level	=	127.100	
20031298	AWRC	61711547	Not Applicable	Ground level	=	0.000	
20031301	AWRC	61711548	Australian Height Datum	Ground level	=	104.660	
20031302	AWRC	61711549	Australian Height Datum	Ground level	=	147.020	
20031303	AWRC	61711550	Not Applicable	Ground level	=	0.000	
20031304	AWRC	61711551	Not Applicable	Ground level	=	0.000	
20031305	AWRC	61711552	Not Applicable	Ground level	=	0.000	
20031306	AWRC	61711553	Not Applicable	Ground level	=	0.000	
20031307	AWRC	61711554	Not Applicable	Ground level	=	0.000	
20031308	AWRC	61711555	Not Applicable	Ground level	=	0.000	
20031309	AWRC	61711556	Not Applicable	Ground level	=	0.000	
20031310	AWRC	61716013	Not Applicable	Ground level	=	0.000	
20031314	AWRC	61711560	Not Applicable	Ground level	=	0.000	
20031315	AWRC	61711561	Not Applicable	Ground level	=	0.000	
20031316	AWRC	61716014	Not Applicable	Ground level	=	0.000	
20031317	AWRC	61711562	Not Applicable	Ground level	=	0.000	
20031318	AWRC	61711563	Not Applicable	Ground level	=	0.000	
20031319	AWRC	61711564	Not Applicable	Ground level	=	0.000	
20031320	AWRC	61716015	Australian Height Datum	Ground level	=	152.400	
20031323	AWRC	61711566	Not Applicable	Ground level	=	0.000	
20031324	AWRC	61711567	Not Applicable	Ground level	=	0.000	
20031325	AWRC	61711568	Not Applicable	Ground level	=	0.000	
20031338	AWRC	61716016	Australian Height Datum	Ground level	=	229.820	
20031339	AWRC	61716017	Australian Height Datum	Ground level	=	159.720	

Datums

WIN Site Id	Numbering System	Reference	Datum Plane	Elevation Datum	Elevation Reliability	Elevation (m)	Margin Of Error (m)
20031340	AWRC	61716018	Australian Height Datum	Ground level	=	161.240	
20031347	AWRC	61711582	Not Applicable	Ground level	=	0.000	
20031348	AWRC	61711583	Not Applicable	Ground level	=	0.000	
20031356	AWRC	61711590	Not Applicable	Ground level	=	0.000	
20031358	AWRC	61716020	Not Applicable	Ground level	=	0.000	
20031359	AWRC	61716021	Not Applicable	Ground level	=	0.000	
20031360	AWRC	61711592	Not Applicable	Ground level	=	0.000	
20031361	AWRC	61711593	Not Applicable	Ground level	=	0.000	
20031364	AWRC	61711596	Not Applicable	Ground level	=	0.000	
20031365	AWRC	61711597	Not Applicable	Ground level	=	0.000	
20031366	AWRC	61711598	Not Applicable	Ground level	=	0.000	
20031368	AWRC	61711600	Not Applicable	Ground level	=	0.000	
20031369	AWRC	61711601	Not Applicable	Ground level	=	0.000	
20031370	AWRC	61711602	Not Applicable	Ground level	=	0.000	
20031371	AWRC	61711603	Not Applicable	Ground level	=	0.000	
20031372	AWRC	61711604	Not Applicable	Ground level	=	0.000	
20031373	AWRC	61711605	Not Applicable	Ground level	=	0.000	
20031374	AWRC	61711606	Not Applicable	Ground level	=	0.000	
20031375	AWRC	61711607	Not Applicable	Ground level	=	0.000	
20031381	AWRC	61711613	Not Applicable	Ground level	=	0.000	
20031382	AWRC	61711614	Not Applicable	Ground level	=	0.000	
20031383	AWRC	61711615	Not Applicable	Ground level	=	0.000	
20031386	AWRC	61711618	Not Applicable	Ground level	=	0.000	
20031387	AWRC	61711619	Not Applicable	Ground level	=	0.000	
20031388	AWRC	61711620	Not Applicable	Ground level	=	0.000	
20031389	AWRC	61711621	Not Applicable	Ground level	=	0.000	
20031390	AWRC	61711622	Not Applicable	Ground level	=	0.000	
20031391	AWRC	61711623	Not Applicable	Ground level	=	0.000	
20031392	AWRC	61711624	Not Applicable	Ground level	=	0.000	
20031393	AWRC	61711625	Not Applicable	Ground level	=	0.000	
20031395	AWRC	61711627	Not Applicable	Ground level	=	0.000	
20031397	AWRC	61711629	Not Applicable	Ground level	=	0.000	
20031398	AWRC	61711630	Not Applicable	Ground level	=	0.000	
20031407	AWRC	61711639	Not Applicable	Ground level	=	0.000	
20031408	AWRC	61711640	Not Applicable	Ground level	=	0.000	
20031409	AWRC	61711641	Not Applicable	Ground level	=	0.000	
20031410	AWRC	61711642	Not Applicable	Ground level	=	0.000	
20031411	AWRC	61711643	Not Applicable	Ground level	=	0.000	
20031412	AWRC	61711644	Not Applicable	Ground level	=	0.000	
20031413	AWRC	61711645	Not Applicable	Ground level	=	0.000	
20031414	AWRC	61711646	Not Applicable	Ground level	=	0.000	
20031415	AWRC	61711647	Not Applicable	Ground level	=	0.000	
20031416	AWRC	61711648	Not Applicable	Ground level	=	0.000	
20031418	AWRC	61711650	Australian Height Datum	Top of casing	=	75.520	
20031418	AWRC	61711650	Not Applicable	Ground level	=	0.000	
20031421	AWRC	61716022	Australian Height Datum	Ground level	=	217.630	
20031422	AWRC	61711652	Not Applicable	Ground level	=	0.000	
20031427	AWRC	61711654	Not Applicable	Ground level	=	0.000	
20031428	AWRC	61711655	Not Applicable	Ground level	=	0.000	
20031429	AWRC	61716024	Not Applicable	Ground level	=	0.000	

Datums

WIN Site Id	Numbering System	Reference	Datum Plane	Elevation Datum	Elevation Reliability	Elevation (m)	Margin Of Error (m)
20031430	AWRC	61711656	Not Applicable	Ground level	=	0.000	
20031431	AWRC	61711657	Not Applicable	Ground level	=	0.000	
20031435	AWRC	61711661	Not Applicable	Ground level	=	0.000	
20031436	AWRC	61711662	Not Applicable	Ground level	=	0.000	
20031437	AWRC	61711663	Not Applicable	Ground level	=	0.000	
20031438	AWRC	61711664	Not Applicable	Ground level	=	0.000	
20031439	AWRC	61711665	Not Applicable	Ground level	=	0.000	
20031440	AWRC	61711666	Not Applicable	Ground level	=	0.000	
20031441	AWRC	61711667	Not Applicable	Ground level	=	0.000	
20031442	AWRC	61711668	Not Applicable	Ground level	=	0.000	
20031443	AWRC	61711669	Not Applicable	Ground level	=	0.000	
20031444	AWRC	61711670	Not Applicable	Ground level	=	0.000	
20031445	AWRC	61711671	Not Applicable	Ground level	=	0.000	
20031446	AWRC	61711672	Australian Height Datum	Top of casing	=	100.000	
20031446	AWRC	61711672	Not Applicable	Ground level	=	0.000	
20031448	AWRC	61711674	Not Applicable	Ground level	=	0.000	
23030959	AWRC	61710525	Australian Height Datum	Ground level	=	60.593	0.005
23030959	AWRC	61710525	Australian Height Datum	Top of cement/concrete block or pad	=	60.633	0.005
23030959	AWRC	61710525	Australian Height Datum	Top of casing	=	61.382	0.005
23030959	AWRC	61710525	Australian Height Datum	Top of inner casing	=	61.342	0.005
23030960	AWRC	61710526	Australian Height Datum	Ground level	=	60.603	0.005
23030960	AWRC	61710526	Australian Height Datum	Top of cement/concrete block or pad	=	60.623	0.005
23030960	AWRC	61710526	Australian Height Datum	Top of casing	=	61.381	0.005
23030960	AWRC	61710526	Australian Height Datum	Top of inner casing	=	61.371	0.005
23030961	AWRC	61710527	Australian Height Datum	Top of inner casing	=	94.756	0.005
23030961	AWRC	61710527	Australian Height Datum	Top of cement/concrete block or pad	=	94.796	0.005
23030961	AWRC	61710527	Australian Height Datum	Top of casing	=	94.796	0.005
23030961	AWRC	61710527	Australian Height Datum	Ground level	=	94.780	0.005
23030962	AWRC	61710528	Australian Height Datum	Ground level	=	94.870	0.005
23030962	AWRC	61710528	Australian Height Datum	Top of cement/concrete block or pad	=	94.890	0.005
23030962	AWRC	61710528	Australian Height Datum	Top of casing	=	94.890	0.005
23030962	AWRC	61710528	Australian Height Datum	Top of inner casing	=	94.840	0.005
23030963	AWRC	61710529	Australian Height Datum	Top of inner casing	=	97.463	0.005
23030963	AWRC	61710529	Australian Height Datum	Top of cement/concrete block or pad	=	96.826	0.005
23030963	AWRC	61710529	Australian Height Datum	Top of casing	=	97.553	0.005
23030963	AWRC	61710529	Australian Height Datum	Ground level	=	96.801	0.005
23030964	AWRC	61710530	Australian Height Datum	Top of inner casing	=	97.848	0.005
23030964	AWRC	61710530	Australian Height Datum	Top of cement/concrete block or pad	=	97.146	0.005
23030964	AWRC	61710530	Australian Height Datum	Top of casing	=	97.888	0.005
23030964	AWRC	61710530	Australian Height Datum	Ground level	=	97.131	0.005

Datums

WIN Site Id	Measurement Method	Date Established	Date Reliability	Colloquial Name	Comment
6349	Surveyed	30/06/1977	Unknown		
6349	(none)	30/06/1977	Unknown		
6349	(none)	30/06/1977	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6349	(none)	30/06/1977	Unknown		
6355	Surveyed	03/05/1973	Unknown		
6355	(none)	03/05/1973	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6355	(none)	03/05/1973	Unknown		
6482	(none)	15/11/1964	Estimate		
6482	(none)	24/12/1965	Unknown		
6482	(none)	24/12/1965	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6487	(none)	25/06/1975	Unknown		
6487	(none)	25/06/1975	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6487	(none)	01/01/1988	Unknown		
6488	(none)	29/07/1975	Unknown		
6488	(none)	29/07/1975	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6488	(none)	01/01/1988	Unknown		
6489	(none)	21/02/1984	Unknown		
6489	(none)	27/02/1984	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6489	(none)	01/01/1988	Unknown		
6490	(none)	01/01/1985	Unknown		
6490	(none)	30/07/1987	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6490	(none)	01/01/1988	Unknown		
9065836	(none)	01/01/1987	Unknown		
20031292	(none)	00/01/1900	Unknown		
20031294	(none)	00/01/1900	Unknown		
20031296	(none)	00/01/1900	Unknown		
20031297	(none)	30/06/1942	Estimate		
20031298	(none)	15/04/1964	Estimate		
20031301	(none)	30/06/1966	Estimate		
20031302	(none)	30/06/1966	Estimate		
20031303	(none)	00/01/1900	Unknown		
20031304	(none)	30/06/1960	Estimate		
20031305	(none)	00/01/1900	Unknown		
20031306	(none)	30/06/1963	Estimate		
20031307	(none)	30/06/1938	Estimate		
20031308	(none)	30/06/1955	Estimate		
20031309	(none)	30/06/1963	Estimate		
20031310	(none)	00/01/1900	Unknown		
20031314	(none)	00/01/1900	Unknown		
20031315	(none)	00/01/1900	Unknown		
20031316	(none)	00/01/1900	Unknown		
20031317	(none)	00/01/1900	Unknown		
20031318	(none)	00/01/1900	Unknown		
20031319	(none)	00/01/1900	Unknown		
20031320	(none)	30/06/1964	Estimate		
20031323	(none)	30/06/1961	Estimate		
20031324	(none)	30/06/1962	Estimate		
20031325	(none)	30/06/1957	Estimate		
20031338	(none)	30/06/1964	Estimate		
20031339	(none)	30/06/1964	Estimate		

Datums

WIN Site Id	Measurement Method	Date Established	Date Reliability	Colloquial Name	Comment
20031340	(none)	30/06/1964	Estimate		
20031347	(none)	26/11/1992	Estimate		
20031348	(none)	27/08/1993	Estimate		
20031356	(none)	00/01/1900	Unknown		
20031358	(none)	00/01/1900	Unknown		
20031359	(none)	00/01/1900	Unknown		
20031360	(none)	00/01/1900	Unknown		
20031361	(none)	30/06/1912	Estimate		
20031364	(none)	30/06/1970	Estimate		
20031365	(none)	30/06/1956	Estimate		
20031366	(none)	00/01/1900	Unknown		
20031368	(none)	30/06/1969	Estimate		
20031369	(none)	30/06/1961	Estimate		
20031370	(none)	00/01/1900	Unknown		
20031371	(none)	30/06/1957	Estimate		
20031372	(none)	30/06/1953	Estimate		
20031373	(none)	30/06/1948	Estimate		
20031374	(none)	30/06/1950	Estimate		
20031375	(none)	30/06/1907	Estimate		
20031381	(none)	00/01/1900	Unknown		
20031382	(none)	30/06/1969	Estimate		
20031383	(none)	00/01/1900	Unknown		
20031386	(none)	30/06/1971	Estimate		
20031387	(none)	30/06/1960	Estimate		
20031388	(none)	00/01/1900	Unknown		
20031389	(none)	30/06/1971	Estimate		
20031390	(none)	00/01/1900	Unknown		
20031391	(none)	30/06/1970	Estimate		
20031392	(none)	30/06/1971	Estimate		
20031393	(none)	00/01/1900	Unknown		
20031395	(none)	30/06/1972	Estimate		
20031397	(none)	00/01/1900	Unknown		
20031398	(none)	00/01/1900	Unknown		
20031407	(none)	00/01/1900	Unknown		
20031408	(none)	30/06/1963	Estimate		
20031409	(none)	00/01/1900	Unknown		
20031410	(none)	30/06/1959	Estimate		
20031411	(none)	00/01/1900	Unknown		
20031412	(none)	00/01/1900	Unknown		
20031413	(none)	00/01/1900	Unknown		
20031414	(none)	00/01/1900	Unknown		
20031415	(none)	30/06/1962	Estimate		
20031416	(none)	00/01/1900	Unknown		
20031418	(none)	00/01/1900	Unknown		
20031418	(none)	30/06/1973	Estimate		
20031421	(none)	30/06/1964	Estimate		
20031422	(none)	30/06/1977	Estimate		
20031427	(none)	15/04/1983	Estimate		
20031428	(none)	15/10/1983	Estimate		
20031429	(none)	15/10/1983	Estimate		

Datums

WIN Site Id	Measurement Method	Date Established	Date Reliability	Colloquial Name	Comment
20031430	(none)	00/01/1900	Unknown		
20031431	(none)	00/01/1900	Unknown		
20031435	(none)	16/07/1990	Estimate		
20031436	(none)	16/08/1989	Estimate		
20031437	(none)	24/01/1990	Estimate		
20031438	(none)	01/06/1990	Estimate		
20031439	(none)	28/02/1991	Estimate		
20031440	(none)	16/08/1989	Estimate		
20031441	(none)	00/01/1900	Unknown		
20031442	(none)	15/12/1990	Estimate		
20031443	(none)	01/11/1995	Estimate		
20031444	(none)	02/11/1995	Estimate		
20031445	(none)	03/11/1995	Estimate		
20031446	(none)	00/01/1900	Unknown		
20031446	(none)	15/12/1992	Estimate		
20031448	(none)	01/11/1997	Estimate		
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030961	Surveyed	14/08/2008	Unknown		
23030961	Surveyed	14/08/2008	Unknown		Date of first sample used
23030961	Surveyed	14/08/2008	Unknown		Date of first sample used
23030961	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		
23030963	Surveyed	14/08/2008	Unknown		
23030963	Surveyed	14/08/2008	Unknown		Date of first sample used
23030963	Surveyed	14/08/2008	Unknown		Date of first sample used
23030963	Surveyed	14/08/2008	Unknown		Date of first sample used
23030964	Surveyed	14/08/2008	Unknown		
23030964	Surveyed	14/08/2008	Unknown		Date of first sample used
23030964	Surveyed	14/08/2008	Unknown		Date of first sample used
23030964	Surveyed	14/08/2008	Unknown		Date of first sample used

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WIN Site Id	Numbering System	Reference	Start Date	End Date	Date Reliability	Cons. Organisation	Developed By	Depth Reference Point	Drilled Depth Reliability	Drilled Depth	Drill Method
6349	AWRC	61710103		30/06/1977	Unknown	Authority Not Known		Ground level	=	15.230	(none)
6349	AWRC	61710103		30/06/1977	Unknown	Authority Not Known		Ground level	=	15.230	(none)
6482	AWRC	61719031		15/11/1964	Known day	Public Works Department		Ground level	=	70.100	(none)
20031292	AWRC	61711542		00/01/1900	Unknown	Authority Not Known		Ground level	=	1.830	(none)
20031294	AWRC	61711544		00/01/1900	Unknown	Authority Not Known		Ground level	=	1.220	(none)
20031296	AWRC	61711545		00/01/1900	Unknown	Authority Not Known		Ground level	=	42.670	(none)
20031297	AWRC	61711546		30/06/1942	Known year	Authority Not Known		Ground level	=	202.690	(none)
20031298	AWRC	61711547		15/04/1964	Known day	Westphal		Ground level	=	153.010	(none)
20031298	AWRC	61711547		15/04/1964	Known day	Westphal		Ground level	=	153.010	(none)
20031298	AWRC	61711547		15/04/1964	Known day	Westphal		Ground level	=	153.010	(none)
20031301	AWRC	61711548		30/06/1966	Known year	GRILL		Ground level	=	519.380	Rotary drill
20031302	AWRC	61711549		30/06/1966	Known year	GRILL		Ground level	=	65.230	Rotary drill
20031303	AWRC	61711550		00/01/1900	Unknown	Great Southern Drilling		Ground level	=	60.960	(none)
20031303	AWRC	61711550		00/01/1900	Unknown	Great Southern Drilling		Ground level	=	60.960	(none)
20031303	AWRC	61711550		00/01/1900	Unknown	Great Southern Drilling		Ground level	=	60.960	(none)
20031304	AWRC	61711551		30/06/1960	Known year	Authority Not Known		Ground level	=	14.630	(none)
20031305	AWRC	61711552		00/01/1900	Unknown	Authority Not Known		Ground level	=	12.800	(none)
20031306	AWRC	61711553		30/06/1963	Known year	Authority Not Known		Ground level	=	45.720	Percussion
20031307	AWRC	61711554		30/06/1938	Known year	Authority Not Known		Ground level	=	9.140	(none)
20031308	AWRC	61711555		30/06/1955	Known year	OWNER		Ground level	=	8.230	(none)
20031309	AWRC	61711556		30/06/1963	Known year	Modern Drilling Co		Ground level	=	9.140	Percussion
20031310	AWRC	61716013		00/01/1900	Unknown	OWNER		Ground level	=	2.440	(none)
20031314	AWRC	61711560		00/01/1900	Unknown	Authority Not Known		Ground level	=	54.860	Rotary drill
20031315	AWRC	61711561		00/01/1900	Unknown	Galbraith Drilling Co		Ground level	=	33.530	(none)
20031316	AWRC	61716014		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.660	(none)
20031317	AWRC	61711562		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.660	(none)
20031318	AWRC	61711563		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.050	(none)
20031319	AWRC	61711564		00/01/1900	Unknown	Authority Not Known		Ground level	=	40.230	(none)
20031320	AWRC	61716015		30/06/1964	Known year	Authority Not Known		Ground level	=	18.290	(none)
20031323	AWRC	61711566		30/06/1961	Known year	Swan Boring Company		Ground level	=	48.770	(none)
20031324	AWRC	61711567		30/06/1962	Known year	Modern Drilling Co		Ground level	=	12.190	(none)
20031325	AWRC	61711568		30/06/1957	Known year	Authority Not Known		Ground level	=	8.530	(none)
20031338	AWRC	61716016		30/06/1964	Known year	Authority Not Known		Ground level	=	41.150	(none)
20031339	AWRC	61716017		30/06/1964	Known year	Authority Not Known		Ground level	=	22.860	(none)
20031340	AWRC	61716018		30/06/1964	Known year	Authority Not Known		Ground level	=	30.480	(none)
20031347	AWRC	61711582		26/11/1992	Known day	Stirling Irrigation	AIRLIFT FOR 8HRS.	Ground level	=	73.000	Rotary drill
20031347	AWRC	61711582		26/11/1992	Known day	Stirling Irrigation	AIRLIFT FOR 8HRS.	Ground level	=	73.000	Rotary drill
20031348	AWRC	61711583		27/08/1993	Known day	Petrucci Drilling	AIR SURGE FOR 6 HRS.	Ground level	=	46.000	Rotary drill
20031348	AWRC	61711583		27/08/1993	Known day	Petrucci Drilling	AIR SURGE FOR 6 HRS.	Ground level	=	46.000	Rotary drill
20031356	AWRC	61711590		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.050	(none)
20031358	AWRC	61716020		00/01/1900	Unknown	Authority Not Known		Ground level	=	24.380	(none)
20031359	AWRC	61716021		00/01/1900	Unknown	Authority Not Known		Ground level	=	24.380	(none)
20031360	AWRC	61711592		00/01/1900	Unknown	Authority Not Known		Ground level	=	5.490	(none)
20031361	AWRC	61711593		30/06/1912	Known year	Authority Not Known		Ground level	=	3.660	(none)
20031364	AWRC	61711596		30/06/1970	Known year	Swan Boring Company	20 HRS DEVELOPING	Ground level	=	48.770	(none)
20031365	AWRC	61711597		30/06/1956	Known year	OWNER		Ground level	=	6.100	Percussion
20031366	AWRC	61711598		00/01/1900	Unknown	OWNER		Ground level	=	3.660	(none)
20031368	AWRC	61711600		30/06/1969	Known year	Authority Not Known		Ground level	=	28.350	Percussion
20031369	AWRC	61711601		30/06/1961	Known year	Authority Not Known		Ground level	=	30.480	Percussion

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WIN Site Id	Numbering System	Reference	Start Date	End Date	Date Reliability	Cons. Organisation	Developed By	Depth Reference Point	Drilled Depth Reliability	Drilled Depth	Drill Method
20031370	AWRC	61711602		00/01/1900	Unknown	Authority Not Known		Ground level	=	7.620	(none)
20031371	AWRC	61711603		30/06/1957	Known year	Authority Not Known		Ground level	=	14.330	Rotary drill
20031372	AWRC	61711604		30/06/1953	Known year	OWNER		Ground level	=	3.050	(none)
20031373	AWRC	61711605		30/06/1948	Known year	OWNER		Ground level	=	3.660	(none)
20031374	AWRC	61711606		30/06/1950	Known year	OWNER		Ground level	=	4.880	(none)
20031375	AWRC	61711607		30/06/1907	Known year	OWNER		Ground level	=	3.660	(none)
20031381	AWRC	61711613		00/01/1900	Unknown	Dewars Irrigation		Ground level	=	6.100	(none)
20031382	AWRC	61711614		30/06/1969	Known year	Authority Not Known		Ground level	=	24.990	Rotary drill
20031383	AWRC	61711615		00/01/1900	Unknown	OWNER		Ground level	=	4.880	(none)
20031386	AWRC	61711618		30/06/1971	Known year	OWNER		Ground level	=	3.050	(none)
20031387	AWRC	61711619		30/06/1960	Known year	OWNER		Ground level	=	3.660	(none)
20031388	AWRC	61711620		00/01/1900	Unknown	Scott And Co		Ground level	=	10.360	(none)
20031389	AWRC	61711621		30/06/1971	Known year	Galbraith Drilling Co		Ground level	=	12.190	Percussion
20031390	AWRC	61711622		00/01/1900	Unknown	OWNER		Ground level	=	18.590	(none)
20031391	AWRC	61711623		30/06/1970	Known year	OWNER		Ground level	=	6.400	(none)
20031392	AWRC	61711624		30/06/1971	Known year	Galbraith Drilling Co		Ground level	=	36.580	Percussion
20031393	AWRC	61711625		00/01/1900	Unknown	Authority Not Known		Ground level	=	4.570	(none)
20031395	AWRC	61711627		30/06/1972	Known year	Galbraith Drilling Co		Ground level	=	25.600	Percussion
20031397	AWRC	61711629		00/01/1900	Unknown	Authority Not Known		Ground level	=	2.130	(none)
20031398	AWRC	61711630		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.100	(none)
20031407	AWRC	61711639		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.050	(none)
20031408	AWRC	61711640		30/06/1963	Known year	Authority Not Known		Ground level	=	2.740	(none)
20031409	AWRC	61711641		00/01/1900	Unknown	Authority Not Known		Ground level	=	11.890	(none)
20031410	AWRC	61711642		30/06/1959	Known year	Authority Not Known		Ground level	=	24.690	(none)
20031411	AWRC	61711643		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.660	(none)
20031412	AWRC	61711644		00/01/1900	Unknown	Authority Not Known		Ground level	=	2.740	(none)
20031413	AWRC	61711645		00/01/1900	Unknown	Authority Not Known		Ground level	=	4.570	(none)
20031414	AWRC	61711646		00/01/1900	Unknown	Authority Not Known		Ground level	=	8.230	(none)
20031415	AWRC	61711647		30/06/1962	Known year	Modern Drilling Co		Ground level	=	15.240	(none)
20031416	AWRC	61711648		00/01/1900	Unknown	Authority Not Known		Ground level	=	2.440	(none)
20031418	AWRC	61711650		30/06/1973	Known year	Rond P & Co		Ground level	=	60.000	(none)
20031421	AWRC	61716022		30/06/1964	Known year	Authority Not Known		Ground level	=	15.240	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031427	AWRC	61711654		15/04/1983	Known day	Nancarrow & Sons		Ground level	=	51.810	(none)
20031427	AWRC	61711654		15/04/1983	Known day	Nancarrow & Sons		Ground level	=	51.810	(none)
20031427	AWRC	61711654		15/04/1983	Known day	Nancarrow & Sons		Ground level	=	51.810	(none)
20031428	AWRC	61711655		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	39.470	(none)
20031428	AWRC	61711655		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	39.470	(none)
20031428	AWRC	61711655		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	39.470	(none)
20031429	AWRC	61716024		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	2.740	(none)
20031430	AWRC	61711656		00/01/1900	Unknown	Authority Not Known		Ground level	=	9.140	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion

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WIN Site Id	Numbering System	Reference	Start Date	End Date	Date Reliability	Cons. Organisation	Developed By	Depth Reference Point	Drilled Depth Reliability	Drilled Depth	Drill Method
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion
20031436	AWRC	61711662		16/08/1989	Known day	Vasse River Drilling	AIRLIFT 8 HRS	Ground level	=	42.000	Rotary drill
20031436	AWRC	61711662		16/08/1989	Known day	Vasse River Drilling	AIRLIFT 8 HRS	Ground level	=	42.000	Rotary drill
20031436	AWRC	61711662		16/08/1989	Known day	Vasse River Drilling	AIRLIFT 8 HRS	Ground level	=	42.000	Rotary drill
20031437	AWRC	61711663		24/01/1990	Known day	Galbraith Drilling Co		Ground level	=	30.480	Cable tool
20031437	AWRC	61711663		24/01/1990	Known day	Galbraith Drilling Co		Ground level	=	30.480	Cable tool
20031437	AWRC	61711663		24/01/1990	Known day	Galbraith Drilling Co		Ground level	=	30.480	Cable tool
20031438	AWRC	61711664		01/06/1990	Known day	Gingin Drilling		Ground level	=	27.100	Rotary drill
20031438	AWRC	61711664		01/06/1990	Known day	Gingin Drilling		Ground level	=	27.100	Rotary drill
20031439	AWRC	61711665		28/02/1991	Known day	Vasse River Drilling	PRESSURE JET & AIRLIFTING/SURGING FOR 15 HRS	Ground level	=	141.000	(none)
20031439	AWRC	61711665		28/02/1991	Known day	Vasse River Drilling	PRESSURE JET & AIRLIFTING/SURGING FOR 15 HRS	Ground level	=	141.000	(none)
20031439	AWRC	61711665		28/02/1991	Known day	Vasse River Drilling	PRESSURE JET & AIRLIFTING/SURGING FOR 15 HRS	Ground level	=	141.000	(none)
20031440	AWRC	61711666		16/08/1989	Known day	Vasse River Drilling	AIR FOR 8 HRS	Ground level	=	42.000	Rotary drill
20031440	AWRC	61711666		16/08/1989	Known day	Vasse River Drilling	AIR FOR 8 HRS	Ground level	=	42.000	Rotary drill
20031440	AWRC	61711666		16/08/1989	Known day	Vasse River Drilling	AIR FOR 8 HRS	Ground level	=	42.000	Rotary drill
20031441	AWRC	61711667		00/01/1990	Unknown	Petrucci Drilling	AIR SURGE FOR 1.5 HRS	Ground level	=	29.000	Rotary drill
20031441	AWRC	61711667		00/01/1990	Unknown	Petrucci Drilling	AIR SURGE FOR 1.5 HRS	Ground level	=	29.000	Rotary drill
20031442	AWRC	61711668		15/12/1990	Known day	Gingin Drilling	DEVELOPED FOR 2 HRS	Ground level	=	42.670	Percussion
20031442	AWRC	61711668		15/12/1990	Known day	Gingin Drilling	DEVELOPED FOR 2 HRS	Ground level	=	42.670	Percussion
20031442	AWRC	61711668		15/12/1990	Known day	Gingin Drilling	DEVELOPED FOR 2 HRS	Ground level	=	42.670	Percussion
20031443	AWRC	61711669		01/11/1995	Known day	West Coast Reticulation & Drilling		Ground level	=	18.000	(none)
20031443	AWRC	61711669		01/11/1995	Known day	West Coast Reticulation & Drilling		Ground level	=	18.000	(none)
20031444	AWRC	61711670		02/11/1995	Known day	West Coast Reticulation & Drilling		Ground level	=	21.000	Rotary drill
20031445	AWRC	61711671		03/11/1995	Known day	West Coast Reticulation & Drilling	AIR	Ground level	=	16.200	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031448	AWRC	61711674		01/11/1997	Known day	Westoz Drilling Company	AIR SURGE FOR 1 HOUR	Ground level	=	35.000	Rotary drill
20031448	AWRC	61711674		01/11/1997	Known day	Westoz Drilling Company	AIR SURGE FOR 1 HOUR	Ground level	=	35.000	Rotary drill

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WIN Site Id	Pump How Test	Event Comment	Construction Category	Construction Element	Construction Material	Distance To Top Reliability	Distance To Top (m)
6349		CONSTRUCTION DETAILS OBTAINED FROM GRAMPS	Inlet	Inlet unknown	PVC	=	0.500
6349		CONSTRUCTION DETAILS OBTAINED FROM GRAMPS	Unknown	Unknown	Unknown	=	15.000
6482	PUMPED 72 HOURS		Lining	Line unknown	Unknown		
20031292							
20031294							
20031296							
20031297	24 HOUR PUMP		Lining	Line unknown	Unknown		
20031298	PUMPED 48 HOURS		Unknown	Unknown	Unknown	=	122.220
20031298	PUMPED 48 HOURS		Lining	Line unknown	Unknown		
20031298	PUMPED 48 HOURS		Inlet	Inlet unknown	Unknown	=	115.950
20031301			Lining	Line unknown	Unknown		
20031302							
20031303			Unknown	Unknown	Unknown	=	54.860
20031303			Lining	Line unknown	Unknown		
20031303			Inlet	Slotted	Unknown	=	51.820
20031303			Inlet	Screen	Unknown	=	57.910
20031304			Lining	Line unknown	Unknown		
20031305			Lining	Line unknown	Unknown		
20031306			Lining	Line unknown	Unknown		
20031307			Lining	Line unknown	Unknown		
20031308			Lining	Line unknown	Unknown		
20031309			Lining	Line unknown	Unknown		
20031310							
20031314							
20031315			Lining	Line unknown	Unknown		
20031316							
20031317							
20031318							
20031319							
20031320							
20031323							
20031324							
20031325							
20031338							
20031339							
20031340							
20031347			Lining	Line unknown	Unknown		
20031347			Inlet	Screen	Unknown	=	61.000
20031348			Lining	Line unknown	Unknown		
20031348			Inlet	Slotted	Unknown	=	40.000
20031356							
20031358							
20031359							
20031360							
20031361			Lining	Line unknown	Unknown		
20031364			Lining	Line unknown	Unknown		
20031365							
20031366			Lining	Line unknown	Unknown		
20031368			Lining	Line unknown	Unknown		
20031369			Lining	Line unknown	Unknown		

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WIN Site Id	Pump How Test	Event Comment	Construction Category	Construction Element	Construction Material	Distance To Top Reliability	Distance To Top (m)
20031370			Lining	Line unknown	Unknown		
20031371			Lining	Line unknown	Unknown		
20031372			Lining	Line unknown	Unknown		
20031373			Lining	Line unknown	Unknown		
20031374			Lining	Line unknown	Unknown		
20031375			Lining	Line unknown	Unknown		
20031381			Lining	Line unknown	Unknown		
20031382							
20031383			Lining	Line unknown	Unknown		
20031386			Lining	Line unknown	Unknown		
20031387			Lining	Line unknown	Unknown		
20031388			Lining	Line unknown	Unknown		
20031389			Lining	Line unknown	Unknown		
20031390							
20031391			Lining	Line unknown	Unknown		
20031392			Lining	Line unknown	Unknown		
20031393			Lining	Line unknown	Unknown		
20031395			Lining	Line unknown	Unknown		
20031397							
20031398							
20031407							
20031408							
20031409							
20031410							
20031411							
20031412							
20031413							
20031414							
20031415							
20031416							
20031418			Lining	Line unknown	Unknown		
20031421							
20031422			Unknown	Unknown	Unknown	=	151.490
20031422			Lining	Line unknown	Unknown		
20031422			Inlet	Inlet unknown	Unknown	=	98.450
20031422			Inlet	Inlet unknown	Unknown	=	151.710
20031427			Unknown	Unknown	Unknown	=	44.190
20031427			Inlet	Slotted	Unknown	=	21.330
20031427			Lining	Line unknown	Unknown		
20031428			Unknown	Unknown	Unknown	=	35.020
20031428			Lining	Line unknown	Unknown		
20031428			Inlet	Slotted	Unknown	=	16.760
20031429							
20031430							
20031431			Unknown	Unknown	Unknown	=	5.000
20031431			Inlet	Slotted	Unknown	=	4.250
20031431			Inlet	Screen	Unknown	=	5.250
20031431			Lining	Line unknown	Unknown		
20031435			Unknown	Unknown	Unknown	=	24.300
20031435			Lining	Line unknown	Unknown		

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WIN Site Id	Pump How Test	Event Comment	Construction Category	Construction Element	Construction Material	Distance To Top Reliability	Distance To Top (m)
20031435			Inlet	Slotted	Unknown	=	24.300
20031435			Inlet	Screen	Unknown	=	22.800
20031436	APPROX 263 M3D		Unknown	Unknown	Unknown	=	32.000
20031436	APPROX 263 M3D		Inlet	Slotted	Unknown	=	20.000
20031436	APPROX 263 M3D		Lining	Line unknown	Unknown		
20031437			Unknown	Unknown	Unknown	=	30.400
20031437			Inlet	Screen	Unknown	=	28.900
20031437			Lining	Line unknown	Unknown		
20031438			Lining	Line unknown	Unknown		
20031438			Inlet	Inlet unknown	Unknown	=	23.500
20031439			Unknown	Unknown	Unknown	=	97.750
20031439			Lining	Line unknown	Unknown		
20031439			Inlet	Screen	Unknown	=	85.500
20031440	TURBINE		Unknown	Unknown	Unknown	=	32.000
20031440	TURBINE		Lining	Line unknown	Unknown		
20031440	TURBINE		Inlet	Slotted	Unknown	=	20.000
20031441			Inlet	Slotted	Unknown	=	25.000
20031441			Lining	Line unknown	Unknown		
20031442	TURBINE FOR 2 HRS		Unknown	Unknown	Unknown	=	41.150
20031442	TURBINE FOR 2 HRS		Inlet	Slotted	Unknown	=	34.750
20031442	TURBINE FOR 2 HRS		Lining	Line unknown	Unknown		
20031443			Lining	Line unknown	Unknown		
20031443			Inlet	Slotted	Unknown	=	12.000
20031444							
20031445	AIRLIFT						
20031446	SUBMERSIBLE CENTRIFUGAL		Unknown	Unknown	Unknown	=	30.000
20031446	SUBMERSIBLE CENTRIFUGAL		Lining	Casing	PVC Class 9	=	0.000
20031446	SUBMERSIBLE CENTRIFUGAL		Inlet	Slotted	PVC Class 9	=	30.000
20031446	SUBMERSIBLE CENTRIFUGAL		Fixtures	Pump intake	Unknown	=	30.000
20031448			Inlet	Slotted	Unknown	=	24.000
20031448			Lining	Line unknown	Unknown		

Construction

WIN Site Id	Distance To Bottom Reliability	Distance To Bottom (m)	Internal Dimension Reliability	Internal Dimension (mm)	Maximum Dimension Reliability	Maximum Dimension (mm)	Thickness Reliability	Thickness (mm)
6349	=	15.000	=	77.000				
6349	=	15.230						
6482								
20031292								
20031294								
20031296								
20031297								
20031298	=	153.010						
20031298								
20031298	=	122.220						
20031301								
20031302								
20031303	=	60.960						
20031303								
20031303	=	54.860						
20031303	=	60.960						
20031304								
20031305								
20031306								
20031307								
20031308								
20031309								
20031310								
20031314								
20031315								
20031316								
20031317								
20031318								
20031319								
20031320								
20031323								
20031324								
20031325								
20031338								
20031339								
20031340								
20031347								
20031347	=	73.000						
20031348								
20031348	=	46.000						
20031356								
20031358								
20031359								
20031360								
20031361								
20031364								
20031365								
20031366								
20031368								
20031369								

Construction

WIN Site Id	Distance To Bottom Reliability	Distance To Bottom (m)	Internal Dimension Reliability	Internal Dimension (mm)	Maximum Dimension Reliability	Maximum Dimension (mm)	Thickness Reliability	Thickness (mm)
20031370								
20031371								
20031372								
20031373								
20031374								
20031375								
20031381								
20031382								
20031383								
20031386								
20031387								
20031388								
20031389								
20031390								
20031391								
20031392								
20031393								
20031395								
20031397								
20031398								
20031407								
20031408								
20031409								
20031410								
20031411								
20031412								
20031413								
20031414								
20031415								
20031416								
20031418								
20031421								
20031422 =		157.580						
20031422								
20031422 =		151.490						
20031422 =		157.810						
20031427 =		51.810						
20031427 =		44.190						
20031427								
20031428 =		39.470						
20031428								
20031428 =		35.020						
20031429								
20031430								
20031431 =		6.000						
20031431 =		5.000						
20031431 =		6.000						
20031431								
20031435 =		32.900						
20031435								

Construction

WIN Site Id	Distance To Bottom Reliability	Distance To Bottom (m)	Internal Dimension Reliability	Internal Dimension (mm)	Maximum Dimension Reliability	Maximum Dimension (mm)	Thickness Reliability	Thickness (mm)
20031435	=	32.900						
20031435	=	24.300						
20031436	=	42.000						
20031436	=	32.000						
20031436								
20031437	=	30.480						
20031437	=	30.400						
20031437								
20031438								
20031438	=	27.100						
20031439	=	141.000						
20031439								
20031439	=	97.750						
20031440	=	42.000						
20031440								
20031440	=	32.000						
20031441	=	29.000						
20031441								
20031442	=	42.670						
20031442	=	41.150						
20031442								
20031443								
20031443	=	18.000						
20031444								
20031445								
20031446	=	36.000						
20031446	=	36.000	=	100.000				
20031446	=	36.000	=	100.000				
20031446	=	30.000						
20031448	=	35.000						
20031448								

Construction

WIN Site Id	Screen Aperture Reliability	Screen Aperture (mm)	Grain Size	Fill Volume (m3)	Element Comment
6349					
6349					Element added to align Distance to Bottom for last element with Total Drilled Depth.
6482					+1FT-200FT2" X 8". SLOT/PERF/SCRN: TOTAL LENGTH 24FT6" INC. PACKER. BOTTOMED AT 225FT8"
20031292					
20031294					
20031296					
20031297					630FT3" X 5"
20031298					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031298					+1FT-383' X 8"
20031298					
20031301					WITHDRAWN; CEMENT PLUG SET AT SURFACE
20031302					
20031303					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031303					+2FT-170FT X 6"; 180-190FT X 5"; ANAL IS OF 6" CASING CEMENTED
20031303					
20031303					
20031304					4FT WELL LINE
20031305					4FT WIDTH BRICKS LINES
20031306					5" CASING
20031307					TIMBER LINERS
20031308					TIMBER LINING
20031309					5". SCREENED STAINLESS STEEL
20031310					
20031314					
20031315					6"
20031316					
20031317					
20031318					
20031319					
20031320					
20031323					
20031324					
20031325					
20031338					
20031339					
20031340					
20031347					0-61M, 155MM DIA, CLASS 12 PVC; SCREEN: 6" DIA S/STEEL
20031347					
20031348					0-40M, 155MM DIA PVC. SLOTTED: 155MM DIA, 0.3 PVC.
20031348					
20031356					
20031358					
20031359					
20031360					
20031361					TIMBER LINED
20031364					106FT9" X 7". 10FT SCREEN TO 115FT
20031365					
20031366					4FT WELL LINER
20031368					6" CASING. SCREENED 89FT 5FT OF MESH
20031369					6"; SCREENED AT 94FT.

Construction

WIN Site Id	Screen Aperture Reliability	Screen Aperture (mm)	Grain Size	Fill Volume (m3)	Element Comment
20031370					BRICK LINED
20031371					6"
20031372					CONCRETE WELL LINED
20031373					CONCRETE LINERS
20031374					CONCRETE LINER
20031375					CONCRETE LINERS
20031381					TIMBER LINERS
20031382					
20031383					CONCRETE LINERS
20031386					CONCRETE LINERS
20031387					TIMBER LINERS
20031388					CONCRETE LINERS 5"; SLOTTED
20031389					5" STEEL. SLOT/PERF/SCRN: STAINLESS STEEL
20031390					
20031391					CONCRETE LINER
20031392					5" CASING. STAINLESS STEEL SCREEN
20031393					TIMBER LINERS
20031395					5" CASING. SCREENED.
20031397					
20031398					
20031407					
20031408					
20031409					
20031410					
20031411					
20031412					
20031413					
20031414					
20031415					
20031416					
20031418					0-60 X 76MM PVC. SLOTTED: W/TABLE TO TD.
20031421					
20031422					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031422					0-323' x 8"
20031422					
20031422					
20031427					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031427					
20031427					(44.19M) X 100MM
20031428					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031428					0-35.02M X 100MM
20031428					
20031429					
20031430					
20031431					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031431					
20031431					
20031431					0 - 5.0M X 50MM
20031435					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031435					SCREEN: X 125MM

Construction

WIN Site Id	Screen Aperture Reliability	Screen Aperture (mm)	Grain Size	Fill Volume (m3)	Element Comment
20031435					
20031435					
20031436					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031436					
20031436					0-32M X 100MM PVC. SLOTTED; X 100MM PVC
20031437					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031437					
20031437					0-28.65M X 100MM
20031438					0-27M X 100MM PVC. SLOT/PERF/SCR: X 100MM
20031438 =		0.000			
20031439					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031439					0-85.5M 150MM DIA ERW STEEL. SCREEN: S/S
20031439 =		0.311			
20031440					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031440					0-32M 100MM DIA CL 9 PVC
20031440 =		0.750			
20031441 =		0.508			
20031441					0-25M 100MM DIA PVC. SLOTTED 20TH PVC
20031442					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031442					
20031442					0-134' 4.5" DIA PVC
20031443					0-12M, 100MM DIA CL 9 PVC. SLOTTED: CL 9 PVC
20031443 =		0.508			
20031444					
20031445					
20031446					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031446					
20031446 =		0.508			
20031446					
20031448 =		0.500			100mm DIAM. CLASS 9 PVC
20031448					0 - 35m, 100mm DIAM. CLASS 9 PVC

Status

WIN Site Id	Numbering System	Reference	Site Status	Start Date	End Date	Comments
6349	AWRC	61710103	Operating	30/06/1977		G1#INF READ G/W#G0#LEV ONLY G/W#MONITORING 96
6355	AWRC	61710109	Operating	03/05/1973		G1#INF READ G/W#G0#LEV ONLY G/W#OBSERVATION 96
6482	AWRC	61719031	Not operating	10/06/1992		
6482	AWRC	61719031	Operating	24/12/1965	10/06/1992	G1#INF READ G/W#G1#LEV+QUAL G/W# SITE DEEMED INACTIVE. CLOSED ON 21:02:44 30/ 4/1997
6487	AWRC	61719036	Operating	25/06/1975		G2#REG READ G/W#G1#LEV+QUAL G/W#
6488	AWRC	61719037	Operating	29/07/1975		G2#REG READ G/W#G1#LEV+QUAL G/W#
6489	AWRC	61719038	Operating	21/02/1984		G2#REG READ G/W#G1#LEV+QUAL G/W#MONTHLY
6490	AWRC	61719039	Operating	01/01/1985		G2#REG READ G/W#G1#LEV+QUAL G/W#
9065836	AWRC	61720001	Operating	01/01/1987	02/01/1987	G1#INF READ G/W#G1#LEV+QUAL G/W#BORE 2 (SOUTH) SITE DEEMED INACTIVE. CLOSED ON 21:02:44 30/ 4/1997
9065836	AWRC	61720001	Not operating	02/01/1987		
9152611	AWRC	61720030	Operating	03/04/1986	04/04/1986	G2#REG READ G/W#G1#LEV+QUAL G/W#POLLUTION CONTROL SAMPLE AT MONITORING BORE IN BETWEEN SHED AND FINAL EVAPORA- TION POND SITE DEEMED INACTIVE. CLOSED ON 21:02:44 30/ 4/1997
9152611	AWRC	61720030	Not operating	04/04/1986		
20031298	AWRC	61711547	Capped	15/04/1964		CASED & CAPPED
20031304	AWRC	61711551	Operating	30/06/1960		
20031305	AWRC	61711552	Abandoned	00/01/1900		
20031306	AWRC	61711553	Operating	30/06/1963		
20031307	AWRC	61711554	Operating	30/06/1938		
20031308	AWRC	61711555	Operating	30/06/1955		
20031309	AWRC	61711556	Operating	30/06/1963		
20031310	AWRC	61716013	Operating	00/01/1900		
20031365	AWRC	61711597	Operating	30/06/1956		
20031366	AWRC	61711598	Operating	00/01/1900		
20031368	AWRC	61711600	Operating	30/06/1969		
20031371	AWRC	61711603	Operating	30/06/1957		
20031372	AWRC	61711604	Operating	30/06/1953		
20031373	AWRC	61711605	Operating	30/06/1948		
20031374	AWRC	61711606	Operating	30/06/1950		
20031375	AWRC	61711607	Operating	30/06/1907		
20031381	AWRC	61711613	Operating	00/01/1900		
20031383	AWRC	61711615	Operating	00/01/1900		
20031386	AWRC	61711618	Operating	30/06/1971		
20031387	AWRC	61711619	Operating	30/06/1960		
20031388	AWRC	61711620	Operating	00/01/1900		
20031389	AWRC	61711621	Operating	30/06/1971		
20031390	AWRC	61711622	Operating	00/01/1900		
20031391	AWRC	61711623	Operating	30/06/1970		
20031392	AWRC	61711624	Operating	30/06/1971		
20031393	AWRC	61711625	Operating	00/01/1900		
20031395	AWRC	61711627	Operating	30/06/1972		
20031440	AWRC	61711666	Operating	16/08/1989		
20031442	AWRC	61711668	Operating	15/12/1990		
20031448	AWRC	61711674	Operating	01/11/1997		
23030959	AWRC	61710525	Operating	01/06/2007		
23030960	AWRC	61710526	Operating	01/06/2007		
23030961	AWRC	61710527	Operating	01/06/2007		
23030962	AWRC	61710528	Operating	01/06/2007		
23030963	AWRC	61710529	Operating	01/06/2007		
23030964	AWRC	61710530	Operating	01/06/2007		

Lithology Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	0.000	=	0.610
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	0.610	=	20.730
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	20.730	=	45.110
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	45.110	=	62.480
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	62.480	=	68.880
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	68.880	=	70.100
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	0.000	=	0.910
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	0.910	=	25.300
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	25.300	=	26.520
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	26.520	=	42.370
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	42.370	=	43.280
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	43.280	=	53.340
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	53.340	=	60.960
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	60.960	=	67.060
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	67.060	=	73.460
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	73.460	=	82.910
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	82.910	=	100.580
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	100.580	=	118.870
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	118.870	=	169.160
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	169.160	=	169.470
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	169.470	=	182.880
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	182.880	=	195.380
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	195.380	=	195.990
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	195.990	=	202.690
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	0.000	=	3.660
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	3.660	=	10.670
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	10.670	=	13.720
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	13.720	=	19.810
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	19.810	=	22.860
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	22.860	=	24.990
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	24.990	=	29.870
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	29.870	=	30.480
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	30.480	=	34.140
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	34.140	=	43.590
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	43.590	=	45.720
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	45.720	=	54.250
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	54.250	=	62.480
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	62.480	=	71.930
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	71.930	=	77.720
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	77.720	=	79.250
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	79.250	=	92.350
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	92.350	=	99.360
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	99.360	=	100.280
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	100.280	=	104.240
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	104.240	=	107.290
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	107.290	=	115.820
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	115.820	=	121.920
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	121.920	=	131.670
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	131.670	=	133.810
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	133.810	=	135.940

Lithology Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	135.940	=	138.680
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	138.680	=	139.290
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	139.290	=	140.210
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	140.210	=	145.690
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	145.690	=	153.010
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	0.000	=	3.050
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	3.050	=	6.100
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	6.100	=	18.290
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	18.290	=	60.960
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	60.960	=	65.230
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	0.910
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.910	=	3.660
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	3.660	=	4.270
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	4.270	=	25.910
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	25.910	=	27.430
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	27.430	=	46.330
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	46.330	=	51.820
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	51.820	=	54.860
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	54.860	=	57.910
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	57.910	=	60.960
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	3.050
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	3.050	=	7.320
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	7.320	=	12.190
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	12.190	=	13.410
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	13.410	=	14.330
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	14.330	=	22.250
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	22.250	=	35.050
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	35.050	=	35.970
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	35.970	=	48.770
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	48.770	=	51.210
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	51.210	=	54.860
20031320	AWRC	61716015	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	4.570
20031320	AWRC	61716015	30/06/1964	Known year	Authority Not Known	Ground level	=	4.570	=	15.240
20031320	AWRC	61716015	30/06/1964	Known year	Authority Not Known	Ground level	=	15.240	=	18.290
20031338	AWRC	61716016	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031338	AWRC	61716016	30/06/1964	Known year	Authority Not Known	Ground level	=	1.520	=	24.380
20031338	AWRC	61716016	30/06/1964	Known year	Authority Not Known	Ground level	=	24.380	=	41.150
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	1.220
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	1.220	=	13.720
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	13.720	=	15.240
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	15.240	=	16.150
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	16.150	=	22.860
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	0.610
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	0.610	=	1.520
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	1.520	=	29.260
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	29.260	=	29.570
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	29.570	=	30.480
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	0.000	=	4.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	4.000	=	9.000

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20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	9.000	=	15.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	15.000	=	22.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	22.000	=	25.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	25.000	=	34.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	34.000	=	38.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	38.000	=	58.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	58.000	=	72.290
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	72.290	=	73.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	0.000	=	8.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	8.000	=	15.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	15.000	=	26.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	26.000	=	29.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	29.000	=	31.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	31.000	=	38.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	38.000	=	46.000
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	1.520	=	4.570
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	4.570	=	6.710
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	6.710	=	7.620
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	7.620	=	9.140
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	9.140	=	10.360
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	10.360	=	17.370
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	17.370	=	18.290
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	18.290	=	21.340
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	21.340	=	22.250
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	22.250	=	23.470
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	23.470	=	28.350
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	28.350	=	31.090
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	31.090	=	33.530
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	33.530	=	34.440
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	34.440	=	34.750
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	34.750	=	36.580
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	36.580	=	44.810
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	44.810	=	48.770
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	1.520	=	2.740
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	2.740	=	5.790
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	5.790	=	24.990
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	24.990	=	27.430
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	27.430	=	28.350
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	0.000	=	3.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	3.000	=	6.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	6.000	=	12.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	12.000	=	16.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	16.000	=	19.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	19.000	=	21.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	21.000	=	30.000

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20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	30.000	=	60.000
20031421	AWRC	61716022	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031421	AWRC	61716022	30/06/1964	Known year	Authority Not Known	Ground level	=	1.520	=	13.410
20031421	AWRC	61716022	30/06/1964	Known year	Authority Not Known	Ground level	=	13.410	=	15.240
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	0.000	=	4.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	4.000	=	12.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	12.000	=	31.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	31.000	=	62.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	62.000	=	74.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	74.000	=	107.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	107.000	=	128.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	128.000	=	327.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	327.000	=	462.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	462.000	=	517.000
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	0.000	=	1.820
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	1.820	=	3.650
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	3.650	=	5.790
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	5.790	=	6.930
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	6.930	=	7.160
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	7.160	=	7.770
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	7.770	=	8.380
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	8.380	=	8.750
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	8.750	=	15.240
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	15.240	=	17.520
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	17.520	=	17.980
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	17.980	=	20.420
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	20.420	=	21.940
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	21.940	=	22.860
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	22.860	=	23.460
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	23.460	=	34.440
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	34.440	=	35.050
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	35.050	=	37.120
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	37.120	=	38.100
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	38.100	=	39.100
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	39.100	=	40.530
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	40.530	=	43.890
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	43.890	=	45.110
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	45.110	=	51.810
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	0.000	=	1.820
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	1.820	=	2.740
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	2.740	=	4.870
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	4.870	=	5.790
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	5.790	=	17.060
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	17.060	=	18.590
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	18.590	=	30.480
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	30.480	=	31.390
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	31.390	=	34.740
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	34.740	=	38.400
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	38.400	=	39.470
20031429	AWRC	61716024	15/10/1983	Known day	Authority Not Known	Ground level	=	0.000	=	1.210

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20031429	AWRC	61716024	15/10/1983	Known day	Authority Not Known	Ground level	=	1.210	=	1.820
20031429	AWRC	61716024	15/10/1983	Known day	Authority Not Known	Ground level	=	1.820	=	2.740
20031431	AWRC	61711657	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	6.000
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	0.000	=	2.400
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	2.400	=	5.500
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	5.500	=	7.900
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	7.900	=	11.600
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	11.600	=	22.800
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	22.800	=	24.400
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	24.400	=	32.000
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	32.000	=	32.900
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	0.000	=	2.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	2.000	=	6.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	6.000	=	9.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	9.000	=	19.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	19.000	=	20.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	20.000	=	32.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	32.000	=	42.000
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	0.000	=	0.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	0.600	=	3.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	5.400	=	9.100
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	9.100	=	12.800
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	12.800	=	14.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	14.600	=	17.400
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	17.400	=	18.200
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	18.200	=	24.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	24.600	=	27.400
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	27.400	=	28.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	28.600	=	30.480
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	0.000	=	2.100
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	2.100	=	4.300
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	4.300	=	5.500
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	5.500	=	9.400
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	9.400	=	10.700
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	10.700	=	18.900
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	18.900	=	23.500
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	23.500	=	26.500
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	26.500	=	27.100
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	0.000	=	6.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	6.000	=	16.500
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	16.500	=	80.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	80.000	=	107.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	107.000	=	127.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	127.000	=	134.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	134.000	=	141.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	0.000	=	2.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	2.000	=	6.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	6.000	=	9.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	9.000	=	19.000

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20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	19.000	=	20.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	20.000	=	32.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	32.000	=	42.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	9.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	9.000	=	12.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	12.000	=	23.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	23.000	=	26.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	26.000	=	28.990
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	28.990	=	29.000
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	0.000	=	0.610
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	0.610	=	25.600
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	25.600	=	31.390
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	31.390	=	32.920
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	32.920	=	35.360
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	35.360	=	39.930
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	39.930	=	40.840
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	40.840	=	42.670
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	0.000	=	1.800
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	1.800	=	3.600
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	5.400	=	7.200
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	7.200	=	9.000
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	9.000	=	10.800
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	10.800	=	12.600
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	12.600	=	14.400
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	14.400	=	16.200
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	16.200	=	18.000
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	0.000	=	1.800
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	1.800	=	3.600
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	5.400	=	14.400
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	14.400	=	16.200
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	16.200	=	18.000
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	18.000	=	19.200
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	19.200	=	21.000
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	0.000	=	1.800
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	1.800	=	3.600
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	5.400	=	9.000
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	9.000	=	14.400
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	14.400	=	16.200
20031446	AWRC	61711672	15/12/1992	Estimate	Westoz Drilling Company	Ground level	=	0.000	=	36.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	0.000	=	18.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	18.000	=	28.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	28.000	=	32.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	32.000	=	35.000

Lithology Log

WIN Site Id	Stratigraphy
6482	SURFACE SOIL.
6482	SANDY CLAY WHITE.
6482	SAND CLAYEY.
6482	SHALE GREY.
6482	SAND COARSE GREY.
6482	SHALE GREY.
20031297	LATERITE.
20031297	YELLOW CLAY.
20031297	SANDSTONE.
20031297	YELLOW SANDY CLAY.
20031297	GRAVEL WATER AT 142FT FAIR SUPPLY NEED SCREENING.
20031297	YELLOW SANDSTONE.
20031297	BLUE SHALE.
20031297	SANDY CLAY.
20031297	YELLOW SAND.
20031297	BROWN SHALE SANDY IN PARTS - WATER BEARING.
20031297	CARBONACEOUS SHALE SANDY IN PARTS - WATER BEARING 275-290 FAIR SUPPLY NEEDS SCREENS.
20031297	GREY SAND.
20031297	BROWN SHALE - LIGNITIC.
20031297	COARSE GRAVEL SMALL SUPPLY WATER.
20031297	BROWN SHALE - MICACEOUS.
20031297	GREY SHALE - MICACEOUS.
20031297	COARSE GRAVEL, MAIN SUPPLY OF WATER AT 643FT.
20031297	BLACK SHALE MICACEOUS.
20031298	SAND FINE SILTY SLIGHTLY CLAYEY LIGHT GREEN.
20031298	SAND FINE WITH QUARTZ GRIT LIGHT BROWN.
20031298	SILT VERY CLAYEY GRITTY LIGHT GREY.
20031298	CLAY WHITE OR LIGHT GREY.
20031298	SILT VERY CLAYEY WITH QUARTZ GRAINS GREY.
20031298	SAND MEDIUM TO COARSE.
20031298	CLAY SILTY WHITE OR GREY.
20031298	SAND MEDIUM GRITTY GREY WATER.
20031298	SILT CLAYEY GREY.
20031298	SAND FINE MOSTLY CLAYEY PARTLY GRITTY GREY BROWNISH GREY.
20031298	CLAYSTONE CARBONACEOUS.
20031298	CLAYSTONE DARK GREY SLIGHTLY CARBONACEOUS MICACEOUS.
20031298	CLAYSTONE CARBONACEOUS MICACEOUS WITH QUARTZ GRAINS BLACK.
20031298	SILTSTONE VERY CLAYEY SLIGHTLY CARBONACEOUS WITH QUARTZ GRAINS GREY.
20031298	CLAYSTONE CARBONACEOUS WITH QUARTZ GRAINS GREY.
20031298	SILTSTONE VERY CLAYEY.
20031298	CLAYSTONE CARBONACEOUS WITH ABUNDANT QUARTZ GRAINS PARTLY MICACEOUS WITH PYRITIC NODULES DARK GREY.
20031298	CLAYSTONE AS ABOVE CONTAINS HARD PEBBLES MICACEOUS SANDSTONE.
20031298	SANDSTONE QUARTZOSE GREY.
20031298	SANDSTONE QUARTZOSE FINE.
20031298	CLAYSTONE CARBONACEOUS.
20031298	CLAYSTONE SILTY MICACEOUS AND PYRITIC SANDSTONE, CARBONACEOUS POCKETS WATER.
20031298	SANDSTONE MEDIUM TO FINE QUARTZOSE LIGHT GREY.
20031298	CLAYSTONE VERY SANDY CARBONACEOUS BLACK WATER.
20031298	SANDSTONE QUARTZOSE.
20031298	CLAYSTONE QUARTZ GRIT.

Lithology Log

WIN Site Id	Stratigraphy
20031298	SANDSTONE CLAYEY WATER.
20031298	SANDSTONE MEDIUM QUARTZ.
20031298	CLAYSTONE BROWN GREY.
20031298	CLAYSTONE SANDY DARK GREY.
20031298	CLAYSTONE CARBONACEOUS QUARTZ GRAINS GREY.
20031302	CLAY 60% KAOLINITIC WHITE TO ORANGE IRON STAINED; SAND 40% UNCONSOLIDATED MEDIUM GRAINED MICACEOUS.
20031302	CLAY WHITE TO ORANGE IRONSTAINED WITH PATCHES OF QUARTZ AND FELDSPATHIC SAND.
20031302	SAND 70% WHITE TO GREY, MEDIUM TO COARSE GRAINED, WELL SORTED FELDSPAR PARTLY ALTERED TO AKAOLINITE, GRAINS ANGULAR WELL SORTED; CLAY 30% WHITE KAOLINITIC TR. GLAUCONITE.
20031302	SAND WHITE TO LIGHT GREY, ARKOSIC, MEDIUM TO COARSE GRAINED, WELL SORTED QUARTZ, ANGULAR KAOLINISED FELDSPAR, COMMON MICA, RARE HEAVY MINERALS AND GARNET; TR LIMESTONE AT 100FT; TR ROSE QUARTZ; TR CLAY BLACK LIGNACEOUS.
20031302	NOT LOGGED.
20031303	HARD SAND.
20031303	GREY SANDY CLAY.
20031303	HARD COARSE GREY SANDSTONE, WATER SURFACE ONLY.
20031303	WHITE TO CREAM SANDY CLAY.
20031303	GREY SLUMY.
20031303	GREY SANDY CLAY, WATER BEARING IN SMALL STRATA.
20031303	SAND AND GREY CLAY STRATA, SMALL COAL SEAMS.
20031303	CLEAN SAND, COARSE TO MEDIUM GRAINED CARRYING COAL VEGETATION.
20031303	DENSE DARK SHALE.
20031303	CLEAN SAND, COARSE TO MEDIUM GRAINED CARRYING COAL VEGETATION, SHALE AT 200FT.
20031314	RED LOAM.
20031314	RED SANDY CLAY.
20031314	IRONSTONE CONGLOMERATE.
20031314	COFFEY ROCK AND HARD GREEN SANDY CLAY.
20031314	BROWN SANDY CLAY & AT 47FT SEEPAGE OF WATER.
20031314	GREEN SANDY CLAY AND COFFEY ROCK.
20031314	BROWN SANDY CLAY.
20031314	SMALL AMOUNT OF WATER 118FT.
20031314	GREEN CLAY (SANDY)
20031314	MULTI COLOURED CLAY.
20031314	GREEN SANDY CLAY.
20031320	GINGIN CHALK.
20031320	GLAUCONITIC CLAYEY SAND. MOLECAP GREENSAND.
20031320	DANDARAGAN SANDSTONE.
20031338	RED-BROWN QUARTZ SAND, SOIL AND PISOLITIC LATERITE.
20031338	GLAUCONITIC RED BROWN CLAY AND FERRUGINOUS SAND. SOME PISOLITES NEAR TOP. WEATHERED POISON HILL GREENSAND.
20031338	GREY, DARK GREEN AND BLACK GLAUCONITIC CLAY WITH SOME BANDS OF SANDY MAERIAL. POISON HILL GREENSAND.
20031339	BLACK SOIL.
20031339	GINGIN CHALK.
20031339	CREAM, BROWN AND GREEN GLAUCONITIC CLAY MOLECAP GREENSAND.
20031339	DANDARAGAN SANDSTONE.
20031339	YARRAGADEE FM.
20031340	BLACK SOIL.
20031340	GINGIN CHALK GLAUCONITE.
20031340	GLAUCONITIC CLAY AND SAND. MOLECAP GREENSAND.
20031340	DANDARAGAN SANDSTONE.
20031340	YARRAGADEE FM.
20031347	BLACK SAND.
20031347	IRON STONE GRAVEL.

Lithology Log

WIN Site Id	Stratigraphy
20031347	WHITE CLAY & SAND.
20031347	DARK BROWN CLAY SAME SEAMS OF SAND.
20031347	LIGHT BROWN CLAY MIXED WITH SAND.
20031347	GREY CLAY.
20031347	HARD BROWN SHALE.
20031347	BROWN CLAY IN SOME PLACES SOFT.
20031347	COARSE SANDS GREY IN COLOUR.
20031347	BLACK SHALE.
20031348	SANDY CLAY.
20031348	WHITE CLAY.
20031348	LAYERS ROCK & CLAY.
20031348	CLAY DARK GREY.
20031348	SAND MEDIUM GRAIN.
20031348	CLAY DARK GREY.
20031348	COARSE SAND.
20031364	SURFACE SAND.
20031364	IRONSTONE CONGLOMERATE.
20031364	YELLOW CLAY & CONGLOMERATE.
20031364	WHITE SANDY CLAY.
20031364	GREEN SANDY CLAY.
20031364	BLUE & BROWN CLAY, BRACKISH WATER 276 GRNS.
20031364	YELLOW GRAVELLY CLAY.
20031364	RED SANDY CLAY.
20031364	YELLOW GREY CLAY.
20031364	BLACK SHALE.
20031364	WATER IN FINE GREY SAND.
20031364	VERY FINE BROWN SAND.
20031364	FINE BLACK SAND WITH FLOATERS OF WATER-WORN COAL LIKE SHALE.
20031364	COARSE BLUE GREY SAND WITH WASHED GRAVEL & PYRITES.
20031364	COARSE GRAVELLY SAND WITH SEAMS OF CLAY.
20031364	GREY SANDY CLAY.
20031364	COARSE GRAVELLY SAND WITH CLAY SEAMS.
20031364	GREY SHALEY CLAY.
20031364	GREY & BLUE SILTSTONE.
20031368	WHITE SAND AT 5 SEEPAGE OF WATER.
20031368	WHITE SAND.
20031368	GREY AND BLUE SANDY CLAY.
20031368	GREY SANDY WITH LAYERS OF SANDSTONE.
20031368	COARSER SAND WITH WATER.
20031368	GREY SILTY CLAY.
20031418	SAND, FAWN VERY FINE-VERY COARSE, VERY POORLY SORTED, QTZ SUBANGULAR (FINE) ROUNDED TO WELL ROUNDED (COARSE), NOTABLE HEAVY MINERALS APPARENTLY ABSENT.
20031418	SAND, DARK BROWN, CLAYEY (NO SAMPLE: COFFEE ROCK)
20031418	SAND, DARK BROWN SILTY, FINE-VERY COARSE, POORLY SORTED, QTZ SUBANGULAR (FINE) WELL ROUNDED (COARSE) CONTAINS OCCASIONAL FINE WELL ROUNDED PEBBLES.
20031418	SAND, LIGHT BROWN VERY FINE COARSE, POORLY SORTED QUARTZ SUBANGULAR (FINE) TO WELL ROUNDED (COARSE)
20031418	SAND, BROWN SILTY, VERY FINE-VERY COARSE, VERY POORLY SORTED QUARTZ, SUBANGULAR(FINE) TO WELL ROUNDED (COARSE).
20031418	SAND AS FOR 12-16 SLIGHTLY SILTY.
20031418	SAND, LIGHT BROWN-LIGHT GREY, SLIGHTLY SILTY, VERY FINE-FINE WELL SORTED, QUARTZ SUBANGULAR, CONTAINS RARE ROUNDED MED GRAINS.

Lithology Log

WIN Site Id	Stratigraphy
20031418	NOT LOGGED. SAMPLES MISSING TO T.D. UNCONFORMITY 41M.
20031421	SOIL, WITH FERRUGINOUS SANDSTONE AND LATERITE PEBBLES
20031421	BROWN TO DARK GREEN GLAUCONITIC CLAY AND SAND. WEATHRED MOLECAP GREENSAND
20031421	DANDARAGAN SANDSTONE
20031422	SANDS
20031422	COFFEE ROCK
20031422	SANDS
20031422	BROWN CLAY
20031422	IRONSTONE
20031422	GREEN CLAY
20031422	BLACK CLAY
20031422	GREY CLAY
20031422	GREY CLAY
20031422	SANDS
20031427	TOP SOIL - GRAVEL
20031427	GRAVELLY SOIL
20031427	IRONSTONE V/HARD FRO 4.57M.
20031427	IRONSTONE/GRAVELSTONE
20031427	CLAY
20031427	ROCK, TRACES OF WHITE QUARTZ
20031427	CLAY
20031427	SANDY CLAY
20031427	MOSTLY CLAY, PATCHES OF ROCK, 2' OF SAND AS 15.08M.
20031427	CLAY/ROCK
20031427	SANDY CLAY
20031427	CLAY/IRONSTONE
20031427	CLAY/STONE
20031427	SANDY CLAY
20031427	SANDY CLAY, SLIGHT QTZ STONE COULD BE WATER BEARING
20031427	LAYERS CLAY-ROCK-NO SAND
20031427	SANDY CLAY
20031427	YELLOW CLAY, SANDY
20031427	YELLOW, CLAY
20031427	YELLOW SANDY CLAY
20031427	CLAY
20031427	SAND, WITH YELLOW CLAY
20031427	CLAY
20031427	CLAY, YELLOW, GREEN, BLUE, BLACK
20031428	TOP SOIL
20031428	GRAVELLY SOIL
20031428	IRONSTONE, HARD
20031428	GRAVEL-SANDY-SLIGHTLY WATER BEARING
20031428	IRONSTONE, CLAY LAYERS
20031428	CLAY & QUARTZ, WHITE
20031428	CLAY, ROCK LAYERS, MAINLY BLUE CLAY AND GRAVEL STONE
20031428	SANDY CLAY
20031428	CLAY, SANDY, YELLOW
20031428	BLUE CLAY
20031428	BLUE-BLACK CLAY
20031429	TOP SOIL, LOAMY

Lithology Log

WIN Site Id	Stratigraphy
20031429	IRONSTONE
20031429	ROCK (ORIGINALLY RECORDED AS: GRANITE ROCK)
20031431	FINE TO COARSE SANDS OCCASIONAL BANDS OF CLAYEY SAND
20031435	MED. WHITE SAND
20031435	COMPACT COARSE WHITE SAND
20031435	COMPACT COARSE WHITE SAND WITH BLACK WATER-VERY BAD ODOUR
20031435	COMPACT COARSE WHITE SAND WITH CLAY
20031435	HARD BROWN CLAY
20031435	MED. WHITE TO BROWN SAND - WATER BEARING
20031435	FINE SAND SILTS WITH GREEN TO GREY CLAY LUMPS - WATER BEARING
20031435	COMPACT GREY SILT - START OF LEEDERVILLE FORMATION
20031436	SURFACE SAND
20031436	BROWN AND GREY SANDY CLAY
20031436	BROWN HARD SANDY CLAY - COARSE SAND BANDS
20031436	BROWN AND GREY SANDY CLAY WITH COARSE SAND (BROWN)BANDS
20031436	GREY AND WHITE CLAY
20031436	COARSE BROWN & WHITE SAND WITH FINE SILTY CLAY BANDS
20031436	FINE GREY AND BLACK SILTSTONE AND STICKY BROWN CLAY.
20031437	GREY SANDY SOIL
20031437	WHITE/BROWN SAND
20031437	LIGHT BROWN SAND (WATER SEEPAGE @ 3.9M)
20031437	DARK BROWN COARSE SAND AND SILTS
20031437	BROWN COARSE SANDS
20031437	VERY COARSE SAND (GOOD WATER BEARING SAND - BROWN WATER)
20031437	DARK REDDISH-BROWN SAND
20031437	FINE LIGHT BROWN SILTY SANDS
20031437	FINE BROWN SILTY SAND WITH SMALL LAYER OF SAND CLAY 24.3-24.6M.
20031437	YELLOW/BLUE FINE SAND
20031437	BLUEISH MED-COARSE SAND
20031437	BLUEISH COARSE WATER BEARING SANDS
20031438	WHITE COMPACT SAND
20031438	COARSE WHITE SAND
20031438	COARSE WHITE SAND WITH DARK BROWN CLAY TRACE
20031438	HARD CLAY
20031438	SLOPPY COARSE SAND BROWN - VERY BLACK WATER
20031438	HARD CLAY
20031438	HARD COMPACT CLAY SILT
20031438	DARK FINE GREY SAND WITH CLAY TRACE
20031438	TOP OF LEEDERVILLE
20031439	SAND
20031439	SAND - CLAY BANDS
20031439	SILTSTONE - GREY, INTERBEDDED WITH MINOR SAND AND SHALE
20031439	SAND - GREY MINOR SHALE INTERBEDDED
20031439	SHALE - DARK GREY, MINOR SILTSTONE INTERBEDDED
20031439	SAND - GREY, SILTY
20031439	SILTSTONE - GREY SHALEY
20031440	SURFACE SAND
20031440	BROWN & GREY SANDY CLAY
20031440	BROWN HARD SANDY CLAY WITH COARSE SAND BANDS
20031440	BROWN AND GREY SANDY CLAY WITH COARSE SAND (BROWN) BANDS

Lithology Log

WIN Site Id	Stratigraphy
20031440	GREY & WHITE CLAY
20031440	COARSE BROWN & WHITE SAND WITH FINE SILTY CLAY BANDS
20031440	FINE GREY & BLACK SILTSTONE & STICKY BROWN CLAY
20031441	SAND GREY
20031441	SAND BROWN (SILT MIXED)
20031441	CLAY
20031441	SILT
20031441	SAND MEDIUM
20031441	CLAY
20031442	RED SAND
20031442	CLAY WITH RED STONE LAYERS
20031442	CLAY
20031442	FINE BROWN TO YELLOW CLAY SAND
20031442	FINE BROWN TO YELLOW CLAY SAND SOFTER THAN ABOVE
20031442	COARSE SLOPPY SAND BROWN PINK AND LEMON COLOUR
20031442	COARSE YELLOW SAND WITH CLAY WATER
20031442	FINE WHITE CLAY WITH HIGH MICA CONTENT
20031443	TOP SOIL
20031443	CLEAR SAND
20031443	SAND SOME CLAY WITH WATER
20031443	SAND SOME CLAY WITH WATER
20031443	COARSE SAND WITH A LOT OF WATER. PLUS CLAY.
20031443	AS ABOVE
20031443	AS ABOVE
20031443	AS ABOVE
20031443	CLAY WITH SAND AND WATER
20031443	AS ABOVE
20031444	TOP SOIL
20031444	SAND WHITE WITH SOME COFFEE ROCK WATER
20031444	SAND DARK SOME CLAY
20031444	SAND DARK SOME CLAY
20031444	SAND SOME CLAY BUT LIGHT
20031444	SAND SOME CLAY BUT LIGHT
20031444	VERY PORSE SAND DARK CLAY
20031444	BLACK CLAY WITH COARSE SAND
20031445	TOPSOIL
20031445	WHITE SAND
20031445	COARSE SAND GREEN CLAY
20031445	COARSE SAND SOME CLAY
20031445	COARSE SAND SOME CLAY
20031445	COARSE SAND SOME CLAY PLUS THE START OF BLACK CLAY
20031446	CLAY - SAND BANDS
20031448	GREY AND WHITE SANDS - FROM FINE TO MEDIUM
20031448	DARK GREY CLAY WITH SAND BANDS
20031448	COARSE QUARTZ SANDS
20031448	LIMESTONE, SOFT GREY TO WHITE

Summary Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
6482	AWRC	61719031	15/11/1964	DAY	Authority Not Known	Ground level	=	0.00	=	0.610
6482	AWRC	61719031	15/11/1964	DAY	Authority Not Known	Ground level	=	0.610	=	45.110
6482	AWRC	61719031	15/11/1964	DAY	Authority Not Known	Ground level	=	45.110	=	70.100
20031297	AWRC	61711546	30/06/1942	YEAR	Authority Not Known	Ground level	=	0.000	=	27.740
20031297	AWRC	61711546	30/06/1942	YEAR	Authority Not Known	Ground level	=	25.300	=	27.740
20031297	AWRC	61711546	30/06/1942	YEAR	Authority Not Known	Ground level	=	25.300	=	202.690
20031298	AWRC	61711547	15/04/1964	DAY	Authority Not Known	Ground level	=	0.000	=	10.670
20031298	AWRC	61711547	15/04/1964	DAY	Authority Not Known	Ground level	=	10.670	=	43.590
20031298	AWRC	61711547	15/04/1964	DAY	Authority Not Known	Ground level	=	43.590	=	153.010
20031302	AWRC	61711549	30/06/1966	YEAR	Authority Not Known	Ground level	=	0.000	=	6.100
20031302	AWRC	61711549	30/06/1966	YEAR	Authority Not Known	Ground level	=	6.100	=	60.960
20031302	AWRC	61711549	30/06/1966	YEAR	Authority Not Known	Ground level	=	60.960	=	65.230
20031303	AWRC	61711550	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	0.000	=	3.660
20031303	AWRC	61711550	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	3.660	=	46.330
20031303	AWRC	61711550	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	46.330	=	60.960
20031314	AWRC	61711560	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	0.000	=	3.050
20031314	AWRC	61711560	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	0.000	=	12.190
20031314	AWRC	61711560	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	3.050	=	12.190
20031320	AWRC	61716015	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	4.570
20031320	AWRC	61716015	30/06/1964	YEAR	Authority Not Known	Ground level	=	4.570	=	15.240
20031320	AWRC	61716015	30/06/1964	YEAR	Authority Not Known	Ground level	=	15.240	=	18.290
20031338	AWRC	61716016	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	1.520
20031338	AWRC	61716016	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.520	=	41.150
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	1.220
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.220	=	13.720
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	13.720	=	15.240
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	15.240	=	16.150
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	16.150	=	22.860
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	0.610
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.610	=	1.520
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.520	=	29.260
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	29.260	=	29.570
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	29.570	=	30.480
20031347	AWRC	61711582	26/11/1992	DAY	Authority Not Known	Ground level	=	0.000	=	9.000
20031347	AWRC	61711582	26/11/1992	DAY	Authority Not Known	Ground level	=	9.000	=	34.000
20031347	AWRC	61711582	26/11/1992	DAY	Authority Not Known	Ground level	=	34.000	=	73.000
20031348	AWRC	61711583	27/08/1993	DAY	Authority Not Known	Ground level	=	0.000	=	8.000
20031348	AWRC	61711583	27/08/1993	DAY	Authority Not Known	Ground level	=	8.000	=	15.000
20031348	AWRC	61711583	27/08/1993	DAY	Authority Not Known	Ground level	=	15.000	=	46.000
20031364	AWRC	61711596	30/06/1970	YEAR	Authority Not Known	Ground level	=	0.000	=	7.620
20031364	AWRC	61711596	30/06/1970	YEAR	Authority Not Known	Ground level	=	7.620	=	21.340
20031364	AWRC	61711596	30/06/1970	YEAR	Authority Not Known	Ground level	=	21.340	=	48.770
20031368	AWRC	61711600	30/06/1969	YEAR	Authority Not Known	Ground level	=	0.000	=	5.790
20031368	AWRC	61711600	30/06/1969	YEAR	Authority Not Known	Ground level	=	5.790	=	28.350
20031418	AWRC	61711650	30/06/1973	YEAR	Authority Not Known	Ground level	=	0.000	=	30.000
20031418	AWRC	61711650	30/06/1973	YEAR	Authority Not Known	Ground level	=	30.000	=	60.000
20031421	AWRC	61716022	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	1.520
20031421	AWRC	61716022	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.520	=	13.410
20031421	AWRC	61716022	30/06/1964	YEAR	Authority Not Known	Ground level	=	13.410	=	15.240
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	0.000	=	9.450

Summary Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	9.450	=	22.560
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	22.560	=	32.610
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	32.610	=	39.010
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	39.010	=	157.580
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	0.000	=	7.160
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	7.160	=	15.240
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	15.240	=	45.110
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	45.110	=	51.810
20031428	AWRC	61711655	15/10/1983	DAY	Authority Not Known	Ground level	=	0.000	=	2.740
20031428	AWRC	61711655	15/10/1983	DAY	Authority Not Known	Ground level	=	2.740	=	18.590
20031428	AWRC	61711655	15/10/1983	DAY	Authority Not Known	Ground level	=	18.590	=	39.570
20031429	AWRC	61716024	15/10/1983	DAY	Authority Not Known	Ground level	=	0.000	=	1.820
20031429	AWRC	61716024	15/10/1983	DAY	Authority Not Known	Ground level	=	1.820	=	2.740
20031431	AWRC	61711657	00/01/1900	UNKWN	Authority Not Known	Ground level	=	0.000	=	6.000
20031435	AWRC	61711661	16/07/1990	DAY	Authority Not Known	Ground level	=	0.000	=	24.400
20031435	AWRC	61711661	16/07/1990	DAY	Authority Not Known	Ground level	=	24.400	=	32.000
20031435	AWRC	61711661	16/07/1990	DAY	Authority Not Known	Ground level	=	32.000	=	32.900
20031436	AWRC	61711662	16/08/1989	DAY	Authority Not Known	Ground level	=	0.000	=	32.000
20031436	AWRC	61711662	16/08/1989	DAY	Authority Not Known	Ground level	=	32.000	=	42.000
20031437	AWRC	61711663	24/01/1990	DAY	Authority Not Known	Ground level	=	0.000	=	24.600
20031437	AWRC	61711663	24/01/1990	DAY	Authority Not Known	Ground level	=	24.600	=	30.480
20031438	AWRC	61711664	01/06/1990	YEAR	Authority Not Known	Ground level	=	0.000	=	26.500
20031438	AWRC	61711664	01/06/1990	YEAR	Authority Not Known	Ground level	=	26.500	=	27.100
20031439	AWRC	61711665	28/02/1991	DAY	Authority Not Known	Ground level	=	0.000	=	16.500
20031439	AWRC	61711665	28/02/1991	DAY	Authority Not Known	Ground level	=	16.500	=	141.000
20031440	AWRC	61711666	16/08/1989	DAY	Authority Not Known	Ground level	=	0.000	=	32.000
20031440	AWRC	61711666	16/08/1989	DAY	Authority Not Known	Ground level	=	32.000	=	42.000
20031441	AWRC	61711667	00/01/1900	UNKWN	Authority Not Known	Ground level	=	0.000	=	29.000
20031442	AWRC	61711668	15/12/1990	DAY	Authority Not Known	Ground level	=	0.000	=	35.360
20031442	AWRC	61711668	15/12/1990	DAY	Authority Not Known	Ground level	=	35.360	=	42.670
20031443	AWRC	61711669	01/11/1995	DAY	Authority Not Known	Ground level	=	0.000	=	18.000
20031444	AWRC	61711670	02/11/1995	DAY	Authority Not Known	Ground level	=	0.000	=	18.000
20031444	AWRC	61711670	02/11/1995	DAY	Authority Not Known	Ground level	=	18.000	=	21.000
20031445	AWRC	61711671	03/11/1995	DAY	Authority Not Known	Ground level	=	0.000	=	16.200
20031448	AWRC	61711674	01/11/1997	DAY	Authority Not Known	Ground level	=	0.000	=	32.000
20031448	AWRC	61711674	01/11/1997	DAY	Authority Not Known	Ground level	=	32.000	=	35.000

Summary Log

WIN Site Id	Stratigraphy	Lithology 1	Lithology 2	Lithology 3
6482	Quaternary	soil	(none)	(none)
6482	Possible Quaternary/Tertiary	sand	clay	(none)
6482	Cretaceous Sediments	shale	coarse sand	(none)
20031297	Quaternary	laterite	(none)	(none)
20031297	Possible Quaternary/Tertiary	clay	(none)	(none)
20031297	Cretaceous Sediments	shale	sand	clay
20031298	Quaternary	sand	grit	clayey
20031298	Possible Quaternary/Tertiary	sand	clay	silt, silty
20031298	Cretaceous Sediments	claystone	siltstone	sandstone
20031302	Quaternary	clay	sand	(none)
20031302	Possible Cretaceous	sand	(none)	(none)
20031302	Not Logged	(none)	(none)	(none)
20031303	Quaternary	clay	sandy	sand
20031303	Possible Cretaceous	clay	sandy	sandstone
20031303	Cretaceous Sediments	sand	shale	coal
20031314	Quaternary	loam	(none)	(none)
20031314	Possible Cretaceous	clay	sandy	coffee rock
20031314	Possible Quaternary	conglomerate	ironstone	clay
20031320	Gingin Chalk	(none)	(none)	(none)
20031320	Molecap Greensand	sand	clayey	glauconite
20031320	Dandaragan Sandstone	sandstone	(none)	(none)
20031338	Quaternary	sand	soil	laterite
20031338	Poison Hill Greensand	clay	glauconite	sand
20031339	Quaternary	soil	(none)	(none)
20031339	Gingin Chalk	(none)	(none)	(none)
20031339	Molecap Greensand	(none)	(none)	(none)
20031339	Dandaragan Sandstone	(none)	(none)	(none)
20031339	Yarragadee Formation	(none)	(none)	(none)
20031340	Quaternary	soil	(none)	(none)
20031340	Gingin Chalk	chalk	glauconite	(none)
20031340	Molecap Greensand	clay	sand	(none)
20031340	Dandaragan Sandstone	(none)	(none)	(none)
20031340	Yarragadee Formation	(none)	(none)	(none)
20031347	Quaternary	gravel	ironstone	sand
20031347	Possible Quaternary/Tertiary	clay	sand	(none)
20031347	Cretaceous Sediments	clay	sand	shale
20031348	Quaternary	clay	sandy	(none)
20031348	Possible Quaternary/Tertiary	clay	(none)	(none)
20031348	Possible Cretaceous	rock	clay	sand
20031364	Quaternary/ Tertiary	clay	conglomerate	sand
20031364	Possible Quaternary/Tertiary	clay	(none)	(none)
20031364	Cretaceous Sediments	sand	clay	siltstone
20031368	Quaternary/ Tertiary	clay	sand	(none)
20031368	Possible Quaternary/Tertiary	clay	sand	sandstone
20031418	Quaternary/ Tertiary	sand	(none)	(none)
20031418	Not Logged	(none)	(none)	(none)
20031421	Quaternary	soil	sandstone	pebbles
20031421	Molecap Greensand	clay	glauconite	sand
20031421	Dandaragan Sandstone	(none)	(none)	(none)
20031422	Quaternary/ Tertiary	sand	coffee rock	(none)

Summary Log

WIN Site Id	Stratigraphy	Lithology 1	Lithology 2	Lithology 3
20031422	Possible Quaternary/Tertiary	clay	ironstone	(none)
20031422	Possible Cretaceous	clay	(none)	(none)
20031422	Cretaceous Sediments	clay	(none)	(none)
20031422	Possible Cretaceous	clay	sand	(none)
20031427	Quaternary/ Tertiary	ironstone	gravel	clay
20031427	Possible Quaternary/Tertiary	clay	rock	(none)
20031427	Possible Cretaceous	clay	sand	ironstone
20031427	Cretaceous Sediments	clay	(none)	(none)
20031428	Quaternary/ Tertiary	soil	gravel	(none)
20031428	Possible Quaternary/Tertiary	ironstone	gravel	clay
20031428	Possible Cretaceous	clay	(none)	(none)
20031429	Quaternary/ Tertiary	soil	ironstone	(none)
20031429	Possible Quaternary/Tertiary	rock	(none)	(none)
20031431	Quaternary	sand	clayey	(none)
20031435	Quaternary/ Tertiary	sand	clay	(none)
20031435	Possible Quaternary/Tertiary	silt, silty	sand	(none)
20031435	Leederville Formation	silt, silty	(none)	(none)
20031436	Quaternary/ Tertiary	clay	sandy	clay
20031436	Leederville Formation	siltstone	clay	(none)
20031437	Quaternary/ Tertiary	sand	coarse sand	silt, silty
20031437	Possible Quaternary/Tertiary	sand	coarse sand	water
20031438	Quaternary/ Tertiary	sand	clay	silt, silty
20031438	Leederville Formation	(none)	(none)	(none)
20031439	Quaternary/ Tertiary	sand	clay	(none)
20031439	Leederville Formation	siltstone	sand	shale
20031440	Quaternary/ Tertiary	clay	sand	(none)
20031440	Leederville Formation	siltstone	clay	(none)
20031441	Quaternary/ Tertiary	sand	clay	silt, silty
20031442	Quaternary/ Tertiary	clay	sand	(none)
20031442	Possible Quaternary/Tertiary	coarse sand	clay	(none)
20031443	Quaternary/ Tertiary	coarse sand	sand	clay
20031444	Quaternary/ Tertiary	sand	coffee rock	clay
20031444	Possible Cretaceous	clay	sand	(none)
20031445	Quaternary/ Tertiary	coarse sand	sand	clay
20031448	Quaternary/ Tertiary	sand	clay	coarse sand
20031448	Possible Cretaceous	limestone	(none)	(none)

Activities

WIN Site Id	Numbering System	Reference	Site Activity Type	Site Activity Category	Start Date	End Date	Comments
20031446	AWRC	61711672	Livestock	Livestock	15/12/1992		(Recorded By:WESTOZ DRILLING COMPANY)

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	12:00:00	30/06/1977	6	1977	GNANGARA MOUND MONITOR	GB10	2123118	WIN SAMP CUSTODIANS	466329	GRAB	STAND	
6349	61710103	12:00:00	27/07/1977	7	1977	GNANGARA MOUND MONITOR	GB10	2123128	WIN SAMP CUSTODIANS	466330	GRAB	LEVLO	
6349	61710103	12:00:00	25/08/1977	8	1977	GNANGARA MOUND MONITOR	GB10	2123130	WIN SAMP CUSTODIANS	466331	GRAB	LEVLO	
6349	61710103	12:00:00	29/09/1977	9	1977	GNANGARA MOUND MONITOR	GB10	2123132	WIN SAMP CUSTODIANS	466332	GRAB	LEVLO	
6349	61710103	12:00:00	27/10/1977	10	1977	GNANGARA MOUND MONITOR	GB10	2123134	WIN SAMP CUSTODIANS	466333	GRAB	LEVLO	
6349	61710103	12:00:00	28/11/1977	11	1977	GNANGARA MOUND MONITOR	GB10	2123136	WIN SAMP CUSTODIANS	466334	GRAB	LEVLO	
6349	61710103	12:00:00	21/12/1977	12	1977	GNANGARA MOUND MONITOR	GB10	2123138	WIN SAMP CUSTODIANS	466335	GRAB	LEVLO	
6349	61710103	12:00:00	31/03/1978	3	1978	GNANGARA MOUND MONITOR	GB10	2123140	WIN SAMP CUSTODIANS	466336	GRAB	LEVLO	
6349	61710103	12:00:00	03/05/1978	5	1978	GNANGARA MOUND MONITOR	GB10	2123142	WIN SAMP CUSTODIANS	466337	GRAB	LEVLO	
6349	61710103	12:00:00	29/05/1978	5	1978	GNANGARA MOUND MONITOR	GB10	2123144	WIN SAMP CUSTODIANS	466338	GRAB	LEVLO	
6349	61710103	12:00:00	27/07/1978	7	1978	GNANGARA MOUND MONITOR	GB10	2123146	WIN SAMP CUSTODIANS	466339	GRAB	LEVLO	
6349	61710103	12:00:00	29/08/1978	8	1978	GNANGARA MOUND MONITOR	GB10	2123148	WIN SAMP CUSTODIANS	466340	GRAB	LEVLO	
6349	61710103	12:00:00	27/09/1978	9	1978	GNANGARA MOUND MONITOR	GB10	2123150	WIN SAMP CUSTODIANS	466341	GRAB	LEVLO	
6349	61710103	12:00:00	26/10/1978	10	1978	GNANGARA MOUND MONITOR	GB10	2123152	WIN SAMP CUSTODIANS	466342	GRAB	LEVLO	
6349	61710103	12:00:00	29/11/1978	11	1978	GNANGARA MOUND MONITOR	GB10	2123154	WIN SAMP CUSTODIANS	466343	GRAB	LEVLO	
6349	61710103	12:00:00	15/12/1978	12	1978	GNANGARA MOUND MONITOR	GB10	2123156	WIN SAMP CUSTODIANS	466344	GRAB	STAND	
6349	61710103	12:00:00	27/02/1979	2	1979	GNANGARA MOUND MONITOR	GB10	2123188	WIN SAMP CUSTODIANS	466345	GRAB	LEVLO	
6349	61710103	12:00:00	28/06/1979	6	1979	GNANGARA MOUND MONITOR	GB10	2123190	WIN SAMP CUSTODIANS	466346	GRAB	LEVLO	
6349	61710103	12:00:00	29/07/1979	7	1979	GNANGARA MOUND MONITOR	GB10	2123192	WIN SAMP CUSTODIANS	466347	GRAB	LEVLO	
6349	61710103	12:00:00	21/08/1979	8	1979	GNANGARA MOUND MONITOR	GB10	2123194	WIN SAMP CUSTODIANS	466348	GRAB	LEVLO	
6349	61710103	12:00:00	20/09/1979	9	1979	GNANGARA MOUND MONITOR	GB10	2123196	WIN SAMP CUSTODIANS	466349	GRAB	LEVLO	
6349	61710103	12:00:00	22/11/1979	11	1979	GNANGARA MOUND MONITOR	GB10	2123198	WIN SAMP CUSTODIANS	466350	GRAB	LEVLO	
6349	61710103	12:00:00	27/12/1979	12	1979	GNANGARA MOUND MONITOR	GB10	2123200	WIN SAMP CUSTODIANS	466351	GRAB	LEVLO	
6349	61710103	12:00:00	24/01/1980	1	1980	GNANGARA MOUND MONITOR	GB10	2123202	WIN SAMP CUSTODIANS	466352	GRAB	LEVLO	
6349	61710103	12:00:00	24/03/1980	3	1980	GNANGARA MOUND MONITOR	GB10	2123204	WIN SAMP CUSTODIANS	466353	GRAB	LEVLO	
6349	61710103	12:00:00	23/04/1980	4	1980	GNANGARA MOUND MONITOR	GB10	2123206	WIN SAMP CUSTODIANS	466354	GRAB	LEVLO	
6349	61710103	12:00:00	29/05/1980	5	1980	GNANGARA MOUND MONITOR	GB10	2123208	WIN SAMP CUSTODIANS	466355	GRAB	LEVLO	
6349	61710103	12:00:00	30/07/1980	7	1980	GNANGARA MOUND MONITOR	GB10	2123210	WIN SAMP CUSTODIANS	466356	GRAB	LEVLO	
6349	61710103	12:00:00	25/08/1980	8	1980	GNANGARA MOUND MONITOR	GB10	2123212	WIN SAMP CUSTODIANS	466357	GRAB	LEVLO	
6349	61710103	12:00:00	26/09/1980	9	1980	GNANGARA MOUND MONITOR	GB10	2123214	WIN SAMP CUSTODIANS	466358	GRAB	LEVLO	
6349	61710103	12:00:00	28/10/1980	10	1980	GNANGARA MOUND MONITOR	GB10	2123216	WIN SAMP CUSTODIANS	466359	GRAB	LEVLO	
6349	61710103	12:00:00	26/11/1980	11	1980	GNANGARA MOUND MONITOR	GB10	2123218	WIN SAMP CUSTODIANS	466360	GRAB	LEVLO	
6349	61710103	12:00:00	29/12/1980	12	1980	GNANGARA MOUND MONITOR	GB10	2123220	WIN SAMP CUSTODIANS	466361	GRAB	LEVLO	
6349	61710103	12:00:00	28/01/1981	1	1981	GNANGARA MOUND MONITOR	GB10	2123222	WIN SAMP CUSTODIANS	466362	GRAB	LEVLO	
6349	61710103	12:00:00	31/03/1981	3	1981	GNANGARA MOUND MONITOR	GB10	2123224	WIN SAMP CUSTODIANS	466363	GRAB	LEVLO	
6349	61710103	12:00:00	29/04/1981	4	1981	GNANGARA MOUND MONITOR	GB10	2123226	WIN SAMP CUSTODIANS	466364	GRAB	LEVLO	
6349	61710103	12:00:00	27/05/1981	5	1981	GNANGARA MOUND MONITOR	GB10	2123228	WIN SAMP CUSTODIANS	466365	GRAB	LEVLO	
6349	61710103	12:00:00	29/06/1981	6	1981	GNANGARA MOUND MONITOR	GB10	2123230	WIN SAMP CUSTODIANS	466366	GRAB	LEVLO	
6349	61710103	12:00:00	23/07/1981	7	1981	GNANGARA MOUND MONITOR	GB10	2123232	WIN SAMP CUSTODIANS	466367	GRAB	LEVLO	
6349	61710103	12:00:00	27/08/1981	8	1981	GNANGARA MOUND MONITOR	GB10	2123234	WIN SAMP CUSTODIANS	466368	GRAB	LEVLO	
6349	61710103	12:00:00	27/09/1982	9	1982	GNANGARA MOUND MONITOR	GB10	2123236	WIN SAMP CUSTODIANS	466369	GRAB	LEVLO	
6349	61710103	12:00:00	28/10/1982	10	1982	GNANGARA MOUND MONITOR	GB10	2123238	WIN SAMP CUSTODIANS	466370	GRAB	LEVLO	
6349	61710103	12:00:00	22/11/1982	11	1982	GNANGARA MOUND MONITOR	GB10	2123240	WIN SAMP CUSTODIANS	466371	GRAB	LEVLO	
6349	61710103	12:00:00	22/12/1982	12	1982	GNANGARA MOUND MONITOR	GB10	2123242	WIN SAMP CUSTODIANS	466372	GRAB	LEVLO	
6349	61710103	12:00:00	27/01/1983	1	1983	GNANGARA MOUND MONITOR	GB10	2123244	WIN SAMP CUSTODIANS	466373	GRAB	LEVLO	
6349	61710103	12:00:00	25/02/1983	2	1983	GNANGARA MOUND MONITOR	GB10	2123246	WIN SAMP CUSTODIANS	466374	GRAB	LEVLO	
6349	61710103	12:00:00	18/03/1983	3	1983	GNANGARA MOUND MONITOR	GB10	2123248	WIN SAMP CUSTODIANS	466375	GRAB	LEVLO	
6349	61710103	12:00:00	26/04/1983	4	1983	GNANGARA MOUND MONITOR	GB10	2123250	WIN SAMP CUSTODIANS	466376	GRAB	LEVLO	
6349	61710103	12:00:00	23/05/1983	5	1983	GNANGARA MOUND MONITOR	GB10	2123252	WIN SAMP CUSTODIANS	466377	GRAB	LEVLO	
6349	61710103	12:00:00	22/06/1983	6	1983	GNANGARA MOUND MONITOR	GB10	2123254	WIN SAMP CUSTODIANS	466378	GRAB	LEVLO	
6349	61710103	12:00:00	20/07/1983	7	1983	GNANGARA MOUND MONITOR	GB10	2123256	WIN SAMP CUSTODIANS	466379	GRAB	LEVLO	
6349	61710103	12:00:00	22/08/1983	8	1983	GNANGARA MOUND MONITOR	GB10	2123258	WIN SAMP CUSTODIANS	466380	GRAB	LEVLO	
6349	61710103	12:00:00	21/09/1983	9	1983	GNANGARA MOUND MONITOR	GB10	2123260	WIN SAMP CUSTODIANS	466381	GRAB	LEVLO	
6349	61710103	12:00:00	21/10/1983	10	1983	GNANGARA MOUND MONITOR	GB10	2123262	WIN SAMP CUSTODIANS	466382	GRAB	LEVLO	
6349	61710103	12:00:00	21/11/1983	11	1983	GNANGARA MOUND MONITOR	GB10	2123264	WIN SAMP CUSTODIANS	466383	GRAB	LEVLO	
6349	61710103	12:00:00	16/12/1983	12	1983	GNANGARA MOUND MONITOR	GB10	2123266	WIN SAMP CUSTODIANS	466384	GRAB	LEVLO	
6349	61710103	12:00:00	19/01/1984	1	1984	GNANGARA MOUND MONITOR	GB10	2123268	WIN SAMP CUSTODIANS	466385	GRAB	LEVLO	
6349	61710103	12:00:00	22/02/1984	2	1984	GNANGARA MOUND MONITOR	GB10	2123270	WIN SAMP CUSTODIANS	466386	GRAB	LEVLO	
6349	61710103	12:00:00	26/03/1984	3	1984	GNANGARA MOUND MONITOR	GB10	2123272	WIN SAMP CUSTODIANS	466387	GRAB	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	12:00:00	12/04/1984	4	1984	GNANGARA MOUND MONITOR	GB10	2123274	WIN SAMP CUSTODIANS	466388	GRAB	LEVLO	
6349	61710103	12:00:00	21/05/1984	5	1984	GNANGARA MOUND MONITOR	GB10	2123276	WIN SAMP CUSTODIANS	466389	GRAB	LEVLO	
6349	61710103	12:00:00	25/06/1984	6	1984	GNANGARA MOUND MONITOR	GB10	2123278	WIN SAMP CUSTODIANS	466390	GRAB	LEVLO	
6349	61710103	12:00:00	23/07/1984	7	1984	GNANGARA MOUND MONITOR	GB10	2123280	WIN SAMP CUSTODIANS	466391	GRAB	LEVLO	
6349	61710103	12:00:00	23/08/1984	8	1984	GNANGARA MOUND MONITOR	GB10	2123282	WIN SAMP CUSTODIANS	466392	GRAB	LEVLO	
6349	61710103	12:00:00	20/09/1984	9	1984	GNANGARA MOUND MONITOR	GB10	2123284	WIN SAMP CUSTODIANS	466393	GRAB	LEVLO	
6349	61710103	12:00:00	19/10/1984	10	1984	GNANGARA MOUND MONITOR	GB10	2123286	WIN SAMP CUSTODIANS	466394	GRAB	LEVLO	
6349	61710103	12:00:00	19/11/1984	11	1984	GNANGARA MOUND MONITOR	GB10	2123288	WIN SAMP CUSTODIANS	466395	GRAB	LEVLO	
6349	61710103	12:00:00	27/12/1984	12	1984	GNANGARA MOUND MONITOR	GB10	2123290	WIN SAMP CUSTODIANS	466396	GRAB	LEVLO	
6349	61710103	12:00:00	21/01/1985	1	1985	GNANGARA MOUND MONITOR	GB10	2123292	WIN SAMP CUSTODIANS	466397	GRAB	LEVLO	
6349	61710103	12:00:00	20/02/1985	2	1985	GNANGARA MOUND MONITOR	GB10	2123294	WIN SAMP CUSTODIANS	466398	GRAB	LEVLO	
6349	61710103	12:00:00	22/03/1985	3	1985	GNANGARA MOUND MONITOR	GB10	2123296	WIN SAMP CUSTODIANS	466399	GRAB	LEVLO	
6349	61710103	12:00:00	19/04/1985	4	1985	GNANGARA MOUND MONITOR	GB10	2123298	WIN SAMP CUSTODIANS	466400	GRAB	LEVLO	
6349	61710103	12:00:00	16/05/1985	5	1985	GNANGARA MOUND MONITOR	GB10	2123300	WIN SAMP CUSTODIANS	466401	GRAB	LEVLO	
6349	61710103	12:00:00	20/06/1985	6	1985	GNANGARA MOUND MONITOR	GB10	2123302	WIN SAMP CUSTODIANS	466402	GRAB	LEVLO	
6349	61710103	12:00:00	17/07/1985	7	1985	GNANGARA MOUND MONITOR	GB10	2123304	WIN SAMP CUSTODIANS	466403	GRAB	LEVLO	
6349	61710103	12:00:00	22/08/1985	8	1985	GNANGARA MOUND MONITOR	GB10	2123306	WIN SAMP CUSTODIANS	466404	GRAB	LEVLO	
6349	61710103	12:00:00	23/09/1985	9	1985	GNANGARA MOUND MONITOR	GB10	2123308	WIN SAMP CUSTODIANS	466405	GRAB	LEVLO	
6349	61710103	12:00:00	20/11/1985	11	1985	GNANGARA MOUND MONITOR	GB10	2123310	WIN SAMP CUSTODIANS	466406	GRAB	LEVLO	
6349	61710103	12:00:00	18/12/1985	12	1985	GNANGARA MOUND MONITOR	GB10	2123314	WIN SAMP CUSTODIANS	466407	GRAB	LEVLO	
6349	61710103	12:00:00	29/01/1986	1	1986	GNANGARA MOUND MONITOR	GB10	2123317	WIN SAMP CUSTODIANS	466408	GRAB	LEVLO	
6349	61710103	12:00:00	20/02/1986	2	1986	GNANGARA MOUND MONITOR	GB10	2123320	WIN SAMP CUSTODIANS	466409	GRAB	LEVLO	
6349	61710103	12:00:00	21/03/1986	3	1986	GNANGARA MOUND MONITOR	GB10	2123323	WIN SAMP CUSTODIANS	466410	GRAB	LEVLO	
6349	61710103	11:05:00	22/04/1986	4	1986	GNANGARA MOUND MONITOR	GB10	2123326	WIN SAMP CUSTODIANS	466411	GRAB	LEVLO	
6349	61710103	10:37:00	20/05/1986	5	1986	GNANGARA MOUND MONITOR	GB10	2123329	WIN SAMP CUSTODIANS	466412	GRAB	LEVLO	
6349	61710103	11:37:00	08/07/1986	7	1986	GNANGARA MOUND MONITOR	GB10	2123332	WIN SAMP CUSTODIANS	466413	GRAB	LEVLO	
6349	61710103	11:00:00	31/07/1986	7	1986	GNANGARA MOUND MONITOR	GB10	2123335	WIN SAMP CUSTODIANS	466414	GRAB	LEVLO	
6349	61710103	10:42:00	25/08/1986	8	1986	GNANGARA MOUND MONITOR	GB10	2123338	WIN SAMP CUSTODIANS	466415	GRAB	LEVLO	
6349	61710103	11:34:00	18/09/1986	9	1986	GNANGARA MOUND MONITOR	GB10	2123341	WIN SAMP CUSTODIANS	466416	GRAB	LEVLO	
6349	61710103	11:30:00	20/10/1986	10	1986	GNANGARA MOUND MONITOR	GB10	2123344	WIN SAMP CUSTODIANS	466417	GRAB	LEVLO	
6349	61710103	12:05:00	06/11/1986	11	1986	GNANGARA MOUND MONITOR	GB10	2123347	WIN SAMP CUSTODIANS	466418	GRAB	LEVLO	
6349	61710103	15:30:00	02/12/1986	12	1986	GNANGARA MOUND MONITOR	GB10	2123350	WIN SAMP CUSTODIANS	466419	GRAB	LEVLO	
6349	61710103	9:21:00	07/01/1987	1	1987	GNANGARA MOUND MONITOR	GB10	2123353	WIN SAMP CUSTODIANS	466420	GRAB	LEVLO	
6349	61710103	14:40:00	17/02/1987	2	1987	GNANGARA MOUND MONITOR	GB10	2123356	WIN SAMP CUSTODIANS	466421	GRAB	LEVLO	
6349	61710103	11:48:00	09/03/1987	3	1987	GNANGARA MOUND MONITOR	GB10	2123359	WIN SAMP CUSTODIANS	466422	GRAB	LEVLO	
6349	61710103	11:25:00	01/04/1987	4	1987	GNANGARA MOUND MONITOR	GB10	2123362	WIN SAMP CUSTODIANS	466423	GRAB	LEVLO	
6349	61710103	10:55:00	06/05/1987	5	1987	GNANGARA MOUND MONITOR	GB10	2123365	WIN SAMP CUSTODIANS	466424	GRAB	LEVLO	
6349	61710103	11:45:00	11/06/1987	6	1987	GNANGARA MOUND MONITOR	GB10	2123368	WIN SAMP CUSTODIANS	466425	GRAB	LEVLO	
6349	61710103	11:04:00	06/07/1987	7	1987	GNANGARA MOUND MONITOR	GB10	2123371	WIN SAMP CUSTODIANS	466426	GRAB	LEVLO	
6349	61710103	11:37:00	05/08/1987	8	1987	GNANGARA MOUND MONITOR	GB10	2123374	WIN SAMP CUSTODIANS	466427	GRAB	LEVLO	
6349	61710103	11:04:00	04/09/1987	9	1987	GNANGARA MOUND MONITOR	GB10	2123377	WIN SAMP CUSTODIANS	466428	GRAB	LEVLO	
6349	61710103	10:56:00	08/10/1987	10	1987	GNANGARA MOUND MONITOR	GB10	2123380	WIN SAMP CUSTODIANS	466429	GRAB	LEVLO	
6349	61710103	12:00:00	02/11/1987	11	1987	GNANGARA MOUND MONITOR	GB10	2123383	WIN SAMP CUSTODIANS	466430	GRAB	LEVLO	
6349	61710103	13:16:00	04/11/1987	11	1987	GNANGARA MOUND MONITOR	GB10	2123386	WIN SAMP CUSTODIANS	466431	GRAB	LEVLO	
6349	61710103	13:32:00	01/12/1987	12	1987	GNANGARA MOUND MONITOR	GB10	2123389	WIN SAMP CUSTODIANS	466432	GRAB	LEVLO	
6349	61710103	14:11:00	08/02/1988	2	1988	GNANGARA MOUND MONITOR	GB10	2123392	WIN SAMP CUSTODIANS	466433	GRAB	LEVLO	
6349	61710103	14:21:00	03/03/1988	3	1988	GNANGARA MOUND MONITOR	GB10	2123395	WIN SAMP CUSTODIANS	466434	GRAB	LEVLO	
6349	61710103	10:32:00	06/04/1988	4	1988	GNANGARA MOUND MONITOR	GB10	2123398	WIN SAMP CUSTODIANS	466435	GRAB	LEVLO	
6349	61710103	14:19:00	04/05/1988	5	1988	GNANGARA MOUND MONITOR	GB10	2123401	WIN SAMP CUSTODIANS	466436	GRAB	LEVLO	
6349	61710103	14:11:00	22/06/1988	6	1988	GNANGARA MOUND MONITOR	GB10	2123404	WIN SAMP CUSTODIANS	466437	GRAB	LEVLO	
6349	61710103	14:04:00	27/07/1988	7	1988	GNANGARA MOUND MONITOR	GB10	2123407	WIN SAMP CUSTODIANS	466438	GRAB	LEVLO	
6349	61710103	13:24:00	22/08/1988	8	1988	GNANGARA MOUND MONITOR	GB10	2123411	WIN SAMP CUSTODIANS	466439	GRAB	LEVLO	
6349	61710103	14:20:00	29/09/1988	9	1988	GNANGARA MOUND MONITOR	GB10	2123414	WIN SAMP CUSTODIANS	466440	GRAB	LEVLO	
6349	61710103	14:23:00	10/10/1988	10	1988	GNANGARA MOUND MONITOR	GB10	2123417	WIN SAMP CUSTODIANS	466441	GRAB	LEVLO	
6349	61710103	14:26:00	10/10/1988	10	1988	GNANGARA MOUND MONITOR	GB10	2123420	WIN SAMP CUSTODIANS	466442	GRAB	STAND	
6349	61710103	14:30:00	24/11/1988	11	1988	GNANGARA MOUND MONITOR	GB10	2123423	WIN SAMP CUSTODIANS	466443	GRAB	LEVLO	
6349	61710103	14:03:00	18/01/1989	1	1989	GNANGARA MOUND MONITOR	GB10	2123426	WIN SAMP CUSTODIANS	466444	GRAB	LEVLO	
6349	61710103	9:00:00	17/04/1989	4	1989	GNANGARA MOUND MONITOR	GB10	8083808	WIN SAMP CUSTODIANS	1272881	GRAB	PROFL	
6349	61710103	14:37:00	17/04/1989	4	1989	GNANGARA MOUND MONITOR	GB10	2123429	WIN SAMP CUSTODIANS	466445	GRAB	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	13:50:00	05/07/1989	7	1989	GNANGARA MOUND MONITOR	GB10	2123432	WIN SAMP CUSTODIANS	466446	GRAB	LEVLO	
6349	61710103	10:58:00	26/10/1989	10	1989	GNANGARA MOUND MONITOR	GB10	2123435	WIN SAMP CUSTODIANS	466447	GRAB	LEVLO	
6349	61710103	15:35:00	15/01/1990	1	1990	GNANGARA MOUND MONITOR	GB10	2123438	WIN SAMP CUSTODIANS	466448	GRAB	LEVLO	
6349	61710103	14:20:00	03/04/1990	4	1990	GNANGARA MOUND MONITOR	GB10	2123441	WIN SAMP CUSTODIANS	466449	GRAB	LEVLO	
6349	61710103	11:45:00	16/07/1990	7	1990	GNANGARA MOUND MONITOR	GB10	2123444	WIN SAMP CUSTODIANS	466450	GRAB	LEVLO	
6349	61710103	13:45:00	16/10/1990	10	1990	GNANGARA MOUND MONITOR	GB10	2123447	WIN SAMP CUSTODIANS	466451	GRAB	LEVLO	
6349	61710103	11:25:00	29/01/1991	1	1991	GNANGARA MOUND MONITOR	GB10	7926092	WIN SAMP CUSTODIANS	1250030	GRAB	LEVLO	
6349	61710103	12:45:00	15/04/1991	4	1991	GNANGARA MOUND MONITOR	GB10	8088264	WIN SAMP CUSTODIANS	1273890	GRAB	LEVLO	
6349	61710103	10:20:00	25/07/1991	7	1991	GNANGARA MOUND MONITOR	GB10	8495244	WIN SAMP CUSTODIANS	1367961	GRAB	LEVLO	
6349	61710103	10:30:00	15/10/1991	10	1991	GNANGARA MOUND MONITOR	GB10	8693908	WIN SAMP CUSTODIANS	1393260	GRAB	LEVLO	
6349	61710103	10:00:00	22/01/1992	1	1992	GNANGARA MOUND MONITOR	GB10	9009316	WIN SAMP CUSTODIANS	1437534	GRAB	LEVLO	
6349	61710103	12:00:00	22/01/1992	1	1992	GNANGARA MOUND MONITOR	GB10	9312050	WIN SAMP CUSTODIANS	1480109	GRAB	LEVLO	
6349	61710103	9:45:00	13/04/1992	4	1992	GNANGARA MOUND MONITOR	GB10	9269938	WIN SAMP CUSTODIANS	1475291	GRAB	LEVLO	
6349	61710103	10:25:00	21/07/1992	7	1992	GNANGARA MOUND MONITOR	GB10	9407179	WIN SAMP CUSTODIANS	1494056	GRAB	LEVLO	
6349	61710103	9:50:00	19/10/1992	10	1992	GNANGARA MOUND MONITOR	GB10	9703304	WIN SAMP CUSTODIANS	1536459	GRAB	LEVLO	
6349	61710103	10:00:00	20/01/1993	1	1993	GNANGARA MOUND MONITOR	GB10	9927425	WIN SAMP CUSTODIANS	1572585	GRAB	LEVLO	
6349	61710103	12:00:00	22/02/1993	2	1993	GNANGARA MOUND MONITOR	GB10	10224276	WIN SAMP CUSTODIANS	1616023	GRAB	LEVLO	
6349	61710103	9:45:00	22/04/1993	4	1993	GNANGARA MOUND MONITOR	GB10	10159010	WIN SAMP CUSTODIANS	1606955	GRAB	LEVLO	
6349	61710103	10:10:00	27/07/1993	7	1993	GNANGARA MOUND MONITOR	GB10	10325801	WIN SAMP CUSTODIANS	1632617	GRAB	LEVLO	
6349	61710103	9:55:00	25/10/1993	10	1993	GNANGARA MOUND MONITOR	GB10	10476142	WIN SAMP CUSTODIANS	1646174	GRAB	LEVLO	
6349	61710103	9:55:00	21/01/1994	1	1994	GNANGARA MOUND MONITOR	GB10	10923516	WIN SAMP CUSTODIANS	1680182	GRAB	LEVLO	
6349	61710103	12:00:00	21/01/1994	1	1994	GNANGARA MOUND MONITOR	GB10	11475476	WIN SAMP CUSTODIANS	1752358	GRAB	LEVLO	
6349	61710103	10:05:00	22/04/1994	4	1994	GNANGARA MOUND MONITOR	GB10	11088315	WIN SAMP CUSTODIANS	1698451	GRAB	LEVLO	
6349	61710103	12:39:00	14/07/1994	7	1994	GNANGARA MOUND MONITOR	GB10	11243290	WIN SAMP CUSTODIANS	1722734	GRAB	LEVLO	
6349	61710103	9:25:00	14/10/1994	10	1994	GNANGARA MOUND MONITOR	GB10	11429679	WIN SAMP CUSTODIANS	1746714	GRAB	LEVLO	
6349	61710103	13:49:00	13/01/1995	1	1995	GNANGARA MOUND MONITOR	GB10	11726990	WIN SAMP CUSTODIANS	1800308	GRAB	LEVLO	
6349	61710103	10:20:00	06/04/1995	4	1995	GNANGARA MOUND MONITOR	GB10	11881732	WIN SAMP CUSTODIANS	1815172	GRAB	LEVLO	
6349	61710103	11:07:00	12/07/1995	7	1995	GNANGARA MOUND MONITOR	GB10	12053460	WIN SAMP CUSTODIANS	1831088	GRAB	LEVLO	
6349	61710103	8:58:00	10/10/1995	10	1995	GNANGARA MOUND MONITOR	GB10	12303625	WIN SAMP CUSTODIANS	1857983	GRAB	LEVLO	
6349	61710103	10:04:00	24/01/1996	1	1996	GNANGARA MOUND MONITOR	GB10	12482612	WIN SAMP CUSTODIANS	1885208	GRAB	LEVLO	
6349	61710103	14:11:00	22/04/1996	4	1996	GNANGARA MOUND MONITOR	GB10	12682460	WIN SAMP CUSTODIANS	1904199	GRAB	LEVLO	
6349	61710103	8:55:00	12/07/1996	7	1996	GNANGARA MOUND MONITOR	GB10	12896619	WIN SAMP CUSTODIANS	1916169	GRAB	LEVLO	
6349	61710103	8:56:00	12/07/1996	7	1996	GNANGARA MOUND MONITOR	GB10	12938002	WIN SAMP CUSTODIANS	1916153	GRAB	LEVLO	
6349	61710103	10:50:00	10/10/1996	10	1996	GNANGARA MOUND MONITOR	GB10	13137250	WIN SAMP CUSTODIANS	1931596	GRAB	LEVLO	
6349	61710103	9:50:00	24/01/1997	1	1997	GNANGARA MOUND MONITOR	GB10	14288982	WIN SAMP CUSTODIANS	2007086	GRAB	STAND	
6349	61710103	10:44:00	24/01/1997	1	1997	GNANGARA MOUND MONITOR	GB10	13510854	WIN SAMP CUSTODIANS	1964454	GRAB	LEVLO	
6349	61710103	10:45:00	24/01/1997	1	1997	GNANGARA MOUND MONITOR	GB10	13510998	WIN SAMP CUSTODIANS	1964502	GRAB	STAND	
6349	61710103	13:51:00	21/04/1997	4	1997	GNANGARA MOUND MONITOR	GB10	13817859	WIN SAMP CUSTODIANS	1983541	GRAB	LEVLO	
6349	61710103	10:40:00	11/07/1997	7	1997	GNANGARA MOUND MONITOR	GB10	14136091	WIN SAMP CUSTODIANS	1996878	GRAB	LEVLO	
6349	61710103	8:52:00	10/10/1997	10	1997	GNANGARA MOUND MONITOR	GB10	14484074	WIN SAMP CUSTODIANS	2022135	GRAB	LEVLO	
6349	61710103	10:20:00	21/01/1998	1	1998	GNANGARA MOUND MONITOR	GB10	14808185	WIN SAMP CUSTODIANS	2057819	GRAB	LEVLO	
6349	61710103	13:30:00	24/03/1998	3	1998	GNANGARA MOUND MONITOR	GB10	14910476	WIN SAMP CUSTODIANS	2064160	GRAB	LEVLO	
6349	61710103	9:10:00	10/07/1998	7	1998	GNANGARA MOUND MONITOR	GB10	15171169	WIN SAMP CUSTODIANS	2089813	GRAB	LEVLO	
6349	61710103	9:39:00	17/08/1998	8	1998	GNANGARA MOUND MONITOR	GB10	15227752	WIN SAMP CUSTODIANS	2093494	GRAB	STAND	
6349	61710103	12:25:00	12/10/1998	10	1998	GNANGARA MOUND MONITOR	GB10	15301950	WIN SAMP CUSTODIANS	2100276	GRAB	LEVLO	
6349	61710103	11:22:00	18/01/1999	1	1999	GNANGARA MOUND MONITOR	GB10	15399377	WIN SAMP CUSTODIANS	2106041	GRAB	LEVLO	
6349	61710103	8:43:00	15/10/1999	10	1999	GNANGARA MOUND MONITOR	GB10	23001246	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6349	61710103	11:55:00	28/06/2000	6	2000	GNANGARA MOUND MONITOR	GB10	23011919	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6349	61710103	11:36:00	16/11/2000	11	2000	GNANGARA MOUND MONITOR	GB10	23017382	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6349	61710103	12:12:00	17/05/2001	5	2001	GNANGARA MOUND MONITOR	GB10	23026082	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	9:03:00	24/10/2001	10	2001	GNANGARA MOUND MONITOR	GB10	23039758	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	10:43:00	15/05/2002	5	2002	GNANGARA MOUND MONITOR	GB10	23154976	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	12:47:00	21/11/2002	11	2002	GNANGARA MOUND MONITOR	GB10	23224154	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	9:10:00	20/05/2003	5	2003	GNANGARA MOUND MONITOR	GB10	23310214	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	9:11:00	14/10/2003	10	2003	GNANGARA MOUND MONITOR	GB10	23381083	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	10:47:00	11/05/2004	5	2004	GNANGARA MOUND MONITOR	GB10	23505981	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	8:40:00	15/10/2004	10	2004	GNANGARA MOUND MONITOR	GB10	23623701	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	11:58:00	19/05/2005	5	2005	GNANGARA MOUND MONITOR	GB10	23784260	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	0:00:00	30/09/2005	9	2005	GNANGARA MOUND MONITOR	GB10	23842854	WIN SAMP CUSTODIANS		INSIT	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	11:30:00	05/05/2006	5	2006	GNANGARA MOUND MONITOR	GB10	23958914	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	9:47:00	24/10/2006	10	2006	GNANGARA MOUND MONITOR	GB10	24067107	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	14:55:00	08/05/2007	5	2007	GNANGARA MOUND MONITOR	GB10	24205511	WIN SAMP CUSTODIANS	GB10	PUMPS	STAND	10.000
6349	61710103	14:55:00	08/05/2007	5	2007	GNANGARA MOUND MONITOR	GB10	24206727	WIN SAMP CUSTODIANS		PUMPS	STAND	10.000
6349	61710103	13:58:00	10/05/2007	5	2007	GNANGARA MOUND MONITOR	GB10	24178500	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	14:38:00	26/10/2007	10	2007	GNANGARA MOUND MONITOR	GB10	24309717	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	14:05:00	20/05/2008	5	2008	GNANGARA MOUND MONITOR	GB10	24499832	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	13:46:00	03/10/2008	10	2008	GNANGARA MOUND MONITOR	GB10	24595911	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	12:00:00	03/05/1973	5	1973	GINGIN MONITORING	GG10	2125078	WIN SAMP CUSTODIANS	467057	GRAB	LEVLO	
6355	61710109	12:00:00	05/06/1973	6	1973	GINGIN MONITORING	GG10	2125080	WIN SAMP CUSTODIANS	467058	GRAB	LEVLO	
6355	61710109	12:00:00	05/07/1973	7	1973	GINGIN MONITORING	GG10	2125082	WIN SAMP CUSTODIANS	467059	GRAB	LEVLO	
6355	61710109	12:00:00	26/07/1973	7	1973	GINGIN MONITORING	GG10	2125084	WIN SAMP CUSTODIANS	467060	GRAB	LEVLO	
6355	61710109	12:00:00	06/09/1973	9	1973	GINGIN MONITORING	GG10	2125086	WIN SAMP CUSTODIANS	467061	GRAB	LEVLO	
6355	61710109	12:00:00	10/10/1973	10	1973	GINGIN MONITORING	GG10	2125088	WIN SAMP CUSTODIANS	467062	GRAB	LEVLO	
6355	61710109	12:00:00	15/11/1973	11	1973	GINGIN MONITORING	GG10	2125090	WIN SAMP CUSTODIANS	467063	GRAB	LEVLO	
6355	61710109	12:00:00	12/12/1973	12	1973	GINGIN MONITORING	GG10	2125092	WIN SAMP CUSTODIANS	467064	GRAB	LEVLO	
6355	61710109	12:00:00	04/01/1974	1	1974	GINGIN MONITORING	GG10	2125094	WIN SAMP CUSTODIANS	467065	GRAB	LEVLO	
6355	61710109	12:00:00	31/01/1974	1	1974	GINGIN MONITORING	GG10	2125096	WIN SAMP CUSTODIANS	467066	GRAB	LEVLO	
6355	61710109	12:00:00	15/03/1974	3	1974	GINGIN MONITORING	GG10	2125098	WIN SAMP CUSTODIANS	467067	GRAB	LEVLO	
6355	61710109	12:00:00	23/04/1974	4	1974	GINGIN MONITORING	GG10	2125100	WIN SAMP CUSTODIANS	467068	GRAB	LEVLO	
6355	61710109	12:00:00	10/05/1974	5	1974	GINGIN MONITORING	GG10	2125102	WIN SAMP CUSTODIANS	467069	GRAB	LEVLO	
6355	61710109	12:00:00	12/06/1974	6	1974	GINGIN MONITORING	GG10	2125104	WIN SAMP CUSTODIANS	467070	GRAB	LEVLO	
6355	61710109	12:00:00	09/07/1974	7	1974	GINGIN MONITORING	GG10	2125106	WIN SAMP CUSTODIANS	467071	GRAB	LEVLO	
6355	61710109	12:00:00	16/08/1974	8	1974	GINGIN MONITORING	GG10	2125108	WIN SAMP CUSTODIANS	467072	GRAB	LEVLO	
6355	61710109	12:00:00	17/09/1974	9	1974	GINGIN MONITORING	GG10	2125110	WIN SAMP CUSTODIANS	467073	GRAB	LEVLO	
6355	61710109	12:00:00	16/10/1974	10	1974	GINGIN MONITORING	GG10	2125112	WIN SAMP CUSTODIANS	467074	GRAB	LEVLO	
6355	61710109	12:00:00	13/11/1974	11	1974	GINGIN MONITORING	GG10	2125114	WIN SAMP CUSTODIANS	467075	GRAB	LEVLO	
6355	61710109	12:00:00	13/12/1974	12	1974	GINGIN MONITORING	GG10	2125116	WIN SAMP CUSTODIANS	467076	GRAB	LEVLO	
6355	61710109	12:00:00	20/02/1975	2	1975	GINGIN MONITORING	GG10	2125118	WIN SAMP CUSTODIANS	467077	GRAB	LEVLO	
6355	61710109	12:00:00	21/03/1975	3	1975	GINGIN MONITORING	GG10	2125120	WIN SAMP CUSTODIANS	467078	GRAB	LEVLO	
6355	61710109	12:00:00	18/04/1975	4	1975	GINGIN MONITORING	GG10	2125122	WIN SAMP CUSTODIANS	467079	GRAB	LEVLO	
6355	61710109	12:00:00	20/05/1975	5	1975	GINGIN MONITORING	GG10	2125124	WIN SAMP CUSTODIANS	467080	GRAB	LEVLO	
6355	61710109	12:00:00	18/06/1975	6	1975	GINGIN MONITORING	GG10	2125126	WIN SAMP CUSTODIANS	467081	GRAB	LEVLO	
6355	61710109	12:00:00	22/07/1975	7	1975	GINGIN MONITORING	GG10	2125128	WIN SAMP CUSTODIANS	467082	GRAB	LEVLO	
6355	61710109	12:00:00	19/08/1975	8	1975	GINGIN MONITORING	GG10	2125130	WIN SAMP CUSTODIANS	467083	GRAB	LEVLO	
6355	61710109	12:00:00	16/09/1975	9	1975	GINGIN MONITORING	GG10	2125132	WIN SAMP CUSTODIANS	467084	GRAB	LEVLO	
6355	61710109	12:00:00	22/10/1975	10	1975	GINGIN MONITORING	GG10	2125134	WIN SAMP CUSTODIANS	467085	GRAB	LEVLO	
6355	61710109	12:00:00	14/11/1975	11	1975	GINGIN MONITORING	GG10	2125136	WIN SAMP CUSTODIANS	467086	GRAB	LEVLO	
6355	61710109	12:00:00	12/03/1976	3	1976	GINGIN MONITORING	GG10	2125138	WIN SAMP CUSTODIANS	467087	GRAB	LEVLO	
6355	61710109	12:00:00	09/04/1976	4	1976	GINGIN MONITORING	GG10	2125140	WIN SAMP CUSTODIANS	467088	GRAB	LEVLO	
6355	61710109	12:00:00	06/05/1976	5	1976	GINGIN MONITORING	GG10	2125142	WIN SAMP CUSTODIANS	467089	GRAB	LEVLO	
6355	61710109	12:00:00	10/06/1976	6	1976	GINGIN MONITORING	GG10	2125144	WIN SAMP CUSTODIANS	467090	GRAB	LEVLO	
6355	61710109	12:00:00	06/07/1976	7	1976	GINGIN MONITORING	GG10	2125146	WIN SAMP CUSTODIANS	467091	GRAB	LEVLO	
6355	61710109	12:00:00	14/09/1976	9	1976	GINGIN MONITORING	GG10	2125148	WIN SAMP CUSTODIANS	467092	GRAB	LEVLO	
6355	61710109	12:00:00	07/10/1976	10	1976	GINGIN MONITORING	GG10	2125150	WIN SAMP CUSTODIANS	467093	GRAB	LEVLO	
6355	61710109	12:00:00	09/11/1976	11	1976	GINGIN MONITORING	GG10	2125152	WIN SAMP CUSTODIANS	467094	GRAB	LEVLO	
6355	61710109	12:00:00	22/04/1977	4	1977	GINGIN MONITORING	GG10	2125154	WIN SAMP CUSTODIANS	467095	GRAB	LEVLO	
6355	61710109	12:00:00	10/05/1977	5	1977	GINGIN MONITORING	GG10	2125156	WIN SAMP CUSTODIANS	467096	GRAB	LEVLO	
6355	61710109	12:00:00	17/06/1977	6	1977	GINGIN MONITORING	GG10	2125158	WIN SAMP CUSTODIANS	467097	GRAB	LEVLO	
6355	61710109	12:00:00	20/07/1977	7	1977	GINGIN MONITORING	GG10	2125160	WIN SAMP CUSTODIANS	467098	GRAB	LEVLO	
6355	61710109	12:00:00	17/08/1977	8	1977	GINGIN MONITORING	GG10	2125162	WIN SAMP CUSTODIANS	467099	GRAB	LEVLO	
6355	61710109	12:00:00	22/09/1977	9	1977	GINGIN MONITORING	GG10	2125164	WIN SAMP CUSTODIANS	467100	GRAB	LEVLO	
6355	61710109	12:00:00	20/10/1977	10	1977	GINGIN MONITORING	GG10	2125166	WIN SAMP CUSTODIANS	467101	GRAB	LEVLO	
6355	61710109	12:00:00	22/11/1977	11	1977	GINGIN MONITORING	GG10	2125168	WIN SAMP CUSTODIANS	467102	GRAB	LEVLO	
6355	61710109	12:00:00	22/12/1977	12	1977	GINGIN MONITORING	GG10	2125170	WIN SAMP CUSTODIANS	467103	GRAB	LEVLO	
6355	61710109	12:00:00	26/01/1978	1	1978	GINGIN MONITORING	GG10	2125172	WIN SAMP CUSTODIANS	467104	GRAB	LEVLO	
6355	61710109	12:00:00	28/02/1978	2	1978	GINGIN MONITORING	GG10	2125174	WIN SAMP CUSTODIANS	467105	GRAB	LEVLO	
6355	61710109	12:00:00	30/03/1978	3	1978	GINGIN MONITORING	GG10	2125176	WIN SAMP CUSTODIANS	467106	GRAB	LEVLO	
6355	61710109	12:00:00	27/04/1978	4	1978	GINGIN MONITORING	GG10	2125178	WIN SAMP CUSTODIANS	467107	GRAB	LEVLO	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	12:00:00	24/05/1978	5	1978	GINGIN MONITORING	GG10	2125180	WIN SAMP CUSTODIANS	467108	GRAB	LEVLO	
6355	61710109	12:00:00	29/06/1978	6	1978	GINGIN MONITORING	GG10	2125182	WIN SAMP CUSTODIANS	467109	GRAB	LEVLO	
6355	61710109	12:00:00	24/07/1978	7	1978	GINGIN MONITORING	GG10	2125184	WIN SAMP CUSTODIANS	467110	GRAB	LEVLO	
6355	61710109	12:00:00	18/08/1978	8	1978	GINGIN MONITORING	GG10	2125186	WIN SAMP CUSTODIANS	467111	GRAB	LEVLO	
6355	61710109	12:00:00	18/09/1978	9	1978	GINGIN MONITORING	GG10	2125188	WIN SAMP CUSTODIANS	467112	GRAB	LEVLO	
6355	61710109	12:00:00	20/10/1978	10	1978	GINGIN MONITORING	GG10	2125190	WIN SAMP CUSTODIANS	467113	GRAB	LEVLO	
6355	61710109	12:00:00	21/11/1978	11	1978	GINGIN MONITORING	GG10	2125192	WIN SAMP CUSTODIANS	467114	GRAB	LEVLO	
6355	61710109	12:00:00	20/12/1978	12	1978	GINGIN MONITORING	GG10	2125194	WIN SAMP CUSTODIANS	467115	GRAB	LEVLO	
6355	61710109	12:00:00	17/01/1979	1	1979	GINGIN MONITORING	GG10	2125196	WIN SAMP CUSTODIANS	467116	GRAB	LEVLO	
6355	61710109	12:00:00	15/02/1979	2	1979	GINGIN MONITORING	GG10	2125198	WIN SAMP CUSTODIANS	467117	GRAB	LEVLO	
6355	61710109	12:00:00	16/03/1979	3	1979	GINGIN MONITORING	GG10	2125200	WIN SAMP CUSTODIANS	467118	GRAB	LEVLO	
6355	61710109	12:00:00	19/04/1979	4	1979	GINGIN MONITORING	GG10	2125202	WIN SAMP CUSTODIANS	467119	GRAB	LEVLO	
6355	61710109	12:00:00	18/05/1979	5	1979	GINGIN MONITORING	GG10	2125204	WIN SAMP CUSTODIANS	467120	GRAB	LEVLO	
6355	61710109	12:00:00	18/06/1979	6	1979	GINGIN MONITORING	GG10	2125206	WIN SAMP CUSTODIANS	467121	GRAB	LEVLO	
6355	61710109	12:00:00	18/07/1979	7	1979	GINGIN MONITORING	GG10	2125208	WIN SAMP CUSTODIANS	467122	GRAB	LEVLO	
6355	61710109	12:00:00	15/08/1979	8	1979	GINGIN MONITORING	GG10	2125210	WIN SAMP CUSTODIANS	467123	GRAB	LEVLO	
6355	61710109	12:00:00	12/09/1979	9	1979	GINGIN MONITORING	GG10	2125212	WIN SAMP CUSTODIANS	467124	GRAB	LEVLO	
6355	61710109	12:00:00	17/10/1979	10	1979	GINGIN MONITORING	GG10	2125214	WIN SAMP CUSTODIANS	467125	GRAB	LEVLO	
6355	61710109	12:00:00	16/11/1979	11	1979	GINGIN MONITORING	GG10	2125216	WIN SAMP CUSTODIANS	467126	GRAB	LEVLO	
6355	61710109	12:00:00	20/12/1979	12	1979	GINGIN MONITORING	GG10	2125218	WIN SAMP CUSTODIANS	467127	GRAB	LEVLO	
6355	61710109	12:00:00	14/01/1980	1	1980	GINGIN MONITORING	GG10	2125220	WIN SAMP CUSTODIANS	467128	GRAB	LEVLO	
6355	61710109	12:00:00	18/02/1980	2	1980	GINGIN MONITORING	GG10	2125222	WIN SAMP CUSTODIANS	467129	GRAB	LEVLO	
6355	61710109	12:00:00	20/03/1980	3	1980	GINGIN MONITORING	GG10	2125224	WIN SAMP CUSTODIANS	467130	GRAB	LEVLO	
6355	61710109	12:00:00	21/04/1980	4	1980	GINGIN MONITORING	GG10	2125226	WIN SAMP CUSTODIANS	467131	GRAB	LEVLO	
6355	61710109	12:00:00	15/05/1980	5	1980	GINGIN MONITORING	GG10	2125228	WIN SAMP CUSTODIANS	467132	GRAB	LEVLO	
6355	61710109	12:00:00	19/06/1980	6	1980	GINGIN MONITORING	GG10	2125230	WIN SAMP CUSTODIANS	467133	GRAB	LEVLO	
6355	61710109	12:00:00	18/07/1980	7	1980	GINGIN MONITORING	GG10	2125232	WIN SAMP CUSTODIANS	467134	GRAB	LEVLO	
6355	61710109	12:00:00	14/08/1980	8	1980	GINGIN MONITORING	GG10	2125234	WIN SAMP CUSTODIANS	467135	GRAB	LEVLO	
6355	61710109	12:00:00	16/09/1980	9	1980	GINGIN MONITORING	GG10	2125236	WIN SAMP CUSTODIANS	467136	GRAB	LEVLO	
6355	61710109	12:00:00	17/10/1980	10	1980	GINGIN MONITORING	GG10	2125238	WIN SAMP CUSTODIANS	467137	GRAB	LEVLO	
6355	61710109	12:00:00	17/11/1980	11	1980	GINGIN MONITORING	GG10	2125240	WIN SAMP CUSTODIANS	467138	GRAB	LEVLO	
6355	61710109	12:00:00	04/12/1980	12	1980	GINGIN MONITORING	GG10	2125242	WIN SAMP CUSTODIANS	467139	GRAB	STAND	
6355	61710109	12:01:00	04/12/1980	12	1980	GINGIN MONITORING	GG10	9936185	WIN SAMP CUSTODIANS	1574302	GRAB	STAND	
6355	61710109	12:00:00	18/12/1980	12	1980	GINGIN MONITORING	GG10	2125276	WIN SAMP CUSTODIANS	467140	GRAB	LEVLO	
6355	61710109	12:00:00	20/01/1981	1	1981	GINGIN MONITORING	GG10	2125278	WIN SAMP CUSTODIANS	467141	GRAB	LEVLO	
6355	61710109	12:00:00	19/02/1981	2	1981	GINGIN MONITORING	GG10	2125280	WIN SAMP CUSTODIANS	467142	GRAB	LEVLO	
6355	61710109	12:00:00	16/03/1981	3	1981	GINGIN MONITORING	GG10	2125282	WIN SAMP CUSTODIANS	467143	GRAB	LEVLO	
6355	61710109	12:00:00	22/04/1981	4	1981	GINGIN MONITORING	GG10	2125284	WIN SAMP CUSTODIANS	467144	GRAB	LEVLO	
6355	61710109	12:00:00	19/05/1981	5	1981	GINGIN MONITORING	GG10	2125286	WIN SAMP CUSTODIANS	467145	GRAB	LEVLO	
6355	61710109	12:00:00	17/06/1981	6	1981	GINGIN MONITORING	GG10	2125288	WIN SAMP CUSTODIANS	467146	GRAB	LEVLO	
6355	61710109	12:00:00	20/07/1981	7	1981	GINGIN MONITORING	GG10	2125290	WIN SAMP CUSTODIANS	467147	GRAB	LEVLO	
6355	61710109	12:00:00	18/08/1981	8	1981	GINGIN MONITORING	GG10	2125292	WIN SAMP CUSTODIANS	467148	GRAB	LEVLO	
6355	61710109	12:00:00	17/09/1981	9	1981	GINGIN MONITORING	GG10	2125294	WIN SAMP CUSTODIANS	467149	GRAB	LEVLO	
6355	61710109	12:00:00	20/10/1981	10	1981	GINGIN MONITORING	GG10	2125296	WIN SAMP CUSTODIANS	467150	GRAB	LEVLO	
6355	61710109	12:00:00	19/11/1981	11	1981	GINGIN MONITORING	GG10	2125298	WIN SAMP CUSTODIANS	467151	GRAB	LEVLO	
6355	61710109	12:00:00	18/12/1981	12	1981	GINGIN MONITORING	GG10	2125300	WIN SAMP CUSTODIANS	467152	GRAB	LEVLO	
6355	61710109	12:00:00	21/01/1982	1	1982	GINGIN MONITORING	GG10	2125302	WIN SAMP CUSTODIANS	467153	GRAB	LEVLO	
6355	61710109	12:00:00	18/02/1982	2	1982	GINGIN MONITORING	GG10	2125304	WIN SAMP CUSTODIANS	467154	GRAB	LEVLO	
6355	61710109	12:00:00	18/03/1982	3	1982	GINGIN MONITORING	GG10	2125306	WIN SAMP CUSTODIANS	467155	GRAB	LEVLO	
6355	61710109	12:00:00	27/04/1982	4	1982	GINGIN MONITORING	GG10	2125308	WIN SAMP CUSTODIANS	467156	GRAB	LEVLO	
6355	61710109	12:00:00	20/05/1982	5	1982	GINGIN MONITORING	GG10	2125310	WIN SAMP CUSTODIANS	467157	GRAB	LEVLO	
6355	61710109	12:00:00	22/06/1982	6	1982	GINGIN MONITORING	GG10	2125312	WIN SAMP CUSTODIANS	467158	GRAB	LEVLO	
6355	61710109	12:00:00	23/07/1982	7	1982	GINGIN MONITORING	GG10	2125314	WIN SAMP CUSTODIANS	467159	GRAB	LEVLO	
6355	61710109	12:00:00	20/08/1982	8	1982	GINGIN MONITORING	GG10	2125316	WIN SAMP CUSTODIANS	467160	GRAB	LEVLO	
6355	61710109	12:00:00	22/09/1982	9	1982	GINGIN MONITORING	GG10	2125318	WIN SAMP CUSTODIANS	467161	GRAB	LEVLO	
6355	61710109	12:00:00	22/10/1982	10	1982	GINGIN MONITORING	GG10	2125320	WIN SAMP CUSTODIANS	467162	GRAB	LEVLO	
6355	61710109	12:00:00	18/11/1982	11	1982	GINGIN MONITORING	GG10	2125322	WIN SAMP CUSTODIANS	467163	GRAB	LEVLO	
6355	61710109	12:00:00	17/12/1982	12	1982	GINGIN MONITORING	GG10	2125324	WIN SAMP CUSTODIANS	467164	GRAB	LEVLO	
6355	61710109	12:00:00	21/01/1983	1	1983	GINGIN MONITORING	GG10	2125326	WIN SAMP CUSTODIANS	467165	GRAB	LEVLO	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	12:00:00	22/02/1983	2	1983	GINGIN MONITORING	GG10	2125328	WIN SAMP CUSTODIANS	467166	GRAB	LEVLO	
6355	61710109	12:00:00	18/03/1983	3	1983	GINGIN MONITORING	GG10	2125330	WIN SAMP CUSTODIANS	467167	GRAB	LEVLO	
6355	61710109	12:00:00	26/04/1983	4	1983	GINGIN MONITORING	GG10	2125332	WIN SAMP CUSTODIANS	467168	GRAB	LEVLO	
6355	61710109	12:00:00	23/05/1983	5	1983	GINGIN MONITORING	GG10	2125334	WIN SAMP CUSTODIANS	467169	GRAB	LEVLO	
6355	61710109	12:00:00	22/06/1983	6	1983	GINGIN MONITORING	GG10	2125336	WIN SAMP CUSTODIANS	467170	GRAB	LEVLO	
6355	61710109	12:00:00	20/07/1983	7	1983	GINGIN MONITORING	GG10	2125338	WIN SAMP CUSTODIANS	467171	GRAB	LEVLO	
6355	61710109	12:00:00	22/08/1983	8	1983	GINGIN MONITORING	GG10	2125340	WIN SAMP CUSTODIANS	467172	GRAB	LEVLO	
6355	61710109	12:00:00	21/09/1983	9	1983	GINGIN MONITORING	GG10	2125342	WIN SAMP CUSTODIANS	467173	GRAB	LEVLO	
6355	61710109	12:00:00	21/10/1983	10	1983	GINGIN MONITORING	GG10	2125344	WIN SAMP CUSTODIANS	467174	GRAB	LEVLO	
6355	61710109	12:00:00	21/11/1983	11	1983	GINGIN MONITORING	GG10	2125346	WIN SAMP CUSTODIANS	467175	GRAB	LEVLO	
6355	61710109	12:00:00	16/12/1983	12	1983	GINGIN MONITORING	GG10	2125348	WIN SAMP CUSTODIANS	467176	GRAB	LEVLO	
6355	61710109	12:00:00	19/01/1984	1	1984	GINGIN MONITORING	GG10	2125350	WIN SAMP CUSTODIANS	467177	GRAB	LEVLO	
6355	61710109	12:00:00	22/02/1984	2	1984	GINGIN MONITORING	GG10	2125352	WIN SAMP CUSTODIANS	467178	GRAB	LEVLO	
6355	61710109	12:00:00	26/03/1984	3	1984	GINGIN MONITORING	GG10	2125354	WIN SAMP CUSTODIANS	467179	GRAB	LEVLO	
6355	61710109	12:00:00	12/04/1984	4	1984	GINGIN MONITORING	GG10	2125356	WIN SAMP CUSTODIANS	467180	GRAB	LEVLO	
6355	61710109	12:00:00	21/05/1984	5	1984	GINGIN MONITORING	GG10	2125358	WIN SAMP CUSTODIANS	467181	GRAB	LEVLO	
6355	61710109	12:00:00	25/06/1984	6	1984	GINGIN MONITORING	GG10	2125360	WIN SAMP CUSTODIANS	467182	GRAB	LEVLO	
6355	61710109	12:00:00	23/07/1984	7	1984	GINGIN MONITORING	GG10	2125362	WIN SAMP CUSTODIANS	467183	GRAB	LEVLO	
6355	61710109	12:00:00	23/08/1984	8	1984	GINGIN MONITORING	GG10	2125364	WIN SAMP CUSTODIANS	467184	GRAB	LEVLO	
6355	61710109	12:00:00	20/09/1984	9	1984	GINGIN MONITORING	GG10	2125366	WIN SAMP CUSTODIANS	467185	GRAB	LEVLO	
6355	61710109	12:00:00	19/10/1984	10	1984	GINGIN MONITORING	GG10	2125368	WIN SAMP CUSTODIANS	467186	GRAB	LEVLO	
6355	61710109	12:00:00	19/11/1984	11	1984	GINGIN MONITORING	GG10	2125370	WIN SAMP CUSTODIANS	467187	GRAB	LEVLO	
6355	61710109	12:00:00	27/12/1984	12	1984	GINGIN MONITORING	GG10	2125372	WIN SAMP CUSTODIANS	467188	GRAB	LEVLO	
6355	61710109	12:00:00	21/01/1985	1	1985	GINGIN MONITORING	GG10	2125374	WIN SAMP CUSTODIANS	467189	GRAB	LEVLO	
6355	61710109	12:00:00	20/02/1985	2	1985	GINGIN MONITORING	GG10	2125376	WIN SAMP CUSTODIANS	467190	GRAB	LEVLO	
6355	61710109	12:00:00	22/03/1985	3	1985	GINGIN MONITORING	GG10	2125378	WIN SAMP CUSTODIANS	467191	GRAB	LEVLO	
6355	61710109	12:00:00	19/04/1985	4	1985	GINGIN MONITORING	GG10	2125380	WIN SAMP CUSTODIANS	467192	GRAB	LEVLO	
6355	61710109	12:00:00	16/05/1985	5	1985	GINGIN MONITORING	GG10	2125382	WIN SAMP CUSTODIANS	467193	GRAB	LEVLO	
6355	61710109	12:00:00	20/06/1985	6	1985	GINGIN MONITORING	GG10	2125384	WIN SAMP CUSTODIANS	467194	GRAB	LEVLO	
6355	61710109	12:00:00	17/07/1985	7	1985	GINGIN MONITORING	GG10	2125386	WIN SAMP CUSTODIANS	467195	GRAB	LEVLO	
6355	61710109	12:00:00	22/08/1985	8	1985	GINGIN MONITORING	GG10	2125388	WIN SAMP CUSTODIANS	467196	GRAB	LEVLO	
6355	61710109	12:00:00	23/09/1985	9	1985	GINGIN MONITORING	GG10	2125390	WIN SAMP CUSTODIANS	467197	GRAB	LEVLO	
6355	61710109	12:00:00	21/10/1985	10	1985	GINGIN MONITORING	GG10	2125392	WIN SAMP CUSTODIANS	467198	GRAB	LEVLO	
6355	61710109	12:00:00	20/11/1985	11	1985	GINGIN MONITORING	GG10	2125396	WIN SAMP CUSTODIANS	467199	GRAB	LEVLO	
6355	61710109	12:00:00	18/12/1985	12	1985	GINGIN MONITORING	GG10	2125400	WIN SAMP CUSTODIANS	467200	GRAB	LEVLO	
6355	61710109	12:00:00	29/01/1986	1	1986	GINGIN MONITORING	GG10	2125403	WIN SAMP CUSTODIANS	467201	GRAB	LEVLO	
6355	61710109	12:00:00	20/02/1986	2	1986	GINGIN MONITORING	GG10	2125406	WIN SAMP CUSTODIANS	467202	GRAB	LEVLO	
6355	61710109	12:00:00	21/03/1986	3	1986	GINGIN MONITORING	GG10	2125409	WIN SAMP CUSTODIANS	467203	GRAB	LEVLO	
6355	61710109	11:20:00	22/04/1986	4	1986	GINGIN MONITORING	GG10	2125412	WIN SAMP CUSTODIANS	467204	GRAB	LEVLO	
6355	61710109	10:30:00	20/05/1986	5	1986	GINGIN MONITORING	GG10	2125415	WIN SAMP CUSTODIANS	467205	GRAB	LEVLO	
6355	61710109	11:57:00	08/07/1986	7	1986	GINGIN MONITORING	GG10	2125418	WIN SAMP CUSTODIANS	467206	GRAB	LEVLO	
6355	61710109	10:35:00	31/07/1986	7	1986	GINGIN MONITORING	GG10	2125421	WIN SAMP CUSTODIANS	467207	GRAB	LEVLO	
6355	61710109	10:24:00	25/08/1986	8	1986	GINGIN MONITORING	GG10	2125424	WIN SAMP CUSTODIANS	467208	GRAB	LEVLO	
6355	61710109	11:18:00	18/09/1986	9	1986	GINGIN MONITORING	GG10	2125427	WIN SAMP CUSTODIANS	467209	GRAB	LEVLO	
6355	61710109	11:16:00	20/10/1986	10	1986	GINGIN MONITORING	GG10	2125430	WIN SAMP CUSTODIANS	467210	GRAB	LEVLO	
6355	61710109	11:45:00	06/11/1986	11	1986	GINGIN MONITORING	GG10	2125433	WIN SAMP CUSTODIANS	467211	GRAB	LEVLO	
6355	61710109	15:56:00	02/12/1986	12	1986	GINGIN MONITORING	GG10	2125436	WIN SAMP CUSTODIANS	467212	GRAB	LEVLO	
6355	61710109	9:41:00	07/01/1987	1	1987	GINGIN MONITORING	GG10	2125439	WIN SAMP CUSTODIANS	467213	GRAB	LEVLO	
6355	61710109	15:02:00	17/02/1987	2	1987	GINGIN MONITORING	GG10	2125442	WIN SAMP CUSTODIANS	467214	GRAB	LEVLO	
6355	61710109	11:22:00	09/03/1987	3	1987	GINGIN MONITORING	GG10	2125445	WIN SAMP CUSTODIANS	467215	GRAB	LEVLO	
6355	61710109	11:05:00	01/04/1987	4	1987	GINGIN MONITORING	GG10	2125448	WIN SAMP CUSTODIANS	467216	GRAB	LEVLO	
6355	61710109	10:35:00	06/05/1987	5	1987	GINGIN MONITORING	GG10	2125451	WIN SAMP CUSTODIANS	467217	GRAB	LEVLO	
6355	61710109	11:11:00	11/06/1987	6	1987	GINGIN MONITORING	GG10	2125454	WIN SAMP CUSTODIANS	467218	GRAB	LEVLO	
6355	61710109	10:46:00	06/07/1987	7	1987	GINGIN MONITORING	GG10	2125457	WIN SAMP CUSTODIANS	467219	GRAB	LEVLO	
6355	61710109	10:58:00	06/08/1987	8	1987	GINGIN MONITORING	GG10	2125460	WIN SAMP CUSTODIANS	467220	GRAB	LEVLO	
6355	61710109	10:32:00	08/09/1987	9	1987	GINGIN MONITORING	GG10	2125463	WIN SAMP CUSTODIANS	467221	GRAB	LEVLO	
6355	61710109	10:15:00	05/10/1987	10	1987	GINGIN MONITORING	GG10	2125466	WIN SAMP CUSTODIANS	467222	GRAB	LEVLO	
6355	61710109	10:09:00	03/11/1987	11	1987	GINGIN MONITORING	GG10	2125469	WIN SAMP CUSTODIANS	467223	GRAB	LEVLO	
6355	61710109	11:17:00	02/12/1987	12	1987	GINGIN MONITORING	GG10	2125472	WIN SAMP CUSTODIANS	467224	GRAB	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	12:01:00	18/01/1988	1	1988	GINGIN MONITORING	GG10	2125475	WIN SAMP CUSTODIANS	467225	GRAB	LEVLO	
6355	61710109	13:04:00	08/02/1988	2	1988	GINGIN MONITORING	GG10	2125478	WIN SAMP CUSTODIANS	467226	GRAB	LEVLO	
6355	61710109	14:29:00	08/02/1988	2	1988	GINGIN MONITORING	GG10	2125481	WIN SAMP CUSTODIANS	467227	GRAB	LEVLO	
6355	61710109	14:44:00	03/03/1988	3	1988	GINGIN MONITORING	GG10	2125484	WIN SAMP CUSTODIANS	467228	GRAB	LEVLO	
6355	61710109	10:30:00	04/03/1988	3	1988	GINGIN MONITORING	GG10	2125487	WIN SAMP CUSTODIANS	467229	GRAB	LEVLO	
6355	61710109	14:18:00	06/04/1988	4	1988	GINGIN MONITORING	GG10	2125490	WIN SAMP CUSTODIANS	467230	GRAB	LEVLO	
6355	61710109	14:44:00	04/05/1988	5	1988	GINGIN MONITORING	GG10	2125493	WIN SAMP CUSTODIANS	467231	GRAB	LEVLO	
6355	61710109	14:27:00	22/06/1988	6	1988	GINGIN MONITORING	GG10	2125496	WIN SAMP CUSTODIANS	467232	GRAB	LEVLO	
6355	61710109	14:21:00	27/07/1988	7	1988	GINGIN MONITORING	GG10	2125499	WIN SAMP CUSTODIANS	467233	GRAB	LEVLO	
6355	61710109	13:45:00	22/08/1988	8	1988	GINGIN MONITORING	GG10	2125503	WIN SAMP CUSTODIANS	467234	GRAB	LEVLO	
6355	61710109	14:37:00	29/09/1988	9	1988	GINGIN MONITORING	GG10	2125506	WIN SAMP CUSTODIANS	467235	GRAB	LEVLO	
6355	61710109	14:39:00	10/10/1988	10	1988	GINGIN MONITORING	GG10	2125509	WIN SAMP CUSTODIANS	467236	GRAB	LEVLO	
6355	61710109	14:46:00	24/11/1988	11	1988	GINGIN MONITORING	GG10	2125512	WIN SAMP CUSTODIANS	467237	GRAB	LEVLO	
6355	61710109	14:26:00	18/01/1989	1	1989	GINGIN MONITORING	GG10	2125515	WIN SAMP CUSTODIANS	467238	GRAB	LEVLO	
6355	61710109	14:58:00	17/04/1989	4	1989	GINGIN MONITORING	GG10	2125518	WIN SAMP CUSTODIANS	467239	GRAB	LEVLO	
6355	61710109	14:27:00	05/07/1989	7	1989	GINGIN MONITORING	GG10	2125521	WIN SAMP CUSTODIANS	467240	GRAB	LEVLO	
6355	61710109	11:12:00	26/10/1989	10	1989	GINGIN MONITORING	GG10	2125524	WIN SAMP CUSTODIANS	467241	GRAB	LEVLO	
6355	61710109	14:50:00	15/01/1990	1	1990	GINGIN MONITORING	GG10	2125527	WIN SAMP CUSTODIANS	467242	GRAB	LEVLO	
6355	61710109	14:10:00	03/04/1990	4	1990	GINGIN MONITORING	GG10	2125530	WIN SAMP CUSTODIANS	467243	GRAB	LEVLO	
6355	61710109	11:30:00	16/07/1990	7	1990	GINGIN MONITORING	GG10	2125533	WIN SAMP CUSTODIANS	467244	GRAB	LEVLO	
6355	61710109	14:00:00	16/10/1990	10	1990	GINGIN MONITORING	GG10	2125536	WIN SAMP CUSTODIANS	467245	GRAB	LEVLO	
6355	61710109	11:40:00	29/01/1991	1	1991	GINGIN MONITORING	GG10	7926122	WIN SAMP CUSTODIANS	1250040	GRAB	LEVLO	
6355	61710109	12:15:00	15/04/1991	4	1991	GINGIN MONITORING	GG10	8088294	WIN SAMP CUSTODIANS	1273900	GRAB	LEVLO	
6355	61710109	9:55:00	25/07/1991	7	1991	GINGIN MONITORING	GG10	8495271	WIN SAMP CUSTODIANS	1367970	GRAB	LEVLO	
6355	61710109	15:00:00	06/08/1991	8	1991	GINGIN MONITORING	GG10	8506129	WIN SAMP CUSTODIANS	1369663	GRAB	LEVLO	
6355	61710109	9:25:00	15/10/1991	10	1991	GINGIN MONITORING	GG10	8693935	WIN SAMP CUSTODIANS	1393269	GRAB	LEVLO	
6355	61710109	8:35:00	22/01/1992	1	1992	GINGIN MONITORING	GG10	9009343	WIN SAMP CUSTODIANS	1437543	GRAB	LEVLO	
6355	61710109	12:00:00	22/01/1992	1	1992	GINGIN MONITORING	GG10	9312080	WIN SAMP CUSTODIANS	1480119	GRAB	LEVLO	
6355	61710109	9:25:00	13/04/1992	4	1992	GINGIN MONITORING	GG10	9269968	WIN SAMP CUSTODIANS	1475301	GRAB	LEVLO	
6355	61710109	9:55:00	21/07/1992	7	1992	GINGIN MONITORING	GG10	9407206	WIN SAMP CUSTODIANS	1494065	GRAB	LEVLO	
6355	61710109	8:45:00	19/10/1992	10	1992	GINGIN MONITORING	GG10	9703331	WIN SAMP CUSTODIANS	1536468	GRAB	LEVLO	
6355	61710109	8:45:00	20/01/1993	1	1993	GINGIN MONITORING	GG10	9927455	WIN SAMP CUSTODIANS	1572595	GRAB	LEVLO	
6355	61710109	12:00:00	22/02/1993	2	1993	GINGIN MONITORING	GG10	10224306	WIN SAMP CUSTODIANS	1616033	GRAB	LEVLO	
6355	61710109	9:30:00	22/04/1993	4	1993	GINGIN MONITORING	GG10	10158995	WIN SAMP CUSTODIANS	1606950	GRAB	LEVLO	
6355	61710109	9:50:00	27/07/1993	7	1993	GINGIN MONITORING	GG10	10325786	WIN SAMP CUSTODIANS	1632612	GRAB	LEVLO	
6355	61710109	9:35:00	25/10/1993	10	1993	GINGIN MONITORING	GG10	10476127	WIN SAMP CUSTODIANS	1646169	GRAB	LEVLO	
6355	61710109	9:40:00	21/01/1994	1	1994	GINGIN MONITORING	GG10	10923501	WIN SAMP CUSTODIANS	1680177	GRAB	LEVLO	
6355	61710109	9:55:00	22/04/1994	4	1994	GINGIN MONITORING	GG10	11088300	WIN SAMP CUSTODIANS	1698446	GRAB	LEVLO	
6355	61710109	10:28:00	14/07/1994	7	1994	GINGIN MONITORING	GG10	11243262	WIN SAMP CUSTODIANS	1722727	GRAB	LEVLO	
6355	61710109	7:39:00	14/10/1994	10	1994	GINGIN MONITORING	GG10	11429664	WIN SAMP CUSTODIANS	1746709	GRAB	LEVLO	
6355	61710109	12:00:00	21/10/1994	10	1994	GINGIN MONITORING	GG10	11472321	WIN SAMP CUSTODIANS	1751699	GRAB	LEVLO	
6355	61710109	12:50:00	13/01/1995	1	1995	GINGIN MONITORING	GG10	11726975	WIN SAMP CUSTODIANS	1800303	GRAB	LEVLO	
6355	61710109	8:30:00	06/04/1995	4	1995	GINGIN MONITORING	GG10	11881761	WIN SAMP CUSTODIANS	1815181	GRAB	LEVLO	
6355	61710109	9:56:00	12/07/1995	7	1995	GINGIN MONITORING	GG10	12053466	WIN SAMP CUSTODIANS	1831090	GRAB	LEVLO	
6355	61710109	7:50:00	10/10/1995	10	1995	GINGIN MONITORING	GG10	12303652	WIN SAMP CUSTODIANS	1857992	GRAB	LEVLO	
6355	61710109	7:25:00	24/01/1996	1	1996	GINGIN MONITORING	GG10	12482597	WIN SAMP CUSTODIANS	1885203	GRAB	LEVLO	
6355	61710109	12:17:00	22/04/1996	4	1996	GINGIN MONITORING	GG10	12682445	WIN SAMP CUSTODIANS	1904194	GRAB	LEVLO	
6355	61710109	7:40:00	12/07/1996	7	1996	GINGIN MONITORING	GG10	12896604	WIN SAMP CUSTODIANS	1916164	GRAB	LEVLO	
6355	61710109	7:41:00	12/07/1996	7	1996	GINGIN MONITORING	GG10	12937982	WIN SAMP CUSTODIANS	1916148	GRAB	LEVLO	
6355	61710109	8:15:00	10/10/1996	10	1996	GINGIN MONITORING	GG10	13137235	WIN SAMP CUSTODIANS	1931591	GRAB	LEVLO	
6355	61710109	9:00:00	24/01/1997	1	1997	GINGIN MONITORING	GG10	14288967	WIN SAMP CUSTODIANS	2007081	GRAB	STAND	
6355	61710109	9:52:00	24/01/1997	1	1997	GINGIN MONITORING	GG10	13510839	WIN SAMP CUSTODIANS	1964449	GRAB	LEVLO	
6355	61710109	9:53:00	24/01/1997	1	1997	GINGIN MONITORING	GG10	13510983	WIN SAMP CUSTODIANS	1964497	GRAB	STAND	
6355	61710109	11:41:00	21/04/1997	4	1997	GINGIN MONITORING	GG10	13817844	WIN SAMP CUSTODIANS	1983536	GRAB	LEVLO	
6355	61710109	8:48:00	11/07/1997	7	1997	GINGIN MONITORING	GG10	14136076	WIN SAMP CUSTODIANS	1996873	GRAB	LEVLO	
6355	61710109	8:01:00	10/10/1997	10	1997	GINGIN MONITORING	GG10	14484059	WIN SAMP CUSTODIANS	2022130	GRAB	LEVLO	
6355	61710109	8:00:00	21/01/1998	1	1998	GINGIN MONITORING	GG10	14808170	WIN SAMP CUSTODIANS	2057814	GRAB	LEVLO	
6355	61710109	14:12:00	24/03/1998	3	1998	GINGIN MONITORING	GG10	14910461	WIN SAMP CUSTODIANS	2064155	GRAB	LEVLO	
6355	61710109	7:45:00	10/07/1998	7	1998	GINGIN MONITORING	GG10	15171154	WIN SAMP CUSTODIANS	2089808	GRAB	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	7:57:00	17/08/1998	8	1998	GINGIN MONITORING	GG10	15227740	WIN SAMP CUSTODIANS	2093490	GRAB	STAND	
6355	61710109	8:54:00	12/10/1998	10	1998	GINGIN MONITORING	GG10	15301935	WIN SAMP CUSTODIANS	2100271	GRAB	LEVLO	
6355	61710109	10:30:00	18/01/1999	1	1999	GINGIN MONITORING	GG10	15399362	WIN SAMP CUSTODIANS	2106036	GRAB	LEVLO	
6355	61710109	7:39:00	15/10/1999	10	1999	GINGIN MONITORING	GG10	23000759	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6355	61710109	11:16:00	28/06/2000	6	2000	GINGIN MONITORING	GG10	23011835	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6355	61710109	12:17:00	15/11/2000	11	2000	GINGIN MONITORING	GG10	23017377	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6355	61710109	8:12:00	17/05/2001	5	2001	GINGIN MONITORING	GG10	23025732	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	8:20:00	24/10/2001	10	2001	GINGIN MONITORING	GG10	23039753	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	10:00:00	15/05/2002	5	2002	GINGIN MONITORING	GG10	23154971	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	13:34:00	21/11/2002	11	2002	GINGIN MONITORING	GG10	23224149	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	8:31:00	20/05/2003	5	2003	GINGIN MONITORING	GG10	23310209	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	8:31:00	14/10/2003	10	2003	GINGIN MONITORING	GG10	23381078	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	9:57:00	11/05/2004	5	2004	GINGIN MONITORING	GG10	23505976	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	7:58:00	15/10/2004	10	2004	GINGIN MONITORING	GG10	23623696	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	11:08:00	19/05/2005	5	2005	GINGIN MONITORING	GG10	23784255	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	9:02:00	30/09/2005	9	2005	GINGIN MONITORING	GG10	23842849	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	10:35:00	05/05/2006	5	2006	GINGIN MONITORING	GG10	23958909	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	9:13:00	24/10/2006	10	2006	GINGIN MONITORING	GG10	24067102	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	13:11:00	08/05/2007	5	2007	GINGIN MONITORING	GG10	24205509	WIN SAMP CUSTODIANS	GG10	PUMPS	STAND	10.000
6355	61710109	13:11:00	08/05/2007	5	2007	GINGIN MONITORING	GG10	24206725	WIN SAMP CUSTODIANS		PUMPS	STAND	10.000
6355	61710109	14:34:00	10/05/2007	5	2007	GINGIN MONITORING	GG10	24178495	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	13:22:00	26/10/2007	10	2007	GINGIN MONITORING	GG10	24309712	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	0:00:00	20/05/2008	5	2008	GINGIN MONITORING	GG10	24499827	WIN SAMP CUSTODIANS		INSIT	STAND	
6482	61719031	0:00:00	15/11/1964	11	1964	GINGIN TWS	2-64	20037001	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
6482	61719031	0:00:00	15/11/1964	11	1964	GINGIN TWS	2-64	20037002	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031294	61711544	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20036995	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031297	61711546	0:00:00	30/06/1942	6	1942	617 - MOORE-HILL BASIN	ARMY C2	20036997	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031297	61711546	0:00:00	30/06/1942	6	1942	617 - MOORE-HILL BASIN	ARMY C2	20036998	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031298	61711547	0:00:00	19/03/1964	3	1964	617 - MOORE-HILL BASIN	GINGIN NO. 1 TWS	20036999	WIN SAMP CUSTODIANS	10439	PUMPT	STAND	115.800
20031298	61711547	0:00:00	15/04/1964	4	1964	617 - MOORE-HILL BASIN	GINGIN NO. 1 TWS	20037000	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031301	61711548	0:00:00	23/03/1966	3	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20100896	WIN SAMP CUSTODIANS	4147	UNKWN	STAND	
20031301	61711548	0:00:00	23/03/1966	3	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20100897	WIN SAMP CUSTODIANS	4148	UNKWN	STAND	
20031301	61711548	0:00:00	12/04/1966	4	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20037005	WIN SAMP CUSTODIANS	4149	UNKWN	STAND	15.200
20031301	61711548	0:00:00	03/06/1966	6	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20037006	WIN SAMP CUSTODIANS	4161	UNKWN	STAND	24.400
20031301	61711548	0:00:00	30/06/1966	6	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20037007	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031302	61711549	0:00:00	30/06/1966	6	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO. 5A	20037008	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031303	61711550	0:00:00	19/06/1973	6	1973	617 - MOORE-HILL BASIN	ARTESIAN	20037009	WIN SAMP CUSTODIANS	38709	UNKWN	STAND	51.800
20031304	61711551	0:00:00	30/06/1960	6	1960	617 - MOORE-HILL BASIN	5	20037010	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031305	61711552	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	6	20037011	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031306	61711553	0:00:00	30/06/1963	6	1963	617 - MOORE-HILL BASIN	13	20037012	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031307	61711554	0:00:00	30/06/1938	6	1938	617 - MOORE-HILL BASIN	14	20037013	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031308	61711555	0:00:00	30/06/1955	6	1955	617 - MOORE-HILL BASIN	21	20037014	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031309	61711556	0:00:00	30/06/1963	6	1963	617 - MOORE-HILL BASIN	76	20037015	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031310	61716013	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	78	20037016	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031315	61711561	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037021	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031316	61716014	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037022	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031317	61711562	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037023	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031318	61711563	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037024	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031325	61711568	0:00:00	30/06/1957	6	1957	617 - MOORE-HILL BASIN	BORE	20037027	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031347	61711582	0:00:00	26/11/1992	11	1992	617 - MOORE-HILL BASIN	BORE	20037042	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031348	61711583	0:00:00	27/08/1993	8	1993	617 - MOORE-HILL BASIN	BORE	20037043	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031356	61711590	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037051	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031358	61716020	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037053	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031359	61716021	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037054	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031360	61711592	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037055	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031361	61711593	0:00:00	30/06/1912	6	1912	617 - MOORE-HILL BASIN	BORE	20037056	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031364	61711596	0:00:00	30/06/1970	6	1970	617 - MOORE-HILL BASIN	BORE	20037066	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031365	61711597	0:00:00	30/06/1956	6	1956	617 - MOORE-HILL BASIN	BORE	20037067	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031366	61711598	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	2	20037068	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
20031368	61711600	0:00:00	30/06/1969	6	1969	617 - MOORE-HILL BASIN	BORE NO. 2 (8)	20037071	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031368	61711600	0:00:00	05/07/1973	7	1973	617 - MOORE-HILL BASIN	BORE NO. 2 (8)	20037070	WIN SAMP CUSTODIANS	38712	UNKWN	STAND	25.600
20031369	61711601	0:00:00	30/06/1961	6	1961	617 - MOORE-HILL BASIN	BEER MULLAH RD HOUSE BORE (FIELD NO 9)	20037072	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031370	61711602	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BOTTOM WELL (10)	20037073	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031371	61711603	0:00:00	30/06/1957	6	1957	617 - MOORE-HILL BASIN	FLATS BORE (FIELD NO 16)	20037074	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031372	61711604	0:00:00	30/06/1953	6	1953	617 - MOORE-HILL BASIN	WELL (17)	20037075	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031373	61711605	0:00:00	30/06/1948	6	1948	617 - MOORE-HILL BASIN	22	20037076	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031374	61711606	0:00:00	30/06/1950	6	1950	617 - MOORE-HILL BASIN	23	20037077	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031375	61711607	0:00:00	30/06/1907	6	1907	617 - MOORE-HILL BASIN	24	20037078	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031381	61711613	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	30	20037084	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031382	61711614	0:00:00	30/06/1969	6	1969	617 - MOORE-HILL BASIN	31	20037085	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031383	61711615	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	32	20037086	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031386	61711618	0:00:00	30/06/1971	6	1971	617 - MOORE-HILL BASIN	40	20037088	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031387	61711619	0:00:00	30/06/1960	6	1960	617 - MOORE-HILL BASIN	71	20037089	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031389	61711621	0:00:00	30/06/1971	6	1971	617 - MOORE-HILL BASIN	75	20037090	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031390	61711622	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	77	20037091	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031391	61711623	0:00:00	30/06/1970	6	1970	617 - MOORE-HILL BASIN	80	20037092	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031392	61711624	0:00:00	30/06/1971	6	1971	617 - MOORE-HILL BASIN	81	20037093	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031393	61711625	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	82	20037094	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031395	61711627	0:00:00	30/06/1972	6	1972	617 - MOORE-HILL BASIN	70	20037096	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031397	61711629	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037098	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031398	61711630	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037099	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031407	61711639	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037108	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031408	61711640	0:00:00	30/06/1963	6	1963	617 - MOORE-HILL BASIN	BORE	20037109	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031410	61711642	0:00:00	30/06/1959	6	1959	617 - MOORE-HILL BASIN	BORE	20037110	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031411	61711643	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037111	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031412	61711644	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037112	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031413	61711645	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037113	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031414	61711646	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037114	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031415	61711647	0:00:00	30/06/1962	6	1962	617 - MOORE-HILL BASIN	BORE	20037115	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031416	61711648	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037116	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031418	61711650	0:00:00	30/06/1973	6	1973	617 - MOORE-HILL BASIN	GINGIN OB10	20037118	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031427	61711654	0:00:00	15/04/1983	4	1983	617 - MOORE-HILL BASIN	NO. 1	20037125	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031427	61711654	0:00:00	10/11/1983	11	1983	617 - MOORE-HILL BASIN	NO. 1	20037126	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031428	61711655	0:00:00	15/10/1983	10	1983	617 - MOORE-HILL BASIN	NO 2	20037127	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031430	61711656	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	WELL	20037128	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031435	61711661	0:00:00	16/07/1990	7	1990	617 - MOORE-HILL BASIN	BORE	20037136	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031435	61711661	0:00:00	16/07/1990	7	1990	617 - MOORE-HILL BASIN	BORE	20037137	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031436	61711662	0:00:00	16/08/1989	8	1989	617 - MOORE-HILL BASIN	BORE	20037138	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031436	61711662	0:00:00	16/08/1989	8	1989	617 - MOORE-HILL BASIN	BORE	20037139	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031437	61711663	0:00:00	24/01/1990	1	1990	617 - MOORE-HILL BASIN	BORE	20037140	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031438	61711664	0:00:00	01/06/1990	6	1990	617 - MOORE-HILL BASIN	BORE	20037141	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031439	61711665	0:00:00	28/02/1991	2	1991	617 - MOORE-HILL BASIN	LEYSSENAAR NO. 2	20037142	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031440	61711666	0:00:00	16/08/1989	8	1989	617 - MOORE-HILL BASIN	BORE	20037143	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031442	61711668	0:00:00	15/12/1990	12	1990	617 - MOORE-HILL BASIN	BORE	20037144	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031446	61711672	0:00:00	15/12/1992	12	1992	617 - MOORE-HILL BASIN	GRESELE	20037145	WIN SAMP CUSTODIANS	Field	PUMPS	STAND	
20031448	61711674	0:00:00	01/11/1997	11	1997	617 - MOORE-HILL BASIN	BORE	20037146	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
23030959	61710525	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10A	24630902	WIN SAMP CUSTODIANS		INSIT	STAND	
23030959	61710525	0:00:00	22/10/2008	10	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10A	24630924	WIN SAMP CUSTODIANS		INSIT	STAND	
23030959	61710525	15:00:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10A	24699172	WIN SAMP CUSTODIANS		PUMPS	STAND	23.000
23030960	61710526	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10B	24630903	WIN SAMP CUSTODIANS		INSIT	STAND	
23030960	61710526	0:00:00	22/10/2008	10	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10B	24630925	WIN SAMP CUSTODIANS		INSIT	STAND	
23030960	61710526	15:08:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10B	24699173	WIN SAMP CUSTODIANS		PUMPS	STAND	5.000
23030961	61710527	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11A	24630904	WIN SAMP CUSTODIANS		INSIT	STAND	
23030961	61710527	13:00:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11A	24699170	WIN SAMP CUSTODIANS		PUMPS	STAND	23.000
23030962	61710528	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11B	24630905	WIN SAMP CUSTODIANS		INSIT	STAND	
23030962	61710528	13:30:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11B	24699171	WIN SAMP CUSTODIANS		PUMPS	STAND	18.000
23030963	61710529	10:50:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 12A	24699168	WIN SAMP CUSTODIANS		PUMPS	STAND	23.000
23030964	61710530	11:15:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 12B	24699169	WIN SAMP CUSTODIANS		PUMPS	STAND	10.000

Water Quality

Site Id	Std Depth To Range	Sample Matrix Code	Frequency Code	Win Comment	Alkalinity (CO3-CO3) (mg/L)	Alkalinity (CO3-CaCO3) (mg/L)	Alkalinity (HCO3-CaCO3) (mg/L)
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	IRREG			<1	94
6355		WATER	IRREG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG	Destroyed			
6482		WATER	UNK				
6482		WATER	UNK				
20031294		WATER	UNK				
20031297		WATER	UNK				
20031297		WATER	UNK				
20031298	121.900	WATER	UNK	Appearance: Clear. Odour NIL. HARDNESS CALCIUM: 5, MAGNESIUM: 16.	0		
20031298		WATER	UNK				
20031301		WATER	UNK	Odour Earthy	0		
20031301		WATER	UNK	Odour Nil	0		
20031301	30.500	WATER	UNK	Appearance: Clear with slight brown deposit. Odour NIL	0		
20031301		WATER	UNK	ODOUR: EARTHY. Appearance: Slightly cloudy with heavy brown deposit.			
20031301		WATER	UNK				
20031302		WATER	UNK				
20031303	61.000	WATER	UNK	NACL CALC FROM CHLORIDE. Turbidity: clear, Odour nil.			
20031304		WATER	UNK				
20031305		WATER	UNK				
20031306		WATER	UNK				
20031307		WATER	UNK				
20031308		WATER	UNK				
20031309		WATER	UNK				
20031310		WATER	UNK				
20031315		WATER	UNK				
20031316		WATER	UNK				
20031317		WATER	UNK				
20031318		WATER	UNK				
20031325		WATER	UNK				
20031347		WATER	UNK				
20031348		WATER	UNK				
20031356		WATER	UNK				
20031358		WATER	UNK				
20031359		WATER	UNK				
20031360		WATER	UNK				
20031361		WATER	UNK				
20031364		WATER	UNK				
20031365		WATER	UNK				
20031366		WATER	UNK				

Water Quality

Site Id	Std Depth To Range	Sample Matrix Code	Frequency Code	Win Comment	Alkalinity (CO3-CO3) (mg/L)	Alkalinity (CO3-CaCO3) (mg/L)	Alkalinity (HCO3-CaCO3) (mg/L)
20031368		WATER	UNK				
20031368	27.100	WATER	UNK	NACL CALC FROM CHLORIDE. Turbidity: clear with slight brown colour, Odour nil.	0		
20031369		WATER	UNK				
20031370		WATER	UNK				
20031371		WATER	UNK				
20031372		WATER	UNK				
20031373		WATER	UNK				
20031374		WATER	UNK				
20031375		WATER	UNK				
20031381		WATER	UNK				
20031382		WATER	UNK				
20031383		WATER	UNK				
20031386		WATER	UNK				
20031387		WATER	UNK				
20031389		WATER	UNK				
20031390		WATER	UNK				
20031391		WATER	UNK				
20031392		WATER	UNK				
20031393		WATER	UNK				
20031395		WATER	UNK				
20031397		WATER	UNK				
20031398		WATER	UNK				
20031407		WATER	UNK				
20031408		WATER	UNK				
20031410		WATER	UNK				
20031411		WATER	UNK				
20031412		WATER	UNK				
20031413		WATER	UNK				
20031414		WATER	UNK				
20031415		WATER	UNK				
20031416		WATER	UNK				
20031418		WATER	UNK				
20031427		WATER	UNK				
20031427		WATER	UNK				
20031428		WATER	UNK				
20031430		WATER	UNK				
20031435		WATER	UNK				
20031435		WATER	UNK				
20031436		WATER	UNK				
20031436		WATER	UNK				
20031437		WATER	UNK				
20031438		WATER	UNK				
20031439		WATER	UNK				
20031440		WATER	UNK				
20031442		WATER	UNK				
20031446		WATER	UNK				
20031448		WATER	UNK				
23030959		WATER	IRREG				
23030959		WATER	ONCE			<1	210
23030960		WATER	IRREG				
23030960		WATER	IRREG				
23030960		WATER	ONCE			<1	560
23030961		WATER	IRREG				
23030961		WATER	ONCE			<1	43
23030962		WATER	IRREG				
23030962		WATER	ONCE			<1	25
23030963		WATER	ONCE			<1	100
23030964		WATER	ONCE			<1	45

Water Quality

Site Id	Alkalinity (HCO3-HCO3) (mg/L)	Alkalinity (tot) (CaCO3) (mg/L)	Appearance (primary colour) ((none))	As (sol) (mg/L)	B (sol) (mg/L)	B (tot) (mg/L)	Borehole water supply ((none))	Borehole water supply (m3/day)	CO2 (mg/L)	Ca (sol) (mg/L)
20031368								10.9104		
20031368	308	253								107
20031369										
20031370										
20031371										
20031372										
20031373										
20031374										
20031375										
20031381										
20031382								1309.272		
20031383										
20031386										
20031387										
20031389										
20031390										
20031391										
20031392								-0		
20031393										
20031395										
20031397								4.546		
20031398								50.006		
20031407								9.092		
20031408								1.8184		
20031410								13.638		
20031411								6.819		
20031412										
20031413								9.092		
20031414										
20031415								45.46		
20031416								68.19		
20031418										
20031427										
20031427										
20031428										
20031430								21.8212		
20031435								4.6		
20031435										
20031436								263		
20031436										
20031437										
20031438										
20031439										
20031440								163.659		
20031442								103.68		
20031446										
20031448								345.602		
23030959										
23030959										
23030959					0.1					110
23030960										
23030960										
23030960					0.065					9
23030961										
23030961					0.095					14
23030962										
23030962					0.054					6
23030963					0.14					38
23030964					0.16					45

Water Quality

Site Id	Cl (sol) (mg/L)	Colour (true) (Hu)	Cond calc 25 deg C (µS/cm)	Cond comp 25 deg C (lab) (µS/cm)	Cond comp 25 deg C (µS/cm)	Cond uncomp (in situ) (µS/cm)	Cond uncomp (lab) (µS/cm)	Cu (sol) (mg/L)	Depth to bottom of bore (BTOC) (m)
6355									51.6999969
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355	1900			6350			6070		
6355						6460			
6355									
6355									
6355									
6482									
6482									
20031294									
20031297									
20031297	433								
20031298	81				320.6				
20031298									
20031301	480				1691.5				
20031301					464.3				
20031301	255				1426.2				
20031301					1127.6				
20031301									
20031302									
20031303	239				851.2				
20031304									
20031305									
20031306									
20031307									
20031308									
20031309									
20031310									
20031315									
20031316									
20031317									
20031318									
20031325									
20031347									
20031348									
20031356									
20031358									
20031359									
20031360									
20031361									
20031364									
20031365									
20031366									

Water Quality

Site Id	Cl (sol) (mg/L)	Colour (true) (Hu)	Cond calc 25 deg C (µS/cm)	Cond comp 25 deg C (lab) (µS/cm)	Cond comp 25 deg C (µS/cm)	Cond uncomp (in situ) (µS/cm)	Cond uncomp (lab) (µS/cm)	Cu (sol) (mg/L)	Depth to bottom of bore (BTOC) (m)
20031368	1120				3836.3				
20031369									
20031370									
20031371									
20031372									
20031373									
20031374									
20031375									
20031381									
20031382									
20031383									
20031386									
20031387									
20031389									
20031390									
20031391									
20031392									
20031393									
20031395									
20031397									
20031398									
20031407									
20031408									
20031410									
20031411									
20031412									
20031413									
20031414									
20031415									
20031416									
20031418									
20031427									
20031427									
20031428									
20031430									
20031435									
20031435									
20031436									
20031436									
20031437									
20031438									
20031439									
20031440									
20031442									
20031446									
20031448									
23030959									
23030959	840			3000			2930		
23030960									
23030960									
23030960	540			2680			2620		
23030961									
23030961	400			1460			1420		
23030962									
23030962	290			1100			1070		
23030963	460			1730			1680		
23030964	1100			3610			3510		

Water Quality

Site Id	Depth to bottom of bore (SLE) (m)	Drawdown level (pump test) (m)	Eh {RP, Redox} (mV)	F (sol) (mg/L)	Fe (sol) (mg/L)	Fe (tot) (mg/L)	Fe II (mg/L)	Hardness (carb) (CaCO3) (mg/L)	Hardness (non-carb) (CaCO3) (mg/L)
20031368									
20031368				0.5	5.2				
20031369									
20031370									
20031371									
20031372									
20031373									
20031374									
20031375									
20031381									
20031382									
20031383									
20031386									
20031387									
20031389									
20031390									
20031391									
20031392									
20031393									
20031395									
20031397									
20031398									
20031407									
20031408									
20031410									
20031411									
20031412									
20031413									
20031414									
20031415									
20031416									
20031418									
20031427									
20031427									
20031428									
20031430									
20031435									
20031435									
20031436									
20031436									
20031437									
20031438									
20031439									
20031440									
20031442									
20031446		15							
20031448									
23030959									
23030959									
23030959				0.4	14	15			
23030960									
23030960									
23030960				2.3	0.77	5.7			
23030961									
23030961				<0.2	6.1	6.5			
23030962									
23030962				0.2	0.062	1.4			
23030963				0.3	5.8	6.1			
23030964				0.6	4.4	4.4			

Water Quality

Site Id	Hardness (tot) (CaCO3) (Ca+Mg) (mg/L)	K (sol) (mg/L)	K (tot) (mg/L)	Mg (sol) (mg/L)	Mn (sol) (mg/L)	N (tot) (TN, pTN) (mg/L)	NH3-N/NH4-N (sol) (mg/L)	NO3 (sol) (mg/L)	NO3-N (sol) (mg/L)	Na (sol) (mg/L)	NaCl (mg/L)	Null reading ()
20031368												
20031368	588	10		78				1		572	1850	
20031369												
20031370												
20031371												
20031372												
20031373												
20031374												
20031375												
20031381												
20031382												
20031383												
20031386												
20031387												
20031389												
20031390												
20031391												
20031392												
20031393												
20031395												
20031397												
20031398												
20031407												
20031408												
20031410												
20031411												
20031412												
20031413												
20031414												
20031415												
20031416												
20031418												
20031427												
20031427												
20031428												
20031430												
20031435												
20031435												
20031436												
20031436												
20031437												
20031438												
20031439												
20031440												
20031442												
20031446												
20031448												
23030959												
23030959		11		43	0.49				<0.01	450		
23030960												
23030960												
23030960		2		43	0.043				0.041	530		
23030961												
23030961		13		25	0.13				<0.01	230		
23030962												
23030962		6		17	0.018				0.57	180		
23030963		10		26	0.13				<0.01	260		
23030964		18		79	0.2				<0.01	570		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349										2890
6349								2.96		
6349								2.84		
6349								2.68		
6349								3.43		
6349								2.98		
6349								3.29		
6349								3.8		
6349								4.1		
6349								3.55		
6349								2.23		
6349								3.45		
6349								3.33		
6349								3.32		
6349								3.38		
6349		0.220000029	0.030000001		84		41		<839	850
6349								4.6		
6349								4.26		
6349								4		
6349								3.8		
6349								3.5		
6349								4.02		
6349								4.26		
6349								4.48		
6349								4.53		
6349								4.62		
6349								4.36		
6349								3.72		
6349								3.7		
6349								3.71		
6349								3.8		
6349								3.91		
6349								4.18		
6349								4.35		
6349								4.5		
6349								4.81		
6349								4.29		
6349								3.7		
6349								3.88		
6349								3.62		
6349								1.86		
6349								1.86		
6349								2.21		
6349								2.56		
6349								3.18		
6349								3.35		
6349								3.6		
6349								3.71		
6349								3.81		
6349								3.01		
6349								2.04		
6349								1.93		
6349								1.84		
6349								2.39		
6349								2.34		
6349								2.73		
6349								2.9		
6349								3.23		
6349								3.37		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349								3.07		
6349								1.99		
6349								1.77		
6349								1.51		
6349								1.6		
6349								1.55		
6349								2.08		
6349								1.97		
6349								2.05		
6349								2.7		
6349								3.08		
6349								3.18		
6349								3.26		
6349								3.3		
6349								3.89		
6349								3.8		
6349								2.62		
6349								1.82		
6349								3.06		
6349								3.48		
6349								3.85		
6349								4		
6349								3.33		
6349								3.19		
6349								3.16		
6349								2.26		
6349								0.825		
6349								2.33		
6349								2.505		
6349								2.295		
6349								2.485		
6349								2.9		
6349								3.93		
6349								4.535		
6349								4.625		
6349								4.58		
6349								4.49		
6349								3.29		
6349								2.42		
6349								3.74		
6349								3.22		
6349								2.67		
6349										
6349								3.04		
6349								3.38		
6349								4.66		
6349								4.88		
6349								5		
6349								4.9		
6349								3.9		
6349								2.78		
6349								2.29		
6349								2.53		
6349								2.74		
6349										
6349								2.81		
6349								2.28		
6349										
6349								4.68		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349								2.15		
6349								3.92		
6349								4.82		
6349								4.48		
6349								3.41		
6349								3.19		
6349								4.78		
6349								4.77		
6349								2.19		
6349								2.84		
6349								3.71		
6349										
6349								4.49		
6349								2.32		
6349								4.15		
6349								4.78		
6349										
6349								5.02		
6349								3.92		
6349								4.29		
6349								4.27		
6349										
6349								5.05		
6349								3.42		
6349								4		
6349								4.36		
6349								4.68		
6349								2.54		
6349								3.68		
6349								4.18		
6349								4.5		
6349								3.04		
6349										
6349								3.81		
6349										
6349								4.44		
6349										
6349								4.35		
6349								2.88		
6349								3.43		
6349								4.14		
6349								4.31		
6349								1.9		
6349										
6349								2.88		
6349								4.15		
6349								2.81		
6349								3.14		
6349								3.92		
6349								3.74		
6349								2.14		
6349								3.88		
6349								4.27		
6349								3.36		
6349								2.49		
6349								4.1		
6349								2.36		
6349								2.18		
6349										

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349								3.19		
6349								2.09		
6349				6			26			
6349								3.5		
6349								3.37		
6349								2.39		
6349								3.12		
6349								1.9		
6355								1.76		
6355								1.455		
6355								1.01		
6355								0.7		
6355								0.62		
6355								0.75		
6355								1.22		
6355								1.37		
6355								1.49		
6355								1.51		
6355								1.58		
6355								0.97		
6355								0.92		
6355								0.76		
6355								0.62		
6355								0.69		
6355								0.84		
6355								1.05		
6355								1.69		
6355								1.34		
6355								1.52		
6355								1.615		
6355								1.64		
6355								1.56		
6355								1.25		
6355								0.805		
6355								0.58		
6355								0.73		
6355								0.96		
6355								1.19		
6355								1.42		
6355								1.53		
6355								1.51		
6355								1.32		
6355								1.185		
6355								0.99		
6355								0.92		
6355								1.22		
6355								1.74		
6355								1.73		
6355								1.28		
6355								1.23		
6355								1.01		
6355								1.22		
6355								1.3		
6355								1.4		
6355								1.45		
6355								1.54		
6355								1.6		
6355								1.66		
6355								1.72		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355								1.41		
6355								0.76		
6355								0.6		
6355								0.81		
6355								0.61		
6355								1.03		
6355								1.29		
6355								1.33		
6355								1.4		
6355								1.47		
6355								1.4		
6355								1.5		
6355								1.5		
6355								1.55		
6355								0.79		
6355								0.84		
6355								0.88		
6355								1.14		
6355								1.24		
6355								1.43		
6355								1.45		
6355								1.52		
6355								1.64		
6355								1.59		
6355								1.64		
6355								1.42		
6355								0.72		
6355								0.87		
6355								0.97		
6355								1.13		
6355								1.28		
6355		0.069999993	<0.0100000016		33	-2.600000038	73		<3459	3390
6355		0.069999993	<0.0100000016		33		73		<3459	
6355								1.47		
6355								1.56		
6355								1.68		
6355								1.77		
6355								1.82		
6355								1.87		
6355								0.91		
6355								0.91		
6355								0.75		
6355								0.98		
6355								1.22		
6355								1.41		
6355								1.5		
6355								1.549		
6355								1.559		
6355								1.669		
6355								1.469		
6355								1.759		
6355								1.239		
6355								0.999		
6355								0.919		
6355								0.899		
6355								1.209		
6355								1.419		
6355								1.489		
6355								1.579		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355								1.679		
6355								1.779		
6355								1.849		
6355								1.899		
6355								1.549		
6355								1.199		
6355								0.919		
6355								0.859		
6355								1.189		
6355								1.179		
6355								1.379		
6355								1.449		
6355								1.589		
6355								1.669		
6355								1.649		
6355								1.469		
6355								1.249		
6355								1.149		
6355								0.919		
6355								0.809		
6355								1.259		
6355								1.339		
6355								1.399		
6355								1.559		
6355								1.629		
6355								1.729		
6355								1.789		
6355								1.819		
6355								1.729		
6355								1.609		
6355								1.159		
6355								0.789		
6355								1.299		
6355								1.459		
6355								1.57		
6355								1.67		
6355								1.67		
6355								1.47		
6355								1.61		
6355								1.51		
6355								0.86		
6355								0.68		
6355								0.63		
6355								0.83		
6355								0.85		
6355								1.185		
6355								1.32		
6355								1.42		
6355								1.525		
6355								1.615		
6355								1.65		
6355								1.62		
6355								1.305		
6355								0.94		
6355								0.84		
6355								0.9		
6355								0.995		
6355								1.26		
6355								1.34		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355								1.47		
6355								1.41		
6355								1.48		
6355								1.62		
6355								1.56		
6355								1.67		
6355								1.69		
6355								1.09		
6355								0.79		
6355								0.73		
6355								0.83		
6355								0.91		
6355								1.24		
6355								1.42		
6355								1.7		
6355								1.26		
6355								1.15		
6355								1.47		
6355								1.41		
6355								1.01		
6355								0.97		
6355								1.52		
6355								1.56		
6355								0.66		
6355								1		
6355								1.41		
6355								1.42		
6355								0.77		
6355								1.02		
6355								1.44		
6355								1.72		
6355								0.94		
6355								1.08		
6355								1.46		
6355								1.74		
6355								0.73		
6355								1.18		
6355								1.48		
6355								1.72		
6355								0.73		
6355								1.05		
6355								1.38		
6355								1.7		
6355								1.06		
6355								0.86		
6355								1.41		
6355								1.45		
6355								1.18		
6355								0.95		
6355								1.2		
6355								1.65		
6355								0.88		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355										
6355								0.98		
6355								1.45		
6355								0.53		
6355								1.3		
6355								1.28		
6355								1.62		
6355								1.09		
6355								1.54		
6355								1.38		
6355								1.39		
6355								0.92		
6355								1.65		
6355								1.16		
6355								1.53		
6355								0.81		
6355								1.68		
6355								1.28		
6355				22			76			
6355								1.82		
6355								1.62		
6355								1.34		
6355										
6482								2.59		
6482										
20031294										
20031297								62.48		
20031297										
20031298				12						
20031298								3.81		
20031301				37			27			
20031301				13			15			
20031301				64			30			
20031301										
20031301										
20031302										
20031303				21			39			
20031304								11.89		
20031305								0		
20031306								43.89		
20031307								4.57		
20031308										
20031309								7.01		
20031310								1.22		
20031315								11.69		
20031316								3.05		
20031317								0.86		
20031318								1.83		
20031325								1.83		
20031347								35.5		
20031348								20		
20031356										
20031358										
20031359										
20031360										
20031361								2.44		
20031364								11.58		
20031365								4		
20031366								2.7		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
20031368								3.96		
20031368				14			24			
20031369								15.24		
20031370								25		
20031371								6.1		
20031372								2.44		
20031373								2.44		
20031374								3.05		
20031375								1.83		
20031381								1.52		
20031382								10.67		
20031383								1.52		
20031386								0		
20031387										
20031389								4.57		
20031390								0		
20031391								1.83		
20031392										
20031393										
20031395								12.19		
20031397								0.91		
20031398								4.27		
20031407								1.83		
20031408								0		
20031410								10.67		
20031411								1.83		
20031412								1.83		
20031413								3.96		
20031414								7.62		
20031415								9.14		
20031416								1.52		
20031418								1		
20031427								3		
20031427										
20031428								2.43		
20031430								6.1		
20031435										
20031435										
20031436								3		
20031436										
20031437								5.79		
20031438								3.6		
20031439								8.6		
20031440								3		
20031442								26.97		
20031446								7		
20031448								4		
23030959								7.63		
23030959								7.69		
23030959							41			
23030960								4.11		
23030960								4.05		
23030960							77			
23030961								12.32		
23030961							40			
23030962								13.73		
23030962							36			
23030963							34			
23030964							45			

Water Quality

Site Id	TDSolids (cond) (mg/L)	TDSolids (evap @180°C) (mg/L)	TDSolids (in situ) ((none))	TDSolids (in situ) (mg/L)	Temperature (in situ) (deg C)	Temperature (lab test) (deg C)	Test time (tot) (h)	Turbidity (NTU)	pH ((none))
20031368				2300					
20031368	2430	2220				20			6.8
20031369				1900					
20031370				325					
20031371				1383					
20031372				650					
20031373				120					
20031374				125					
20031375				880					
20031381				223					
20031382				1627					
20031383				643					
20031386				406					
20031387				300					
20031389				1133					
20031390				410					
20031391				410					
20031392				3990					
20031393				268					
20031395				201					
20031397				228					
20031398				228					
20031407									
20031408									
20031410									
20031411									
20031412									
20031413									
20031414									
20031415				1144					
20031416									
20031418									
20031427				210					
20031427				230					
20031428									
20031430									
20031435				1133					
20031435									7.3
20031436				550					
20031436									5.6
20031437									
20031438									
20031439									
20031440				500					
20031442									
20031446									
20031448									
23030959									
23030959		1800				23.8			7.3
23030960									
23030960									
23030960		1600				23.9			7.7
23030961									
23030961		780				23.6			6
23030962									
23030962		580				23.6			5.9
23030963		910				23.6			6.4
23030964		2150				23.6			6.1

Datums

WIN Site Id	Numbering System	Reference	Datum Plane	Elevation Datum	Elevation Reliability	Elevation (m)	Margin Of Error (m)
6349	AWRC	61710103	Australian Height Datum	Top of casing	~	63.200	
6349	AWRC	61710103	Not Applicable	Ground level	~	0.000	
6349	AWRC	61710103	Not Applicable	(none)	~	0.000	
6349	AWRC	61710103	Standard Level Elevation	Top of casing	~	100.000	
6355	AWRC	61710109	Australian Height Datum	Top of casing	~	75.509	
6355	AWRC	61710109	Not Applicable	(none)	~	0.000	
6355	AWRC	61710109	Standard Level Elevation	Top of casing	~	100.000	
6482	AWRC	61719031	Not Applicable	Ground level	=	0.000	
6482	AWRC	61719031	Standard Level Elevation	Top of casing	~	100.000	
6482	AWRC	61719031	Not Applicable	(none)	~	0.000	
6487	AWRC	61719036	Standard Level Elevation	Top of casing	~	138.725	
6487	AWRC	61719036	Not Applicable	(none)	~	0.000	
6487	AWRC	61719036	Local Height Datum	Air line	=	138.725	
6488	AWRC	61719037	Standard Level Elevation	Top of casing	~	141.775	
6488	AWRC	61719037	Not Applicable	(none)	~	0.000	
6488	AWRC	61719037	Local Height Datum	Air line	=	141.775	
6489	AWRC	61719038	Standard Level Elevation	Top of casing	~	80.610	
6489	AWRC	61719038	Not Applicable	(none)	~	0.000	
6489	AWRC	61719038	Local Height Datum	Air line	=	80.610	
6490	AWRC	61719039	Standard Level Elevation	Top of casing	~	59.080	
6490	AWRC	61719039	Not Applicable	(none)	~	0.000	
6490	AWRC	61719039	Local Height Datum	Air line	=	59.080	
9065836	AWRC	61720001	Standard Level Elevation	Top of casing	~	100.000	
20031292	AWRC	61711542	Not Applicable	Ground level	=	0.000	
20031294	AWRC	61711544	Not Applicable	Ground level	=	0.000	
20031296	AWRC	61711545	Not Applicable	Ground level	=	0.000	
20031297	AWRC	61711546	Australian Height Datum	Ground level	=	127.100	
20031298	AWRC	61711547	Not Applicable	Ground level	=	0.000	
20031301	AWRC	61711548	Australian Height Datum	Ground level	=	104.660	
20031302	AWRC	61711549	Australian Height Datum	Ground level	=	147.020	
20031303	AWRC	61711550	Not Applicable	Ground level	=	0.000	
20031304	AWRC	61711551	Not Applicable	Ground level	=	0.000	
20031305	AWRC	61711552	Not Applicable	Ground level	=	0.000	
20031306	AWRC	61711553	Not Applicable	Ground level	=	0.000	
20031307	AWRC	61711554	Not Applicable	Ground level	=	0.000	
20031308	AWRC	61711555	Not Applicable	Ground level	=	0.000	
20031309	AWRC	61711556	Not Applicable	Ground level	=	0.000	
20031310	AWRC	61716013	Not Applicable	Ground level	=	0.000	
20031314	AWRC	61711560	Not Applicable	Ground level	=	0.000	
20031315	AWRC	61711561	Not Applicable	Ground level	=	0.000	
20031316	AWRC	61716014	Not Applicable	Ground level	=	0.000	
20031317	AWRC	61711562	Not Applicable	Ground level	=	0.000	
20031318	AWRC	61711563	Not Applicable	Ground level	=	0.000	
20031319	AWRC	61711564	Not Applicable	Ground level	=	0.000	
20031320	AWRC	61716015	Australian Height Datum	Ground level	=	152.400	
20031323	AWRC	61711566	Not Applicable	Ground level	=	0.000	
20031324	AWRC	61711567	Not Applicable	Ground level	=	0.000	
20031325	AWRC	61711568	Not Applicable	Ground level	=	0.000	
20031338	AWRC	61716016	Australian Height Datum	Ground level	=	229.820	
20031339	AWRC	61716017	Australian Height Datum	Ground level	=	159.720	

Datums

WIN Site Id	Numbering System	Reference	Datum Plane	Elevation Datum	Elevation Reliability	Elevation (m)	Margin Of Error (m)
20031340	AWRC	61716018	Australian Height Datum	Ground level	=	161.240	
20031347	AWRC	61711582	Not Applicable	Ground level	=	0.000	
20031348	AWRC	61711583	Not Applicable	Ground level	=	0.000	
20031356	AWRC	61711590	Not Applicable	Ground level	=	0.000	
20031358	AWRC	61716020	Not Applicable	Ground level	=	0.000	
20031359	AWRC	61716021	Not Applicable	Ground level	=	0.000	
20031360	AWRC	61711592	Not Applicable	Ground level	=	0.000	
20031361	AWRC	61711593	Not Applicable	Ground level	=	0.000	
20031364	AWRC	61711596	Not Applicable	Ground level	=	0.000	
20031365	AWRC	61711597	Not Applicable	Ground level	=	0.000	
20031366	AWRC	61711598	Not Applicable	Ground level	=	0.000	
20031368	AWRC	61711600	Not Applicable	Ground level	=	0.000	
20031369	AWRC	61711601	Not Applicable	Ground level	=	0.000	
20031370	AWRC	61711602	Not Applicable	Ground level	=	0.000	
20031371	AWRC	61711603	Not Applicable	Ground level	=	0.000	
20031372	AWRC	61711604	Not Applicable	Ground level	=	0.000	
20031373	AWRC	61711605	Not Applicable	Ground level	=	0.000	
20031374	AWRC	61711606	Not Applicable	Ground level	=	0.000	
20031375	AWRC	61711607	Not Applicable	Ground level	=	0.000	
20031381	AWRC	61711613	Not Applicable	Ground level	=	0.000	
20031382	AWRC	61711614	Not Applicable	Ground level	=	0.000	
20031383	AWRC	61711615	Not Applicable	Ground level	=	0.000	
20031386	AWRC	61711618	Not Applicable	Ground level	=	0.000	
20031387	AWRC	61711619	Not Applicable	Ground level	=	0.000	
20031388	AWRC	61711620	Not Applicable	Ground level	=	0.000	
20031389	AWRC	61711621	Not Applicable	Ground level	=	0.000	
20031390	AWRC	61711622	Not Applicable	Ground level	=	0.000	
20031391	AWRC	61711623	Not Applicable	Ground level	=	0.000	
20031392	AWRC	61711624	Not Applicable	Ground level	=	0.000	
20031393	AWRC	61711625	Not Applicable	Ground level	=	0.000	
20031395	AWRC	61711627	Not Applicable	Ground level	=	0.000	
20031397	AWRC	61711629	Not Applicable	Ground level	=	0.000	
20031398	AWRC	61711630	Not Applicable	Ground level	=	0.000	
20031407	AWRC	61711639	Not Applicable	Ground level	=	0.000	
20031408	AWRC	61711640	Not Applicable	Ground level	=	0.000	
20031409	AWRC	61711641	Not Applicable	Ground level	=	0.000	
20031410	AWRC	61711642	Not Applicable	Ground level	=	0.000	
20031411	AWRC	61711643	Not Applicable	Ground level	=	0.000	
20031412	AWRC	61711644	Not Applicable	Ground level	=	0.000	
20031413	AWRC	61711645	Not Applicable	Ground level	=	0.000	
20031414	AWRC	61711646	Not Applicable	Ground level	=	0.000	
20031415	AWRC	61711647	Not Applicable	Ground level	=	0.000	
20031416	AWRC	61711648	Not Applicable	Ground level	=	0.000	
20031418	AWRC	61711650	Australian Height Datum	Top of casing	=	75.520	
20031418	AWRC	61711650	Not Applicable	Ground level	=	0.000	
20031421	AWRC	61716022	Australian Height Datum	Ground level	=	217.630	
20031422	AWRC	61711652	Not Applicable	Ground level	=	0.000	
20031427	AWRC	61711654	Not Applicable	Ground level	=	0.000	
20031428	AWRC	61711655	Not Applicable	Ground level	=	0.000	
20031429	AWRC	61716024	Not Applicable	Ground level	=	0.000	

Datums

WIN Site Id	Numbering System	Reference	Datum Plane	Elevation Datum	Elevation Reliability	Elevation (m)	Margin Of Error (m)
20031430	AWRC	61711656	Not Applicable	Ground level	=	0.000	
20031431	AWRC	61711657	Not Applicable	Ground level	=	0.000	
20031435	AWRC	61711661	Not Applicable	Ground level	=	0.000	
20031436	AWRC	61711662	Not Applicable	Ground level	=	0.000	
20031437	AWRC	61711663	Not Applicable	Ground level	=	0.000	
20031438	AWRC	61711664	Not Applicable	Ground level	=	0.000	
20031439	AWRC	61711665	Not Applicable	Ground level	=	0.000	
20031440	AWRC	61711666	Not Applicable	Ground level	=	0.000	
20031441	AWRC	61711667	Not Applicable	Ground level	=	0.000	
20031442	AWRC	61711668	Not Applicable	Ground level	=	0.000	
20031443	AWRC	61711669	Not Applicable	Ground level	=	0.000	
20031444	AWRC	61711670	Not Applicable	Ground level	=	0.000	
20031445	AWRC	61711671	Not Applicable	Ground level	=	0.000	
20031446	AWRC	61711672	Australian Height Datum	Top of casing	=	100.000	
20031446	AWRC	61711672	Not Applicable	Ground level	=	0.000	
20031448	AWRC	61711674	Not Applicable	Ground level	=	0.000	
23030959	AWRC	61710525	Australian Height Datum	Ground level	=	60.593	0.005
23030959	AWRC	61710525	Australian Height Datum	Top of cement/concrete block or pad	=	60.633	0.005
23030959	AWRC	61710525	Australian Height Datum	Top of casing	=	61.382	0.005
23030959	AWRC	61710525	Australian Height Datum	Top of inner casing	=	61.342	0.005
23030960	AWRC	61710526	Australian Height Datum	Ground level	=	60.603	0.005
23030960	AWRC	61710526	Australian Height Datum	Top of cement/concrete block or pad	=	60.623	0.005
23030960	AWRC	61710526	Australian Height Datum	Top of casing	=	61.381	0.005
23030960	AWRC	61710526	Australian Height Datum	Top of inner casing	=	61.371	0.005
23030961	AWRC	61710527	Australian Height Datum	Top of inner casing	=	94.756	0.005
23030961	AWRC	61710527	Australian Height Datum	Top of cement/concrete block or pad	=	94.796	0.005
23030961	AWRC	61710527	Australian Height Datum	Top of casing	=	94.796	0.005
23030961	AWRC	61710527	Australian Height Datum	Ground level	=	94.780	0.005
23030962	AWRC	61710528	Australian Height Datum	Ground level	=	94.870	0.005
23030962	AWRC	61710528	Australian Height Datum	Top of cement/concrete block or pad	=	94.890	0.005
23030962	AWRC	61710528	Australian Height Datum	Top of casing	=	94.890	0.005
23030962	AWRC	61710528	Australian Height Datum	Top of inner casing	=	94.840	0.005
23030963	AWRC	61710529	Australian Height Datum	Top of inner casing	=	97.463	0.005
23030963	AWRC	61710529	Australian Height Datum	Top of cement/concrete block or pad	=	96.826	0.005
23030963	AWRC	61710529	Australian Height Datum	Top of casing	=	97.553	0.005
23030963	AWRC	61710529	Australian Height Datum	Ground level	=	96.801	0.005
23030964	AWRC	61710530	Australian Height Datum	Top of inner casing	=	97.848	0.005
23030964	AWRC	61710530	Australian Height Datum	Top of cement/concrete block or pad	=	97.146	0.005
23030964	AWRC	61710530	Australian Height Datum	Top of casing	=	97.888	0.005
23030964	AWRC	61710530	Australian Height Datum	Ground level	=	97.131	0.005

Datums

WIN Site Id	Measurement Method	Date Established	Date Reliability	Colloquial Name	Comment
6349	Surveyed	30/06/1977	Unknown		
6349	(none)	30/06/1977	Unknown		
6349	(none)	30/06/1977	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6349	(none)	30/06/1977	Unknown		
6355	Surveyed	03/05/1973	Unknown		
6355	(none)	03/05/1973	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6355	(none)	03/05/1973	Unknown		
6482	(none)	15/11/1964	Estimate		
6482	(none)	24/12/1965	Unknown		
6482	(none)	24/12/1965	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6487	(none)	25/06/1975	Unknown		
6487	(none)	25/06/1975	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6487	(none)	01/01/1988	Unknown		
6488	(none)	29/07/1975	Unknown		
6488	(none)	29/07/1975	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6488	(none)	01/01/1988	Unknown		
6489	(none)	21/02/1984	Unknown		
6489	(none)	27/02/1984	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6489	(none)	01/01/1988	Unknown		
6490	(none)	01/01/1985	Unknown		
6490	(none)	30/07/1987	(none)		Depth Reference Point added to cater for historical samples with Depth Reference Point of ()
6490	(none)	01/01/1988	Unknown		
9065836	(none)	01/01/1987	Unknown		
20031292	(none)	00/01/1900	Unknown		
20031294	(none)	00/01/1900	Unknown		
20031296	(none)	00/01/1900	Unknown		
20031297	(none)	30/06/1942	Estimate		
20031298	(none)	15/04/1964	Estimate		
20031301	(none)	30/06/1966	Estimate		
20031302	(none)	30/06/1966	Estimate		
20031303	(none)	00/01/1900	Unknown		
20031304	(none)	30/06/1960	Estimate		
20031305	(none)	00/01/1900	Unknown		
20031306	(none)	30/06/1963	Estimate		
20031307	(none)	30/06/1938	Estimate		
20031308	(none)	30/06/1955	Estimate		
20031309	(none)	30/06/1963	Estimate		
20031310	(none)	00/01/1900	Unknown		
20031314	(none)	00/01/1900	Unknown		
20031315	(none)	00/01/1900	Unknown		
20031316	(none)	00/01/1900	Unknown		
20031317	(none)	00/01/1900	Unknown		
20031318	(none)	00/01/1900	Unknown		
20031319	(none)	00/01/1900	Unknown		
20031320	(none)	30/06/1964	Estimate		
20031323	(none)	30/06/1961	Estimate		
20031324	(none)	30/06/1962	Estimate		
20031325	(none)	30/06/1957	Estimate		
20031338	(none)	30/06/1964	Estimate		
20031339	(none)	30/06/1964	Estimate		

Datums

WIN Site Id	Measurement Method	Date Established	Date Reliability	Colloquial Name	Comment
20031340	(none)	30/06/1964	Estimate		
20031347	(none)	26/11/1992	Estimate		
20031348	(none)	27/08/1993	Estimate		
20031356	(none)	00/01/1900	Unknown		
20031358	(none)	00/01/1900	Unknown		
20031359	(none)	00/01/1900	Unknown		
20031360	(none)	00/01/1900	Unknown		
20031361	(none)	30/06/1912	Estimate		
20031364	(none)	30/06/1970	Estimate		
20031365	(none)	30/06/1956	Estimate		
20031366	(none)	00/01/1900	Unknown		
20031368	(none)	30/06/1969	Estimate		
20031369	(none)	30/06/1961	Estimate		
20031370	(none)	00/01/1900	Unknown		
20031371	(none)	30/06/1957	Estimate		
20031372	(none)	30/06/1953	Estimate		
20031373	(none)	30/06/1948	Estimate		
20031374	(none)	30/06/1950	Estimate		
20031375	(none)	30/06/1907	Estimate		
20031381	(none)	00/01/1900	Unknown		
20031382	(none)	30/06/1969	Estimate		
20031383	(none)	00/01/1900	Unknown		
20031386	(none)	30/06/1971	Estimate		
20031387	(none)	30/06/1960	Estimate		
20031388	(none)	00/01/1900	Unknown		
20031389	(none)	30/06/1971	Estimate		
20031390	(none)	00/01/1900	Unknown		
20031391	(none)	30/06/1970	Estimate		
20031392	(none)	30/06/1971	Estimate		
20031393	(none)	00/01/1900	Unknown		
20031395	(none)	30/06/1972	Estimate		
20031397	(none)	00/01/1900	Unknown		
20031398	(none)	00/01/1900	Unknown		
20031407	(none)	00/01/1900	Unknown		
20031408	(none)	30/06/1963	Estimate		
20031409	(none)	00/01/1900	Unknown		
20031410	(none)	30/06/1959	Estimate		
20031411	(none)	00/01/1900	Unknown		
20031412	(none)	00/01/1900	Unknown		
20031413	(none)	00/01/1900	Unknown		
20031414	(none)	00/01/1900	Unknown		
20031415	(none)	30/06/1962	Estimate		
20031416	(none)	00/01/1900	Unknown		
20031418	(none)	00/01/1900	Unknown		
20031418	(none)	30/06/1973	Estimate		
20031421	(none)	30/06/1964	Estimate		
20031422	(none)	30/06/1977	Estimate		
20031427	(none)	15/04/1983	Estimate		
20031428	(none)	15/10/1983	Estimate		
20031429	(none)	15/10/1983	Estimate		

Datums

WIN Site Id	Measurement Method	Date Established	Date Reliability	Colloquial Name	Comment
20031430	(none)	00/01/1900	Unknown		
20031431	(none)	00/01/1900	Unknown		
20031435	(none)	16/07/1990	Estimate		
20031436	(none)	16/08/1989	Estimate		
20031437	(none)	24/01/1990	Estimate		
20031438	(none)	01/06/1990	Estimate		
20031439	(none)	28/02/1991	Estimate		
20031440	(none)	16/08/1989	Estimate		
20031441	(none)	00/01/1900	Unknown		
20031442	(none)	15/12/1990	Estimate		
20031443	(none)	01/11/1995	Estimate		
20031444	(none)	02/11/1995	Estimate		
20031445	(none)	03/11/1995	Estimate		
20031446	(none)	00/01/1900	Unknown		
20031446	(none)	15/12/1992	Estimate		
20031448	(none)	01/11/1997	Estimate		
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030959	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030960	Surveyed	14/08/2008	Unknown		Date of first sample used
23030961	Surveyed	14/08/2008	Unknown		
23030961	Surveyed	14/08/2008	Unknown		Date of first sample used
23030961	Surveyed	14/08/2008	Unknown		Date of first sample used
23030961	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		Date of first sample used
23030962	Surveyed	14/08/2008	Unknown		
23030963	Surveyed	14/08/2008	Unknown		
23030963	Surveyed	14/08/2008	Unknown		Date of first sample used
23030963	Surveyed	14/08/2008	Unknown		Date of first sample used
23030963	Surveyed	14/08/2008	Unknown		Date of first sample used
23030964	Surveyed	14/08/2008	Unknown		
23030964	Surveyed	14/08/2008	Unknown		Date of first sample used
23030964	Surveyed	14/08/2008	Unknown		Date of first sample used
23030964	Surveyed	14/08/2008	Unknown		Date of first sample used

Construction

WIN Site Id	Numbering System	Reference	Start Date	End Date	Date Reliability	Cons. Organisation	Developed By	Depth Reference Point	Drilled Depth Reliability	Drilled Depth	Drill Method
6349	AWRC	61710103		30/06/1977	Unknown	Authority Not Known		Ground level	=	15.230	(none)
6349	AWRC	61710103		30/06/1977	Unknown	Authority Not Known		Ground level	=	15.230	(none)
6482	AWRC	61719031		15/11/1964	Known day	Public Works Department		Ground level	=	70.100	(none)
20031292	AWRC	61711542		00/01/1900	Unknown	Authority Not Known		Ground level	=	1.830	(none)
20031294	AWRC	61711544		00/01/1900	Unknown	Authority Not Known		Ground level	=	1.220	(none)
20031296	AWRC	61711545		00/01/1900	Unknown	Authority Not Known		Ground level	=	42.670	(none)
20031297	AWRC	61711546		30/06/1942	Known year	Authority Not Known		Ground level	=	202.690	(none)
20031298	AWRC	61711547		15/04/1964	Known day	Westphal		Ground level	=	153.010	(none)
20031298	AWRC	61711547		15/04/1964	Known day	Westphal		Ground level	=	153.010	(none)
20031298	AWRC	61711547		15/04/1964	Known day	Westphal		Ground level	=	153.010	(none)
20031301	AWRC	61711548		30/06/1966	Known year	GRILL		Ground level	=	519.380	Rotary drill
20031302	AWRC	61711549		30/06/1966	Known year	GRILL		Ground level	=	65.230	Rotary drill
20031303	AWRC	61711550		00/01/1900	Unknown	Great Southern Drilling		Ground level	=	60.960	(none)
20031303	AWRC	61711550		00/01/1900	Unknown	Great Southern Drilling		Ground level	=	60.960	(none)
20031303	AWRC	61711550		00/01/1900	Unknown	Great Southern Drilling		Ground level	=	60.960	(none)
20031304	AWRC	61711551		30/06/1960	Known year	Authority Not Known		Ground level	=	14.630	(none)
20031305	AWRC	61711552		00/01/1900	Unknown	Authority Not Known		Ground level	=	12.800	(none)
20031306	AWRC	61711553		30/06/1963	Known year	Authority Not Known		Ground level	=	45.720	Percussion
20031307	AWRC	61711554		30/06/1938	Known year	Authority Not Known		Ground level	=	9.140	(none)
20031308	AWRC	61711555		30/06/1955	Known year	OWNER		Ground level	=	8.230	(none)
20031309	AWRC	61711556		30/06/1963	Known year	Modern Drilling Co		Ground level	=	9.140	Percussion
20031310	AWRC	61716013		00/01/1900	Unknown	OWNER		Ground level	=	2.440	(none)
20031314	AWRC	61711560		00/01/1900	Unknown	Authority Not Known		Ground level	=	54.860	Rotary drill
20031315	AWRC	61711561		00/01/1900	Unknown	Galbraith Drilling Co		Ground level	=	33.530	(none)
20031316	AWRC	61716014		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.660	(none)
20031317	AWRC	61711562		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.660	(none)
20031318	AWRC	61711563		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.050	(none)
20031319	AWRC	61711564		00/01/1900	Unknown	Authority Not Known		Ground level	=	40.230	(none)
20031320	AWRC	61716015		30/06/1964	Known year	Authority Not Known		Ground level	=	18.290	(none)
20031323	AWRC	61711566		30/06/1961	Known year	Swan Boring Company		Ground level	=	48.770	(none)
20031324	AWRC	61711567		30/06/1962	Known year	Modern Drilling Co		Ground level	=	12.190	(none)
20031325	AWRC	61711568		30/06/1957	Known year	Authority Not Known		Ground level	=	8.530	(none)
20031338	AWRC	61716016		30/06/1964	Known year	Authority Not Known		Ground level	=	41.150	(none)
20031339	AWRC	61716017		30/06/1964	Known year	Authority Not Known		Ground level	=	22.860	(none)
20031340	AWRC	61716018		30/06/1964	Known year	Authority Not Known		Ground level	=	30.480	(none)
20031347	AWRC	61711582		26/11/1992	Known day	Stirling Irrigation	AIRLIFT FOR 8HRS.	Ground level	=	73.000	Rotary drill
20031347	AWRC	61711582		26/11/1992	Known day	Stirling Irrigation	AIRLIFT FOR 8HRS.	Ground level	=	73.000	Rotary drill
20031348	AWRC	61711583		27/08/1993	Known day	Petrucci Drilling	AIR SURGE FOR 6 HRS.	Ground level	=	46.000	Rotary drill
20031348	AWRC	61711583		27/08/1993	Known day	Petrucci Drilling	AIR SURGE FOR 6 HRS.	Ground level	=	46.000	Rotary drill
20031356	AWRC	61711590		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.050	(none)
20031358	AWRC	61716020		00/01/1900	Unknown	Authority Not Known		Ground level	=	24.380	(none)
20031359	AWRC	61716021		00/01/1900	Unknown	Authority Not Known		Ground level	=	24.380	(none)
20031360	AWRC	61711592		00/01/1900	Unknown	Authority Not Known		Ground level	=	5.490	(none)
20031361	AWRC	61711593		30/06/1912	Known year	Authority Not Known		Ground level	=	3.660	(none)
20031364	AWRC	61711596		30/06/1970	Known year	Swan Boring Company	20 HRS DEVELOPING	Ground level	=	48.770	(none)
20031365	AWRC	61711597		30/06/1956	Known year	OWNER		Ground level	=	6.100	Percussion
20031366	AWRC	61711598		00/01/1900	Unknown	OWNER		Ground level	=	3.660	(none)
20031368	AWRC	61711600		30/06/1969	Known year	Authority Not Known		Ground level	=	28.350	Percussion
20031369	AWRC	61711601		30/06/1961	Known year	Authority Not Known		Ground level	=	30.480	Percussion

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WIN Site Id	Numbering System	Reference	Start Date	End Date	Date Reliability	Cons. Organisation	Developed By	Depth Reference Point	Drilled Depth Reliability	Drilled Depth	Drill Method
20031370	AWRC	61711602		00/01/1900	Unknown	Authority Not Known		Ground level	=	7.620	(none)
20031371	AWRC	61711603		30/06/1957	Known year	Authority Not Known		Ground level	=	14.330	Rotary drill
20031372	AWRC	61711604		30/06/1953	Known year	OWNER		Ground level	=	3.050	(none)
20031373	AWRC	61711605		30/06/1948	Known year	OWNER		Ground level	=	3.660	(none)
20031374	AWRC	61711606		30/06/1950	Known year	OWNER		Ground level	=	4.880	(none)
20031375	AWRC	61711607		30/06/1907	Known year	OWNER		Ground level	=	3.660	(none)
20031381	AWRC	61711613		00/01/1900	Unknown	Dewars Irrigation		Ground level	=	6.100	(none)
20031382	AWRC	61711614		30/06/1969	Known year	Authority Not Known		Ground level	=	24.990	Rotary drill
20031383	AWRC	61711615		00/01/1900	Unknown	OWNER		Ground level	=	4.880	(none)
20031386	AWRC	61711618		30/06/1971	Known year	OWNER		Ground level	=	3.050	(none)
20031387	AWRC	61711619		30/06/1960	Known year	OWNER		Ground level	=	3.660	(none)
20031388	AWRC	61711620		00/01/1900	Unknown	Scott And Co		Ground level	=	10.360	(none)
20031389	AWRC	61711621		30/06/1971	Known year	Galbraith Drilling Co		Ground level	=	12.190	Percussion
20031390	AWRC	61711622		00/01/1900	Unknown	OWNER		Ground level	=	18.590	(none)
20031391	AWRC	61711623		30/06/1970	Known year	OWNER		Ground level	=	6.400	(none)
20031392	AWRC	61711624		30/06/1971	Known year	Galbraith Drilling Co		Ground level	=	36.580	Percussion
20031393	AWRC	61711625		00/01/1900	Unknown	Authority Not Known		Ground level	=	4.570	(none)
20031395	AWRC	61711627		30/06/1972	Known year	Galbraith Drilling Co		Ground level	=	25.600	Percussion
20031397	AWRC	61711629		00/01/1900	Unknown	Authority Not Known		Ground level	=	2.130	(none)
20031398	AWRC	61711630		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.100	(none)
20031407	AWRC	61711639		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.050	(none)
20031408	AWRC	61711640		30/06/1963	Known year	Authority Not Known		Ground level	=	2.740	(none)
20031409	AWRC	61711641		00/01/1900	Unknown	Authority Not Known		Ground level	=	11.890	(none)
20031410	AWRC	61711642		30/06/1959	Known year	Authority Not Known		Ground level	=	24.690	(none)
20031411	AWRC	61711643		00/01/1900	Unknown	Authority Not Known		Ground level	=	3.660	(none)
20031412	AWRC	61711644		00/01/1900	Unknown	Authority Not Known		Ground level	=	2.740	(none)
20031413	AWRC	61711645		00/01/1900	Unknown	Authority Not Known		Ground level	=	4.570	(none)
20031414	AWRC	61711646		00/01/1900	Unknown	Authority Not Known		Ground level	=	8.230	(none)
20031415	AWRC	61711647		30/06/1962	Known year	Modern Drilling Co		Ground level	=	15.240	(none)
20031416	AWRC	61711648		00/01/1900	Unknown	Authority Not Known		Ground level	=	2.440	(none)
20031418	AWRC	61711650		30/06/1973	Known year	Rond P & Co		Ground level	=	60.000	(none)
20031421	AWRC	61716022		30/06/1964	Known year	Authority Not Known		Ground level	=	15.240	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031422	AWRC	61711652		30/06/1977	Known year	Weber Holdings Drilling		Ground level	=	157.580	(none)
20031427	AWRC	61711654		15/04/1983	Known day	Nancarrow & Sons		Ground level	=	51.810	(none)
20031427	AWRC	61711654		15/04/1983	Known day	Nancarrow & Sons		Ground level	=	51.810	(none)
20031427	AWRC	61711654		15/04/1983	Known day	Nancarrow & Sons		Ground level	=	51.810	(none)
20031428	AWRC	61711655		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	39.470	(none)
20031428	AWRC	61711655		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	39.470	(none)
20031428	AWRC	61711655		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	39.470	(none)
20031429	AWRC	61716024		15/10/1983	Known day	Nancarrow & Sons		Ground level	=	2.740	(none)
20031430	AWRC	61711656		00/01/1900	Unknown	Authority Not Known		Ground level	=	9.140	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031431	AWRC	61711657		00/01/1900	Unknown	Authority Not Known		Ground level	=	6.000	(none)
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion

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WIN Site Id	Numbering System	Reference	Start Date	End Date	Date Reliability	Cons. Organisation	Developed By	Depth Reference Point	Drilled Depth Reliability	Drilled Depth	Drill Method
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion
20031435	AWRC	61711661		16/07/1990	Known day	Gingin Drilling		Ground level	=	32.900	Percussion
20031436	AWRC	61711662		16/08/1989	Known day	Vasse River Drilling	AIRLIFT 8 HRS	Ground level	=	42.000	Rotary drill
20031436	AWRC	61711662		16/08/1989	Known day	Vasse River Drilling	AIRLIFT 8 HRS	Ground level	=	42.000	Rotary drill
20031436	AWRC	61711662		16/08/1989	Known day	Vasse River Drilling	AIRLIFT 8 HRS	Ground level	=	42.000	Rotary drill
20031437	AWRC	61711663		24/01/1990	Known day	Galbraith Drilling Co		Ground level	=	30.480	Cable tool
20031437	AWRC	61711663		24/01/1990	Known day	Galbraith Drilling Co		Ground level	=	30.480	Cable tool
20031437	AWRC	61711663		24/01/1990	Known day	Galbraith Drilling Co		Ground level	=	30.480	Cable tool
20031438	AWRC	61711664		01/06/1990	Known day	Gingin Drilling		Ground level	=	27.100	Rotary drill
20031438	AWRC	61711664		01/06/1990	Known day	Gingin Drilling		Ground level	=	27.100	Rotary drill
20031439	AWRC	61711665		28/02/1991	Known day	Vasse River Drilling	PRESSURE JET & AIRLIFTING/SURGING FOR 15 HRS	Ground level	=	141.000	(none)
20031439	AWRC	61711665		28/02/1991	Known day	Vasse River Drilling	PRESSURE JET & AIRLIFTING/SURGING FOR 15 HRS	Ground level	=	141.000	(none)
20031439	AWRC	61711665		28/02/1991	Known day	Vasse River Drilling	PRESSURE JET & AIRLIFTING/SURGING FOR 15 HRS	Ground level	=	141.000	(none)
20031440	AWRC	61711666		16/08/1989	Known day	Vasse River Drilling	AIR FOR 8 HRS	Ground level	=	42.000	Rotary drill
20031440	AWRC	61711666		16/08/1989	Known day	Vasse River Drilling	AIR FOR 8 HRS	Ground level	=	42.000	Rotary drill
20031440	AWRC	61711666		16/08/1989	Known day	Vasse River Drilling	AIR FOR 8 HRS	Ground level	=	42.000	Rotary drill
20031441	AWRC	61711667		00/01/1990	Unknown	Petrucci Drilling	AIR SURGE FOR 1.5 HRS	Ground level	=	29.000	Rotary drill
20031441	AWRC	61711667		00/01/1990	Unknown	Petrucci Drilling	AIR SURGE FOR 1.5 HRS	Ground level	=	29.000	Rotary drill
20031442	AWRC	61711668		15/12/1990	Known day	Gingin Drilling	DEVELOPED FOR 2 HRS	Ground level	=	42.670	Percussion
20031442	AWRC	61711668		15/12/1990	Known day	Gingin Drilling	DEVELOPED FOR 2 HRS	Ground level	=	42.670	Percussion
20031442	AWRC	61711668		15/12/1990	Known day	Gingin Drilling	DEVELOPED FOR 2 HRS	Ground level	=	42.670	Percussion
20031443	AWRC	61711669		01/11/1995	Known day	West Coast Reticulation & Drilling		Ground level	=	18.000	(none)
20031443	AWRC	61711669		01/11/1995	Known day	West Coast Reticulation & Drilling		Ground level	=	18.000	(none)
20031444	AWRC	61711670		02/11/1995	Known day	West Coast Reticulation & Drilling		Ground level	=	21.000	Rotary drill
20031445	AWRC	61711671		03/11/1995	Known day	West Coast Reticulation & Drilling	AIR	Ground level	=	16.200	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031446	AWRC	61711672	15/12/1992	15/12/1992	Estimate	Westoz Drilling Company		Ground level	=	36.000	Rotary drill
20031448	AWRC	61711674		01/11/1997	Known day	Westoz Drilling Company	AIR SURGE FOR 1 HOUR	Ground level	=	35.000	Rotary drill
20031448	AWRC	61711674		01/11/1997	Known day	Westoz Drilling Company	AIR SURGE FOR 1 HOUR	Ground level	=	35.000	Rotary drill

Construction

WIN Site Id	Pump How Test	Event Comment	Construction Category	Construction Element	Construction Material	Distance To Top Reliability	Distance To Top (m)
6349		CONSTRUCTION DETAILS OBTAINED FROM GRAMPS	Inlet	Inlet unknown	PVC	=	0.500
6349		CONSTRUCTION DETAILS OBTAINED FROM GRAMPS	Unknown	Unknown	Unknown	=	15.000
6482	PUMPED 72 HOURS		Lining	Line unknown	Unknown		
20031292							
20031294							
20031296							
20031297	24 HOUR PUMP		Lining	Line unknown	Unknown		
20031298	PUMPED 48 HOURS		Unknown	Unknown	Unknown	=	122.220
20031298	PUMPED 48 HOURS		Lining	Line unknown	Unknown		
20031298	PUMPED 48 HOURS		Inlet	Inlet unknown	Unknown	=	115.950
20031301			Lining	Line unknown	Unknown		
20031302							
20031303			Unknown	Unknown	Unknown	=	54.860
20031303			Lining	Line unknown	Unknown		
20031303			Inlet	Slotted	Unknown	=	51.820
20031303			Inlet	Screen	Unknown	=	57.910
20031304			Lining	Line unknown	Unknown		
20031305			Lining	Line unknown	Unknown		
20031306			Lining	Line unknown	Unknown		
20031307			Lining	Line unknown	Unknown		
20031308			Lining	Line unknown	Unknown		
20031309			Lining	Line unknown	Unknown		
20031310							
20031314							
20031315			Lining	Line unknown	Unknown		
20031316							
20031317							
20031318							
20031319							
20031320							
20031323							
20031324							
20031325							
20031338							
20031339							
20031340							
20031347			Lining	Line unknown	Unknown		
20031347			Inlet	Screen	Unknown	=	61.000
20031348			Lining	Line unknown	Unknown		
20031348			Inlet	Slotted	Unknown	=	40.000
20031356							
20031358							
20031359							
20031360							
20031361			Lining	Line unknown	Unknown		
20031364			Lining	Line unknown	Unknown		
20031365							
20031366			Lining	Line unknown	Unknown		
20031368			Lining	Line unknown	Unknown		
20031369			Lining	Line unknown	Unknown		

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WIN Site Id	Pump How Test	Event Comment	Construction Category	Construction Element	Construction Material	Distance To Top Reliability	Distance To Top (m)
20031370			Lining	Line unknown	Unknown		
20031371			Lining	Line unknown	Unknown		
20031372			Lining	Line unknown	Unknown		
20031373			Lining	Line unknown	Unknown		
20031374			Lining	Line unknown	Unknown		
20031375			Lining	Line unknown	Unknown		
20031381			Lining	Line unknown	Unknown		
20031382							
20031383			Lining	Line unknown	Unknown		
20031386			Lining	Line unknown	Unknown		
20031387			Lining	Line unknown	Unknown		
20031388			Lining	Line unknown	Unknown		
20031389			Lining	Line unknown	Unknown		
20031390							
20031391			Lining	Line unknown	Unknown		
20031392			Lining	Line unknown	Unknown		
20031393			Lining	Line unknown	Unknown		
20031395			Lining	Line unknown	Unknown		
20031397							
20031398							
20031407							
20031408							
20031409							
20031410							
20031411							
20031412							
20031413							
20031414							
20031415							
20031416							
20031418			Lining	Line unknown	Unknown		
20031421							
20031422			Unknown	Unknown	Unknown	=	151.490
20031422			Lining	Line unknown	Unknown		
20031422			Inlet	Inlet unknown	Unknown	=	98.450
20031422			Inlet	Inlet unknown	Unknown	=	151.710
20031427			Unknown	Unknown	Unknown	=	44.190
20031427			Inlet	Slotted	Unknown	=	21.330
20031427			Lining	Line unknown	Unknown		
20031428			Unknown	Unknown	Unknown	=	35.020
20031428			Lining	Line unknown	Unknown		
20031428			Inlet	Slotted	Unknown	=	16.760
20031429							
20031430							
20031431			Unknown	Unknown	Unknown	=	5.000
20031431			Inlet	Slotted	Unknown	=	4.250
20031431			Inlet	Screen	Unknown	=	5.250
20031431			Lining	Line unknown	Unknown		
20031435			Unknown	Unknown	Unknown	=	24.300
20031435			Lining	Line unknown	Unknown		

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WIN Site Id	Pump How Test	Event Comment	Construction Category	Construction Element	Construction Material	Distance To Top Reliability	Distance To Top (m)
20031435			Inlet	Slotted	Unknown	=	24.300
20031435			Inlet	Screen	Unknown	=	22.800
20031436	APPROX 263 M3D		Unknown	Unknown	Unknown	=	32.000
20031436	APPROX 263 M3D		Inlet	Slotted	Unknown	=	20.000
20031436	APPROX 263 M3D		Lining	Line unknown	Unknown		
20031437			Unknown	Unknown	Unknown	=	30.400
20031437			Inlet	Screen	Unknown	=	28.900
20031437			Lining	Line unknown	Unknown		
20031438			Lining	Line unknown	Unknown		
20031438			Inlet	Inlet unknown	Unknown	=	23.500
20031439			Unknown	Unknown	Unknown	=	97.750
20031439			Lining	Line unknown	Unknown		
20031439			Inlet	Screen	Unknown	=	85.500
20031440	TURBINE		Unknown	Unknown	Unknown	=	32.000
20031440	TURBINE		Lining	Line unknown	Unknown		
20031440	TURBINE		Inlet	Slotted	Unknown	=	20.000
20031441			Inlet	Slotted	Unknown	=	25.000
20031441			Lining	Line unknown	Unknown		
20031442	TURBINE FOR 2 HRS		Unknown	Unknown	Unknown	=	41.150
20031442	TURBINE FOR 2 HRS		Inlet	Slotted	Unknown	=	34.750
20031442	TURBINE FOR 2 HRS		Lining	Line unknown	Unknown		
20031443			Lining	Line unknown	Unknown		
20031443			Inlet	Slotted	Unknown	=	12.000
20031444							
20031445	AIRLIFT						
20031446	SUBMERSIBLE CENTRIFUGAL		Unknown	Unknown	Unknown	=	30.000
20031446	SUBMERSIBLE CENTRIFUGAL		Lining	Casing	PVC Class 9	=	0.000
20031446	SUBMERSIBLE CENTRIFUGAL		Inlet	Slotted	PVC Class 9	=	30.000
20031446	SUBMERSIBLE CENTRIFUGAL		Fixtures	Pump intake	Unknown	=	30.000
20031448			Inlet	Slotted	Unknown	=	24.000
20031448			Lining	Line unknown	Unknown		

Construction

WIN Site Id	Distance To Bottom Reliability	Distance To Bottom (m)	Internal Dimension Reliability	Internal Dimension (mm)	Maximum Dimension Reliability	Maximum Dimension (mm)	Thickness Reliability	Thickness (mm)
6349	=	15.000	=	77.000				
6349	=	15.230						
6482								
20031292								
20031294								
20031296								
20031297								
20031298	=	153.010						
20031298								
20031298	=	122.220						
20031301								
20031302								
20031303	=	60.960						
20031303								
20031303	=	54.860						
20031303	=	60.960						
20031304								
20031305								
20031306								
20031307								
20031308								
20031309								
20031310								
20031314								
20031315								
20031316								
20031317								
20031318								
20031319								
20031320								
20031323								
20031324								
20031325								
20031338								
20031339								
20031340								
20031347								
20031347	=	73.000						
20031348								
20031348	=	46.000						
20031356								
20031358								
20031359								
20031360								
20031361								
20031364								
20031365								
20031366								
20031368								
20031369								

Construction

WIN Site Id	Distance To Bottom Reliability	Distance To Bottom (m)	Internal Dimension Reliability	Internal Dimension (mm)	Maximum Dimension Reliability	Maximum Dimension (mm)	Thickness Reliability	Thickness (mm)
20031370								
20031371								
20031372								
20031373								
20031374								
20031375								
20031381								
20031382								
20031383								
20031386								
20031387								
20031388								
20031389								
20031390								
20031391								
20031392								
20031393								
20031395								
20031397								
20031398								
20031407								
20031408								
20031409								
20031410								
20031411								
20031412								
20031413								
20031414								
20031415								
20031416								
20031418								
20031421								
20031422 =		157.580						
20031422								
20031422 =		151.490						
20031422 =		157.810						
20031427 =		51.810						
20031427 =		44.190						
20031427								
20031428 =		39.470						
20031428								
20031428 =		35.020						
20031429								
20031430								
20031431 =		6.000						
20031431 =		5.000						
20031431 =		6.000						
20031431								
20031435 =		32.900						
20031435								

Construction

WIN Site Id	Distance To Bottom Reliability	Distance To Bottom (m)	Internal Dimension Reliability	Internal Dimension (mm)	Maximum Dimension Reliability	Maximum Dimension (mm)	Thickness Reliability	Thickness (mm)
20031435	=	32.900						
20031435	=	24.300						
20031436	=	42.000						
20031436	=	32.000						
20031436								
20031437	=	30.480						
20031437	=	30.400						
20031437								
20031438								
20031438	=	27.100						
20031439	=	141.000						
20031439								
20031439	=	97.750						
20031440	=	42.000						
20031440								
20031440	=	32.000						
20031441	=	29.000						
20031441								
20031442	=	42.670						
20031442	=	41.150						
20031442								
20031443								
20031443	=	18.000						
20031444								
20031445								
20031446	=	36.000						
20031446	=	36.000	=	100.000				
20031446	=	36.000	=	100.000				
20031446	=	30.000						
20031448	=	35.000						
20031448								

Construction

WIN Site Id	Screen Aperture Reliability	Screen Aperture (mm)	Grain Size	Fill Volume (m3)	Element Comment
6349					
6349					Element added to align Distance to Bottom for last element with Total Drilled Depth.
6482					+1FT-200FT2" X 8". SLOT/PERF/SCRN: TOTAL LENGTH 24FT6" INC. PACKER. BOTTOMED AT 225FT8"
20031292					
20031294					
20031296					
20031297					630FT3" X 5"
20031298					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031298					+1FT-383' X 8"
20031298					
20031301					WITHDRAWN; CEMENT PLUG SET AT SURFACE
20031302					
20031303					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031303					+2FT-170FT X 6"; 180-190FT X 5"; ANAL IS OF 6" CASING CEMENTED
20031303					
20031303					
20031304					4FT WELL LINE
20031305					4FT WIDTH BRICKS LINES
20031306					5" CASING
20031307					TIMBER LINERS
20031308					TIMBER LINING
20031309					5". SCREENED STAINLESS STEEL
20031310					
20031314					
20031315					6"
20031316					
20031317					
20031318					
20031319					
20031320					
20031323					
20031324					
20031325					
20031338					
20031339					
20031340					
20031347					0-61M, 155MM DIA, CLASS 12 PVC; SCREEN: 6" DIA S/STEEL
20031347					
20031348					0-40M, 155MM DIA PVC. SLOTTED: 155MM DIA, 0.3 PVC.
20031348					
20031356					
20031358					
20031359					
20031360					
20031361					TIMBER LINED
20031364					106FT9" X 7". 10FT SCREEN TO 115FT
20031365					
20031366					4FT WELL LINER
20031368					6" CASING. SCREENED 89FT 5FT OF MESH
20031369					6"; SCREENED AT 94FT.

Construction

WIN Site Id	Screen Aperture Reliability	Screen Aperture (mm)	Grain Size	Fill Volume (m3)	Element Comment
20031370					BRICK LINED
20031371					6"
20031372					CONCRETE WELL LINED
20031373					CONCRETE LINERS
20031374					CONCRETE LINER
20031375					CONCRETE LINERS
20031381					TIMBER LINERS
20031382					
20031383					CONCRETE LINERS
20031386					CONCRETE LINERS
20031387					TIMBER LINERS
20031388					CONCRETE LINERS 5"; SLOTTED
20031389					5" STEEL. SLOT/PERF/SCRN: STAINLESS STEEL
20031390					
20031391					CONCRETE LINER
20031392					5" CASING. STAINLESS STEEL SCREEN
20031393					TIMBER LINERS
20031395					5" CASING. SCREENED.
20031397					
20031398					
20031407					
20031408					
20031409					
20031410					
20031411					
20031412					
20031413					
20031414					
20031415					
20031416					
20031418					0-60 X 76MM PVC. SLOTTED: W/TABLE TO TD.
20031421					
20031422					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031422					0-323' x 8"
20031422					
20031422					
20031427					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031427					
20031427					(44.19M) X 100MM
20031428					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031428					0-35.02M X 100MM
20031428					
20031429					
20031430					
20031431					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031431					
20031431					
20031431					0 - 5.0M X 50MM
20031435					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031435					SCREEN: X 125MM

Construction

WIN Site Id	Screen Aperture Reliability	Screen Aperture (mm)	Grain Size	Fill Volume (m3)	Element Comment
20031435					
20031435					
20031436					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031436					
20031436					0-32M X 100MM PVC. SLOTTED; X 100MM PVC
20031437					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031437					
20031437					0-28.65M X 100MM
20031438					0-27M X 100MM PVC. SLOT/PERF/SCR: X 100MM
20031438 =		0.000			
20031439					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031439					0-85.5M 150MM DIA ERW STEEL. SCREEN: S/S
20031439 =		0.311			
20031440					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031440					0-32M 100MM DIA CL 9 PVC
20031440 =		0.750			
20031441 =		0.508			
20031441					0-25M 100MM DIA PVC. SLOTTED 20TH PVC
20031442					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031442					
20031442					0-134' 4.5" DIA PVC
20031443					0-12M, 100MM DIA CL 9 PVC. SLOTTED: CL 9 PVC
20031443 =		0.508			
20031444					
20031445					
20031446					Element added to align Distance to Bottom for last element with Total Drilled Depth.
20031446					
20031446 =		0.508			
20031446					
20031448 =		0.500			100mm DIAM. CLASS 9 PVC
20031448					0 - 35m, 100mm DIAM. CLASS 9 PVC

Status

WIN Site Id	Numbering System	Reference	Site Status	Start Date	End Date	Comments
6349	AWRC	61710103	Operating	30/06/1977		G1#INF READ G/W#G0#LEV ONLY G/W#MONITORING 96
6355	AWRC	61710109	Operating	03/05/1973		G1#INF READ G/W#G0#LEV ONLY G/W#OBSERVATION 96
6482	AWRC	61719031	Not operating	10/06/1992		
6482	AWRC	61719031	Operating	24/12/1965	10/06/1992	G1#INF READ G/W#G1#LEV+QUAL G/W# SITE DEEMED INACTIVE. CLOSED ON 21:02:44 30/ 4/1997
6487	AWRC	61719036	Operating	25/06/1975		G2#REG READ G/W#G1#LEV+QUAL G/W#
6488	AWRC	61719037	Operating	29/07/1975		G2#REG READ G/W#G1#LEV+QUAL G/W#
6489	AWRC	61719038	Operating	21/02/1984		G2#REG READ G/W#G1#LEV+QUAL G/W#MONTHLY
6490	AWRC	61719039	Operating	01/01/1985		G2#REG READ G/W#G1#LEV+QUAL G/W#
9065836	AWRC	61720001	Operating	01/01/1987	02/01/1987	G1#INF READ G/W#G1#LEV+QUAL G/W#BORE 2 (SOUTH) SITE DEEMED INACTIVE. CLOSED ON 21:02:44 30/ 4/1997
9065836	AWRC	61720001	Not operating	02/01/1987		
9152611	AWRC	61720030	Operating	03/04/1986	04/04/1986	G2#REG READ G/W#G1#LEV+QUAL G/W#POLLUTION CONTROL SAMPLE AT MONITORING BORE IN BETWEEN SHED AND FINAL EVAPORA- TION POND SITE DEEMED INACTIVE. CLOSED ON 21:02:44 30/ 4/1997
9152611	AWRC	61720030	Not operating	04/04/1986		
20031298	AWRC	61711547	Capped	15/04/1964		CASED & CAPPED
20031304	AWRC	61711551	Operating	30/06/1960		
20031305	AWRC	61711552	Abandoned	00/01/1900		
20031306	AWRC	61711553	Operating	30/06/1963		
20031307	AWRC	61711554	Operating	30/06/1938		
20031308	AWRC	61711555	Operating	30/06/1955		
20031309	AWRC	61711556	Operating	30/06/1963		
20031310	AWRC	61716013	Operating	00/01/1900		
20031365	AWRC	61711597	Operating	30/06/1956		
20031366	AWRC	61711598	Operating	00/01/1900		
20031368	AWRC	61711600	Operating	30/06/1969		
20031371	AWRC	61711603	Operating	30/06/1957		
20031372	AWRC	61711604	Operating	30/06/1953		
20031373	AWRC	61711605	Operating	30/06/1948		
20031374	AWRC	61711606	Operating	30/06/1950		
20031375	AWRC	61711607	Operating	30/06/1907		
20031381	AWRC	61711613	Operating	00/01/1900		
20031383	AWRC	61711615	Operating	00/01/1900		
20031386	AWRC	61711618	Operating	30/06/1971		
20031387	AWRC	61711619	Operating	30/06/1960		
20031388	AWRC	61711620	Operating	00/01/1900		
20031389	AWRC	61711621	Operating	30/06/1971		
20031390	AWRC	61711622	Operating	00/01/1900		
20031391	AWRC	61711623	Operating	30/06/1970		
20031392	AWRC	61711624	Operating	30/06/1971		
20031393	AWRC	61711625	Operating	00/01/1900		
20031395	AWRC	61711627	Operating	30/06/1972		
20031440	AWRC	61711666	Operating	16/08/1989		
20031442	AWRC	61711668	Operating	15/12/1990		
20031448	AWRC	61711674	Operating	01/11/1997		
23030959	AWRC	61710525	Operating	01/06/2007		
23030960	AWRC	61710526	Operating	01/06/2007		
23030961	AWRC	61710527	Operating	01/06/2007		
23030962	AWRC	61710528	Operating	01/06/2007		
23030963	AWRC	61710529	Operating	01/06/2007		
23030964	AWRC	61710530	Operating	01/06/2007		

Lithology Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	0.000	=	0.610
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	0.610	=	20.730
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	20.730	=	45.110
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	45.110	=	62.480
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	62.480	=	68.880
6482	AWRC	61719031	15/11/1964	Known day	Authority Not Known	Ground level	=	68.880	=	70.100
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	0.000	=	0.910
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	0.910	=	25.300
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	25.300	=	26.520
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	26.520	=	42.370
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	42.370	=	43.280
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	43.280	=	53.340
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	53.340	=	60.960
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	60.960	=	67.060
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	67.060	=	73.460
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	73.460	=	82.910
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	82.910	=	100.580
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	100.580	=	118.870
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	118.870	=	169.160
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	169.160	=	169.470
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	169.470	=	182.880
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	182.880	=	195.380
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	195.380	=	195.990
20031297	AWRC	61711546	30/06/1942	Known year	Authority Not Known	Ground level	=	195.990	=	202.690
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	0.000	=	3.660
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	3.660	=	10.670
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	10.670	=	13.720
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	13.720	=	19.810
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	19.810	=	22.860
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	22.860	=	24.990
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	24.990	=	29.870
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	29.870	=	30.480
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	30.480	=	34.140
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	34.140	=	43.590
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	43.590	=	45.720
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	45.720	=	54.250
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	54.250	=	62.480
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	62.480	=	71.930
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	71.930	=	77.720
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	77.720	=	79.250
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	79.250	=	92.350
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	92.350	=	99.360
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	99.360	=	100.280
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	100.280	=	104.240
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	104.240	=	107.290
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	107.290	=	115.820
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	115.820	=	121.920
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	121.920	=	131.670
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	131.670	=	133.810
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	133.810	=	135.940

Lithology Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	135.940	=	138.680
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	138.680	=	139.290
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	139.290	=	140.210
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	140.210	=	145.690
20031298	AWRC	61711547	15/04/1964	Known day	Authority Not Known	Ground level	=	145.690	=	153.010
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	0.000	=	3.050
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	3.050	=	6.100
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	6.100	=	18.290
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	18.290	=	60.960
20031302	AWRC	61711549	30/06/1966	Known year	Authority Not Known	Ground level	=	60.960	=	65.230
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	0.910
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.910	=	3.660
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	3.660	=	4.270
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	4.270	=	25.910
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	25.910	=	27.430
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	27.430	=	46.330
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	46.330	=	51.820
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	51.820	=	54.860
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	54.860	=	57.910
20031303	AWRC	61711550	00/01/1900	Unknown	Authority Not Known	Ground level	=	57.910	=	60.960
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	3.050
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	3.050	=	7.320
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	7.320	=	12.190
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	12.190	=	13.410
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	13.410	=	14.330
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	14.330	=	22.250
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	22.250	=	35.050
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	35.050	=	35.970
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	35.970	=	48.770
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	48.770	=	51.210
20031314	AWRC	61711560	00/01/1900	Unknown	Authority Not Known	Ground level	=	51.210	=	54.860
20031320	AWRC	61716015	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	4.570
20031320	AWRC	61716015	30/06/1964	Known year	Authority Not Known	Ground level	=	4.570	=	15.240
20031320	AWRC	61716015	30/06/1964	Known year	Authority Not Known	Ground level	=	15.240	=	18.290
20031338	AWRC	61716016	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031338	AWRC	61716016	30/06/1964	Known year	Authority Not Known	Ground level	=	1.520	=	24.380
20031338	AWRC	61716016	30/06/1964	Known year	Authority Not Known	Ground level	=	24.380	=	41.150
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	1.220
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	1.220	=	13.720
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	13.720	=	15.240
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	15.240	=	16.150
20031339	AWRC	61716017	30/06/1964	Known year	Authority Not Known	Ground level	=	16.150	=	22.860
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	0.610
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	0.610	=	1.520
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	1.520	=	29.260
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	29.260	=	29.570
20031340	AWRC	61716018	30/06/1964	Known year	Authority Not Known	Ground level	=	29.570	=	30.480
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	0.000	=	4.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	4.000	=	9.000

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20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	9.000	=	15.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	15.000	=	22.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	22.000	=	25.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	25.000	=	34.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	34.000	=	38.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	38.000	=	58.000
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	58.000	=	72.290
20031347	AWRC	61711582	26/11/1992	Known day	Authority Not Known	Ground level	=	72.290	=	73.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	0.000	=	8.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	8.000	=	15.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	15.000	=	26.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	26.000	=	29.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	29.000	=	31.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	31.000	=	38.000
20031348	AWRC	61711583	27/08/1993	Known day	Authority Not Known	Ground level	=	38.000	=	46.000
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	1.520	=	4.570
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	4.570	=	6.710
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	6.710	=	7.620
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	7.620	=	9.140
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	9.140	=	10.360
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	10.360	=	17.370
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	17.370	=	18.290
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	18.290	=	21.340
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	21.340	=	22.250
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	22.250	=	23.470
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	23.470	=	28.350
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	28.350	=	31.090
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	31.090	=	33.530
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	33.530	=	34.440
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	34.440	=	34.750
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	34.750	=	36.580
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	36.580	=	44.810
20031364	AWRC	61711596	30/06/1970	Known year	Authority Not Known	Ground level	=	44.810	=	48.770
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	1.520	=	2.740
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	2.740	=	5.790
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	5.790	=	24.990
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	24.990	=	27.430
20031368	AWRC	61711600	30/06/1969	Known year	Authority Not Known	Ground level	=	27.430	=	28.350
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	0.000	=	3.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	3.000	=	6.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	6.000	=	12.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	12.000	=	16.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	16.000	=	19.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	19.000	=	21.000
20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	21.000	=	30.000

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20031418	AWRC	61711650	30/06/1973	Known year	Authority Not Known	Ground level	=	30.000	=	60.000
20031421	AWRC	61716022	30/06/1964	Known year	Authority Not Known	Ground level	=	0.000	=	1.520
20031421	AWRC	61716022	30/06/1964	Known year	Authority Not Known	Ground level	=	1.520	=	13.410
20031421	AWRC	61716022	30/06/1964	Known year	Authority Not Known	Ground level	=	13.410	=	15.240
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	0.000	=	4.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	4.000	=	12.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	12.000	=	31.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	31.000	=	62.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	62.000	=	74.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	74.000	=	107.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	107.000	=	128.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	128.000	=	327.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	327.000	=	462.000
20031422	AWRC	61711652	30/06/1977	Known year	Authority Not Known	Ground level	=	462.000	=	517.000
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	0.000	=	1.820
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	1.820	=	3.650
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	3.650	=	5.790
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	5.790	=	6.930
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	6.930	=	7.160
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	7.160	=	7.770
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	7.770	=	8.380
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	8.380	=	8.750
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	8.750	=	15.240
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	15.240	=	17.520
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	17.520	=	17.980
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	17.980	=	20.420
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	20.420	=	21.940
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	21.940	=	22.860
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	22.860	=	23.460
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	23.460	=	34.440
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	34.440	=	35.050
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	35.050	=	37.120
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	37.120	=	38.100
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	38.100	=	39.100
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	39.100	=	40.530
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	40.530	=	43.890
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	43.890	=	45.110
20031427	AWRC	61711654	15/04/1983	Known day	Authority Not Known	Ground level	=	45.110	=	51.810
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	0.000	=	1.820
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	1.820	=	2.740
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	2.740	=	4.870
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	4.870	=	5.790
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	5.790	=	17.060
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	17.060	=	18.590
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	18.590	=	30.480
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	30.480	=	31.390
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	31.390	=	34.740
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	34.740	=	38.400
20031428	AWRC	61711655	15/10/1983	Known day	Authority Not Known	Ground level	=	38.400	=	39.470
20031429	AWRC	61716024	15/10/1983	Known day	Authority Not Known	Ground level	=	0.000	=	1.210

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20031429	AWRC	61716024	15/10/1983	Known day	Authority Not Known	Ground level	=	1.210	=	1.820
20031429	AWRC	61716024	15/10/1983	Known day	Authority Not Known	Ground level	=	1.820	=	2.740
20031431	AWRC	61711657	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	6.000
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	0.000	=	2.400
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	2.400	=	5.500
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	5.500	=	7.900
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	7.900	=	11.600
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	11.600	=	22.800
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	22.800	=	24.400
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	24.400	=	32.000
20031435	AWRC	61711661	16/07/1990	Known day	Authority Not Known	Ground level	=	32.000	=	32.900
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	0.000	=	2.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	2.000	=	6.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	6.000	=	9.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	9.000	=	19.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	19.000	=	20.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	20.000	=	32.000
20031436	AWRC	61711662	16/08/1989	Known day	Authority Not Known	Ground level	=	32.000	=	42.000
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	0.000	=	0.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	0.600	=	3.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	5.400	=	9.100
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	9.100	=	12.800
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	12.800	=	14.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	14.600	=	17.400
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	17.400	=	18.200
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	18.200	=	24.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	24.600	=	27.400
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	27.400	=	28.600
20031437	AWRC	61711663	24/01/1990	Known day	Authority Not Known	Ground level	=	28.600	=	30.480
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	0.000	=	2.100
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	2.100	=	4.300
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	4.300	=	5.500
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	5.500	=	9.400
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	9.400	=	10.700
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	10.700	=	18.900
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	18.900	=	23.500
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	23.500	=	26.500
20031438	AWRC	61711664	01/06/1990	Known year	Authority Not Known	Ground level	=	26.500	=	27.100
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	0.000	=	6.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	6.000	=	16.500
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	16.500	=	80.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	80.000	=	107.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	107.000	=	127.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	127.000	=	134.000
20031439	AWRC	61711665	28/02/1991	Known day	Authority Not Known	Ground level	=	134.000	=	141.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	0.000	=	2.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	2.000	=	6.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	6.000	=	9.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	9.000	=	19.000

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20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	19.000	=	20.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	20.000	=	32.000
20031440	AWRC	61711666	16/08/1989	Known day	Authority Not Known	Ground level	=	32.000	=	42.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	0.000	=	9.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	9.000	=	12.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	12.000	=	23.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	23.000	=	26.000
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	26.000	=	28.990
20031441	AWRC	61711667	00/01/1900	Unknown	Authority Not Known	Ground level	=	28.990	=	29.000
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	0.000	=	0.610
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	0.610	=	25.600
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	25.600	=	31.390
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	31.390	=	32.920
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	32.920	=	35.360
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	35.360	=	39.930
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	39.930	=	40.840
20031442	AWRC	61711668	15/12/1990	Known day	Authority Not Known	Ground level	=	40.840	=	42.670
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	0.000	=	1.800
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	1.800	=	3.600
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	5.400	=	7.200
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	7.200	=	9.000
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	9.000	=	10.800
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	10.800	=	12.600
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	12.600	=	14.400
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	14.400	=	16.200
20031443	AWRC	61711669	01/11/1995	Known day	Authority Not Known	Ground level	=	16.200	=	18.000
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	0.000	=	1.800
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	1.800	=	3.600
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	5.400	=	14.400
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	14.400	=	16.200
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	16.200	=	18.000
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	18.000	=	19.200
20031444	AWRC	61711670	02/11/1995	Known day	Authority Not Known	Ground level	=	19.200	=	21.000
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	0.000	=	1.800
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	1.800	=	3.600
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	3.600	=	5.400
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	5.400	=	9.000
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	9.000	=	14.400
20031445	AWRC	61711671	03/11/1995	Known day	Authority Not Known	Ground level	=	14.400	=	16.200
20031446	AWRC	61711672	15/12/1992	Estimate	Westoz Drilling Company	Ground level	=	0.000	=	36.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	0.000	=	18.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	18.000	=	28.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	28.000	=	32.000
20031448	AWRC	61711674	01/11/1997	Known day	Authority Not Known	Ground level	=	32.000	=	35.000

Lithology Log

WIN Site Id	Stratigraphy
6482	SURFACE SOIL.
6482	SANDY CLAY WHITE.
6482	SAND CLAYEY.
6482	SHALE GREY.
6482	SAND COARSE GREY.
6482	SHALE GREY.
20031297	LATERITE.
20031297	YELLOW CLAY.
20031297	SANDSTONE.
20031297	YELLOW SANDY CLAY.
20031297	GRAVEL WATER AT 142FT FAIR SUPPLY NEED SCREENING.
20031297	YELLOW SANDSTONE.
20031297	BLUE SHALE.
20031297	SANDY CLAY.
20031297	YELLOW SAND.
20031297	BROWN SHALE SANDY IN PARTS - WATER BEARING.
20031297	CARBONACEOUS SHALE SANDY IN PARTS - WATER BEARING 275-290 FAIR SUPPLY NEEDS SCREENS.
20031297	GREY SAND.
20031297	BROWN SHALE - LIGNITIC.
20031297	COARSE GRAVEL SMALL SUPPLY WATER.
20031297	BROWN SHALE - MICACEOUS.
20031297	GREY SHALE - MICACEOUS.
20031297	COARSE GRAVEL, MAIN SUPPLY OF WATER AT 643FT.
20031297	BLACK SHALE MICACEOUS.
20031298	SAND FINE SILTY SLIGHTLY CLAYEY LIGHT GREEN.
20031298	SAND FINE WITH QUARTZ GRIT LIGHT BROWN.
20031298	SILT VERY CLAYEY GRITTY LIGHT GREY.
20031298	CLAY WHITE OR LIGHT GREY.
20031298	SILT VERY CLAYEY WITH QUARTZ GRAINS GREY.
20031298	SAND MEDIUM TO COARSE.
20031298	CLAY SILTY WHITE OR GREY.
20031298	SAND MEDIUM GRITTY GREY WATER.
20031298	SILT CLAYEY GREY.
20031298	SAND FINE MOSTLY CLAYEY PARTLY GRITTY GREY BROWNISH GREY.
20031298	CLAYSTONE CARBONACEOUS.
20031298	CLAYSTONE DARK GREY SLIGHTLY CARBONACEOUS MICACEOUS.
20031298	CLAYSTONE CARBONACEOUS MICACEOUS WITH QUARTZ GRAINS BLACK.
20031298	SILTSTONE VERY CLAYEY SLIGHTLY CARBONACEOUS WITH QUARTZ GRAINS GREY.
20031298	CLAYSTONE CARBONACEOUS WITH QUARTZ GRAINS GREY.
20031298	SILTSTONE VERY CLAYEY.
20031298	CLAYSTONE CARBONACEOUS WITH ABUNDANT QUARTZ GRAINS PARTLY MICACEOUS WITH PYRITIC NODULES DARK GREY.
20031298	CLAYSTONE AS ABOVE CONTAINS HARD PEBBLES MICACEOUS SANDSTONE.
20031298	SANDSTONE QUARTZOSE GREY.
20031298	SANDSTONE QUARTZOSE FINE.
20031298	CLAYSTONE CARBONACEOUS.
20031298	CLAYSTONE SILTY MICACEOUS AND PYRITIC SANDSTONE, CARBONACEOUS POCKETS WATER.
20031298	SANDSTONE MEDIUM TO FINE QUARTZOSE LIGHT GREY.
20031298	CLAYSTONE VERY SANDY CARBONACEOUS BLACK WATER.
20031298	SANDSTONE QUARTZOSE.
20031298	CLAYSTONE QUARTZ GRIT.

Lithology Log

WIN Site Id	Stratigraphy
20031298	SANDSTONE CLAYEY WATER.
20031298	SANDSTONE MEDIUM QUARTZ.
20031298	CLAYSTONE BROWN GREY.
20031298	CLAYSTONE SANDY DARK GREY.
20031298	CLAYSTONE CARBONACEOUS QUARTZ GRAINS GREY.
20031302	CLAY 60% KAOLINITIC WHITE TO ORANGE IRON STAINED; SAND 40% UNCONSOLIDATED MEDIUM GRAINED MICACEOUS.
20031302	CLAY WHITE TO ORANGE IRONSTAINED WITH PATCHES OF QUARTZ AND FELDSPATHIC SAND.
20031302	SAND 70% WHITE TO GREY, MEDIUM TO COARSE GRAINED, WELL SORTED FELDSPAR PARTLY ALTERED TO AKAOLINITE, GRAINS ANGULAR WELL SORTED; CLAY 30% WHITE KAOLINITIC TR. GLAUCONITE.
20031302	SAND WHITE TO LIGHT GREY, ARKOSIC, MEDIUM TO COARSE GRAINED, WELL SORTED QUARTZ, ANGULAR KAOLINISED FELDSPAR, COMMON MICA, RARE HEAVY MINERALS AND GARNET; TR LIMESTONE AT 100FT; TR ROSE QUARTZ; TR CLAY BLACK LIGNACEOUS.
20031302	NOT LOGGED.
20031303	HARD SAND.
20031303	GREY SANDY CLAY.
20031303	HARD COARSE GREY SANDSTONE, WATER SURFACE ONLY.
20031303	WHITE TO CREAM SANDY CLAY.
20031303	GREY SLUMY.
20031303	GREY SANDY CLAY, WATER BEARING IN SMALL STRATA.
20031303	SAND AND GREY CLAY STRATA, SMALL COAL SEAMS.
20031303	CLEAN SAND, COARSE TO MEDIUM GRAINED CARRYING COAL VEGETATION.
20031303	DENSE DARK SHALE.
20031303	CLEAN SAND, COARSE TO MEDIUM GRAINED CARRYING COAL VEGETATION, SHALE AT 200FT.
20031314	RED LOAM.
20031314	RED SANDY CLAY.
20031314	IRONSTONE CONGLOMERATE.
20031314	COFFEY ROCK AND HARD GREEN SANDY CLAY.
20031314	BROWN SANDY CLAY & AT 47FT SEEPAGE OF WATER.
20031314	GREEN SANDY CLAY AND COFFEY ROCK.
20031314	BROWN SANDY CLAY.
20031314	SMALL AMOUNT OF WATER 118FT.
20031314	GREEN CLAY (SANDY)
20031314	MULTI COLOURED CLAY.
20031314	GREEN SANDY CLAY.
20031320	GINGIN CHALK.
20031320	GLAUCONITIC CLAYEY SAND. MOLECAP GREENSAND.
20031320	DANDARAGAN SANDSTONE.
20031338	RED-BROWN QUARTZ SAND, SOIL AND PISOLITIC LATERITE.
20031338	GLAUCONITIC RED BROWN CLAY AND FERRUGINOUS SAND. SOME PISOLITES NEAR TOP. WEATHERED POISON HILL GREENSAND.
20031338	GREY, DARK GREEN AND BLACK GLAUCONITIC CLAY WITH SOME BANDS OF SANDY MAERIAL. POISON HILL GREENSAND.
20031339	BLACK SOIL.
20031339	GINGIN CHALK.
20031339	CREAM, BROWN AND GREEN GLAUCONITIC CLAY MOLECAP GREENSAND.
20031339	DANDARAGAN SANDSTONE.
20031339	YARRAGADEE FM.
20031340	BLACK SOIL.
20031340	GINGIN CHALK GLAUCONITE.
20031340	GLAUCONITIC CLAY AND SAND. MOLECAP GREENSAND.
20031340	DANDARAGAN SANDSTONE.
20031340	YARRAGADEE FM.
20031347	BLACK SAND.
20031347	IRON STONE GRAVEL.

Lithology Log

WIN Site Id	Stratigraphy
20031347	WHITE CLAY & SAND.
20031347	DARK BROWN CLAY SAME SEAMS OF SAND.
20031347	LIGHT BROWN CLAY MIXED WITH SAND.
20031347	GREY CLAY.
20031347	HARD BROWN SHALE.
20031347	BROWN CLAY IN SOME PLACES SOFT.
20031347	COARSE SANDS GREY IN COLOUR.
20031347	BLACK SHALE.
20031348	SANDY CLAY.
20031348	WHITE CLAY.
20031348	LAYERS ROCK & CLAY.
20031348	CLAY DARK GREY.
20031348	SAND MEDIUM GRAIN.
20031348	CLAY DARK GREY.
20031348	COARSE SAND.
20031364	SURFACE SAND.
20031364	IRONSTONE CONGLOMERATE.
20031364	YELLOW CLAY & CONGLOMERATE.
20031364	WHITE SANDY CLAY.
20031364	GREEN SANDY CLAY.
20031364	BLUE & BROWN CLAY, BRACKISH WATER 276 GRNS.
20031364	YELLOW GRAVELLY CLAY.
20031364	RED SANDY CLAY.
20031364	YELLOW GREY CLAY.
20031364	BLACK SHALE.
20031364	WATER IN FINE GREY SAND.
20031364	VERY FINE BROWN SAND.
20031364	FINE BLACK SAND WITH FLOATERS OF WATER-WORN COAL LIKE SHALE.
20031364	COARSE BLUE GREY SAND WITH WASHED GRAVEL & PYRITES.
20031364	COARSE GRAVELLY SAND WITH SEAMS OF CLAY.
20031364	GREY SANDY CLAY.
20031364	COARSE GRAVELLY SAND WITH CLAY SEAMS.
20031364	GREY SHALEY CLAY.
20031364	GREY & BLUE SILTSTONE.
20031368	WHITE SAND AT 5 SEEPAGE OF WATER.
20031368	WHITE SAND.
20031368	GREY AND BLUE SANDY CLAY.
20031368	GREY SANDY WITH LAYERS OF SANDSTONE.
20031368	COARSER SAND WITH WATER.
20031368	GREY SILTY CLAY.
20031418	SAND, FAWN VERY FINE-VERY COARSE, VERY POORLY SORTED, QTZ SUBANGULAR (FINE) ROUNDED TO WELL ROUNDED (COARSE), NOTABLE HEAVY MINERALS APPARENTLY ABSENT.
20031418	SAND, DARK BROWN, CLAYEY (NO SAMPLE: COFFEE ROCK)
20031418	SAND, DARK BROWN SILTY, FINE-VERY COARSE, POORLY SORTED, QTZ SUBANGULAR (FINE) WELL ROUNDED (COARSE) CONTAINS OCCASIONAL FINE WELL ROUNDED PEBBLES.
20031418	SAND, LIGHT BROWN VERY FINE COARSE, POORLY SORTED QUARTZ SUBANGULAR (FINE) TO WELL ROUNDED (COARSE)
20031418	SAND, BROWN SILTY, VERY FINE-VERY COARSE, VERY POORLY SORTED QUARTZ, SUBANGULAR(FINE) TO WELL ROUNDED (COARSE).
20031418	SAND AS FOR 12-16 SLIGHTLY SILTY.
20031418	SAND, LIGHT BROWN-LIGHT GREY, SLIGHTLY SILTY, VERY FINE-FINE WELL SORTED, QUARTZ SUBANGULAR, CONTAINS RARE ROUNDED MED GRAINS.

Lithology Log

WIN Site Id	Stratigraphy
20031418	NOT LOGGED. SAMPLES MISSING TO T.D. UNCONFORMITY 41M.
20031421	SOIL, WITH FERRUGINOUS SANDSTONE AND LATERITE PEBBLES
20031421	BROWN TO DARK GREEN GLAUCONITIC CLAY AND SAND. WEATHRED MOLECAP GREENSAND
20031421	DANDARAGAN SANDSTONE
20031422	SANDS
20031422	COFFEE ROCK
20031422	SANDS
20031422	BROWN CLAY
20031422	IRONSTONE
20031422	GREEN CLAY
20031422	BLACK CLAY
20031422	GREY CLAY
20031422	GREY CLAY
20031422	SANDS
20031427	TOP SOIL - GRAVEL
20031427	GRAVELLY SOIL
20031427	IRONSTONE V/HARD FRO 4.57M.
20031427	IRONSTONE/GRAVELSTONE
20031427	CLAY
20031427	ROCK, TRACES OF WHITE QUARTZ
20031427	CLAY
20031427	SANDY CLAY
20031427	MOSTLY CLAY, PATCHES OF ROCK, 2' OF SAND AS 15.08M.
20031427	CLAY/ROCK
20031427	SANDY CLAY
20031427	CLAY/IRONSTONE
20031427	CLAY/STONE
20031427	SANDY CLAY
20031427	SANDY CLAY, SLIGHT QTZ STONE COULD BE WATER BEARING
20031427	LAYERS CLAY-ROCK-NO SAND
20031427	SANDY CLAY
20031427	YELLOW CLAY, SANDY
20031427	YELLOW, CLAY
20031427	YELLOW SANDY CLAY
20031427	CLAY
20031427	SAND, WITH YELLOW CLAY
20031427	CLAY
20031427	CLAY, YELLOW, GREEN, BLUE, BLACK
20031428	TOP SOIL
20031428	GRAVELLY SOIL
20031428	IRONSTONE, HARD
20031428	GRAVEL-SANDY-SLIGHTLY WATER BEARING
20031428	IRONSTONE, CLAY LAYERS
20031428	CLAY & QUARTZ, WHITE
20031428	CLAY, ROCK LAYERS, MAINLY BLUE CLAY AND GRAVEL STONE
20031428	SANDY CLAY
20031428	CLAY, SANDY, YELLOW
20031428	BLUE CLAY
20031428	BLUE-BLACK CLAY
20031429	TOP SOIL, LOAMY

Lithology Log

WIN Site Id	Stratigraphy
20031429	IRONSTONE
20031429	ROCK (ORIGINALLY RECORDED AS: GRANITE ROCK)
20031431	FINE TO COARSE SANDS OCCASIONAL BANDS OF CLAYEY SAND
20031435	MED. WHITE SAND
20031435	COMPACT COARSE WHITE SAND
20031435	COMPACT COARSE WHITE SAND WITH BLACK WATER-VERY BAD ODOUR
20031435	COMPACT COARSE WHITE SAND WITH CLAY
20031435	HARD BROWN CLAY
20031435	MED. WHITE TO BROWN SAND - WATER BEARING
20031435	FINE SAND SILTS WITH GREEN TO GREY CLAY LUMPS - WATER BEARING
20031435	COMPACT GREY SILT - START OF LEEDERVILLE FORMATION
20031436	SURFACE SAND
20031436	BROWN AND GREY SANDY CLAY
20031436	BROWN HARD SANDY CLAY - COARSE SAND BANDS
20031436	BROWN AND GREY SANDY CLAY WITH COARSE SAND (BROWN)BANDS
20031436	GREY AND WHITE CLAY
20031436	COARSE BROWN & WHITE SAND WITH FINE SILTY CLAY BANDS
20031436	FINE GREY AND BLACK SILTSTONE AND STICKY BROWN CLAY.
20031437	GREY SANDY SOIL
20031437	WHITE/BROWN SAND
20031437	LIGHT BROWN SAND (WATER SEEPAGE @ 3.9M)
20031437	DARK BROWN COARSE SAND AND SILTS
20031437	BROWN COARSE SANDS
20031437	VERY COARSE SAND (GOOD WATER BEARING SAND - BROWN WATER)
20031437	DARK REDDISH-BROWN SAND
20031437	FINE LIGHT BROWN SILTY SANDS
20031437	FINE BROWN SILTY SAND WITH SMALL LAYER OF SAND CLAY 24.3-24.6M.
20031437	YELLOW/BLUE FINE SAND
20031437	BLUEISH MED-COARSE SAND
20031437	BLUEISH COARSE WATER BEARING SANDS
20031438	WHITE COMPACT SAND
20031438	COARSE WHITE SAND
20031438	COARSE WHITE SAND WITH DARK BROWN CLAY TRACE
20031438	HARD CLAY
20031438	SLOPPY COARSE SAND BROWN - VERY BLACK WATER
20031438	HARD CLAY
20031438	HARD COMPACT CLAY SILT
20031438	DARK FINE GREY SAND WITH CLAY TRACE
20031438	TOP OF LEEDERVILLE
20031439	SAND
20031439	SAND - CLAY BANDS
20031439	SILTSTONE - GREY, INTERBEDDED WITH MINOR SAND AND SHALE
20031439	SAND - GREY MINOR SHALE INTERBEDDED
20031439	SHALE - DARK GREY, MINOR SILTSTONE INTERBEDDED
20031439	SAND - GREY, SILTY
20031439	SILTSTONE - GREY SHALEY
20031440	SURFACE SAND
20031440	BROWN & GREY SANDY CLAY
20031440	BROWN HARD SANDY CLAY WITH COARSE SAND BANDS
20031440	BROWN AND GREY SANDY CLAY WITH COARSE SAND (BROWN) BANDS

Lithology Log

WIN Site Id	Stratigraphy
20031440	GREY & WHITE CLAY
20031440	COARSE BROWN & WHITE SAND WITH FINE SILTY CLAY BANDS
20031440	FINE GREY & BLACK SILTSTONE & STICKY BROWN CLAY
20031441	SAND GREY
20031441	SAND BROWN (SILT MIXED)
20031441	CLAY
20031441	SILT
20031441	SAND MEDIUM
20031441	CLAY
20031442	RED SAND
20031442	CLAY WITH RED STONE LAYERS
20031442	CLAY
20031442	FINE BROWN TO YELLOW CLAY SAND
20031442	FINE BROWN TO YELLOW CLAY SAND SOFTER THAN ABOVE
20031442	COARSE SLOPPY SAND BROWN PINK AND LEMON COLOUR
20031442	COARSE YELLOW SAND WITH CLAY WATER
20031442	FINE WHITE CLAY WITH HIGH MICA CONTENT
20031443	TOP SOIL
20031443	CLEAR SAND
20031443	SAND SOME CLAY WITH WATER
20031443	SAND SOME CLAY WITH WATER
20031443	COARSE SAND WITH A LOT OF WATER. PLUS CLAY.
20031443	AS ABOVE
20031443	AS ABOVE
20031443	AS ABOVE
20031443	CLAY WITH SAND AND WATER
20031443	AS ABOVE
20031444	TOP SOIL
20031444	SAND WHITE WITH SOME COFFEE ROCK WATER
20031444	SAND DARK SOME CLAY
20031444	SAND DARK SOME CLAY
20031444	SAND SOME CLAY BUT LIGHT
20031444	SAND SOME CLAY BUT LIGHT
20031444	VERY PORSE SAND DARK CLAY
20031444	BLACK CLAY WITH COARSE SAND
20031445	TOPSOIL
20031445	WHITE SAND
20031445	COARSE SAND GREEN CLAY
20031445	COARSE SAND SOME CLAY
20031445	COARSE SAND SOME CLAY
20031445	COARSE SAND SOME CLAY PLUS THE START OF BLACK CLAY
20031446	CLAY - SAND BANDS
20031448	GREY AND WHITE SANDS - FROM FINE TO MEDIUM
20031448	DARK GREY CLAY WITH SAND BANDS
20031448	COARSE QUARTZ SANDS
20031448	LIMESTONE, SOFT GREY TO WHITE

Summary Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
6482	AWRC	61719031	15/11/1964	DAY	Authority Not Known	Ground level	=	0.00	=	0.610
6482	AWRC	61719031	15/11/1964	DAY	Authority Not Known	Ground level	=	0.610	=	45.110
6482	AWRC	61719031	15/11/1964	DAY	Authority Not Known	Ground level	=	45.110	=	70.100
20031297	AWRC	61711546	30/06/1942	YEAR	Authority Not Known	Ground level	=	0.000	=	27.740
20031297	AWRC	61711546	30/06/1942	YEAR	Authority Not Known	Ground level	=	25.300	=	27.740
20031297	AWRC	61711546	30/06/1942	YEAR	Authority Not Known	Ground level	=	25.300	=	202.690
20031298	AWRC	61711547	15/04/1964	DAY	Authority Not Known	Ground level	=	0.000	=	10.670
20031298	AWRC	61711547	15/04/1964	DAY	Authority Not Known	Ground level	=	10.670	=	43.590
20031298	AWRC	61711547	15/04/1964	DAY	Authority Not Known	Ground level	=	43.590	=	153.010
20031302	AWRC	61711549	30/06/1966	YEAR	Authority Not Known	Ground level	=	0.000	=	6.100
20031302	AWRC	61711549	30/06/1966	YEAR	Authority Not Known	Ground level	=	6.100	=	60.960
20031302	AWRC	61711549	30/06/1966	YEAR	Authority Not Known	Ground level	=	60.960	=	65.230
20031303	AWRC	61711550	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	0.000	=	3.660
20031303	AWRC	61711550	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	3.660	=	46.330
20031303	AWRC	61711550	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	46.330	=	60.960
20031314	AWRC	61711560	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	0.000	=	3.050
20031314	AWRC	61711560	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	0.000	=	12.190
20031314	AWRC	61711560	00/01/1900	UNKWVN	Authority Not Known	Ground level	=	3.050	=	12.190
20031320	AWRC	61716015	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	4.570
20031320	AWRC	61716015	30/06/1964	YEAR	Authority Not Known	Ground level	=	4.570	=	15.240
20031320	AWRC	61716015	30/06/1964	YEAR	Authority Not Known	Ground level	=	15.240	=	18.290
20031338	AWRC	61716016	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	1.520
20031338	AWRC	61716016	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.520	=	41.150
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	1.220
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.220	=	13.720
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	13.720	=	15.240
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	15.240	=	16.150
20031339	AWRC	61716017	30/06/1964	YEAR	Authority Not Known	Ground level	=	16.150	=	22.860
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	0.610
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.610	=	1.520
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.520	=	29.260
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	29.260	=	29.570
20031340	AWRC	61716018	30/06/1964	YEAR	Authority Not Known	Ground level	=	29.570	=	30.480
20031347	AWRC	61711582	26/11/1992	DAY	Authority Not Known	Ground level	=	0.000	=	9.000
20031347	AWRC	61711582	26/11/1992	DAY	Authority Not Known	Ground level	=	9.000	=	34.000
20031347	AWRC	61711582	26/11/1992	DAY	Authority Not Known	Ground level	=	34.000	=	73.000
20031348	AWRC	61711583	27/08/1993	DAY	Authority Not Known	Ground level	=	0.000	=	8.000
20031348	AWRC	61711583	27/08/1993	DAY	Authority Not Known	Ground level	=	8.000	=	15.000
20031348	AWRC	61711583	27/08/1993	DAY	Authority Not Known	Ground level	=	15.000	=	46.000
20031364	AWRC	61711596	30/06/1970	YEAR	Authority Not Known	Ground level	=	0.000	=	7.620
20031364	AWRC	61711596	30/06/1970	YEAR	Authority Not Known	Ground level	=	7.620	=	21.340
20031364	AWRC	61711596	30/06/1970	YEAR	Authority Not Known	Ground level	=	21.340	=	48.770
20031368	AWRC	61711600	30/06/1969	YEAR	Authority Not Known	Ground level	=	0.000	=	5.790
20031368	AWRC	61711600	30/06/1969	YEAR	Authority Not Known	Ground level	=	5.790	=	28.350
20031418	AWRC	61711650	30/06/1973	YEAR	Authority Not Known	Ground level	=	0.000	=	30.000
20031418	AWRC	61711650	30/06/1973	YEAR	Authority Not Known	Ground level	=	30.000	=	60.000
20031421	AWRC	61716022	30/06/1964	YEAR	Authority Not Known	Ground level	=	0.000	=	1.520
20031421	AWRC	61716022	30/06/1964	YEAR	Authority Not Known	Ground level	=	1.520	=	13.410
20031421	AWRC	61716022	30/06/1964	YEAR	Authority Not Known	Ground level	=	13.410	=	15.240
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	0.000	=	9.450

Summary Log

WIN Site Id	Numbering System	Reference	Log Date	Log Date Reliability	Logged By	Datum Plane	Depth From Reliability	Depth From	Depth To Reliability	Depth To
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	9.450	=	22.560
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	22.560	=	32.610
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	32.610	=	39.010
20031422	AWRC	61711652	30/06/1977	YEAR	Authority Not Known	Ground level	=	39.010	=	157.580
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	0.000	=	7.160
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	7.160	=	15.240
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	15.240	=	45.110
20031427	AWRC	61711654	15/04/1983	DAY	Authority Not Known	Ground level	=	45.110	=	51.810
20031428	AWRC	61711655	15/10/1983	DAY	Authority Not Known	Ground level	=	0.000	=	2.740
20031428	AWRC	61711655	15/10/1983	DAY	Authority Not Known	Ground level	=	2.740	=	18.590
20031428	AWRC	61711655	15/10/1983	DAY	Authority Not Known	Ground level	=	18.590	=	39.570
20031429	AWRC	61716024	15/10/1983	DAY	Authority Not Known	Ground level	=	0.000	=	1.820
20031429	AWRC	61716024	15/10/1983	DAY	Authority Not Known	Ground level	=	1.820	=	2.740
20031431	AWRC	61711657	00/01/1900	UNKWN	Authority Not Known	Ground level	=	0.000	=	6.000
20031435	AWRC	61711661	16/07/1990	DAY	Authority Not Known	Ground level	=	0.000	=	24.400
20031435	AWRC	61711661	16/07/1990	DAY	Authority Not Known	Ground level	=	24.400	=	32.000
20031435	AWRC	61711661	16/07/1990	DAY	Authority Not Known	Ground level	=	32.000	=	32.900
20031436	AWRC	61711662	16/08/1989	DAY	Authority Not Known	Ground level	=	0.000	=	32.000
20031436	AWRC	61711662	16/08/1989	DAY	Authority Not Known	Ground level	=	32.000	=	42.000
20031437	AWRC	61711663	24/01/1990	DAY	Authority Not Known	Ground level	=	0.000	=	24.600
20031437	AWRC	61711663	24/01/1990	DAY	Authority Not Known	Ground level	=	24.600	=	30.480
20031438	AWRC	61711664	01/06/1990	YEAR	Authority Not Known	Ground level	=	0.000	=	26.500
20031438	AWRC	61711664	01/06/1990	YEAR	Authority Not Known	Ground level	=	26.500	=	27.100
20031439	AWRC	61711665	28/02/1991	DAY	Authority Not Known	Ground level	=	0.000	=	16.500
20031439	AWRC	61711665	28/02/1991	DAY	Authority Not Known	Ground level	=	16.500	=	141.000
20031440	AWRC	61711666	16/08/1989	DAY	Authority Not Known	Ground level	=	0.000	=	32.000
20031440	AWRC	61711666	16/08/1989	DAY	Authority Not Known	Ground level	=	32.000	=	42.000
20031441	AWRC	61711667	00/01/1900	UNKWN	Authority Not Known	Ground level	=	0.000	=	29.000
20031442	AWRC	61711668	15/12/1990	DAY	Authority Not Known	Ground level	=	0.000	=	35.360
20031442	AWRC	61711668	15/12/1990	DAY	Authority Not Known	Ground level	=	35.360	=	42.670
20031443	AWRC	61711669	01/11/1995	DAY	Authority Not Known	Ground level	=	0.000	=	18.000
20031444	AWRC	61711670	02/11/1995	DAY	Authority Not Known	Ground level	=	0.000	=	18.000
20031444	AWRC	61711670	02/11/1995	DAY	Authority Not Known	Ground level	=	18.000	=	21.000
20031445	AWRC	61711671	03/11/1995	DAY	Authority Not Known	Ground level	=	0.000	=	16.200
20031448	AWRC	61711674	01/11/1997	DAY	Authority Not Known	Ground level	=	0.000	=	32.000
20031448	AWRC	61711674	01/11/1997	DAY	Authority Not Known	Ground level	=	32.000	=	35.000

Summary Log

WIN Site Id	Stratigraphy	Lithology 1	Lithology 2	Lithology 3
6482	Quaternary	soil	(none)	(none)
6482	Possible Quaternary/Tertiary	sand	clay	(none)
6482	Cretaceous Sediments	shale	coarse sand	(none)
20031297	Quaternary	laterite	(none)	(none)
20031297	Possible Quaternary/Tertiary	clay	(none)	(none)
20031297	Cretaceous Sediments	shale	sand	clay
20031298	Quaternary	sand	grit	clayey
20031298	Possible Quaternary/Tertiary	sand	clay	silt, silty
20031298	Cretaceous Sediments	claystone	siltstone	sandstone
20031302	Quaternary	clay	sand	(none)
20031302	Possible Cretaceous	sand	(none)	(none)
20031302	Not Logged	(none)	(none)	(none)
20031303	Quaternary	clay	sandy	sand
20031303	Possible Cretaceous	clay	sandy	sandstone
20031303	Cretaceous Sediments	sand	shale	coal
20031314	Quaternary	loam	(none)	(none)
20031314	Possible Cretaceous	clay	sandy	coffee rock
20031314	Possible Quaternary	conglomerate	ironstone	clay
20031320	Gingin Chalk	(none)	(none)	(none)
20031320	Molecap Greensand	sand	clayey	glauconite
20031320	Dandaragan Sandstone	sandstone	(none)	(none)
20031338	Quaternary	sand	soil	laterite
20031338	Poison Hill Greensand	clay	glauconite	sand
20031339	Quaternary	soil	(none)	(none)
20031339	Gingin Chalk	(none)	(none)	(none)
20031339	Molecap Greensand	(none)	(none)	(none)
20031339	Dandaragan Sandstone	(none)	(none)	(none)
20031339	Yarragadee Formation	(none)	(none)	(none)
20031340	Quaternary	soil	(none)	(none)
20031340	Gingin Chalk	chalk	glauconite	(none)
20031340	Molecap Greensand	clay	sand	(none)
20031340	Dandaragan Sandstone	(none)	(none)	(none)
20031340	Yarragadee Formation	(none)	(none)	(none)
20031347	Quaternary	gravel	ironstone	sand
20031347	Possible Quaternary/Tertiary	clay	sand	(none)
20031347	Cretaceous Sediments	clay	sand	shale
20031348	Quaternary	clay	sandy	(none)
20031348	Possible Quaternary/Tertiary	clay	(none)	(none)
20031348	Possible Cretaceous	rock	clay	sand
20031364	Quaternary/ Tertiary	clay	conglomerate	sand
20031364	Possible Quaternary/Tertiary	clay	(none)	(none)
20031364	Cretaceous Sediments	sand	clay	siltstone
20031368	Quaternary/ Tertiary	clay	sand	(none)
20031368	Possible Quaternary/Tertiary	clay	sand	sandstone
20031418	Quaternary/ Tertiary	sand	(none)	(none)
20031418	Not Logged	(none)	(none)	(none)
20031421	Quaternary	soil	sandstone	pebbles
20031421	Molecap Greensand	clay	glauconite	sand
20031421	Dandaragan Sandstone	(none)	(none)	(none)
20031422	Quaternary/ Tertiary	sand	coffee rock	(none)

Summary Log

WIN Site Id	Stratigraphy	Lithology 1	Lithology 2	Lithology 3
20031422	Possible Quaternary/Tertiary	clay	ironstone	(none)
20031422	Possible Cretaceous	clay	(none)	(none)
20031422	Cretaceous Sediments	clay	(none)	(none)
20031422	Possible Cretaceous	clay	sand	(none)
20031427	Quaternary/ Tertiary	ironstone	gravel	clay
20031427	Possible Quaternary/Tertiary	clay	rock	(none)
20031427	Possible Cretaceous	clay	sand	ironstone
20031427	Cretaceous Sediments	clay	(none)	(none)
20031428	Quaternary/ Tertiary	soil	gravel	(none)
20031428	Possible Quaternary/Tertiary	ironstone	gravel	clay
20031428	Possible Cretaceous	clay	(none)	(none)
20031429	Quaternary/ Tertiary	soil	ironstone	(none)
20031429	Possible Quaternary/Tertiary	rock	(none)	(none)
20031431	Quaternary	sand	clayey	(none)
20031435	Quaternary/ Tertiary	sand	clay	(none)
20031435	Possible Quaternary/Tertiary	silt, silty	sand	(none)
20031435	Leederville Formation	silt, silty	(none)	(none)
20031436	Quaternary/ Tertiary	clay	sandy	clay
20031436	Leederville Formation	siltstone	clay	(none)
20031437	Quaternary/ Tertiary	sand	coarse sand	silt, silty
20031437	Possible Quaternary/Tertiary	sand	coarse sand	water
20031438	Quaternary/ Tertiary	sand	clay	silt, silty
20031438	Leederville Formation	(none)	(none)	(none)
20031439	Quaternary/ Tertiary	sand	clay	(none)
20031439	Leederville Formation	siltstone	sand	shale
20031440	Quaternary/ Tertiary	clay	sand	(none)
20031440	Leederville Formation	siltstone	clay	(none)
20031441	Quaternary/ Tertiary	sand	clay	silt, silty
20031442	Quaternary/ Tertiary	clay	sand	(none)
20031442	Possible Quaternary/Tertiary	coarse sand	clay	(none)
20031443	Quaternary/ Tertiary	coarse sand	sand	clay
20031444	Quaternary/ Tertiary	sand	coffee rock	clay
20031444	Possible Cretaceous	clay	sand	(none)
20031445	Quaternary/ Tertiary	coarse sand	sand	clay
20031448	Quaternary/ Tertiary	sand	clay	coarse sand
20031448	Possible Cretaceous	limestone	(none)	(none)

Activities

WIN Site Id	Numbering System	Reference	Site Activity Type	Site Activity Category	Start Date	End Date	Comments
20031446	AWRC	61711672	Livestock	Livestock	15/12/1992		(Recorded By:WESTOZ DRILLING COMPANY)

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	12:00:00	30/06/1977	6	1977	GNANGARA MOUND MONITOR	GB10	2123118	WIN SAMP CUSTODIANS	466329	GRAB	STAND	
6349	61710103	12:00:00	27/07/1977	7	1977	GNANGARA MOUND MONITOR	GB10	2123128	WIN SAMP CUSTODIANS	466330	GRAB	LEVLO	
6349	61710103	12:00:00	25/08/1977	8	1977	GNANGARA MOUND MONITOR	GB10	2123130	WIN SAMP CUSTODIANS	466331	GRAB	LEVLO	
6349	61710103	12:00:00	29/09/1977	9	1977	GNANGARA MOUND MONITOR	GB10	2123132	WIN SAMP CUSTODIANS	466332	GRAB	LEVLO	
6349	61710103	12:00:00	27/10/1977	10	1977	GNANGARA MOUND MONITOR	GB10	2123134	WIN SAMP CUSTODIANS	466333	GRAB	LEVLO	
6349	61710103	12:00:00	28/11/1977	11	1977	GNANGARA MOUND MONITOR	GB10	2123136	WIN SAMP CUSTODIANS	466334	GRAB	LEVLO	
6349	61710103	12:00:00	21/12/1977	12	1977	GNANGARA MOUND MONITOR	GB10	2123138	WIN SAMP CUSTODIANS	466335	GRAB	LEVLO	
6349	61710103	12:00:00	31/03/1978	3	1978	GNANGARA MOUND MONITOR	GB10	2123140	WIN SAMP CUSTODIANS	466336	GRAB	LEVLO	
6349	61710103	12:00:00	03/05/1978	5	1978	GNANGARA MOUND MONITOR	GB10	2123142	WIN SAMP CUSTODIANS	466337	GRAB	LEVLO	
6349	61710103	12:00:00	29/05/1978	5	1978	GNANGARA MOUND MONITOR	GB10	2123144	WIN SAMP CUSTODIANS	466338	GRAB	LEVLO	
6349	61710103	12:00:00	27/07/1978	7	1978	GNANGARA MOUND MONITOR	GB10	2123146	WIN SAMP CUSTODIANS	466339	GRAB	LEVLO	
6349	61710103	12:00:00	29/08/1978	8	1978	GNANGARA MOUND MONITOR	GB10	2123148	WIN SAMP CUSTODIANS	466340	GRAB	LEVLO	
6349	61710103	12:00:00	27/09/1978	9	1978	GNANGARA MOUND MONITOR	GB10	2123150	WIN SAMP CUSTODIANS	466341	GRAB	LEVLO	
6349	61710103	12:00:00	26/10/1978	10	1978	GNANGARA MOUND MONITOR	GB10	2123152	WIN SAMP CUSTODIANS	466342	GRAB	LEVLO	
6349	61710103	12:00:00	29/11/1978	11	1978	GNANGARA MOUND MONITOR	GB10	2123154	WIN SAMP CUSTODIANS	466343	GRAB	LEVLO	
6349	61710103	12:00:00	15/12/1978	12	1978	GNANGARA MOUND MONITOR	GB10	2123156	WIN SAMP CUSTODIANS	466344	GRAB	STAND	
6349	61710103	12:00:00	27/02/1979	2	1979	GNANGARA MOUND MONITOR	GB10	2123188	WIN SAMP CUSTODIANS	466345	GRAB	LEVLO	
6349	61710103	12:00:00	28/06/1979	6	1979	GNANGARA MOUND MONITOR	GB10	2123190	WIN SAMP CUSTODIANS	466346	GRAB	LEVLO	
6349	61710103	12:00:00	29/07/1979	7	1979	GNANGARA MOUND MONITOR	GB10	2123192	WIN SAMP CUSTODIANS	466347	GRAB	LEVLO	
6349	61710103	12:00:00	21/08/1979	8	1979	GNANGARA MOUND MONITOR	GB10	2123194	WIN SAMP CUSTODIANS	466348	GRAB	LEVLO	
6349	61710103	12:00:00	20/09/1979	9	1979	GNANGARA MOUND MONITOR	GB10	2123196	WIN SAMP CUSTODIANS	466349	GRAB	LEVLO	
6349	61710103	12:00:00	22/11/1979	11	1979	GNANGARA MOUND MONITOR	GB10	2123198	WIN SAMP CUSTODIANS	466350	GRAB	LEVLO	
6349	61710103	12:00:00	27/12/1979	12	1979	GNANGARA MOUND MONITOR	GB10	2123200	WIN SAMP CUSTODIANS	466351	GRAB	LEVLO	
6349	61710103	12:00:00	24/01/1980	1	1980	GNANGARA MOUND MONITOR	GB10	2123202	WIN SAMP CUSTODIANS	466352	GRAB	LEVLO	
6349	61710103	12:00:00	24/03/1980	3	1980	GNANGARA MOUND MONITOR	GB10	2123204	WIN SAMP CUSTODIANS	466353	GRAB	LEVLO	
6349	61710103	12:00:00	23/04/1980	4	1980	GNANGARA MOUND MONITOR	GB10	2123206	WIN SAMP CUSTODIANS	466354	GRAB	LEVLO	
6349	61710103	12:00:00	29/05/1980	5	1980	GNANGARA MOUND MONITOR	GB10	2123208	WIN SAMP CUSTODIANS	466355	GRAB	LEVLO	
6349	61710103	12:00:00	30/07/1980	7	1980	GNANGARA MOUND MONITOR	GB10	2123210	WIN SAMP CUSTODIANS	466356	GRAB	LEVLO	
6349	61710103	12:00:00	25/08/1980	8	1980	GNANGARA MOUND MONITOR	GB10	2123212	WIN SAMP CUSTODIANS	466357	GRAB	LEVLO	
6349	61710103	12:00:00	26/09/1980	9	1980	GNANGARA MOUND MONITOR	GB10	2123214	WIN SAMP CUSTODIANS	466358	GRAB	LEVLO	
6349	61710103	12:00:00	28/10/1980	10	1980	GNANGARA MOUND MONITOR	GB10	2123216	WIN SAMP CUSTODIANS	466359	GRAB	LEVLO	
6349	61710103	12:00:00	26/11/1980	11	1980	GNANGARA MOUND MONITOR	GB10	2123218	WIN SAMP CUSTODIANS	466360	GRAB	LEVLO	
6349	61710103	12:00:00	29/12/1980	12	1980	GNANGARA MOUND MONITOR	GB10	2123220	WIN SAMP CUSTODIANS	466361	GRAB	LEVLO	
6349	61710103	12:00:00	28/01/1981	1	1981	GNANGARA MOUND MONITOR	GB10	2123222	WIN SAMP CUSTODIANS	466362	GRAB	LEVLO	
6349	61710103	12:00:00	31/03/1981	3	1981	GNANGARA MOUND MONITOR	GB10	2123224	WIN SAMP CUSTODIANS	466363	GRAB	LEVLO	
6349	61710103	12:00:00	29/04/1981	4	1981	GNANGARA MOUND MONITOR	GB10	2123226	WIN SAMP CUSTODIANS	466364	GRAB	LEVLO	
6349	61710103	12:00:00	27/05/1981	5	1981	GNANGARA MOUND MONITOR	GB10	2123228	WIN SAMP CUSTODIANS	466365	GRAB	LEVLO	
6349	61710103	12:00:00	29/06/1981	6	1981	GNANGARA MOUND MONITOR	GB10	2123230	WIN SAMP CUSTODIANS	466366	GRAB	LEVLO	
6349	61710103	12:00:00	23/07/1981	7	1981	GNANGARA MOUND MONITOR	GB10	2123232	WIN SAMP CUSTODIANS	466367	GRAB	LEVLO	
6349	61710103	12:00:00	27/08/1981	8	1981	GNANGARA MOUND MONITOR	GB10	2123234	WIN SAMP CUSTODIANS	466368	GRAB	LEVLO	
6349	61710103	12:00:00	27/09/1982	9	1982	GNANGARA MOUND MONITOR	GB10	2123236	WIN SAMP CUSTODIANS	466369	GRAB	LEVLO	
6349	61710103	12:00:00	28/10/1982	10	1982	GNANGARA MOUND MONITOR	GB10	2123238	WIN SAMP CUSTODIANS	466370	GRAB	LEVLO	
6349	61710103	12:00:00	22/11/1982	11	1982	GNANGARA MOUND MONITOR	GB10	2123240	WIN SAMP CUSTODIANS	466371	GRAB	LEVLO	
6349	61710103	12:00:00	22/12/1982	12	1982	GNANGARA MOUND MONITOR	GB10	2123242	WIN SAMP CUSTODIANS	466372	GRAB	LEVLO	
6349	61710103	12:00:00	27/01/1983	1	1983	GNANGARA MOUND MONITOR	GB10	2123244	WIN SAMP CUSTODIANS	466373	GRAB	LEVLO	
6349	61710103	12:00:00	25/02/1983	2	1983	GNANGARA MOUND MONITOR	GB10	2123246	WIN SAMP CUSTODIANS	466374	GRAB	LEVLO	
6349	61710103	12:00:00	18/03/1983	3	1983	GNANGARA MOUND MONITOR	GB10	2123248	WIN SAMP CUSTODIANS	466375	GRAB	LEVLO	
6349	61710103	12:00:00	26/04/1983	4	1983	GNANGARA MOUND MONITOR	GB10	2123250	WIN SAMP CUSTODIANS	466376	GRAB	LEVLO	
6349	61710103	12:00:00	23/05/1983	5	1983	GNANGARA MOUND MONITOR	GB10	2123252	WIN SAMP CUSTODIANS	466377	GRAB	LEVLO	
6349	61710103	12:00:00	22/06/1983	6	1983	GNANGARA MOUND MONITOR	GB10	2123254	WIN SAMP CUSTODIANS	466378	GRAB	LEVLO	
6349	61710103	12:00:00	20/07/1983	7	1983	GNANGARA MOUND MONITOR	GB10	2123256	WIN SAMP CUSTODIANS	466379	GRAB	LEVLO	
6349	61710103	12:00:00	22/08/1983	8	1983	GNANGARA MOUND MONITOR	GB10	2123258	WIN SAMP CUSTODIANS	466380	GRAB	LEVLO	
6349	61710103	12:00:00	21/09/1983	9	1983	GNANGARA MOUND MONITOR	GB10	2123260	WIN SAMP CUSTODIANS	466381	GRAB	LEVLO	
6349	61710103	12:00:00	21/10/1983	10	1983	GNANGARA MOUND MONITOR	GB10	2123262	WIN SAMP CUSTODIANS	466382	GRAB	LEVLO	
6349	61710103	12:00:00	21/11/1983	11	1983	GNANGARA MOUND MONITOR	GB10	2123264	WIN SAMP CUSTODIANS	466383	GRAB	LEVLO	
6349	61710103	12:00:00	16/12/1983	12	1983	GNANGARA MOUND MONITOR	GB10	2123266	WIN SAMP CUSTODIANS	466384	GRAB	LEVLO	
6349	61710103	12:00:00	19/01/1984	1	1984	GNANGARA MOUND MONITOR	GB10	2123268	WIN SAMP CUSTODIANS	466385	GRAB	LEVLO	
6349	61710103	12:00:00	22/02/1984	2	1984	GNANGARA MOUND MONITOR	GB10	2123270	WIN SAMP CUSTODIANS	466386	GRAB	LEVLO	
6349	61710103	12:00:00	26/03/1984	3	1984	GNANGARA MOUND MONITOR	GB10	2123272	WIN SAMP CUSTODIANS	466387	GRAB	LEVLO	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	12:00:00	12/04/1984	4	1984	GNANGARA MOUND MONITOR	GB10	2123274	WIN SAMP CUSTODIANS	466388	GRAB	LEVLO	
6349	61710103	12:00:00	21/05/1984	5	1984	GNANGARA MOUND MONITOR	GB10	2123276	WIN SAMP CUSTODIANS	466389	GRAB	LEVLO	
6349	61710103	12:00:00	25/06/1984	6	1984	GNANGARA MOUND MONITOR	GB10	2123278	WIN SAMP CUSTODIANS	466390	GRAB	LEVLO	
6349	61710103	12:00:00	23/07/1984	7	1984	GNANGARA MOUND MONITOR	GB10	2123280	WIN SAMP CUSTODIANS	466391	GRAB	LEVLO	
6349	61710103	12:00:00	23/08/1984	8	1984	GNANGARA MOUND MONITOR	GB10	2123282	WIN SAMP CUSTODIANS	466392	GRAB	LEVLO	
6349	61710103	12:00:00	20/09/1984	9	1984	GNANGARA MOUND MONITOR	GB10	2123284	WIN SAMP CUSTODIANS	466393	GRAB	LEVLO	
6349	61710103	12:00:00	19/10/1984	10	1984	GNANGARA MOUND MONITOR	GB10	2123286	WIN SAMP CUSTODIANS	466394	GRAB	LEVLO	
6349	61710103	12:00:00	19/11/1984	11	1984	GNANGARA MOUND MONITOR	GB10	2123288	WIN SAMP CUSTODIANS	466395	GRAB	LEVLO	
6349	61710103	12:00:00	27/12/1984	12	1984	GNANGARA MOUND MONITOR	GB10	2123290	WIN SAMP CUSTODIANS	466396	GRAB	LEVLO	
6349	61710103	12:00:00	21/01/1985	1	1985	GNANGARA MOUND MONITOR	GB10	2123292	WIN SAMP CUSTODIANS	466397	GRAB	LEVLO	
6349	61710103	12:00:00	20/02/1985	2	1985	GNANGARA MOUND MONITOR	GB10	2123294	WIN SAMP CUSTODIANS	466398	GRAB	LEVLO	
6349	61710103	12:00:00	22/03/1985	3	1985	GNANGARA MOUND MONITOR	GB10	2123296	WIN SAMP CUSTODIANS	466399	GRAB	LEVLO	
6349	61710103	12:00:00	19/04/1985	4	1985	GNANGARA MOUND MONITOR	GB10	2123298	WIN SAMP CUSTODIANS	466400	GRAB	LEVLO	
6349	61710103	12:00:00	16/05/1985	5	1985	GNANGARA MOUND MONITOR	GB10	2123300	WIN SAMP CUSTODIANS	466401	GRAB	LEVLO	
6349	61710103	12:00:00	20/06/1985	6	1985	GNANGARA MOUND MONITOR	GB10	2123302	WIN SAMP CUSTODIANS	466402	GRAB	LEVLO	
6349	61710103	12:00:00	17/07/1985	7	1985	GNANGARA MOUND MONITOR	GB10	2123304	WIN SAMP CUSTODIANS	466403	GRAB	LEVLO	
6349	61710103	12:00:00	22/08/1985	8	1985	GNANGARA MOUND MONITOR	GB10	2123306	WIN SAMP CUSTODIANS	466404	GRAB	LEVLO	
6349	61710103	12:00:00	23/09/1985	9	1985	GNANGARA MOUND MONITOR	GB10	2123308	WIN SAMP CUSTODIANS	466405	GRAB	LEVLO	
6349	61710103	12:00:00	20/11/1985	11	1985	GNANGARA MOUND MONITOR	GB10	2123310	WIN SAMP CUSTODIANS	466406	GRAB	LEVLO	
6349	61710103	12:00:00	18/12/1985	12	1985	GNANGARA MOUND MONITOR	GB10	2123314	WIN SAMP CUSTODIANS	466407	GRAB	LEVLO	
6349	61710103	12:00:00	29/01/1986	1	1986	GNANGARA MOUND MONITOR	GB10	2123317	WIN SAMP CUSTODIANS	466408	GRAB	LEVLO	
6349	61710103	12:00:00	20/02/1986	2	1986	GNANGARA MOUND MONITOR	GB10	2123320	WIN SAMP CUSTODIANS	466409	GRAB	LEVLO	
6349	61710103	12:00:00	21/03/1986	3	1986	GNANGARA MOUND MONITOR	GB10	2123323	WIN SAMP CUSTODIANS	466410	GRAB	LEVLO	
6349	61710103	11:05:00	22/04/1986	4	1986	GNANGARA MOUND MONITOR	GB10	2123326	WIN SAMP CUSTODIANS	466411	GRAB	LEVLO	
6349	61710103	10:37:00	20/05/1986	5	1986	GNANGARA MOUND MONITOR	GB10	2123329	WIN SAMP CUSTODIANS	466412	GRAB	LEVLO	
6349	61710103	11:37:00	08/07/1986	7	1986	GNANGARA MOUND MONITOR	GB10	2123332	WIN SAMP CUSTODIANS	466413	GRAB	LEVLO	
6349	61710103	11:00:00	31/07/1986	7	1986	GNANGARA MOUND MONITOR	GB10	2123335	WIN SAMP CUSTODIANS	466414	GRAB	LEVLO	
6349	61710103	10:42:00	25/08/1986	8	1986	GNANGARA MOUND MONITOR	GB10	2123338	WIN SAMP CUSTODIANS	466415	GRAB	LEVLO	
6349	61710103	11:34:00	18/09/1986	9	1986	GNANGARA MOUND MONITOR	GB10	2123341	WIN SAMP CUSTODIANS	466416	GRAB	LEVLO	
6349	61710103	11:30:00	20/10/1986	10	1986	GNANGARA MOUND MONITOR	GB10	2123344	WIN SAMP CUSTODIANS	466417	GRAB	LEVLO	
6349	61710103	12:05:00	06/11/1986	11	1986	GNANGARA MOUND MONITOR	GB10	2123347	WIN SAMP CUSTODIANS	466418	GRAB	LEVLO	
6349	61710103	15:30:00	02/12/1986	12	1986	GNANGARA MOUND MONITOR	GB10	2123350	WIN SAMP CUSTODIANS	466419	GRAB	LEVLO	
6349	61710103	9:21:00	07/01/1987	1	1987	GNANGARA MOUND MONITOR	GB10	2123353	WIN SAMP CUSTODIANS	466420	GRAB	LEVLO	
6349	61710103	14:40:00	17/02/1987	2	1987	GNANGARA MOUND MONITOR	GB10	2123356	WIN SAMP CUSTODIANS	466421	GRAB	LEVLO	
6349	61710103	11:48:00	09/03/1987	3	1987	GNANGARA MOUND MONITOR	GB10	2123359	WIN SAMP CUSTODIANS	466422	GRAB	LEVLO	
6349	61710103	11:25:00	01/04/1987	4	1987	GNANGARA MOUND MONITOR	GB10	2123362	WIN SAMP CUSTODIANS	466423	GRAB	LEVLO	
6349	61710103	10:55:00	06/05/1987	5	1987	GNANGARA MOUND MONITOR	GB10	2123365	WIN SAMP CUSTODIANS	466424	GRAB	LEVLO	
6349	61710103	11:45:00	11/06/1987	6	1987	GNANGARA MOUND MONITOR	GB10	2123368	WIN SAMP CUSTODIANS	466425	GRAB	LEVLO	
6349	61710103	11:04:00	06/07/1987	7	1987	GNANGARA MOUND MONITOR	GB10	2123371	WIN SAMP CUSTODIANS	466426	GRAB	LEVLO	
6349	61710103	11:37:00	05/08/1987	8	1987	GNANGARA MOUND MONITOR	GB10	2123374	WIN SAMP CUSTODIANS	466427	GRAB	LEVLO	
6349	61710103	11:04:00	04/09/1987	9	1987	GNANGARA MOUND MONITOR	GB10	2123377	WIN SAMP CUSTODIANS	466428	GRAB	LEVLO	
6349	61710103	10:56:00	08/10/1987	10	1987	GNANGARA MOUND MONITOR	GB10	2123380	WIN SAMP CUSTODIANS	466429	GRAB	LEVLO	
6349	61710103	12:00:00	02/11/1987	11	1987	GNANGARA MOUND MONITOR	GB10	2123383	WIN SAMP CUSTODIANS	466430	GRAB	LEVLO	
6349	61710103	13:16:00	04/11/1987	11	1987	GNANGARA MOUND MONITOR	GB10	2123386	WIN SAMP CUSTODIANS	466431	GRAB	LEVLO	
6349	61710103	13:32:00	01/12/1987	12	1987	GNANGARA MOUND MONITOR	GB10	2123389	WIN SAMP CUSTODIANS	466432	GRAB	LEVLO	
6349	61710103	14:11:00	08/02/1988	2	1988	GNANGARA MOUND MONITOR	GB10	2123392	WIN SAMP CUSTODIANS	466433	GRAB	LEVLO	
6349	61710103	14:21:00	03/03/1988	3	1988	GNANGARA MOUND MONITOR	GB10	2123395	WIN SAMP CUSTODIANS	466434	GRAB	LEVLO	
6349	61710103	10:32:00	06/04/1988	4	1988	GNANGARA MOUND MONITOR	GB10	2123398	WIN SAMP CUSTODIANS	466435	GRAB	LEVLO	
6349	61710103	14:19:00	04/05/1988	5	1988	GNANGARA MOUND MONITOR	GB10	2123401	WIN SAMP CUSTODIANS	466436	GRAB	LEVLO	
6349	61710103	14:11:00	22/06/1988	6	1988	GNANGARA MOUND MONITOR	GB10	2123404	WIN SAMP CUSTODIANS	466437	GRAB	LEVLO	
6349	61710103	14:04:00	27/07/1988	7	1988	GNANGARA MOUND MONITOR	GB10	2123407	WIN SAMP CUSTODIANS	466438	GRAB	LEVLO	
6349	61710103	13:24:00	22/08/1988	8	1988	GNANGARA MOUND MONITOR	GB10	2123411	WIN SAMP CUSTODIANS	466439	GRAB	LEVLO	
6349	61710103	14:20:00	29/09/1988	9	1988	GNANGARA MOUND MONITOR	GB10	2123414	WIN SAMP CUSTODIANS	466440	GRAB	LEVLO	
6349	61710103	14:23:00	10/10/1988	10	1988	GNANGARA MOUND MONITOR	GB10	2123417	WIN SAMP CUSTODIANS	466441	GRAB	LEVLO	
6349	61710103	14:26:00	10/10/1988	10	1988	GNANGARA MOUND MONITOR	GB10	2123420	WIN SAMP CUSTODIANS	466442	GRAB	STAND	
6349	61710103	14:30:00	24/11/1988	11	1988	GNANGARA MOUND MONITOR	GB10	2123423	WIN SAMP CUSTODIANS	466443	GRAB	LEVLO	
6349	61710103	14:03:00	18/01/1989	1	1989	GNANGARA MOUND MONITOR	GB10	2123426	WIN SAMP CUSTODIANS	466444	GRAB	LEVLO	
6349	61710103	9:00:00	17/04/1989	4	1989	GNANGARA MOUND MONITOR	GB10	8083808	WIN SAMP CUSTODIANS	1272881	GRAB	PROFL	
6349	61710103	14:37:00	17/04/1989	4	1989	GNANGARA MOUND MONITOR	GB10	2123429	WIN SAMP CUSTODIANS	466445	GRAB	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	13:50:00	05/07/1989	7	1989	GNANGARA MOUND MONITOR	GB10	2123432	WIN SAMP CUSTODIANS	466446	GRAB	LEVLO	
6349	61710103	10:58:00	26/10/1989	10	1989	GNANGARA MOUND MONITOR	GB10	2123435	WIN SAMP CUSTODIANS	466447	GRAB	LEVLO	
6349	61710103	15:35:00	15/01/1990	1	1990	GNANGARA MOUND MONITOR	GB10	2123438	WIN SAMP CUSTODIANS	466448	GRAB	LEVLO	
6349	61710103	14:20:00	03/04/1990	4	1990	GNANGARA MOUND MONITOR	GB10	2123441	WIN SAMP CUSTODIANS	466449	GRAB	LEVLO	
6349	61710103	11:45:00	16/07/1990	7	1990	GNANGARA MOUND MONITOR	GB10	2123444	WIN SAMP CUSTODIANS	466450	GRAB	LEVLO	
6349	61710103	13:45:00	16/10/1990	10	1990	GNANGARA MOUND MONITOR	GB10	2123447	WIN SAMP CUSTODIANS	466451	GRAB	LEVLO	
6349	61710103	11:25:00	29/01/1991	1	1991	GNANGARA MOUND MONITOR	GB10	7926092	WIN SAMP CUSTODIANS	1250030	GRAB	LEVLO	
6349	61710103	12:45:00	15/04/1991	4	1991	GNANGARA MOUND MONITOR	GB10	8088264	WIN SAMP CUSTODIANS	1273890	GRAB	LEVLO	
6349	61710103	10:20:00	25/07/1991	7	1991	GNANGARA MOUND MONITOR	GB10	8495244	WIN SAMP CUSTODIANS	1367961	GRAB	LEVLO	
6349	61710103	10:30:00	15/10/1991	10	1991	GNANGARA MOUND MONITOR	GB10	8693908	WIN SAMP CUSTODIANS	1393260	GRAB	LEVLO	
6349	61710103	10:00:00	22/01/1992	1	1992	GNANGARA MOUND MONITOR	GB10	9009316	WIN SAMP CUSTODIANS	1437534	GRAB	LEVLO	
6349	61710103	12:00:00	22/01/1992	1	1992	GNANGARA MOUND MONITOR	GB10	9312050	WIN SAMP CUSTODIANS	1480109	GRAB	LEVLO	
6349	61710103	9:45:00	13/04/1992	4	1992	GNANGARA MOUND MONITOR	GB10	9269938	WIN SAMP CUSTODIANS	1475291	GRAB	LEVLO	
6349	61710103	10:25:00	21/07/1992	7	1992	GNANGARA MOUND MONITOR	GB10	9407179	WIN SAMP CUSTODIANS	1494056	GRAB	LEVLO	
6349	61710103	9:50:00	19/10/1992	10	1992	GNANGARA MOUND MONITOR	GB10	9703304	WIN SAMP CUSTODIANS	1536459	GRAB	LEVLO	
6349	61710103	10:00:00	20/01/1993	1	1993	GNANGARA MOUND MONITOR	GB10	9927425	WIN SAMP CUSTODIANS	1572585	GRAB	LEVLO	
6349	61710103	12:00:00	22/02/1993	2	1993	GNANGARA MOUND MONITOR	GB10	10224276	WIN SAMP CUSTODIANS	1616023	GRAB	LEVLO	
6349	61710103	9:45:00	22/04/1993	4	1993	GNANGARA MOUND MONITOR	GB10	10159010	WIN SAMP CUSTODIANS	1606955	GRAB	LEVLO	
6349	61710103	10:10:00	27/07/1993	7	1993	GNANGARA MOUND MONITOR	GB10	10325801	WIN SAMP CUSTODIANS	1632617	GRAB	LEVLO	
6349	61710103	9:55:00	25/10/1993	10	1993	GNANGARA MOUND MONITOR	GB10	10476142	WIN SAMP CUSTODIANS	1646174	GRAB	LEVLO	
6349	61710103	9:55:00	21/01/1994	1	1994	GNANGARA MOUND MONITOR	GB10	10923516	WIN SAMP CUSTODIANS	1680182	GRAB	LEVLO	
6349	61710103	12:00:00	21/01/1994	1	1994	GNANGARA MOUND MONITOR	GB10	11475476	WIN SAMP CUSTODIANS	1752358	GRAB	LEVLO	
6349	61710103	10:05:00	22/04/1994	4	1994	GNANGARA MOUND MONITOR	GB10	11088315	WIN SAMP CUSTODIANS	1698451	GRAB	LEVLO	
6349	61710103	12:39:00	14/07/1994	7	1994	GNANGARA MOUND MONITOR	GB10	11243290	WIN SAMP CUSTODIANS	1722734	GRAB	LEVLO	
6349	61710103	9:25:00	14/10/1994	10	1994	GNANGARA MOUND MONITOR	GB10	11429679	WIN SAMP CUSTODIANS	1746714	GRAB	LEVLO	
6349	61710103	13:49:00	13/01/1995	1	1995	GNANGARA MOUND MONITOR	GB10	11726990	WIN SAMP CUSTODIANS	1800308	GRAB	LEVLO	
6349	61710103	10:20:00	06/04/1995	4	1995	GNANGARA MOUND MONITOR	GB10	11881732	WIN SAMP CUSTODIANS	1815172	GRAB	LEVLO	
6349	61710103	11:07:00	12/07/1995	7	1995	GNANGARA MOUND MONITOR	GB10	12053460	WIN SAMP CUSTODIANS	1831088	GRAB	LEVLO	
6349	61710103	8:58:00	10/10/1995	10	1995	GNANGARA MOUND MONITOR	GB10	12303625	WIN SAMP CUSTODIANS	1857983	GRAB	LEVLO	
6349	61710103	10:04:00	24/01/1996	1	1996	GNANGARA MOUND MONITOR	GB10	12482612	WIN SAMP CUSTODIANS	1885208	GRAB	LEVLO	
6349	61710103	14:11:00	22/04/1996	4	1996	GNANGARA MOUND MONITOR	GB10	12682460	WIN SAMP CUSTODIANS	1904199	GRAB	LEVLO	
6349	61710103	8:55:00	12/07/1996	7	1996	GNANGARA MOUND MONITOR	GB10	12896619	WIN SAMP CUSTODIANS	1916169	GRAB	LEVLO	
6349	61710103	8:56:00	12/07/1996	7	1996	GNANGARA MOUND MONITOR	GB10	12938002	WIN SAMP CUSTODIANS	1916153	GRAB	LEVLO	
6349	61710103	10:50:00	10/10/1996	10	1996	GNANGARA MOUND MONITOR	GB10	13137250	WIN SAMP CUSTODIANS	1931596	GRAB	LEVLO	
6349	61710103	9:50:00	24/01/1997	1	1997	GNANGARA MOUND MONITOR	GB10	14288982	WIN SAMP CUSTODIANS	2007086	GRAB	STAND	
6349	61710103	10:44:00	24/01/1997	1	1997	GNANGARA MOUND MONITOR	GB10	13510854	WIN SAMP CUSTODIANS	1964454	GRAB	LEVLO	
6349	61710103	10:45:00	24/01/1997	1	1997	GNANGARA MOUND MONITOR	GB10	13510998	WIN SAMP CUSTODIANS	1964502	GRAB	STAND	
6349	61710103	13:51:00	21/04/1997	4	1997	GNANGARA MOUND MONITOR	GB10	13817859	WIN SAMP CUSTODIANS	1983541	GRAB	LEVLO	
6349	61710103	10:40:00	11/07/1997	7	1997	GNANGARA MOUND MONITOR	GB10	14136091	WIN SAMP CUSTODIANS	1996878	GRAB	LEVLO	
6349	61710103	8:52:00	10/10/1997	10	1997	GNANGARA MOUND MONITOR	GB10	14484074	WIN SAMP CUSTODIANS	2022135	GRAB	LEVLO	
6349	61710103	10:20:00	21/01/1998	1	1998	GNANGARA MOUND MONITOR	GB10	14808185	WIN SAMP CUSTODIANS	2057819	GRAB	LEVLO	
6349	61710103	13:30:00	24/03/1998	3	1998	GNANGARA MOUND MONITOR	GB10	14910476	WIN SAMP CUSTODIANS	2064160	GRAB	LEVLO	
6349	61710103	9:10:00	10/07/1998	7	1998	GNANGARA MOUND MONITOR	GB10	15171169	WIN SAMP CUSTODIANS	2089813	GRAB	LEVLO	
6349	61710103	9:39:00	17/08/1998	8	1998	GNANGARA MOUND MONITOR	GB10	15227752	WIN SAMP CUSTODIANS	2093494	GRAB	STAND	
6349	61710103	12:25:00	12/10/1998	10	1998	GNANGARA MOUND MONITOR	GB10	15301950	WIN SAMP CUSTODIANS	2100276	GRAB	LEVLO	
6349	61710103	11:22:00	18/01/1999	1	1999	GNANGARA MOUND MONITOR	GB10	15399377	WIN SAMP CUSTODIANS	2106041	GRAB	LEVLO	
6349	61710103	8:43:00	15/10/1999	10	1999	GNANGARA MOUND MONITOR	GB10	23001246	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6349	61710103	11:55:00	28/06/2000	6	2000	GNANGARA MOUND MONITOR	GB10	23011919	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6349	61710103	11:36:00	16/11/2000	11	2000	GNANGARA MOUND MONITOR	GB10	23017382	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6349	61710103	12:12:00	17/05/2001	5	2001	GNANGARA MOUND MONITOR	GB10	23026082	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	9:03:00	24/10/2001	10	2001	GNANGARA MOUND MONITOR	GB10	23039758	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	10:43:00	15/05/2002	5	2002	GNANGARA MOUND MONITOR	GB10	23154976	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	12:47:00	21/11/2002	11	2002	GNANGARA MOUND MONITOR	GB10	23224154	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	9:10:00	20/05/2003	5	2003	GNANGARA MOUND MONITOR	GB10	23310214	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	9:11:00	14/10/2003	10	2003	GNANGARA MOUND MONITOR	GB10	23381083	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	10:47:00	11/05/2004	5	2004	GNANGARA MOUND MONITOR	GB10	23505981	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	8:40:00	15/10/2004	10	2004	GNANGARA MOUND MONITOR	GB10	23623701	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	11:58:00	19/05/2005	5	2005	GNANGARA MOUND MONITOR	GB10	23784260	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	0:00:00	30/09/2005	9	2005	GNANGARA MOUND MONITOR	GB10	23842854	WIN SAMP CUSTODIANS		INSIT	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6349	61710103	11:30:00	05/05/2006	5	2006	GNANGARA MOUND MONITOR	GB10	23958914	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	9:47:00	24/10/2006	10	2006	GNANGARA MOUND MONITOR	GB10	24067107	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	14:55:00	08/05/2007	5	2007	GNANGARA MOUND MONITOR	GB10	24205511	WIN SAMP CUSTODIANS	GB10	PUMPS	STAND	10.000
6349	61710103	14:55:00	08/05/2007	5	2007	GNANGARA MOUND MONITOR	GB10	24206727	WIN SAMP CUSTODIANS		PUMPS	STAND	10.000
6349	61710103	13:58:00	10/05/2007	5	2007	GNANGARA MOUND MONITOR	GB10	24178500	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6349	61710103	14:38:00	26/10/2007	10	2007	GNANGARA MOUND MONITOR	GB10	24309717	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	14:05:00	20/05/2008	5	2008	GNANGARA MOUND MONITOR	GB10	24499832	WIN SAMP CUSTODIANS		INSIT	STAND	
6349	61710103	13:46:00	03/10/2008	10	2008	GNANGARA MOUND MONITOR	GB10	24595911	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	12:00:00	03/05/1973	5	1973	GINGIN MONITORING	GG10	2125078	WIN SAMP CUSTODIANS	467057	GRAB	LEVLO	
6355	61710109	12:00:00	05/06/1973	6	1973	GINGIN MONITORING	GG10	2125080	WIN SAMP CUSTODIANS	467058	GRAB	LEVLO	
6355	61710109	12:00:00	05/07/1973	7	1973	GINGIN MONITORING	GG10	2125082	WIN SAMP CUSTODIANS	467059	GRAB	LEVLO	
6355	61710109	12:00:00	26/07/1973	7	1973	GINGIN MONITORING	GG10	2125084	WIN SAMP CUSTODIANS	467060	GRAB	LEVLO	
6355	61710109	12:00:00	06/09/1973	9	1973	GINGIN MONITORING	GG10	2125086	WIN SAMP CUSTODIANS	467061	GRAB	LEVLO	
6355	61710109	12:00:00	10/10/1973	10	1973	GINGIN MONITORING	GG10	2125088	WIN SAMP CUSTODIANS	467062	GRAB	LEVLO	
6355	61710109	12:00:00	15/11/1973	11	1973	GINGIN MONITORING	GG10	2125090	WIN SAMP CUSTODIANS	467063	GRAB	LEVLO	
6355	61710109	12:00:00	12/12/1973	12	1973	GINGIN MONITORING	GG10	2125092	WIN SAMP CUSTODIANS	467064	GRAB	LEVLO	
6355	61710109	12:00:00	04/01/1974	1	1974	GINGIN MONITORING	GG10	2125094	WIN SAMP CUSTODIANS	467065	GRAB	LEVLO	
6355	61710109	12:00:00	31/01/1974	1	1974	GINGIN MONITORING	GG10	2125096	WIN SAMP CUSTODIANS	467066	GRAB	LEVLO	
6355	61710109	12:00:00	15/03/1974	3	1974	GINGIN MONITORING	GG10	2125098	WIN SAMP CUSTODIANS	467067	GRAB	LEVLO	
6355	61710109	12:00:00	23/04/1974	4	1974	GINGIN MONITORING	GG10	2125100	WIN SAMP CUSTODIANS	467068	GRAB	LEVLO	
6355	61710109	12:00:00	10/05/1974	5	1974	GINGIN MONITORING	GG10	2125102	WIN SAMP CUSTODIANS	467069	GRAB	LEVLO	
6355	61710109	12:00:00	12/06/1974	6	1974	GINGIN MONITORING	GG10	2125104	WIN SAMP CUSTODIANS	467070	GRAB	LEVLO	
6355	61710109	12:00:00	09/07/1974	7	1974	GINGIN MONITORING	GG10	2125106	WIN SAMP CUSTODIANS	467071	GRAB	LEVLO	
6355	61710109	12:00:00	16/08/1974	8	1974	GINGIN MONITORING	GG10	2125108	WIN SAMP CUSTODIANS	467072	GRAB	LEVLO	
6355	61710109	12:00:00	17/09/1974	9	1974	GINGIN MONITORING	GG10	2125110	WIN SAMP CUSTODIANS	467073	GRAB	LEVLO	
6355	61710109	12:00:00	16/10/1974	10	1974	GINGIN MONITORING	GG10	2125112	WIN SAMP CUSTODIANS	467074	GRAB	LEVLO	
6355	61710109	12:00:00	13/11/1974	11	1974	GINGIN MONITORING	GG10	2125114	WIN SAMP CUSTODIANS	467075	GRAB	LEVLO	
6355	61710109	12:00:00	13/12/1974	12	1974	GINGIN MONITORING	GG10	2125116	WIN SAMP CUSTODIANS	467076	GRAB	LEVLO	
6355	61710109	12:00:00	20/02/1975	2	1975	GINGIN MONITORING	GG10	2125118	WIN SAMP CUSTODIANS	467077	GRAB	LEVLO	
6355	61710109	12:00:00	21/03/1975	3	1975	GINGIN MONITORING	GG10	2125120	WIN SAMP CUSTODIANS	467078	GRAB	LEVLO	
6355	61710109	12:00:00	18/04/1975	4	1975	GINGIN MONITORING	GG10	2125122	WIN SAMP CUSTODIANS	467079	GRAB	LEVLO	
6355	61710109	12:00:00	20/05/1975	5	1975	GINGIN MONITORING	GG10	2125124	WIN SAMP CUSTODIANS	467080	GRAB	LEVLO	
6355	61710109	12:00:00	18/06/1975	6	1975	GINGIN MONITORING	GG10	2125126	WIN SAMP CUSTODIANS	467081	GRAB	LEVLO	
6355	61710109	12:00:00	22/07/1975	7	1975	GINGIN MONITORING	GG10	2125128	WIN SAMP CUSTODIANS	467082	GRAB	LEVLO	
6355	61710109	12:00:00	19/08/1975	8	1975	GINGIN MONITORING	GG10	2125130	WIN SAMP CUSTODIANS	467083	GRAB	LEVLO	
6355	61710109	12:00:00	16/09/1975	9	1975	GINGIN MONITORING	GG10	2125132	WIN SAMP CUSTODIANS	467084	GRAB	LEVLO	
6355	61710109	12:00:00	22/10/1975	10	1975	GINGIN MONITORING	GG10	2125134	WIN SAMP CUSTODIANS	467085	GRAB	LEVLO	
6355	61710109	12:00:00	14/11/1975	11	1975	GINGIN MONITORING	GG10	2125136	WIN SAMP CUSTODIANS	467086	GRAB	LEVLO	
6355	61710109	12:00:00	12/03/1976	3	1976	GINGIN MONITORING	GG10	2125138	WIN SAMP CUSTODIANS	467087	GRAB	LEVLO	
6355	61710109	12:00:00	09/04/1976	4	1976	GINGIN MONITORING	GG10	2125140	WIN SAMP CUSTODIANS	467088	GRAB	LEVLO	
6355	61710109	12:00:00	06/05/1976	5	1976	GINGIN MONITORING	GG10	2125142	WIN SAMP CUSTODIANS	467089	GRAB	LEVLO	
6355	61710109	12:00:00	10/06/1976	6	1976	GINGIN MONITORING	GG10	2125144	WIN SAMP CUSTODIANS	467090	GRAB	LEVLO	
6355	61710109	12:00:00	06/07/1976	7	1976	GINGIN MONITORING	GG10	2125146	WIN SAMP CUSTODIANS	467091	GRAB	LEVLO	
6355	61710109	12:00:00	14/09/1976	9	1976	GINGIN MONITORING	GG10	2125148	WIN SAMP CUSTODIANS	467092	GRAB	LEVLO	
6355	61710109	12:00:00	07/10/1976	10	1976	GINGIN MONITORING	GG10	2125150	WIN SAMP CUSTODIANS	467093	GRAB	LEVLO	
6355	61710109	12:00:00	09/11/1976	11	1976	GINGIN MONITORING	GG10	2125152	WIN SAMP CUSTODIANS	467094	GRAB	LEVLO	
6355	61710109	12:00:00	22/04/1977	4	1977	GINGIN MONITORING	GG10	2125154	WIN SAMP CUSTODIANS	467095	GRAB	LEVLO	
6355	61710109	12:00:00	10/05/1977	5	1977	GINGIN MONITORING	GG10	2125156	WIN SAMP CUSTODIANS	467096	GRAB	LEVLO	
6355	61710109	12:00:00	17/06/1977	6	1977	GINGIN MONITORING	GG10	2125158	WIN SAMP CUSTODIANS	467097	GRAB	LEVLO	
6355	61710109	12:00:00	20/07/1977	7	1977	GINGIN MONITORING	GG10	2125160	WIN SAMP CUSTODIANS	467098	GRAB	LEVLO	
6355	61710109	12:00:00	17/08/1977	8	1977	GINGIN MONITORING	GG10	2125162	WIN SAMP CUSTODIANS	467099	GRAB	LEVLO	
6355	61710109	12:00:00	22/09/1977	9	1977	GINGIN MONITORING	GG10	2125164	WIN SAMP CUSTODIANS	467100	GRAB	LEVLO	
6355	61710109	12:00:00	20/10/1977	10	1977	GINGIN MONITORING	GG10	2125166	WIN SAMP CUSTODIANS	467101	GRAB	LEVLO	
6355	61710109	12:00:00	22/11/1977	11	1977	GINGIN MONITORING	GG10	2125168	WIN SAMP CUSTODIANS	467102	GRAB	LEVLO	
6355	61710109	12:00:00	22/12/1977	12	1977	GINGIN MONITORING	GG10	2125170	WIN SAMP CUSTODIANS	467103	GRAB	LEVLO	
6355	61710109	12:00:00	26/01/1978	1	1978	GINGIN MONITORING	GG10	2125172	WIN SAMP CUSTODIANS	467104	GRAB	LEVLO	
6355	61710109	12:00:00	28/02/1978	2	1978	GINGIN MONITORING	GG10	2125174	WIN SAMP CUSTODIANS	467105	GRAB	LEVLO	
6355	61710109	12:00:00	30/03/1978	3	1978	GINGIN MONITORING	GG10	2125176	WIN SAMP CUSTODIANS	467106	GRAB	LEVLO	
6355	61710109	12:00:00	27/04/1978	4	1978	GINGIN MONITORING	GG10	2125178	WIN SAMP CUSTODIANS	467107	GRAB	LEVLO	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	12:00:00	24/05/1978	5	1978	GINGIN MONITORING	GG10	2125180	WIN SAMP CUSTODIANS	467108	GRAB	LEVLO	
6355	61710109	12:00:00	29/06/1978	6	1978	GINGIN MONITORING	GG10	2125182	WIN SAMP CUSTODIANS	467109	GRAB	LEVLO	
6355	61710109	12:00:00	24/07/1978	7	1978	GINGIN MONITORING	GG10	2125184	WIN SAMP CUSTODIANS	467110	GRAB	LEVLO	
6355	61710109	12:00:00	18/08/1978	8	1978	GINGIN MONITORING	GG10	2125186	WIN SAMP CUSTODIANS	467111	GRAB	LEVLO	
6355	61710109	12:00:00	18/09/1978	9	1978	GINGIN MONITORING	GG10	2125188	WIN SAMP CUSTODIANS	467112	GRAB	LEVLO	
6355	61710109	12:00:00	20/10/1978	10	1978	GINGIN MONITORING	GG10	2125190	WIN SAMP CUSTODIANS	467113	GRAB	LEVLO	
6355	61710109	12:00:00	21/11/1978	11	1978	GINGIN MONITORING	GG10	2125192	WIN SAMP CUSTODIANS	467114	GRAB	LEVLO	
6355	61710109	12:00:00	20/12/1978	12	1978	GINGIN MONITORING	GG10	2125194	WIN SAMP CUSTODIANS	467115	GRAB	LEVLO	
6355	61710109	12:00:00	17/01/1979	1	1979	GINGIN MONITORING	GG10	2125196	WIN SAMP CUSTODIANS	467116	GRAB	LEVLO	
6355	61710109	12:00:00	15/02/1979	2	1979	GINGIN MONITORING	GG10	2125198	WIN SAMP CUSTODIANS	467117	GRAB	LEVLO	
6355	61710109	12:00:00	16/03/1979	3	1979	GINGIN MONITORING	GG10	2125200	WIN SAMP CUSTODIANS	467118	GRAB	LEVLO	
6355	61710109	12:00:00	19/04/1979	4	1979	GINGIN MONITORING	GG10	2125202	WIN SAMP CUSTODIANS	467119	GRAB	LEVLO	
6355	61710109	12:00:00	18/05/1979	5	1979	GINGIN MONITORING	GG10	2125204	WIN SAMP CUSTODIANS	467120	GRAB	LEVLO	
6355	61710109	12:00:00	18/06/1979	6	1979	GINGIN MONITORING	GG10	2125206	WIN SAMP CUSTODIANS	467121	GRAB	LEVLO	
6355	61710109	12:00:00	18/07/1979	7	1979	GINGIN MONITORING	GG10	2125208	WIN SAMP CUSTODIANS	467122	GRAB	LEVLO	
6355	61710109	12:00:00	15/08/1979	8	1979	GINGIN MONITORING	GG10	2125210	WIN SAMP CUSTODIANS	467123	GRAB	LEVLO	
6355	61710109	12:00:00	12/09/1979	9	1979	GINGIN MONITORING	GG10	2125212	WIN SAMP CUSTODIANS	467124	GRAB	LEVLO	
6355	61710109	12:00:00	17/10/1979	10	1979	GINGIN MONITORING	GG10	2125214	WIN SAMP CUSTODIANS	467125	GRAB	LEVLO	
6355	61710109	12:00:00	16/11/1979	11	1979	GINGIN MONITORING	GG10	2125216	WIN SAMP CUSTODIANS	467126	GRAB	LEVLO	
6355	61710109	12:00:00	20/12/1979	12	1979	GINGIN MONITORING	GG10	2125218	WIN SAMP CUSTODIANS	467127	GRAB	LEVLO	
6355	61710109	12:00:00	14/01/1980	1	1980	GINGIN MONITORING	GG10	2125220	WIN SAMP CUSTODIANS	467128	GRAB	LEVLO	
6355	61710109	12:00:00	18/02/1980	2	1980	GINGIN MONITORING	GG10	2125222	WIN SAMP CUSTODIANS	467129	GRAB	LEVLO	
6355	61710109	12:00:00	20/03/1980	3	1980	GINGIN MONITORING	GG10	2125224	WIN SAMP CUSTODIANS	467130	GRAB	LEVLO	
6355	61710109	12:00:00	21/04/1980	4	1980	GINGIN MONITORING	GG10	2125226	WIN SAMP CUSTODIANS	467131	GRAB	LEVLO	
6355	61710109	12:00:00	15/05/1980	5	1980	GINGIN MONITORING	GG10	2125228	WIN SAMP CUSTODIANS	467132	GRAB	LEVLO	
6355	61710109	12:00:00	19/06/1980	6	1980	GINGIN MONITORING	GG10	2125230	WIN SAMP CUSTODIANS	467133	GRAB	LEVLO	
6355	61710109	12:00:00	18/07/1980	7	1980	GINGIN MONITORING	GG10	2125232	WIN SAMP CUSTODIANS	467134	GRAB	LEVLO	
6355	61710109	12:00:00	14/08/1980	8	1980	GINGIN MONITORING	GG10	2125234	WIN SAMP CUSTODIANS	467135	GRAB	LEVLO	
6355	61710109	12:00:00	16/09/1980	9	1980	GINGIN MONITORING	GG10	2125236	WIN SAMP CUSTODIANS	467136	GRAB	LEVLO	
6355	61710109	12:00:00	17/10/1980	10	1980	GINGIN MONITORING	GG10	2125238	WIN SAMP CUSTODIANS	467137	GRAB	LEVLO	
6355	61710109	12:00:00	17/11/1980	11	1980	GINGIN MONITORING	GG10	2125240	WIN SAMP CUSTODIANS	467138	GRAB	LEVLO	
6355	61710109	12:00:00	04/12/1980	12	1980	GINGIN MONITORING	GG10	2125242	WIN SAMP CUSTODIANS	467139	GRAB	STAND	
6355	61710109	12:01:00	04/12/1980	12	1980	GINGIN MONITORING	GG10	9936185	WIN SAMP CUSTODIANS	1574302	GRAB	STAND	
6355	61710109	12:00:00	18/12/1980	12	1980	GINGIN MONITORING	GG10	2125276	WIN SAMP CUSTODIANS	467140	GRAB	LEVLO	
6355	61710109	12:00:00	20/01/1981	1	1981	GINGIN MONITORING	GG10	2125278	WIN SAMP CUSTODIANS	467141	GRAB	LEVLO	
6355	61710109	12:00:00	19/02/1981	2	1981	GINGIN MONITORING	GG10	2125280	WIN SAMP CUSTODIANS	467142	GRAB	LEVLO	
6355	61710109	12:00:00	16/03/1981	3	1981	GINGIN MONITORING	GG10	2125282	WIN SAMP CUSTODIANS	467143	GRAB	LEVLO	
6355	61710109	12:00:00	22/04/1981	4	1981	GINGIN MONITORING	GG10	2125284	WIN SAMP CUSTODIANS	467144	GRAB	LEVLO	
6355	61710109	12:00:00	19/05/1981	5	1981	GINGIN MONITORING	GG10	2125286	WIN SAMP CUSTODIANS	467145	GRAB	LEVLO	
6355	61710109	12:00:00	17/06/1981	6	1981	GINGIN MONITORING	GG10	2125288	WIN SAMP CUSTODIANS	467146	GRAB	LEVLO	
6355	61710109	12:00:00	20/07/1981	7	1981	GINGIN MONITORING	GG10	2125290	WIN SAMP CUSTODIANS	467147	GRAB	LEVLO	
6355	61710109	12:00:00	18/08/1981	8	1981	GINGIN MONITORING	GG10	2125292	WIN SAMP CUSTODIANS	467148	GRAB	LEVLO	
6355	61710109	12:00:00	17/09/1981	9	1981	GINGIN MONITORING	GG10	2125294	WIN SAMP CUSTODIANS	467149	GRAB	LEVLO	
6355	61710109	12:00:00	20/10/1981	10	1981	GINGIN MONITORING	GG10	2125296	WIN SAMP CUSTODIANS	467150	GRAB	LEVLO	
6355	61710109	12:00:00	19/11/1981	11	1981	GINGIN MONITORING	GG10	2125298	WIN SAMP CUSTODIANS	467151	GRAB	LEVLO	
6355	61710109	12:00:00	18/12/1981	12	1981	GINGIN MONITORING	GG10	2125300	WIN SAMP CUSTODIANS	467152	GRAB	LEVLO	
6355	61710109	12:00:00	21/01/1982	1	1982	GINGIN MONITORING	GG10	2125302	WIN SAMP CUSTODIANS	467153	GRAB	LEVLO	
6355	61710109	12:00:00	18/02/1982	2	1982	GINGIN MONITORING	GG10	2125304	WIN SAMP CUSTODIANS	467154	GRAB	LEVLO	
6355	61710109	12:00:00	18/03/1982	3	1982	GINGIN MONITORING	GG10	2125306	WIN SAMP CUSTODIANS	467155	GRAB	LEVLO	
6355	61710109	12:00:00	27/04/1982	4	1982	GINGIN MONITORING	GG10	2125308	WIN SAMP CUSTODIANS	467156	GRAB	LEVLO	
6355	61710109	12:00:00	20/05/1982	5	1982	GINGIN MONITORING	GG10	2125310	WIN SAMP CUSTODIANS	467157	GRAB	LEVLO	
6355	61710109	12:00:00	22/06/1982	6	1982	GINGIN MONITORING	GG10	2125312	WIN SAMP CUSTODIANS	467158	GRAB	LEVLO	
6355	61710109	12:00:00	23/07/1982	7	1982	GINGIN MONITORING	GG10	2125314	WIN SAMP CUSTODIANS	467159	GRAB	LEVLO	
6355	61710109	12:00:00	20/08/1982	8	1982	GINGIN MONITORING	GG10	2125316	WIN SAMP CUSTODIANS	467160	GRAB	LEVLO	
6355	61710109	12:00:00	22/09/1982	9	1982	GINGIN MONITORING	GG10	2125318	WIN SAMP CUSTODIANS	467161	GRAB	LEVLO	
6355	61710109	12:00:00	22/10/1982	10	1982	GINGIN MONITORING	GG10	2125320	WIN SAMP CUSTODIANS	467162	GRAB	LEVLO	
6355	61710109	12:00:00	18/11/1982	11	1982	GINGIN MONITORING	GG10	2125322	WIN SAMP CUSTODIANS	467163	GRAB	LEVLO	
6355	61710109	12:00:00	17/12/1982	12	1982	GINGIN MONITORING	GG10	2125324	WIN SAMP CUSTODIANS	467164	GRAB	LEVLO	
6355	61710109	12:00:00	21/01/1983	1	1983	GINGIN MONITORING	GG10	2125326	WIN SAMP CUSTODIANS	467165	GRAB	LEVLO	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	12:00:00	22/02/1983	2	1983	GINGIN MONITORING	GG10	2125328	WIN SAMP CUSTODIANS	467166	GRAB	LEVLO	
6355	61710109	12:00:00	18/03/1983	3	1983	GINGIN MONITORING	GG10	2125330	WIN SAMP CUSTODIANS	467167	GRAB	LEVLO	
6355	61710109	12:00:00	26/04/1983	4	1983	GINGIN MONITORING	GG10	2125332	WIN SAMP CUSTODIANS	467168	GRAB	LEVLO	
6355	61710109	12:00:00	23/05/1983	5	1983	GINGIN MONITORING	GG10	2125334	WIN SAMP CUSTODIANS	467169	GRAB	LEVLO	
6355	61710109	12:00:00	22/06/1983	6	1983	GINGIN MONITORING	GG10	2125336	WIN SAMP CUSTODIANS	467170	GRAB	LEVLO	
6355	61710109	12:00:00	20/07/1983	7	1983	GINGIN MONITORING	GG10	2125338	WIN SAMP CUSTODIANS	467171	GRAB	LEVLO	
6355	61710109	12:00:00	22/08/1983	8	1983	GINGIN MONITORING	GG10	2125340	WIN SAMP CUSTODIANS	467172	GRAB	LEVLO	
6355	61710109	12:00:00	21/09/1983	9	1983	GINGIN MONITORING	GG10	2125342	WIN SAMP CUSTODIANS	467173	GRAB	LEVLO	
6355	61710109	12:00:00	21/10/1983	10	1983	GINGIN MONITORING	GG10	2125344	WIN SAMP CUSTODIANS	467174	GRAB	LEVLO	
6355	61710109	12:00:00	21/11/1983	11	1983	GINGIN MONITORING	GG10	2125346	WIN SAMP CUSTODIANS	467175	GRAB	LEVLO	
6355	61710109	12:00:00	16/12/1983	12	1983	GINGIN MONITORING	GG10	2125348	WIN SAMP CUSTODIANS	467176	GRAB	LEVLO	
6355	61710109	12:00:00	19/01/1984	1	1984	GINGIN MONITORING	GG10	2125350	WIN SAMP CUSTODIANS	467177	GRAB	LEVLO	
6355	61710109	12:00:00	22/02/1984	2	1984	GINGIN MONITORING	GG10	2125352	WIN SAMP CUSTODIANS	467178	GRAB	LEVLO	
6355	61710109	12:00:00	26/03/1984	3	1984	GINGIN MONITORING	GG10	2125354	WIN SAMP CUSTODIANS	467179	GRAB	LEVLO	
6355	61710109	12:00:00	12/04/1984	4	1984	GINGIN MONITORING	GG10	2125356	WIN SAMP CUSTODIANS	467180	GRAB	LEVLO	
6355	61710109	12:00:00	21/05/1984	5	1984	GINGIN MONITORING	GG10	2125358	WIN SAMP CUSTODIANS	467181	GRAB	LEVLO	
6355	61710109	12:00:00	25/06/1984	6	1984	GINGIN MONITORING	GG10	2125360	WIN SAMP CUSTODIANS	467182	GRAB	LEVLO	
6355	61710109	12:00:00	23/07/1984	7	1984	GINGIN MONITORING	GG10	2125362	WIN SAMP CUSTODIANS	467183	GRAB	LEVLO	
6355	61710109	12:00:00	23/08/1984	8	1984	GINGIN MONITORING	GG10	2125364	WIN SAMP CUSTODIANS	467184	GRAB	LEVLO	
6355	61710109	12:00:00	20/09/1984	9	1984	GINGIN MONITORING	GG10	2125366	WIN SAMP CUSTODIANS	467185	GRAB	LEVLO	
6355	61710109	12:00:00	19/10/1984	10	1984	GINGIN MONITORING	GG10	2125368	WIN SAMP CUSTODIANS	467186	GRAB	LEVLO	
6355	61710109	12:00:00	19/11/1984	11	1984	GINGIN MONITORING	GG10	2125370	WIN SAMP CUSTODIANS	467187	GRAB	LEVLO	
6355	61710109	12:00:00	27/12/1984	12	1984	GINGIN MONITORING	GG10	2125372	WIN SAMP CUSTODIANS	467188	GRAB	LEVLO	
6355	61710109	12:00:00	21/01/1985	1	1985	GINGIN MONITORING	GG10	2125374	WIN SAMP CUSTODIANS	467189	GRAB	LEVLO	
6355	61710109	12:00:00	20/02/1985	2	1985	GINGIN MONITORING	GG10	2125376	WIN SAMP CUSTODIANS	467190	GRAB	LEVLO	
6355	61710109	12:00:00	22/03/1985	3	1985	GINGIN MONITORING	GG10	2125378	WIN SAMP CUSTODIANS	467191	GRAB	LEVLO	
6355	61710109	12:00:00	19/04/1985	4	1985	GINGIN MONITORING	GG10	2125380	WIN SAMP CUSTODIANS	467192	GRAB	LEVLO	
6355	61710109	12:00:00	16/05/1985	5	1985	GINGIN MONITORING	GG10	2125382	WIN SAMP CUSTODIANS	467193	GRAB	LEVLO	
6355	61710109	12:00:00	20/06/1985	6	1985	GINGIN MONITORING	GG10	2125384	WIN SAMP CUSTODIANS	467194	GRAB	LEVLO	
6355	61710109	12:00:00	17/07/1985	7	1985	GINGIN MONITORING	GG10	2125386	WIN SAMP CUSTODIANS	467195	GRAB	LEVLO	
6355	61710109	12:00:00	22/08/1985	8	1985	GINGIN MONITORING	GG10	2125388	WIN SAMP CUSTODIANS	467196	GRAB	LEVLO	
6355	61710109	12:00:00	23/09/1985	9	1985	GINGIN MONITORING	GG10	2125390	WIN SAMP CUSTODIANS	467197	GRAB	LEVLO	
6355	61710109	12:00:00	21/10/1985	10	1985	GINGIN MONITORING	GG10	2125392	WIN SAMP CUSTODIANS	467198	GRAB	LEVLO	
6355	61710109	12:00:00	20/11/1985	11	1985	GINGIN MONITORING	GG10	2125396	WIN SAMP CUSTODIANS	467199	GRAB	LEVLO	
6355	61710109	12:00:00	18/12/1985	12	1985	GINGIN MONITORING	GG10	2125400	WIN SAMP CUSTODIANS	467200	GRAB	LEVLO	
6355	61710109	12:00:00	29/01/1986	1	1986	GINGIN MONITORING	GG10	2125403	WIN SAMP CUSTODIANS	467201	GRAB	LEVLO	
6355	61710109	12:00:00	20/02/1986	2	1986	GINGIN MONITORING	GG10	2125406	WIN SAMP CUSTODIANS	467202	GRAB	LEVLO	
6355	61710109	12:00:00	21/03/1986	3	1986	GINGIN MONITORING	GG10	2125409	WIN SAMP CUSTODIANS	467203	GRAB	LEVLO	
6355	61710109	11:20:00	22/04/1986	4	1986	GINGIN MONITORING	GG10	2125412	WIN SAMP CUSTODIANS	467204	GRAB	LEVLO	
6355	61710109	10:30:00	20/05/1986	5	1986	GINGIN MONITORING	GG10	2125415	WIN SAMP CUSTODIANS	467205	GRAB	LEVLO	
6355	61710109	11:57:00	08/07/1986	7	1986	GINGIN MONITORING	GG10	2125418	WIN SAMP CUSTODIANS	467206	GRAB	LEVLO	
6355	61710109	10:35:00	31/07/1986	7	1986	GINGIN MONITORING	GG10	2125421	WIN SAMP CUSTODIANS	467207	GRAB	LEVLO	
6355	61710109	10:24:00	25/08/1986	8	1986	GINGIN MONITORING	GG10	2125424	WIN SAMP CUSTODIANS	467208	GRAB	LEVLO	
6355	61710109	11:18:00	18/09/1986	9	1986	GINGIN MONITORING	GG10	2125427	WIN SAMP CUSTODIANS	467209	GRAB	LEVLO	
6355	61710109	11:16:00	20/10/1986	10	1986	GINGIN MONITORING	GG10	2125430	WIN SAMP CUSTODIANS	467210	GRAB	LEVLO	
6355	61710109	11:45:00	06/11/1986	11	1986	GINGIN MONITORING	GG10	2125433	WIN SAMP CUSTODIANS	467211	GRAB	LEVLO	
6355	61710109	15:56:00	02/12/1986	12	1986	GINGIN MONITORING	GG10	2125436	WIN SAMP CUSTODIANS	467212	GRAB	LEVLO	
6355	61710109	9:41:00	07/01/1987	1	1987	GINGIN MONITORING	GG10	2125439	WIN SAMP CUSTODIANS	467213	GRAB	LEVLO	
6355	61710109	15:02:00	17/02/1987	2	1987	GINGIN MONITORING	GG10	2125442	WIN SAMP CUSTODIANS	467214	GRAB	LEVLO	
6355	61710109	11:22:00	09/03/1987	3	1987	GINGIN MONITORING	GG10	2125445	WIN SAMP CUSTODIANS	467215	GRAB	LEVLO	
6355	61710109	11:05:00	01/04/1987	4	1987	GINGIN MONITORING	GG10	2125448	WIN SAMP CUSTODIANS	467216	GRAB	LEVLO	
6355	61710109	10:35:00	06/05/1987	5	1987	GINGIN MONITORING	GG10	2125451	WIN SAMP CUSTODIANS	467217	GRAB	LEVLO	
6355	61710109	11:11:00	11/06/1987	6	1987	GINGIN MONITORING	GG10	2125454	WIN SAMP CUSTODIANS	467218	GRAB	LEVLO	
6355	61710109	10:46:00	06/07/1987	7	1987	GINGIN MONITORING	GG10	2125457	WIN SAMP CUSTODIANS	467219	GRAB	LEVLO	
6355	61710109	10:58:00	06/08/1987	8	1987	GINGIN MONITORING	GG10	2125460	WIN SAMP CUSTODIANS	467220	GRAB	LEVLO	
6355	61710109	10:32:00	08/09/1987	9	1987	GINGIN MONITORING	GG10	2125463	WIN SAMP CUSTODIANS	467221	GRAB	LEVLO	
6355	61710109	10:15:00	05/10/1987	10	1987	GINGIN MONITORING	GG10	2125466	WIN SAMP CUSTODIANS	467222	GRAB	LEVLO	
6355	61710109	10:09:00	03/11/1987	11	1987	GINGIN MONITORING	GG10	2125469	WIN SAMP CUSTODIANS	467223	GRAB	LEVLO	
6355	61710109	11:17:00	02/12/1987	12	1987	GINGIN MONITORING	GG10	2125472	WIN SAMP CUSTODIANS	467224	GRAB	LEVLO	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	12:01:00	18/01/1988	1	1988	GINGIN MONITORING	GG10	2125475	WIN SAMP CUSTODIANS	467225	GRAB	LEVLO	
6355	61710109	13:04:00	08/02/1988	2	1988	GINGIN MONITORING	GG10	2125478	WIN SAMP CUSTODIANS	467226	GRAB	LEVLO	
6355	61710109	14:29:00	08/02/1988	2	1988	GINGIN MONITORING	GG10	2125481	WIN SAMP CUSTODIANS	467227	GRAB	LEVLO	
6355	61710109	14:44:00	03/03/1988	3	1988	GINGIN MONITORING	GG10	2125484	WIN SAMP CUSTODIANS	467228	GRAB	LEVLO	
6355	61710109	10:30:00	04/03/1988	3	1988	GINGIN MONITORING	GG10	2125487	WIN SAMP CUSTODIANS	467229	GRAB	LEVLO	
6355	61710109	14:18:00	06/04/1988	4	1988	GINGIN MONITORING	GG10	2125490	WIN SAMP CUSTODIANS	467230	GRAB	LEVLO	
6355	61710109	14:44:00	04/05/1988	5	1988	GINGIN MONITORING	GG10	2125493	WIN SAMP CUSTODIANS	467231	GRAB	LEVLO	
6355	61710109	14:27:00	22/06/1988	6	1988	GINGIN MONITORING	GG10	2125496	WIN SAMP CUSTODIANS	467232	GRAB	LEVLO	
6355	61710109	14:21:00	27/07/1988	7	1988	GINGIN MONITORING	GG10	2125499	WIN SAMP CUSTODIANS	467233	GRAB	LEVLO	
6355	61710109	13:45:00	22/08/1988	8	1988	GINGIN MONITORING	GG10	2125503	WIN SAMP CUSTODIANS	467234	GRAB	LEVLO	
6355	61710109	14:37:00	29/09/1988	9	1988	GINGIN MONITORING	GG10	2125506	WIN SAMP CUSTODIANS	467235	GRAB	LEVLO	
6355	61710109	14:39:00	10/10/1988	10	1988	GINGIN MONITORING	GG10	2125509	WIN SAMP CUSTODIANS	467236	GRAB	LEVLO	
6355	61710109	14:46:00	24/11/1988	11	1988	GINGIN MONITORING	GG10	2125512	WIN SAMP CUSTODIANS	467237	GRAB	LEVLO	
6355	61710109	14:26:00	18/01/1989	1	1989	GINGIN MONITORING	GG10	2125515	WIN SAMP CUSTODIANS	467238	GRAB	LEVLO	
6355	61710109	14:58:00	17/04/1989	4	1989	GINGIN MONITORING	GG10	2125518	WIN SAMP CUSTODIANS	467239	GRAB	LEVLO	
6355	61710109	14:27:00	05/07/1989	7	1989	GINGIN MONITORING	GG10	2125521	WIN SAMP CUSTODIANS	467240	GRAB	LEVLO	
6355	61710109	11:12:00	26/10/1989	10	1989	GINGIN MONITORING	GG10	2125524	WIN SAMP CUSTODIANS	467241	GRAB	LEVLO	
6355	61710109	14:50:00	15/01/1990	1	1990	GINGIN MONITORING	GG10	2125527	WIN SAMP CUSTODIANS	467242	GRAB	LEVLO	
6355	61710109	14:10:00	03/04/1990	4	1990	GINGIN MONITORING	GG10	2125530	WIN SAMP CUSTODIANS	467243	GRAB	LEVLO	
6355	61710109	11:30:00	16/07/1990	7	1990	GINGIN MONITORING	GG10	2125533	WIN SAMP CUSTODIANS	467244	GRAB	LEVLO	
6355	61710109	14:00:00	16/10/1990	10	1990	GINGIN MONITORING	GG10	2125536	WIN SAMP CUSTODIANS	467245	GRAB	LEVLO	
6355	61710109	11:40:00	29/01/1991	1	1991	GINGIN MONITORING	GG10	7926122	WIN SAMP CUSTODIANS	1250040	GRAB	LEVLO	
6355	61710109	12:15:00	15/04/1991	4	1991	GINGIN MONITORING	GG10	8088294	WIN SAMP CUSTODIANS	1273900	GRAB	LEVLO	
6355	61710109	9:55:00	25/07/1991	7	1991	GINGIN MONITORING	GG10	8495271	WIN SAMP CUSTODIANS	1367970	GRAB	LEVLO	
6355	61710109	15:00:00	06/08/1991	8	1991	GINGIN MONITORING	GG10	8506129	WIN SAMP CUSTODIANS	1369663	GRAB	LEVLO	
6355	61710109	9:25:00	15/10/1991	10	1991	GINGIN MONITORING	GG10	8693935	WIN SAMP CUSTODIANS	1393269	GRAB	LEVLO	
6355	61710109	8:35:00	22/01/1992	1	1992	GINGIN MONITORING	GG10	9009343	WIN SAMP CUSTODIANS	1437543	GRAB	LEVLO	
6355	61710109	12:00:00	22/01/1992	1	1992	GINGIN MONITORING	GG10	9312080	WIN SAMP CUSTODIANS	1480119	GRAB	LEVLO	
6355	61710109	9:25:00	13/04/1992	4	1992	GINGIN MONITORING	GG10	9269968	WIN SAMP CUSTODIANS	1475301	GRAB	LEVLO	
6355	61710109	9:55:00	21/07/1992	7	1992	GINGIN MONITORING	GG10	9407206	WIN SAMP CUSTODIANS	1494065	GRAB	LEVLO	
6355	61710109	8:45:00	19/10/1992	10	1992	GINGIN MONITORING	GG10	9703331	WIN SAMP CUSTODIANS	1536468	GRAB	LEVLO	
6355	61710109	8:45:00	20/01/1993	1	1993	GINGIN MONITORING	GG10	9927455	WIN SAMP CUSTODIANS	1572595	GRAB	LEVLO	
6355	61710109	12:00:00	22/02/1993	2	1993	GINGIN MONITORING	GG10	10224306	WIN SAMP CUSTODIANS	1616033	GRAB	LEVLO	
6355	61710109	9:30:00	22/04/1993	4	1993	GINGIN MONITORING	GG10	10158995	WIN SAMP CUSTODIANS	1606950	GRAB	LEVLO	
6355	61710109	9:50:00	27/07/1993	7	1993	GINGIN MONITORING	GG10	10325786	WIN SAMP CUSTODIANS	1632612	GRAB	LEVLO	
6355	61710109	9:35:00	25/10/1993	10	1993	GINGIN MONITORING	GG10	10476127	WIN SAMP CUSTODIANS	1646169	GRAB	LEVLO	
6355	61710109	9:40:00	21/01/1994	1	1994	GINGIN MONITORING	GG10	10923501	WIN SAMP CUSTODIANS	1680177	GRAB	LEVLO	
6355	61710109	9:55:00	22/04/1994	4	1994	GINGIN MONITORING	GG10	11088300	WIN SAMP CUSTODIANS	1698446	GRAB	LEVLO	
6355	61710109	10:28:00	14/07/1994	7	1994	GINGIN MONITORING	GG10	11243262	WIN SAMP CUSTODIANS	1722727	GRAB	LEVLO	
6355	61710109	7:39:00	14/10/1994	10	1994	GINGIN MONITORING	GG10	11429664	WIN SAMP CUSTODIANS	1746709	GRAB	LEVLO	
6355	61710109	12:00:00	21/10/1994	10	1994	GINGIN MONITORING	GG10	11472321	WIN SAMP CUSTODIANS	1751699	GRAB	LEVLO	
6355	61710109	12:50:00	13/01/1995	1	1995	GINGIN MONITORING	GG10	11726975	WIN SAMP CUSTODIANS	1800303	GRAB	LEVLO	
6355	61710109	8:30:00	06/04/1995	4	1995	GINGIN MONITORING	GG10	11881761	WIN SAMP CUSTODIANS	1815181	GRAB	LEVLO	
6355	61710109	9:56:00	12/07/1995	7	1995	GINGIN MONITORING	GG10	12053466	WIN SAMP CUSTODIANS	1831090	GRAB	LEVLO	
6355	61710109	7:50:00	10/10/1995	10	1995	GINGIN MONITORING	GG10	12303652	WIN SAMP CUSTODIANS	1857992	GRAB	LEVLO	
6355	61710109	7:25:00	24/01/1996	1	1996	GINGIN MONITORING	GG10	12482597	WIN SAMP CUSTODIANS	1885203	GRAB	LEVLO	
6355	61710109	12:17:00	22/04/1996	4	1996	GINGIN MONITORING	GG10	12682445	WIN SAMP CUSTODIANS	1904194	GRAB	LEVLO	
6355	61710109	7:40:00	12/07/1996	7	1996	GINGIN MONITORING	GG10	12896604	WIN SAMP CUSTODIANS	1916164	GRAB	LEVLO	
6355	61710109	7:41:00	12/07/1996	7	1996	GINGIN MONITORING	GG10	12937982	WIN SAMP CUSTODIANS	1916148	GRAB	LEVLO	
6355	61710109	8:15:00	10/10/1996	10	1996	GINGIN MONITORING	GG10	13137235	WIN SAMP CUSTODIANS	1931591	GRAB	LEVLO	
6355	61710109	9:00:00	24/01/1997	1	1997	GINGIN MONITORING	GG10	14288967	WIN SAMP CUSTODIANS	2007081	GRAB	STAND	
6355	61710109	9:52:00	24/01/1997	1	1997	GINGIN MONITORING	GG10	13510839	WIN SAMP CUSTODIANS	1964449	GRAB	LEVLO	
6355	61710109	9:53:00	24/01/1997	1	1997	GINGIN MONITORING	GG10	13510983	WIN SAMP CUSTODIANS	1964497	GRAB	STAND	
6355	61710109	11:41:00	21/04/1997	4	1997	GINGIN MONITORING	GG10	13817844	WIN SAMP CUSTODIANS	1983536	GRAB	LEVLO	
6355	61710109	8:48:00	11/07/1997	7	1997	GINGIN MONITORING	GG10	14136076	WIN SAMP CUSTODIANS	1996873	GRAB	LEVLO	
6355	61710109	8:01:00	10/10/1997	10	1997	GINGIN MONITORING	GG10	14484059	WIN SAMP CUSTODIANS	2022130	GRAB	LEVLO	
6355	61710109	8:00:00	21/01/1998	1	1998	GINGIN MONITORING	GG10	14808170	WIN SAMP CUSTODIANS	2057814	GRAB	LEVLO	
6355	61710109	14:12:00	24/03/1998	3	1998	GINGIN MONITORING	GG10	14910461	WIN SAMP CUSTODIANS	2064155	GRAB	LEVLO	
6355	61710109	7:45:00	10/07/1998	7	1998	GINGIN MONITORING	GG10	15171154	WIN SAMP CUSTODIANS	2089808	GRAB	LEVLO	

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Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
6355	61710109	7:57:00	17/08/1998	8	1998	GINGIN MONITORING	GG10	15227740	WIN SAMP CUSTODIANS	2093490	GRAB	STAND	
6355	61710109	8:54:00	12/10/1998	10	1998	GINGIN MONITORING	GG10	15301935	WIN SAMP CUSTODIANS	2100271	GRAB	LEVLO	
6355	61710109	10:30:00	18/01/1999	1	1999	GINGIN MONITORING	GG10	15399362	WIN SAMP CUSTODIANS	2106036	GRAB	LEVLO	
6355	61710109	7:39:00	15/10/1999	10	1999	GINGIN MONITORING	GG10	23000759	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6355	61710109	11:16:00	28/06/2000	6	2000	GINGIN MONITORING	GG10	23011835	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6355	61710109	12:17:00	15/11/2000	11	2000	GINGIN MONITORING	GG10	23017377	WIN SAMP CUSTODIANS		GRAB	LEVLO	
6355	61710109	8:12:00	17/05/2001	5	2001	GINGIN MONITORING	GG10	23025732	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	8:20:00	24/10/2001	10	2001	GINGIN MONITORING	GG10	23039753	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	10:00:00	15/05/2002	5	2002	GINGIN MONITORING	GG10	23154971	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	13:34:00	21/11/2002	11	2002	GINGIN MONITORING	GG10	23224149	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	8:31:00	20/05/2003	5	2003	GINGIN MONITORING	GG10	23310209	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	8:31:00	14/10/2003	10	2003	GINGIN MONITORING	GG10	23381078	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	9:57:00	11/05/2004	5	2004	GINGIN MONITORING	GG10	23505976	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	7:58:00	15/10/2004	10	2004	GINGIN MONITORING	GG10	23623696	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	11:08:00	19/05/2005	5	2005	GINGIN MONITORING	GG10	23784255	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	9:02:00	30/09/2005	9	2005	GINGIN MONITORING	GG10	23842849	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	10:35:00	05/05/2006	5	2006	GINGIN MONITORING	GG10	23958909	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	9:13:00	24/10/2006	10	2006	GINGIN MONITORING	GG10	24067102	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	13:11:00	08/05/2007	5	2007	GINGIN MONITORING	GG10	24205509	WIN SAMP CUSTODIANS	GG10	PUMPS	STAND	10.000
6355	61710109	13:11:00	08/05/2007	5	2007	GINGIN MONITORING	GG10	24206725	WIN SAMP CUSTODIANS		PUMPS	STAND	10.000
6355	61710109	14:34:00	10/05/2007	5	2007	GINGIN MONITORING	GG10	24178495	WIN SAMP CUSTODIANS		INSIT	LEVLO	
6355	61710109	13:22:00	26/10/2007	10	2007	GINGIN MONITORING	GG10	24309712	WIN SAMP CUSTODIANS		INSIT	STAND	
6355	61710109	0:00:00	20/05/2008	5	2008	GINGIN MONITORING	GG10	24499827	WIN SAMP CUSTODIANS		INSIT	STAND	
6482	61719031	0:00:00	15/11/1964	11	1964	GINGIN TWS	2-64	20037001	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
6482	61719031	0:00:00	15/11/1964	11	1964	GINGIN TWS	2-64	20037002	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031294	61711544	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20036995	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031297	61711546	0:00:00	30/06/1942	6	1942	617 - MOORE-HILL BASIN	ARMY C2	20036997	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031297	61711546	0:00:00	30/06/1942	6	1942	617 - MOORE-HILL BASIN	ARMY C2	20036998	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031298	61711547	0:00:00	19/03/1964	3	1964	617 - MOORE-HILL BASIN	GINGIN NO. 1 TWS	20036999	WIN SAMP CUSTODIANS	10439	PUMPT	STAND	115.800
20031298	61711547	0:00:00	15/04/1964	4	1964	617 - MOORE-HILL BASIN	GINGIN NO. 1 TWS	20037000	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031301	61711548	0:00:00	23/03/1966	3	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20100896	WIN SAMP CUSTODIANS	4147	UNKWN	STAND	
20031301	61711548	0:00:00	23/03/1966	3	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20100897	WIN SAMP CUSTODIANS	4148	UNKWN	STAND	
20031301	61711548	0:00:00	12/04/1966	4	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20037005	WIN SAMP CUSTODIANS	4149	UNKWN	STAND	15.200
20031301	61711548	0:00:00	03/06/1966	6	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20037006	WIN SAMP CUSTODIANS	4161	UNKWN	STAND	24.400
20031301	61711548	0:00:00	30/06/1966	6	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO 5	20037007	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031302	61711549	0:00:00	30/06/1966	6	1966	617 - MOORE-HILL BASIN	GINGIN BROOK NO. 5A	20037008	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031303	61711550	0:00:00	19/06/1973	6	1973	617 - MOORE-HILL BASIN	ARTESIAN	20037009	WIN SAMP CUSTODIANS	38709	UNKWN	STAND	51.800
20031304	61711551	0:00:00	30/06/1960	6	1960	617 - MOORE-HILL BASIN	5	20037010	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031305	61711552	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	6	20037011	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031306	61711553	0:00:00	30/06/1963	6	1963	617 - MOORE-HILL BASIN	13	20037012	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031307	61711554	0:00:00	30/06/1938	6	1938	617 - MOORE-HILL BASIN	14	20037013	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031308	61711555	0:00:00	30/06/1955	6	1955	617 - MOORE-HILL BASIN	21	20037014	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031309	61711556	0:00:00	30/06/1963	6	1963	617 - MOORE-HILL BASIN	76	20037015	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031310	61716013	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	78	20037016	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031315	61711561	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037021	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031316	61716014	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037022	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031317	61711562	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037023	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031318	61711563	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037024	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031325	61711568	0:00:00	30/06/1957	6	1957	617 - MOORE-HILL BASIN	BORE	20037027	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031347	61711582	0:00:00	26/11/1992	11	1992	617 - MOORE-HILL BASIN	BORE	20037042	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031348	61711583	0:00:00	27/08/1993	8	1993	617 - MOORE-HILL BASIN	BORE	20037043	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031356	61711590	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037051	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031358	61716020	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037053	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031359	61716021	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037054	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031360	61711592	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037055	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031361	61711593	0:00:00	30/06/1912	6	1912	617 - MOORE-HILL BASIN	BORE	20037056	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031364	61711596	0:00:00	30/06/1970	6	1970	617 - MOORE-HILL BASIN	BORE	20037066	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031365	61711597	0:00:00	30/06/1956	6	1956	617 - MOORE-HILL BASIN	BORE	20037067	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031366	61711598	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	2	20037068	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	

Water Quality

Site Id	Reference Code	Time	Date	Month	Year	Context Name	Name	Sample Id	Group Code	Sample Number	Collection Method Code	Sample Subtype Code	Std Depth
20031368	61711600	0:00:00	30/06/1969	6	1969	617 - MOORE-HILL BASIN	BORE NO. 2 (8)	20037071	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031368	61711600	0:00:00	05/07/1973	7	1973	617 - MOORE-HILL BASIN	BORE NO. 2 (8)	20037070	WIN SAMP CUSTODIANS	38712	UNKWN	STAND	25.600
20031369	61711601	0:00:00	30/06/1961	6	1961	617 - MOORE-HILL BASIN	BEER MULLAH RD HOUSE BORE (FIELD NO 9)	20037072	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031370	61711602	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BOTTOM WELL (10)	20037073	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031371	61711603	0:00:00	30/06/1957	6	1957	617 - MOORE-HILL BASIN	FLATS BORE (FIELD NO 16)	20037074	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031372	61711604	0:00:00	30/06/1953	6	1953	617 - MOORE-HILL BASIN	WELL (17)	20037075	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031373	61711605	0:00:00	30/06/1948	6	1948	617 - MOORE-HILL BASIN	22	20037076	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031374	61711606	0:00:00	30/06/1950	6	1950	617 - MOORE-HILL BASIN	23	20037077	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031375	61711607	0:00:00	30/06/1907	6	1907	617 - MOORE-HILL BASIN	24	20037078	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031381	61711613	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	30	20037084	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031382	61711614	0:00:00	30/06/1969	6	1969	617 - MOORE-HILL BASIN	31	20037085	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031383	61711615	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	32	20037086	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031386	61711618	0:00:00	30/06/1971	6	1971	617 - MOORE-HILL BASIN	40	20037088	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031387	61711619	0:00:00	30/06/1960	6	1960	617 - MOORE-HILL BASIN	71	20037089	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031389	61711621	0:00:00	30/06/1971	6	1971	617 - MOORE-HILL BASIN	75	20037090	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031390	61711622	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	77	20037091	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031391	61711623	0:00:00	30/06/1970	6	1970	617 - MOORE-HILL BASIN	80	20037092	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031392	61711624	0:00:00	30/06/1971	6	1971	617 - MOORE-HILL BASIN	81	20037093	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031393	61711625	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	82	20037094	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031395	61711627	0:00:00	30/06/1972	6	1972	617 - MOORE-HILL BASIN	70	20037096	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031397	61711629	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037098	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031398	61711630	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037099	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031407	61711639	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037108	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031408	61711640	0:00:00	30/06/1963	6	1963	617 - MOORE-HILL BASIN	BORE	20037109	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031410	61711642	0:00:00	30/06/1959	6	1959	617 - MOORE-HILL BASIN	BORE	20037110	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031411	61711643	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037111	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031412	61711644	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037112	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031413	61711645	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037113	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031414	61711646	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037114	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031415	61711647	0:00:00	30/06/1962	6	1962	617 - MOORE-HILL BASIN	BORE	20037115	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031416	61711648	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	BORE	20037116	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031418	61711650	0:00:00	30/06/1973	6	1973	617 - MOORE-HILL BASIN	GINGIN OB10	20037118	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031427	61711654	0:00:00	15/04/1983	4	1983	617 - MOORE-HILL BASIN	NO. 1	20037125	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031427	61711654	0:00:00	10/11/1983	11	1983	617 - MOORE-HILL BASIN	NO. 1	20037126	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031428	61711655	0:00:00	15/10/1983	10	1983	617 - MOORE-HILL BASIN	NO 2	20037127	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031430	61711656	0:00:00	00/01/1900	12	1899	617 - MOORE-HILL BASIN	WELL	20037128	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031435	61711661	0:00:00	16/07/1990	7	1990	617 - MOORE-HILL BASIN	BORE	20037136	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031435	61711661	0:00:00	16/07/1990	7	1990	617 - MOORE-HILL BASIN	BORE	20037137	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031436	61711662	0:00:00	16/08/1989	8	1989	617 - MOORE-HILL BASIN	BORE	20037138	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031436	61711662	0:00:00	16/08/1989	8	1989	617 - MOORE-HILL BASIN	BORE	20037139	WIN SAMP CUSTODIANS	X	UNKWN	STAND	
20031437	61711663	0:00:00	24/01/1990	1	1990	617 - MOORE-HILL BASIN	BORE	20037140	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031438	61711664	0:00:00	01/06/1990	6	1990	617 - MOORE-HILL BASIN	BORE	20037141	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031439	61711665	0:00:00	28/02/1991	2	1991	617 - MOORE-HILL BASIN	LEYSSENAAR NO. 2	20037142	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031440	61711666	0:00:00	16/08/1989	8	1989	617 - MOORE-HILL BASIN	BORE	20037143	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031442	61711668	0:00:00	15/12/1990	12	1990	617 - MOORE-HILL BASIN	BORE	20037144	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
20031446	61711672	0:00:00	15/12/1992	12	1992	617 - MOORE-HILL BASIN	GRESELE	20037145	WIN SAMP CUSTODIANS	Field	PUMPS	STAND	
20031448	61711674	0:00:00	01/11/1997	11	1997	617 - MOORE-HILL BASIN	BORE	20037146	WIN SAMP CUSTODIANS	Field	UNKWN	STAND	
23030959	61710525	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10A	24630902	WIN SAMP CUSTODIANS		INSIT	STAND	
23030959	61710525	0:00:00	22/10/2008	10	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10A	24630924	WIN SAMP CUSTODIANS		INSIT	STAND	
23030959	61710525	15:00:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10A	24699172	WIN SAMP CUSTODIANS		PUMPS	STAND	23.000
23030960	61710526	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10B	24630903	WIN SAMP CUSTODIANS		INSIT	STAND	
23030960	61710526	0:00:00	22/10/2008	10	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10B	24630925	WIN SAMP CUSTODIANS		INSIT	STAND	
23030960	61710526	15:08:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 10B	24699173	WIN SAMP CUSTODIANS		PUMPS	STAND	5.000
23030961	61710527	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11A	24630904	WIN SAMP CUSTODIANS		INSIT	STAND	
23030961	61710527	13:00:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11A	24699170	WIN SAMP CUSTODIANS		PUMPS	STAND	23.000
23030962	61710528	0:00:00	19/09/2008	9	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11B	24630905	WIN SAMP CUSTODIANS		INSIT	STAND	
23030962	61710528	13:30:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 11B	24699171	WIN SAMP CUSTODIANS		PUMPS	STAND	18.000
23030963	61710529	10:50:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 12A	24699168	WIN SAMP CUSTODIANS		PUMPS	STAND	23.000
23030964	61710530	11:15:00	09/12/2008	12	2008	GINGIN BROOK CATCMNT	GINGIN BROOK 12B	24699169	WIN SAMP CUSTODIANS		PUMPS	STAND	10.000

Water Quality

Site Id	Std Depth To Range	Sample Matrix Code	Frequency Code	Win Comment	Alkalinity (CO3-CO3) (mg/L)	Alkalinity (CO3-CaCO3) (mg/L)	Alkalinity (HCO3-CaCO3) (mg/L)
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	UNK				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	IRREG			<1	94
6355		WATER	IRREG				
6355		WATER	REG				
6355		WATER	REG				
6355		WATER	REG	Destroyed			
6482		WATER	UNK				
6482		WATER	UNK				
20031294		WATER	UNK				
20031297		WATER	UNK				
20031297		WATER	UNK				
20031298	121.900	WATER	UNK	Appearance: Clear. Odour NIL. HARDNESS CALCIUM: 5, MAGNESIUM: 16.	0		
20031298		WATER	UNK				
20031301		WATER	UNK	Odour Earthy	0		
20031301		WATER	UNK	Odour Nil	0		
20031301	30.500	WATER	UNK	Appearance: Clear with slight brown deposit. Odour NIL	0		
20031301		WATER	UNK	ODOUR: EARTHY. Appearance: Slightly cloudy with heavy brown deposit.			
20031301		WATER	UNK				
20031302		WATER	UNK				
20031303	61.000	WATER	UNK	NACL CALC FROM CHLORIDE. Turbidity: clear, Odour nil.			
20031304		WATER	UNK				
20031305		WATER	UNK				
20031306		WATER	UNK				
20031307		WATER	UNK				
20031308		WATER	UNK				
20031309		WATER	UNK				
20031310		WATER	UNK				
20031315		WATER	UNK				
20031316		WATER	UNK				
20031317		WATER	UNK				
20031318		WATER	UNK				
20031325		WATER	UNK				
20031347		WATER	UNK				
20031348		WATER	UNK				
20031356		WATER	UNK				
20031358		WATER	UNK				
20031359		WATER	UNK				
20031360		WATER	UNK				
20031361		WATER	UNK				
20031364		WATER	UNK				
20031365		WATER	UNK				
20031366		WATER	UNK				

Water Quality

Site Id	Std Depth To Range	Sample Matrix Code	Frequency Code	Win Comment	Alkalinity (CO3-CO3) (mg/L)	Alkalinity (CO3-CaCO3) (mg/L)	Alkalinity (HCO3-CaCO3) (mg/L)
20031368		WATER	UNK				
20031368	27.100	WATER	UNK	NACL CALC FROM CHLORIDE. Turbidity: clear with slight brown colour, Odour nil.	0		
20031369		WATER	UNK				
20031370		WATER	UNK				
20031371		WATER	UNK				
20031372		WATER	UNK				
20031373		WATER	UNK				
20031374		WATER	UNK				
20031375		WATER	UNK				
20031381		WATER	UNK				
20031382		WATER	UNK				
20031383		WATER	UNK				
20031386		WATER	UNK				
20031387		WATER	UNK				
20031389		WATER	UNK				
20031390		WATER	UNK				
20031391		WATER	UNK				
20031392		WATER	UNK				
20031393		WATER	UNK				
20031395		WATER	UNK				
20031397		WATER	UNK				
20031398		WATER	UNK				
20031407		WATER	UNK				
20031408		WATER	UNK				
20031410		WATER	UNK				
20031411		WATER	UNK				
20031412		WATER	UNK				
20031413		WATER	UNK				
20031414		WATER	UNK				
20031415		WATER	UNK				
20031416		WATER	UNK				
20031418		WATER	UNK				
20031427		WATER	UNK				
20031427		WATER	UNK				
20031428		WATER	UNK				
20031430		WATER	UNK				
20031435		WATER	UNK				
20031435		WATER	UNK				
20031436		WATER	UNK				
20031436		WATER	UNK				
20031437		WATER	UNK				
20031438		WATER	UNK				
20031439		WATER	UNK				
20031440		WATER	UNK				
20031442		WATER	UNK				
20031446		WATER	UNK				
20031448		WATER	UNK				
23030959		WATER	IRREG				
23030959		WATER	ONCE			<1	210
23030960		WATER	IRREG				
23030960		WATER	IRREG				
23030960		WATER	ONCE			<1	560
23030961		WATER	IRREG				
23030961		WATER	ONCE			<1	43
23030962		WATER	IRREG				
23030962		WATER	ONCE			<1	25
23030963		WATER	ONCE			<1	100
23030964		WATER	ONCE			<1	45

Water Quality

Site Id	Alkalinity (HCO3-HCO3) (mg/L)	Alkalinity (tot) (CaCO3) (mg/L)	Appearance (primary colour) ((none))	As (sol) (mg/L)	B (sol) (mg/L)	B (tot) (mg/L)	Borehole water supply ((none))	Borehole water supply (m3/day)	CO2 (mg/L)	Ca (sol) (mg/L)
20031368								10.9104		
20031368	308	253								107
20031369										
20031370										
20031371										
20031372										
20031373										
20031374										
20031375										
20031381										
20031382								1309.272		
20031383										
20031386										
20031387										
20031389										
20031390										
20031391										
20031392								-0		
20031393										
20031395										
20031397								4.546		
20031398								50.006		
20031407								9.092		
20031408								1.8184		
20031410								13.638		
20031411								6.819		
20031412										
20031413								9.092		
20031414										
20031415								45.46		
20031416								68.19		
20031418										
20031427										
20031427										
20031428										
20031430										
20031435								21.8212		
20031435								4.6		
20031436										
20031436								263		
20031437										
20031438										
20031439										
20031440										
20031442								163.659		
20031446								103.68		
20031448										
23030959								345.602		
23030959										
23030959					0.1					110
23030960										
23030960										
23030960					0.065					9
23030961										
23030961					0.095					14
23030962										
23030962					0.054					6
23030963					0.14					38
23030964					0.16					45

Water Quality

Site Id	Cl (sol) (mg/L)	Colour (true) (Hu)	Cond calc 25 deg C (µS/cm)	Cond comp 25 deg C (lab) (µS/cm)	Cond comp 25 deg C (µS/cm)	Cond uncomp (in situ) (µS/cm)	Cond uncomp (lab) (µS/cm)	Cu (sol) (mg/L)	Depth to bottom of bore (BTOC) (m)
6355									51.6999969
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355									
6355	1900			6350			6070		
6355						6460			
6355									
6355									
6355									
6482									
6482									
20031294									
20031297									
20031297	433								
20031298	81				320.6				
20031298									
20031301	480				1691.5				
20031301					464.3				
20031301	255				1426.2				
20031301					1127.6				
20031301									
20031302									
20031303	239				851.2				
20031304									
20031305									
20031306									
20031307									
20031308									
20031309									
20031310									
20031315									
20031316									
20031317									
20031318									
20031325									
20031347									
20031348									
20031356									
20031358									
20031359									
20031360									
20031361									
20031364									
20031365									
20031366									

Water Quality

Site Id	Cl (sol) (mg/L)	Colour (true) (Hu)	Cond calc 25 deg C (µS/cm)	Cond comp 25 deg C (lab) (µS/cm)	Cond comp 25 deg C (µS/cm)	Cond uncomp (in situ) (µS/cm)	Cond uncomp (lab) (µS/cm)	Cu (sol) (mg/L)	Depth to bottom of bore (BTOC) (m)
20031368	1120				3836.3				
20031369									
20031370									
20031371									
20031372									
20031373									
20031374									
20031375									
20031381									
20031382									
20031383									
20031386									
20031387									
20031389									
20031390									
20031391									
20031392									
20031393									
20031395									
20031397									
20031398									
20031407									
20031408									
20031410									
20031411									
20031412									
20031413									
20031414									
20031415									
20031416									
20031418									
20031427									
20031427									
20031428									
20031430									
20031435									
20031435									
20031436									
20031436									
20031437									
20031438									
20031439									
20031440									
20031442									
20031446									
20031448									
23030959									
23030959	840			3000			2930		
23030960									
23030960									
23030960	540			2680			2620		
23030961									
23030961	400			1460			1420		
23030962									
23030962	290			1100			1070		
23030963	460			1730			1680		
23030964	1100			3610			3510		

Water Quality

Site Id	Depth to bottom of bore (SLE) (m)	Drawdown level (pump test) (m)	Eh {RP, Redox} (mV)	F (sol) (mg/L)	Fe (sol) (mg/L)	Fe (tot) (mg/L)	Fe II (mg/L)	Hardness (carb) (CaCO3) (mg/L)	Hardness (non-carb) (CaCO3) (mg/L)
20031368									
20031368				0.5	5.2				
20031369									
20031370									
20031371									
20031372									
20031373									
20031374									
20031375									
20031381									
20031382									
20031383									
20031386									
20031387									
20031389									
20031390									
20031391									
20031392									
20031393									
20031395									
20031397									
20031398									
20031407									
20031408									
20031410									
20031411									
20031412									
20031413									
20031414									
20031415									
20031416									
20031418									
20031427									
20031427									
20031428									
20031430									
20031435									
20031435									
20031436									
20031436									
20031437									
20031438									
20031439									
20031440									
20031442									
20031446		15							
20031448									
23030959									
23030959									
23030959				0.4	14	15			
23030960									
23030960									
23030960				2.3	0.77	5.7			
23030961									
23030961				<0.2	6.1	6.5			
23030962									
23030962				0.2	0.062	1.4			
23030963				0.3	5.8	6.1			
23030964				0.6	4.4	4.4			

Water Quality

Site Id	Hardness (tot) (CaCO3) (Ca+Mg) (mg/L)	K (sol) (mg/L)	K (tot) (mg/L)	Mg (sol) (mg/L)	Mn (sol) (mg/L)	N (tot) (TN, pTN) (mg/L)	NH3-N/NH4-N (sol) (mg/L)	NO3 (sol) (mg/L)	NO3-N (sol) (mg/L)	Na (sol) (mg/L)	NaCl (mg/L)	Null reading ()
20031368												
20031368	588	10		78				1		572	1850	
20031369												
20031370												
20031371												
20031372												
20031373												
20031374												
20031375												
20031381												
20031382												
20031383												
20031386												
20031387												
20031389												
20031390												
20031391												
20031392												
20031393												
20031395												
20031397												
20031398												
20031407												
20031408												
20031410												
20031411												
20031412												
20031413												
20031414												
20031415												
20031416												
20031418												
20031427												
20031427												
20031428												
20031430												
20031435												
20031435												
20031436												
20031436												
20031437												
20031438												
20031439												
20031440												
20031442												
20031446												
20031448												
23030959												
23030959		11		43	0.49				<0.01	450		
23030960												
23030960												
23030960		2		43	0.043				0.041	530		
23030961												
23030961		13		25	0.13				<0.01	230		
23030962												
23030962		6		17	0.018				0.57	180		
23030963		10		26	0.13				<0.01	260		
23030964		18		79	0.2				<0.01	570		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349										2890
6349								2.96		
6349								2.84		
6349								2.68		
6349								3.43		
6349								2.98		
6349								3.29		
6349								3.8		
6349								4.1		
6349								3.55		
6349								2.23		
6349								3.45		
6349								3.33		
6349								3.32		
6349								3.38		
6349		0.220000029	0.030000001		84		41		<839	850
6349								4.6		
6349								4.26		
6349								4		
6349								3.8		
6349								3.5		
6349								4.02		
6349								4.26		
6349								4.48		
6349								4.53		
6349								4.62		
6349								4.36		
6349								3.72		
6349								3.7		
6349								3.71		
6349								3.8		
6349								3.91		
6349								4.18		
6349								4.35		
6349								4.5		
6349								4.81		
6349								4.29		
6349								3.7		
6349								3.88		
6349								3.62		
6349								1.86		
6349								1.86		
6349								2.21		
6349								2.56		
6349								3.18		
6349								3.35		
6349								3.6		
6349								3.71		
6349								3.81		
6349								3.01		
6349								2.04		
6349								1.93		
6349								1.84		
6349								2.39		
6349								2.34		
6349								2.73		
6349								2.9		
6349								3.23		
6349								3.37		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349								3.07		
6349								1.99		
6349								1.77		
6349								1.51		
6349								1.6		
6349								1.55		
6349								2.08		
6349								1.97		
6349								2.05		
6349								2.7		
6349								3.08		
6349								3.18		
6349								3.26		
6349								3.3		
6349								3.89		
6349								3.8		
6349								2.62		
6349								1.82		
6349								3.06		
6349								3.48		
6349								3.85		
6349								4		
6349								3.33		
6349								3.19		
6349								3.16		
6349								2.26		
6349								0.825		
6349								2.33		
6349								2.505		
6349								2.295		
6349								2.485		
6349								2.9		
6349								3.93		
6349								4.535		
6349								4.625		
6349								4.58		
6349								4.49		
6349								3.29		
6349								2.42		
6349								3.74		
6349								3.22		
6349								2.67		
6349										
6349								3.04		
6349								3.38		
6349								4.66		
6349								4.88		
6349								5		
6349								4.9		
6349								3.9		
6349								2.78		
6349								2.29		
6349								2.53		
6349								2.74		
6349										
6349								2.81		
6349								2.28		
6349										
6349								4.68		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349								2.15		
6349								3.92		
6349								4.82		
6349								4.48		
6349								3.41		
6349								3.19		
6349								4.78		
6349								4.77		
6349								2.19		
6349								2.84		
6349								3.71		
6349										
6349								4.49		
6349								2.32		
6349								4.15		
6349								4.78		
6349										
6349								5.02		
6349								3.92		
6349								4.29		
6349								4.27		
6349										
6349								5.05		
6349								3.42		
6349								4		
6349								4.36		
6349								4.68		
6349								2.54		
6349								3.68		
6349								4.18		
6349								4.5		
6349								3.04		
6349										
6349								3.81		
6349										
6349								4.44		
6349										
6349								4.35		
6349								2.88		
6349								3.43		
6349								4.14		
6349								4.31		
6349								1.9		
6349										
6349								2.88		
6349								4.15		
6349								2.81		
6349								3.14		
6349								3.92		
6349								3.74		
6349								2.14		
6349								3.88		
6349								4.27		
6349								3.36		
6349								2.49		
6349								4.1		
6349								2.36		
6349								2.18		
6349										

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6349								3.19		
6349								2.09		
6349				6			26			
6349								3.5		
6349								3.37		
6349								2.39		
6349								3.12		
6349								1.9		
6355								1.76		
6355								1.455		
6355								1.01		
6355								0.7		
6355								0.62		
6355								0.75		
6355								1.22		
6355								1.37		
6355								1.49		
6355								1.51		
6355								1.58		
6355								0.97		
6355								0.92		
6355								0.76		
6355								0.62		
6355								0.69		
6355								0.84		
6355								1.05		
6355								1.69		
6355								1.34		
6355								1.52		
6355								1.615		
6355								1.64		
6355								1.56		
6355								1.25		
6355								0.805		
6355								0.58		
6355								0.73		
6355								0.96		
6355								1.19		
6355								1.42		
6355								1.53		
6355								1.51		
6355								1.32		
6355								1.185		
6355								0.99		
6355								0.92		
6355								1.22		
6355								1.74		
6355								1.73		
6355								1.28		
6355								1.23		
6355								1.01		
6355								1.22		
6355								1.3		
6355								1.4		
6355								1.45		
6355								1.54		
6355								1.6		
6355								1.66		
6355								1.72		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355								1.41		
6355								0.76		
6355								0.6		
6355								0.81		
6355								0.61		
6355								1.03		
6355								1.29		
6355								1.33		
6355								1.4		
6355								1.47		
6355								1.4		
6355								1.5		
6355								1.5		
6355								1.55		
6355								0.79		
6355								0.84		
6355								0.88		
6355								1.14		
6355								1.24		
6355								1.43		
6355								1.45		
6355								1.52		
6355								1.64		
6355								1.59		
6355								1.64		
6355								1.42		
6355								0.72		
6355								0.87		
6355								0.97		
6355								1.13		
6355								1.28		
6355		0.069999993	<0.0100000016		33	-2.600000038	73		<3459	3390
6355		0.069999993	<0.0100000016		33		73		<3459	
6355								1.47		
6355								1.56		
6355								1.68		
6355								1.77		
6355								1.82		
6355								1.87		
6355								0.91		
6355								0.91		
6355								0.75		
6355								0.98		
6355								1.22		
6355								1.41		
6355								1.5		
6355								1.549		
6355								1.559		
6355								1.669		
6355								1.469		
6355								1.759		
6355								1.239		
6355								0.999		
6355								0.919		
6355								0.899		
6355								1.209		
6355								1.419		
6355								1.489		
6355								1.579		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355								1.679		
6355								1.779		
6355								1.849		
6355								1.899		
6355								1.549		
6355								1.199		
6355								0.919		
6355								0.859		
6355								1.189		
6355								1.179		
6355								1.379		
6355								1.449		
6355								1.589		
6355								1.669		
6355								1.649		
6355								1.469		
6355								1.249		
6355								1.149		
6355								0.919		
6355								0.809		
6355								1.259		
6355								1.339		
6355								1.399		
6355								1.559		
6355								1.629		
6355								1.729		
6355								1.789		
6355								1.819		
6355								1.729		
6355								1.609		
6355								1.159		
6355								0.789		
6355								1.299		
6355								1.459		
6355								1.57		
6355								1.67		
6355								1.67		
6355								1.47		
6355								1.61		
6355								1.51		
6355								0.86		
6355								0.68		
6355								0.63		
6355								0.83		
6355								0.85		
6355								1.185		
6355								1.32		
6355								1.42		
6355								1.525		
6355								1.615		
6355								1.65		
6355								1.62		
6355								1.305		
6355								0.94		
6355								0.84		
6355								0.9		
6355								0.995		
6355								1.26		
6355								1.34		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355								1.47		
6355								1.41		
6355								1.48		
6355								1.62		
6355								1.56		
6355								1.67		
6355								1.69		
6355								1.09		
6355								0.79		
6355								0.73		
6355								0.83		
6355								0.91		
6355								1.24		
6355								1.42		
6355								1.7		
6355								1.26		
6355								1.15		
6355								1.47		
6355								1.41		
6355								1.01		
6355								0.97		
6355								1.52		
6355								1.56		
6355								0.66		
6355								1		
6355								1.41		
6355								1.42		
6355								0.77		
6355								1.02		
6355								1.44		
6355								1.72		
6355								0.94		
6355								1.08		
6355								1.46		
6355								1.74		
6355								0.73		
6355								1.18		
6355								1.48		
6355								1.72		
6355								0.73		
6355								1.05		
6355								1.38		
6355								1.7		
6355								1.06		
6355								0.86		
6355								1.41		
6355								1.45		
6355								1.18		
6355								0.95		
6355								1.2		
6355								1.65		
6355								0.88		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
6355										
6355								0.98		
6355								1.45		
6355								0.53		
6355								1.3		
6355								1.28		
6355								1.62		
6355								1.09		
6355								1.54		
6355								1.38		
6355								1.39		
6355								0.92		
6355								1.65		
6355								1.16		
6355								1.53		
6355								0.81		
6355								1.68		
6355								1.28		
6355				22			76			
6355								1.82		
6355								1.62		
6355								1.34		
6355										
6482								2.59		
6482										
20031294										
20031297								62.48		
20031297										
20031298				12						
20031298								3.81		
20031301				37			27			
20031301				13			15			
20031301				64			30			
20031301										
20031301										
20031302										
20031303				21			39			
20031304								11.89		
20031305								0		
20031306								43.89		
20031307								4.57		
20031308										
20031309								7.01		
20031310								1.22		
20031315								11.69		
20031316								3.05		
20031317								0.86		
20031318								1.83		
20031325								1.83		
20031347								35.5		
20031348								20		
20031356										
20031358										
20031359										
20031360										
20031361								2.44		
20031364								11.58		
20031365								4		
20031366								2.7		

Water Quality

Site Id	Odour (in situ) ((none))	P (sol) (mg/L)	Pb (sol) (mg/L)	SO4 (sol) (mg/L)	SO4 (tot) (mg/L)	Saturation index ((none))	SiO2 (sol react) (mg/L)	Static water level (m)	TDSalts (sum of ions) (mg/L)	TDSolids (calc @180°C)-HCO3 (mg/L)
20031368								3.96		
20031368				14			24			
20031369								15.24		
20031370								25		
20031371								6.1		
20031372								2.44		
20031373								2.44		
20031374								3.05		
20031375								1.83		
20031381								1.52		
20031382								10.67		
20031383								1.52		
20031386								0		
20031387										
20031389								4.57		
20031390								0		
20031391								1.83		
20031392										
20031393										
20031395								12.19		
20031397								0.91		
20031398								4.27		
20031407								1.83		
20031408								0		
20031410								10.67		
20031411								1.83		
20031412								1.83		
20031413								3.96		
20031414								7.62		
20031415								9.14		
20031416								1.52		
20031418								1		
20031427								3		
20031427										
20031428								2.43		
20031430								6.1		
20031435										
20031435										
20031436								3		
20031436										
20031437								5.79		
20031438								3.6		
20031439								8.6		
20031440								3		
20031442								26.97		
20031446								7		
20031448								4		
23030959								7.63		
23030959								7.69		
23030959							41			
23030960								4.11		
23030960								4.05		
23030960							77			
23030961								12.32		
23030961							40			
23030962								13.73		
23030962							36			
23030963							34			
23030964							45			

Water Quality

Site Id	TDSolids (cond) (mg/L)	TDSolids (evap @180°C) (mg/L)	TDSolids (in situ) ((none))	TDSolids (in situ) (mg/L)	Temperature (in situ) (deg C)	Temperature (lab test) (deg C)	Test time (tot) (h)	Turbidity (NTU)	pH ((none))
20031368				2300					
20031368	2430	2220				20			6.8
20031369				1900					
20031370				325					
20031371				1383					
20031372				650					
20031373				120					
20031374				125					
20031375				880					
20031381				223					
20031382				1627					
20031383				643					
20031386				406					
20031387				300					
20031389				1133					
20031390				410					
20031391				410					
20031392				3990					
20031393				268					
20031395				201					
20031397				228					
20031398				228					
20031407									
20031408									
20031410									
20031411									
20031412									
20031413									
20031414									
20031415				1144					
20031416									
20031418									
20031427				210					
20031427				230					
20031428									
20031430									
20031435				1133					
20031435									7.3
20031436				550					
20031436									5.6
20031437									
20031438									
20031439									
20031440				500					
20031442									
20031446									
20031448									
23030959									
23030959		1800				23.8			7.3
23030960									
23030960									
23030960		1600				23.9			7.7
23030961									
23030961		780				23.6			6
23030962									
23030962		580				23.6			5.9
23030963		910				23.6			6.4
23030964		2150				23.6			6.1

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/07/1977	=	60.240	m	AHD	2.960	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 25/08/1977	=	60.360	m	AHD	2.840	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/09/1977	=	60.520	m	AHD	2.680	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/10/1977	=	59.770	m	AHD	3.430	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 28/11/1977	=	60.220	m	AHD	2.980	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/12/1977	=	59.910	m	AHD	3.290	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 31/03/1978	=	59.400	m	AHD	3.800	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 03/05/1978	=	59.100	m	AHD	4.100	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/05/1978	=	59.650	m	AHD	3.550	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/07/1978	=	60.970	m	AHD	2.230	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/08/1978	=	59.750	m	AHD	3.450	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/09/1978	=	59.870	m	AHD	3.330	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 26/10/1978	=	59.880	m	AHD	3.320	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/11/1978	=	59.820	m	AHD	3.380	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/02/1979	=	58.600	m	AHD	4.600	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 28/06/1979	=	58.940	m	AHD	4.260	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/07/1979	=	59.200	m	AHD	4.000	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/08/1979	=	59.400	m	AHD	3.800	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/09/1979	=	59.700	m	AHD	3.500	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/11/1979	=	59.180	m	AHD	4.020	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/12/1979	=	58.940	m	AHD	4.260	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 24/01/1980	=	58.720	m	AHD	4.480	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 24/03/1980	=	58.670	m	AHD	4.530	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 23/04/1980	=	58.580	m	AHD	4.620	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/05/1980	=	58.840	m	AHD	4.360	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 30/07/1980	=	59.480	m	AHD	3.720	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 25/08/1980	=	59.500	m	AHD	3.700	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 26/09/1980	=	59.490	m	AHD	3.710	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 28/10/1980	=	59.400	m	AHD	3.800	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 26/11/1980	=	59.290	m	AHD	3.910	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/12/1980	=	59.020	m	AHD	4.180	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 28/01/1981	=	58.850	m	AHD	4.350	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 31/03/1981	=	58.700	m	AHD	4.500	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/04/1981	=	58.390	m	AHD	4.810	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/05/1981	=	58.910	m	AHD	4.290	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/06/1981	=	59.500	m	AHD	3.700	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 23/07/1981	=	59.320	m	AHD	3.880	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/08/1981	=	59.580	m	AHD	3.620	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/09/1982	=	61.340	m	AHD	1.860	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 28/10/1982	=	61.340	m	AHD	1.860	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/11/1982	=	60.990	m	AHD	2.210	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/12/1982	=	60.640	m	AHD	2.560	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/01/1983	=	60.020	m	AHD	3.180	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 25/02/1983	=	59.850	m	AHD	3.350	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 18/03/1983	=	59.600	m	AHD	3.600	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 26/04/1983	=	59.490	m	AHD	3.710	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 23/05/1983	=	59.390	m	AHD	3.810	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/06/1983	=	60.190	m	AHD	3.010	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/07/1983	=	61.160	m	AHD	2.040	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/08/1983	=	61.270	m	AHD	1.930	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/09/1983	=	61.360	m	AHD	1.840	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/10/1983	=	60.810	m	AHD	2.390	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/11/1983	=	60.860	m	AHD	2.340	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 16/12/1983	=	60.470	m	AHD	2.730	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 19/01/1984	=	60.300	m	AHD	2.900	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/02/1984	=	59.970	m	AHD	3.230	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 26/03/1984	=	59.830	m	AHD	3.370	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 12/04/1984	=	60.130	m	AHD	3.070	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/05/1984	=	61.210	m	AHD	1.990	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 25/06/1984	=	61.430	m	AHD	1.770	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 23/07/1984	=	61.690	m	AHD	1.510	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 23/08/1984	=	61.600	m	AHD	1.600	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/09/1984	=	61.650	m	AHD	1.550	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 19/10/1984	=	61.120	m	AHD	2.080	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 19/11/1984	=	61.230	m	AHD	1.970	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 27/12/1984	=	61.150	m	AHD	2.050	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/01/1985	=	60.500	m	AHD	2.700	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/02/1985	=	60.120	m	AHD	3.080	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/03/1985	=	60.020	m	AHD	3.180	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 19/04/1985	=	59.940	m	AHD	3.260	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 16/05/1985	=	59.900	m	AHD	3.300	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/06/1985	=	59.310	m	AHD	3.890	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 17/07/1985	=	59.400	m	AHD	3.800	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 22/08/1985	=	60.580	m	AHD	2.620	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 23/09/1985	=	61.380	m	AHD	1.820	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/11/1985	=	60.140	m	AHD	3.060	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 18/12/1985	=	59.720	m	AHD	3.480	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 29/01/1986	=	59.350	m	AHD	3.850	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 20/02/1986	=	59.200	m	AHD	4.000	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:00:00 21/03/1986	=	59.870	m	AHD	3.330	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:05:00 22/04/1986	=	60.010	m	AHD	3.190	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:37:00 20/05/1986	=	60.040	m	AHD	3.160	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:37:00 08/07/1986	=	60.940	m	AHD	2.260	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:00:00 31/07/1986	=	62.375	m	AHD	0.825	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:42:00 25/08/1986	=	60.870	m	AHD	2.330	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:34:00 18/09/1986	=	60.695	m	AHD	2.505	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:30:00 20/10/1986	=	60.905	m	AHD	2.295	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:05:00 06/11/1986	=	60.715	m	AHD	2.485	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	15:30:00 02/12/1986	=	60.300	m	AHD	2.900	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:21:00 07/01/1987	=	59.270	m	AHD	3.930	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:40:00 17/02/1987	=	58.665	m	AHD	4.535	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:48:00 09/03/1987	=	58.575	m	AHD	4.625	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:25:00 01/04/1987	=	58.620	m	AHD	4.580	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:55:00 06/05/1987	=	58.710	m	AHD	4.490	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:45:00 11/06/1987	=	59.910	m	AHD	3.290	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:04:00 06/07/1987	=	60.780	m	AHD	2.420	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:37:00 05/08/1987	=	59.460	m	AHD	3.740	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:04:00 04/09/1987	=	59.980	m	AHD	3.220	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:56:00 08/10/1987	=	60.530	m	AHD	2.670	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:16:00 04/11/1987	=	60.160	m	AHD	3.040	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:32:00 01/12/1987	=	59.820	m	AHD	3.380	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:11:00 08/02/1988	=	58.540	m	AHD	4.660	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:21:00 03/03/1988	=	58.320	m	AHD	4.880	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:32:00 06/04/1988	=	58.200	m	AHD	5.000	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:19:00 04/05/1988	=	58.300	m	AHD	4.900	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:11:00 22/06/1988	=	59.300	m	AHD	3.900	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:04:00 27/07/1988	=	60.420	m	AHD	2.780	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:24:00 22/08/1988	=	60.910	m	AHD	2.290	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:20:00 29/09/1988	=	60.670	m	AHD	2.530	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:23:00 10/10/1988	=	60.460	m	AHD	2.740	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:30:00 24/11/1988	=	60.390	m	AHD	2.810	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:03:00 18/01/1989	=	60.920	m	AHD	2.280	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:37:00 17/04/1989	=	58.520	m	AHD	4.680	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:50:00 05/07/1989	=	61.050	m	AHD	2.150	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:58:00 26/10/1989	=	59.280	m	AHD	3.920	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	15:35:00 15/01/1990	=	58.380	m	AHD	4.820	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:20:00 03/04/1990	=	58.720	m	AHD	4.480	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:45:00 16/07/1990	=	59.790	m	AHD	3.410	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:45:00 16/10/1990	=	60.010	m	AHD	3.190	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:25:00 29/01/1991	=	58.420	m	AHD	4.780	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:45:00 15/04/1991	=	58.430	m	AHD	4.770	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:20:00 25/07/1991	=	61.010	m	AHD	2.190	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:30:00 15/10/1991	=	60.360	m	AHD	2.840	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:00:00 22/01/1992	=	59.490	m	AHD	3.710	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:45:00 13/04/1992	=	58.710	m	AHD	4.490	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:25:00 21/07/1992	=	60.880	m	AHD	2.320	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:50:00 19/10/1992	=	59.050	m	AHD	4.150	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:00:00 20/01/1993	=	58.420	m	AHD	4.780	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:45:00 22/04/1993	=	58.180	m	AHD	5.020	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:10:00 27/07/1993	=	59.280	m	AHD	3.920	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:55:00 25/10/1993	=	58.910	m	AHD	4.290	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:55:00 21/01/1994	=	58.930	m	AHD	4.270	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:05:00 22/04/1994	=	58.150	m	AHD	5.050	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:39:00 14/07/1994	=	59.780	m	AHD	3.420	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:25:00 14/10/1994	=	59.200	m	AHD	4.000	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:49:00 13/01/1995	=	58.840	m	AHD	4.360	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:20:00 06/04/1995	=	58.520	m	AHD	4.680	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:07:00 12/07/1995	=	60.660	m	AHD	2.540	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	08:58:00 10/10/1995	=	59.520	m	AHD	3.680	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:04:00 24/01/1996	=	59.020	m	AHD	4.180	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:11:00 22/04/1996	=	58.700	m	AHD	4.500	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	08:55:00 12/07/1996	=	60.160	m	AHD	3.040	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:50:00 10/10/1996	=	59.390	m	AHD	3.810	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:44:00 24/01/1997	=	58.760	m	AHD	4.440	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:51:00 21/04/1997	=	58.850	m	AHD	4.350	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:40:00 11/07/1997	=	60.320	m	AHD	2.880	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	08:52:00 10/10/1997	=	59.770	m	AHD	3.430	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:20:00 21/01/1998	=	59.060	m	AHD	4.140	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:30:00 24/03/1998	=	58.890	m	AHD	4.310	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:10:00 10/07/1998	=	61.300	m	AHD	1.900	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:25:00 12/10/1998	=	60.320	m	AHD	2.880	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:22:00 18/01/1999	=	59.050	m	AHD	4.150	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	08:43:00 15/10/1999	=	60.390	m	AHD	2.810	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:55:00 28/06/2000	=	60.060	m	AHD	3.140	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:36:00 16/11/2000	=	59.280	m	AHD	3.920	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:12:00 17/05/2001	=	59.460	m	AHD	3.740	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:03:00 24/10/2001	=	61.060	m	AHD	2.140	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:43:00 15/05/2002	=	59.320	m	AHD	3.880	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	12:47:00 21/11/2002	=	58.930	m	AHD	4.270	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:10:00 20/05/2003	=	59.840	m	AHD	3.360	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:11:00 14/10/2003	=	60.710	m	AHD	2.490	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	10:47:00 11/05/2004	=	59.100	m	AHD	4.100	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	08:40:00 15/10/2004	=	60.840	m	AHD	2.360	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:58:00 19/05/2005	=	61.020	m	AHD	2.180	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	11:30:00 05/05/2006	=	60.010	m	AHD	3.190	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	09:47:00 24/10/2006	=	61.110	m	AHD	2.090	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:55:00 08/05/2007	=	59.700	m	AHD	3.500	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:58:00 10/05/2007	=	59.830	m	AHD	3.370	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:38:00 26/10/2007	=	60.810	m	AHD	2.390	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	14:05:00 20/05/2008	=	60.080	m	AHD	3.120	Static water level
6349	61710103	GNANGARA MOUND MONITOR	GB10	50	390047	6532202	13:46:00 03/10/2008	=	61.300	m	AHD	1.900	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 03/05/1973	=	73.749	m	AHD	1.760	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 05/06/1973	=	74.054	m	AHD	1.455	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 05/07/1973	=	74.499	m	AHD	1.010	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 26/07/1973	=	74.809	m	AHD	0.700	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 06/09/1973	=	74.889	m	AHD	0.620	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 10/10/1973	=	74.759	m	AHD	0.750	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 15/11/1973	=	74.289	m	AHD	1.220	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 12/12/1973	=	74.139	m	AHD	1.370	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 04/01/1974	=	74.019	m	AHD	1.490	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 31/01/1974	=	73.999	m	AHD	1.510	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 15/03/1974	=	73.929	m	AHD	1.580	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 23/04/1974	=	74.539	m	AHD	0.970	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 10/05/1974	=	74.589	m	AHD	0.920	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 12/06/1974	=	74.749	m	AHD	0.760	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 09/07/1974	=	74.889	m	AHD	0.620	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/08/1974	=	74.819	m	AHD	0.690	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/09/1974	=	74.669	m	AHD	0.840	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/10/1974	=	74.459	m	AHD	1.050	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 13/11/1974	=	73.819	m	AHD	1.690	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 13/12/1974	=	74.169	m	AHD	1.340	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/02/1975	=	73.989	m	AHD	1.520	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/03/1975	=	73.894	m	AHD	1.615	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/04/1975	=	73.869	m	AHD	1.640	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/05/1975	=	73.949	m	AHD	1.560	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/06/1975	=	74.259	m	AHD	1.250	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/07/1975	=	74.704	m	AHD	0.805	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/08/1975	=	74.929	m	AHD	0.580	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/09/1975	=	74.779	m	AHD	0.730	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/10/1975	=	74.549	m	AHD	0.960	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 14/11/1975	=	74.319	m	AHD	1.190	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 12/03/1976	=	74.089	m	AHD	1.420	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 09/04/1976	=	73.979	m	AHD	1.530	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 06/05/1976	=	73.999	m	AHD	1.510	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 10/06/1976	=	74.189	m	AHD	1.320	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 06/07/1976	=	74.324	m	AHD	1.185	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 14/09/1976	=	74.519	m	AHD	0.990	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 07/10/1976	=	74.589	m	AHD	0.920	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 09/11/1976	=	74.289	m	AHD	1.220	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/04/1977	=	73.769	m	AHD	1.740	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 10/05/1977	=	73.779	m	AHD	1.730	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/06/1977	=	74.229	m	AHD	1.280	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/07/1977	=	74.279	m	AHD	1.230	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/08/1977	=	74.499	m	AHD	1.010	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/09/1977	=	74.289	m	AHD	1.220	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/10/1977	=	74.209	m	AHD	1.300	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/11/1977	=	74.109	m	AHD	1.400	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/12/1977	=	74.059	m	AHD	1.450	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 26/01/1978	=	73.969	m	AHD	1.540	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 28/02/1978	=	73.909	m	AHD	1.600	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 30/03/1978	=	73.849	m	AHD	1.660	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 27/04/1978	=	73.789	m	AHD	1.720	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 24/05/1978	=	74.099	m	AHD	1.410	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 29/06/1978	=	74.749	m	AHD	0.760	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 24/07/1978	=	74.909	m	AHD	0.600	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/08/1978	=	74.699	m	AHD	0.810	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/09/1978	=	74.899	m	AHD	0.610	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/10/1978	=	74.479	m	AHD	1.030	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/11/1978	=	74.219	m	AHD	1.290	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/12/1978	=	74.179	m	AHD	1.330	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/01/1979	=	74.109	m	AHD	1.400	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 15/02/1979	=	74.039	m	AHD	1.470	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/03/1979	=	74.109	m	AHD	1.400	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/04/1979	=	74.009	m	AHD	1.500	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/05/1979	=	74.009	m	AHD	1.500	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/06/1979	=	73.959	m	AHD	1.550	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/07/1979	=	74.719	m	AHD	0.790	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 15/08/1979	=	74.669	m	AHD	0.840	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 12/09/1979	=	74.629	m	AHD	0.880	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/10/1979	=	74.369	m	AHD	1.140	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/11/1979	=	74.269	m	AHD	1.240	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/12/1979	=	74.079	m	AHD	1.430	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 14/01/1980	=	74.059	m	AHD	1.450	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/02/1980	=	73.989	m	AHD	1.520	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/03/1980	=	73.869	m	AHD	1.640	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/04/1980	=	73.919	m	AHD	1.590	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 15/05/1980	=	73.869	m	AHD	1.640	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/06/1980	=	74.089	m	AHD	1.420	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/07/1980	=	74.789	m	AHD	0.720	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 14/08/1980	=	74.639	m	AHD	0.870	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/09/1980	=	74.539	m	AHD	0.970	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/10/1980	=	74.379	m	AHD	1.130	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/11/1980	=	74.229	m	AHD	1.280	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/12/1980	=	74.039	m	AHD	1.470	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/01/1981	=	73.949	m	AHD	1.560	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/02/1981	=	73.829	m	AHD	1.680	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/03/1981	=	73.739	m	AHD	1.770	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/04/1981	=	73.689	m	AHD	1.820	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/05/1981	=	73.639	m	AHD	1.870	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/06/1981	=	74.599	m	AHD	0.910	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/07/1981	=	74.599	m	AHD	0.910	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/08/1981	=	74.759	m	AHD	0.750	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/09/1981	=	74.529	m	AHD	0.980	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/10/1981	=	74.289	m	AHD	1.220	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/11/1981	=	74.099	m	AHD	1.410	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/12/1981	=	74.009	m	AHD	1.500	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/01/1982	=	73.960	m	AHD	1.549	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/02/1982	=	73.950	m	AHD	1.559	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/03/1982	=	73.840	m	AHD	1.669	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 27/04/1982	=	74.040	m	AHD	1.469	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/05/1982	=	73.750	m	AHD	1.759	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/06/1982	=	74.270	m	AHD	1.239	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 23/07/1982	=	74.510	m	AHD	0.999	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/08/1982	=	74.590	m	AHD	0.919	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/09/1982	=	74.610	m	AHD	0.899	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/10/1982	=	74.300	m	AHD	1.209	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/11/1982	=	74.090	m	AHD	1.419	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/12/1982	=	74.020	m	AHD	1.489	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/01/1983	=	73.930	m	AHD	1.579	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/02/1983	=	73.830	m	AHD	1.679	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/03/1983	=	73.730	m	AHD	1.779	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 26/04/1983	=	73.660	m	AHD	1.849	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 23/05/1983	=	73.610	m	AHD	1.899	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/06/1983	=	73.960	m	AHD	1.549	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/07/1983	=	74.310	m	AHD	1.199	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/08/1983	=	74.590	m	AHD	0.919	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/09/1983	=	74.650	m	AHD	0.859	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/10/1983	=	74.320	m	AHD	1.189	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/11/1983	=	74.330	m	AHD	1.179	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/12/1983	=	74.130	m	AHD	1.379	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/01/1984	=	74.060	m	AHD	1.449	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/02/1984	=	73.920	m	AHD	1.589	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 26/03/1984	=	73.840	m	AHD	1.669	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 12/04/1984	=	73.860	m	AHD	1.649	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/05/1984	=	74.040	m	AHD	1.469	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 25/06/1984	=	74.260	m	AHD	1.249	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 23/07/1984	=	74.360	m	AHD	1.149	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 23/08/1984	=	74.590	m	AHD	0.919	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/09/1984	=	74.700	m	AHD	0.809	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/10/1984	=	74.250	m	AHD	1.259	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/11/1984	=	74.170	m	AHD	1.339	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 27/12/1984	=	74.110	m	AHD	1.399	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/01/1985	=	73.950	m	AHD	1.559	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/02/1985	=	73.880	m	AHD	1.629	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/03/1985	=	73.780	m	AHD	1.729	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 19/04/1985	=	73.720	m	AHD	1.789	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 16/05/1985	=	73.690	m	AHD	1.819	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/06/1985	=	73.780	m	AHD	1.729	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 17/07/1985	=	73.900	m	AHD	1.609	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 22/08/1985	=	74.350	m	AHD	1.159	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 23/09/1985	=	74.720	m	AHD	0.789	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/10/1985	=	74.210	m	AHD	1.299	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/11/1985	=	74.050	m	AHD	1.459	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 18/12/1985	=	73.939	m	AHD	1.570	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 29/01/1986	=	73.839	m	AHD	1.670	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 20/02/1986	=	73.839	m	AHD	1.670	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:00:00 21/03/1986	=	74.039	m	AHD	1.470	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:20:00 22/04/1986	=	73.899	m	AHD	1.610	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:30:00 20/05/1986	=	73.999	m	AHD	1.510	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:57:00 08/07/1986	=	74.649	m	AHD	0.860	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:35:00 31/07/1986	=	74.829	m	AHD	0.680	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:24:00 25/08/1986	=	74.879	m	AHD	0.630	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:18:00 18/09/1986	=	74.679	m	AHD	0.830	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:16:00 20/10/1986	=	74.659	m	AHD	0.850	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:45:00 06/11/1986	=	74.324	m	AHD	1.185	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	15:56:00 02/12/1986	=	74.189	m	AHD	1.320	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:41:00 07/01/1987	=	74.089	m	AHD	1.420	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	15:02:00 17/02/1987	=	73.984	m	AHD	1.525	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:22:00 09/03/1987	=	73.894	m	AHD	1.615	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:05:00 01/04/1987	=	73.859	m	AHD	1.650	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:35:00 06/05/1987	=	73.889	m	AHD	1.620	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:11:00 11/06/1987	=	74.204	m	AHD	1.305	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:46:00 06/07/1987	=	74.569	m	AHD	0.940	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:58:00 06/08/1987	=	74.669	m	AHD	0.840	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:32:00 08/09/1987	=	74.609	m	AHD	0.900	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:15:00 05/10/1987	=	74.514	m	AHD	0.995	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:09:00 03/11/1987	=	74.249	m	AHD	1.260	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:17:00 02/12/1987	=	74.169	m	AHD	1.340	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:01:00 18/01/1988	=	74.039	m	AHD	1.470	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	13:04:00 08/02/1988	=	74.099	m	AHD	1.410	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:29:00 08/02/1988	=	74.029	m	AHD	1.480	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:44:00 03/03/1988	=	73.889	m	AHD	1.620	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:30:00 04/03/1988	=	73.949	m	AHD	1.560	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:18:00 06/04/1988	=	73.839	m	AHD	1.670	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:44:00 04/05/1988	=	73.819	m	AHD	1.690	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:27:00 22/06/1988	=	74.419	m	AHD	1.090	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:21:00 27/07/1988	=	74.719	m	AHD	0.790	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	13:45:00 22/08/1988	=	74.779	m	AHD	0.730	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:37:00 29/09/1988	=	74.679	m	AHD	0.830	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:39:00 10/10/1988	=	74.599	m	AHD	0.910	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:46:00 24/11/1988	=	74.269	m	AHD	1.240	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:26:00 18/01/1989	=	74.089	m	AHD	1.420	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:58:00 17/04/1989	=	73.809	m	AHD	1.700	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:27:00 05/07/1989	=	74.249	m	AHD	1.260	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:12:00 26/10/1989	=	74.359	m	AHD	1.150	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:50:00 15/01/1990	=	74.039	m	AHD	1.470	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:10:00 03/04/1990	=	74.099	m	AHD	1.410	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:30:00 16/07/1990	=	74.499	m	AHD	1.010	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:00:00 16/10/1990	=	74.539	m	AHD	0.970	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:40:00 29/01/1991	=	73.989	m	AHD	1.520	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:15:00 15/04/1991	=	73.949	m	AHD	1.560	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:55:00 25/07/1991	=	74.849	m	AHD	0.660	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:25:00 15/10/1991	=	74.509	m	AHD	1.000	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:35:00 22/01/1992	=	74.099	m	AHD	1.410	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:25:00 13/04/1992	=	74.089	m	AHD	1.420	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:55:00 21/07/1992	=	74.739	m	AHD	0.770	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:45:00 19/10/1992	=	74.489	m	AHD	1.020	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:45:00 20/01/1993	=	74.069	m	AHD	1.440	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:30:00 22/04/1993	=	73.789	m	AHD	1.720	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:50:00 27/07/1993	=	74.569	m	AHD	0.940	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:35:00 25/10/1993	=	74.429	m	AHD	1.080	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:40:00 21/01/1994	=	74.049	m	AHD	1.460	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:55:00 22/04/1994	=	73.769	m	AHD	1.740	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:28:00 14/07/1994	=	74.779	m	AHD	0.730	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:39:00 14/10/1994	=	74.329	m	AHD	1.180	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:50:00 13/01/1995	=	74.029	m	AHD	1.480	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:30:00 06/04/1995	=	73.789	m	AHD	1.720	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:56:00 12/07/1995	=	74.779	m	AHD	0.730	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:50:00 10/10/1995	=	74.459	m	AHD	1.050	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:25:00 24/01/1996	=	74.129	m	AHD	1.380	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:17:00 22/04/1996	=	73.809	m	AHD	1.700	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:40:00 12/07/1996	=	74.449	m	AHD	1.060	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:15:00 10/10/1996	=	74.649	m	AHD	0.860	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:52:00 24/01/1997	=	74.099	m	AHD	1.410	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:41:00 21/04/1997	=	74.059	m	AHD	1.450	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:48:00 11/07/1997	=	74.329	m	AHD	1.180	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:01:00 10/10/1997	=	74.559	m	AHD	0.950	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:00:00 21/01/1998	=	74.309	m	AHD	1.200	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:12:00 24/03/1998	=	73.859	m	AHD	1.650	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:45:00 10/07/1998	=	74.629	m	AHD	0.880	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:54:00 12/10/1998	=	74.529	m	AHD	0.980	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:30:00 18/01/1999	=	74.059	m	AHD	1.450	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:39:00 15/10/1999	=	74.979	m	AHD	0.530	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:16:00 28/06/2000	=	74.209	m	AHD	1.300	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	12:17:00 15/11/2000	=	74.229	m	AHD	1.280	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:12:00 17/05/2001	=	73.889	m	AHD	1.620	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:20:00 24/10/2001	=	74.419	m	AHD	1.090	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:00:00 15/05/2002	=	73.969	m	AHD	1.540	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	13:34:00 21/11/2002	=	74.129	m	AHD	1.380	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:31:00 20/05/2003	=	74.119	m	AHD	1.390	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	08:31:00 14/10/2003	=	74.589	m	AHD	0.920	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:57:00 11/05/2004	=	73.859	m	AHD	1.650	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	07:58:00 15/10/2004	=	74.349	m	AHD	1.160	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	11:08:00 19/05/2005	=	73.979	m	AHD	1.530	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:02:00 30/09/2005	=	74.699	m	AHD	0.810	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	10:35:00 05/05/2006	=	73.829	m	AHD	1.680	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	09:13:00 24/10/2006	=	74.229	m	AHD	1.280	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	13:11:00 08/05/2007	=	73.689	m	AHD	1.820	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	14:34:00 10/05/2007	=	73.889	m	AHD	1.620	Static water level
6355	61710109	GINGIN MONITORING	GG10	50	393122	6529583	13:22:00 10/10/2007	=	74.169	m	AHD	1.340	Static water level
23030959	61710525	GINGIN BROOK CATCMENT	GINGIN BROOK 10A	50	390550.5	6533327.54	00:00:00 19/09/2008	=	53.752	m	AHD	7.630	Static water level
23030959	61710525	GINGIN BROOK CATCMENT	GINGIN BROOK 10A	50	390550.5	6533327.54	00:00:00 22/10/2008	=	53.692	m	AHD	7.690	Static water level
23030960	61710526	GINGIN BROOK CATCMENT	GINGIN BROOK 10B	50	390550.27	6533331.37	00:00:00 19/09/2008	=	57.271	m	AHD	4.110	Static water level
23030960	61710526	GINGIN BROOK CATCMENT	GINGIN BROOK 10B	50	390550.27	6533331.37	00:00:00 22/10/2008	=	57.331	m	AHD	4.050	Static water level
23030961	61710527	GINGIN BROOK CATCMENT	GINGIN BROOK 11A	50	395812.02	6531079.37	00:00:00 19/09/2008	=	82.476	m	AHD	12.320	Static water level
23030962	61710528	GINGIN BROOK CATCMENT	GINGIN BROOK 11B	50	395809.17	6531077.49	00:00:00 19/09/2008	=	81.160	m	AHD	13.730	Static water level
20031297	61711546	617 - MOORE-HILL BASIN	ARMY C2	50	395392	6531922	00:00:00 30/06/1942	=	64.620	m	AHD	62.480	Static water level
20031298	61711547	617 - MOORE-HILL BASIN	GINGIN NO. 1 TWS	50	396085	6531472	00:00:00 15/04/1964	=		m	AHD	3.810	Static water level
20031304	61711551	617 - MOORE-HILL BASIN	5	50	396150	6531011	00:00:00 30/06/1960	=		m	AHD	11.890	Static water level
20031305	61711552	617 - MOORE-HILL BASIN	6	50	396027	6531078	1000-01-01 00:00:00.000	=		m	AHD	0.000	Static water level
20031306	61711553	617 - MOORE-HILL BASIN	13	50	396311	6530025	00:00:00 30/06/1963	=		m	AHD	43.890	Static water level
20031307	61711554	617 - MOORE-HILL BASIN	14	50	395248	6530446	00:00:00 30/06/1938	=		m	AHD	4.570	Static water level
20031309	61711556	617 - MOORE-HILL BASIN	76	50	394123	6534838	00:00:00 30/06/1963	=		m	AHD	7.010	Static water level
20031315	61711561	617 - MOORE-HILL BASIN	BORE	50	393257	6537919	1000-01-01 00:00:00.000	=		m	AHD	11.690	Static water level
20031317	61711562	617 - MOORE-HILL BASIN	BORE	50	395041	6530278	1000-01-01 00:00:00.000	=		m	AHD	0.860	Static water level
20031318	61711563	617 - MOORE-HILL BASIN	BORE	50	395041	6530278	1000-01-01 00:00:00.000	=		m	AHD	1.830	Static water level
20031325	61711568	617 - MOORE-HILL BASIN	BORE	50	396238	6536208	00:00:00 30/06/1957	=		m	AHD	1.830	Static water level
20031347	61711582	617 - MOORE-HILL BASIN	BORE	50	397666	6533820	00:00:00 26/11/1992	=		m	AHD	35.500	Static water level
20031348	61711583	617 - MOORE-HILL BASIN	BORE	50	396282	6534035	00:00:00 27/08/1993	=		m	AHD	20.000	Static water level
20031361	61711593	617 - MOORE-HILL BASIN	BORE	50	391577	6533111	00:00:00 30/06/1912	=		m	AHD	2.440	Static water level
20031364	61711596	617 - MOORE-HILL BASIN	BORE	50	390368	6536271	00:00:00 30/06/1970	=		m	AHD	11.580	Static water level
20031365	61711597	617 - MOORE-HILL BASIN	BORE	50	391290	6532772	00:00:00 30/06/1956	=		m	AHD	4.000	Static water level
20031366	61711598	617 - MOORE-HILL BASIN	2	50	391088	6532680	1000-01-01 00:00:00.000	=		m	AHD	2.700	Static water level
20031368	61711600	617 - MOORE-HILL BASIN	BORE NO. 2 (8)	50	391560	6533111	00:00:00 30/06/1969	=		m	AHD	3.960	Static water level
20031369	61711601	617 - MOORE-HILL BASIN	BEER MULLAH RD HOUSE BORE (FIELD NO 9)	50	392223	6535188	00:00:00 30/06/1961	=		m	AHD	15.240	Static water level
20031370	61711602	617 - MOORE-HILL BASIN	BOTTOM WELL (10)	50	390808	6534885	1000-01-01 00:00:00.000	=		m	AHD	25.000	Static water level
20031371	61711603	617 - MOORE-HILL BASIN	FLATS BORE (FIELD NO 16)	50	390015	6534037	00:00:00 30/06/1957	=		m	AHD	6.100	Static water level
20031372	61711604	617 - MOORE-HILL BASIN	WELL (17)	50	389026	6532954	00:00:00 30/06/1953	=		m	AHD	2.440	Static water level
20031373	61711605	617 - MOORE-HILL BASIN	22	50	391065	6533190	00:00:00 30/06/1948	=		m	AHD	2.440	Static water level
20031374	61711606	617 - MOORE-HILL BASIN	23	50	391042	6533057	00:00:00 30/06/1950	=		m	AHD	3.050	Static water level
20031375	61711607	617 - MOORE-HILL BASIN	24	50	389062	6535006	00:00:00 30/06/1907	=		m	AHD	1.830	Static water level
20031381	61711613	617 - MOORE-HILL BASIN	30	50	392221	6533068	1000-01-01 00:00:00.000	=		m	AHD	1.520	Static water level
20031382	61711614	617 - MOORE-HILL BASIN	31	50	392197	6534342	00:00:00 30/06/1969	=		m	AHD	10.670	Static water level
20031383	61711615	617 - MOORE-HILL BASIN	32	50	388683	6532897	1000-01-01 00:00:00.000	=		m	AHD	1.520	Static water level
20031386	61711618	617 - MOORE-HILL BASIN	40	50	390319	6531268	00:00:00 30/06/1971	=		m	AHD	0.000	Static water level
20031389	61711621	617 - MOORE-HILL BASIN	75	50	392404	6533628	00:00:00 30/06/1971	=		m	AHD	4.570	Static water level
20031390	61711622	617 - MOORE-HILL BASIN	77	50	392810	6534238	1000-01-01 00:00:00.000	=		m	AHD	0.000	Static water level
20031391	61711623	617 - MOORE-HILL BASIN	80	50	392518	6537078	00:00:00 30/06/1970	=		m	AHD	1.830	Static water level
20031395	61711627	617 - MOORE-HILL BASIN	70	50	392215	6535913	00:00:00 30/06/1972	=		m	AHD	12.190	Static water level
20031397	61711629	617 - MOORE-HILL BASIN	BORE	50	392991	6534447	1000-01-01 00:00:00.000	=		m	AHD	0.910	Static water level
20031398	61711630	617 - MOORE-HILL BASIN	BORE	50	392965	6534749	1000-01-01 00:00:00.000	=		m	AHD	4.270	Static water level
20031407	61711639	617 - MOORE-HILL BASIN	BORE	50	391373	6536371	1000-01-01 00:00:00.000	=		m	AHD	1.830	Static water level
20031408	61711640	617 - MOORE-HILL BASIN	BORE	50	392654	6535994	00:00:00 30/06/1963	=		m	AHD	0.000	Static water level
20031410	61711642	617 - MOORE-HILL BASIN	BORE	50	392469	6538151	00:00:00 30/06/1959	=		m	AHD	10.670	Static water level
20031411	61711643	617 - MOORE-HILL BASIN	BORE	50	390703	6533132	1000-01-01 00:00:00.000	=		m	AHD	1.830	Static water level
20031412	61711644	617 - MOORE-HILL BASIN	BORE	50	389774	6533949	1000-01-01 00:00:00.000	=		m	AHD	1.830	Static water level

Water Levels

WIN SITE ID	REFERENCE	CONTEXT NAME	NAME	ZONE	EASTING	NORTHING	COLLECTED DATE	READING RELIABILITY	CONVERTED LEVEL (mAHD)	UNIT	USED OUTPUT DATUM	STORED READING	STORED VARIABLE
20031413	61711645	617 - MOORE-HILL BASIN	BORE	50	392381	6532945	1000-01-01 00:00:00.000	=		m	AHD	3.960	Static water level
20031414	61711646	617 - MOORE-HILL BASIN	BORE	50	392997	6532878	1000-01-01 00:00:00.000	=		m	AHD	7.620	Static water level
20031415	61711647	617 - MOORE-HILL BASIN	BORE	50	392534	6533972	00:00:00 30/06/1962	=		m	AHD	9.140	Static water level
20031416	61711648	617 - MOORE-HILL BASIN	BORE	50	392543	6534289	1000-01-01 00:00:00.000	=		m	AHD	1.520	Static water level
20031418	61711650	617 - MOORE-HILL BASIN	GINGIN OB10	50	392759	6529372	00:00:00 30/06/1973	=		m	AHD	1.000	Static water level
20031427	61711654	617 - MOORE-HILL BASIN	NO. 1	50	392520	6537255	00:00:00 15/04/1983	=		m	AHD	3.000	Static water level
20031428	61711655	617 - MOORE-HILL BASIN	NO 2	50	392521	6537255	00:00:00 15/10/1983	=		m	AHD	2.430	Static water level
20031430	61711656	617 - MOORE-HILL BASIN	WELL	50	392521	6537255	1000-01-01 00:00:00.000	=		m	AHD	6.100	Static water level
20031436	61711662	617 - MOORE-HILL BASIN	BORE	50	391686	6532351	00:00:00 16/08/1989	=		m	AHD	3.000	Static water level
20031437	61711663	617 - MOORE-HILL BASIN	BORE	50	392143	6532019	00:00:00 24/01/1990	=		m	AHD	5.790	Static water level
20031438	61711664	617 - MOORE-HILL BASIN	BORE	50	392760	6532445	00:00:00 01/06/1990	=		m	AHD	3.600	Static water level
20031439	61711665	617 - MOORE-HILL BASIN	LEYSSENAAR NO. 2	50	392045	6532018	00:00:00 28/02/1991	=		m	AHD	8.600	Static water level
20031440	61711666	617 - MOORE-HILL BASIN	BORE	50	391832	6532457	00:00:00 16/08/1989	=		m	AHD	3.000	Static water level
20031442	61711668	617 - MOORE-HILL BASIN	BORE	50	392596	6533890	00:00:00 15/12/1990	=		m	AHD	26.970	Static water level
20031446	61711672	617 - MOORE-HILL BASIN	GRESELE	50	391739	6532049	00:00:00 15/12/1992	=		m	AHD	7.000	Static water level
20031448	61711674	617 - MOORE-HILL BASIN	BORE	50	391653	6529085	00:00:00 01/11/1997	=		m	AHD	4.000	Static water level
20031310	61716013	617 - MOORE-HILL BASIN	78	50	394118	6534515	1000-01-01 00:00:00.000	=		m	AHD	1.220	Static water level
20031316	61716014	617 - MOORE-HILL BASIN	BORE	50	394906	6529955	1000-01-01 00:00:00.000	=		m	AHD	3.050	Static water level
6482	61719031	GINGIN TWS	2-64	50	396085	6531472	00:00:00 15/11/1964	=		m	AHD	2.590	Static water level

Water Levels

WIN SITE ID	STORED DEPTH REF. POINT	STORED ELEVATION	STORED DATUM	USED DEPTH REF. POINT	USED OUTPUT ELEVATION	CONSTRUCTION DEPTH REF POINT	CONSTRUCTION DATUM TYPE	REF POINT ELEVATION	TOPMOST SCREEN	BOTTOMMOST SCREEN	INLET DATUM REF.	READING COMMENT
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
6355	TOC	75.509	TOC	TOC	75.509							
23030959	TOC	61.382	TOC	TOC	61.382	GL	AHD	60.593				
23030959	TOC	61.382	TOC	TOC	61.382	GL	AHD	60.593				
23030960	TOC	61.381	TOC	TOC	61.381	GL	AHD	60.603				
23030960	TOC	61.381	TOC	TOC	61.381	GL	AHD	60.603				
23030961	TOC	94.796	TOC	TOC	94.796	GL	AHD	94.780				
23030962	TOC	94.890	TOC	TOC	94.890	GL	AHD	94.870				
20031297	GL	127.100	GL	GL	127.100	GL	AHD	127.100				
20031298	GL		GL						=115.95	=122.22	GL	
20031304	GL		GL									
20031305	GL		GL									
20031306	GL		GL									
20031307	GL		GL									
20031309	GL		GL									
20031315	GL		GL									
20031317	GL		GL									
20031318	GL		GL									
20031325	GL		GL									
20031347	GL		GL						=61	=73	GL	
20031348	GL		GL						=40	=46	GL	
20031361	GL		GL									
20031364	GL		GL									
20031365	GL		GL									
20031366	GL		GL									
20031368	GL		GL									
20031369	GL		GL									
20031370	GL		GL									
20031371	GL		GL									
20031372	GL		GL									
20031373	GL		GL									
20031374	GL		GL									
20031375	GL		GL									
20031381	GL		GL									
20031382	GL		GL									
20031383	GL		GL									
20031386	GL		GL									
20031389	GL		GL									
20031390	GL		GL									
20031391	GL		GL									
20031395	GL		GL									
20031397	GL		GL									
20031398	GL		GL									
20031407	GL		GL									
20031408	GL		GL									
20031410	GL		GL									
20031411	GL		GL									
20031412	GL		GL									

Water Levels

WIN SITE ID	STORED DEPTH REF. POINT	STORED ELEVATION	STORED DATUM	USED DEPTH REF. POINT	USED OUTPUT ELEVATION	CONSTRUCTION DEPTH REF POINT	CONSTRUCTION DATUM TYPE	REF POINT ELEVATION	TOPMOST SCREEN	BOTTOMMOST SCREEN	INLET DATUM REF.	READING COMMENT
20031413	GL		GL									
20031414	GL		GL									
20031415	GL		GL									
20031416	GL		GL									
20031418	GL		GL									
20031427	GL		GL						=21.33	=44.19	GL	
20031428	GL		GL						=16.76	=35.02	GL	
20031430	GL		GL									
20031436	GL		GL						=20	=32	GL	
20031437	GL		GL						=28.9	=30.4	GL	
20031438	GL		GL						=23.5	=27.1	GL	
20031439	GL		GL						=85.5	=97.75	GL	
20031440	GL		GL						=20	=32	GL	
20031442	GL		GL						=34.75	=41.15	GL	
20031446	GL		GL						=30	=36	GL	
20031448	GL		GL						=24	=35	GL	
20031310	GL		GL									
20031316	GL		GL									
6482	GL		GL									

Water Levels

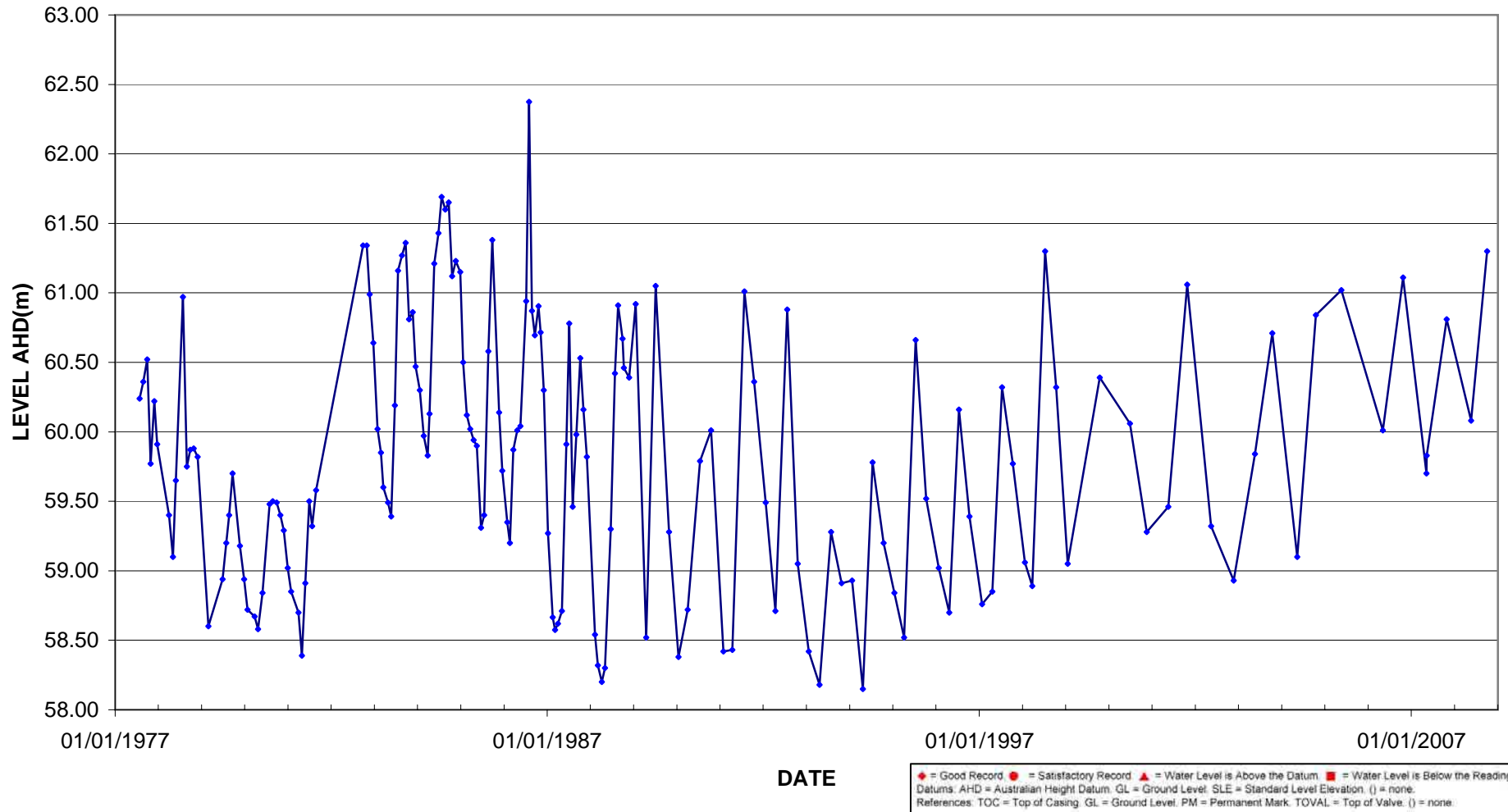
WIN SITE ID	SAMPLE COMMENT	BORE_INLET	TDS_COND	SAMPLE_DATES	REFERENCE
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
6355			Cond uncomp (in situ) 6460.000 µS/cm on 08-05-2007	03-05-1973 to 20-05-2008	
23030959			TDSolids (evap @180°C) 1800.000 mg/L on 09-12-2008	19-09-2008 to 09-12-2008	
23030959			TDSolids (evap @180°C) 1800.000 mg/L on 09-12-2008	19-09-2008 to 09-12-2008	
23030960			TDSolids (evap @180°C) 1590.000 mg/L on 09-12-2008	19-09-2008 to 09-12-2008	
23030960			TDSolids (evap @180°C) 1590.000 mg/L on 09-12-2008	19-09-2008 to 09-12-2008	
23030961			TDSolids (evap @180°C) 780.000 mg/L on 09-12-2008	19-09-2008 to 09-12-2008	
23030962			TDSolids (evap @180°C) 580.000 mg/L on 09-12-2008	19-09-2008 to 09-12-2008	
20031297			TDSolids (in situ) 893.000 mg/L on 30-06-1942	30-06-1942 to 30-06-1942	
20031298		Top of top inlet =115.95m, Bottom of bottom inlet =122.22m, from Ground level	TDSolids (in situ) 192.000 mg/L on 15-04-1964	19-03-1964 to 15-04-1964	
20031304			TDSolids (in situ) 305.000 mg/L on 30-06-1960	30-06-1960 to 30-06-1960	
20031305			TDSolids (in situ) 200.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031306			TDSolids (in situ) 1250.000 mg/L on 30-06-1963	30-06-1963 to 30-06-1963	
20031307			TDSolids (in situ) 600.000 mg/L on 30-06-1938	30-06-1938 to 30-06-1938	
20031309			TDSolids (in situ) 145.000 mg/L on 30-06-1963	30-06-1963 to 30-06-1963	
20031315			TDSolids (in situ) 1496.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031317				01-01-1000 to 01-01-1000	
20031318				01-01-1000 to 01-01-1000	
20031325				30-06-1957 to 30-06-1957	
20031347		Top of top inlet =61m, Bottom of bottom inlet =73m, from Ground level		26-11-1992 to 26-11-1992	
20031348		Top of top inlet =40m, Bottom of bottom inlet =46m, from Ground level		27-08-1993 to 27-08-1993	
20031361			TDSolids (in situ) 315.000 mg/L on 30-06-1912	30-06-1912 to 30-06-1912	
20031364			TDSolids (in situ) 2800.000 mg/L on 30-06-1970	30-06-1970 to 30-06-1970	
20031365			TDSolids (in situ) 250.000 mg/L on 30-06-1956	30-06-1956 to 30-06-1956	
20031366			TDSolids (in situ) 250.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031368			TDSolids (evap @180°C) 2220.000 mg/L on 05-07-1973	30-06-1969 to 05-07-1973	
20031369			TDSolids (in situ) 1900.000 mg/L on 30-06-1961	30-06-1961 to 30-06-1961	
20031370			TDSolids (in situ) 325.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031371			TDSolids (in situ) 1383.000 mg/L on 30-06-1957	30-06-1957 to 30-06-1957	
20031372			TDSolids (in situ) 650.000 mg/L on 30-06-1953	30-06-1953 to 30-06-1953	
20031373			TDSolids (in situ) 120.000 mg/L on 30-06-1948	30-06-1948 to 30-06-1948	
20031374			TDSolids (in situ) 125.000 mg/L on 30-06-1950	30-06-1950 to 30-06-1950	
20031375			TDSolids (in situ) 880.000 mg/L on 30-06-1907	30-06-1907 to 30-06-1907	
20031381			TDSolids (in situ) 223.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031382			TDSolids (in situ) 1627.000 mg/L on 30-06-1969	30-06-1969 to 30-06-1969	
20031383			TDSolids (in situ) 643.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031386			TDSolids (in situ) 406.000 mg/L on 30-06-1971	30-06-1971 to 30-06-1971	
20031389			TDSolids (in situ) 1133.000 mg/L on 30-06-1971	30-06-1971 to 30-06-1971	
20031390			TDSolids (in situ) 410.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031391			TDSolids (in situ) 410.000 mg/L on 30-06-1970	30-06-1970 to 30-06-1970	
20031395			TDSolids (in situ) 201.000 mg/L on 30-06-1972	30-06-1972 to 30-06-1972	
20031397			TDSolids (in situ) 228.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031398			TDSolids (in situ) 228.000 mg/L on 01-01-1000	01-01-1000 to 01-01-1000	
20031407				01-01-1000 to 01-01-1000	
20031408				30-06-1963 to 30-06-1963	
20031410				30-06-1959 to 30-06-1959	
20031411				01-01-1000 to 01-01-1000	
20031412				01-01-1000 to 01-01-1000	

Water Levels

WIN SITE ID	SAMPLE COMMENT	BORE_INLET	TDS_COND	SAMPLE_DATES	REFERENCE
20031413				01-01-1000 to 01-01-1000	
20031414				01-01-1000 to 01-01-1000	
20031415			TDSolids (in situ) 1144.000 mg/L on 30-06-1962	30-06-1962 to 30-06-1962	
20031416				01-01-1000 to 01-01-1000	
20031418				30-06-1973 to 30-06-1973	
20031427		Top of top inlet =21.33m, Bottom of bottom inlet =44.19m, from Ground level	TDSolids (in situ) 230.000 mg/L on 10-11-1983	15-04-1983 to 10-11-1983	
20031428		Top of top inlet =16.76m, Bottom of bottom inlet =35.02m, from Ground level		15-10-1983 to 15-10-1983	
20031430				01-01-1000 to 01-01-1000	
20031436		Top of top inlet =20m, Bottom of bottom inlet =32m, from Ground level	TDSolids (in situ) 550.000 mg/L on 16-08-1989	16-08-1989 to 16-08-1989	
20031437		Top of top inlet =28.9m, Bottom of bottom inlet =30.4m, from Ground level		24-01-1990 to 24-01-1990	
20031438		Top of top inlet =23.5m, Bottom of bottom inlet =27.1m, from Ground level		01-06-1990 to 01-06-1990	
20031439		Top of top inlet =85.5m, Bottom of bottom inlet =97.75m, from Ground level		28-02-1991 to 28-02-1991	
20031440		Top of top inlet =20m, Bottom of bottom inlet =32m, from Ground level	TDSolids (in situ) 500.000 mg/L on 16-08-1989	16-08-1989 to 16-08-1989	
20031442		Top of top inlet =34.75m, Bottom of bottom inlet =41.15m, from Ground level		15-12-1990 to 15-12-1990	
20031446		Top of top inlet =30m, Bottom of bottom inlet =36m, from Ground level		15-12-1992 to 15-12-1992	
20031448		Top of top inlet =24m, Bottom of bottom inlet =35m, from Ground level		01-11-1997 to 01-11-1997	
20031310				01-01-1000 to 01-01-1000	
20031316				01-01-1000 to 01-01-1000	
6482			Cond uncomp (lab) 846.000 µS/cm on 10-12-1980	15-11-1964 to 22-07-1998	

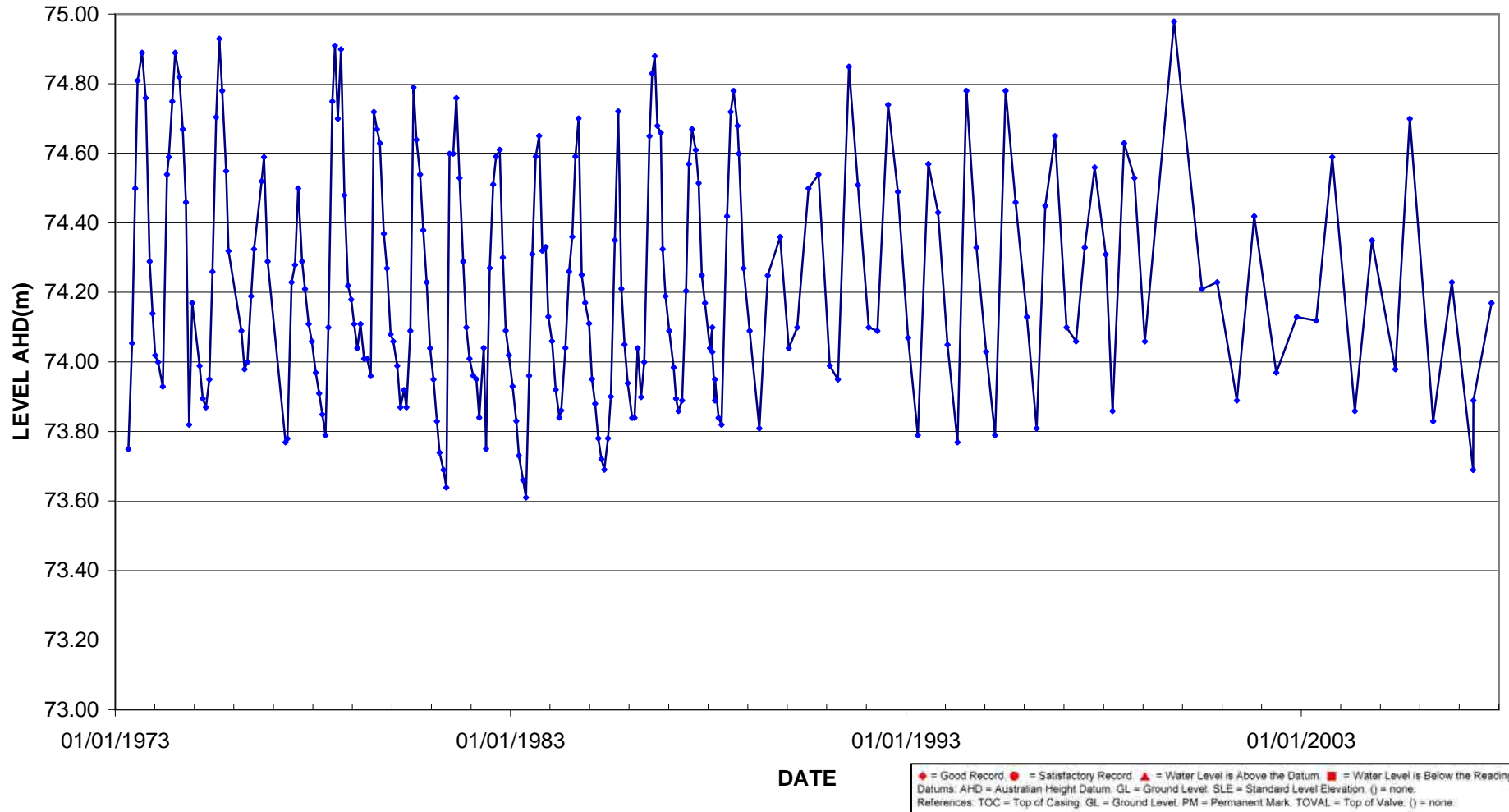
61710103 GNANGARA MOUND MONITOR GB10

Easting = 390047.00 Northing = 6532202.00 Zone = 50 TOC = 63.2mAHD WIN SITE ID = 6349



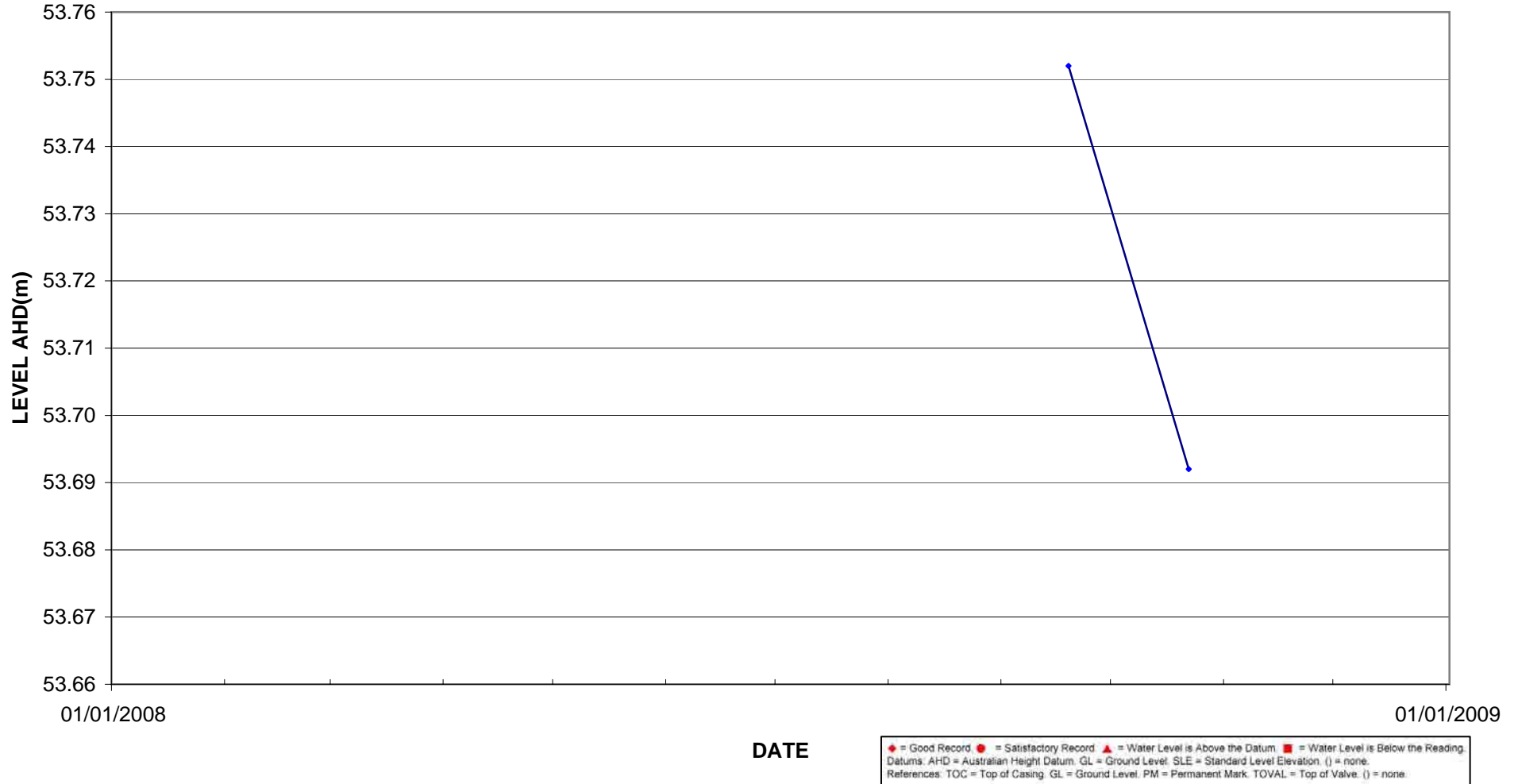
61710109 GINGIN MONITORING GG10

Easting = 393122.00 Northing = 6529583.00 Zone = 50 TOC = 75.509mAHD WIN SITE ID = 6355



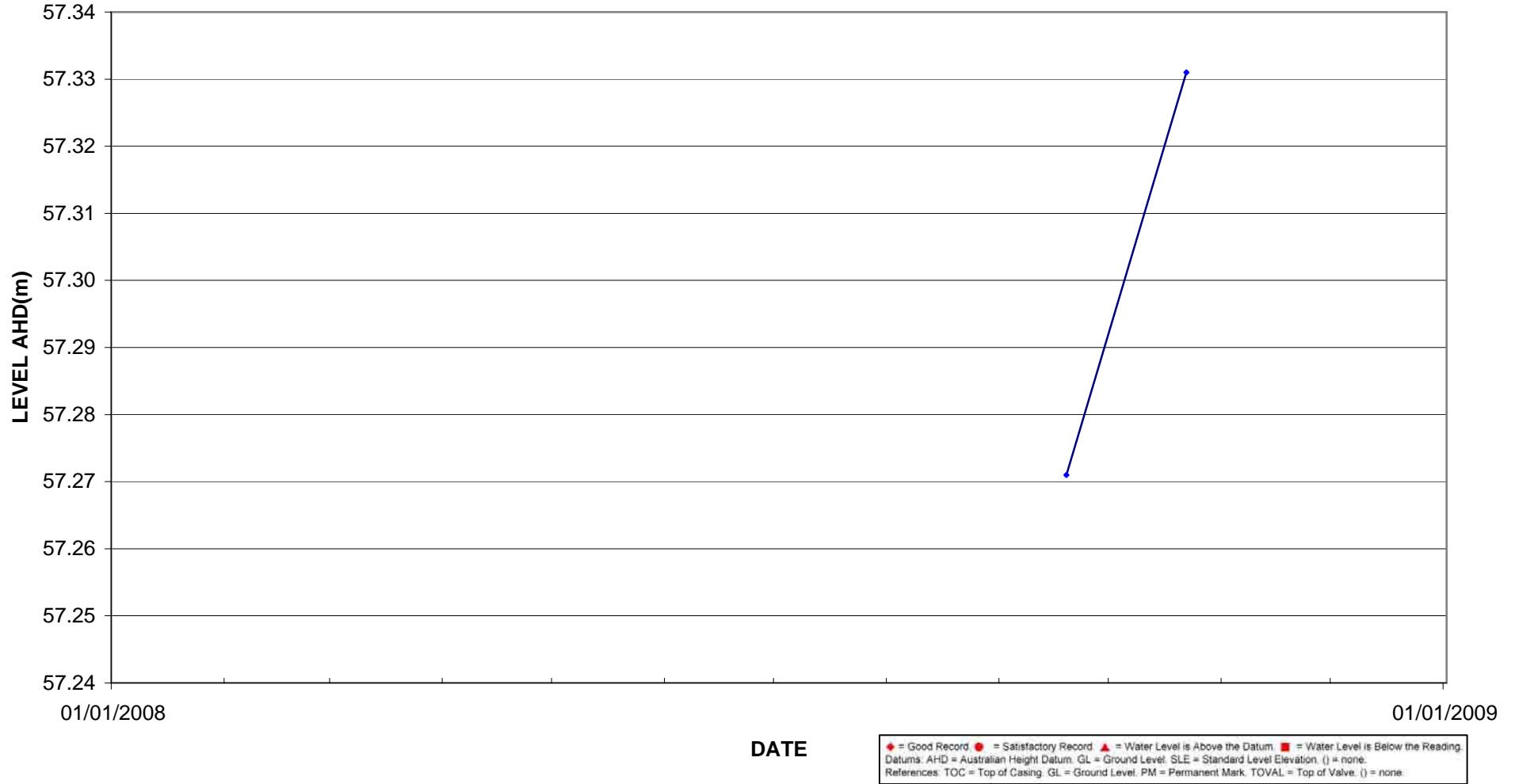
61710525 GINGIN BROOK CATCMENT GINGIN BROOK 10A

Easting = 390550.50 Northing = 6533327.54 Zone = 50 TOC = 61.382mAHD WIN SITE ID = 23030959



61710526 GINGIN BROOK CATCMENT GINGIN BROOK 10B

Easting = 390550.27 Northing = 6533331.37 Zone = 50 TOC = 61.381mAHD WIN SITE ID = 23030960

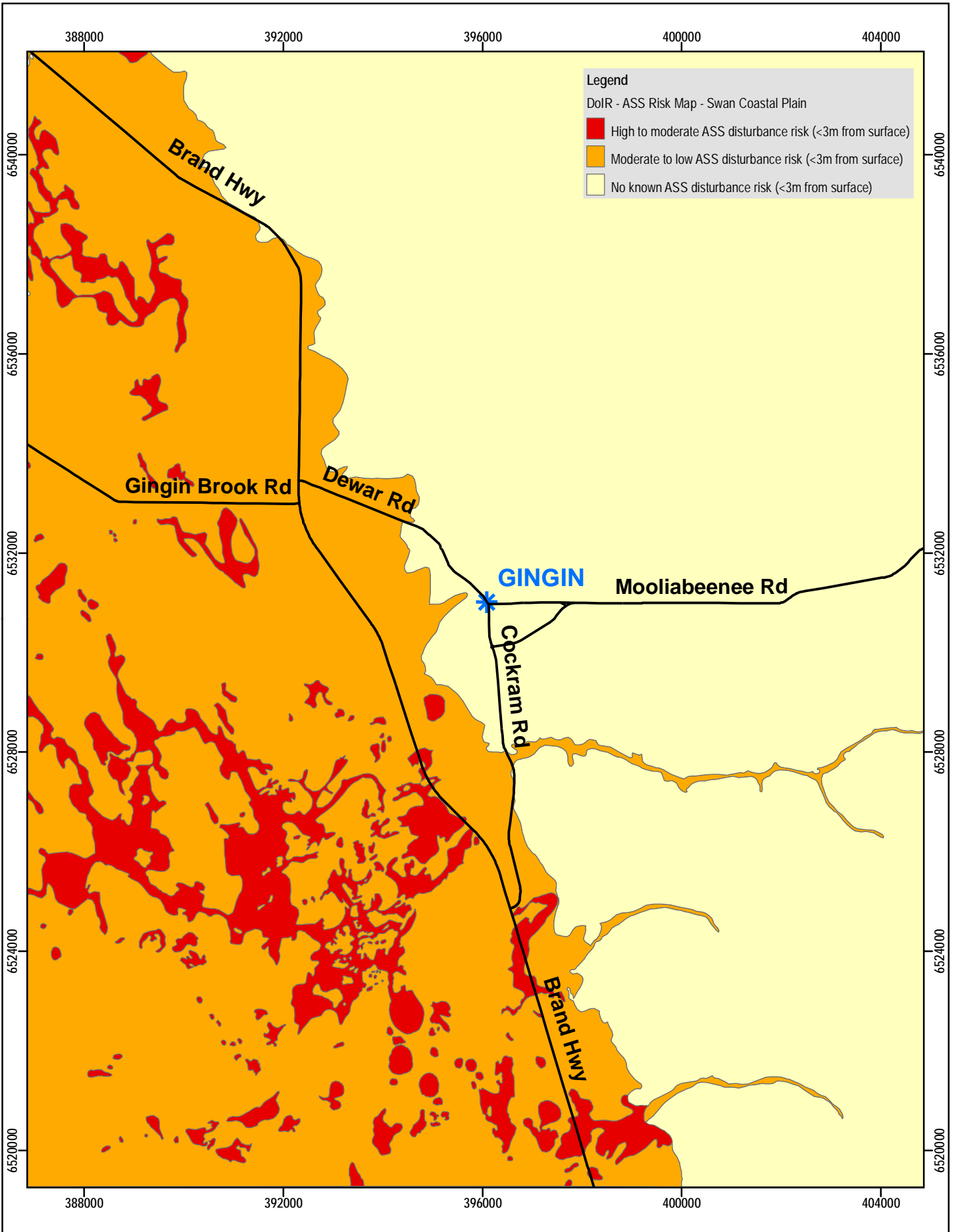




APPENDIX D

Acid Sulfate Soil Distribution and Risk Map

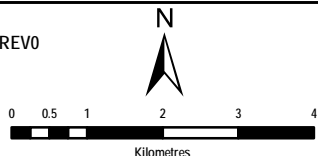
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Legend
 DoIR - ASS Risk Map - Swan Coastal Plain

- High to moderate ASS disturbance risk (<3m from surface)
- Moderate to low ASS disturbance risk (<3m from surface)
- No known ASS disturbance risk (<3m from surface)

CLIENT Iluka Resources
 PROJECT 097646055 001 R REV0
 DATE 10/08/2009
 DRAWN AMc
 APPROVED KM



A4 SCALE 1:100,000
 Datum GDA94, Projection MGA94, Zone 50



COPYRIGHT:
 ASS Risk Map data courtesy of Department of Industry and Resources, (Swan Coastal Plain).
 Version Dated: October 2007.
 Roads sourced from MapInfo, Street Pro 2009, version 9.

GINGIN MINERAL SANDS
ACID SULPHATE SOILS RISK MAP

APPENDIX **D**



APPENDIX E

EPBC Search Results

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Protected Matters Search Tool

You are here: [Environment Home](#) > [EPBC Act](#) > [Search](#)

17 March 2009 11:14

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the [caveat](#) at the end of the report.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at <http://www.environment.gov.au/atlas> may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>


 Map of Search Region including any Buffer

This map may contain data which are
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Search Type: Point

Buffer: 5 km

Coordinates: -31.32421,115.87029

 Thumbnail Map of Search Region

Report Contents: [Summary](#)
[Details](#)

- [Matters of NES](#)
- [Other matters protected by the EPBC Act](#)

- [Extra Information](#)
- [Caveat](#)
- [Acknowledgments](#)

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see

<http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Significance: (Ramsar Sites)	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	6
Migratory Species:	7

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov.au/epbc/permits/index.html>.

Commonwealth Lands:	2
--	---

Commonwealth Heritage Places:	None
Places on the RNE:	13
Listed Marine Species:	5
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Details

Matters of National Environmental Significance

Threatened Species [[Dataset Information](#)]

Birds

	Status	Type of Presence
Calyptorhynchus baudinii Baudin's Black-Cockatoo, Long-billed Black-Cockatoo	Vulnerable	Species or species habitat likely to occur within area

Calyptorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo	Endangered	Species or species habitat likely to occur within area
--	------------	--

Mammals

Dasyurus geoffroii Chuditch, Western Quoll	Vulnerable	Species or species habitat likely to occur within area
---	------------	--

Ray-finned fishes

Nannatherina balstoni Balston's Pygmy Perch	Vulnerable	Species or species habitat may occur within area
--	------------	--

Plants

Conospermum densiflorum subsp. unicephalum One-headed Smokebush	Endangered	Species or species habitat likely to occur within area
--	------------	--

Thelymitra stellata Star Sun-orchid	Endangered	Species or species habitat likely to occur within area
--	------------	--

Migratory Species [[Dataset Information](#)]

Migratory Terrestrial Species

Birds

Haliaeetus leucogaster	Migratory	Species or species habitat likely to occur
--	-----------	--

White-bellied Sea-Eagle		within area
Merops ornatus Rainbow Bee-eater	Migratory	Species or species habitat may occur within area

Migratory Wetland Species**Birds**

Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area

Migratory Marine Birds

Apus pacificus Fork-tailed Swift	Migratory	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area

Other Matters Protected by the EPBC ActListed Marine Species [[Dataset Information](#)]**Birds**

	Status	Type of Presence
Apus pacificus Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Listed - overfly marine area	Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area

Commonwealth Lands [[Dataset Information](#)]

Defence

Unknown

Places on the RNE [[Dataset Information](#)]

Note that not all Indigenous sites may be listed.

Historic

[Beedamanup Homestead WA](#)

[Cheriton Managers House WA](#)

[Cheriton Stallion Box WA](#)

[Dewars House WA](#)

[Gingin Railway Station and Quarters WA](#)

[Granville WA](#)

[House WA](#)

[Methodist Church \(former\) WA](#)

[Old Road Board Building WA](#)

[St Lukes Anglican Church, Graveyard, Belltower and Trees WA](#)

[St Lukes Anglican Rectory WA](#)

[Strathalbyn House WA](#)

Natural

[Gingin Brook WA](#)

Caveat

The information presented in this report has been provided by a range of data sources as [acknowledged](#) at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under "type of presence". For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the [migratory](#) and [marine](#) provisions of the Act have been mapped.

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as [extinct or considered as vagrants](#)
- some species and ecological communities that have only recently been listed
- [some terrestrial species](#) that overfly the Commonwealth marine area
- migratory species that are very [widespread, vagrant, or only occur in small numbers](#).

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites;
- seals which have only been mapped for breeding sites near the Australian continent.

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Acknowledgments

This database has been compiled from a range of data sources. The Department acknowledges the following custodians who have contributed valuable data and advice:

- [New South Wales National Parks and Wildlife Service](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Water and Environment, Tasmania](#)
- [Department of Environment and Heritage, South Australia Planning SA](#)
- [Parks and Wildlife Commission of the Northern Territory](#)
- [Environmental Protection Agency, Queensland](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- Other groups and individuals

[ANUcliM Version 1.8, Centre for Resource and Environmental Studies, Australian National University](#) was used extensively for the production of draft maps of species distribution. Environment Australia is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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APPENDIX F

Raw Soil pH Data



APPENDIX G

Limitations

LIMITATIONS

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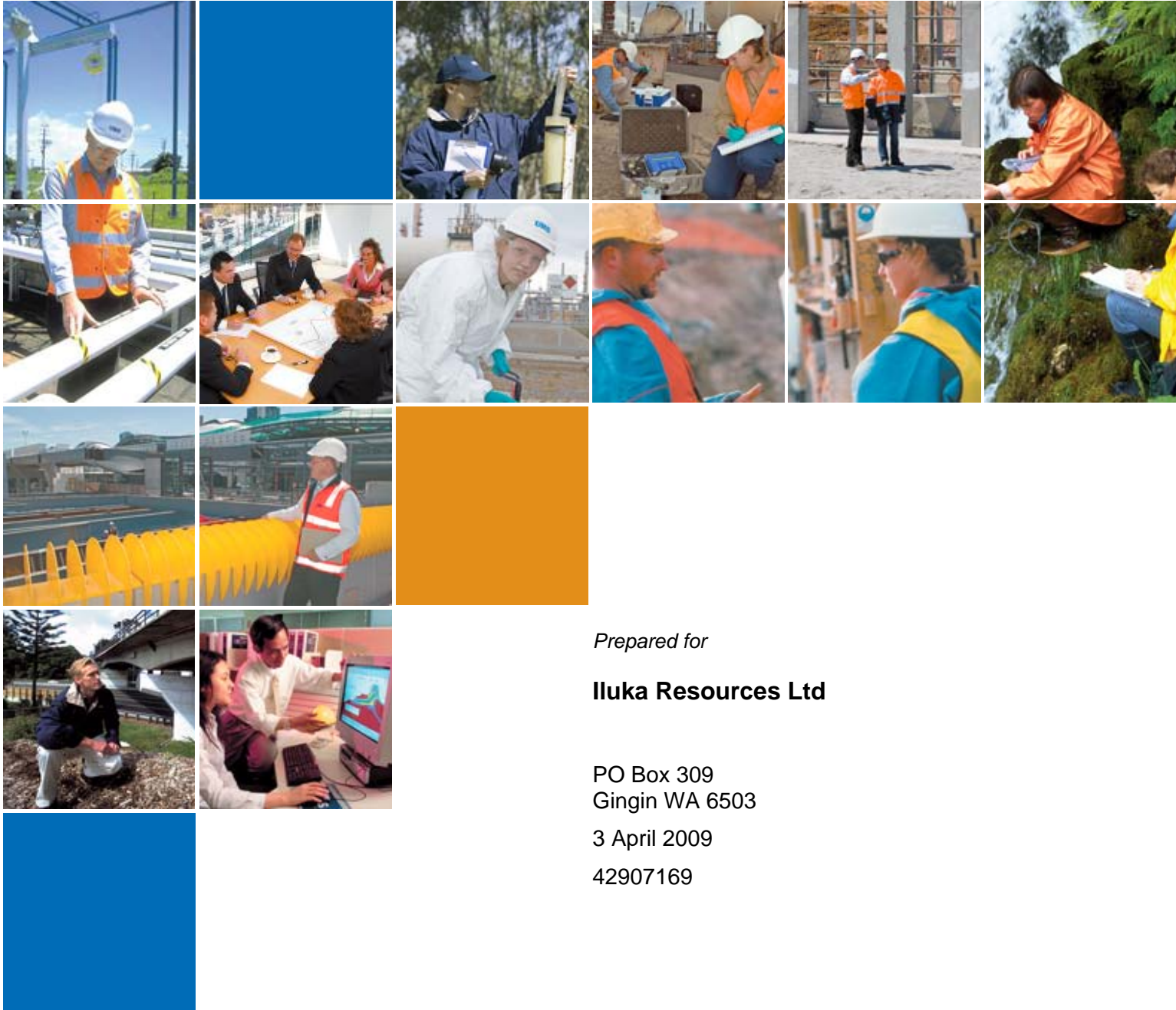
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APPENDIX 2

Gingin Mine Aquifer Review
URS 2008

REPORT

Gingin Mine Site Aquifer Review January to December 2008



Prepared for

Iluka Resources Ltd

PO Box 309
Gingin WA 6503

3 April 2009

42907169

URS

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Date: 3 April 2009
Reference: 42907169.677.W0135.4
Status: Final Report

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- Appendix B Department of Conservation and Environment Licence
- Appendix C Measured Groundwater Levels
- Appendix D Groundwater Quality Data
- Appendix E Surface Water Quality Data

1.1 Background and Licences

Iluka Resources Limited (Iluka Resources) owns and operates a mineral sands mine site located at Gingin, Western Australia, approximately 75 km north of Perth (Figure 1.1), and mining commenced in February 2005. The open pit is elongate and aligned approximately northwest-southeast. Initially, mining commenced at the southern end of the pit, and is progressing northwards. Mining is planned to cease in June 2009, with closure and rehabilitation estimated to continue until 2011.

Dewatering of the superficial aquifer is required to mine below the water table. All of the abstracted groundwater is used for dust suppression and mineral processing. Additional water required for mineral processing is abstracted from the Yarragadee aquifer. The groundwater supplies are regulated by two Groundwater Well Licences, issued by the Department of Water (DoW). The site is also regulated by a Department of Environment and Conservation (DEC) Licence for Prescribed Premises. Details of these licences are provided below.

- Department of Water Groundwater Abstraction Licences:
 - Superficial Aquifer: GWL104855(2), providing an annual entitlement of 1,000,000 kL/yr, with groundwater being abstracted for the purposes of dewatering, dust suppression and mineral ore processing. This licence is applicable from 24 April 2008 to 24 April 2010.
 - Yarragadee Aquifer:
 - GWL104858(2). Providing an annual entitlement of 1,500,000 kL/yr, with groundwater being abstracted for the purposes of mineral ore processing. This licence is applicable from 24 April 2008 to 24 April 2010.
 - GWL104858(3) – Amendment of GWL104858(2). Providing an annual entitlement of 1,500,000 kL/yr, with groundwater being abstracted for the purposes of mineral ore processing, administration centre facilities, dust suppression, rehabilitation purposes and wash-down purposes. This licence is applicable from 24 November 2008 to 24 April 2010.
- Department of Environment and Conservation Licence:
 - Licence for Prescribed Premises 8071/1.

All licences are provided in Appendix A (DoW Licences) and Appendix B (DEC Licence). This report fulfils the reporting requirements of the DoW Licences, and is applicable for the reporting period from January to December 2008. Compliance with the DEC Licence has been reported on in the Annual Environmental Review, completed in March 2009.

1.2 Climate

The Iluka mine site area has a Mediterranean climate, which is characterised by hot, dry summers, and cool, wet winters. In general, the majority of rainfall is received over the winter months (May to September), with little rainfall occurring over summer. During the hot and dry summer months (December to February), maximum evaporation rates occur.

Figure 1.2 presents the total annual rainfall and evaporation recorded at the Gingin site in 2008, with the monthly data presented in Table 1-1. During 2008, 708 mm of rainfall were recorded on site, which is 2% higher than the long-term average of 694 mm/yr (1937-2008).

Table 1-1 Rainfall at Gingin Mine Site

Month	Long-term average rainfall* (mm)	2008 Rainfall (mm)
January	8.2	0.0
February	12.7	23.8
March	15.0	46.6
April	35.8	91.4
May	87.7	84.8
June	138.3	92.4
July	137.1	177.2
August	105.4	24.6
September	69.3	135.0
October	37.7	16.35
November	23.3	12.4
December	8.9	4.0
TOTAL	694.2	708.55

*Recorded at nearby Pearce RAAF airbase (BOM station 9053), averaged from 1937-2008.

1.3 Hydrogeology

The Gingin deposit occurs within the Gingin Groundwater Area (GGA). Several studies have been completed to investigate the hydrogeology of the area and assess the impacts of abstraction from the superficial and Yarragadee formations (URS 2002a, 2002b, 2003). Key findings of these studies include:

- Shallow groundwater resources occur within the Yoganup and Guildford formations;
- Groundwater levels in the superficial formations are typically 3 to 12 m below ground and fluctuate seasonally by up to 2 m;
- Groundwater flow within the local superficial formations is predominantly in a westerly direction, with subtle variations that reflect the surface topography, particularly in areas of higher relief on the eastern side of the project area; and
- Deeper groundwater resources occur beneath the project area within the sandy beds of the Yarragadee Formation, below a depth of about 450 m. These resources are hydraulically isolated from the superficial formations by the thick clay and siltstone sequences of the Parmelia Formation. Groundwater levels in these sections of the Yarragadee Formation are about 32 m to 39 m below ground.

There are three main regional aquifer systems in the south-eastern portion of the Gingin Groundwater Area, including the superficial formations, the Leederville Formation (in association with the Parmelia Formation) and the Yarragadee Formation.

The main hydrogeological features of these formations are:

- Superficial formations:
 - 0 m to 24 m depth.
 - Groundwater flow within the superficial formations is predominantly in a westerly direction.
 - Groundwater quality is generally brackish (about 1,000 mg/L to 5,000 mg/L TDS), slightly acidic (pH 5.3 to 6.5) and a sodium chloride type.
- Parmelia Formation:
 - 24 m to 452 m depth. The upper section of this Formation (24 m to 212 m) consists of relatively uniform grey clay with minor amounts of silt and is tentatively correlated with the Carnac Member. The interval from 212 m to 452 m consists of thinly inter bedded claystone and sands with minor amounts of siltstone.
- Yarragadee Formation:
 - 452 m to 600 m depth. Similar lithologies to the lower portion of the Parmelia Formation, except the overall proportion of sand and sandstone are slightly higher. Sand(stone) intervals are up to 20 m thick, while claystone beds are typically less than a few metres.
 - Groundwater quality is brackish (around 1,300 mg/L TDS).

1.4 Surface Water Hydrology

Gingin Brook is the main surface water feature in the project area. The source of Gingin Brook is located approximately 8 km northeast of the site, in the Darling Ranges, and is fed by numerous small tributaries before discharging into the Moore River to the west, near Guilderton. A small permanent wetland depression occurs in the central portion of the Gingin Deposit (Iluka Resources, 2007) and surface water is present here from the onset of winter rains through to early summer.

The site is drained by a number of small streams, which discharge into Gingin Brook to the west. The streams generally flow from the east to the west or south-west, passing through culverts on Brand Highway or Dewar Road (Figure 1.3). The largest streams (the North and South streams) have channel lines extending back toward the hinterland of the catchment. Three smaller streams drain a permanent wetland in the central portion of the project area. The North stream and the wetland in the central project area are mapped as Resource Enhancement Category wetlands. Elsewhere within the catchment area, the surface water resources are categorised as Sustainable Use, Multiple Use.

1.5 Water Resources Monitoring Program

The water resources monitoring program, as outlined in the Iluka Resources Water Resources Management Plan (Iluka Resources, 2007), is summarised in Table 1-2. This program incorporates monitoring of groundwater resources of the superficial formations, Yarragadee Formation, and local surface water resources.

Table 1-2 Water Resources Monitoring Program

Source	Locations	Monitoring Parameters ¹	Monitoring Frequency
Streamflow	NS2, CS2, SS3	Streamflow	Continuous
	NS1, NS2, CS1, SS1, SS2, SS3, Raw water dam, Process water dam	EC, TDS, TSS, turbidity, pH, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Al, Mn, HCO ₃ , total alkalinity, ammonia, NO ₃ , NO ₂ , TP, TKN, FRP	Quarterly
	NS2, CS3, SS3	Erosion stability – visual assessment	Bi-annually ²
	Gingin deposit	Rainfall	Minimum daily
	Dewar dam	Dam water content	Weekly in summer
Superficial formations	Sump-pumps	Abstraction volumes, operating hours	Weekly
		Cumulative abstraction	Monthly
	GS1 to GS25, excluding GS1S, GS3S&D, GS9D, GS10S, GS12S, GS14S, GS16S, GS17S, GS18S&D, GS19S, M&D	Groundwater levels	Monthly
	RG1, RG3, RG4, RG5	Groundwater levels	Monthly
	GSP4	Groundwater levels	Monthly
	B1, W1, Golf Course	Groundwater levels	Monthly
	GS2, GS8, GS13, GS17, GS21	pH, EC, TDS, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Mn, total alkalinity, HCO ₃	Quarterly
Yarragadee formations	GYP1	Abstraction rates and volumes	Weekly
		Operating hours	Weekly
		Groundwater levels	Opportunistic
		EC, pH, temperature, TDS, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Mn, total alkalinity, HCO ₃	Quarterly
	GY1	Groundwater levels	Weekly
	GB1, AM6A, GB5, AM4, AM4A, AM6	Groundwater levels	Monthly

Notes:

¹ After initial monitoring it is likely that the qualitative parameters can be scaled back, focussing on likely indicators of pollution and off-site impacts.

² Also after large runoff events.

2.1 Superficial Formations Aquifer

Groundwater abstraction from the superficial aquifer occurs through pit dewatering activities, using in-pit sumps and pumps. Abstraction from the sumps is measured weekly using two flowmeters (the Mining Unit and the Mining Pit) which are installed on the pipe from the pump. All abstracted groundwater is used for mineral processing and dust suppression.

A series of multi-level groundwater monitoring bores are located across the site in the superficial aquifer. These bores are monitored regularly, to assess the influence that the dewatering activities are having on the aquifer, the environment, and other groundwater users.

The superficial aquifer borefield (Figure 1.4) comprises:

- Test production bores: GSP1, GSP2, GSP3, GSP4;
- On-site multi-level monitoring bores (within and around pit-boundary): GS1-GS23 (shallow, intermediate and deep tubes);
- Regional monitoring bores (up to 500 m from the pit): RG1, RG4, RG5;
- Off-site monitoring bores: W1 (Whisson), Golfcourse bore, GS24 (Landfarm), GS25 (Birds), B1 (Morley); and
- Department of Water superficial aquifer monitoring bores: GB1 and GB5 (Figure 1.5).

Construction details of all on-site bores are provided in Table 2-1.

2.2 Yarragadee Aquifer

There is one Yarragadee production bore (GYP1), providing process water supplies for mineral processing, administration centre facilities, washdown facilities, dust suppression and rehabilitation purposes. One monitoring bore is located on site, while four off-site monitoring bores are monitored by the Department of Water.

The Yarragadee aquifer borefield (Figure 1.4) comprises:

- Production bore: GYP1
- On-site monitoring bore: GY1; and
- Off-site Department of Water Yarragadee aquifer monitoring bores: AM4, AM4A AM6 and AM6A (Figure 1.5).

Groundwater levels are measured regularly at GY1. GYP1 has a pump installed, and therefore is used to monitor groundwater quality. Monitoring of all bores is undertaken to assess the impact of abstraction from GYP1 on the aquifer. Construction details of all on-site bores are provided in Table 2-1.

Borefield Description

Section 2

Table 2-1 Bore Construction Details

Bore	AMG Coordinates		Mine Coordinates		Elevation		Drilled Depth (m)	Screen Interval (mbgl)	Lithological Units	Casing		Static Water Level	
	Northing	Easting	Northing	Easting	Ground (mAHD)	Collar (mAHD)				Diameter (mm)	Material	(mbgl)	(mAHD)
TEST PRODUCTION BORES													
GSP1	6535119.54	392501.25	16914.73	10034.00	95.85	96.14	30	5 - 30	Silty sand, sandy clay, sand and coarse sands.	150	uPVC	15.78	
GSP2	6535177.60	392747.70	16858.57	10280.96	100.03	100.45	33	9 - 33	Clayey sands, sands, mudstone.	150	uPVC	18.33	
GSP3	6533740.46	392949.69	15478.51	9830.71	86.70	86.96	21	5 - 21	Ferruginised sands and clay, mudstone, sand.	150	uPVC	3.38	
GSP4	6533524.55	393438.80	15069.51	10175.27	94.68	94.93	27	6 - 27	Ferruginised sands and clay, mudstone, sand.	150	uPVC	10.26	
MULTIPIEZOMETER BORES													
GS1S	6535937.30	392296.76	17739.38	10209.74	96.96	97.8	15	9 - 15	Clayey sands; sand	80	uPVC	14.36	83.44
GS1D	6535937.68	392299.96	17738.31	10212.78	97.09	97.86	30	26 - 30	Coarse sands.	80	uPVC	16.26	81.6
GS2S	6535709.57	392553.82	17421.77	10340.60	99.35	100.08	17	11 - 17	Sandy clays/clayey sand.	80	uPVC	4.32	95.76
GS2D	6535711.78	392552.63	17424.27	10340.51	99.35	100.15	29	25 - 29	Sands.	80	uPVC	17.29	82.86
GS3S	6535178.83	392760.03	16854.25	10292.58	100.43	101.15	12	9 - 12	Clayey sands.	80	uPVC	10.82	90.33
GS3M	6535177.50	392760.14	16853.00	10292.10	100.40	101.11	21	17 - 21	Mudstone.	80	uPVC	18.77	82.34
GS3D	6535176.21	392760.24	16851.81	10291.61	100.41	101.11	33	27 - 33	Sand, coarse sands.	80	uPVC	18.89	82.22
GS4S	6534920.99	392942.90	16542.20	10343.55	99.19	99.86	9	5 - 9	Clayey sands; sandy clay, sand.	80	uPVC	4.20	95.66
GS4D	6534922.39	392942.74	16543.52	10344.02	99.17	99.88	30	24 - 30	Course sands.	80	uPVC	17.29	82.59
GS5S	6534527.07	393041.20	16145.05	10258.72	91.44	92.15	7	3 - 7	Ferruginous sands.	80	uPVC	3.42	88.73
GS5D	6534527.05	393039.98	16145.57	10257.61	91.39	92.17	23	17 - 23	Sand, coarse sands.	80	uPVC	9.27	82.90
GS6S	6534214.22	393146.17	15817.82	10215.50	89.61	90.43	8	4 - 8	Clayey sands, clay.	80	uPVC	4.52	85.91
GS6D	6534215.56	393145.95	15817.12	10215.90	89.70	90.45	22	18 - 22	Sand, coarse sands.	80	uPVC	7.05	83.40
GS7S	6533851.98	393263.05	15440.96	10161.29	93.14	93.83	11	6 - 11	Ferruginous sands.	80	uPVC	3.55	90.28
GS7D	6533850.12	393279.94	15431.87	10175.64	93.48	94.21	27	21 - 27	Silty sands, coarse sands.	80	uPVC	10.55	83.66
GS8S	6533512.27	393456.39	15050.75	10185.68	94.56	95.28	12	8 - 12	Ferruginous sands.	80	uPVC	8.69	86.59
GS8D	6533514.46	393457.92	15052.04	10188.01	94.63	95.35	27	23 - 27	Coarse sands.	80	uPVC	11.16	84.19
GS9S	6533252.49	392985.48	15024.34	9648.37	84.05	84.78	8	4 - 8	Ferruginous sands, cemented laterite.	80	uPVC	5.25	79.53
GS9D	6533252.61	392984.33	15024.95	9647.39	84.02	84.77	18	14 - 18	Silty sands.	80	uPVC	5.33	79.44
GS10S	6533265.42	392634.41	15190.27	9338.62	79.51	80.22	8	4 - 8	Ferruginous sands, sandy clay.	80	uPVC	6.75	73.47
GS10M	6533266.64	392634.23	15191.44	9339.00	79.52	80.23	15	10 - 15	Silty, sandy clays.	80	uPVC	8.78	71.45

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Borefield Description

Section 2

Bore	AMG Coordinates		Mine Coordinates		Elevation		Drilled Depth (m)	Screen Interval (mbgl)	Lithological Units	Casing		Static Water Level	
	Northing	Easting	Northing	Easting	Ground (mAHD)	Collar (mAHD)				Diameter (mm)	Material	(mbgl)	(mAHD)
MULTIPIEZOMETER BORES (contd.)													
GS10D	6533267.81	392634.17	15192.53	9339.45	79.51	80.23	18	16 - 18	Silty sand.	80	uPVC	8.73	71.5
GS11S	6533546.23	392704.386	15411.82	9524.92	82.97	83.67	9	5 - 9	Ferruginous sand, mudstone.	80	uPVC	6.07	77.60
GS11D	6533547.44	392704.00	15413.07	9525.12	82.97	83.67	18	14 - 18	Silty, clayey sand and coarse sands	80	uPVC	6.24	77.43
GS12S	6533548.55	392213.57	15629.66	9084.95	75.50	76.24	8	4 - 8	Sandy clay and clayey sands.	80	uPVC	7.51	68.73
GS12D	6533549.77	392213.40	15630.83	9085.33	75.49	76.21	18	12 - 18	Silty sand.	80	uPVC	9.83	66.38
GS13S	6533902.88	392535.25	15806.62	9529.73	78.47	79.23	3	1 - 3	Topsoil and ferruginous sands.	80	uPVC	2.09	77.14
GS13M	653903.38	392536.42	15806.56	9531.01	78.52	79.21	7	4 - 7	Sandy clay and mudstone.	80	uPVC	2.04	77.17
GS13D	6533903.83	392537.63	15806.42	9532.29	78.49	79.21	18	12 - 18	Silty sand.	80	uPVC	2.08	77.13
GS14S	6534062.55	392211.12	16092.56	9308.69	78.93	79.65	9	5 - 9	Sandy clay.	80	uPVC	9.28	70.37
GS14D	6534063.78	392211.16	16093.65	9309.27	78.97	79.76	18	12 - 18	Sand and silty sand.	80	uPVC	14.01	65.75
GS15S	6534275.50	392380.74	16209.34	9554.71	82.36	83.10	10	5 - 10	Gritty clays.	80	uPVC	8.54	74.56
GS15D	6534276.77	392380.76	16210.47	9555.28	82.33	83.07	18	14 - 18	Sands.	80	uPVC	13.47	69.60
GS16S	6534618.15	392218.65	16587.84	9560.92	84.99	85.74	13	9 - 13	Sandy clay.	80	uPVC	12.29	73.45
GS16D	6534618.13	392220.03	16588.46	9559.69	84.97	85.74	21	17 - 21	Sands.	80	uPVC	13.22	72.52
GS17S	6535051.81	392225.80	16974.95	9756.74	91.18	92.03	13	10 - 13	Clayey sand, sands.	80	uPVC	12.57	79.46
GS17D	6535050.50	392225.65	16973.85	9756.03	91.14	91.99	27	24 - 27	Sands.	80	uPVC	16.85	75.14
GS18S	6535470.66	392244.15	17343.23	9957.34	93.13	93.85	13	10 - 13	Silt and sand.	80	uPVC	12.71	81.14
GS18D	6535471.97	392244.23	17344.37	9957.99	93.13	93.88	30	27 - 30	Sand and basal clay.	80	uPVC	13.59	80.29
GS19S	6535135.67	392498.13	16930.60	10038.29	95.44	96.06	11	5 - 11	Silty sands.			10.25	85.81
GS19M	6535135.43	392496.94	16930.91	10037.11	95.48	96.16	20	15 - 20	Clayey sand, sandy clay.	80	uPVC	15.77	80.39
GS19D	6535135.30	392495.70	16931.34	10035.94	95.44	96.10	30	26 - 30	Coarse sand.	80	uPVC	15.78	80.32
GS20S	6533760.00	392950.75	15495.60	9840.25	86.68	87.40	9	5 - 9	Ferruginous sand, silty sand.			5.10	82.30
GS20M	6533759.84	392952.00	15494.91	9841.31	86.67	87.47	16	12 - 16	Clayey sand.	80	uPVC	6.01	81.44
GS20D	6533759.63	392953.19	15494.19	9842.29	86.68	87.45	21	18 - 21	Sand, coarse sand.	80	uPVC	6.01	81.44
GS21S	6533092.50	393709.64	14562.25	10228.70	94.12	94.74	8	4 - 8	Ferruginous sand and sandy clay.	80	uPVC	Dry	-
GS21D	6533093.76	393710.07	14563.20	10229.64	94.16	94.70	18	14 - 18	Sandy clay, clayey sand.	80	uPVC	9.68	85.02
GS22S	6532707.19	393798.72	14176.90	10139.36	91.84	92.41	15	9 - 15	Ferruginous sand and sandy clay.	80	uPVC	6.91	85.50
GS22D	6532706.29	393798.08	14179.37	10138.40	99.35	92.39	30	26 - 30	Sandy clay, clayey sand.	80	uPVC	6.92	85.47
GS23S	6532967.41	393205.33	14671.54	9720.59	82.65	83.25	15	9 - 15	Sandy clay and clayey sand.	80	uPVC	2.59	80.66
GS23D	6532968.39	393206.14	14672.07	9721.75	82.68	83.27	30	26 - 30	Sandy clay, puggy clay.	80	uPVC	4.43	78.84

Groundwater Abstraction

Section 3

3.1 Abstraction from the Superficial Formations Aquifer

During 2008, 246,984 kL of groundwater was abstracted from the superficial aquifer, constituting 25% of the annual entitlement (1,000,000 kL/yr), as specified in the Groundwater Well Licence (Table 3-1). All abstracted groundwater was used within the processing plant. Abstraction from the superficial aquifer occurs through two in-pit sumps, the Mining Unit (MU) and the Mining Pit (MP), with all abstracted groundwater being utilised on site. Total monthly groundwater abstraction from the superficial aquifer during 2008 is provided in Table 3-1, and graphically in Figure 3.1.

Table 3-1 Superficial Formations Aquifer – 2008 Monthly Abstraction

Month 2008	Total Abstraction from Superficial Aquifer (kL)	Percentage of licence allocation (%)
January	11,310	1.1
February	7,260	0.7
March	1,683	0.2
April	7,694	0.8
May	34,659	3.5
June	23,375	2.5
July	46,545	4.7
August	26,218	2.6
September	14,007	1.4
October	6,863	0.7
November	55,821	5.6
December	9,549	1.0
TOTAL	246,984	25%

Table 3-1 indicates the monthly variability in groundwater abstraction throughout the year, with increased abstraction occurring over the winter months (May to August). The peak abstraction of 55,821 kL occurred in November, constituting 25% of the total annual abstraction. Higher abstraction generally occurs during periods of high rainfall and elevated groundwater levels.

Table 3-2 summarises historical annual groundwater abstraction from the superficial aquifer. The total annual abstraction from the superficial aquifer has been low (and below 35% of the licence allocation) since 2005. Total annual groundwater abstraction in 2008 (246,982 kL) was higher than that in 2007 (153,872 kL).

Groundwater Abstraction

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Table 3-2 Superficial Formations Aquifer – Historical Groundwater Abstraction

Year	Total Abstraction from Superficial Aquifer (kL)	Licence Allocation (kL)	Percentage of licence allocation (%)
2005*	322,509	1,000,000	32
2006	311,269		31
2007	153,872		15
2008	246,984		25

* Note: Total annual groundwater abstraction for 2005 is for June to December 2005 only.

3.2 Abstraction from the Yarragadee Aquifer

A total of 902,845 kL of groundwater was abstracted from the Yarragadee aquifer during 2008 using bore GYP1, all of which was utilised on site. This is below the GWL limit of 1,500,000 kL, and constitutes about 60% of the GWL entitlement. Table 3-3 summarises total monthly groundwater abstraction volumes from the Yarragadee aquifer and these data are shown graphically in Figure 3.2.

Table 3-3 Yarragadee Aquifer – 2008 Monthly Abstraction

Month 2008	Total Abstraction from Yarragadee Aquifer (kL)	Percentage of licence allocation (%)
January	137,590	9
February	130,440	9
March	181,100	12
April	195,710	13
May	71,520	5
June	58,049	4
July	4,941	0.3
August	0	0
September	1,120	0.1
October	26,600	2
November	32,780	2
December	62,995	4
TOTAL	902,845	60%

In 2008, increased abstraction from the Yarragadee aquifer occurred over the summer/autumn months (January to April), with over 70% of the annual abstraction during 2008 occurring over these four months.

Groundwater Abstraction

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Historical annual groundwater abstraction volumes are provided in Table 3-4 and Figure 3.2. The 2008 annual abstraction from the Yarragadee aquifer (902,845 kL) is higher than the 2007 volume of 839,880 kL. Total annual abstraction for all years (2005 – 2008) are below the GWL allocation of 1,500,000 kL

Table 3-4 Yarragadee Aquifer – Historical Groundwater Abstraction

Year	Total Abstraction from Yarragadee Aquifer (kL)	Licence Allocation (kL)	Percentage of licence allocation (%)
2005*	733,648	1,500,000	49
2006	1,388,850		93
2007	839,880		56
2008	902,845		60

* Note: Total annual groundwater abstraction for 2005 is for June to December 2005 only.

4.1 Groundwater Levels

4.1.1 Superficial Aquifer

Hydrographs of the superficial monitoring bores are provided in Figures 4.1 to 4.19, with all measured groundwater levels provided in Appendix C. Depth to groundwater in December 2008 in the superficial aquifer is provided in Figure 4.21 (shallow tubes) and Figure 4.23 (deep tubes), with changes in groundwater levels between 2007 and 2008 presented in Figure 4.22 (shallow tubes) and 4.24 (deep tubes).

Over the review period, the groundwater levels in the superficial aquifer were highly variable, with numerous sites recording a rise in groundwater level between 2007 and 2008. The majority of the deep tubes recorded a rise in groundwater level, while the majority of the shallow tubes recorded a decline. A significant groundwater level rise between 2007 and 2008 was recorded in the following bores: GS2D (1.26 m), GS4D (2.58 m), GS5D (2.18 m), GS6D (1.43 m), GS17D (2.28 m) and GS21S (1.86 m). These sites (with the exception of GS17) are located along the eastern edge of the site, while GS17 is located on the north western boundary.

In the shallow tubes, half of the sites recorded a groundwater level decline between 2007 and 2008, with declines ranging from 0.05 m to 1.07 m (Figure 4.22). The areas of largest decline were located in the southwest and south-central sections of the pit. The largest decline in groundwater level over 2008 in the shallow tubes was recorded at GS13S (-1.07 m) and GS11S (-1.03 m).

In the shallow tubes, a rise in groundwater level was recorded at half of the sites between 2007 and 2008, with the groundwater level rise ranging from 0.01 m to 1.86 m. Areas of groundwater level rise were located on the south-eastern side of the pit.

In the deep tubes, more than half of the sites (60%) recorded a rise in groundwater level between 2007 and 2008, with the majority of these sites located along the eastern edge of the pit. The remaining 40% of the deep tube sites recorded a groundwater level decline between 2007 and 2008, ranging from 0.08 m to 1.93 m, with most of these sites located in the southwest and south-central section of the pit. The areas of largest decline were localised around GS13D (-1.93 m) and GS15D (-1.45 m).

Since mining commenced in 2005, groundwater levels in the superficial aquifer have been variable. On average, between 2005 and 2008, there has been a general groundwater level rise of 0.42 m, however this is highly skewed by several large groundwater level rises, particularly at GS3M (+7.25 m), GS15S (+4.67 m) and GS15D (+4.19 m). These large rises in groundwater level may actually be due to bore maintenance activities, with bore GS3M being extended in November 2005 and GS15S/D being replaced in August 2007. The largest decline was recorded at GS13D (-1.63 m), which has declined significantly in the past year (Figure 4.8). Groundwater levels at this site remained fairly stable from 2001 to early 2008, with groundwater levels declining from August 2008. The groundwater levels at GS13S and GS13M have also declined since pre-mining, by 0.44 m and 0.69 m, respectively.

Regional monitoring bores recorded variable declines between 2007 and 2008, with bores RG1 and RG4 both recording a decline of 0.42 m, and bore RG5 recording a slight rise of 0.09 m. Off-site monitoring bore W1 also recorded a groundwater level rise over the reporting period of 0.12 m. Since mining began, the groundwater levels in the regional monitoring bores have declined by an average of 0.75 m. Bores RG1 and RG4 recorded the greatest declines of 0.98 m and 1.18 m respectively, while the groundwater level at bore RG5 and W1 have remained relatively stable since 2005, recording a slight decline of 0.08 m and 0.06 m respectively.

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Groundwater levels in DoW monitoring bores GB1 and GB5 (Figure 4.26) have declined by 1.5 m and 0.6 m respectively since 1977. During 2008, general groundwater levels in these bores have remained relatively steady or have risen slightly, with levels at GB1 declining by 0.08 m and groundwater levels at GB5 rising by 1.02 m.

Groundwater modelling completed in 2002 highlighted the expected drawdown impacts from dewatering on the superficial aquifer during active mining at the site (URS 2002a). The report highlighted that:

- There may be impacts on other groundwater users in the area. The impacts should be comparatively minor, but may result in diminished bore yields at times during the mining.
- Drawdowns within the pit are expected to be between 4 m and 8 m during the final year of mining.
- Drawdowns of up to 0.5 m are predicted to extend about 1 km south of Dewar Road and will extend to around 500 m east of the eastern crest of the pit.
- The water table will recover after the cessation of groundwater abstraction associated with mining. It is predicted that after one year, the residual drawdowns would be less than 1.0 m, and after two years, the residual drawdowns would be less than 0.5 m. The water table would be in a near steady-state condition and fully recovered after three to four years.

These predictions were based on an average annual abstraction rate of around 800,000 – 900,000 kL/year, which is significantly higher than the actual annual abstraction at the site in any year since dewatering has commenced. Therefore, it is expected that these predicted drawdown responses will be greater than what has actually occurred at the site. A maximum groundwater level decline in 2008 of 1.93 m was recorded within the pit (GS13D), with groundwater level declines being localised around dewatering zones. Groundwater decline has not extended off-site to the extent predicted in the 2002 model, and the eastern crest has, in general, recorded increasing groundwater levels in 2008. Off-site bore W1, which is located approximately 1 – 2 km to the southwest of the site, recorded a rise in groundwater level in 2008 (+0.12 m), and since mining and dewatering commenced in 2005, the groundwater level at this bore has remained stable, with a very slight decline of 0.06 m. Overall, dewatering of the superficial aquifer has resulted in some areas of localised groundwater level decline, however, the declines recorded are less than the predicted levels and have not affected off-site bores. Subsequently, it could be expected that groundwater level recovery will be faster than predicted in modelling studies.

4.1.2 Yarragadee Aquifer

Hydrographs of the Yarragadee bores are provided in Figure 4.25.

There was one operational monitoring bore (GY1) in the Yarragadee aquifer over the reporting period. Bore GY1, which is located approximately 800 m north of GYP1 recorded a decline of 0.39 m in groundwater level between 2007 and 2008.

Monitoring of groundwater levels at GY1 commenced in September 2005, and since this time, the groundwater level of this bore has declined by 1.08 m.

Groundwater levels in the DoW Yarragadee monitoring bores (AM4, AM4A, AM6 and AM6A) have shown a declining trend since the late 1970s and early 1980s, with steeper declines recorded from the mid-1990s (Figures 4.27 – 4.28). Since 1995, the groundwater level in each of these bores has declined each year, with annual declines ranging from 0.09 m to 0.84 m/year.

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Since mining and dewatering has commenced at the site, groundwater levels in these Yarragadee monitoring bores have continued to steadily decline, at rates similar to pre-mining declines.

Average groundwater decline between December 2007 and December 2008 at these monitoring bores was 0.36 m. Between 2007 and 2008, AM4 recorded a 0.44 m decline in groundwater level, AM6 recorded a 0.32 m decline, and AM6A recorded a 0.31 m decline.

4.2 Groundwater Quality

Samples of groundwater were collected from a selection of monitoring bores across the site on a quarterly basis throughout 2008, and analysed at a laboratory for a range of analytes, including: pH, electrical conductivity (EC), salinity (as TDS), major anions and cations (Ca, K, Mg, Na, SO₄ and Cl), metals (aluminium, manganese, iron), alkalinity and silica (SiO₂). Bores included in this analysis were: GS1D, GS2S/D, GS3S/M/D, GS8S/D, GS9S/D, GS13S/M/D, GS17S/D, GS21S/D, GS22S/D, GYP1.

Field measurements of groundwater pH, EC, TDS and temperature were measured on a quarterly basis throughout 2008 at the following bores: GS1S, GS4S/D, GS5S/D, GS6S/D, GS7S/D, GS10S/M/D, GS11S/D, GS12S/D, GS14S/D, GS15S/D, GS16S/D, GS18S/D, GS19S/M/D, GS20S/M/D, GS23S/D, GS24 and G1.

Where possible, groundwater quality results have been compared to ANZECC guidelines and trigger values, with physical and nutrient results being compared to statistically derived guidelines values for South-west Australia (lowland river category) and all other results being compared to ANZECC trigger values for toxicants in freshwater (95% protection level). An exceedence of a trigger value indicates there is a potential for an impact to occur, and should trigger a management response.

A piper plot highlighting groundwater types is presented in Figure 4.29. Time series plots of all analytes are provided in Figures 4.30 to 4.34, with all raw data provided in Appendix D. The major findings of the groundwater quality monitoring program in 2008 are provided below.

- The concentration of major cations and anions (sodium, calcium, potassium, magnesium, sulphate, chloride and bicarbonate) remained relatively stable throughout 2008, with the largest fluctuations in concentrations being recorded at GS8S. The groundwater under the Gingin mine site (superficial and Yarragadee) is classified as sodium chloride (Na-Cl) type (Figure 4.29). The groundwater type at GS1D contains a slightly higher proportion of bicarbonate than the other sites, while the groundwater type at GS8S contains a slightly higher proportion of sulphate, however all groundwaters are still of the sodium chloride type.
- Groundwater salinity in the superficial aquifer is generally brackish, with 2008 concentrations ranging from 200 mg/L to 5,200 mg/L TDS. All concentrations in 2008 were within background concentrations and have not changed significantly since mining commenced. Groundwater salinity in Yarragadee bore GYP1 remained stable in 2008, ranging from 1,100 mg/L to 1,600 mg/L.
- The pH of groundwater in the Yarragadee aquifer bore was relatively stable throughout 2008, with groundwater being neutral to slightly alkaline, with an average pH of 8.0 (range 7.8 – 8.4).

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- The pH of groundwater in the superficial aquifer in 2008 was generally slightly acidic, ranging from 3.1 to 7.1, with an average pH of 5.7, with numerous sites being below the ANZECC guideline range of 6.5 to 8.0 (ANZECC, 2000). The slightly acidic groundwater in the superficial aquifer may be a result of acid sulphate soils, however the slightly acidic pH values recorded in 2008 are generally within long-term averages and similar to pre-mining (2003 and 2004) values. A soil review is currently being conducted at the site to verify the extent of acidic soil on site and recommend a monitoring program for the Closure Phase of the site, to ensure impacts of acidic soils in groundwater and surface water systems continue to be monitored and managed appropriately following the cessation of mining activities. The pH trends of all groundwater in the superficial aquifer include:
 - The majority of shallow bores recorded a slight decline in pH over 2008.
 - Shallow superficial bores GS10M and GS11S consistently have a pH lower than 4.5, well below the lower ANZECC guideline range of 6.5.
 - The pH at GS10M is consistently recorded at or below 4.5. During 2008, the pH (field measurement) at this site declined from 4.3 in January to 3.9 in October. The pH in this bore is consistently below all other sites, however it has not changed significantly when compared to pre-mining values.
 - The pH (field) at GS11S is consistently below 5.0, ranging from 4.4 to 5.2 in 2008. Limited pre-mining data are available for this bore for comparison, however the pH recorded in January 2004 of 4.4, indicates that the 2008 values are not significantly different from pre-mining values.
 - Monitoring bore GS5D recorded a declining pH trend in 2008, from 5.9 in January to 4.9 in October. The shallow bore GS5S also recorded a pH decline over 2008, from 5.6 to 4.6.
 - The pH in GS5S, GS6S and GS7S declined during 2008, to less than 5.0.
 - GS7D recorded a pH decline over 2008, from 5.3 in January to 5.0 in October 2008. The measured pH at this site in January 2003 (pre-mining) was 5.5, indicating that the pH in 2008 is only slightly lower than historical values.
 - Since pre-mining, average pH values have slightly declined in the superficial monitoring bores, with an average decline of 0.7 pH units.
 - The majority of bores which recorded a large decline in pH (>1 unit) between 2004 and 2008 are located in the south-eastern section of the site.
- Aluminium concentrations in groundwater remained relatively stable in the majority of bores throughout the 2008, with the exception of GS2S/D, GS8S, GS13M/D, GS21S, GS22S and GYP1, which recorded fluctuating concentrations. The aluminium concentration in numerous samples exceeded the ANZECC trigger value of 0.055 mg/L.
 - At GS2S, the aluminium concentration increased in 2008, from less than 0.005 mg/L in October 2007 to 0.7 mg/L in January 2008. This elevated concentration was maintained throughout the remainder of the year. This elevated aluminium concentration may be linked to the decline in pH and total alkalinity, which were recorded in this bore over 2008.
 - The aluminium concentration at GS8S peaked at 0.6 mg/L in January 2008, declining to less than 0.005 mg/L by the end of 2008.

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- Yarragadee bore GYP1 had a peak aluminium concentration of 1.9 mg/L in January 2008, increasing from 0.21 mg/L in October 2007. Aluminium concentrations in this bore declined throughout 2008, ending the year at <0.005 mg/L.
- The aluminium concentration at GS13D gradually increased throughout 2008, from 0.017 mg/L in January to 0.25 mg/L in October. The groundwater pH in this bore declined over this time, from 6.4 in January to 6.1 in October. GS13M has recorded an increasing trend in aluminium concentration between 2004 and 2005, with a peak concentration of 0.5 mg/L in July 2005. However concentrations declined in early 2006 to 0.05 mg/L and remained at this lower concentration throughout 2006 and 2007. In 2008, the concentration of aluminium increased to 0.27 mg/L in May 2008, however concentrations at the end of the year were below 0.005 mg/L.
- The maximum aluminium concentration in 2008 was recorded at GS21S, with a peak concentration of 4.0 mg/L in May 2008. Aluminium concentrations in this bore have been increasing since 2007, from 0.24 mg/L in April 2007. However, concentrations declined through the last half of 2008, to 0.22 mg/L.
- The aluminium concentration in GS22S fluctuated throughout 2008, with a peak concentration of 0.55 mg/L in May 2008, declining to 0.008 mg/L by October 2008.
- Iron concentrations in groundwater continued to fluctuate in the majority of bores throughout 2008, with the concentration at the majority of bores exceeding the ANZECC interim trigger value of 0.3 mg/L.
 - The iron concentration in GS13S continued to increase steadily in 2008, reaching a peak concentration of 13 mg/L in July 2008. The iron concentration at this site declined sharply, to <0.01 mg/L in October 2008.
 - A peak iron concentration was recorded in GS8S (25 mg/L) in May 2008. The concentration then declined to below 0.01 mg/L for the remainder of the year.
- Manganese concentrations in groundwater remained fairly stable in the majority of bores throughout 2008, with the concentration at all sites being below the ANZECC trigger value of 1.9 mg/L.
 - The manganese concentration in GS8S is consistently higher than any other site, ranging from 1.7 mg/L to 0.87 mg/L in 2008, while the concentrations at all other sites were below 0.4 mg/L.
 - Yarragadee bore GYP1 recorded a peak manganese concentration in October 2007 (1.8 mg/L), declining to less than 0.1 mg/L by January 2008, and remaining at this lower concentration for 2008.
- Groundwater alkalinity concentrations are highly variable across the site, ranging from 5 mg/L to 190 mg/L throughout 2008.
 - The alkalinity in GS13S declined during 2008, from 110 mg/L in January to 34 mg/L in October. GS13M and GS13D also declined in concentration in 2008.
 - Groundwater alkalinity at GS2D also declined during 2008, decreasing from 54 mg/L in January to 5 mg/L in July 2008.
 - The majority of bores showed a slight decline in groundwater alkalinity in 2008, with the exception of GS8S, in which groundwater alkalinity remained relatively stable.

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4.3 Surface Water Quality

Samples of surface water were collected from eight surface water stream sites every two months throughout 2008. Sample sites are provided in Table 4-1, with all raw data provided in Appendix E.

Table 4-1 Surface Water Sample Site Locations

Site ID	Stream	Location
NS01	North Stream	East of site
NS02	North Stream	West of site
SS01	South Stream B	Located east of site
SS02	South Stream A	East of site
SS03	South Stream	After confluence of South Streams A and B, located on the south of the site
CS1	Central Streams	Located in the south-west of the site, near monitoring bore GS13
CS2	Central Streams	Western side of site
CS3	Central Streams	Western side of site

All samples were analysed at a laboratory for the following analytes:

- Physico-chemical parameters: pH, electrical conductivity (EC), salinity (as TDS), total suspended solids (TSS) and turbidity;
- Major anions and cations: calcium (Ca), potassium (K), magnesium (Mg), sodium (Na), sulphate (SO₄) and chloride (Cl);
- Metals: aluminium (Al), manganese (Mn) and iron (Fe);
- Alkalinity (as CaCO₃);
- Nutrients: total phosphorus (TP), soluble reactive phosphorus (SRP), ammonia (NH₃), nitrate (NO₃), nitrite (NO₂), total Kjeldahl nitrogen (TKN); and
- Silica (SiO₂).

Time series plots of all water quality analytes for surface water samples are provided in Figures 4.35 to 4.42. Where possible, nutrient and pH data are compared to the statistically derived default ANZECC trigger values for South-West Australia, compared to the 'Lowlands River' category (ANZECC 2000), as this is considered to be suitable for the streams on site. All chemical concentrations will be compared to ANZECC trigger values for toxicants (freshwater) at the 95% protection level. An exceedence of a trigger value indicates that there is the potential for an impact to occur, and should trigger a management response. A discussion of the major findings of the surface water quality monitoring program is provided below.

- In general, concentrations of analytes increased during times of low flow, and declined during times of high flow.
- Concentrations of major anions and cations remained relatively steady throughout 2008, fluctuating slightly with changes in flow volumes. Surface water shares the same water type as the groundwater (sodium chloride type).

Monitoring Results

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- Surface water pH values are higher than groundwater pH, ranging from 6.0 to 8.5 in 2008.
 - The pH values were relatively steady throughout the year, and have not changed significantly when compared to 2002 values.
 - The pH at the majority of surface water sites is classified as neutral and within the ANZECC guideline range of 6.5 to 8.0.
 - The pH at NS02 was highly fluctuating throughout the year, with pH values ranging from 6.0 to 8.5.
- Surface water salinity was variable over the year, generally declining during times of high rainfall (and subsequent high flow volumes), and increasing during times of low rainfall.
 - Salinity concentrations ranged from 410 mg/L to 1,400 mg/L in 2008, with the surface water streams being classified as fresh to brackish.
 - The salinity at each of the monitoring sites in 2008 remained fairly stable, with the exception of NS02, which fluctuated over the year, ranging from 410 mg/L to 1,200 mg/L.
- Total suspended solids (TSS) in surface water were all low and stable throughout 2008, with the exception of NS02, which ranged from 1 mg/L to 1,100 mg/L over the year.
 - Peaks in TSS were also recorded at SS03 (100 mg/L) and CS2 (68 mg/L) and SS01 (43 mg/L) in July, which is most likely attributed to higher flow rates at this time.
 - TSS concentrations at CS2 and the process water dam (which discharges to CS2) were low and below the compliance limit of 80 mg/L throughout 2008, with concentrations ranging from 8 – 68 mg/L.
- Aluminium concentrations were elevated, with the concentrations at majority of sites exceeding the ANZECC trigger value of 0.055 mg/L.
 - Concentrations recorded in 2008 are lower than those recorded in previous years, and are lower than concentrations recorded in 2002 (pre-mining).
 - Aluminium concentrations in the surface water samples are significantly lower than groundwater concentrations.
- Iron concentrations were low and below the ANZECC interim trigger value of 0.3 mg/L at all sites and on all sampling occasions, with the exception of three sites.
 - The iron concentrations at SS02 (ranging from 1.8 mg/L to 2.2 mg/L) and SS03 (3.3 mg/L) are consistently higher than any other site in 2008, and exceeded the trigger value in 2008.
 - Peaks in concentration were recorded at NS01 (0.98 mg/L) and NS02 (0.69 mg/L) in April, declining to concentrations below the ANZECC trigger value in May, and remaining at low concentrations for the remainder of the year.

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- Concentrations of nutrients in surface water samples were highly variable over the year.
 - Ammonia concentrations were generally low and below the ANZECC trigger value of 0.9 mg/L, with the exception of NS01 (0.82 mg/L) and NS02 (1.2 mg/L) in October.
 - A peak in nitrate concentration were recorded at NS02 (32 mg/L) in April, which decreased to 0.7 mg/L in May. This result may be due to a laboratory or sampling error, as this elevated concentration was only recorded on one occasion. Nitrate concentrations also peaked at SS01 (5.6 mg/L) and NS01 (5.2 mg/L) in July.
 - Soluble reactive phosphorus (SRP) concentrations exceeded the ANZECC trigger value of 0.04 mg/L at NS01, NS02 and SS01. NS01 and SS01 are located upstream of the mine site, indicating phosphorus addition from other sources.
 - Total phosphorus (TP) concentrations exceeded the ANZECC trigger value of 0.065 mg/L at all sites and on all sampling occasions, with the exception of CS2. Highest concentrations are consistently recorded at NS02.

In summary, the water quality of the surface water streams up and down-gradient of the mine site have remained relatively stable in 2008, with fluctuations generally occurring at times of high rainfall. All concentrations of analytes are within long-term ranges, with the exception of a few outliers which may be due to problems with sampling methodology. Concentrations of aluminium and phosphorus were elevated at the majority of sites and exceeded ANZECC trigger values, however concentrations have generally not changed significantly since 2002.

4.4 Surface Water Flow

Total monthly flow volumes and historical flow volumes are presented in Figures 4.43 and 4.44 respectively, with a comparison to monthly rainfall volumes. Flow in the three main surface water streams at the site were in response to rainfall events, with the highest flows at all three streams recorded in July, and no streamflow recorded in any stream over the months of January, February, March and December 2008. Flows recorded in 2007 and 2008 were significantly higher than those recorded in 2005 and 2006, due to low rainfall recorded in these two years. The largest stream (North Stream) recorded the overall largest streamflow volume throughout the year (129,921 kL), with smaller annual flows at south and central streams (15,353 kL and 15,579 kL respectively). Streamflow at the North Stream increased significantly in July following heavy rain, increasing from around 4,000 kL/day in June to nearly 60,000 kL/day in July.

Licence Compliance

Section 5

5.1 Department of Water Licence

Compliance against the Department of Water Licences and Iluka Resources Operating Strategy are summarised in Table 5-1 below.

Table 5-1 Summary of Licence Compliance

Licence	Locations	Monitoring Parameters	Monitoring Frequency	Compliance
GWL104855(2) Superficial formations	Sump-pumps	Abstraction volumes, operating hours	Weekly	Compliant
		Cumulative abstraction	Monthly	Compliant
	GS1 to GS25, excluding GS1S, GS3S&D, GS9D,GS10S, GS12S, GS14S, GS16S, GS17S, GS18S&D, GS19S, M&D	Groundwater levels	Monthly	Compliant
	RG1, RG3, RG4, RG5	Groundwater levels	Monthly	Compliant Groundwater levels at RG3 not measured in 2008, this bore was destroyed during construction of Northern stream diversion.
	GSP4	Groundwater levels	Monthly	Compliant Data not collected in August and October due to site inaccessibility
	B1 (Morley), W1 (Whisson), Golf Course	Groundwater levels	Monthly	Compliant Golf course not measured in 2008 – no access due to pump being installed.
	GS2, GS8, GS13, GS17, GS21	pH, EC, TDS, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Mn, total alkalinity, HCO ₃	Quarterly	Compliant Quarterly chemical analysis completed
	Abstraction	The quantity of water that may be taken for the authorised activities is limited to 1,000,000kL per water year		Compliant Total annual abstraction from superficial aquifer in 2008 was 246,984kL
GWL104858(3) Yarragadee formations	GYP1	Abstraction rates and volumes	Weekly	Compliant
		Operating hours	Weekly	
		Groundwater levels	Opportunistic	Compliant
		EC, pH, temperature, TDS, Cl, Na, SO ₄ , K, Ca, Mg, Fe, SiO ₂ , Mn, total alkalinity, HCO ₃	Quarterly	Compliant
	GY1	Groundwater levels	Weekly	Compliant
	GB1, AM6A, GB5, AM4, AM4A, AM6	Groundwater levels	Monthly	Groundwater levels measured by DoW. AM4A, AM6 & AM6A monitored monthly in 2008. GB1 monitored 6-monthly, GB5 monitored annually. AM4 non-operable in 2008.

Licence Compliance

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Licence	Locations	Monitoring Parameters	Monitoring Frequency	Compliance
	Abstraction	The quantity of water that may be taken for the authorised activities is limited to 1,500,000kL per water year		Compliant Total annual abstraction from superficial aquifer in 2008 was 902,845kL

Assessment and Conclusions

Section 6

Groundwater levels in the monitoring bores on site have recorded variable changes over 2007 and 2008. The areas with the largest groundwater level decline are located near/adjacent to the south and central sections of the pit, where groundwater abstraction is occurring to enable dry mining conditions. Sites located away/outside of these areas generally recorded relatively stable groundwater levels throughout 2008.

Drawdown impacts on the superficial aquifer have been predicted in previous studies (URS, 2002a). These predictions were based on an average annual abstraction rate of around 900,000 kL/yr, which is significantly higher than the actual annual abstraction at the site in any year since dewatering has commenced. Actual drawdown responses in the superficial aquifer have been less than those predicted. A maximum drawdown within the pit in 2008 of 1.93 m was recorded, with drawdown being localised around dewatering zones. Groundwater level decline has not extended off-site to the extent predicted, and the eastern crest has, in general, recorded increasing groundwater levels in 2008. Off-site bore W1, which is located approximately 1-2 km to the southwest of the site, recorded a rise in groundwater level in 2008 (+0.12 m), and since mining and dewatering commenced in 2005, the groundwater level at this bore has remained stable, with a very slight decline of 0.06 m. Regional monitoring bores (R1, R4 and R5), which are located up to 500 m from the pit, recorded an average decline of 0.25 m over 2008, with an average decline of 0.75 m since mining began in 2005. Department of Water monitoring bores in the superficial aquifer (GB1 and GB5) have recorded relatively stable or increasing groundwater levels throughout 2008. Overall, dewatering of the superficial aquifer has resulted in some areas of localised decline, however, the decline is less than predicted levels and has not affected off-site bores during 2008.

Yarragadee monitoring bore GY1 recorded a decline of 0.39 m between 2007 and 2009. The decline in GY1 is expected, as this site is located around 800 m north of the Yarragadee abstraction bore GYP1, in the southwest section of the pit. The groundwater level in monitoring bore GY1 has declined by 1.08 m since 2005, which is within modelling predictions of drawdown, related to abstraction from the Yarragadee aquifer (URS, 2006), where a drawdown of around 5 m was predicted. Department of Water monitoring bores have shown declining groundwater level trends since the early 1980s, with the decline in 2008 being similar to that recorded in previous years.

Groundwater quality has not changed significantly following the onset of dewatering and mining in 2005, with generally stable concentrations of major cations and anions, and groundwater salinity. During 2008, the pH of the groundwater in the superficial aquifer was generally within background values (5.3 to 6.5), however a few bores recorded declining pH trends, where pH values decreased below background values. Declining groundwater pH at these sites may be indicative of acid sulphate soils in the area. A Soil Review is currently being conducted to verify the extent of acidic soil on site and to recommend a monitoring program for the Closure Phase of the site, to ensure the impacts of acidic soils in groundwater and surface water systems continue to be monitored and managed appropriately following the cessation of mining activities. The groundwater pH in the Yarragadee bore remained stable throughout 2008, with groundwater being classified as neutral to slightly alkaline. Aluminium and iron concentrations fluctuated in 2008, with elevated concentrations occurring in several bores, which may be linked to declining groundwater pH in these areas.

During 2008, the groundwater abstraction associated with mine dewatering and mineral processing was compliant with all licensing conditions. These operations appear to be having no permanent impact on the aquifers being utilised or the underlying groundwater resources.

Assessment and Conclusions

Section 6

Mining and dewatering at the site is scheduled to be completed in June 2009, with rehabilitation works commencing and continuing until 2011. It has been predicted that recovery of the water table will be complete after around three to four years following the cessation of mining and dewatering (URS, 2002a). However, as the modelled groundwater drawdown response is greater than what was recorded on site in 2008, it is expected that the groundwater level recovery time will be significantly less than that which was predicted, following the completion of mining in 2009.

Recommendations

Section 7

Recommendations for Iluka Resources in 2009 at the Gingin Mine Site from this review include:

- Continue to implement current monitoring program until mine closure in June 2009.
- Implement mine closure monitoring program at completion of mining.
- Include water quality monitoring at superficial aquifer bores as part of mine closure monitoring program. Program should include, but not be limited to: pH, dissolved aluminium, iron and arsenic, and total acidity.

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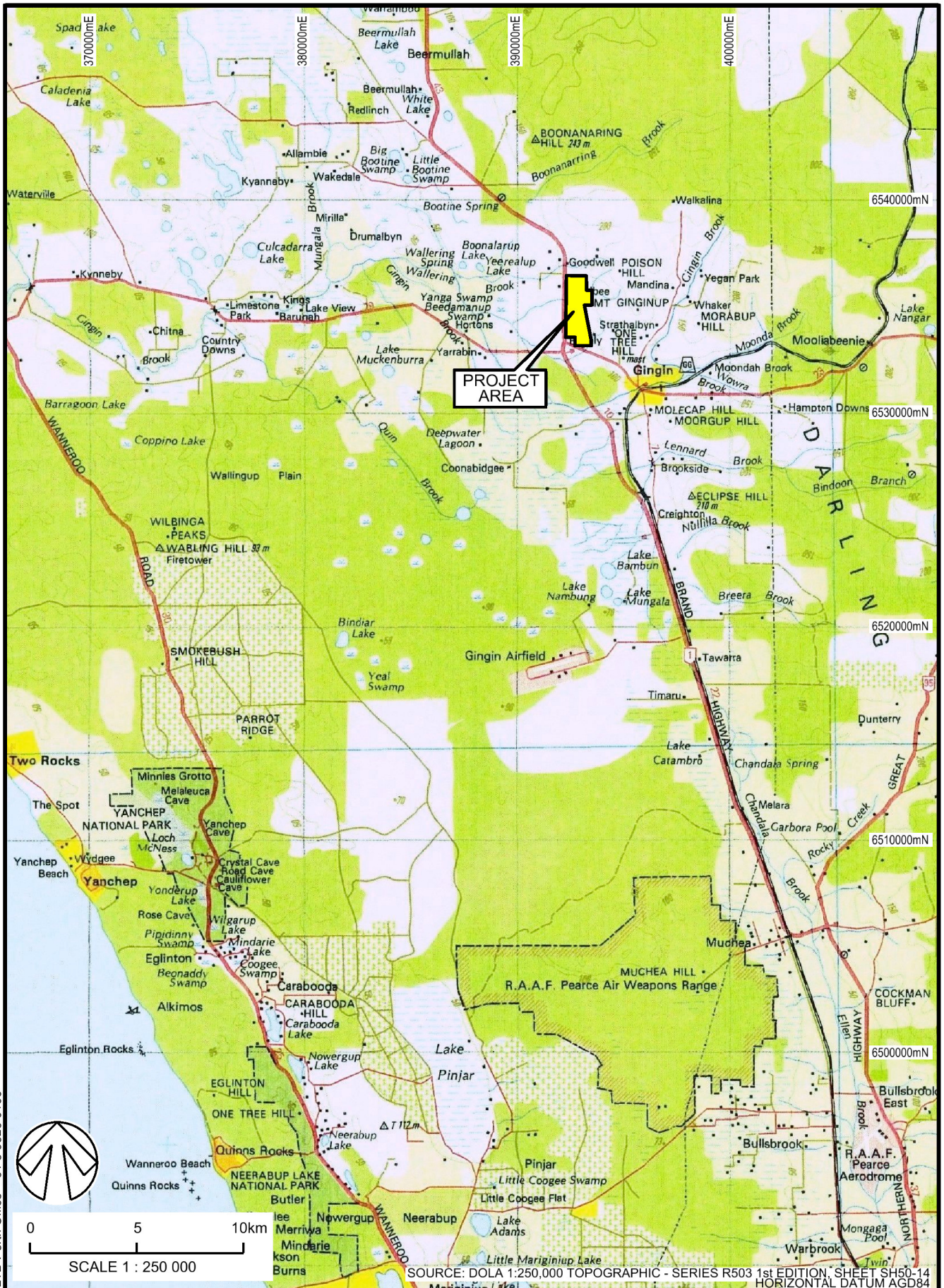
URS Australia Pty Ltd (URS) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of Iluka Resources Ltd and only those third parties who have been authorised in writing by URS to rely on the report. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal dated 12 February 2009.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

This report was prepared between February and March 2009 and is based on the conditions encountered and information reviewed at the time of preparation. URS disclaims responsibility for any changes that may have occurred after this time.

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Figures



SOURCE: DOLA 1:250,000 TOPOGRAPHIC - SERIES R503 1st EDITION, SHEET SH50-14 HORIZONTAL DATUM AGD84

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Job No.	42907169	
Prep. By	TDR	2 Apr 09
Chk'd By	NR	2 Apr 09
Revision No.	0	

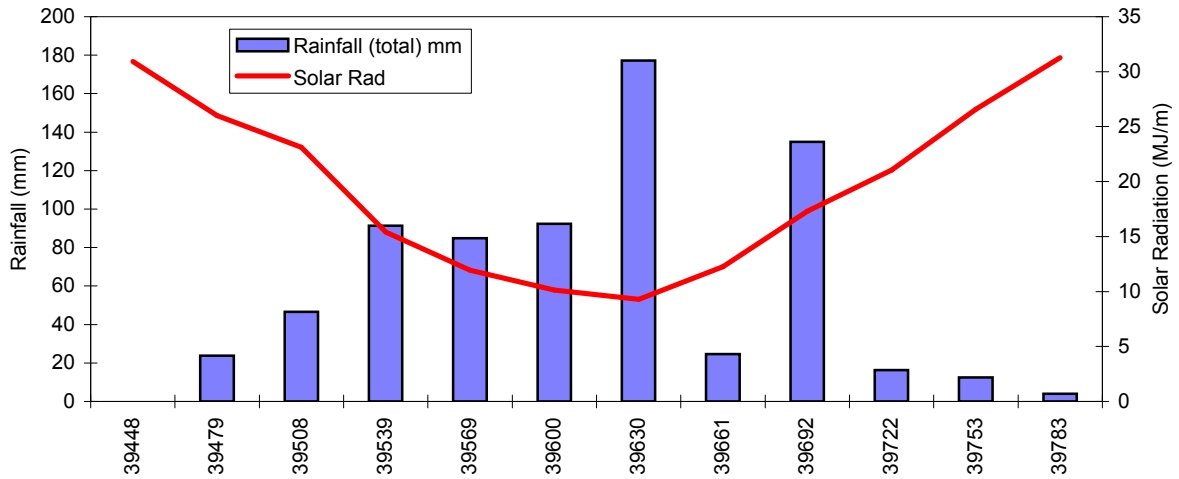
Iluka Resources Limited
Gingin Mine Site Aquifer Review 2009

LOCATION PLAN

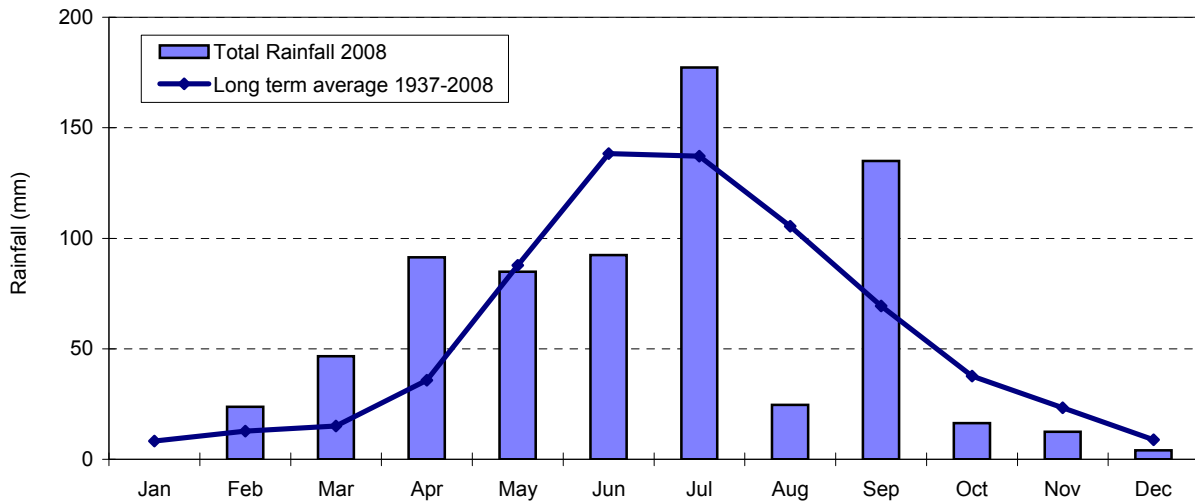
Figure 1.1



**Total Annual Rainfall and Solar Radiation
Gingin - January to December 2008**



Total Rainfall in 2008 and Long-Term Rainfall at Gingin



Client:
Iluka Resources Ltd



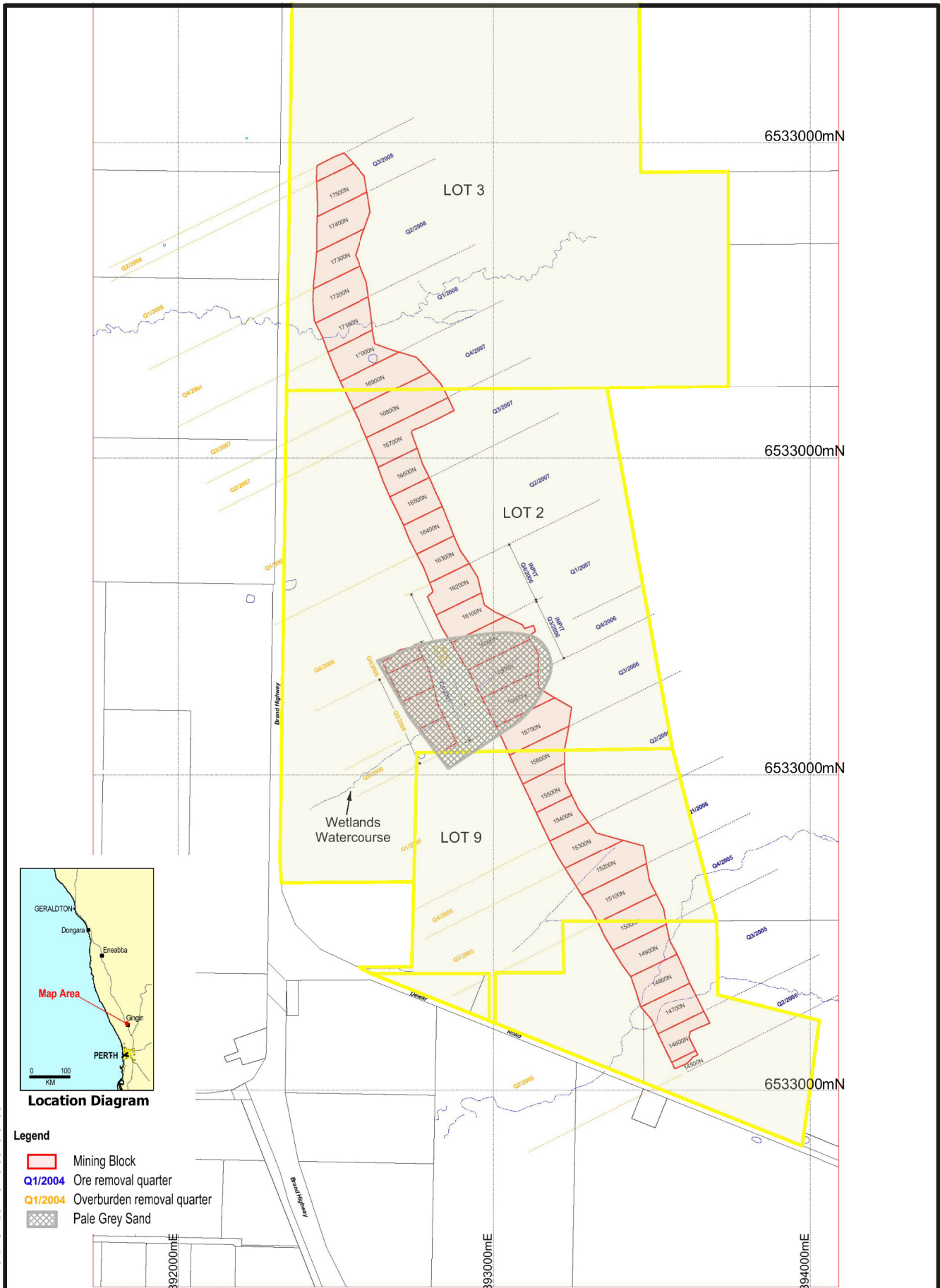
Project:
Gingin Mine Site Aquifer Review
January to December 2008

Title: Monthly Rainfall at
Gingin, January to December
2008

Drawn: NR	Approved: RV	Date: 10/3/08
Job No. 42907169		File No.

Figure: 1.2

Rev. 0
A4



- Legend**
- Mining Block
 - Q1/2004 Ore removal quarter
 - Q1/2004 Overburden removal quarter
 - Pale Grey Sand

Job No.	42907169	
Prep. By	TDR	2 Apr 09
Chk'd By	NR	2 Apr 09
Revision No.	0	

Iluka Resources Limited
Gingen Mine Site Aquifer Review 2009

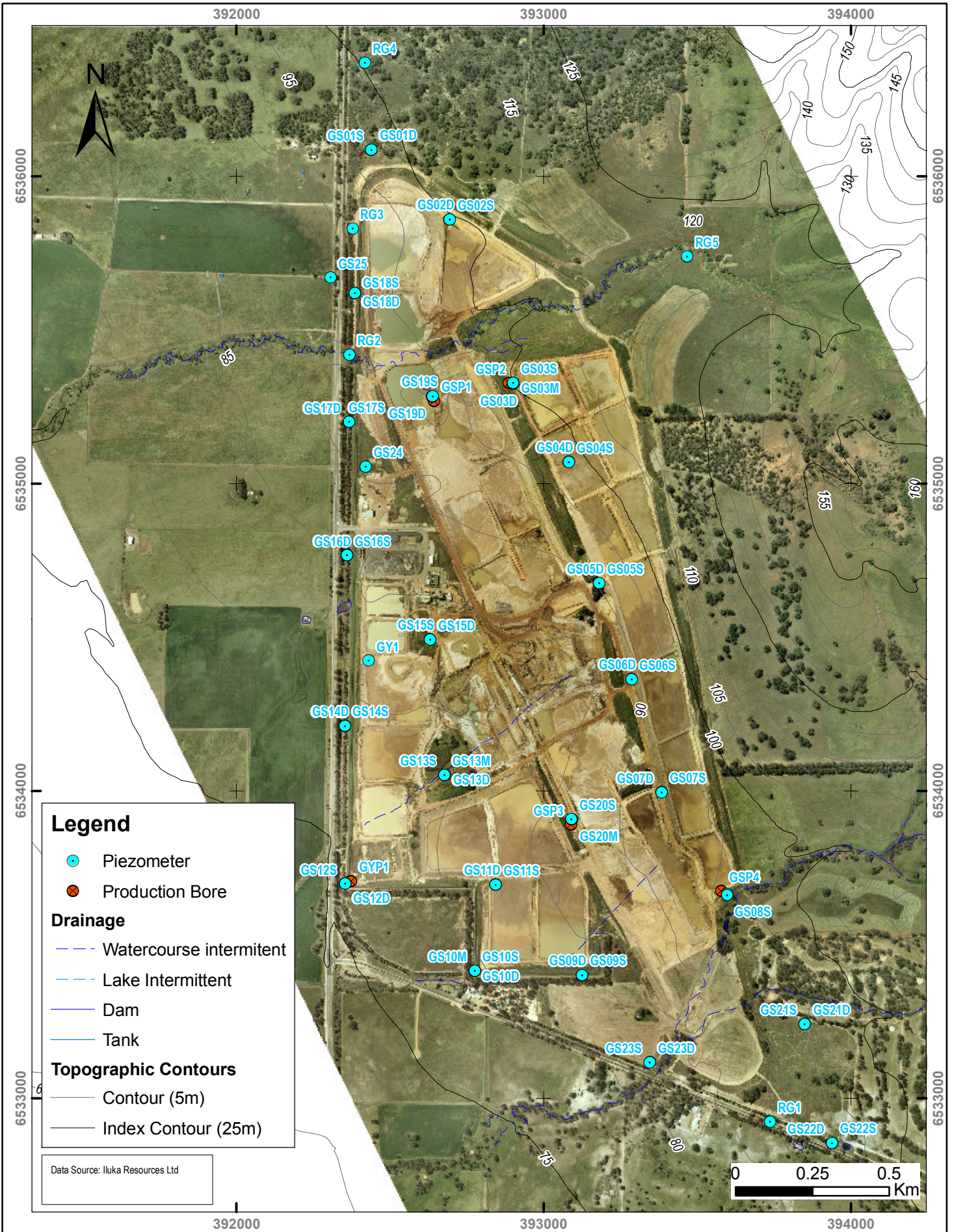
**GINGIN DEPOSIT MINING SEQUENCE
AND SURFACE WATER STREAMS**


Figure 1.3

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T:\Jobs\42907169\42907169-1.3.dgn

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Client Iluka Resources Ltd	Project Gingin Mine Site Aquifer Review 2009		Title Onsite Bore Locations	
	Scale: 1:16,000	Drawn: AB	Datum: GDA94	
	Date: 16/03/2009	Approved: NR	Projection: MGA50	
	Job No.: 42907169	File No.: 42907169_001.mxd		Figure 1.4

T:\Jobs\42907169

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Source: Iluka Resources Ltd

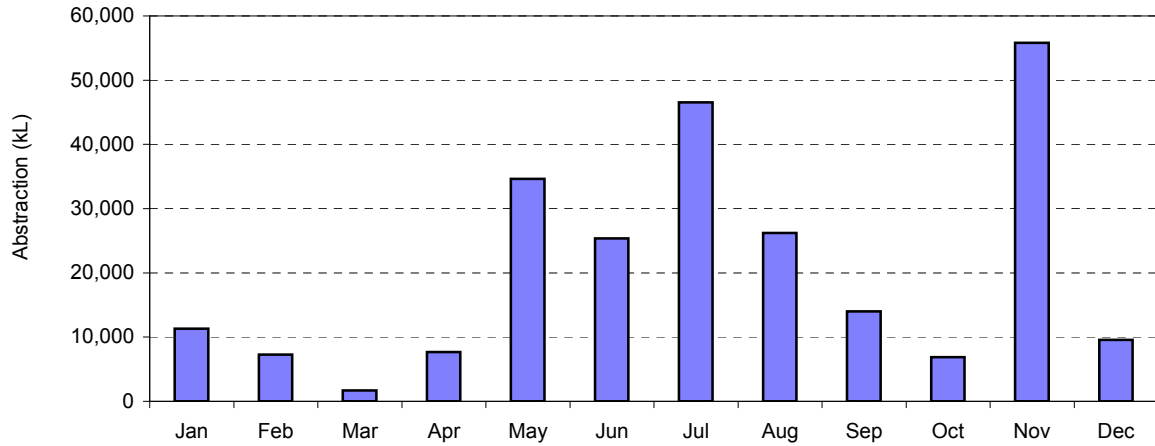
Bores	Drainage	Topographic Contours	<p>Kilometres</p>
● Piezometer	--- Watercourse intermittent	— Contour (5m)	
● Production Bore	--- Lake Intermittent	— Index Contour (25m)	
▲ DoW Monitoring Bore	— Dam		

Client Iluka Resources Ltd	Project Gingin Mine Site Aquifer Review 2009	Title DoW Bore Locations	
	Drawn: TDR	Approved: NR	Date: 02/04/2009
	Job No.: 42907169	File No.: 42907169_TDR-fig1.5.mxd	Figure: 1.5
			Rev. A A3

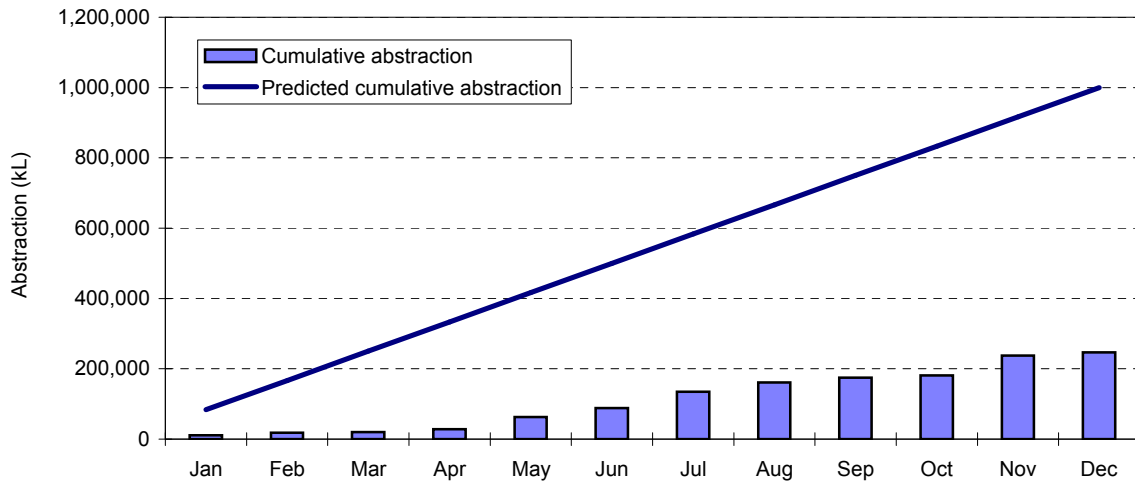
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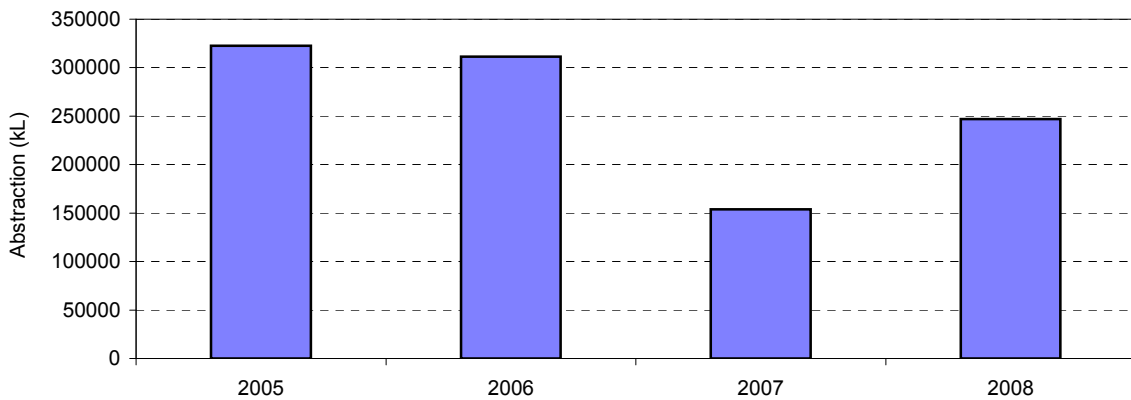
**Total Monthly Groundwater Abstraction
Superficial Aquifer - January to December 2008**



**Cumulative Monthly Groundwater Abstraction
Superficial Aquifer - January to December 2008**



**Total Annual Abstraction
Superficial Aquifer**



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

Title: **Abstraction from the
Superficial Aquifer**

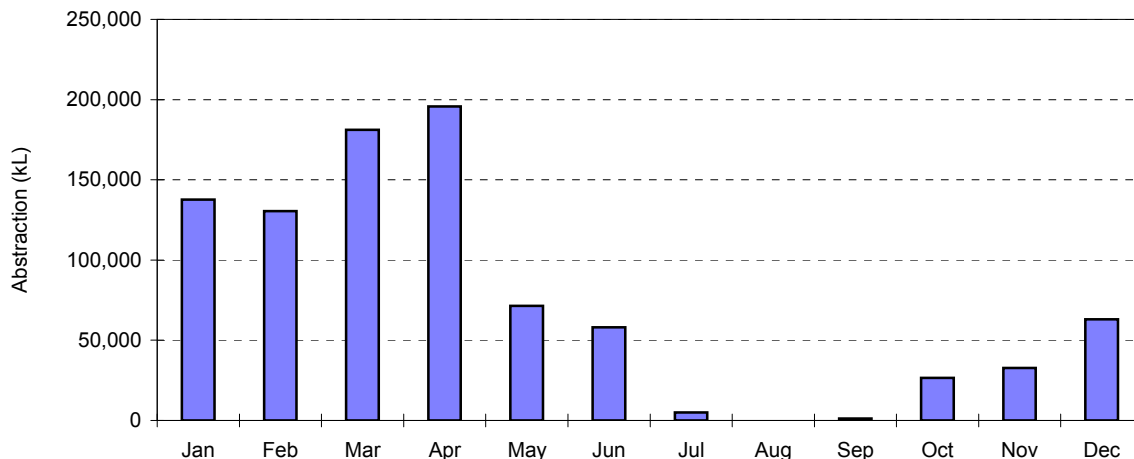


Drawn: NR	Approved: RV	Date: 5/03/2009
Job No. 42907169		File No.

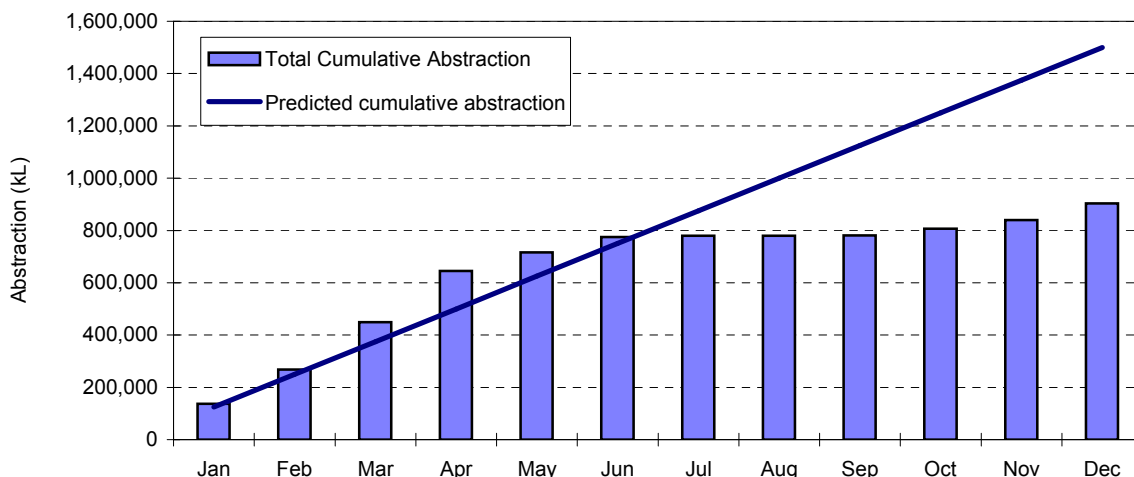
Figure: 3.1

Rev. 0
A4

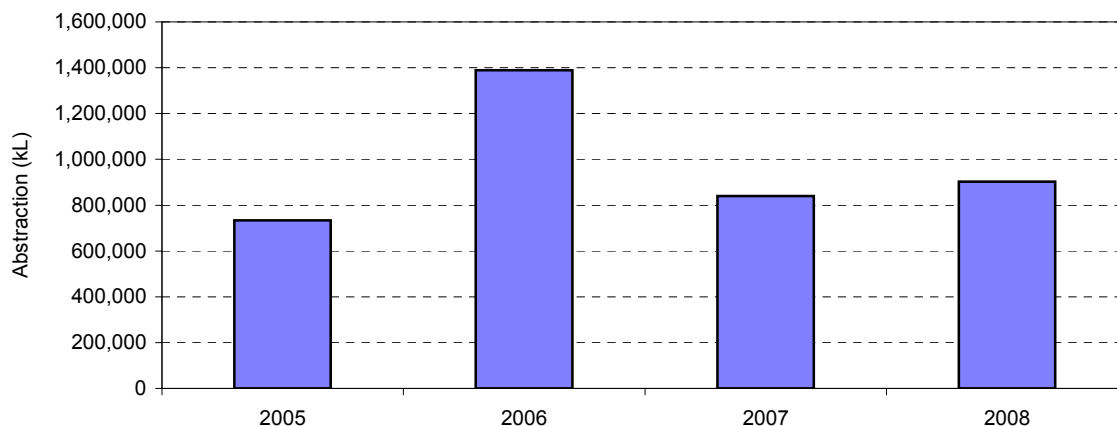
**Total Monthly Groundwater Abstraction
Yarragadee Aquifer - January to December 2008**



**Cumulative Monthly Groundwater Abstraction
Yarragadee Aquifer - January to December 2008**



**Total Annual Abstraction
Yarragadee Aquifer**



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

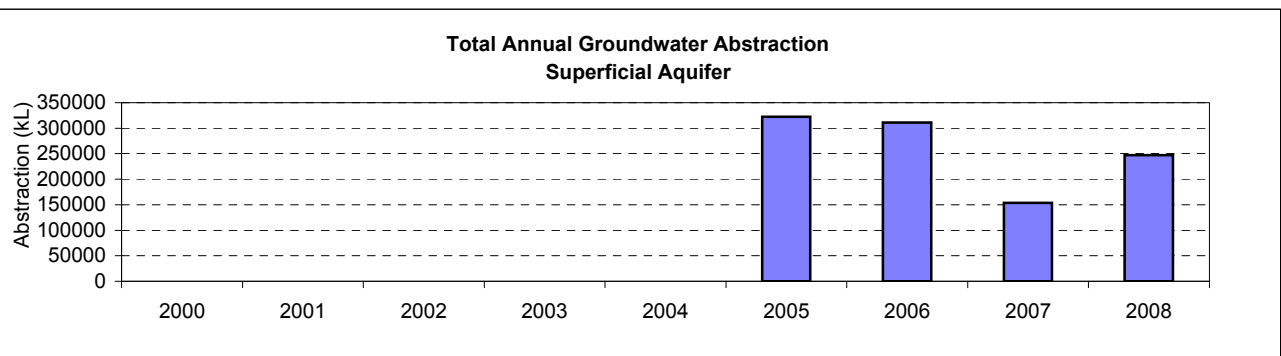
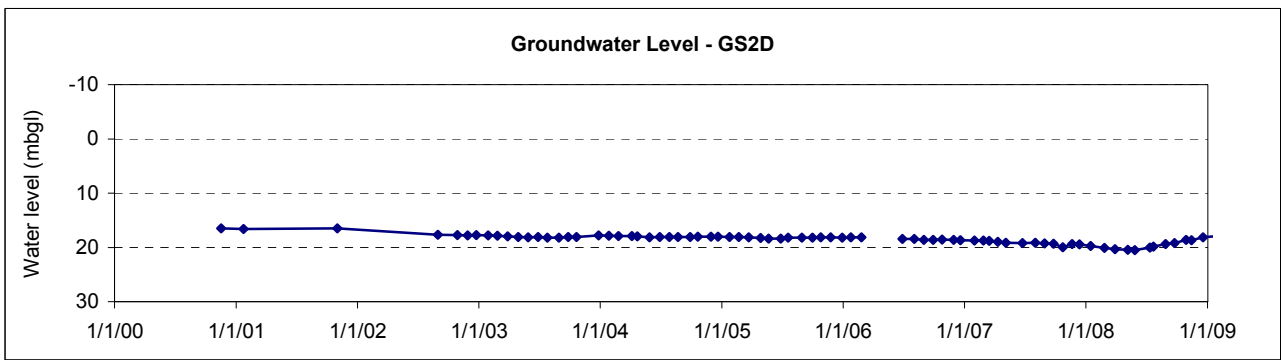
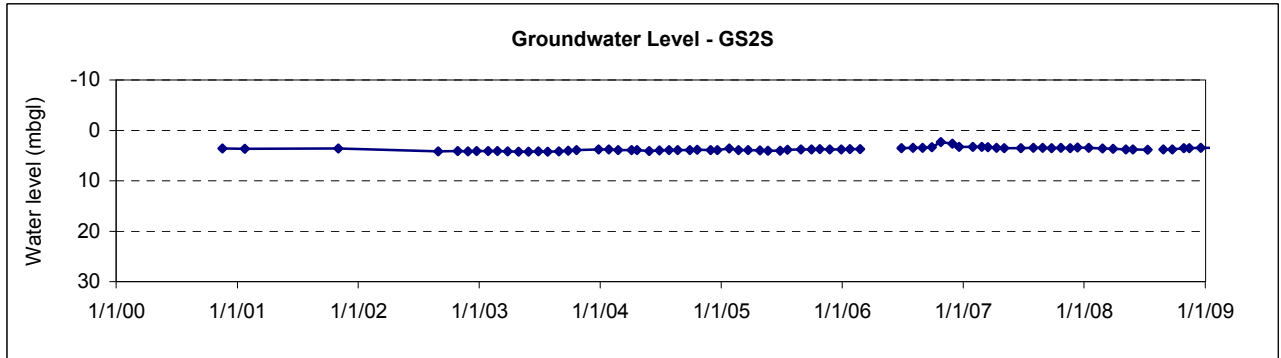
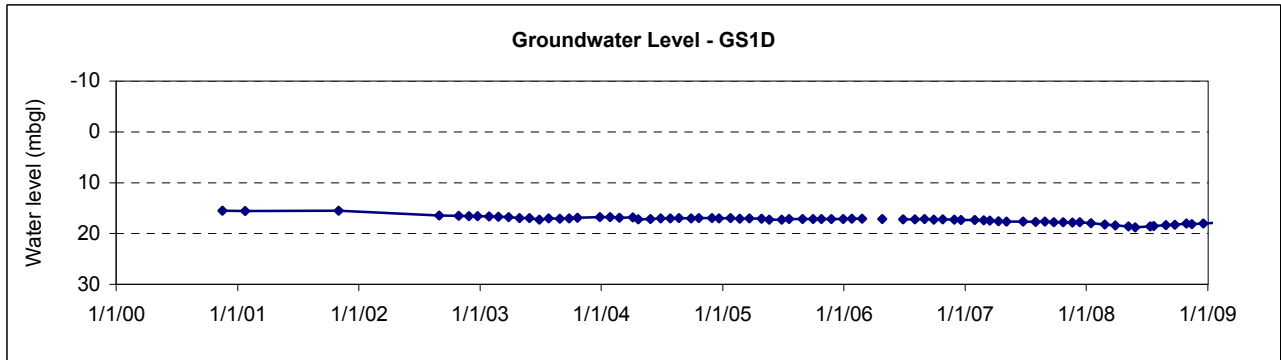
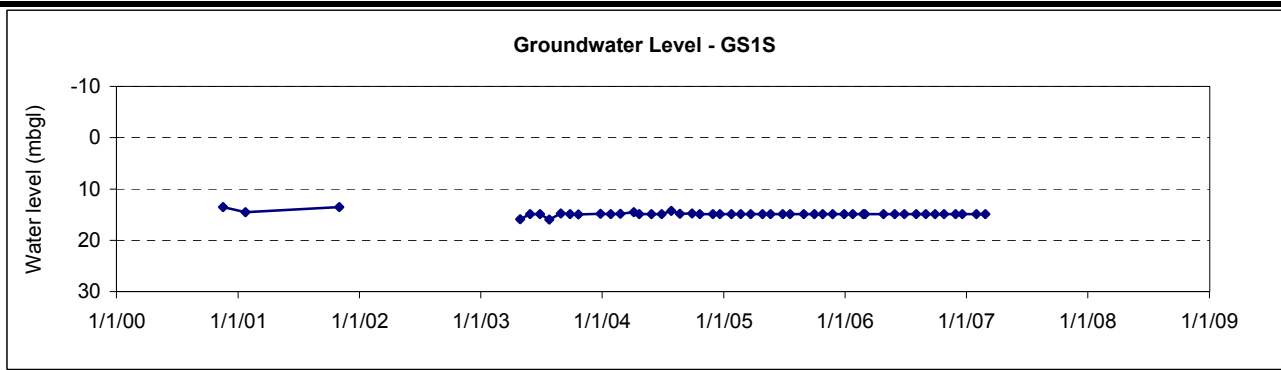
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Yarragadee Aquifer**



Drawn: NR	Approved: RV	Date: 5/03/2009
Job No. 42907169		File No.

Figure: 3.2

Rev. 0
A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bores GS1
and GS2



Drawn: NR

Approved: RV

Date: 27/02/2009

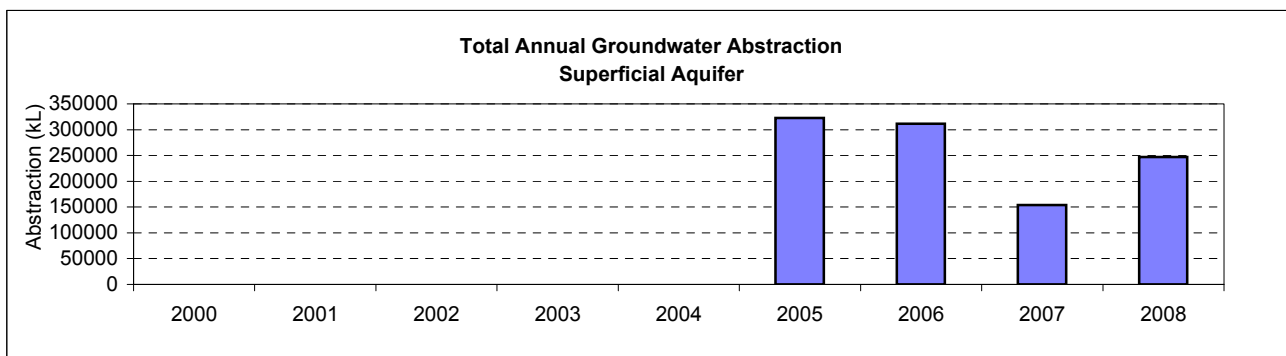
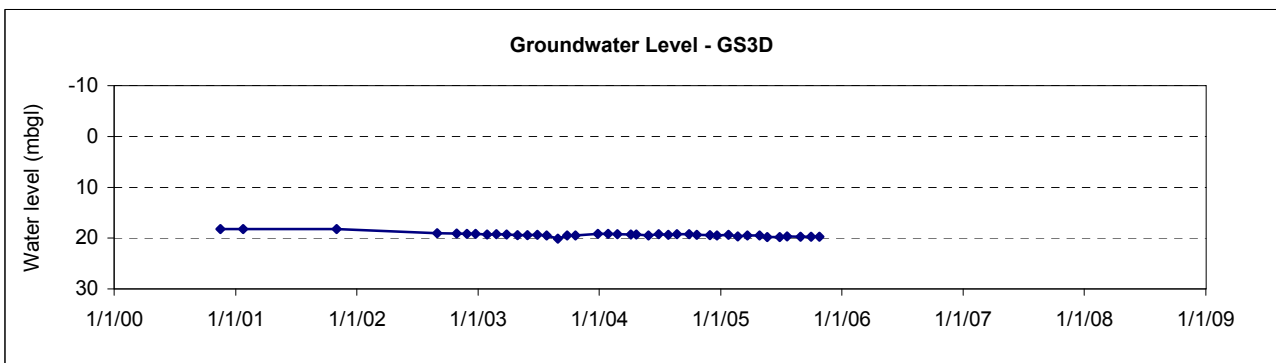
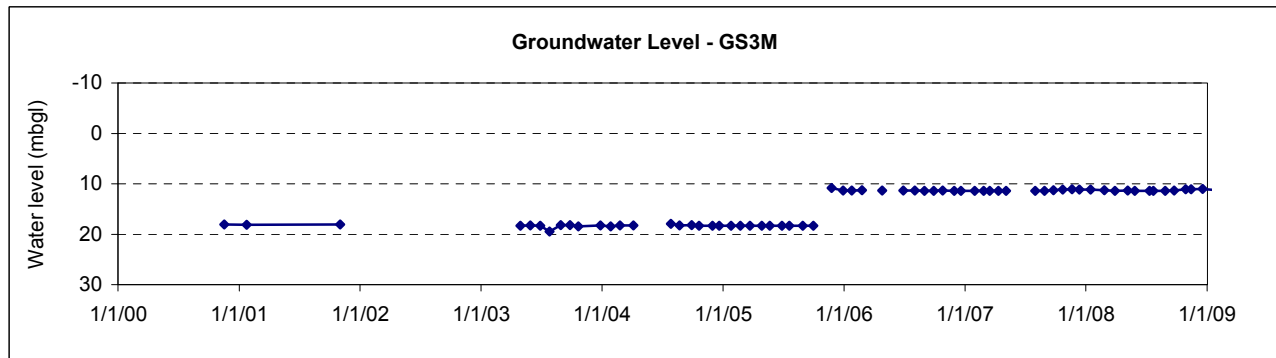
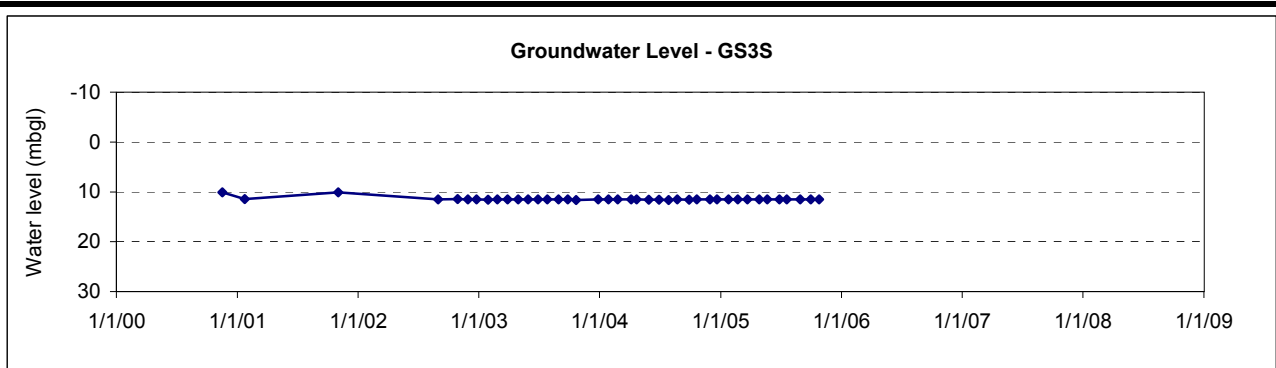
Rev. 0

Job No. 42907169

File No.

Figure: 4.1

A4



Client:
Iluka Resources Ltd

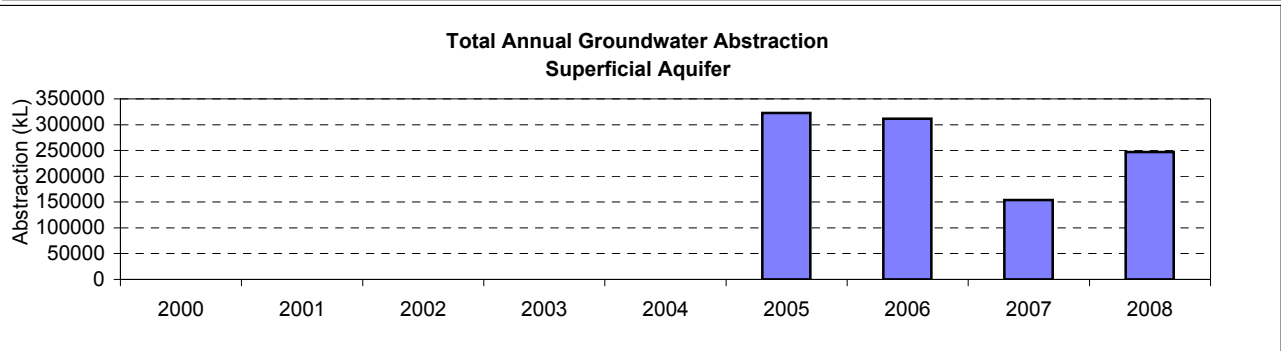
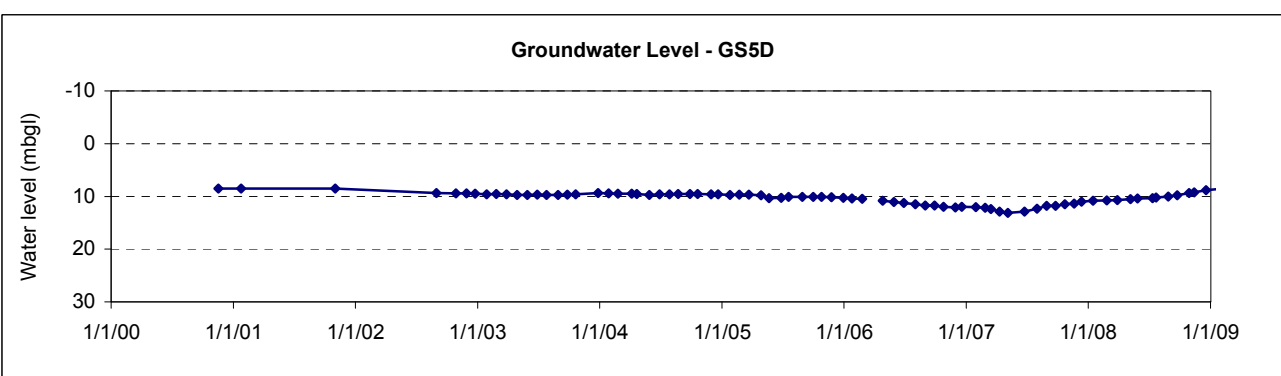
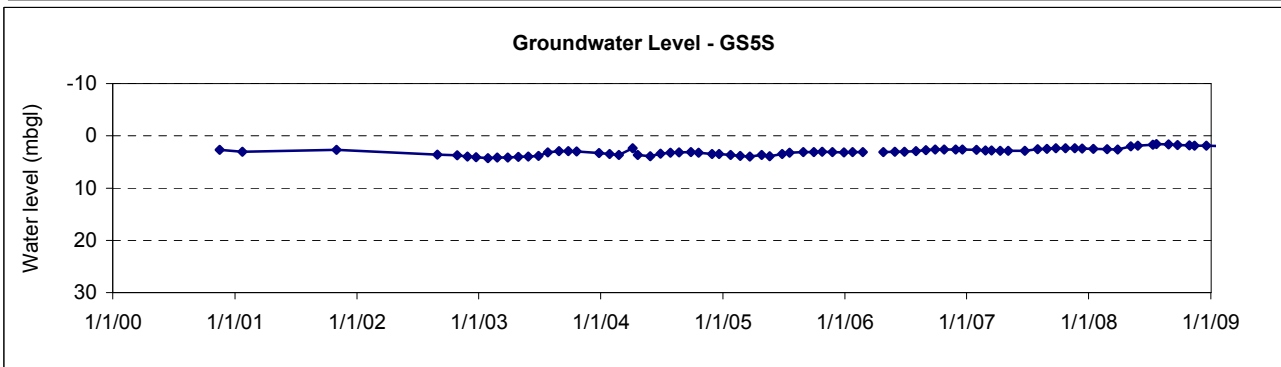
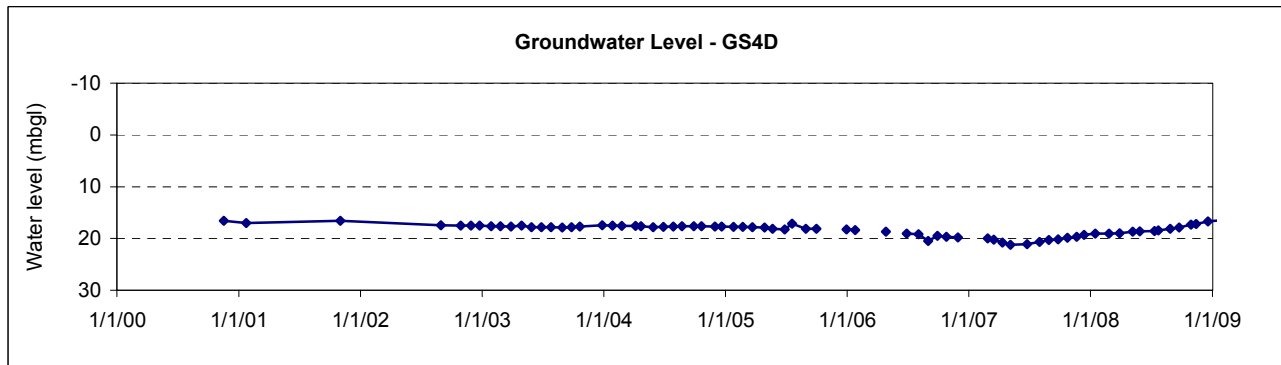
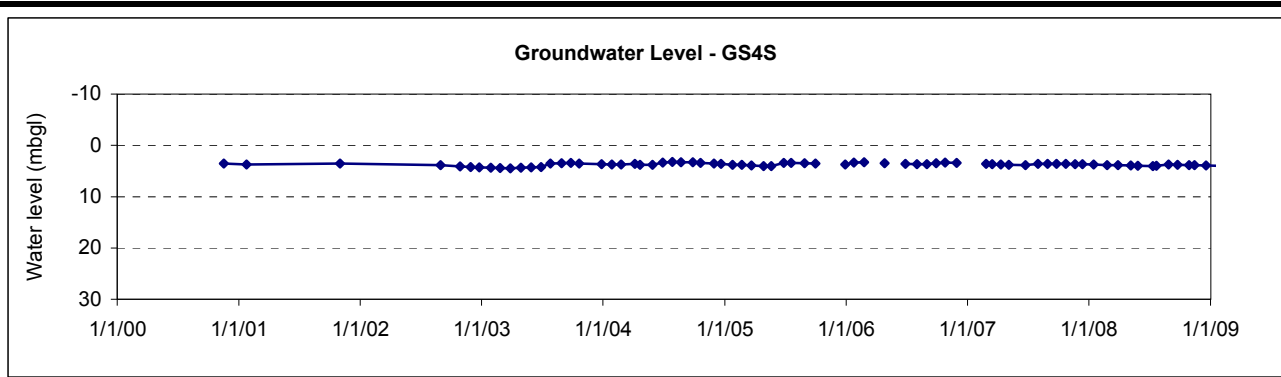
Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bore GS3



Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.2	Rev. 0
	A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

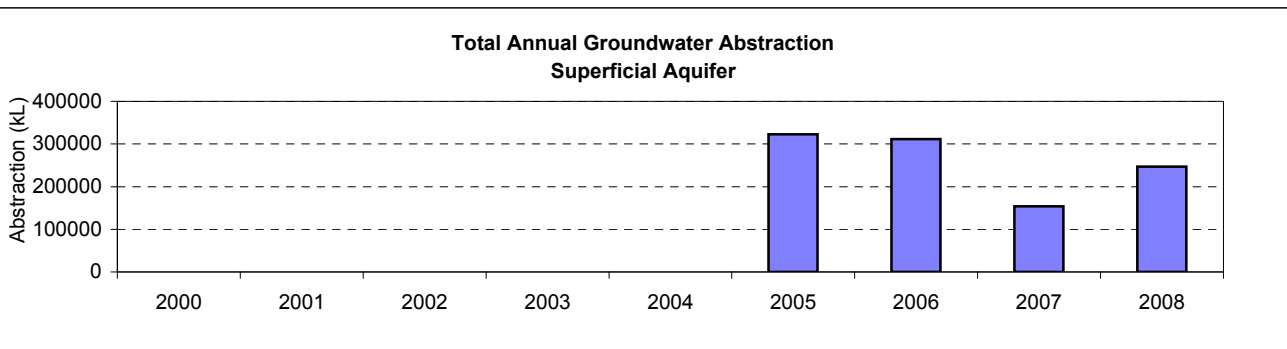
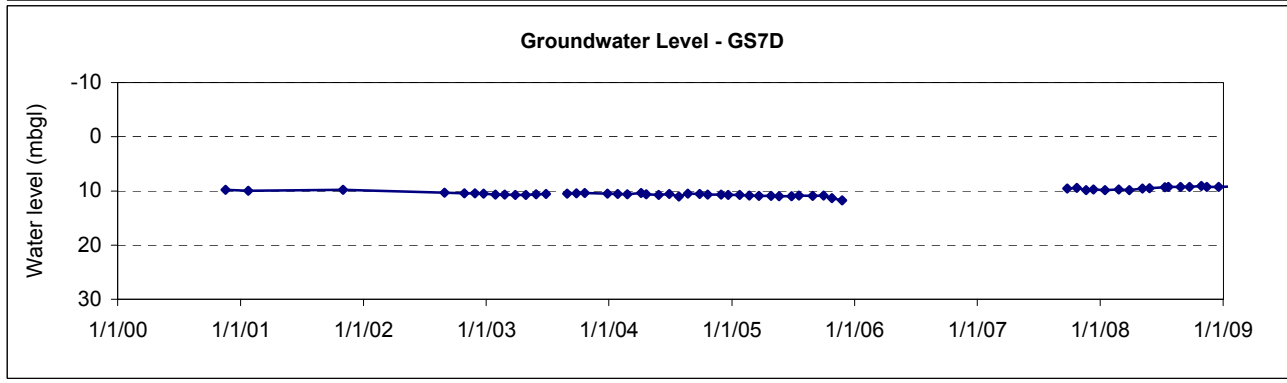
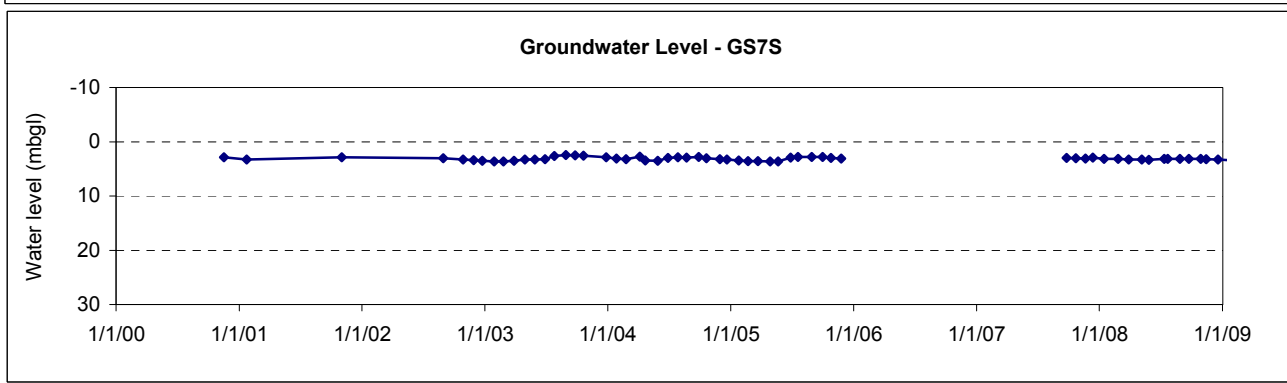
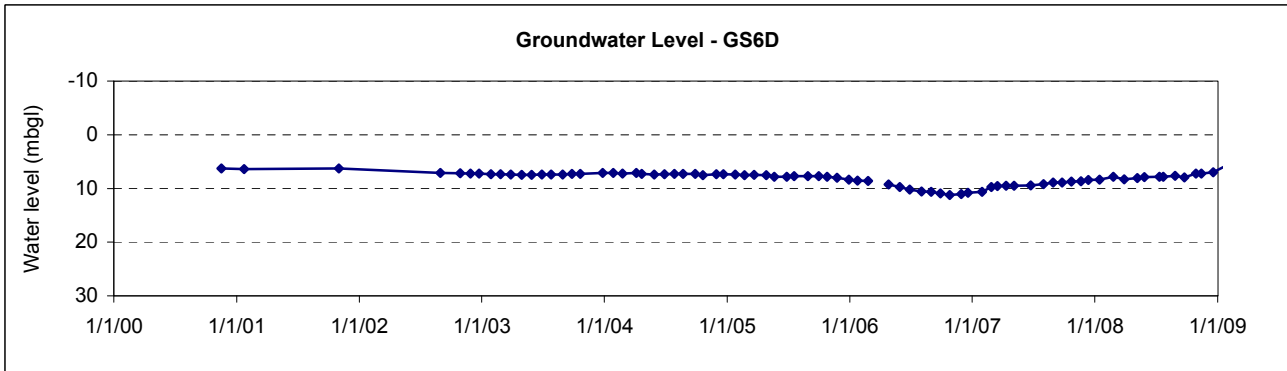
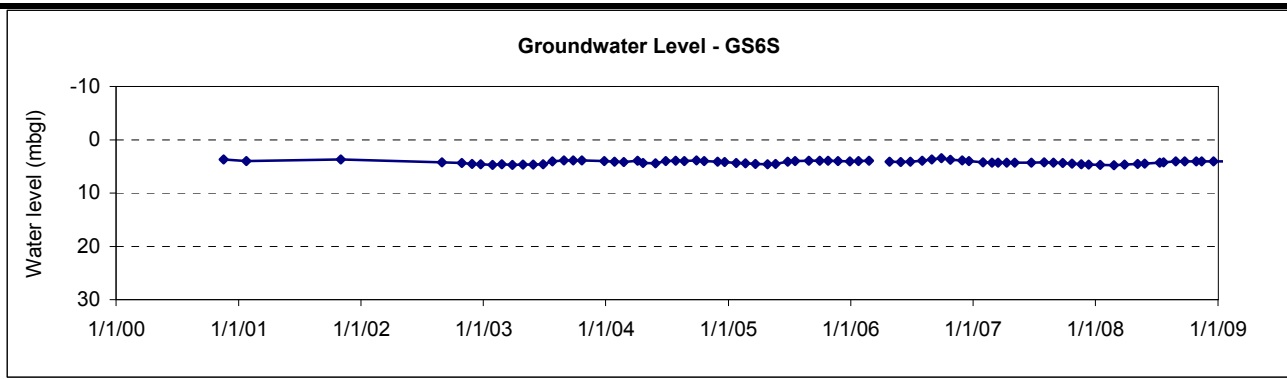
Title: Hydrographs -
Superficial Aquifer bores GS4
and GS5



Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.3

Rev. 0
A4



Client:
Iluka Resources Ltd

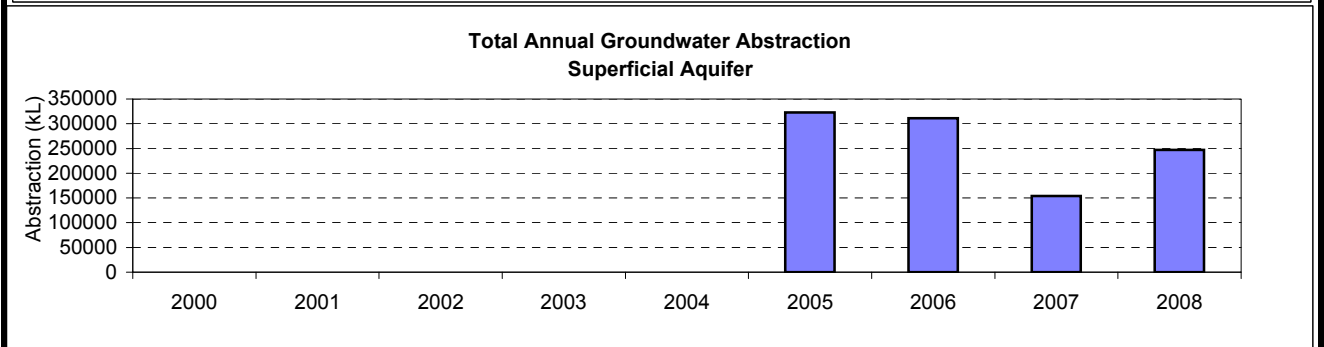
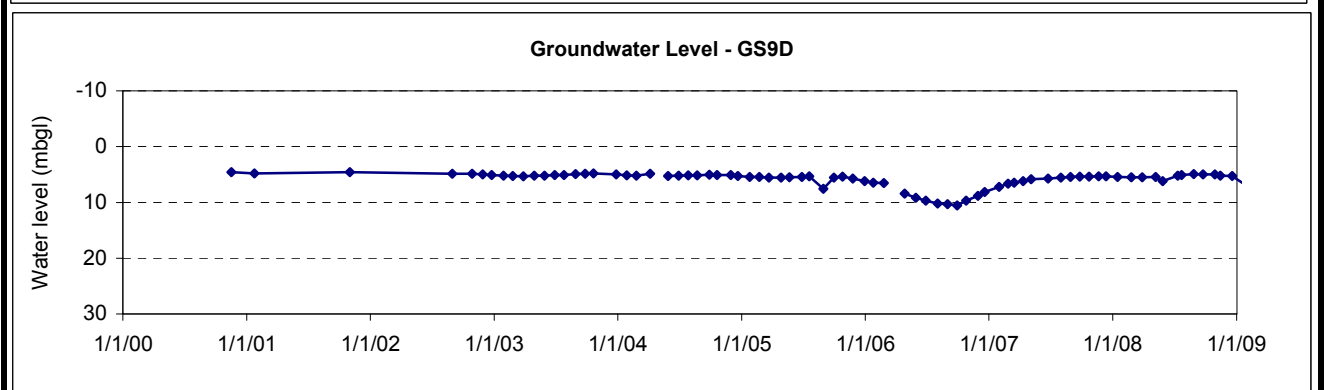
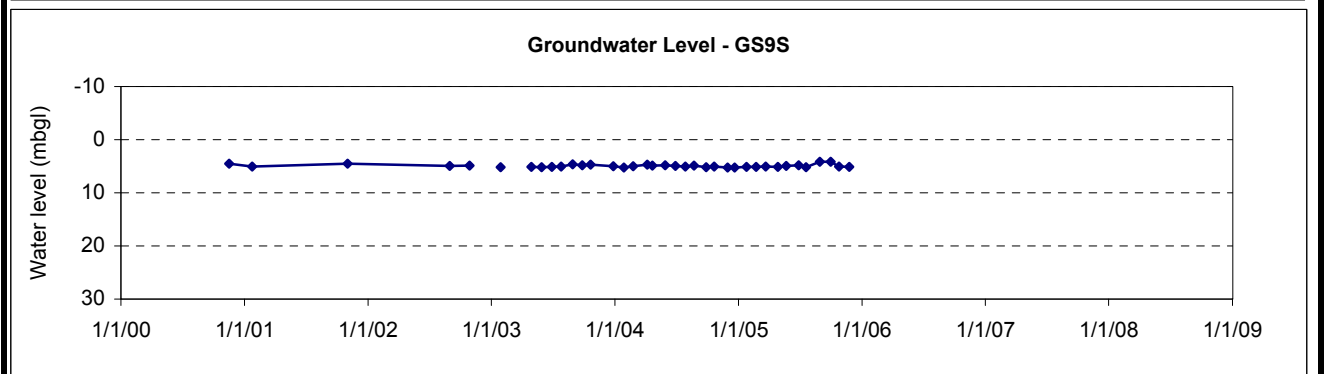
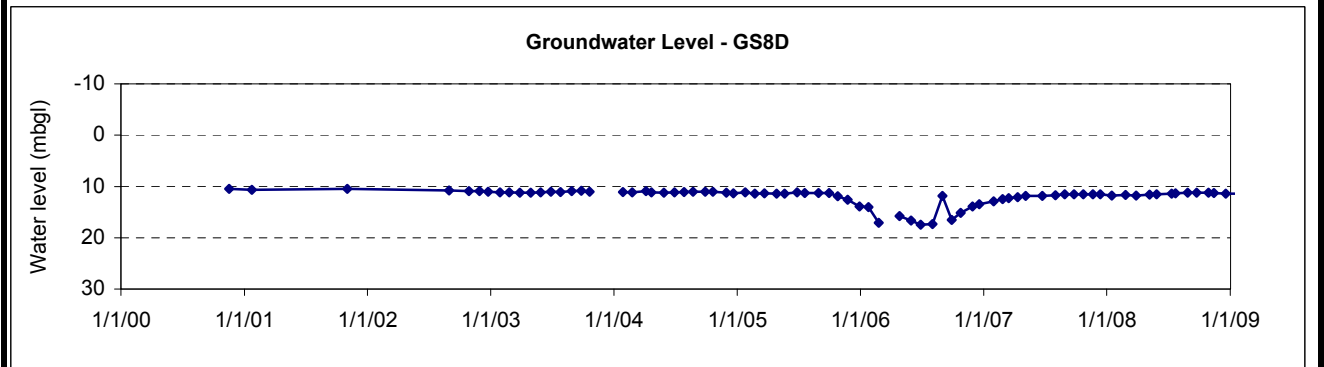
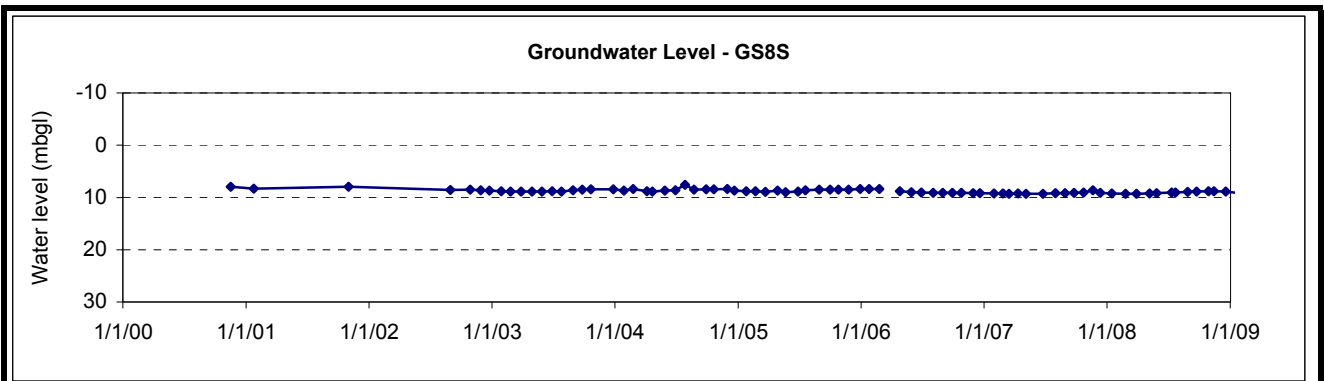
Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bores GS6
and GS7

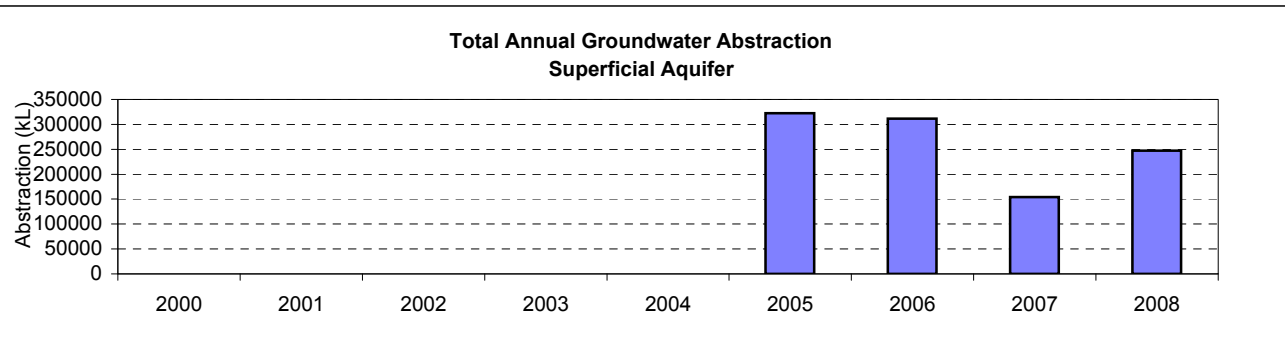
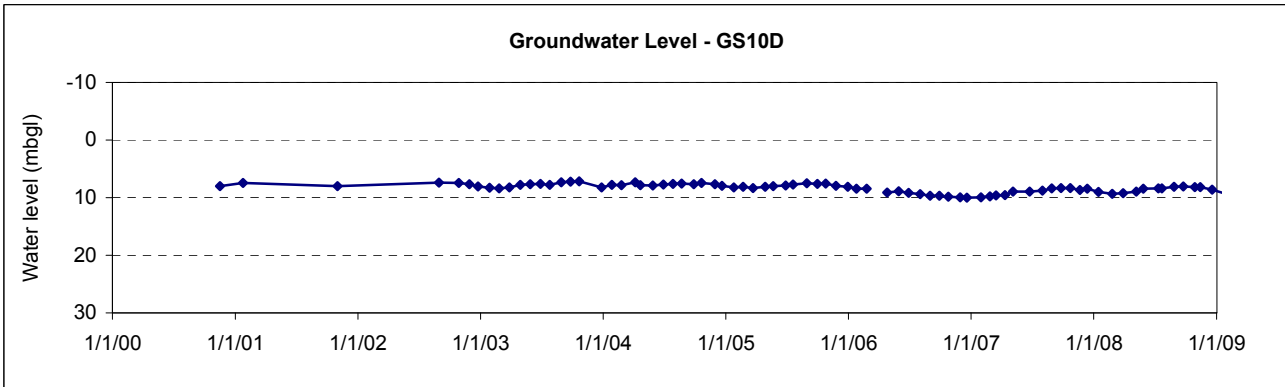
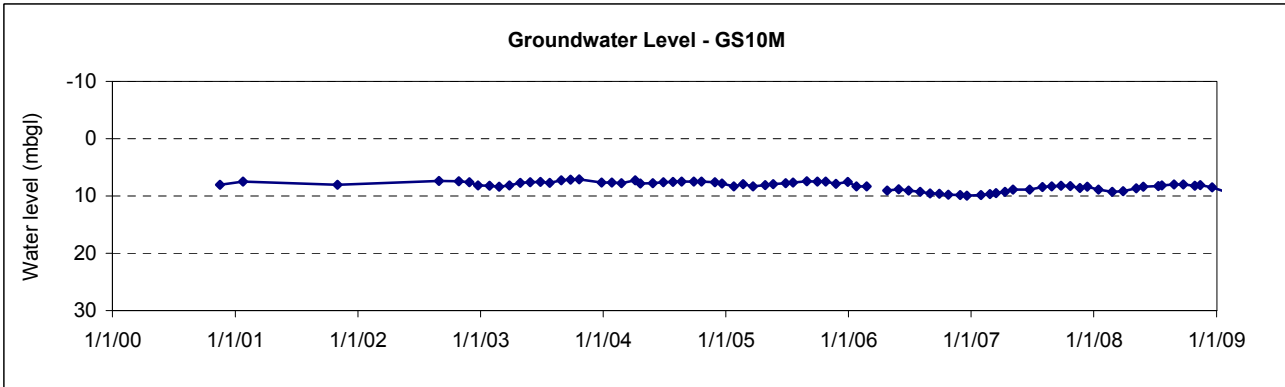
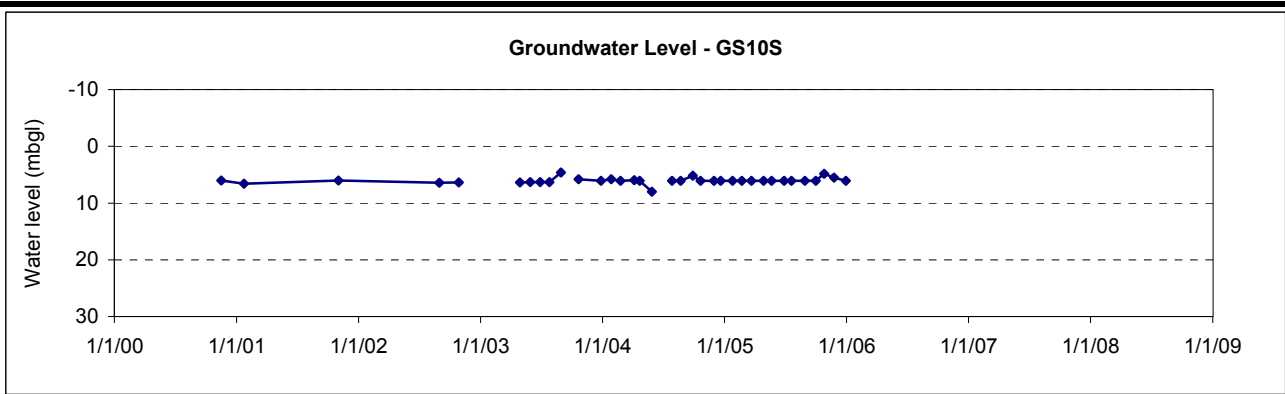


Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Rev. 0
Figure: 4.4
A4



Client: Iluka Resources Ltd	Project: Gingin Mine Site Aquifer Review January - December 2008	Title: Hydrographs - Superficial Aquifer bores GS8 and GS9
	Drawn: NR Approved: RV Date: 27/02/2009	Rev. 0
	Job No. 42907169 File No.	Figure: 4.5 A4



Client:
Iluka Resources Ltd



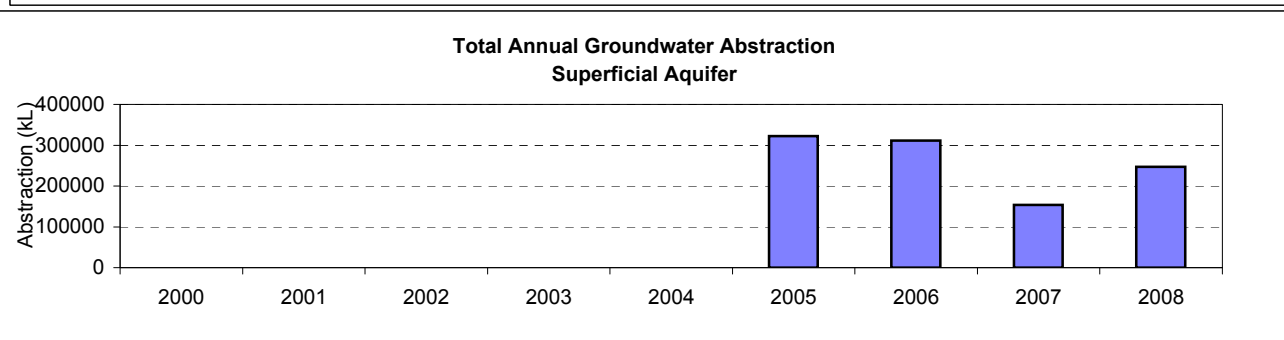
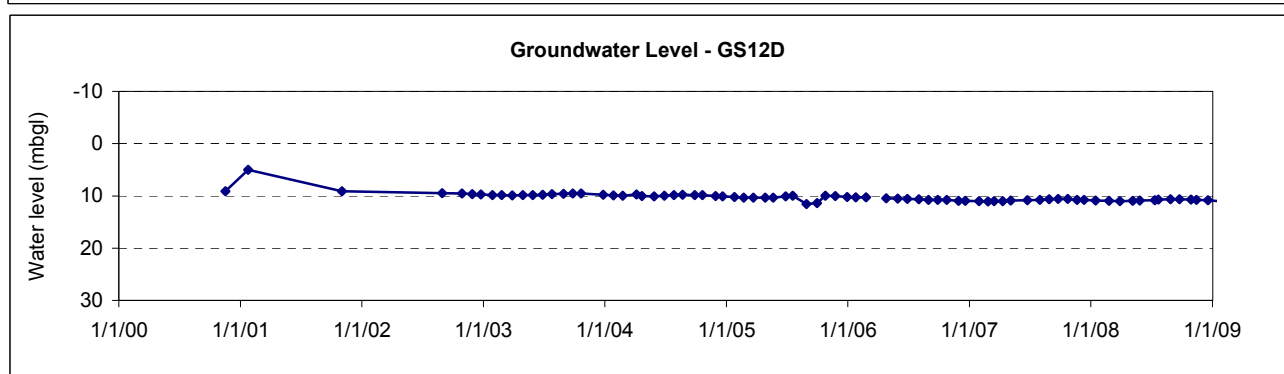
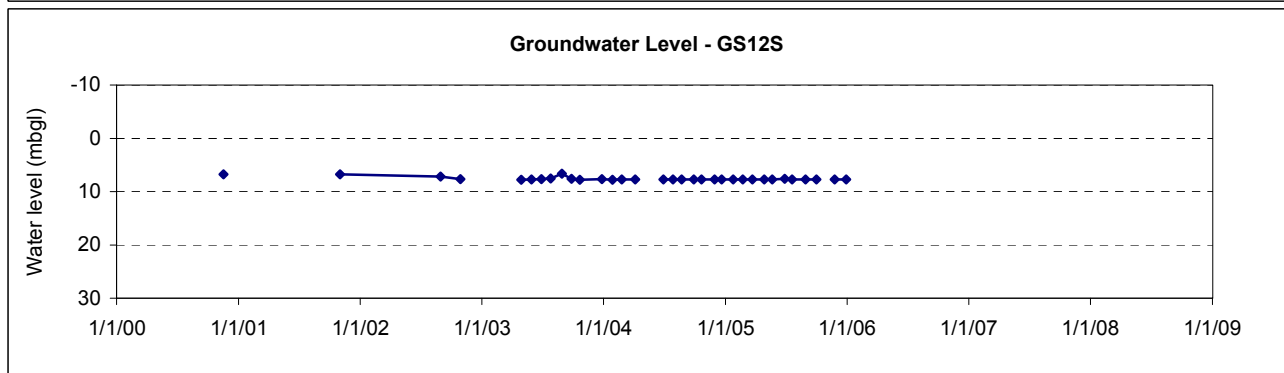
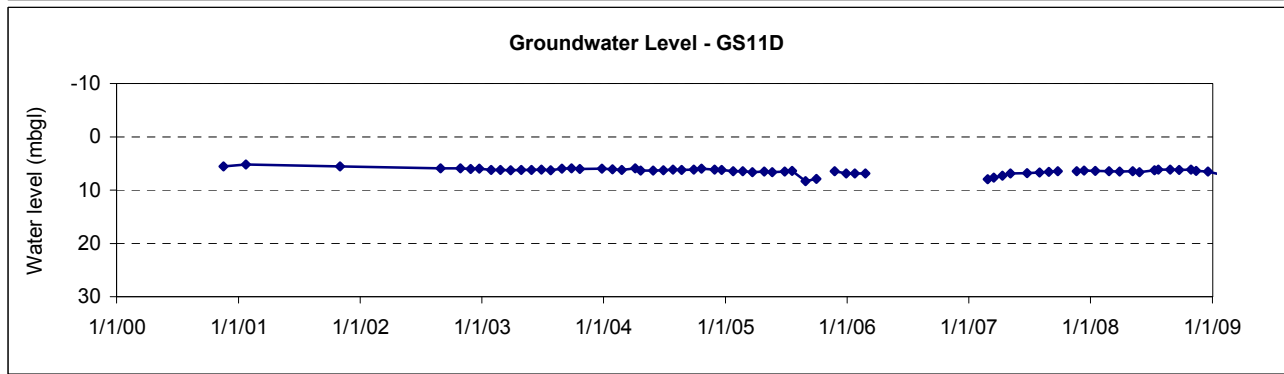
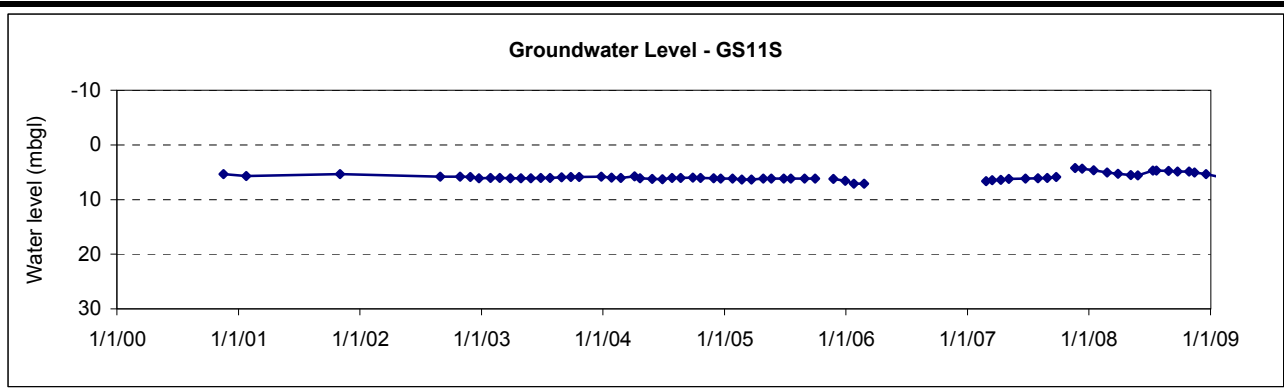
Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bore GS10

Drawn: NR Approved: RV Date: 27/02/2009
Job No. 42907169 File No.

Figure: 4.6

Rev. 0
A4



Client:
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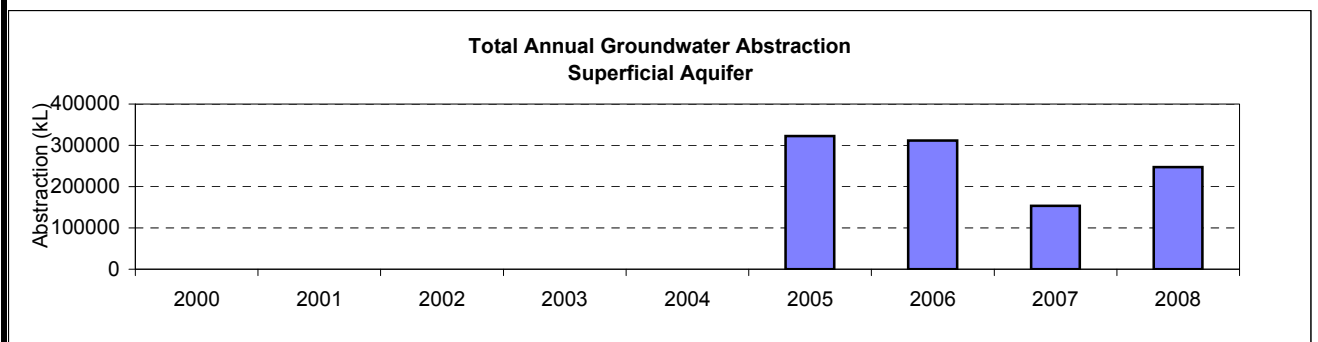
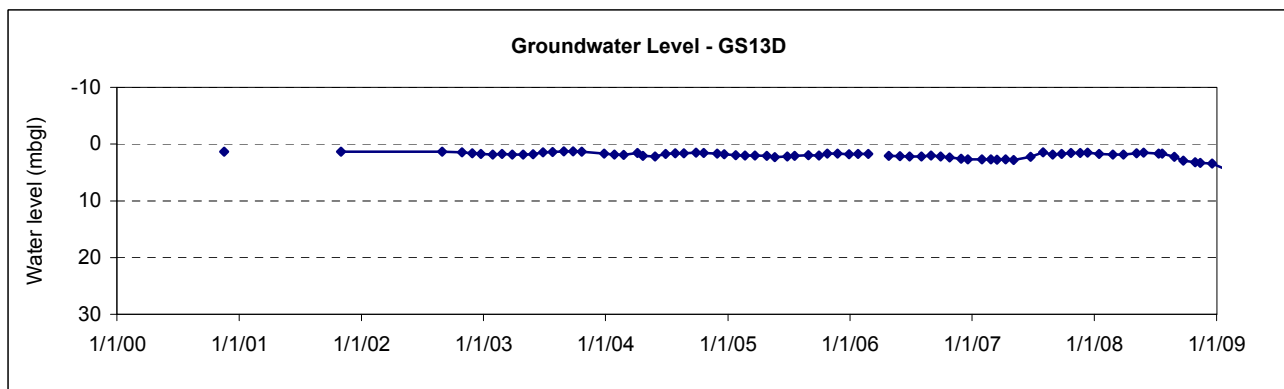
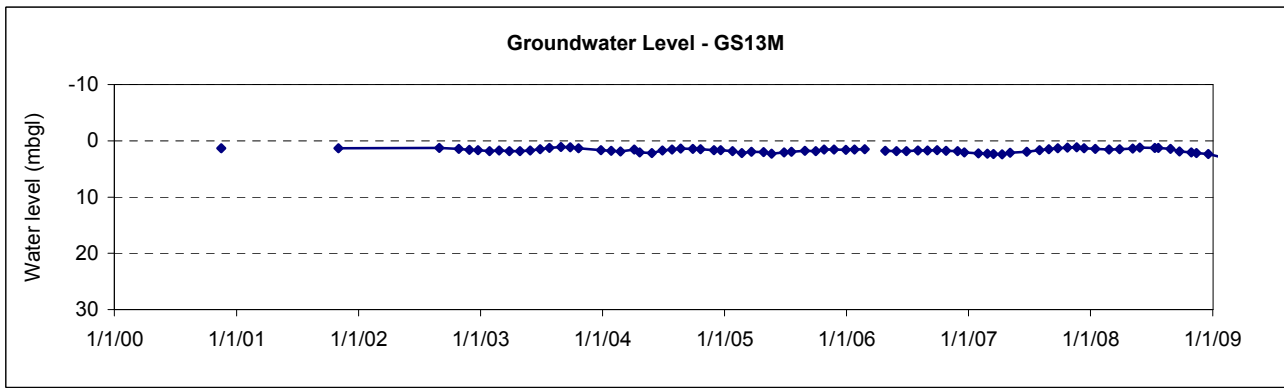
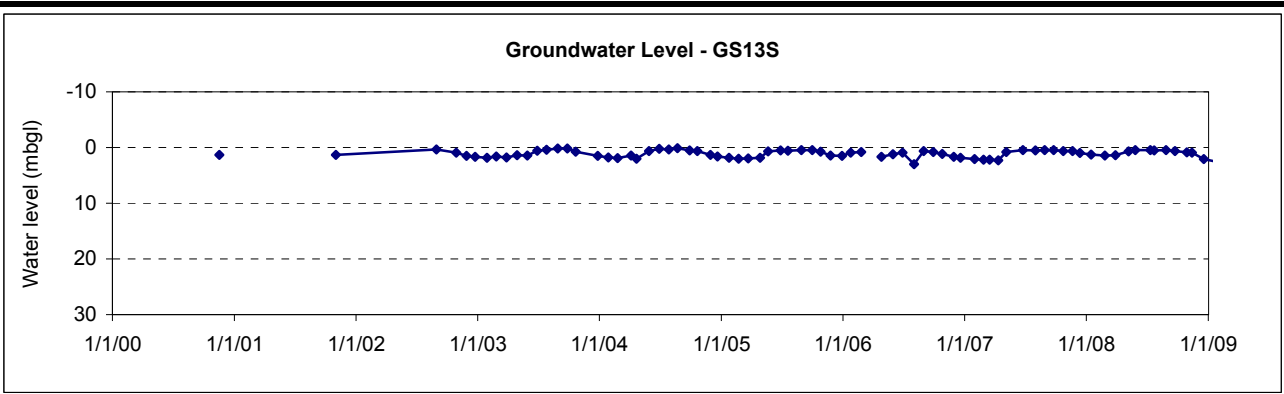
Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bores
GS11 and GS12

Drawn: NR Approved: RV Date: 27/02/2009
Job No. 42907169 File No.

Figure: 4.7

Rev. 0
A4



Client:
Iluka Resources Ltd

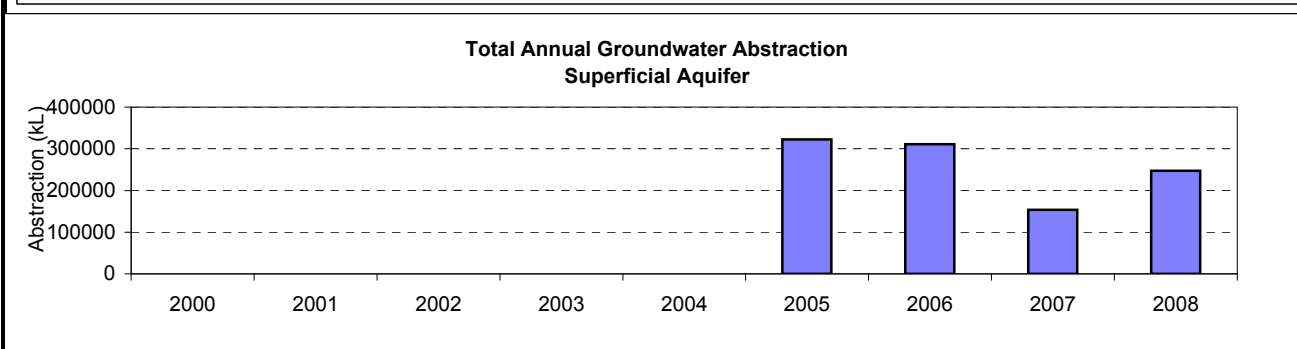
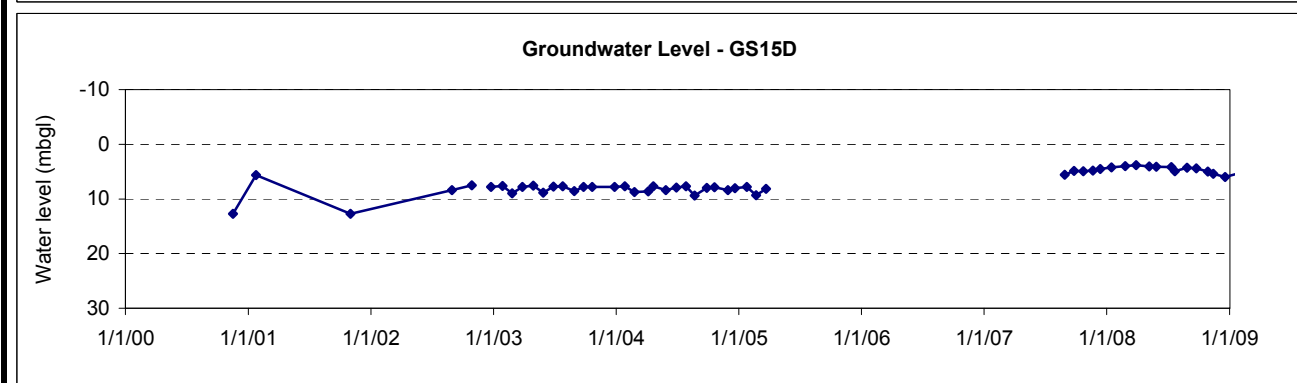
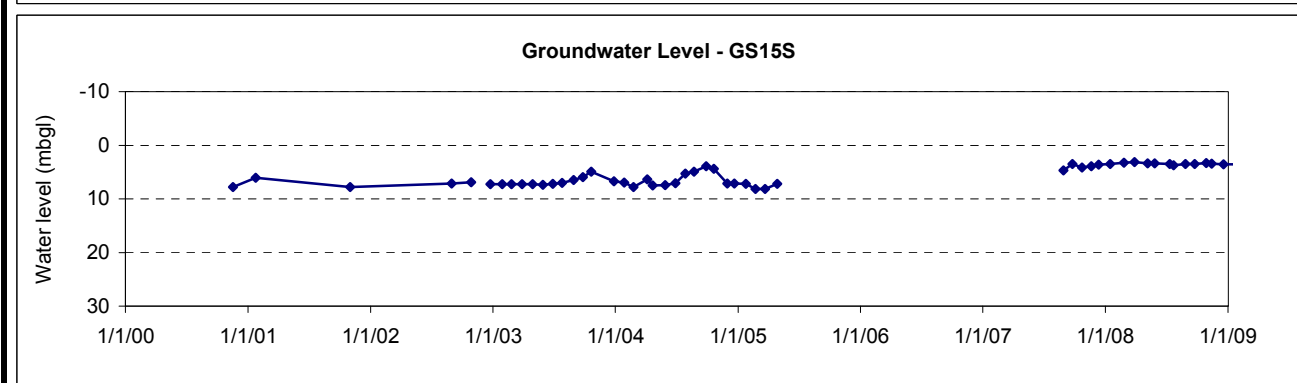
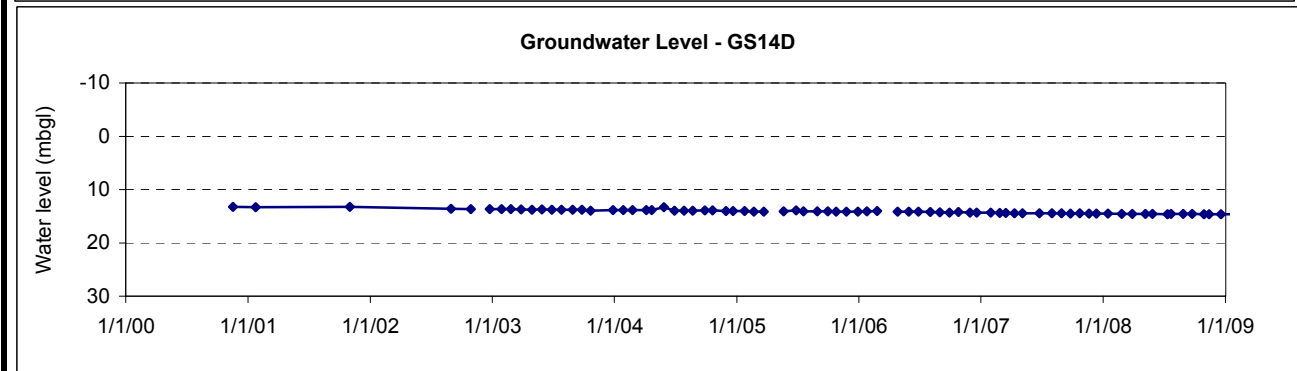
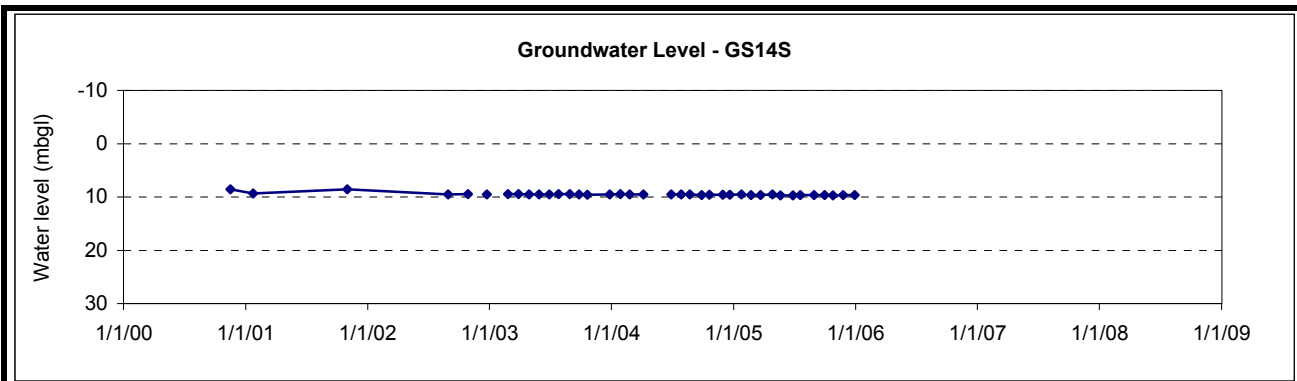


Project:
Gingin Mine Site Aquifer Review
January - December 2008

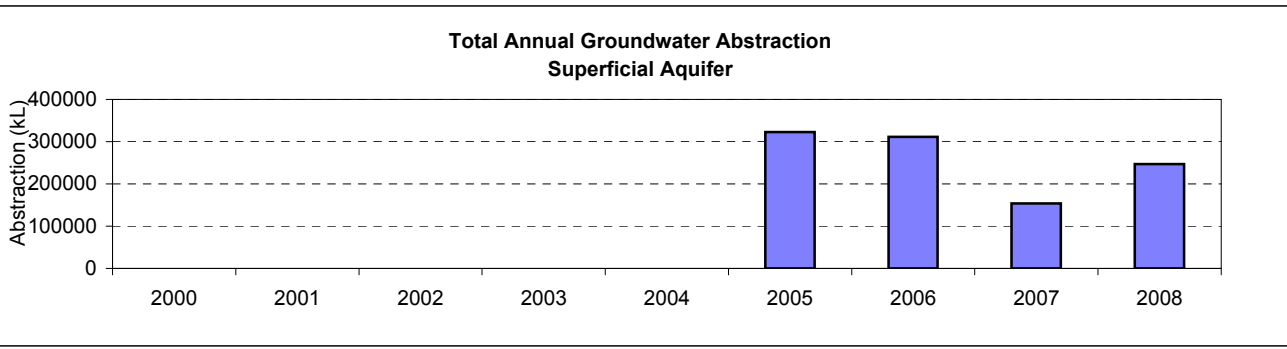
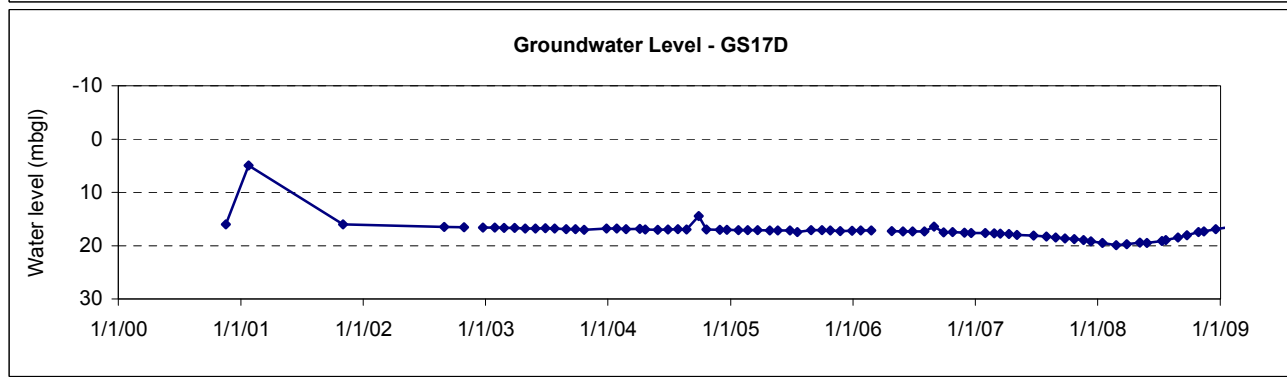
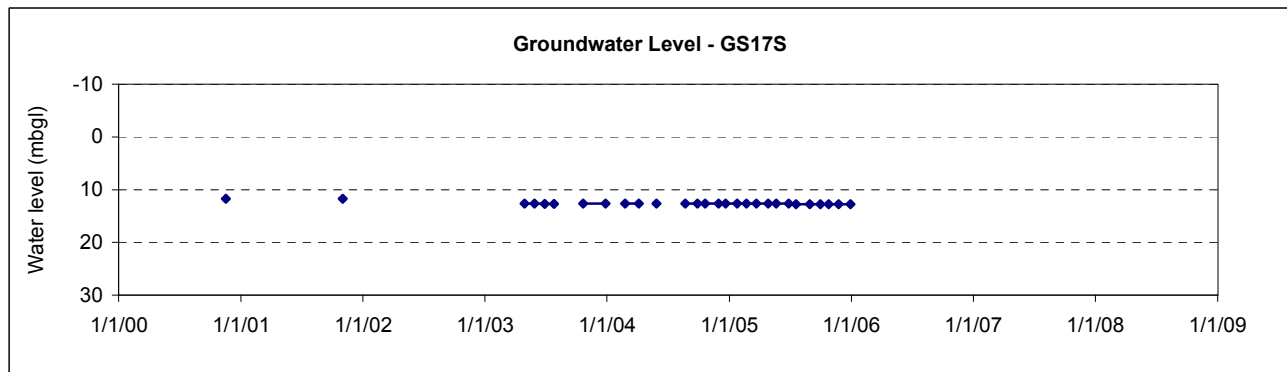
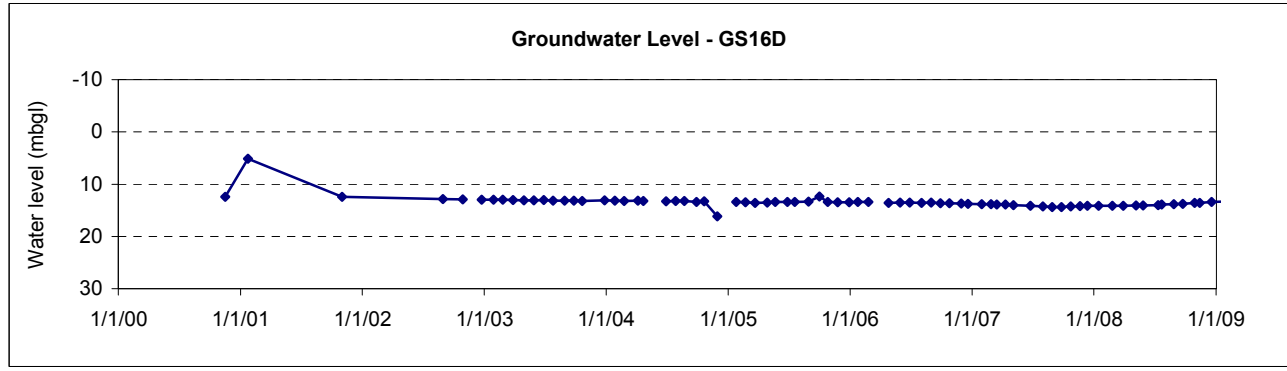
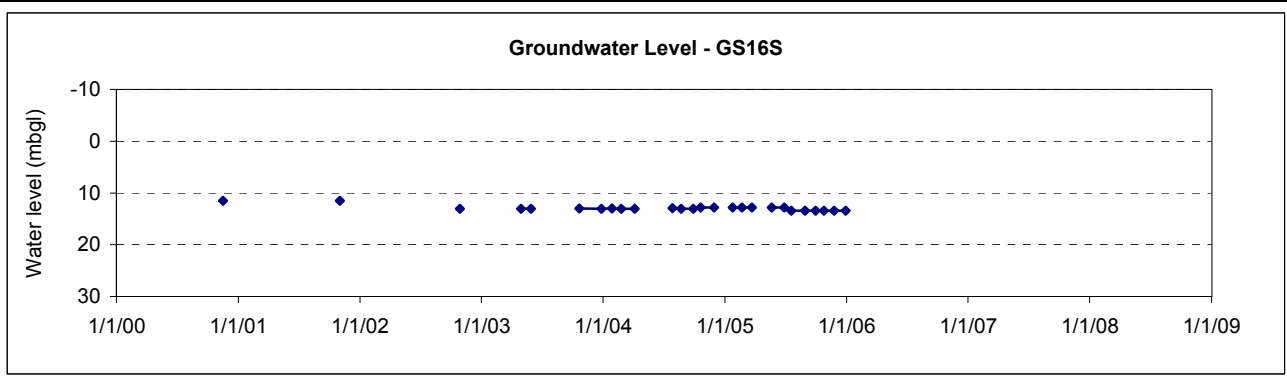
Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Title: Hydrographs -
Superficial Aquifer bore GS13

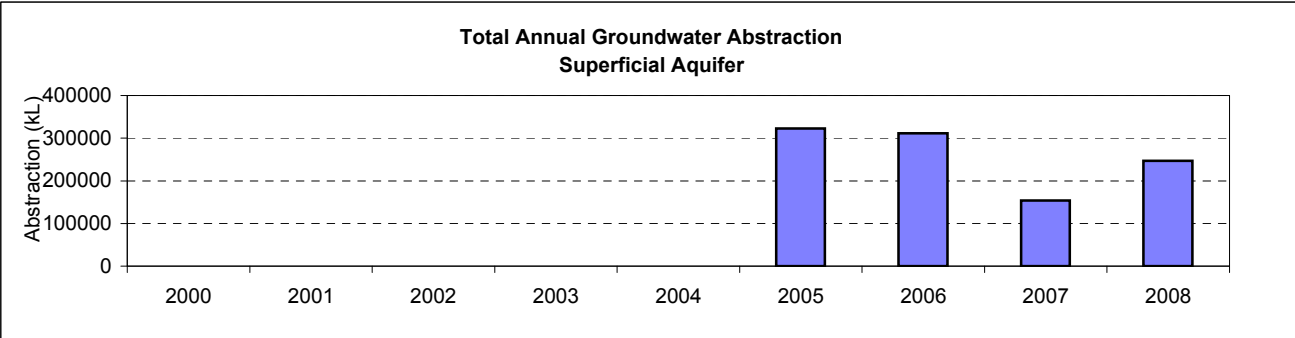
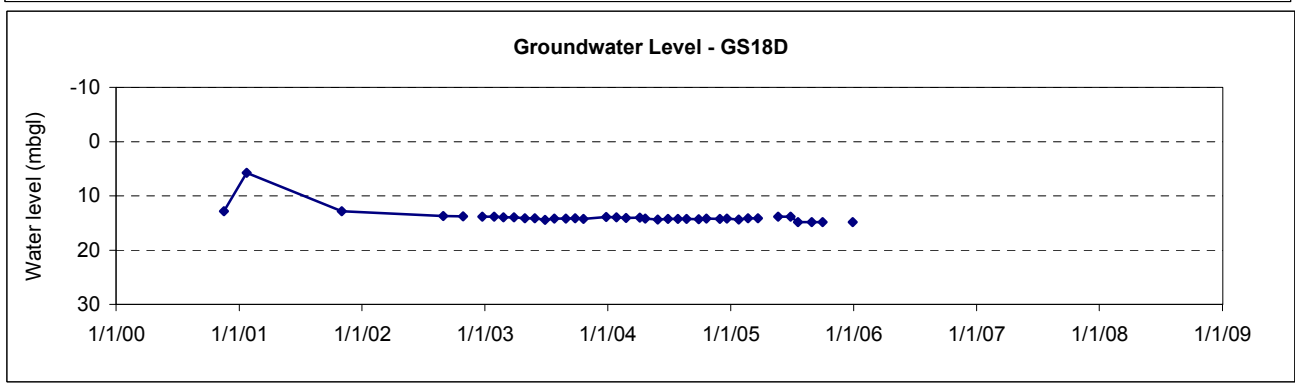
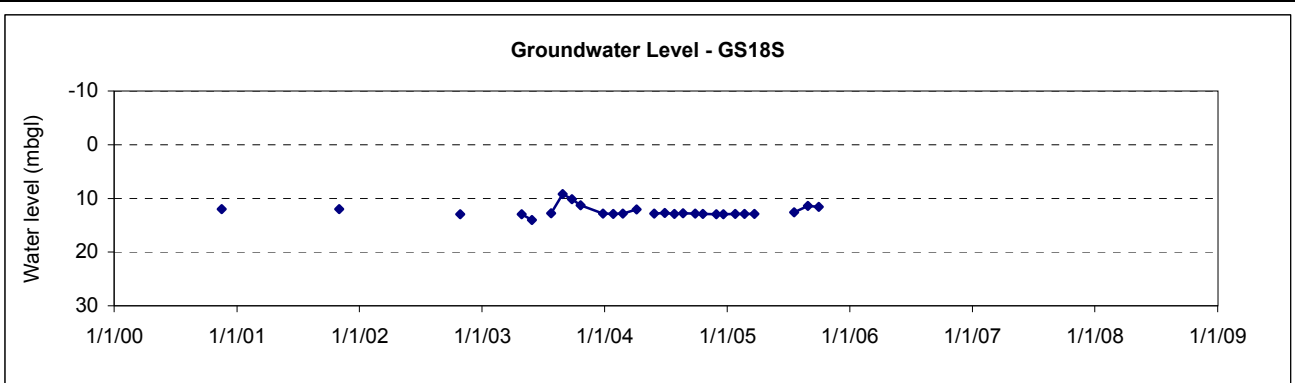
Rev. 0
Figure: 4.8
A4



Client: Iluka Resources Ltd	Project: Gingin Mine Site Aquifer Review January - December 2008	Title: Hydrographs - Superficial Aquifer bore GS14 and GS15
	Drawn: NR Approved: RV Date: 27/02/2009	Rev. 0
	Job No. 42907169 File No.	Figure: 4.9 A4



Client: Iluka Resources Ltd	Project: Gingin Mine Site Aquifer Review January - December 2008	Title: Hydrographs - Superficial Aquifer bores GS16 and GS17
	Drawn: NR Approved: RV Date: 27/02/2009	Rev. 0
	Job No. 42907169 File No.	Figure: 4.10 A4



Client:
Iluka Resources Ltd

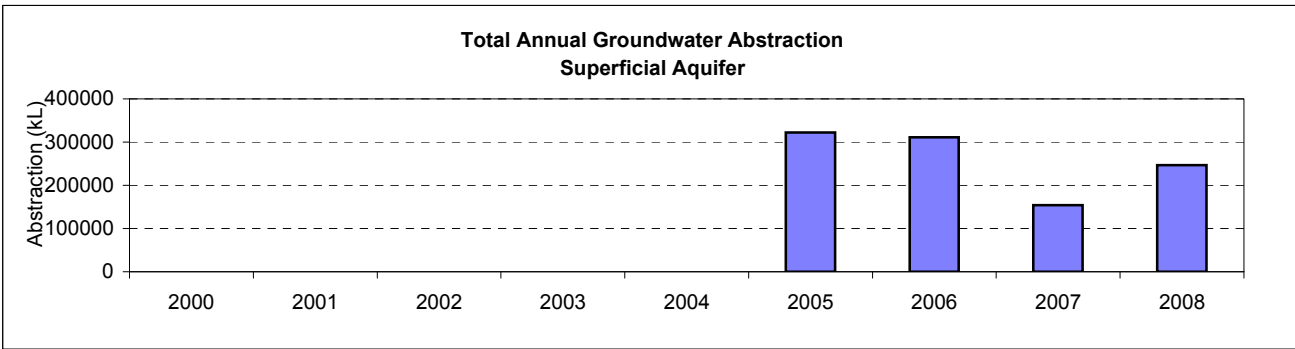
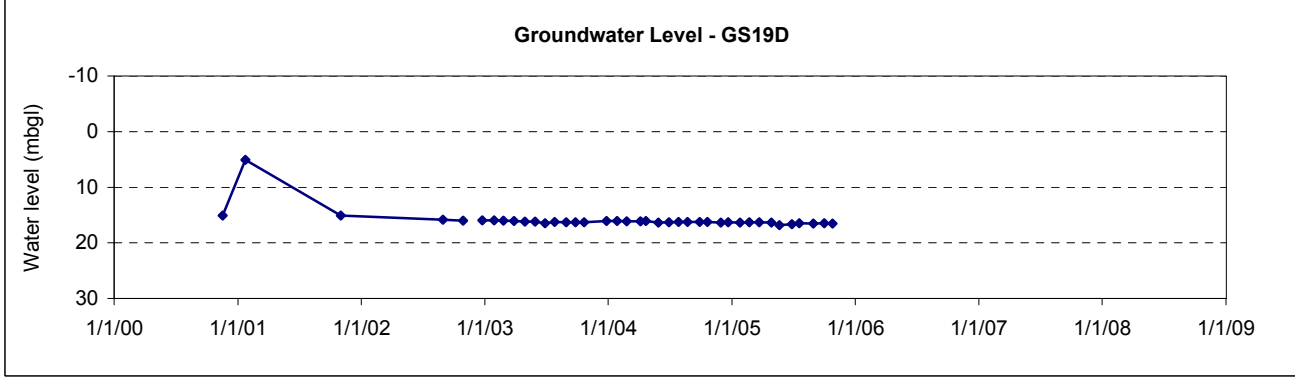
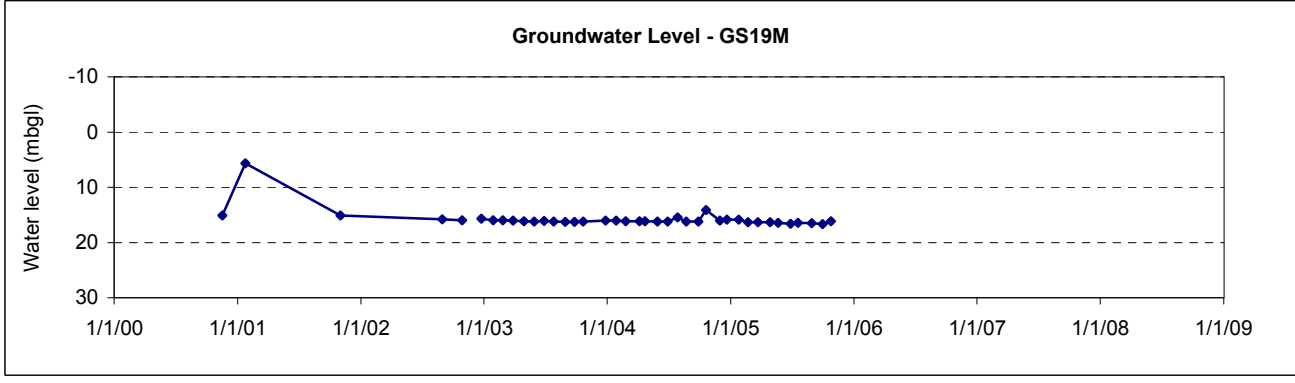
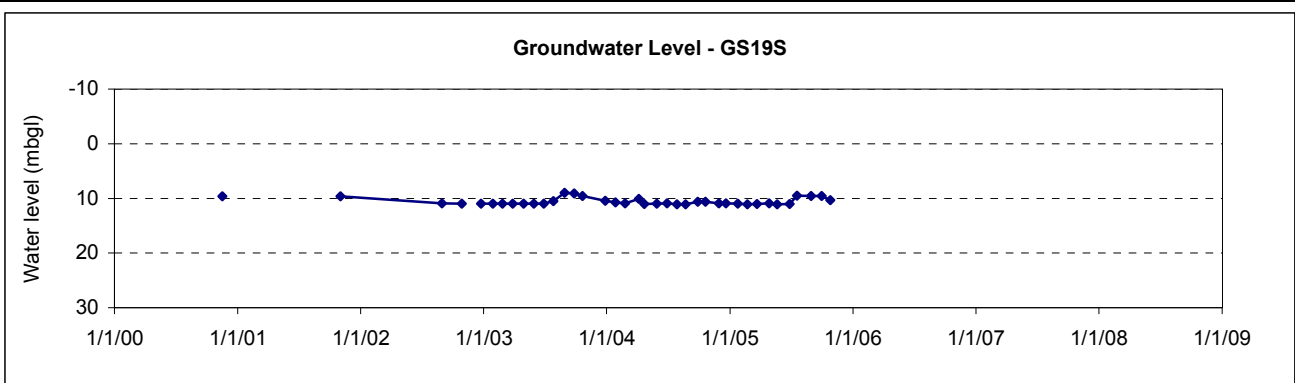
Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bore GS18



Drawn: NR Approved: RV Date: 27/02/2009
Job No. 42907169 File No.

Figure: 4.11 Rev. 0
A4



Client:
Iluka Resources Ltd

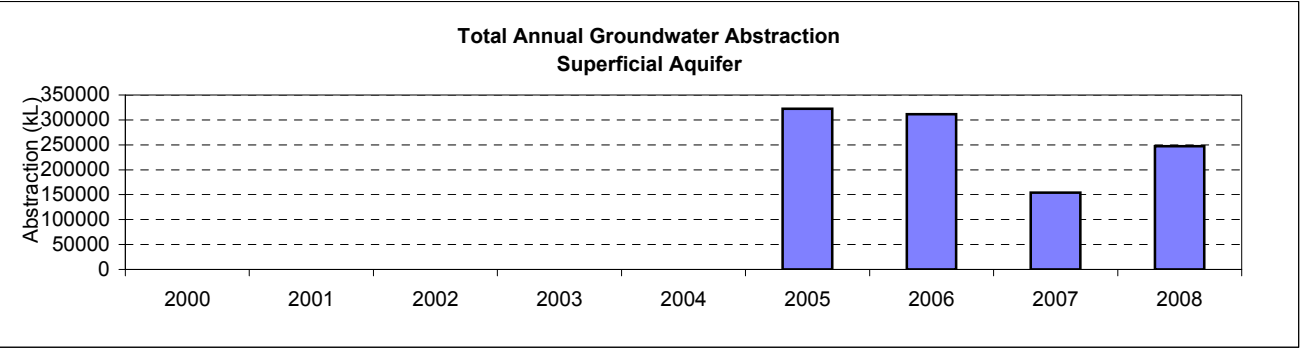
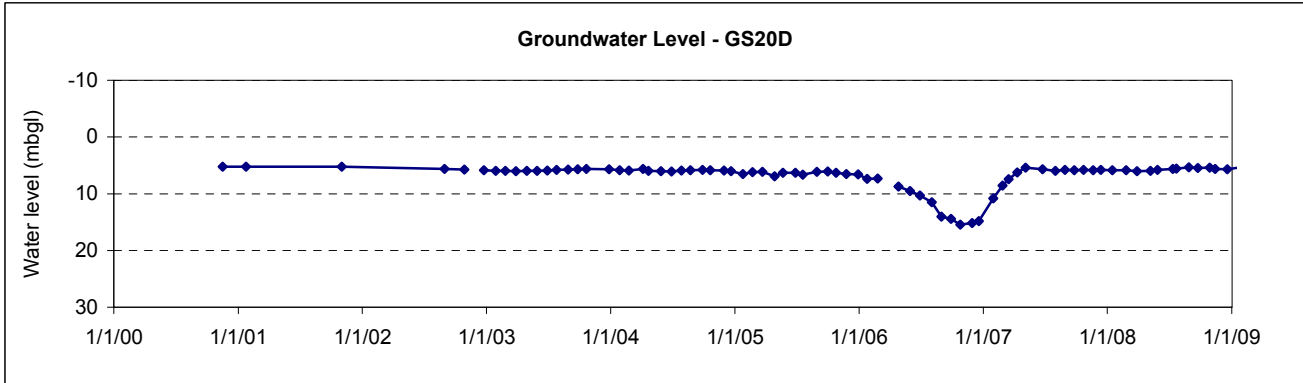
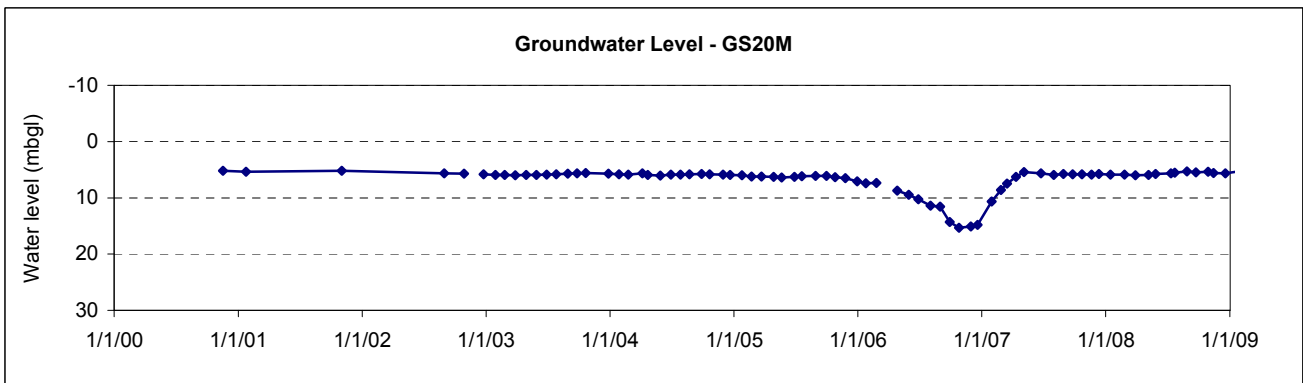
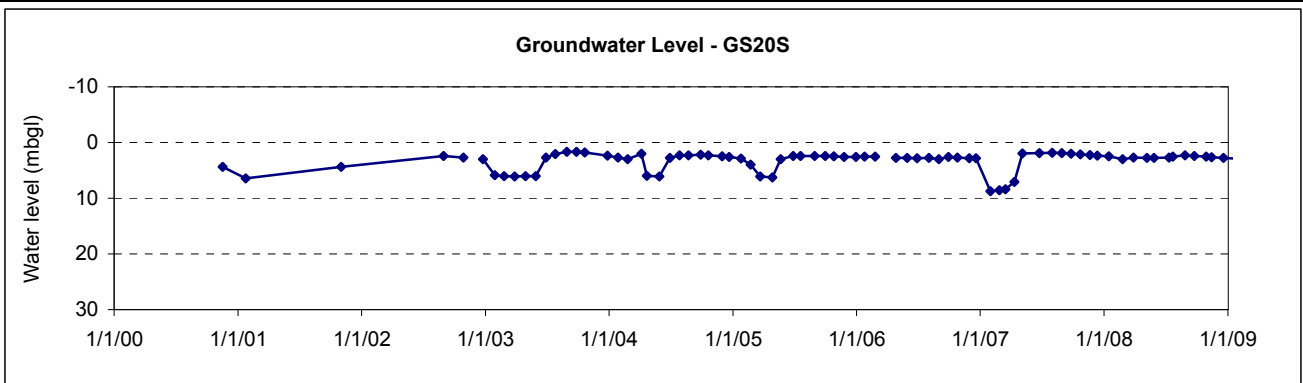
Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Superficial Aquifer bore GS19



Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.12	Rev. 0
	A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

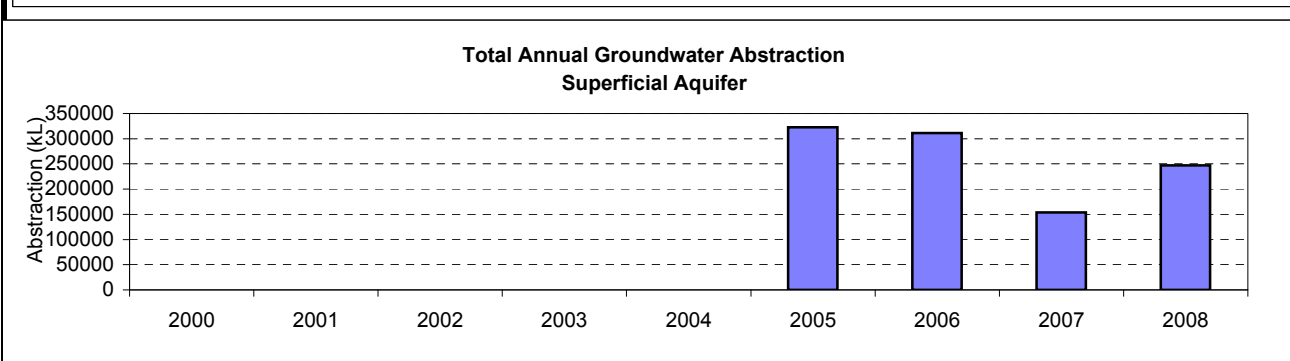
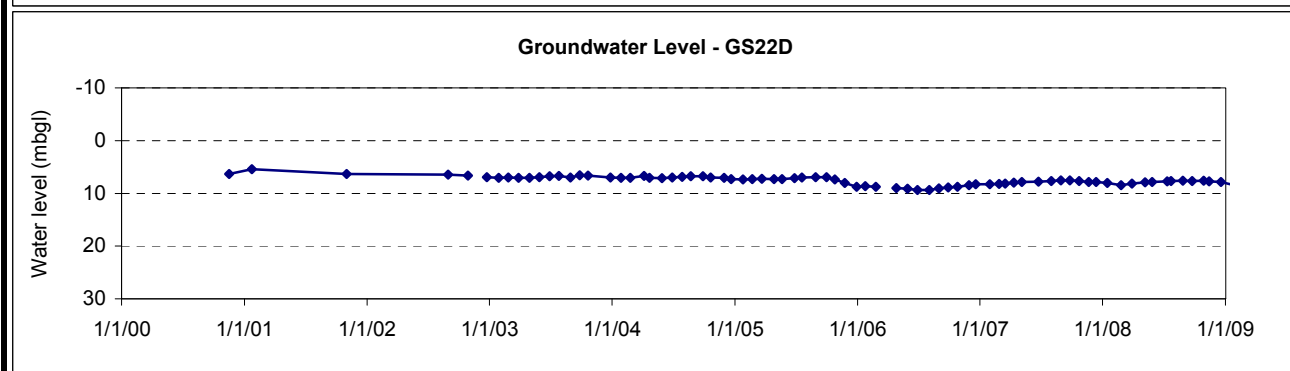
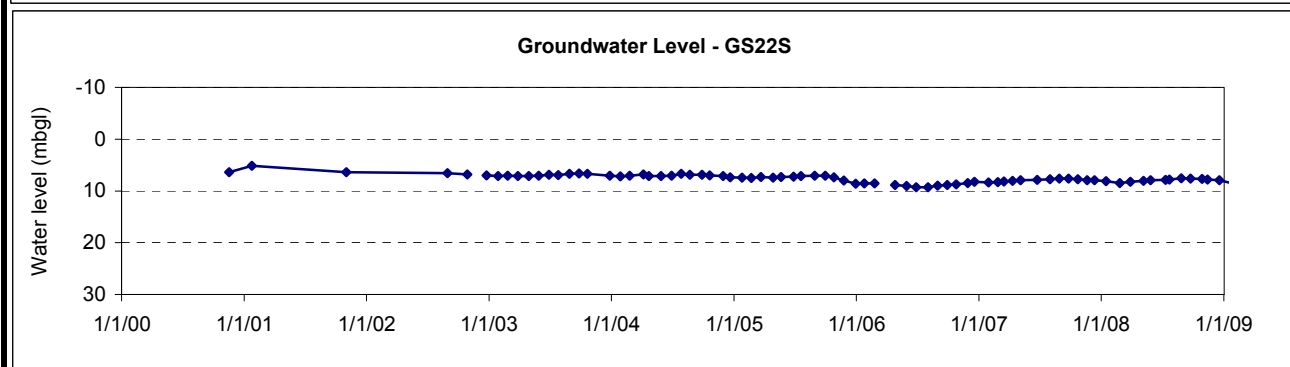
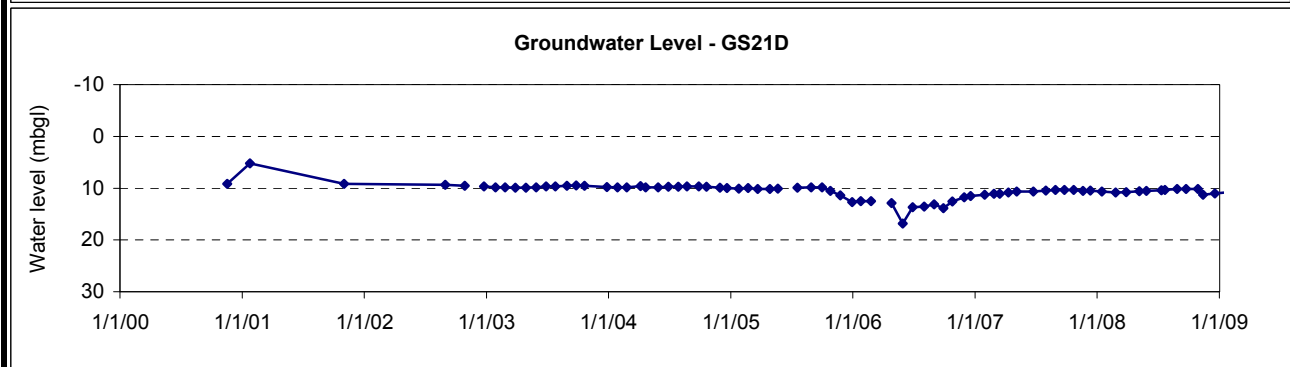
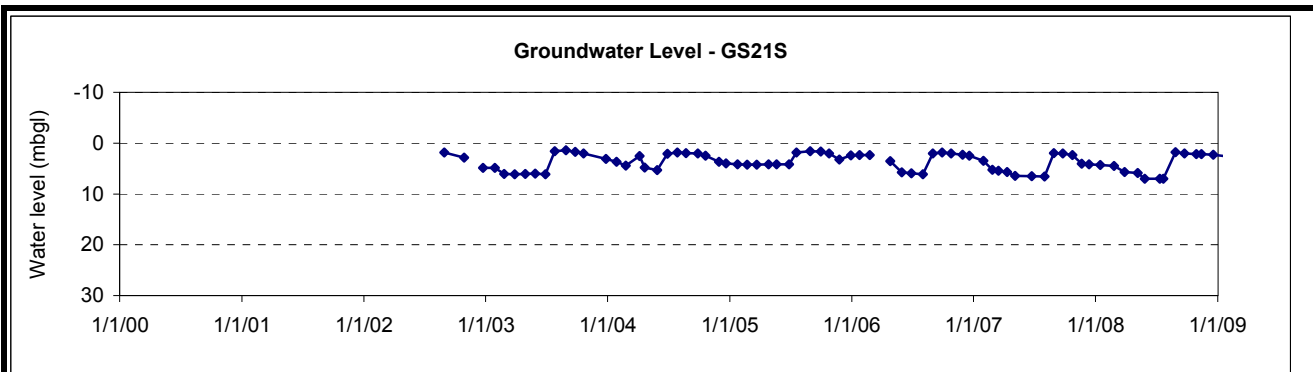
Title: Hydrographs -
Superficial Aquifer bore GS20



Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.13

Rev. 0
A4



Client:
Iluka Resources Ltd

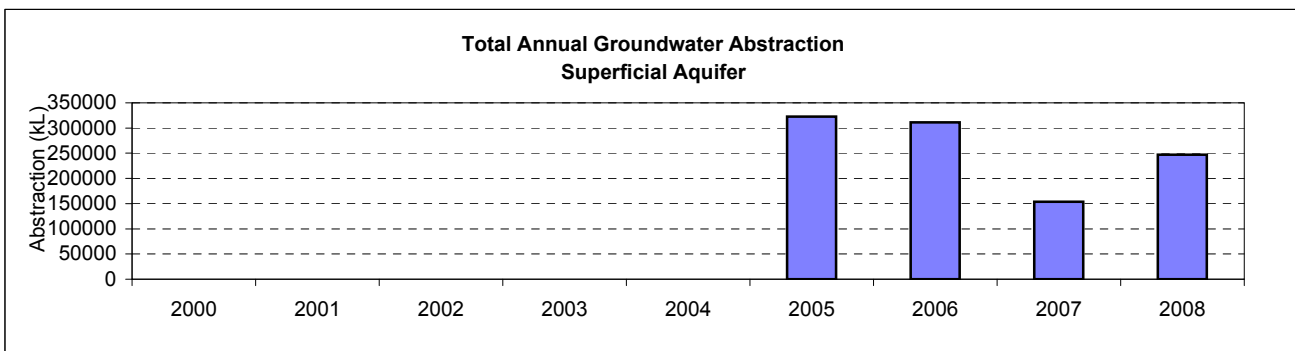
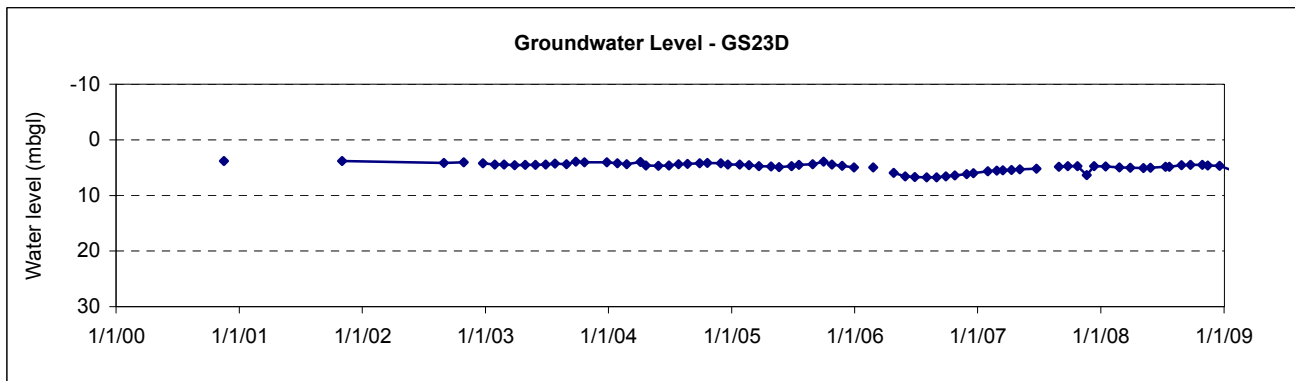
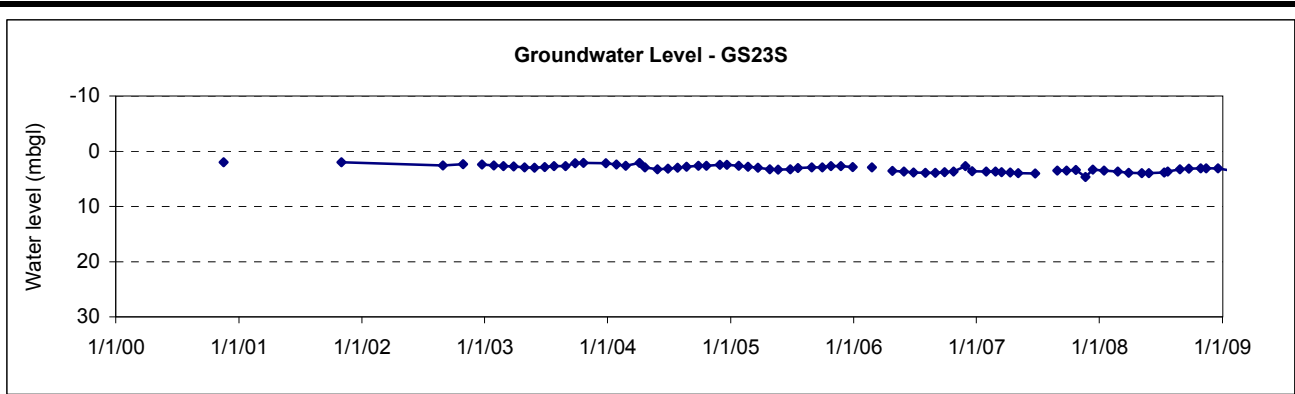


Project:
Gingin Mine Site Aquifer Review
January - December 2008

Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Title: Hydrographs -
Superficial Aquifer bores
GS21 and GS22

Figure: 4.14	Rev. 0 A4
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Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

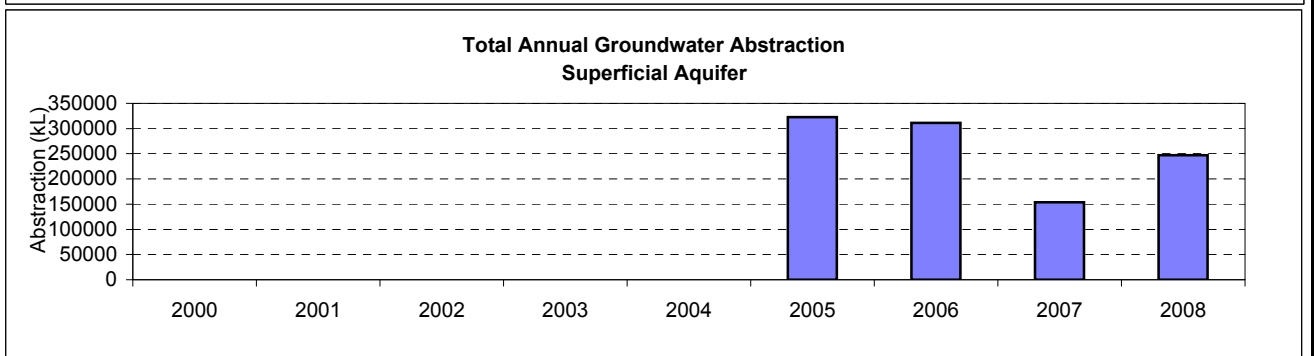
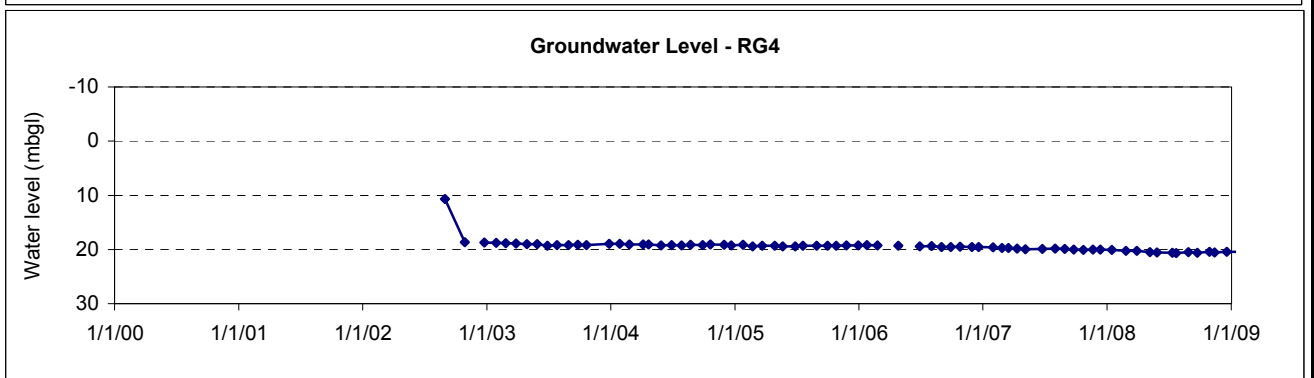
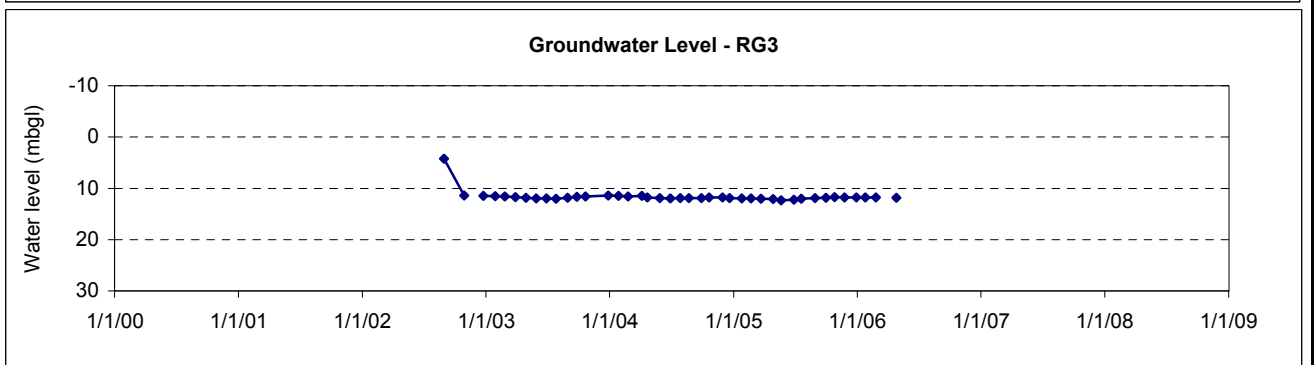
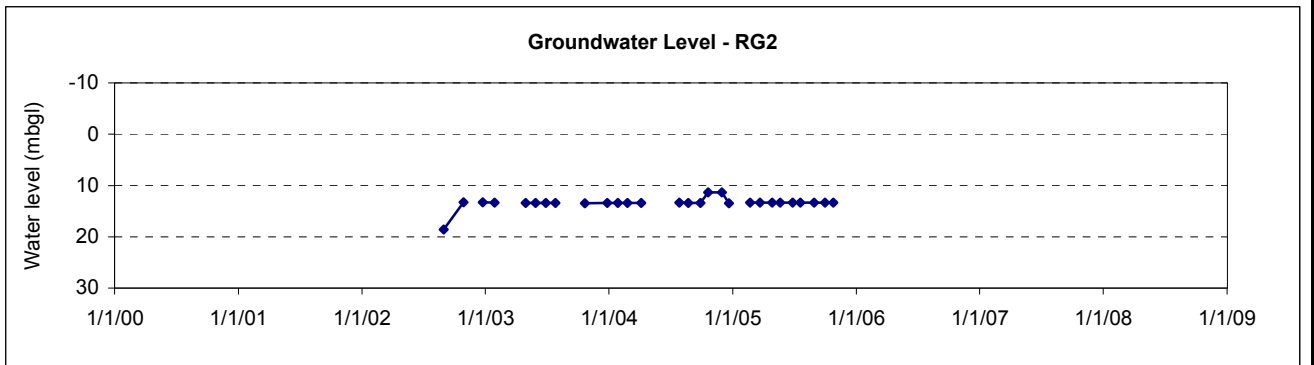
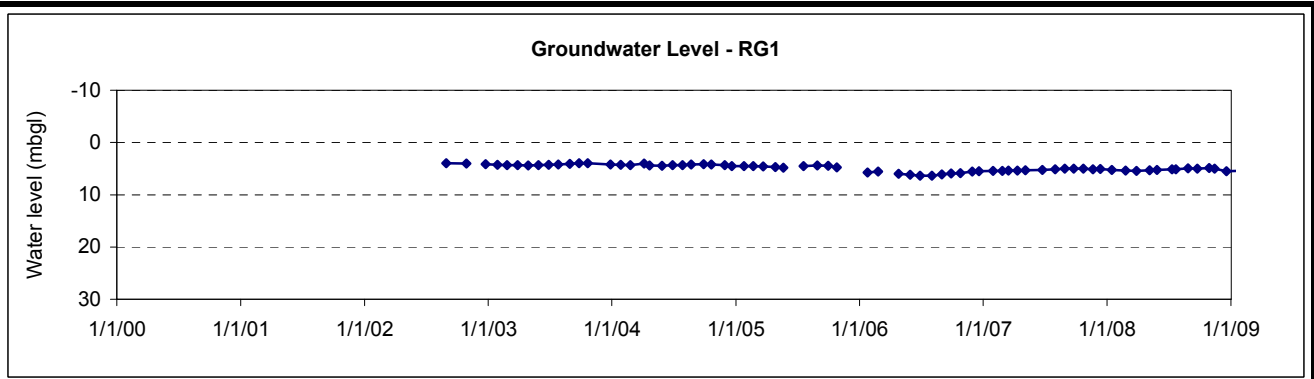
Title: Hydrographs -
Superficial Aquifer bore GS23



Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.15

Rev. 0
A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

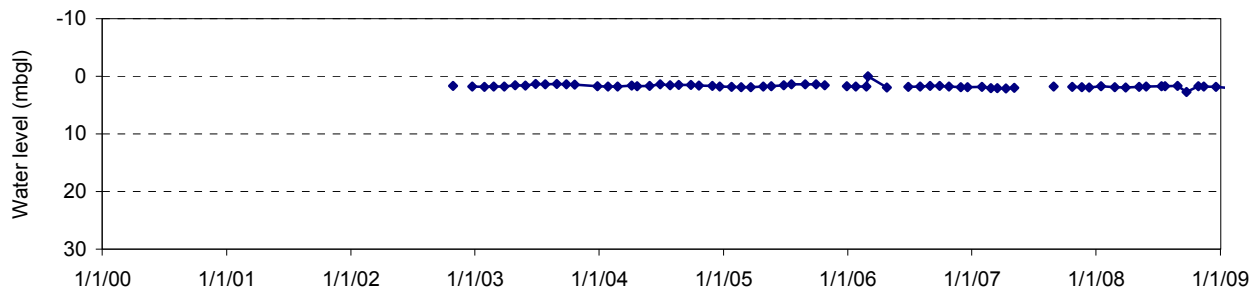
Title: **Hydrographs -
Superficial Aquifer Regional
Bores RG1, RG2, RG3, RG4**



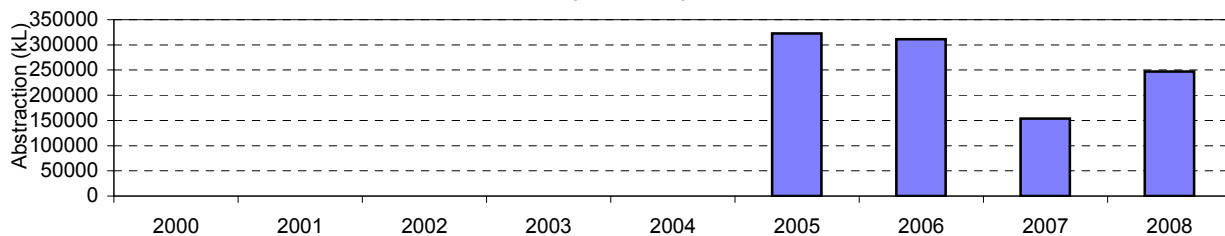
Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.16	Rev. 0 A4
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Groundwater Level - RG5



Total Annual Groundwater Abstraction
Superficial Aquifer



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

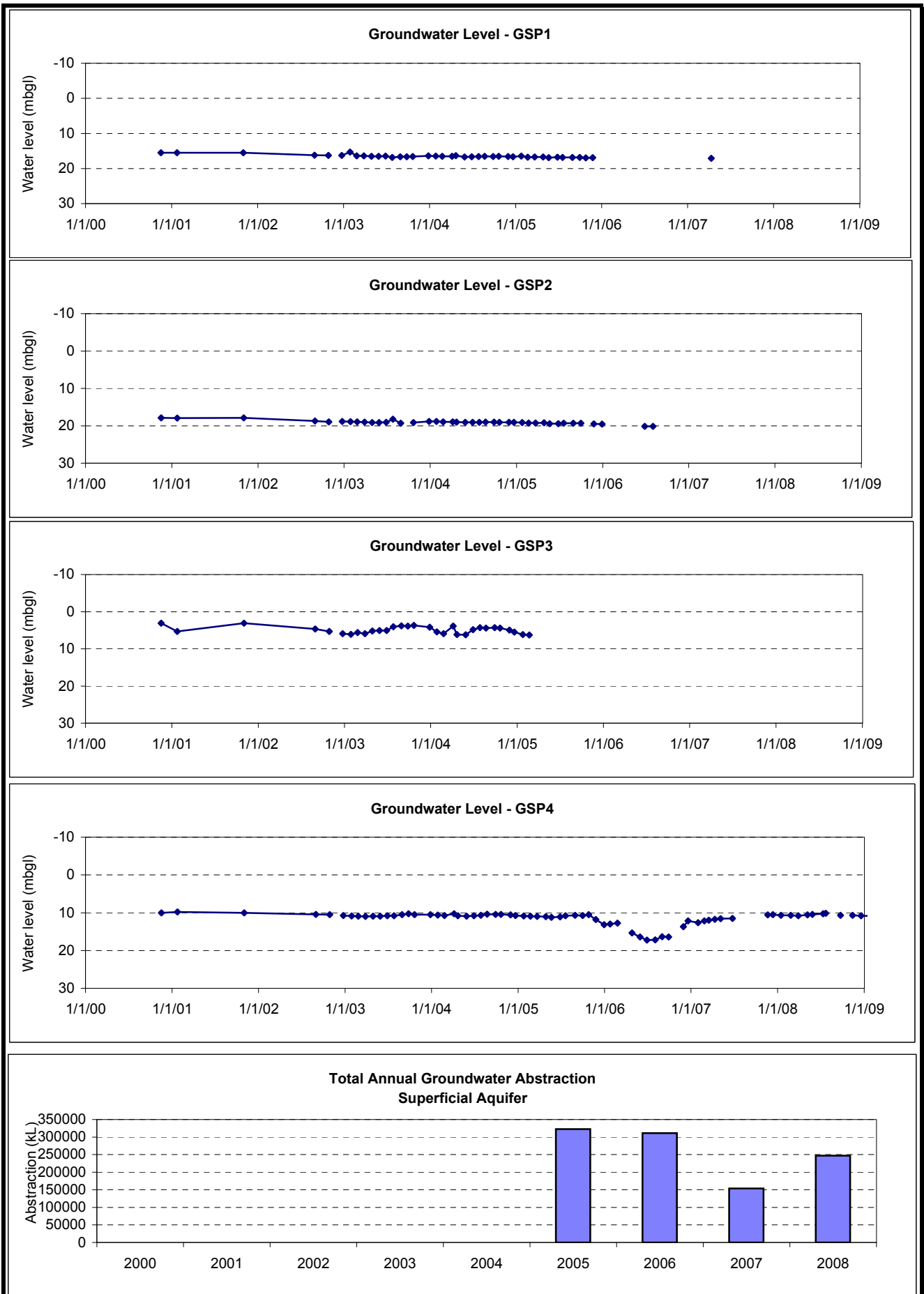
Title: Hydrographs - Regional
Superficial Aquifer Bore RG5



Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Figure: 4.17

Rev. 0
A4



Client:
Iluka Resources Ltd

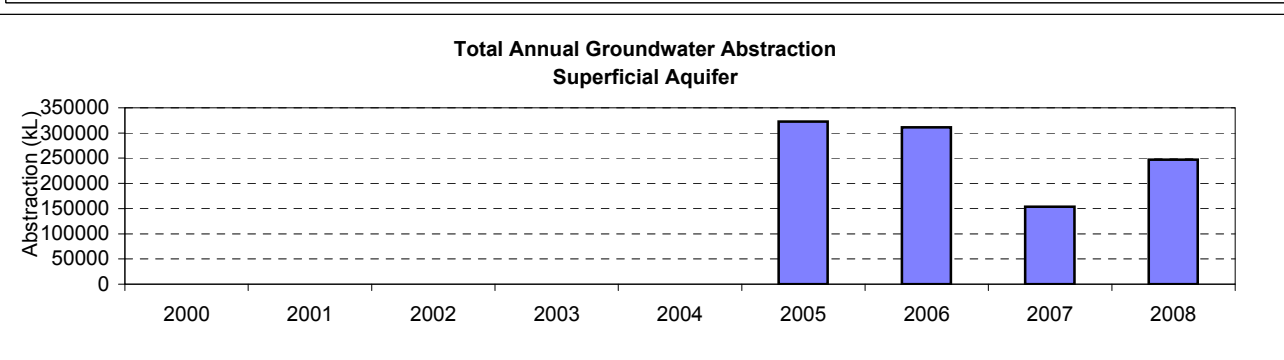
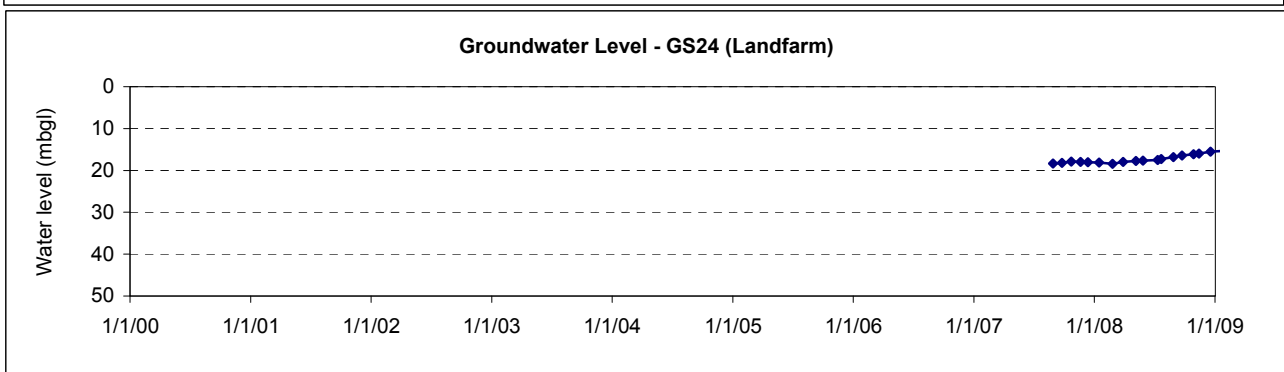
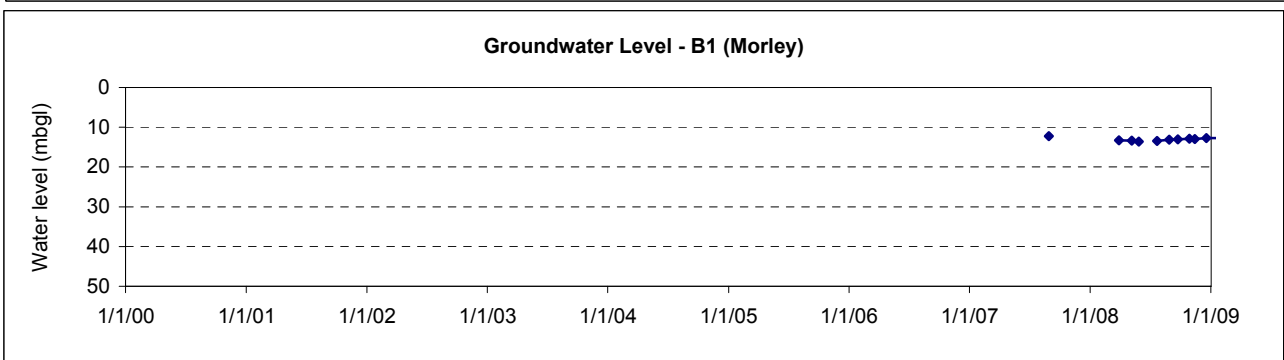
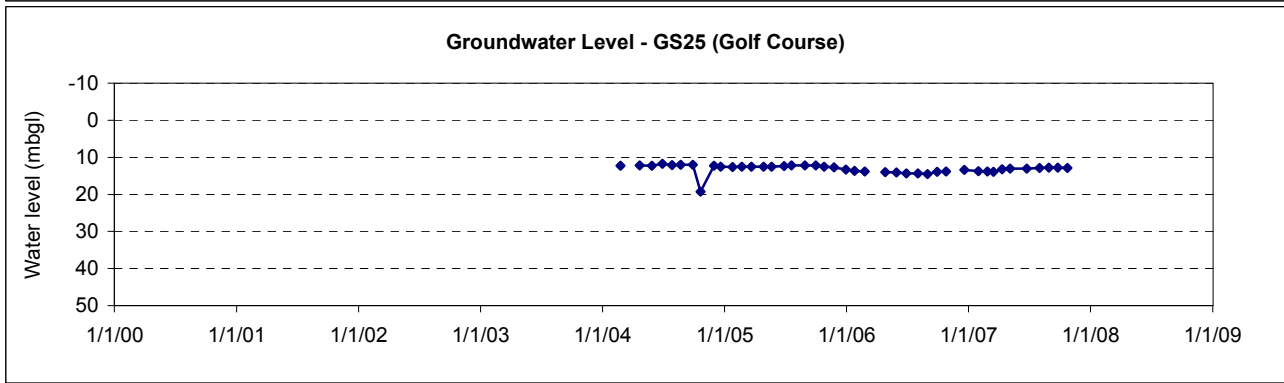
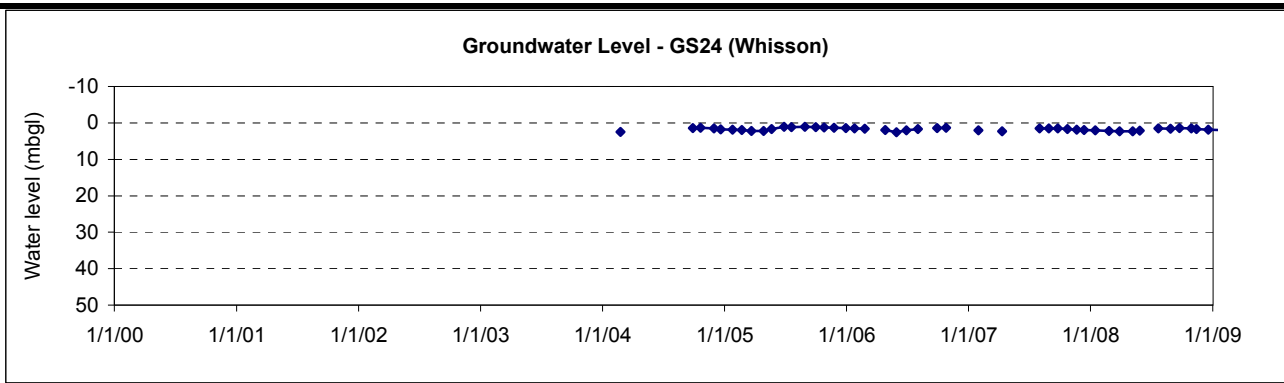


Project:
Gingin Mine Site Aquifer Review
January - December 2008

Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Title: Hydrographs - Superficial Aquifer Test Production Bores GSP1, GSP2, GSP3, GSP4

Figure: 4.18	Rev. 0
	A4



Client:
Iluka Resources Ltd

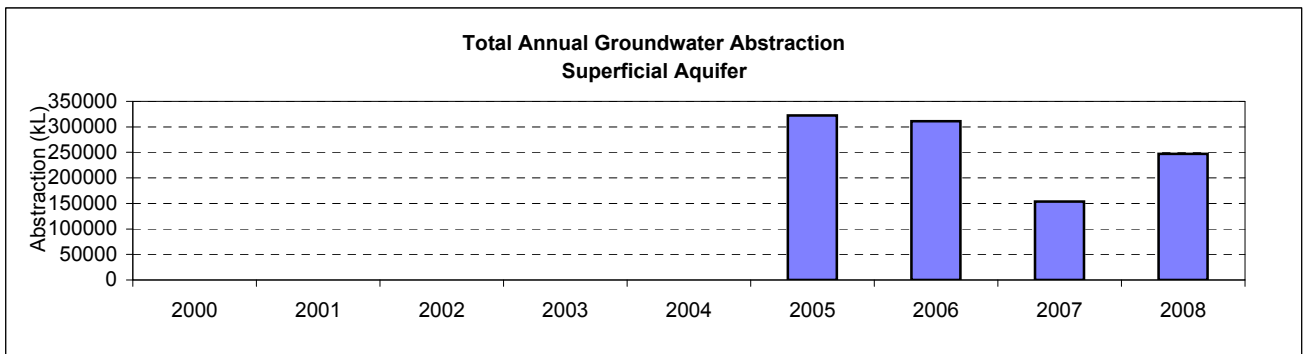
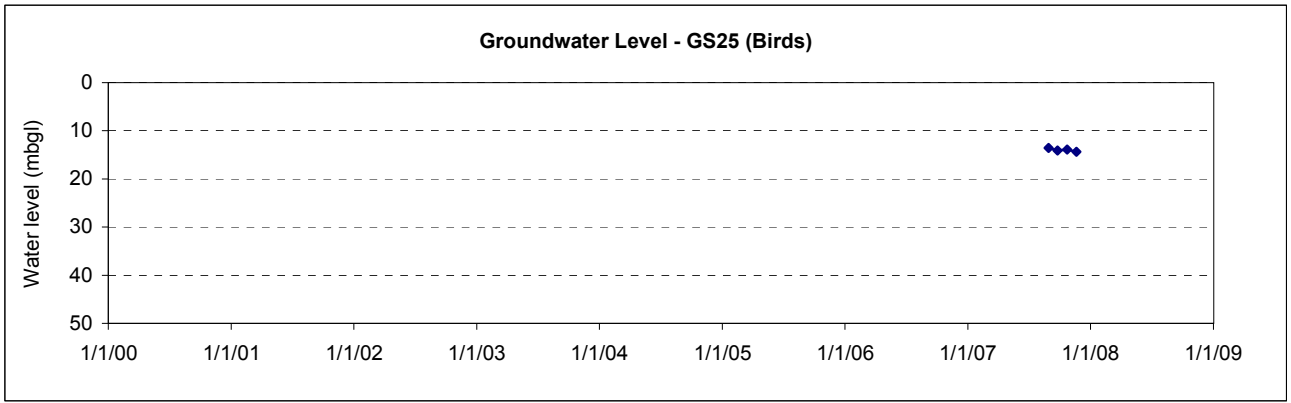


Project:
Gingin Mine Site Aquifer Review
January - December 2008

Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169	File No.	

Title: Hydrographs -
Offsite monitoring bores
Superficial Aquifer

Figure: 4.19	Rev. 0
	A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January - December 2008

Title: Hydrographs -
Offsite monitoring bores
Superficial Aquifer

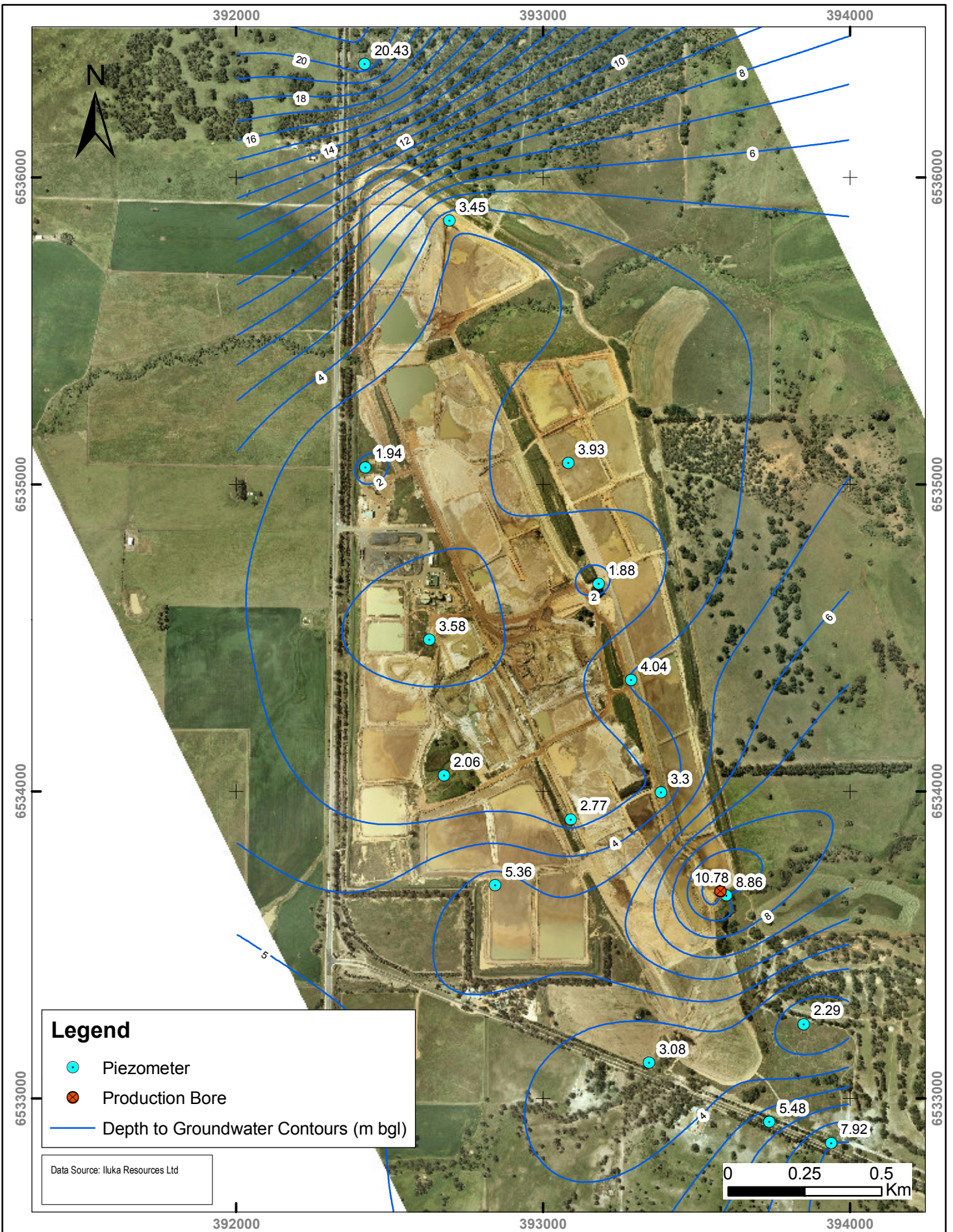


Drawn: NR	Approved: RV	Date: 27/02/2009
Job No. 42907169		File No.

Figure: 4.20

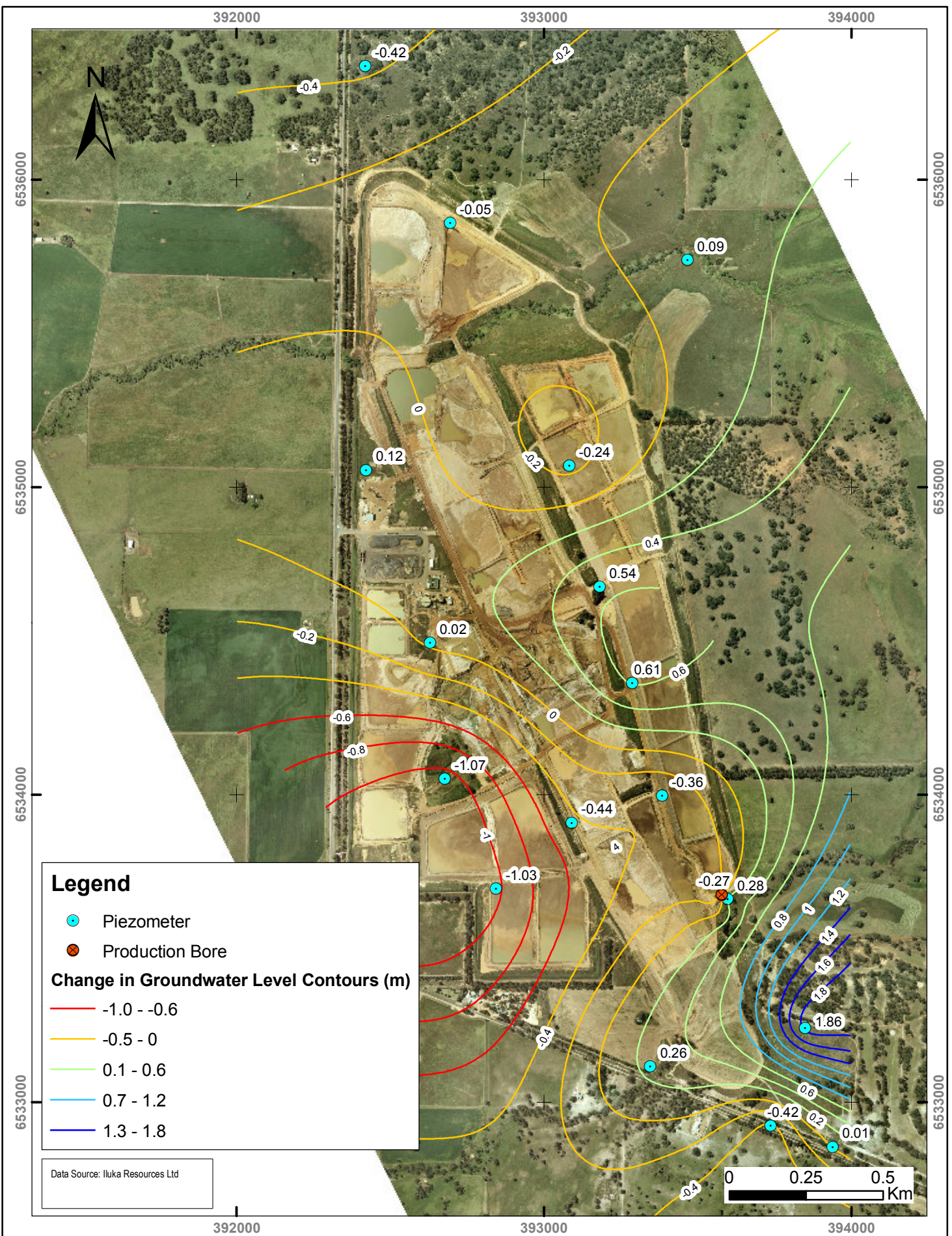
Rev. 0
A4

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Client Iluka Resources Ltd	Project Gingin Mine Site Aquifer Review 2009	Title Depth to Groundwater Superficial Aquifer - Shallow Tubes December 2008
	Scale: 1:16,000	Drawn: AB
	Date: 16/03/2009	Datum: GDA94
	Job No.: 42907169	Approved: NR
	File No.: 42907169_002.mxd	Projection: MGA50
Figure 4.21		Rev. A
		A4

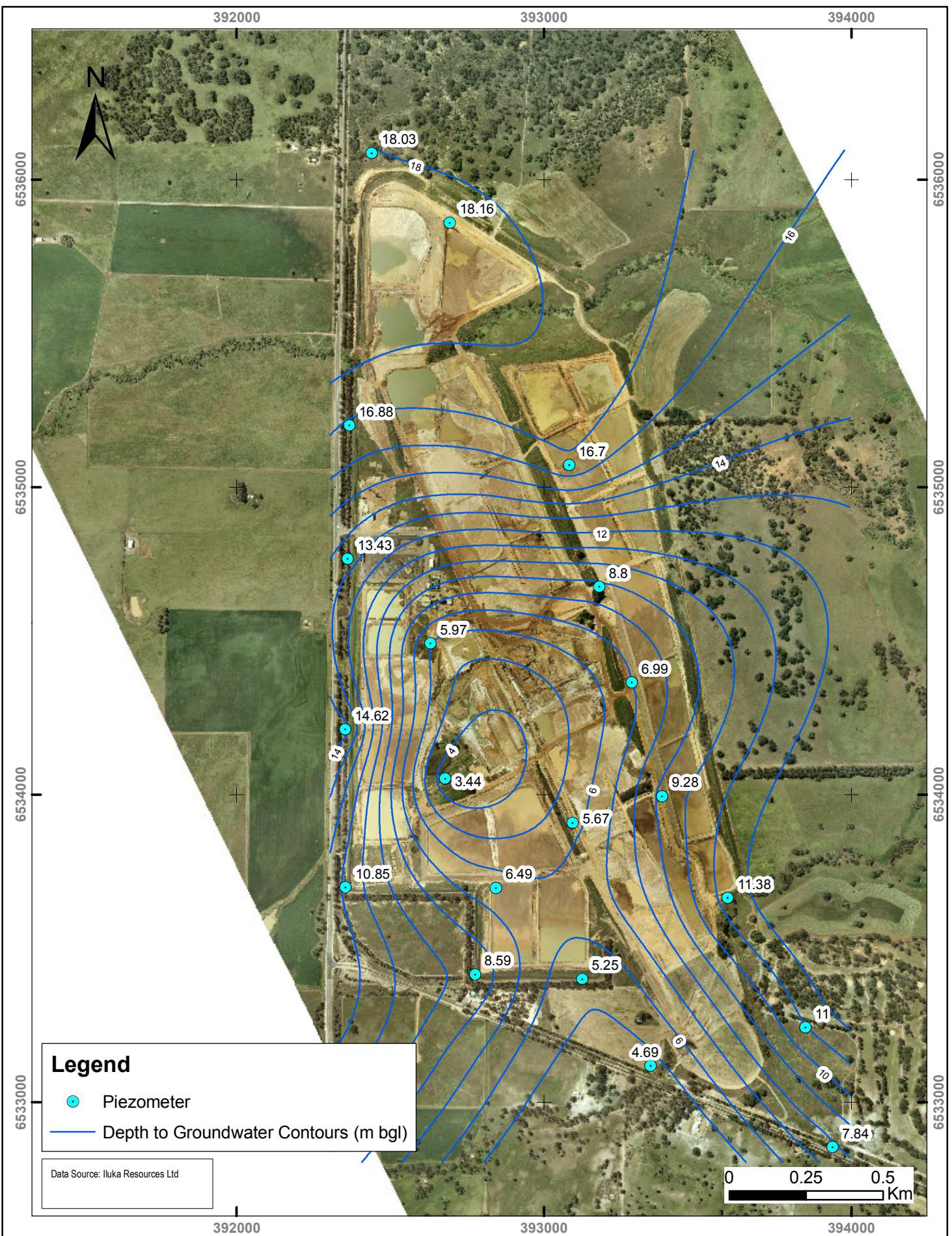
This drawing is subject to COPYRIGHT. It remains the property of URS Australia Pty Ltd.



Client Iluka Resources Ltd	Project Gingin Mine Site Aquifer Review 2009	Title Change in Groundwater Level Superficial Aquifer - Shallow Tubes (2007-2008)	
	Scale: 1:16,000	Drawn: AB	Datum: GDA94
	Date: 16/03/2009	Approved: NR	Projection: MGA50
	Job No.: 42907169	File No.: 42907169_003.mxd	
Figure 4.22			Rev. A A4

T:\Jobs\42907169

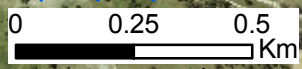
This drawing is subject to COPYRIGHT. It remains the property of URS Australia Pty Ltd.




Legend

- Piezometer
- Depth to Groundwater Contours (m bgl)

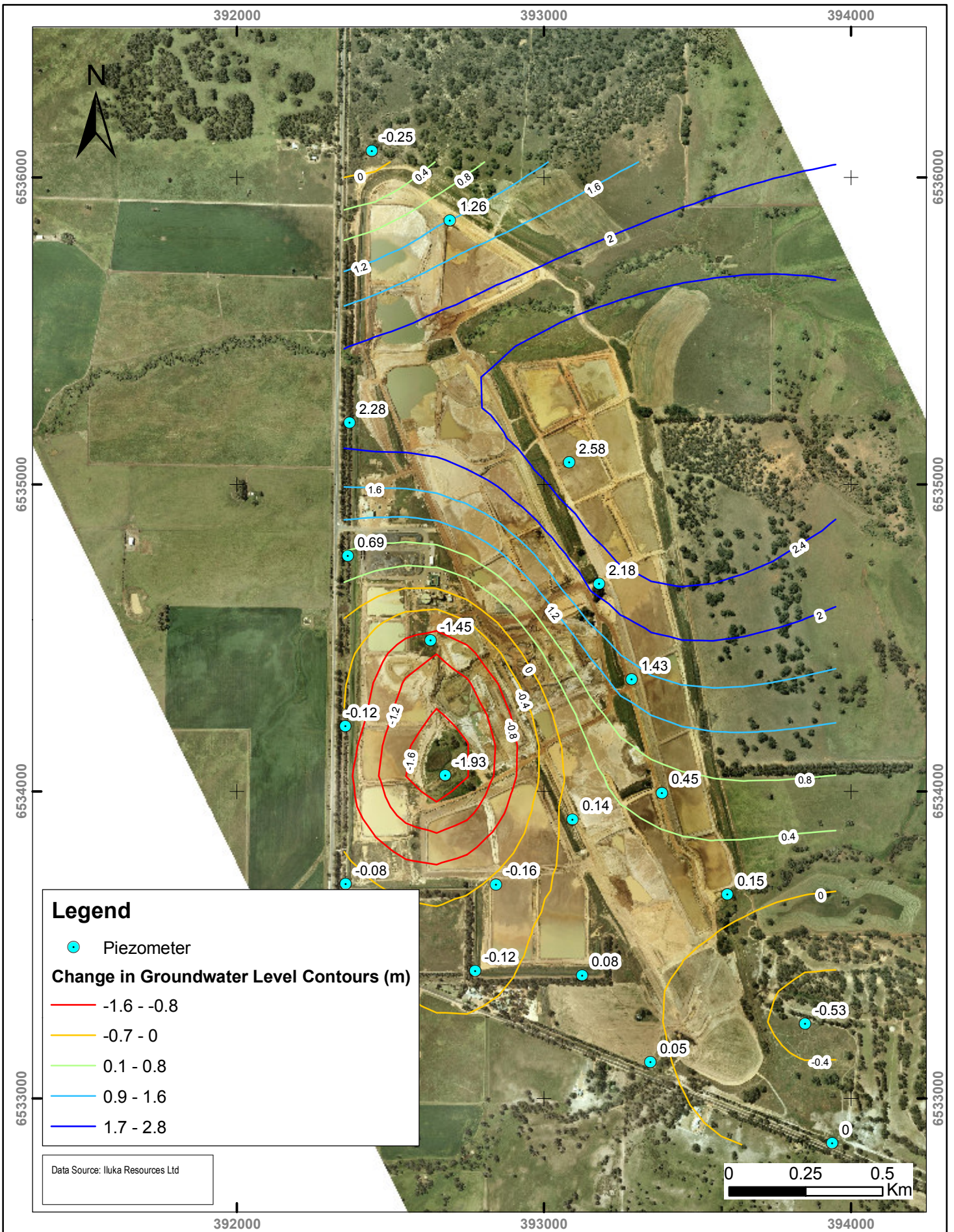
Data Source: Iluka Resources Ltd



Client Iluka Resources Ltd 	Project Gingin Mine Site Aquifer Review 2009			Title Depth to Groundwater Superficial Aquifer - Deep Tubes December 2008	
	Scale: 1:16,000 Date: 16/03/2009 Job No.: 42907169	Drawn: AB Approved: NR File No.: 42907169_004.mxd	Datum: GDA94 Projection: MGA50	Figure 4.23	

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Legend

● Piezometer

Change in Groundwater Level Contours (m)

— -1.6 - -0.8

— -0.7 - 0

— 0.1 - 0.8

— 0.9 - 1.6

— 1.7 - 2.8

Data Source: Iluka Resources Ltd

Client
Iluka Resources Ltd

Project
Gingin Mine Site
Aquifer Review 2009

Title
Change in Groundwater Level
Superficial Aquifer - Deep Tubes
(2007-2008)



Scale: 1:16,000	Drawn: AB	Datum: GDA94
Date: 16/03/2009	Approved: NR	Projection: MGA50
Job No.: 42907169	File No.: 42907169_005.mxd	

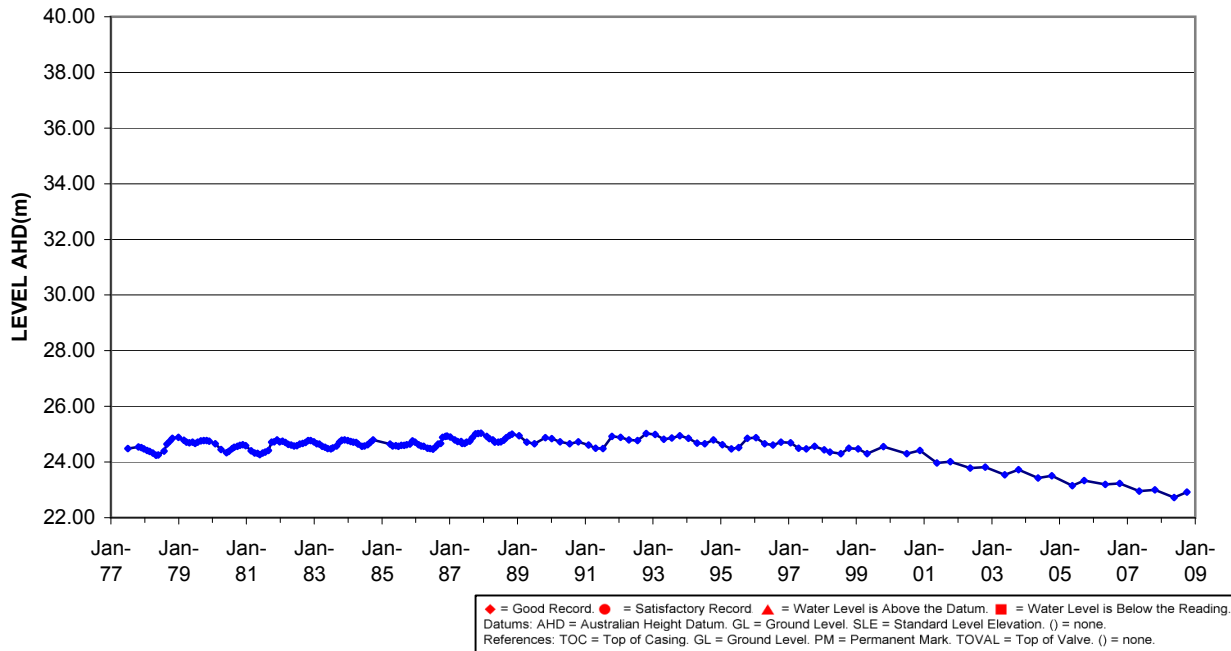
Figure 4.24

Rev. A
A4

T:\Jobs\42907169

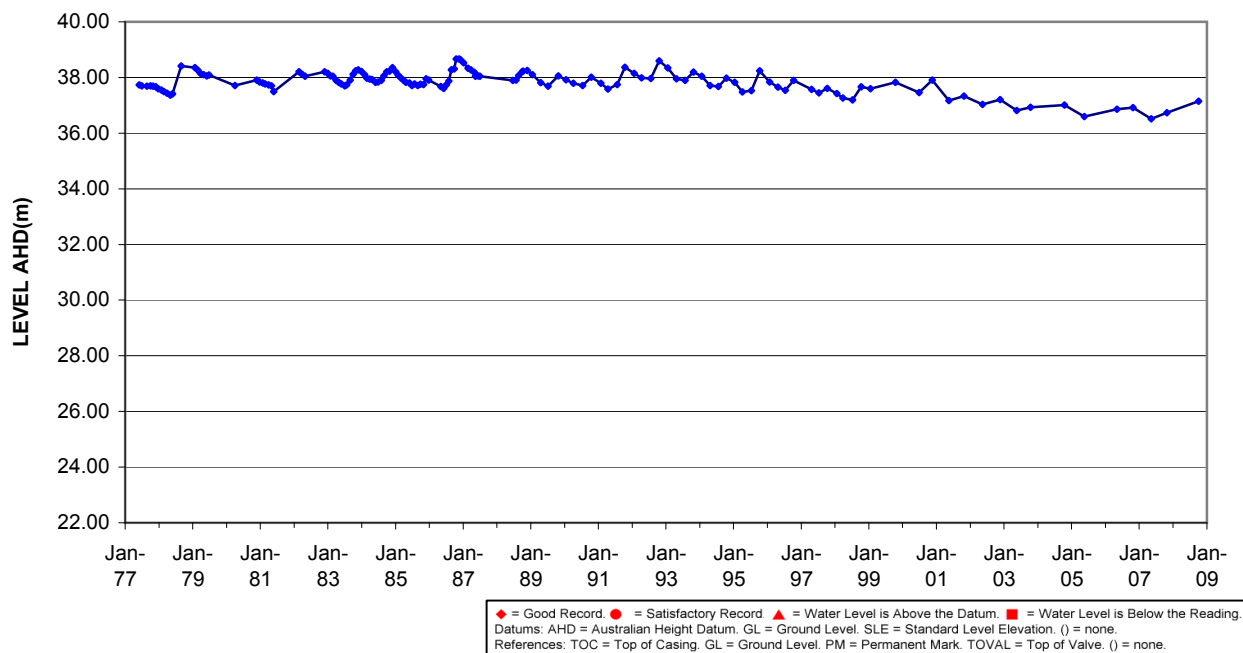
61710024 GNANGARA MOUND MONITOR GB1

Easting = 371019.00 Northing = 6535294.00 Zone = 50 TOC = 39.22m AHD WIN SITE ID = 6270




61710079 GNANGARA MOUND MONITOR GB5

Easting = 377725.00 Northing = 6533178.00 Zone = 50 TOC = 47.41m AHD WIN SITE ID = 6325

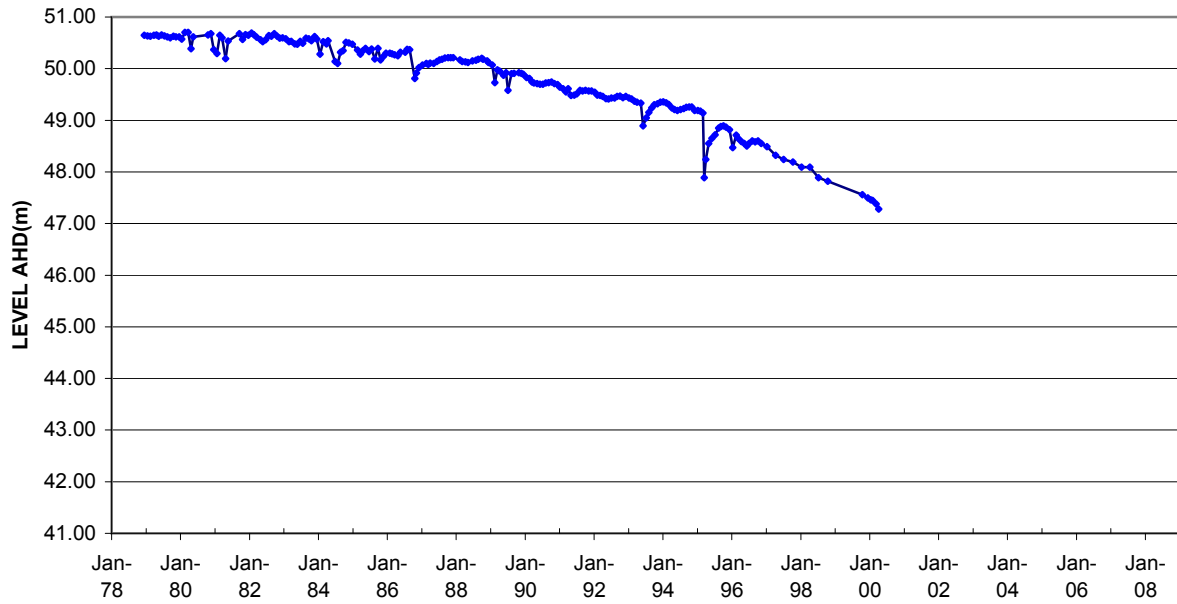


Source: Water INformation (WIN) Database, Department of Water

Client: Iluka Resources Ltd	Project: Gingin Mine Site Aquifer Review January - December 2008		Title: Hydrographs - DoW Yarragadee Monitoring Bores GB1 & GB5	
		Drawn: NR	Approved: RV	Date: 16/03/2009
Job No. 42907169		File No.		Figure: 4.26 A4

61715012 ARTESIAN MONITORING AM4

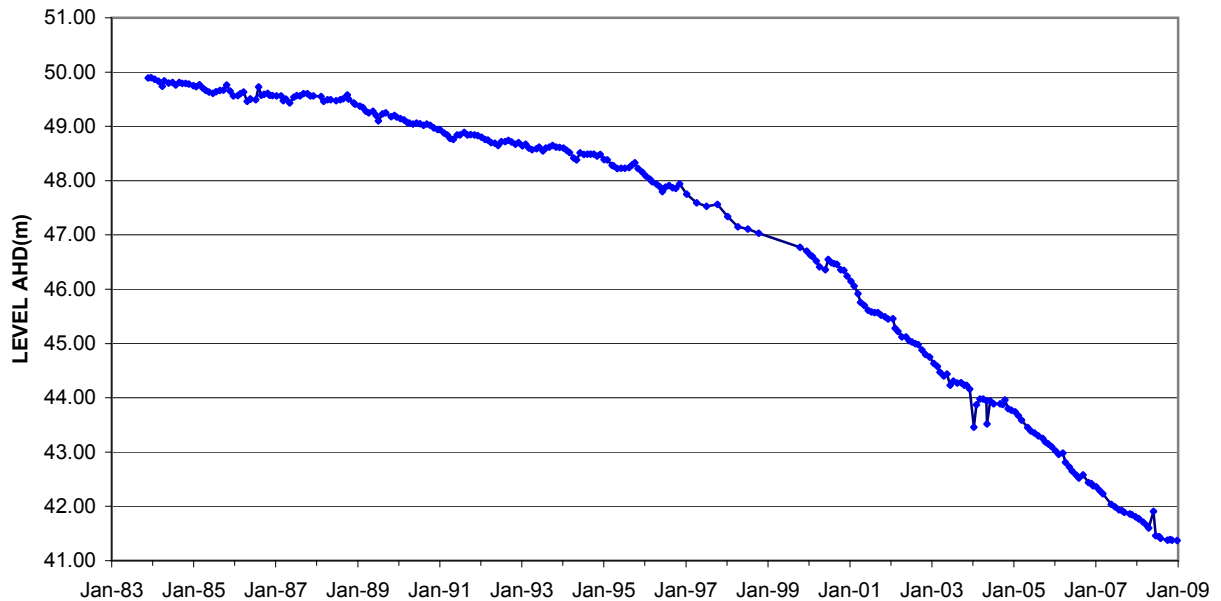
Easting = 383815.00 Northing = 6535442.00 Zone = 50 TOC = 50.72mAHD WIN SITE ID = 6379



◆ = Good Record ● = Satisfactory Record ▲ = Water Level is Above the Datum. ■ = Water Level is Below the Reading.
 Datums: AHD = Australian Height Datum. GL = Ground Level. SLE = Standard Level Elevation. () = none.
 References: TOC = Top of Casing. GL = Ground Level. PM = Permanent Mark. TOVAL = Top of Valve. () = none.


61715013 ARTESIAN MONITORING AM4A

Easting = 383765.00 Northing = 6535457.00 Zone = 50 TOC = 50.4mAHD WIN SITE ID = 6380



◆ = Good Record ● = Satisfactory Record ▲ = Water Level is Above the Datum. ■ = Water Level is Below the Reading.
 Datums: AHD = Australian Height Datum. GL = Ground Level. SLE = Standard Level Elevation. () = none.
 References: TOC = Top of Casing. GL = Ground Level. PM = Permanent Mark. TOVAL = Top of Valve. () = none.

Source: Water INformation (WIN) Database, Department of Water

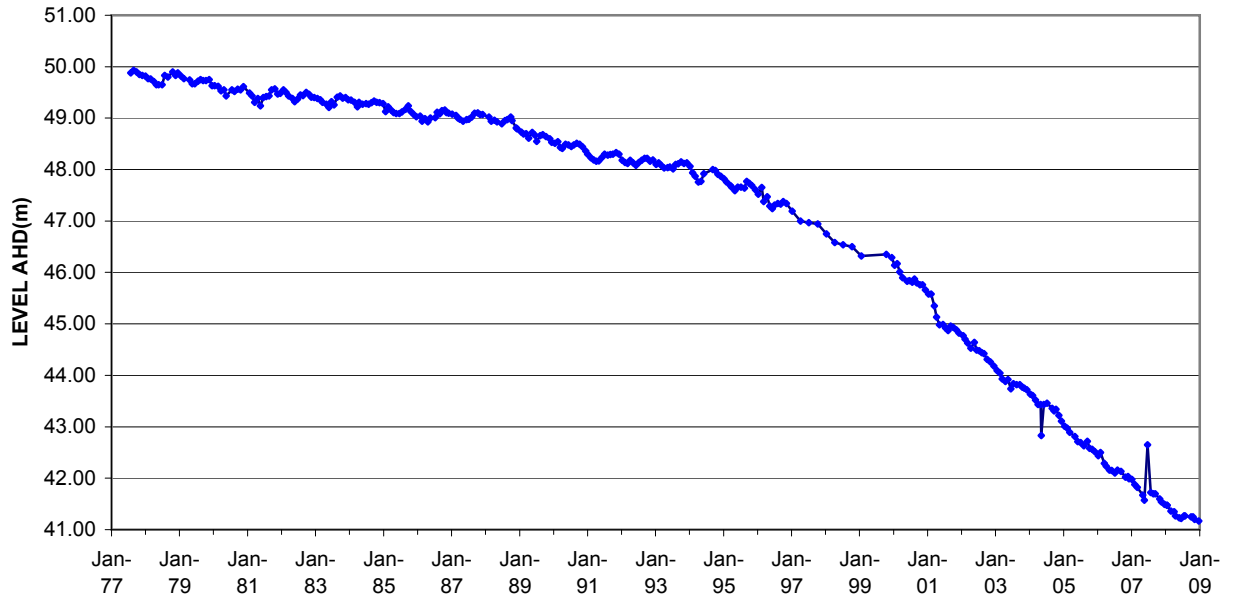
Client: Iluka Resources Ltd	Project: Gingin Mine Site Aquifer Review January - December 2008		Title: Hydrographs - DoW Yarragadee Monitoring Bores AM4 & AM4A	
	Drawn: NR	Approved: RV	Date: 16/03/2009	Rev. 0
	Job No. 42907169	File No.	Figure: 4.27	
				A4



61715014 ARTESIAN MONITORING AM6

Easting = 387030.00 Northing = 6529634.00 Zone = 50 TOC = 65.03mAHD WIN SITE ID = 6381

Department of Water



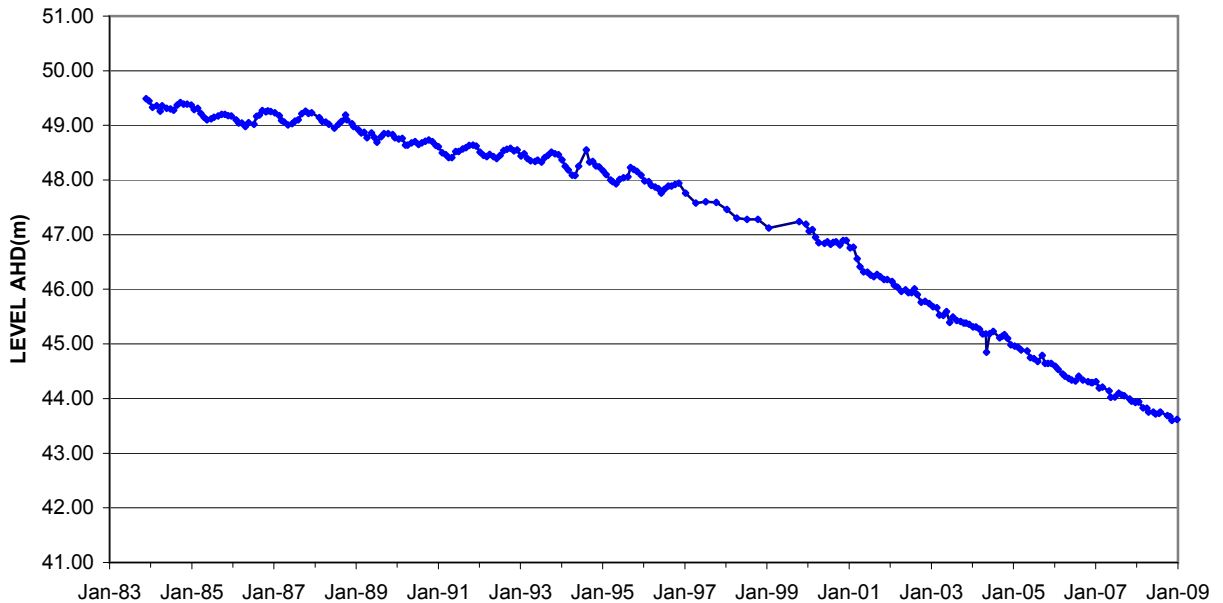
◆ = Good Record ● = Satisfactory Record ▲ = Water Level is Above the Datum. ■ = Water Level is Below the Reading.
 Datums: AHD = Australian Height Datum. GL = Ground Level. SLE = Standard Level Elevation. () = none.
 References: TOC = Top of Casing. GL = Ground Level. PM = Permanent Mark. TOVAL = Top of Valve. () = none.



61715015 ARTESIAN MONITORING AM6A

Easting = 387022.00 Northing = 6529627.00 Zone = 50 TOC = 64.691mAHD WIN SITE ID = 6382

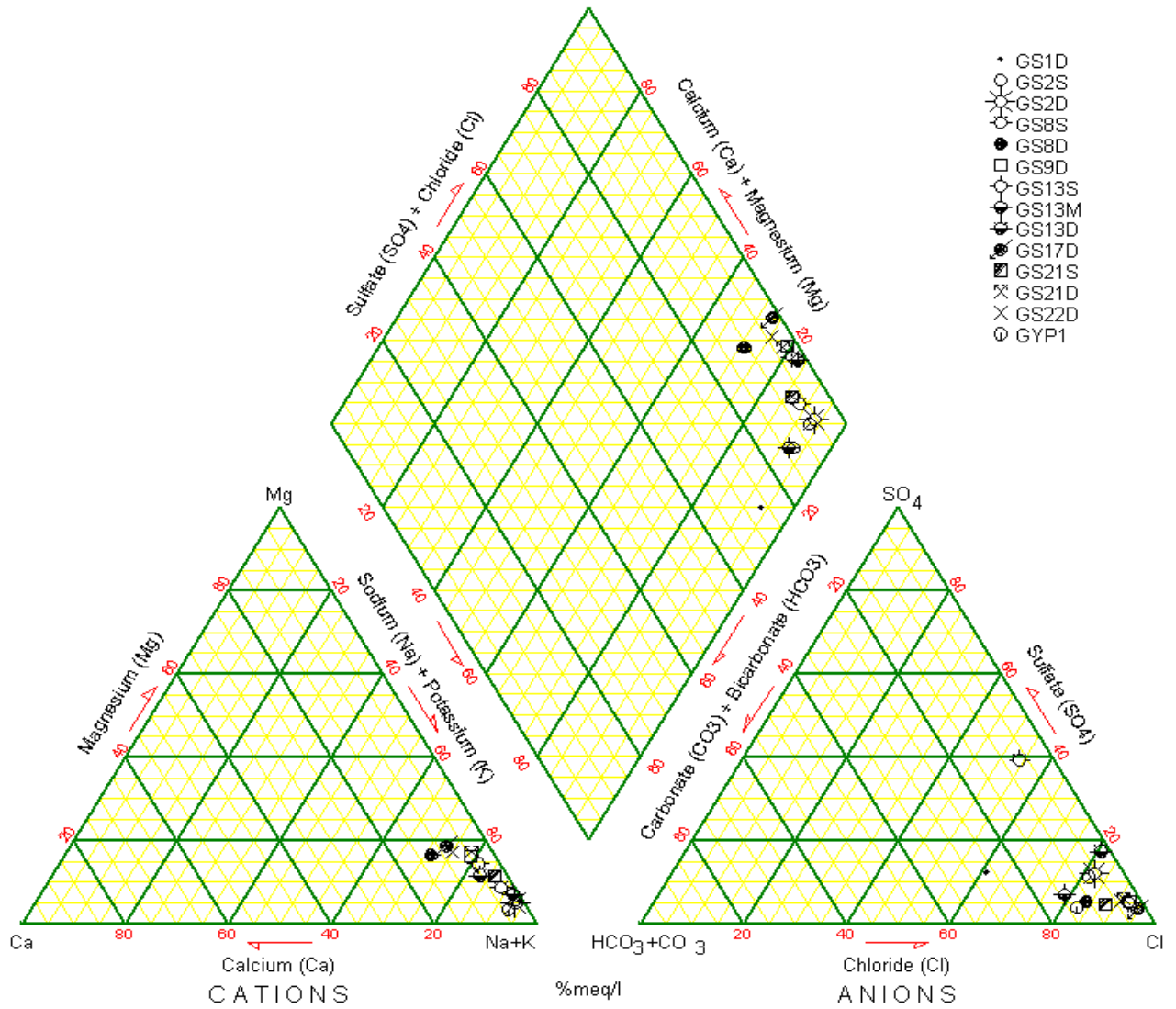
Department of Water



◆ = Good Record ● = Satisfactory Record ▲ = Water Level is Above the Datum. ■ = Water Level is Below the Reading.
 Datums: AHD = Australian Height Datum. GL = Ground Level. SLE = Standard Level Elevation. () = none.
 References: TOC = Top of Casing. GL = Ground Level. PM = Permanent Mark. TOVAL = Top of Valve. () = none.

Source: Water INformation (WIN) Database, Department of Water

Client: Iluka Resources Ltd	Project: Gingin Mine Site Aquifer Review January - December 2008		Title: Hydrographs - DoW Yarragadee Monitoring Bores AM6 & AM6A	
	Drawn: NR	Approved: RV	Date: 16/03/2009	Rev. 0
	Job No. 42907169		File No.	Figure: 4.28
				A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

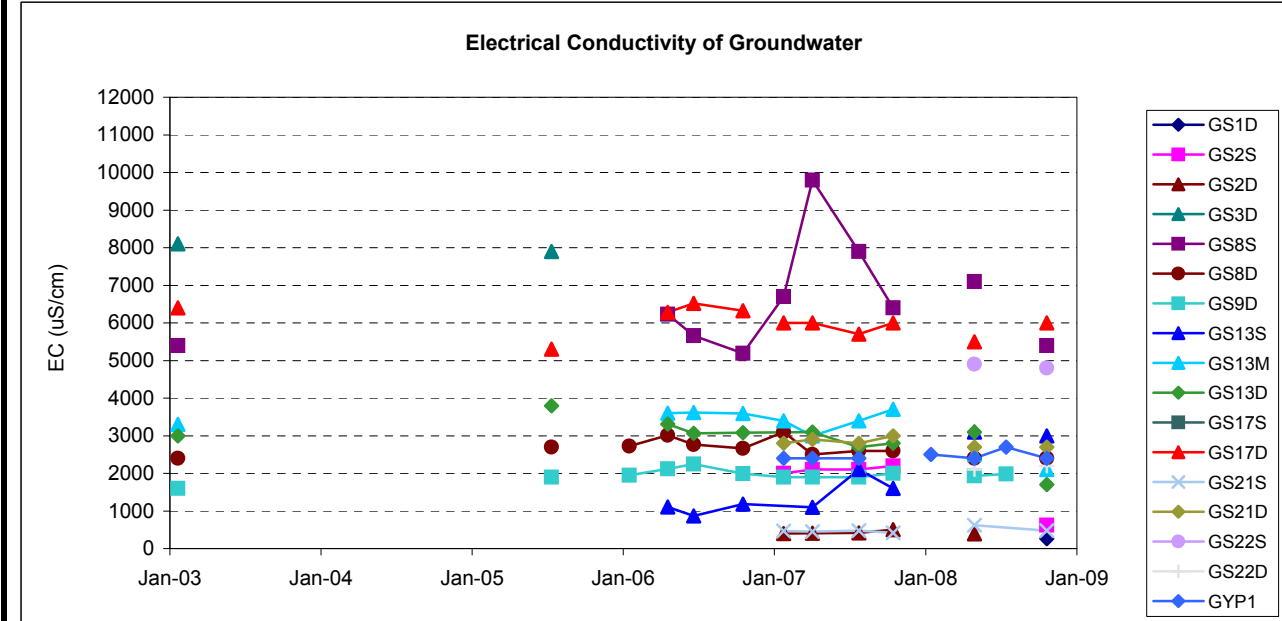
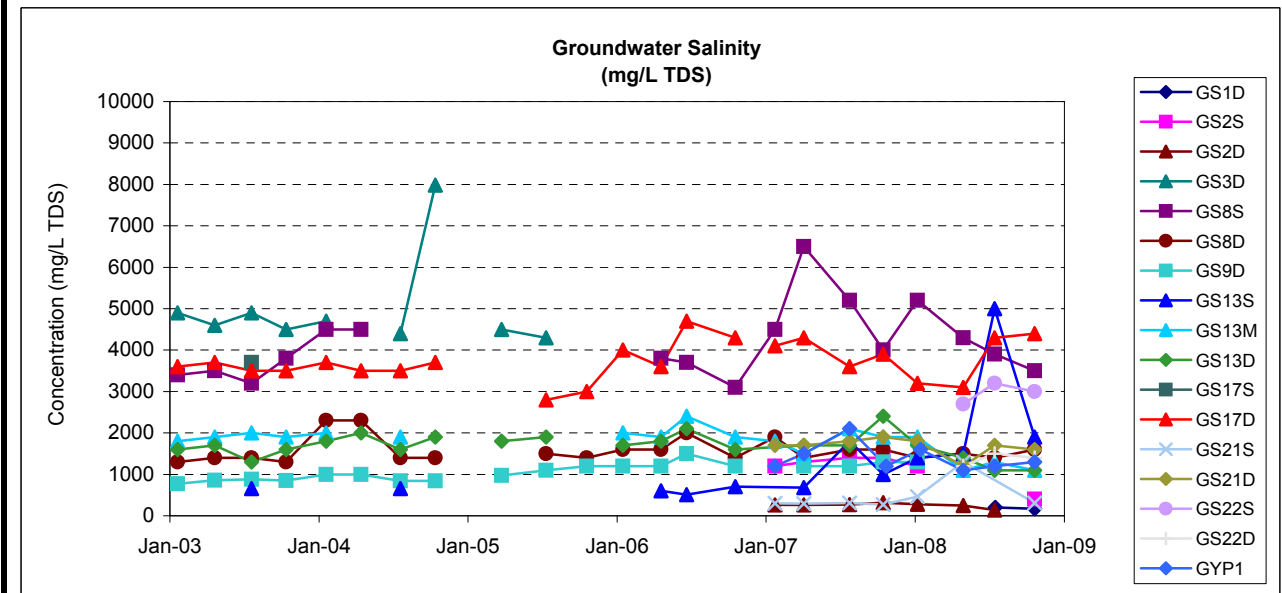
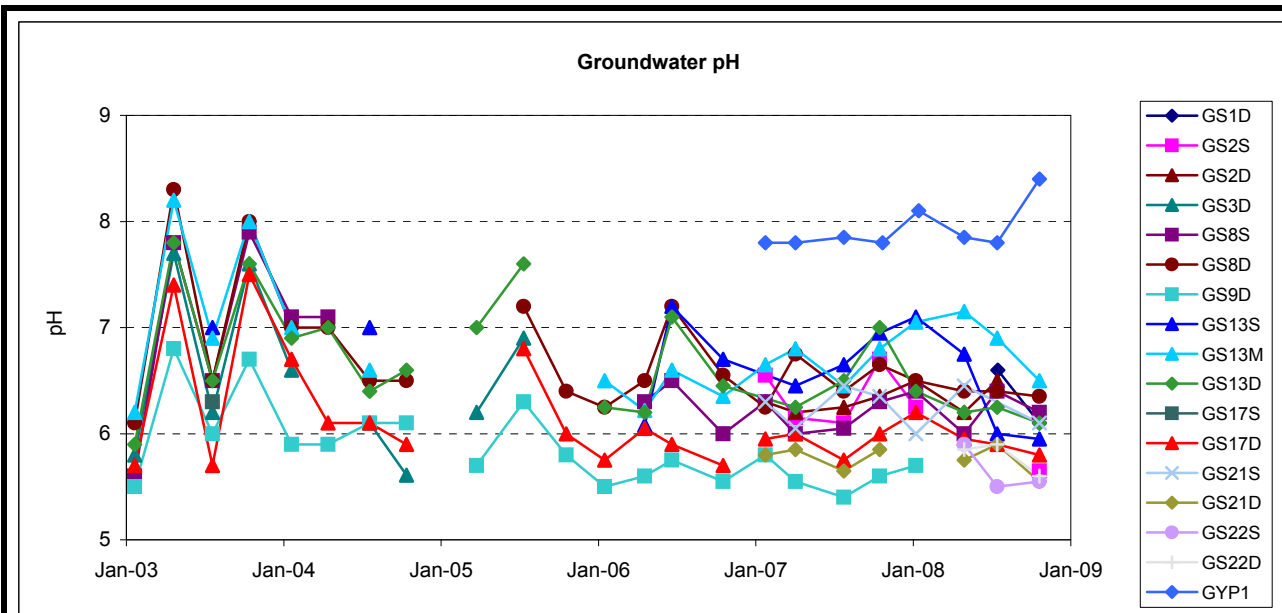
Title: Piper plot (September
2008)



Drawn: NR	Approved: RV	Date: 5/3/2009
Job No. 42907169	File No.	

Figure: 4.29

Rev. 0
A4



Client:
Iluka Resources Ltd

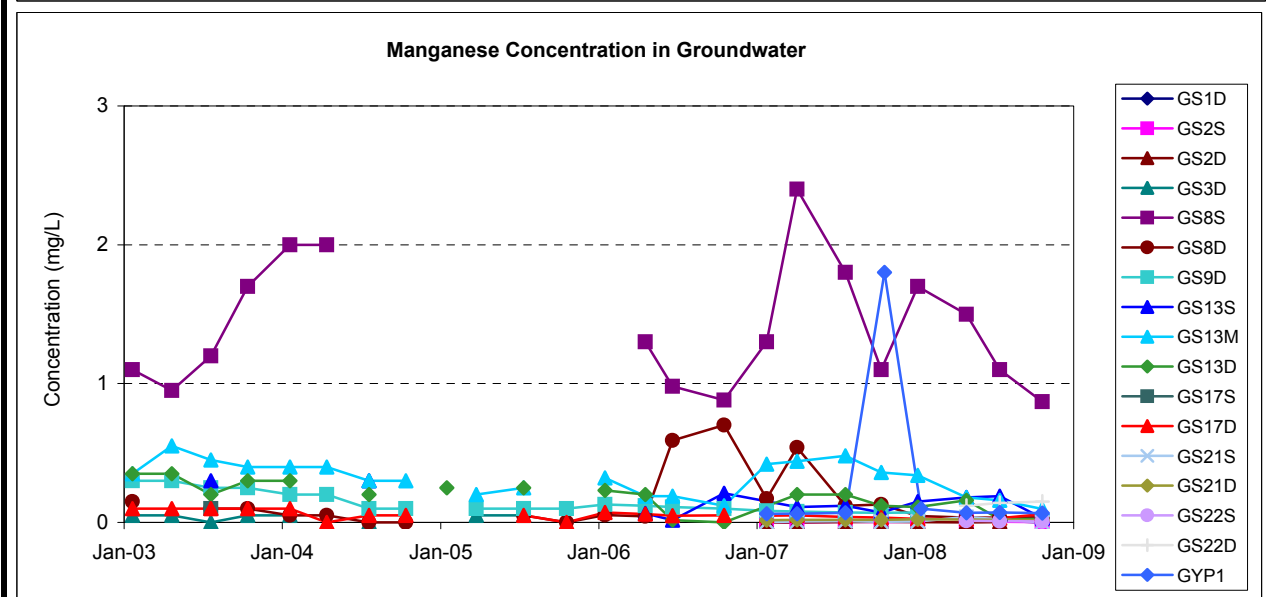
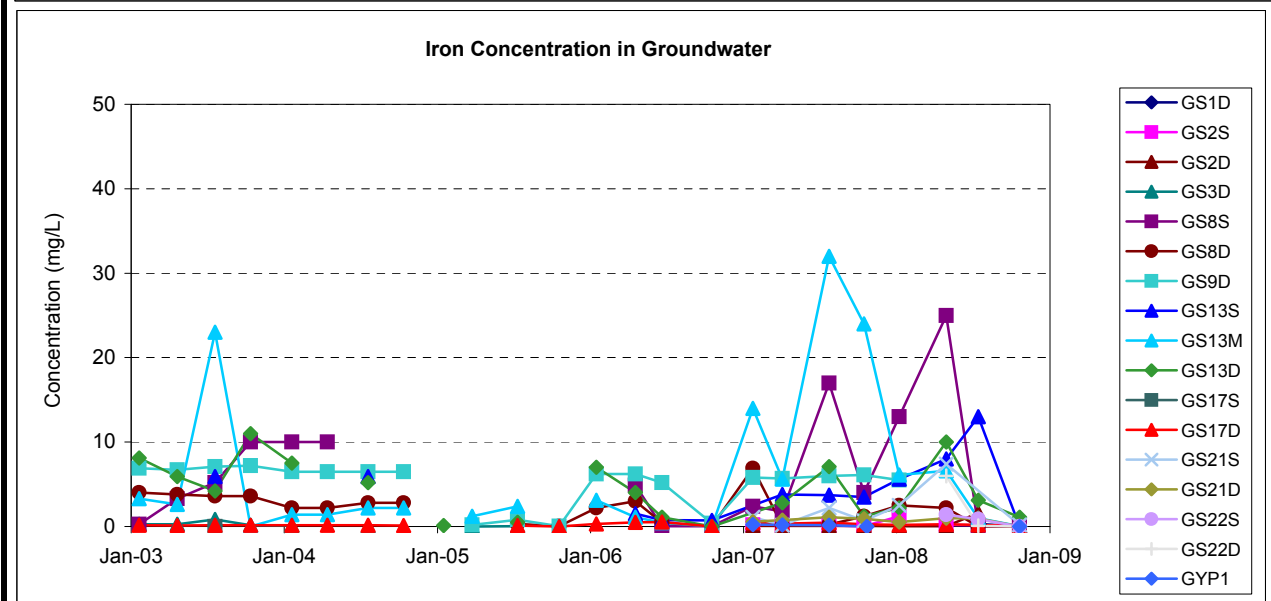
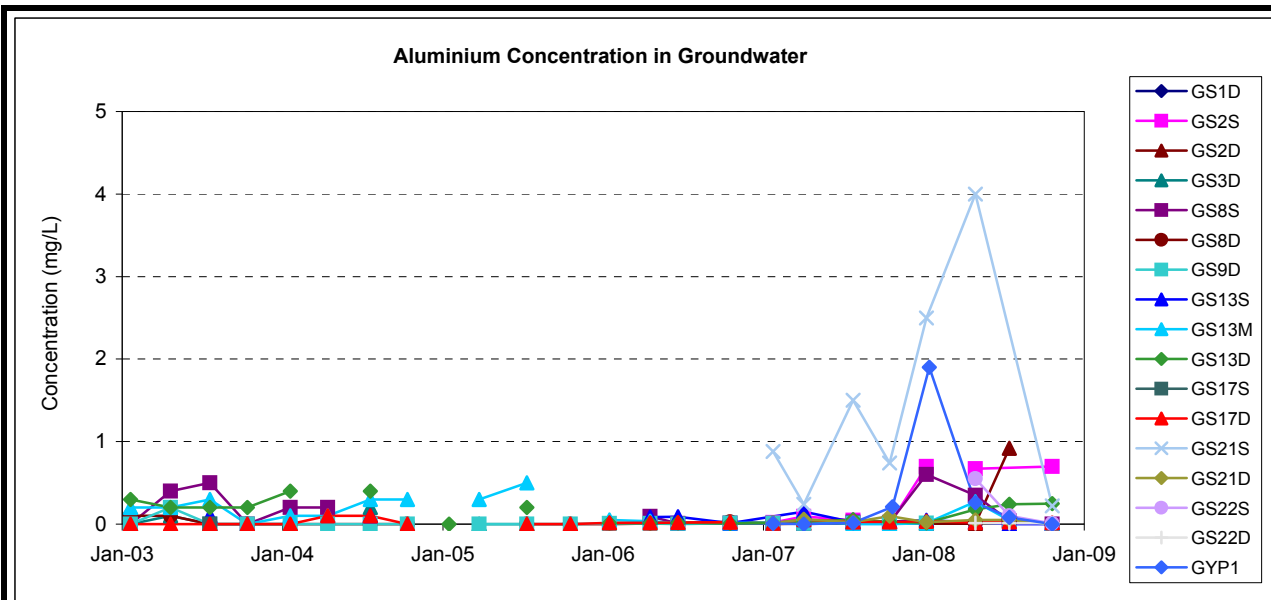


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 5/3/2009
Job No. 42907169	File No.	

Title: Groundwater pH,
Salinity and Electrical
Conductivity

Figure: 4.30	Rev. 0 A4
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Client:
Iluka Resources Ltd

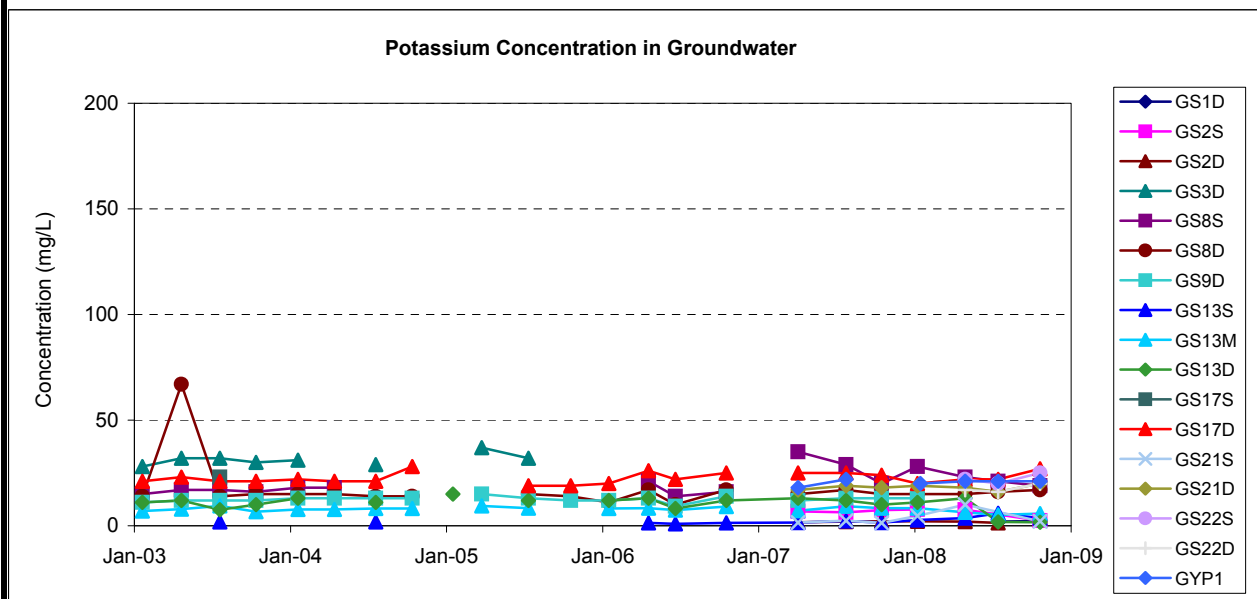
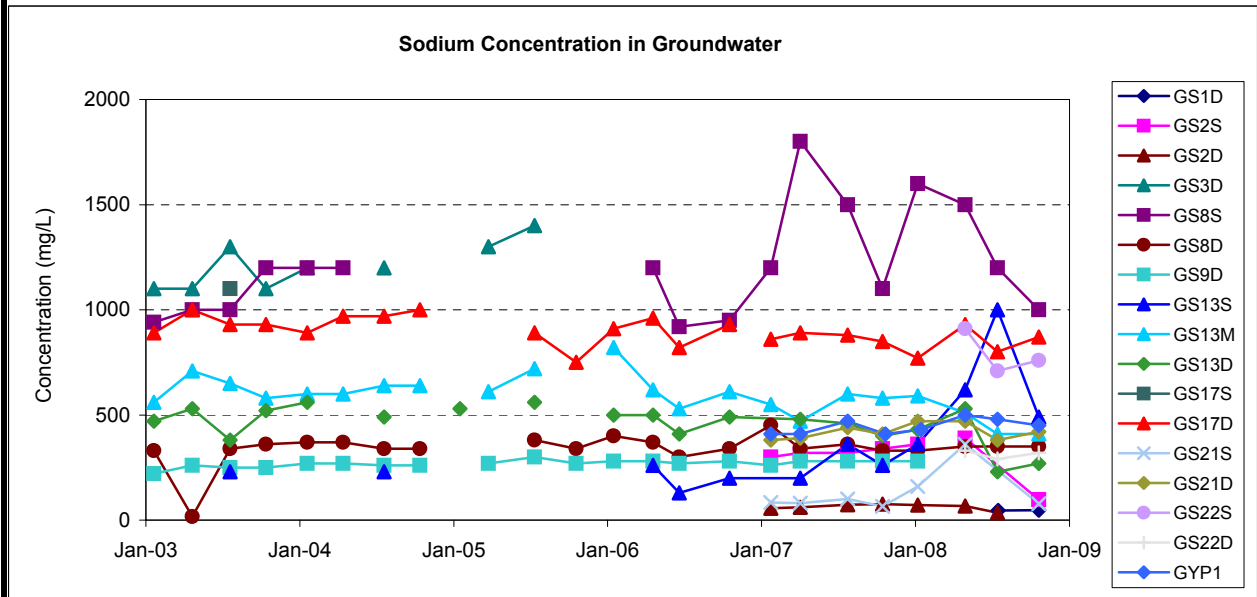
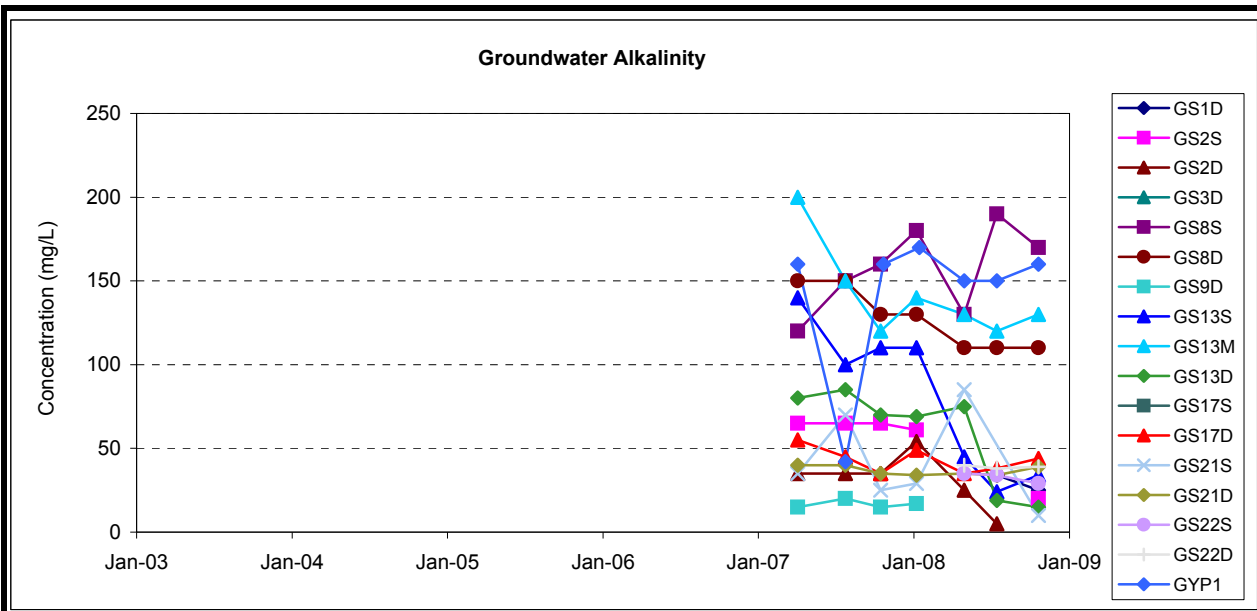


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 5/3/2009
Job No. 42907169	File No.	

Title: Aluminium, Iron and Manganese concentrations in groundwater

Figure: 4.31	Rev. 0
	A4



Client:
Iluka Resources Ltd

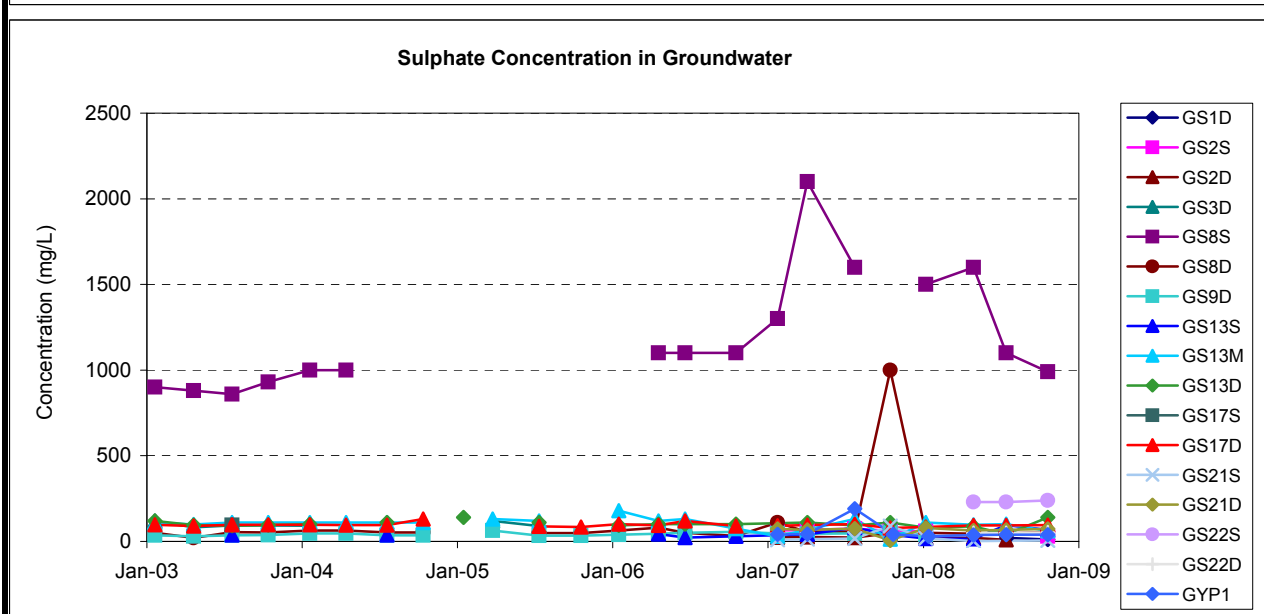
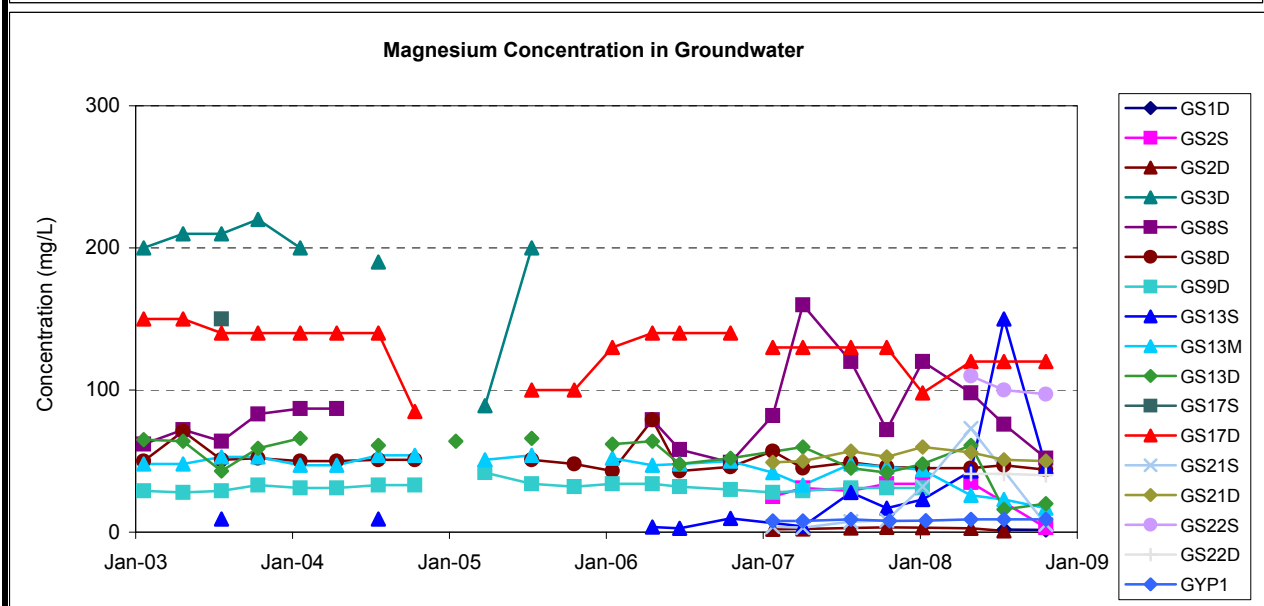
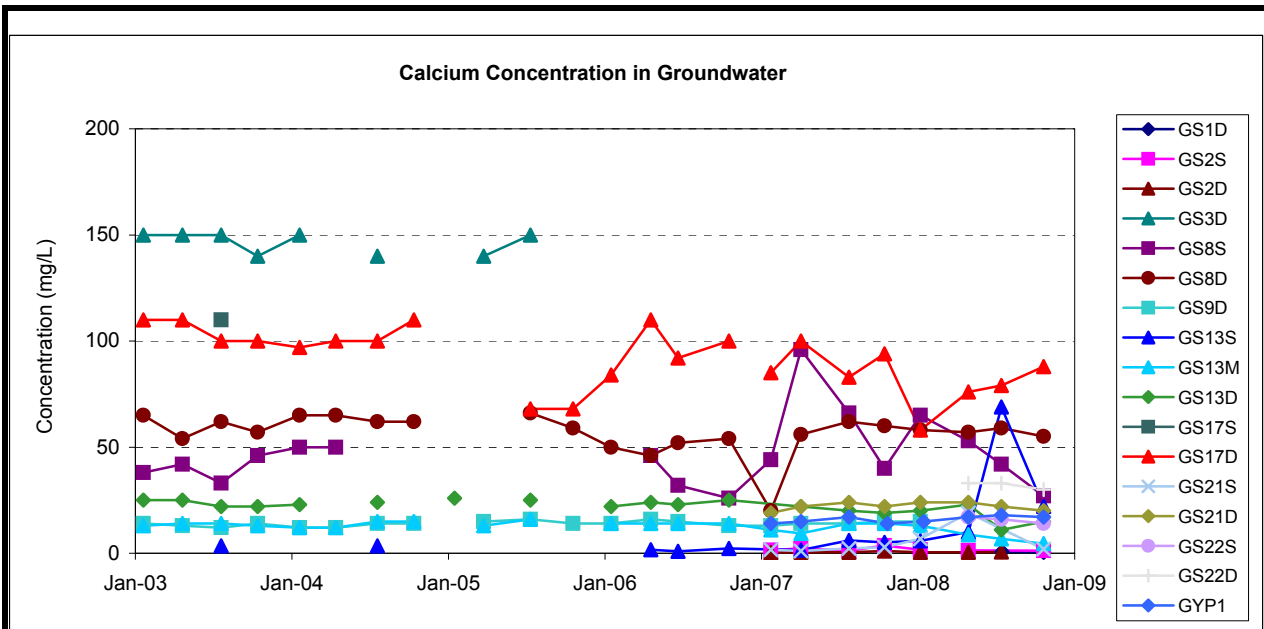


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 5/3/2009
Job No. 42907169	File No.	

Title: Groundwater Alkalinity,
Sodium and Potassium
concentrations

Figure: 4.32	Rev. 0
	A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

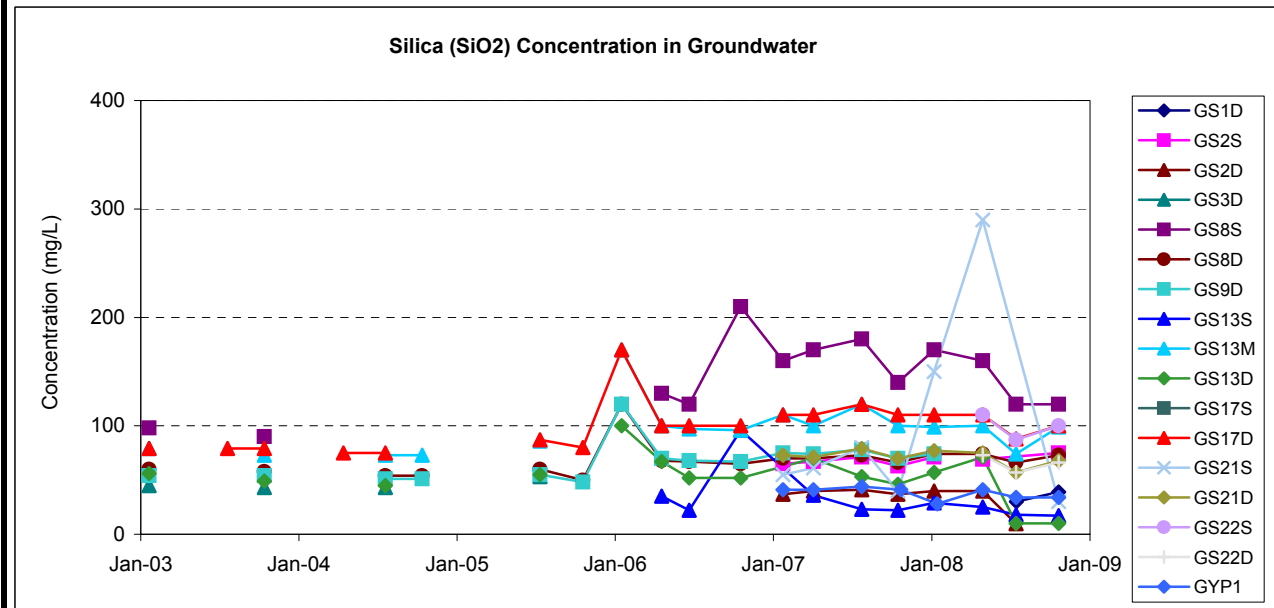
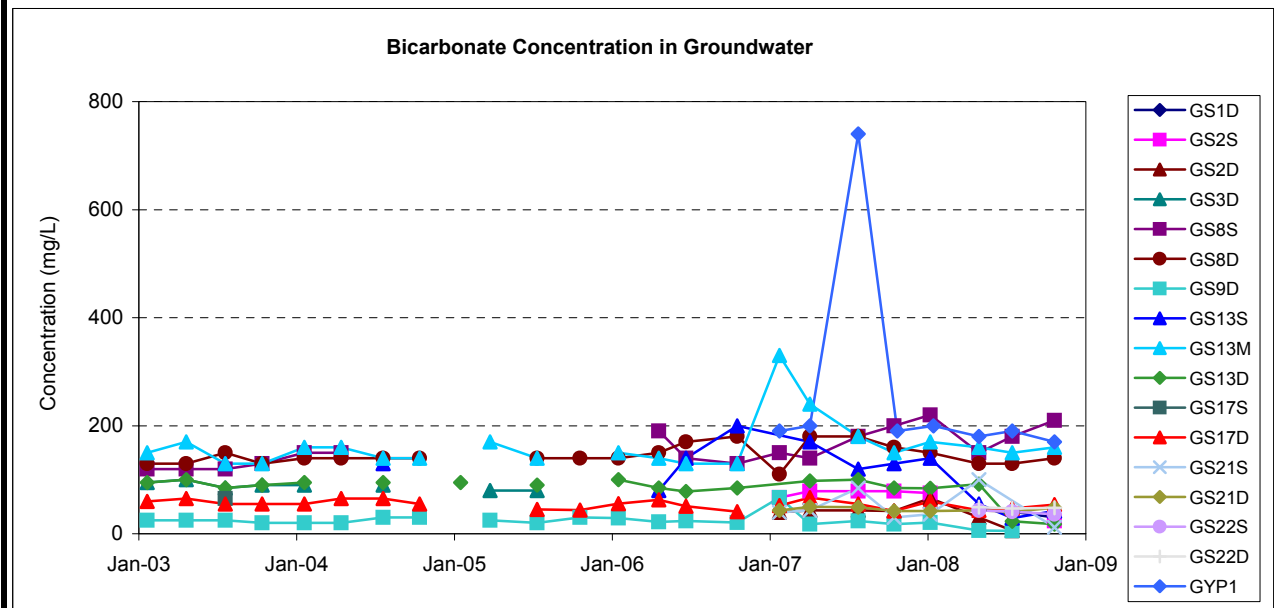
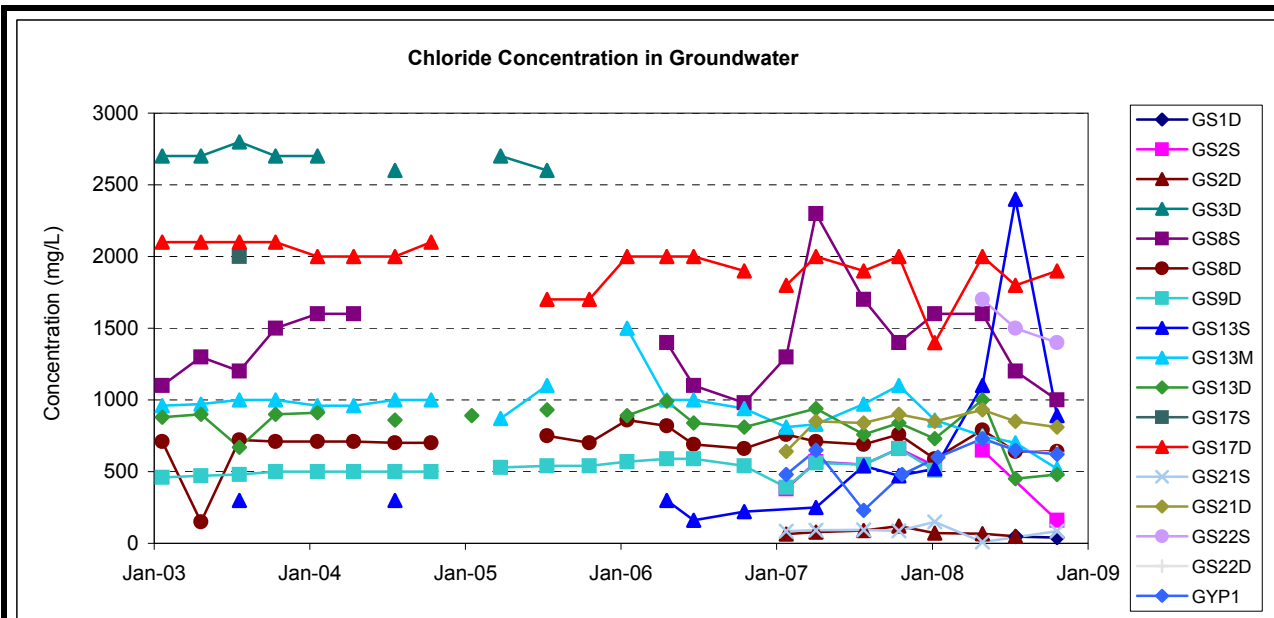
Title: Calcium, Magnesium
and Sulphate concentrations
in groundwater



Drawn: NR	Approved: RV	Date: 5/3/2009
Job No. 42907169	File No.	

Figure: 4.33

Rev. 0
A4



Client:
Iluka Resources Ltd



Project:
Gingin Mine Site Aquifer Review
January to December 2008

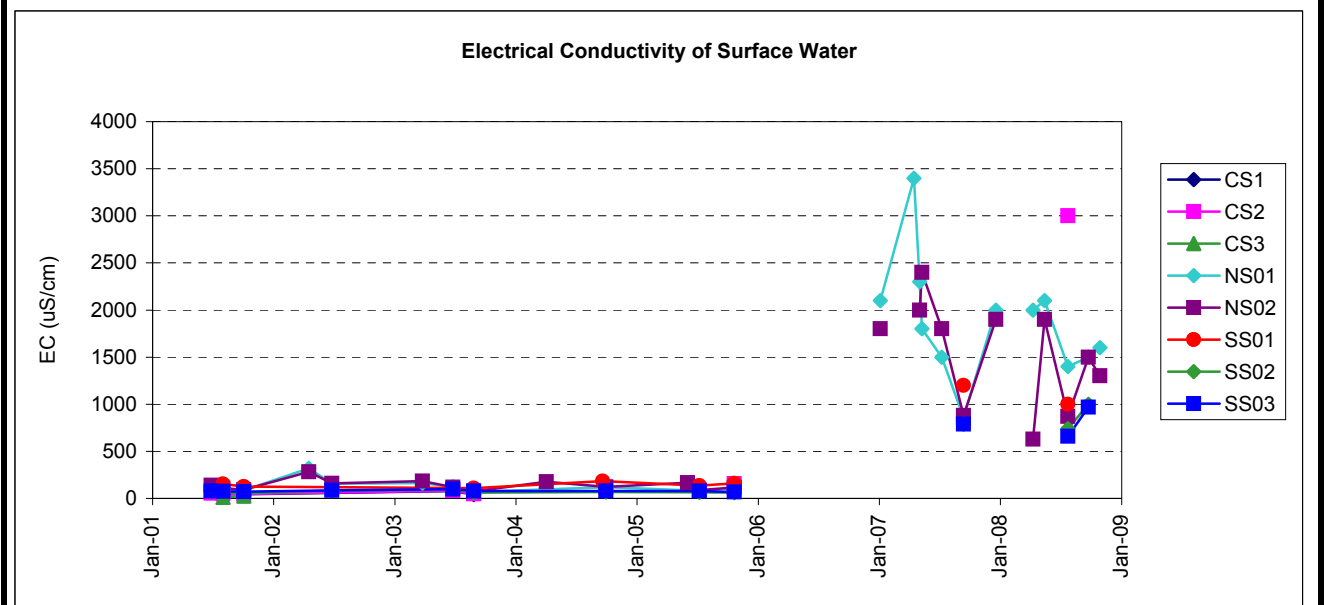
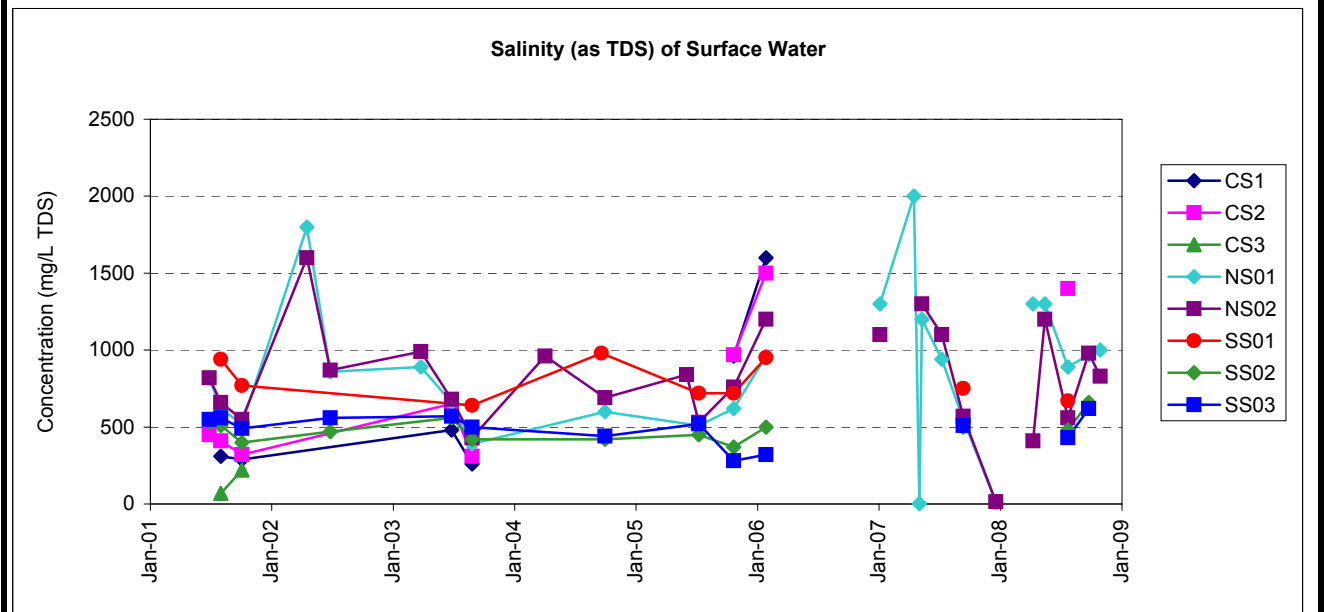
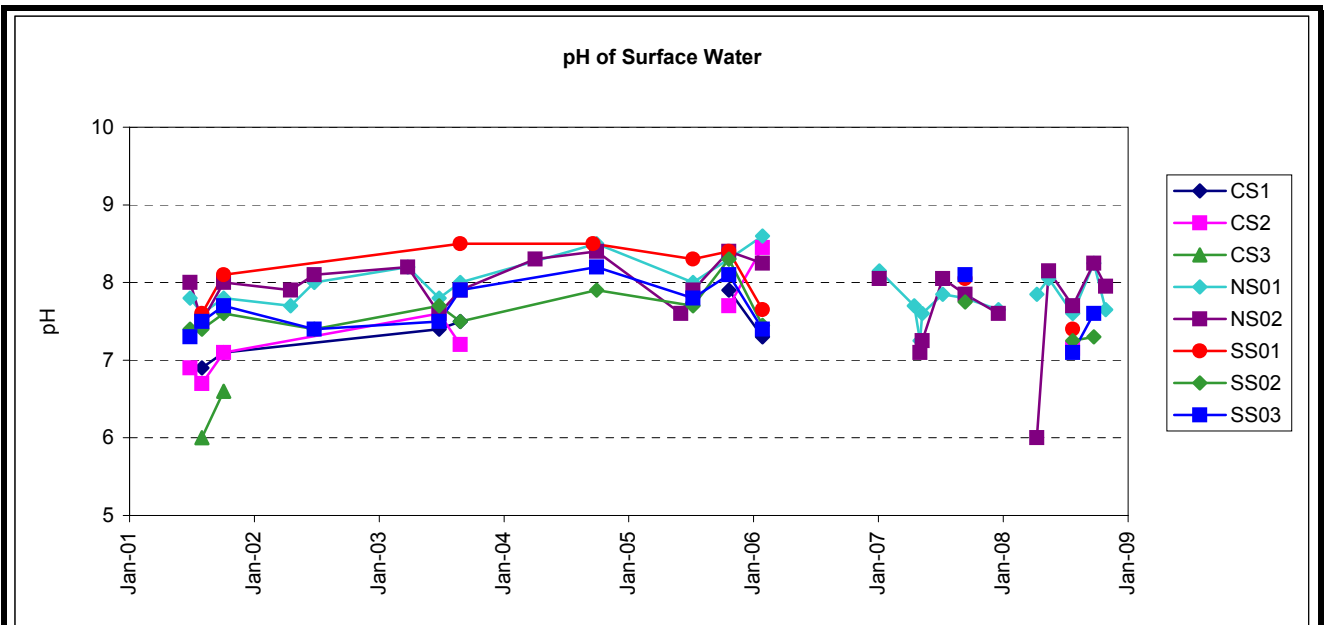
Drawn: NR Approved: RV Date: 5/3/2009

Job No. 42907169 File No.

Title: Chloride, Bicarbonate
and Silica concentrations in
groundwater

Figure: 4.34

Rev. 0
A4



Client:
Iluka Resources Ltd

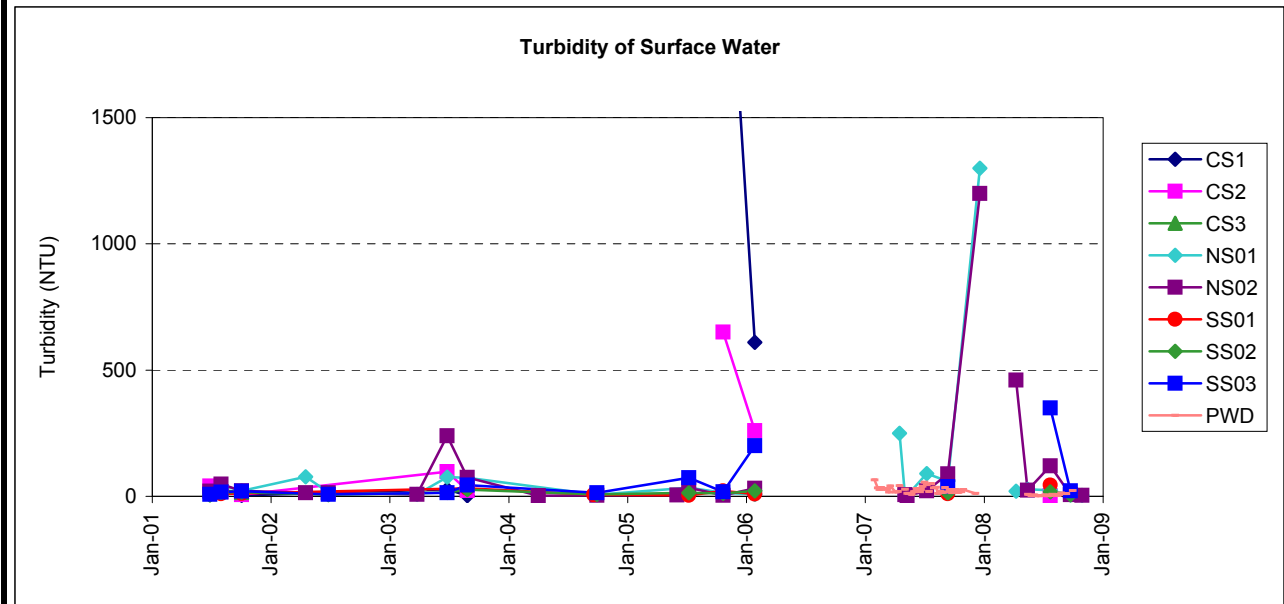
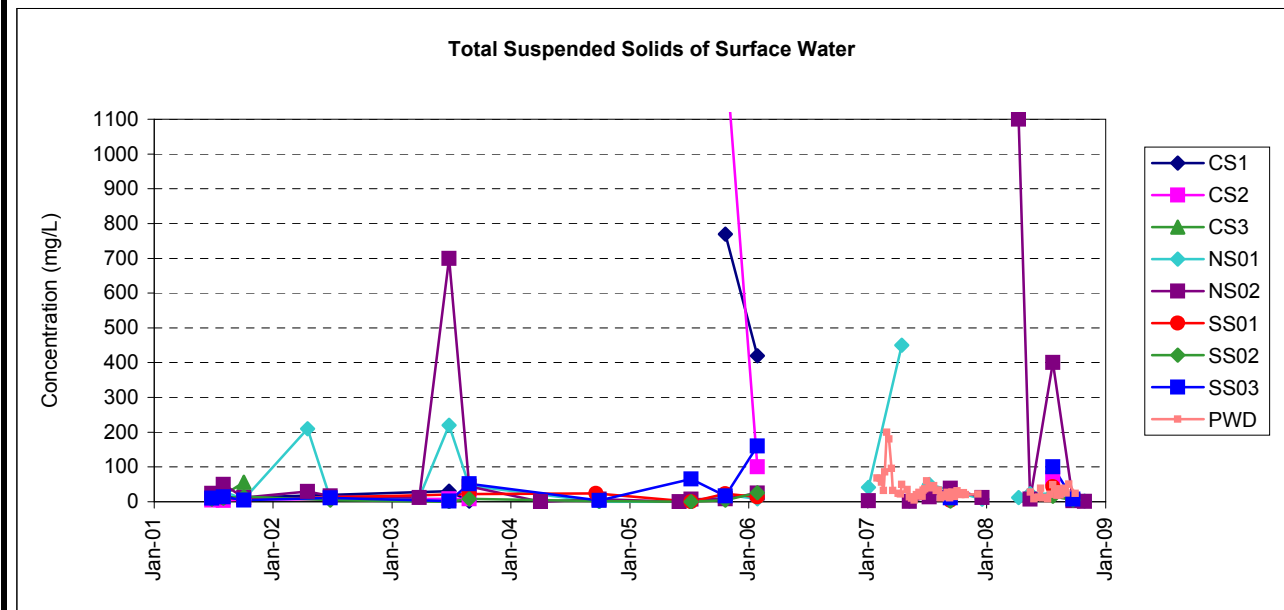
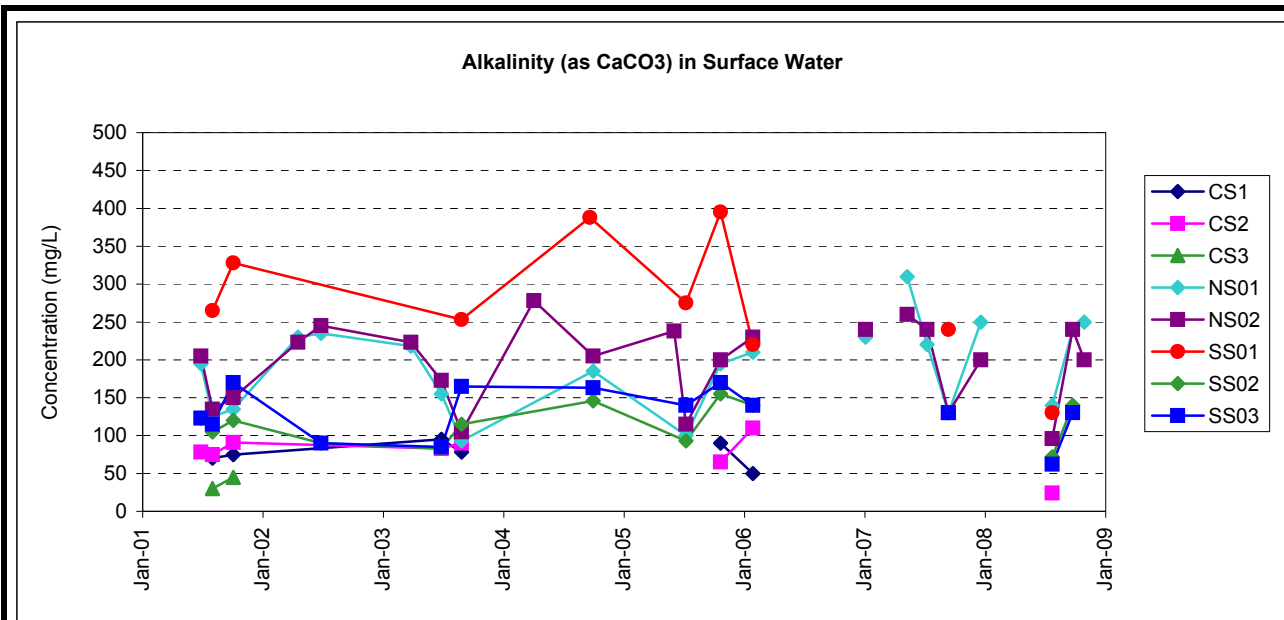


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169	File No.	

**Title: Surface Water pH,
Salinity and Electrical
Conductivity**

Figure: 4.35	Rev. 0
	A4



Client:
Iluka Resources Ltd

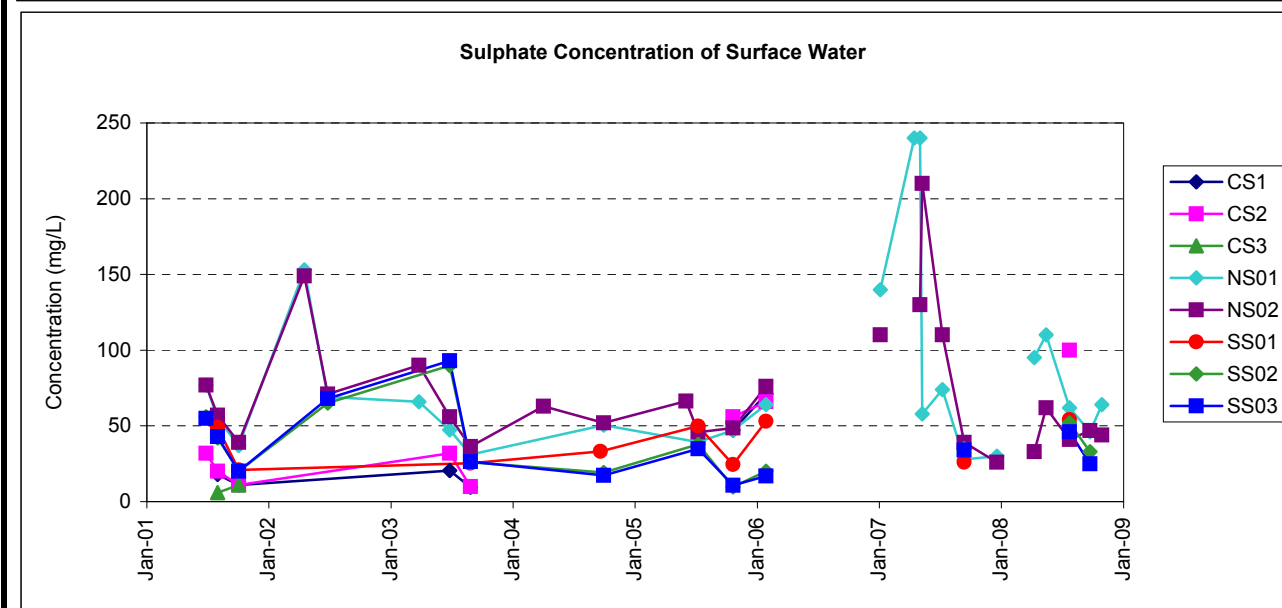
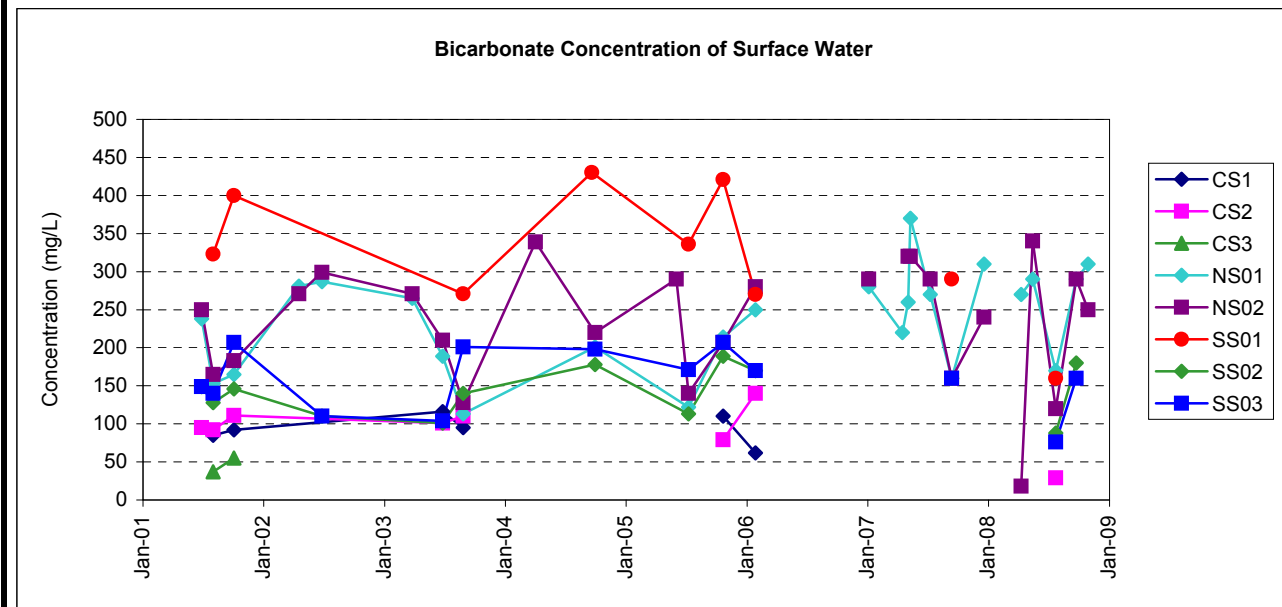
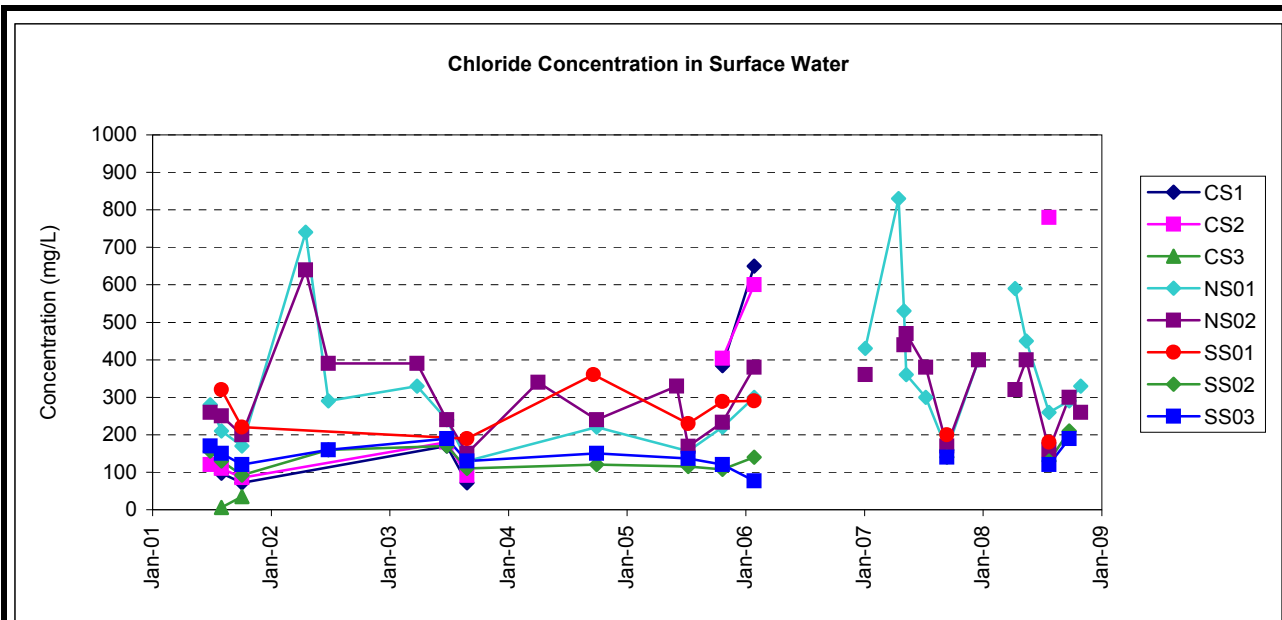


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169	File No.	

Title: Alkalinity, Total
Suspended Solids and
Turbidity of Surface Water

Figure: 4.36	Rev. 0
	A4



Client:
Iluka Resources Ltd

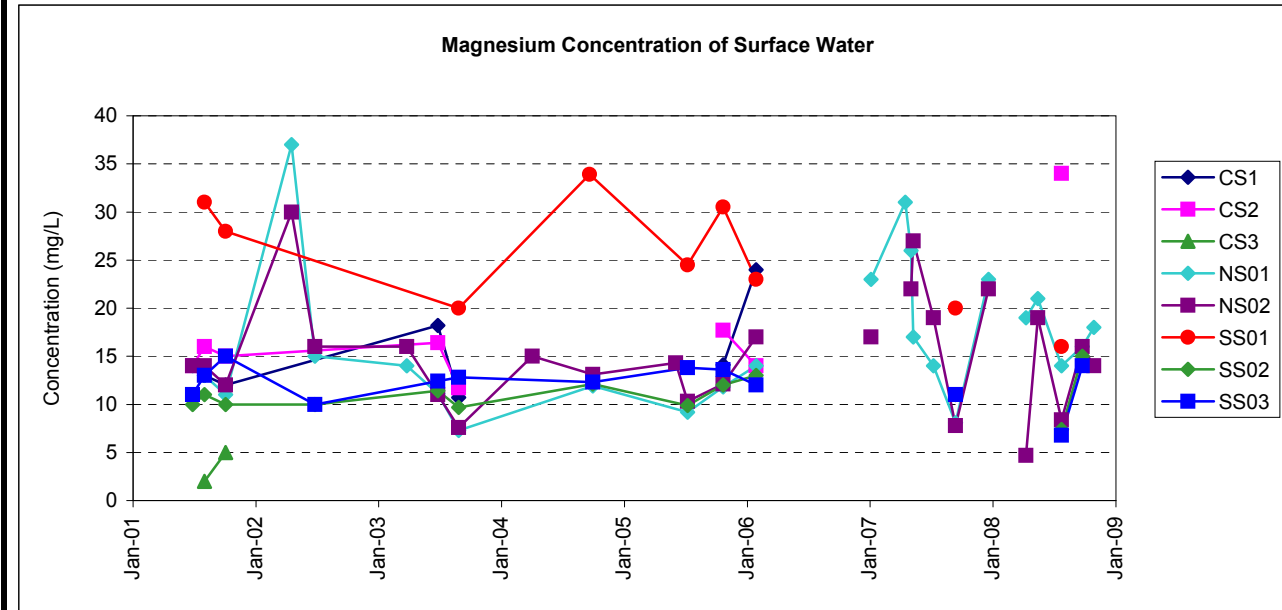
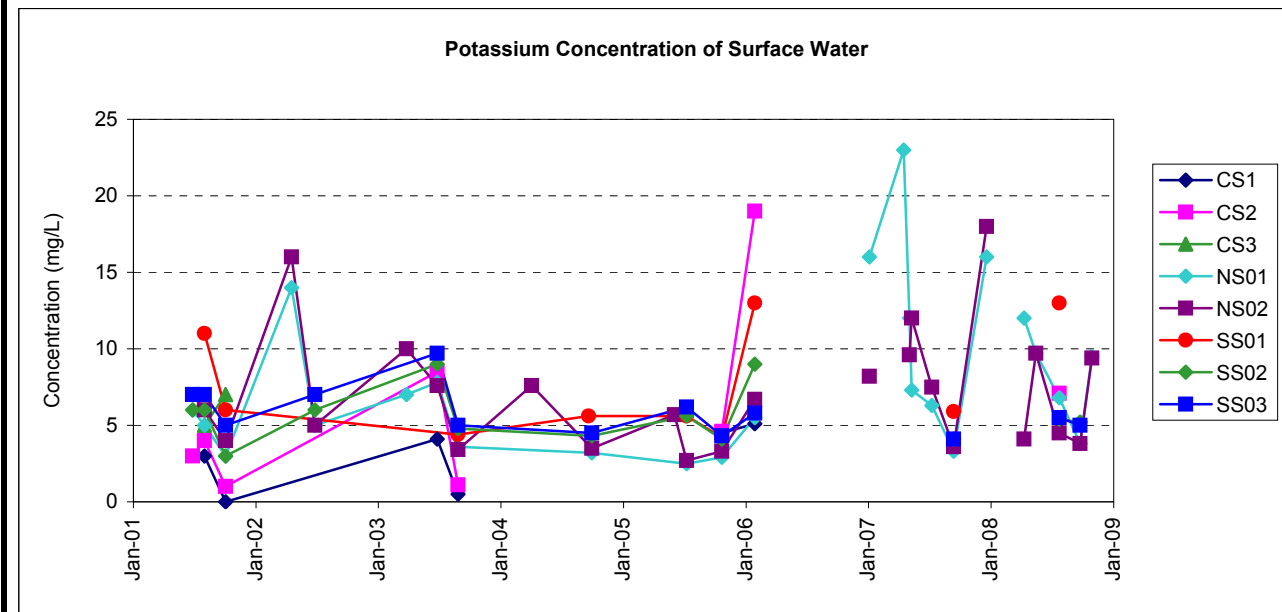
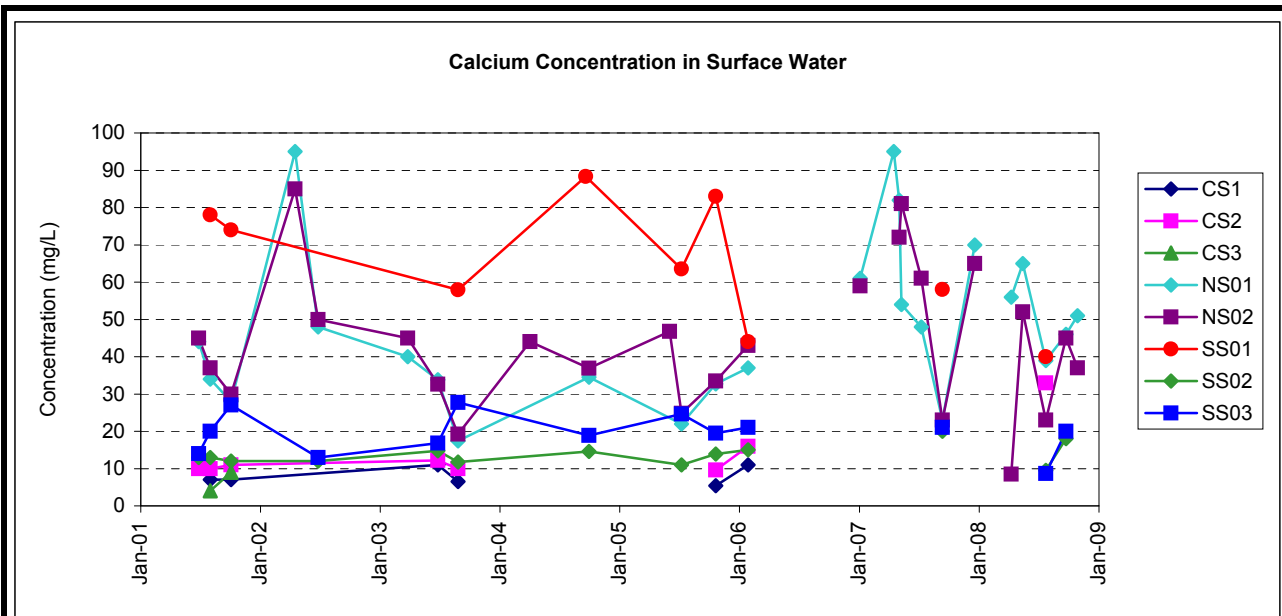


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169	File No.	

Title: Chloride, Bicarbonate
and Sulphate concentrations
of Surface Water

Figure: 4.37	Rev. 0
	A4



Client:
Iluka Resources Ltd



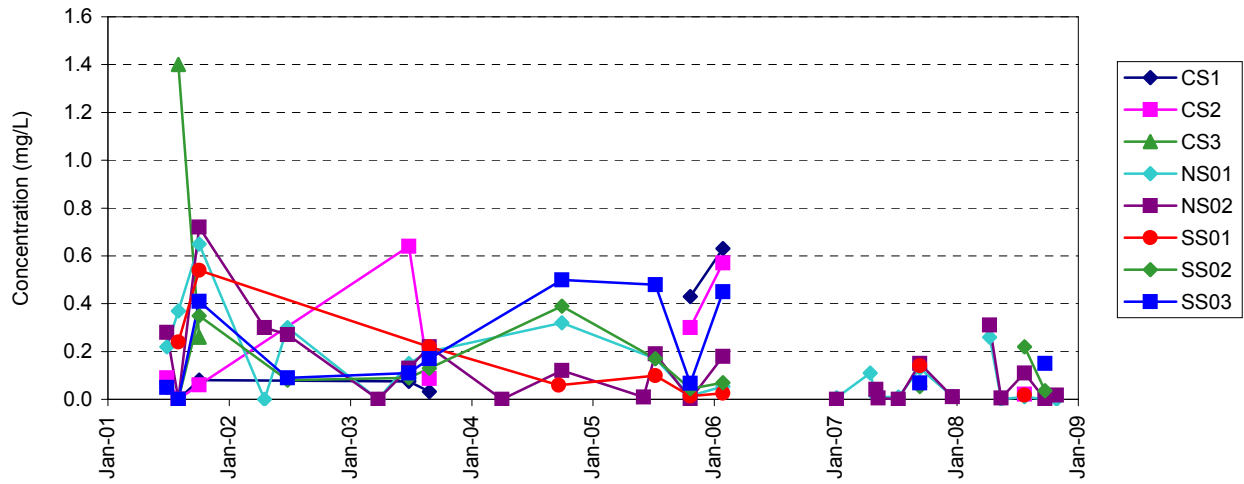
Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169	File No.	

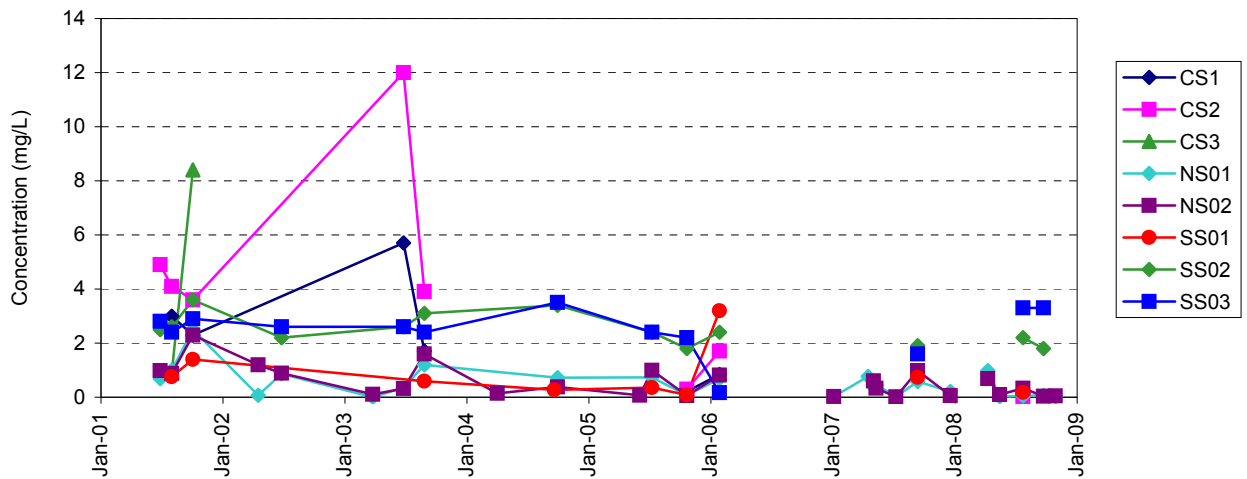
Title: Calcium, Potassium and Magnesium concentrations in Surface Water

Figure: 4.38	Rev. 0 A4
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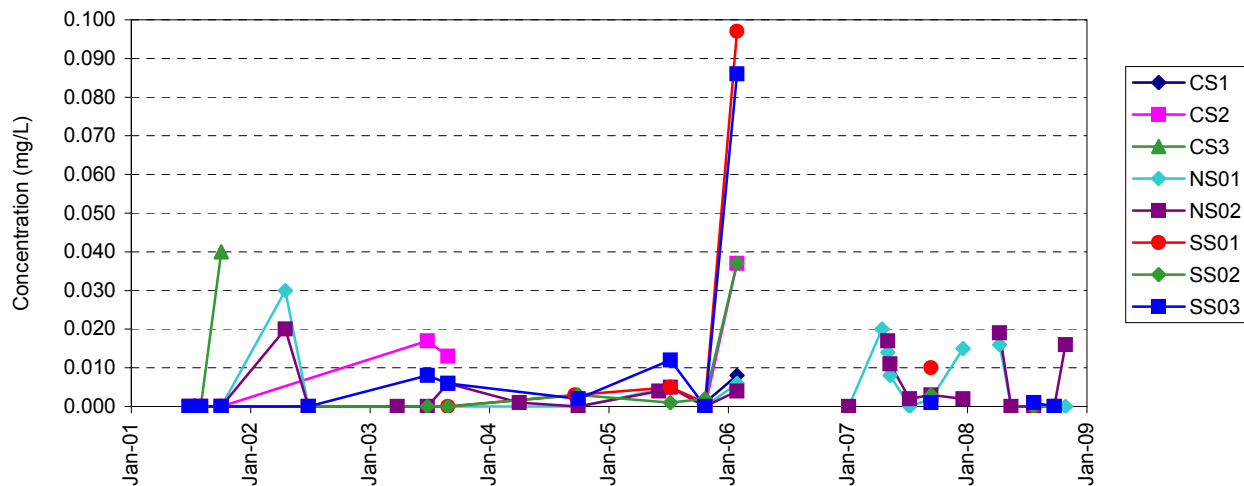
Aluminium Concentration in Surface Water



Iron Concentration of Surface Water



Manganese Concentration of Surface Water



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

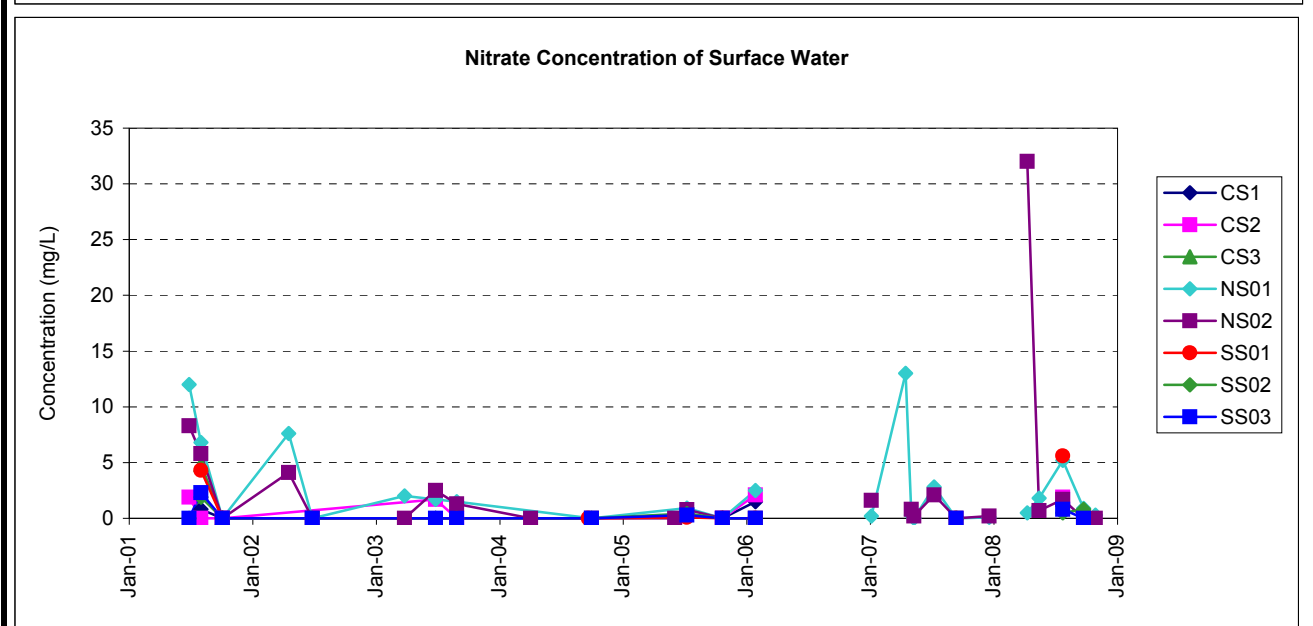
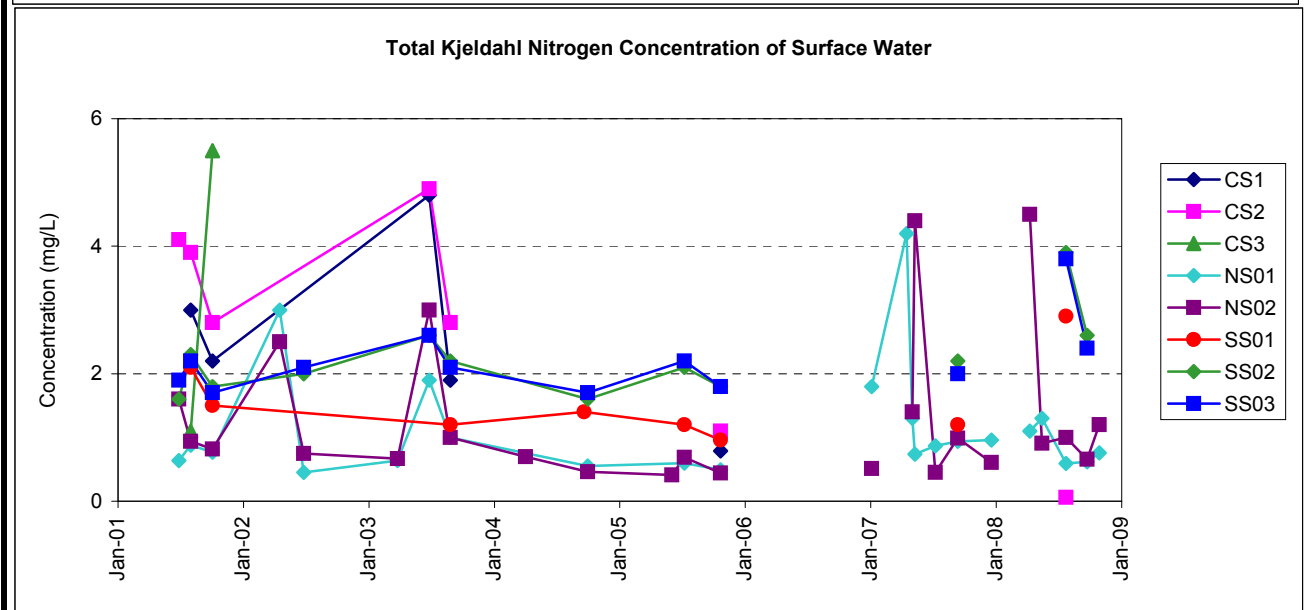
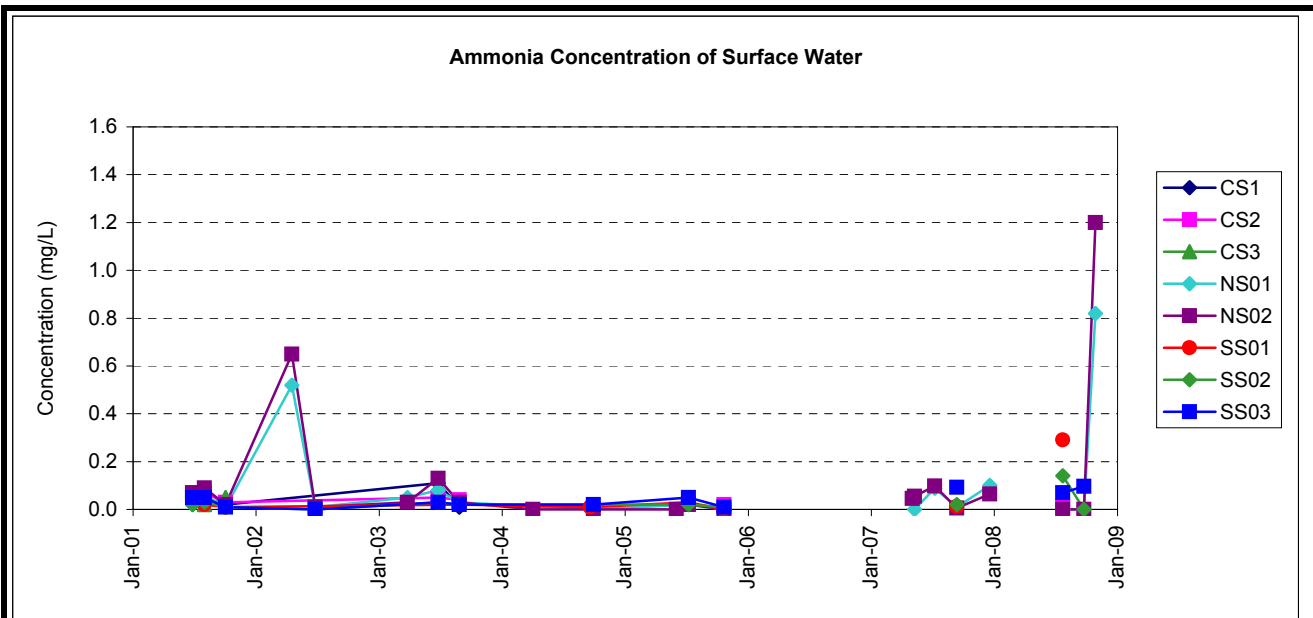
Title: Aluminium, Iron and
Manganese concentrations of
Surface Water



Drawn: NR Approved: RV Date: 24/03/09
Job No. 42907169 File No.

Figure: 4.39

Rev. 0
A4



Client:
Iluka Resources Ltd

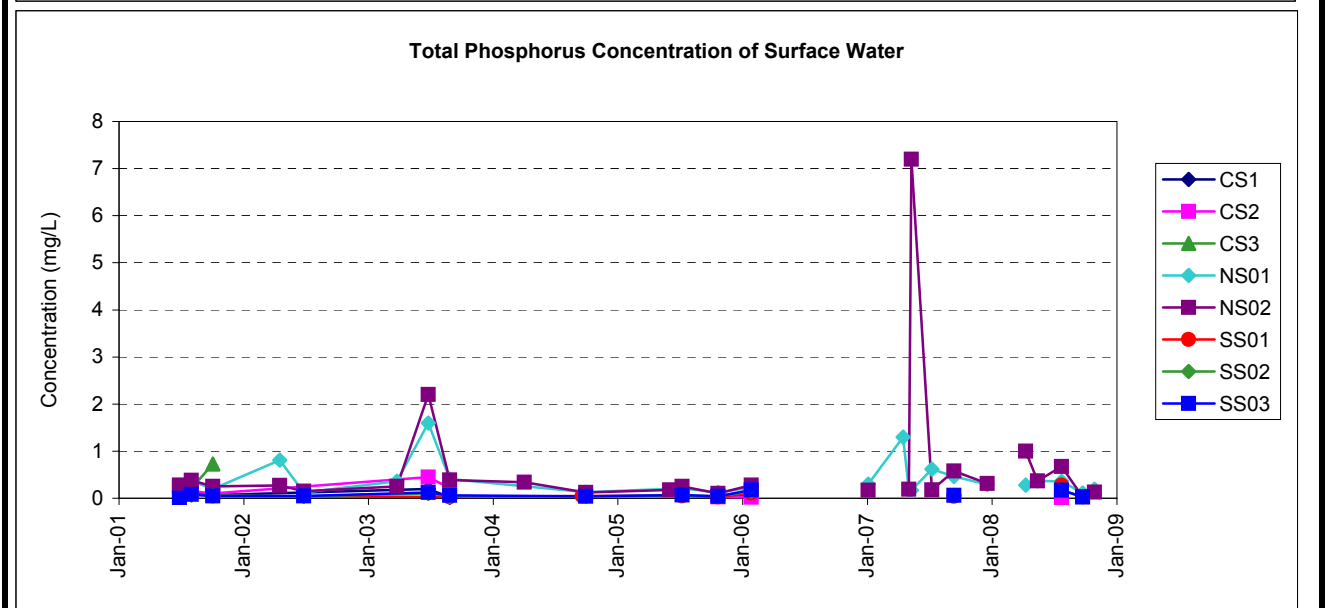
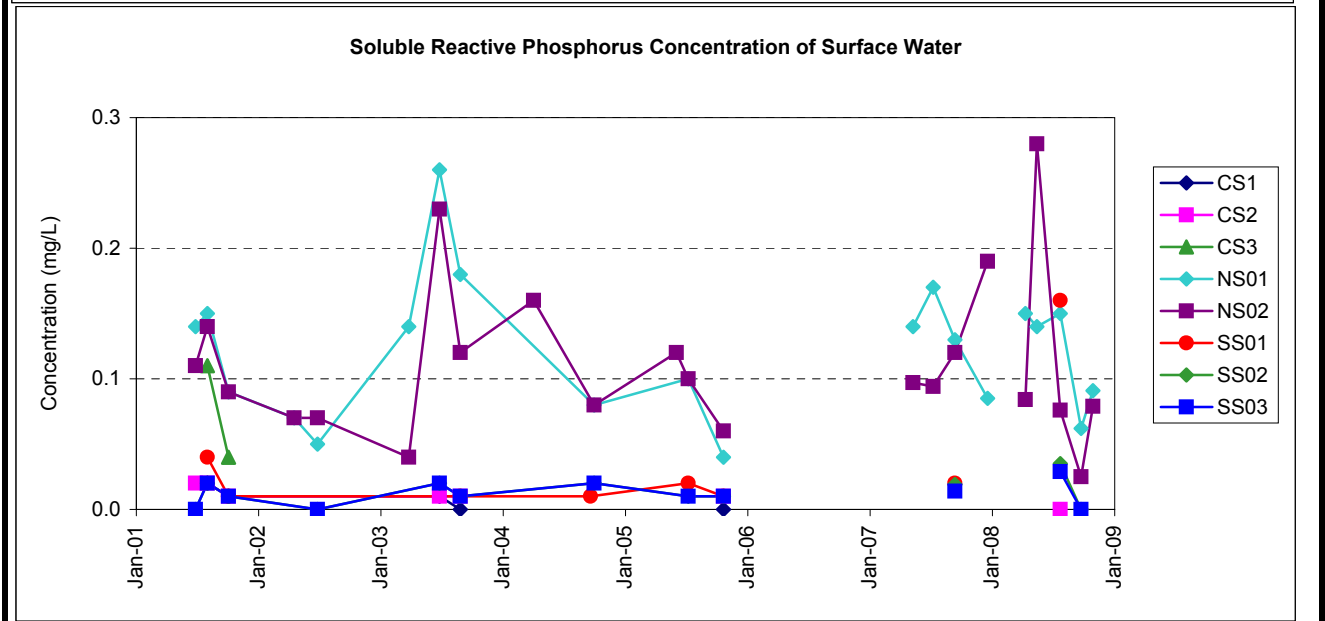
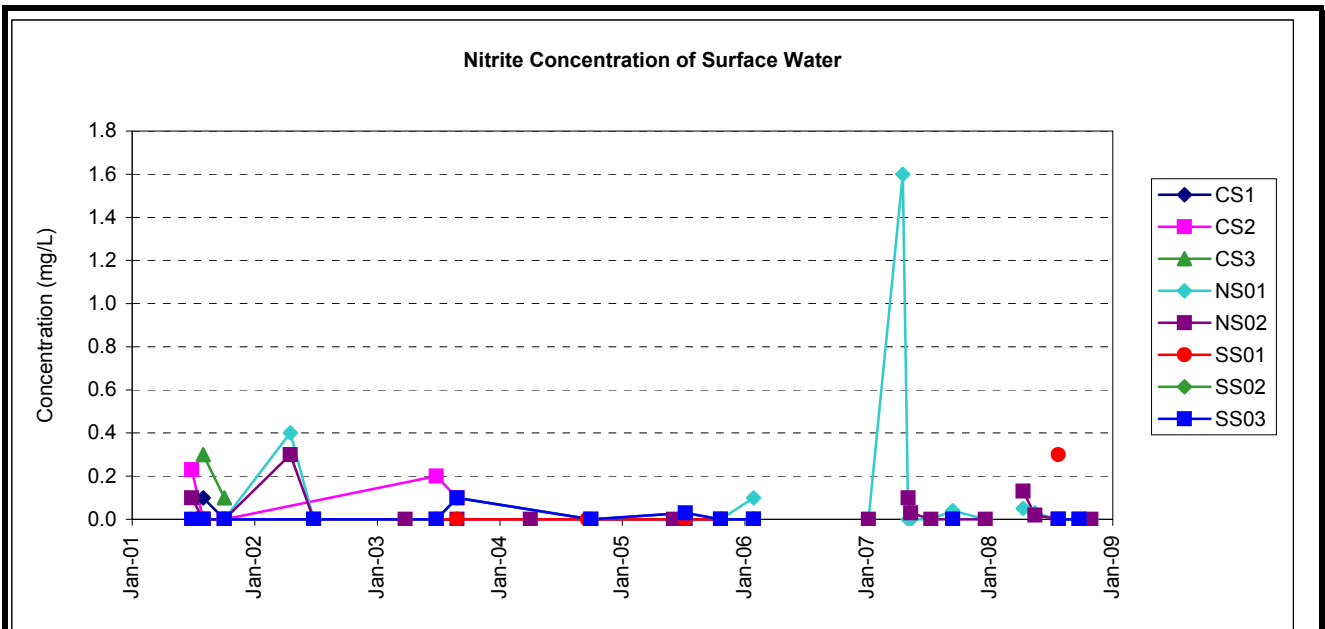


Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169	File No.	

Title: Ammonia, TKN and
Nitrate concentrations of
Surface Water

Figure: 4.40	Rev. 0
	A4



Client:
Iluka Resources Ltd



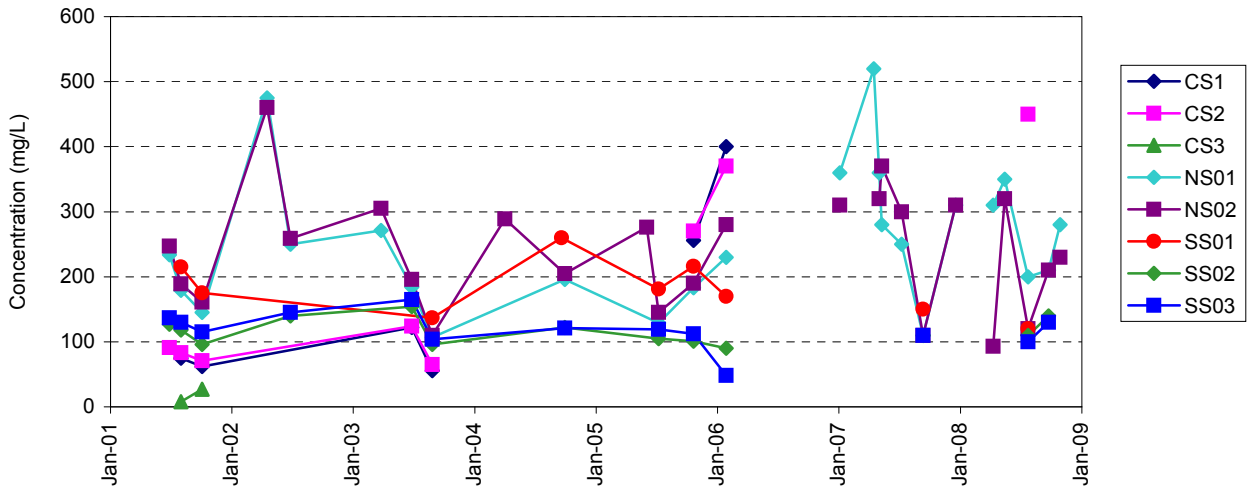
Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169	File No.	

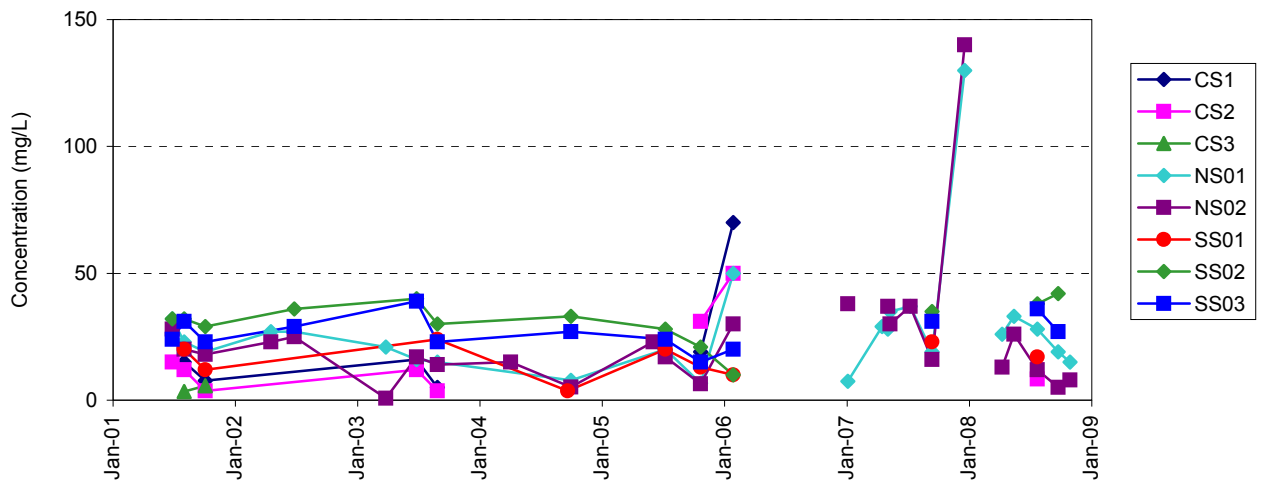
Title: Nitrite, SRP and TP concentrations of Surface Water

Figure: 4.41	Rev. 0
	A4

Sodium Concentration of Surface Water



Silica Concentration of Surface Water



Client:
Iluka Resources Ltd



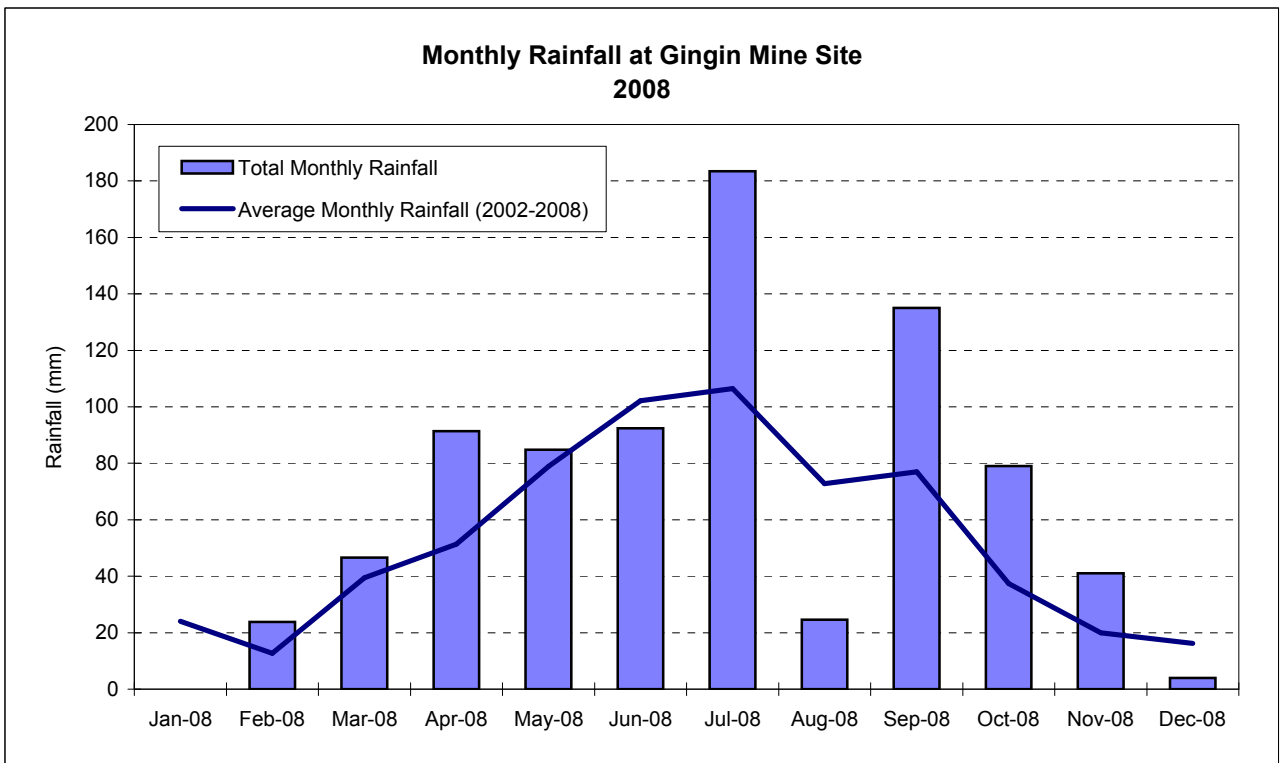
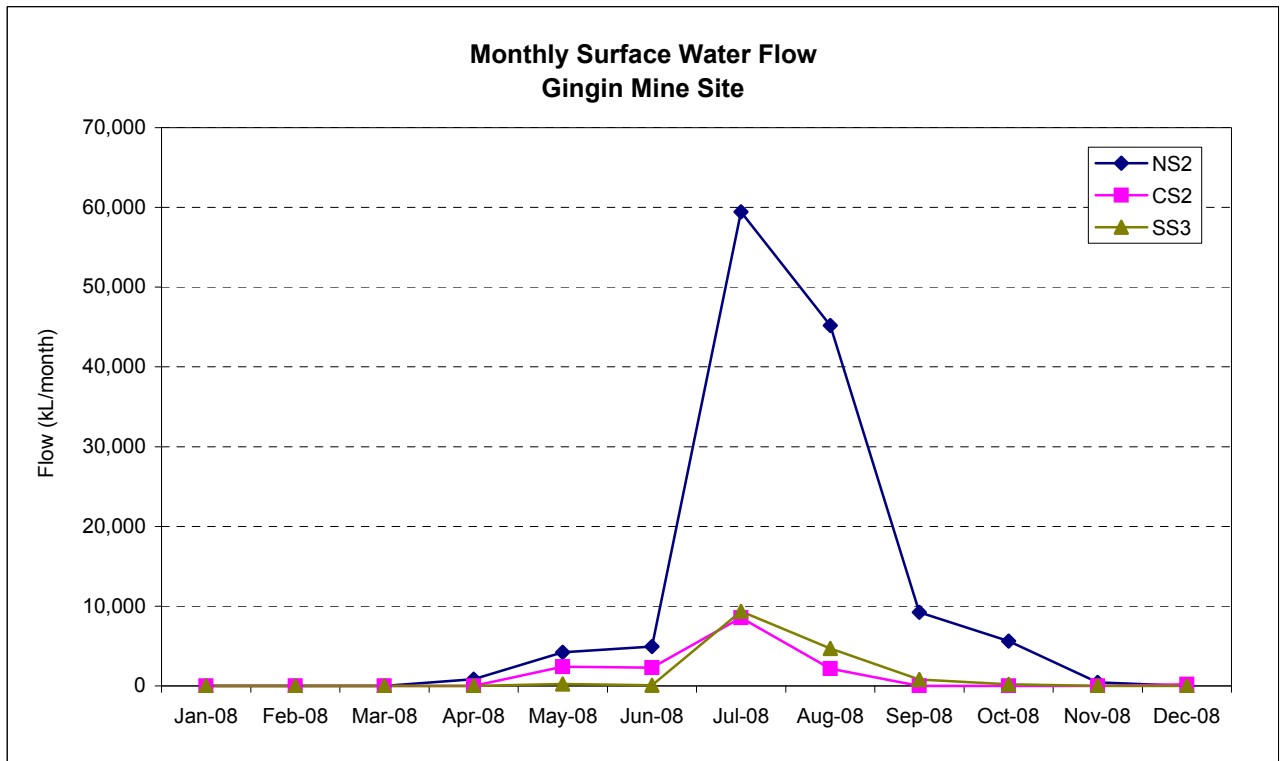
Project:
Gingin Mine Site Aquifer Review
January to December 2008

Drawn: NR Approved: RV Date: 24/03/09
Job No. 42907169 File No.

Title: Sodium and Silica
concentrations of Surface
Water

Figure: 4.42

Rev. 0
A4



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

Title: Monthly Flow in Surface
Water Streams in 2008

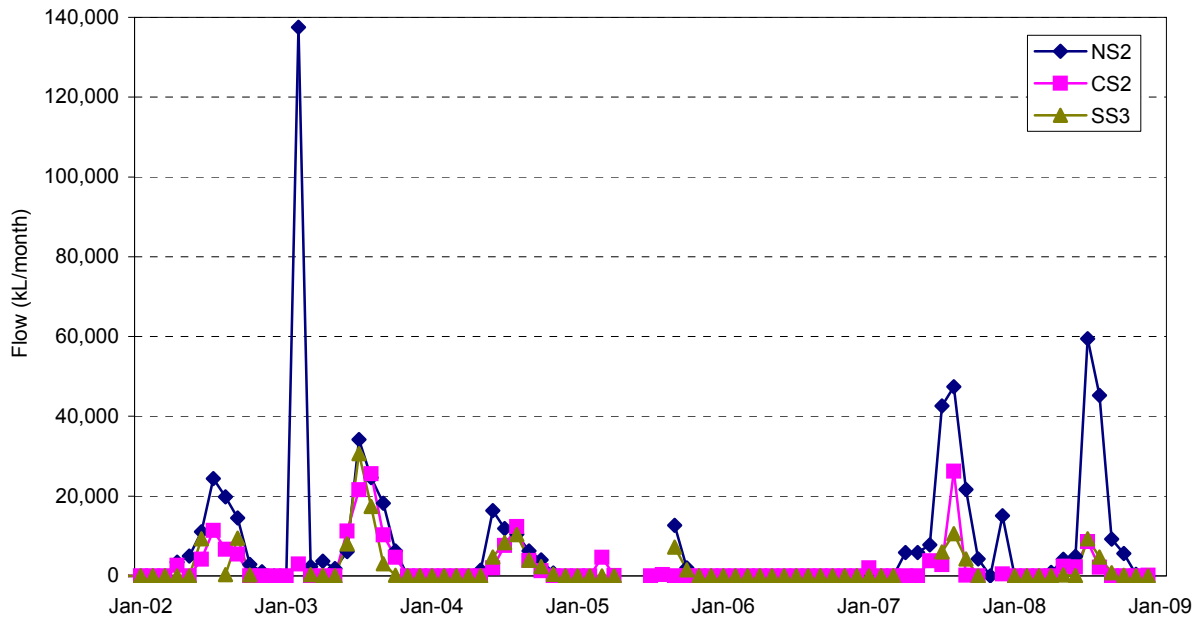


Drawn: NR	Approved: RV	Date: 24/03/2009
Job No. 42907169		File No.

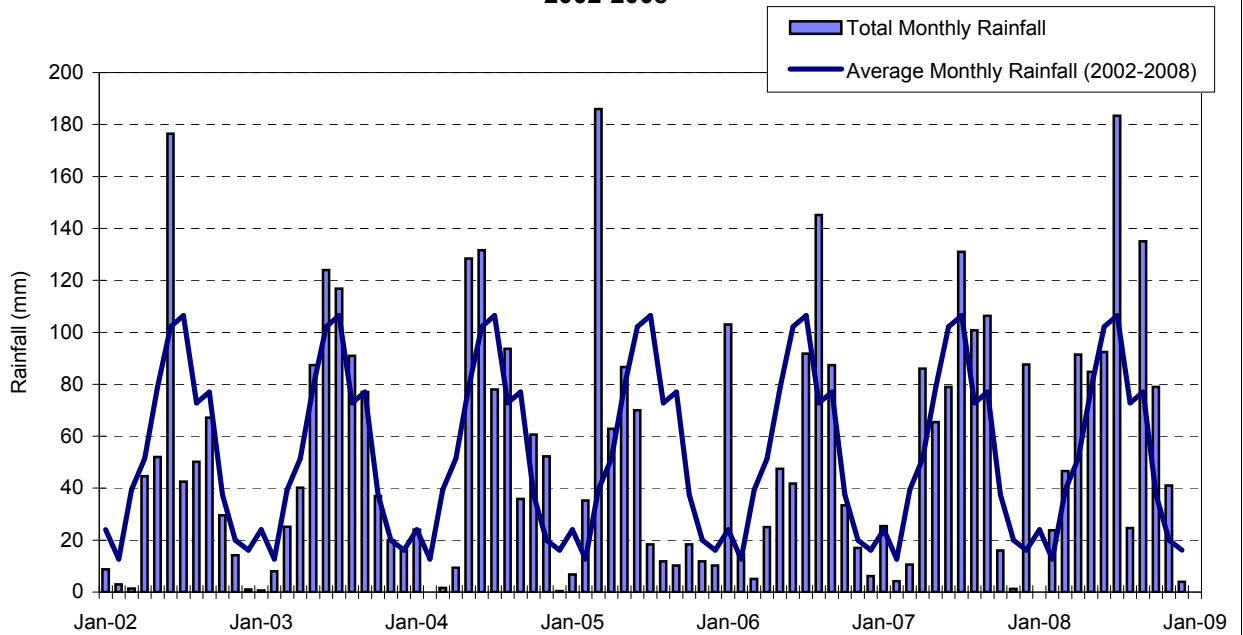
Figure: 4.43

Rev. 0
A4

Historic Monthly Surface Water Flow at Gingin Mine Site



**Monthly Rainfall at Gingin Mine Site
2002-2008**



Client:
Iluka Resources Ltd

Project:
Gingin Mine Site Aquifer Review
January to December 2008

Title: **Historic Flow in Surface
Water Streams**



Drawn: NR	Approved: RV	Date: 24/03/09
Job No. 42907169		File No.

Figure: 4.44

Rev. 0
A4

**Department of Water Groundwater Well
Licences**

Appendix A



LICENCE TO TAKE WATER

Granted by the Department under section 5C of the Rights in Water and Irrigation Act 1914

Licensee(s)	Iluka Resources Limited		
Description of Water Resource	Gingin Perth - Superficial Swan	Annual Water Entitlement	1000000 kL
Location of Water Source	Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville Lot 3 On Diagram 17098 - Volume/Folio 1156/399 - Lot 3 Brand Hwy Granville		
Authorised Activities	Taking of water for	Location of Activity	
	Dewatering for mining purposes	Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville Lot 3 On Diagram 17098 - Volume/Folio 1156/399 - Lot 3 Brand Hwy Granville	
	Dust suppression	Lot 9 On Diagram 53616 - Volume/Folio 1565/578 - Lot 9 Brand Hwy Granville Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville Lot 3 On Diagram 17098 - Volume/Folio 1156/399 - Lot 3 Brand Hwy Granville	
	Mineral ore processing	Lot 9 On Diagram 53616 - Volume/Folio 1565/578 - Lot 9 Brand Hwy Granville Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville Lot 3 On Diagram 17098 - Volume/Folio 1156/399 - Lot 3 Brand Hwy Granville	
Duration of Licence	From 24 April 2008 to 24 April 2010		

This Licence is subject to the following terms, conditions and restrictions:

- 1 That should the licensee's draw adversely affect the aquifer or other users in the area, the Department of Water may reduce the amount that may be drawn.
- 2 Approval by the Department of Water is to be obtained prior to the construction of additional and replacement wells and the modification or refurbishment of existing wells.
- 3 The licensee shall comply with the operating strategy as prepared by the licensee and approved by the Department of Water on 12 January 2004, including any modifications to the strategy as approved during the term of the licence.



LICENCE TO TAKE WATER

Granted by the Department under section 5C of the Rights in Water and Irrigation Act 1914

This Licence is subject to the following terms, conditions and restrictions:

- 4 The report(s) required in condition(s) 3 shall be prepared by a competent groundwater professional and comply with Statewide Policy Report No 19 'Hydrogeological Reporting Associated with a Groundwater Well Licence' (marked Attachment 1).
- 5 Results from monitoring as required in condition 3 are to be reported to the Department of Water by 31 March each year.
- 6 In this licence the quantity of water that may be taken for the authorised activities is limited to 1,000,000kL per water year.
- 7 The annual water year for water taken under this licence is defined as 1 July to 30 June.
- 8 That the licensee record their meter readings, and volume pumped, monthly and forward the information to the Department of Water by 7 July each year.

End of terms, conditions and restrictions

This Licence is granted subject to the Rights in Water and Irrigation Regulations 2000



LICENCE TO TAKE WATER

Granted by the Department under section 5C of the Rights in Water and Irrigation Act 1914

Licensee(s)	Iluka Resources Limited		
Description of Water Resource	Gingin Perth - Yarragadee North.	Annual Water Entitlement	1500000 kL
Location of Water Source	Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville		
Authorised Activities	Taking of water for	Location of Activity	
	Mineral ore processing	Lot 9 On Diagram 53616 - Volume/Folio 1565/578 - Lot 9 Brand Hwy Granville Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville Lot 3 On Diagram 17098 - Volume/Folio 1156/399 - Lot 3 Brand Hwy Granville	
Duration of Licence	From 24 April 2008 to 24 April 2010		

This Licence is subject to the following terms, conditions and restrictions:

- 1 That should the licensee's draw adversely affect the aquifer or other users in the area, the Department of Water may reduce the amount that may be drawn.
- 2 That the bores are not permitted to run to waste.
- 3 That should the bore be abandoned it shall be cemented off to the satisfaction of the Department of Water within 30 days of being abandoned.
- 4 That the licensee allows officers of the Department of Water access to the bores or wells to measure water levels and obtain samples for monitoring purposes.
- 5 Approval by the Department of Water is to be obtained prior to the construction of additional and replacement wells and the modification or refurbishment of existing wells.
- 6 The licensee shall comply with the operating strategy as prepared by the licensee and approved by the Department of Water on 12 January 2004, including any modifications to the strategy as approved during the term of the licence.
- 7 The report(s) required in condition(s) 6 shall be prepared by a competent groundwater professional and comply with Statewide Policy Report No 19 'Hydrogeological Reporting Associated with a Groundwater Well Licence' (marked Attachment 1).
- 8 Results from monitoring as required in condition 6 are to be reported to the Department of Water by 31 March each year.
- 9 In this licence the quantity of water that may be taken for the authorised activities is limited to 1,500,000kL per water year.
- 10 The annual water year for water taken under this licence is defined as 1 July to 30 June.

This Licence is granted subject to the Rights in Water and Irrigation Regulations 2000



LICENCE TO TAKE WATER

Granted by the Department under section 5C of the Rights in Water and Irrigation Act 1914

This Licence is subject to the following terms, conditions and restrictions:

- 11 That the licensee record their meter readings, and volume pumped, monthly and forward the information to the Department of Water by 7 July each year.

End of terms, conditions and restrictions



LICENCE TO TAKE WATER

Granted by the Department under section 5C of the Rights in Water and Irrigation Act 1914

Licensee(s)	Iluka Resources Limited		
Description of Water Resource	Gingin Perth - Yarragadee North.	Annual Water Entitlement	1500000 kL
Location of Water Source	Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville		
Authorised Activities	Taking of water for	Location of Activity	
	Administration centre facilities	Lot 9 On Diagram 53616 - Volume/Folio 1565/578 - Lot 9 Granville	
	Dust suppression	Lot 3 On Diagram 17098 - Volume/Folio 1156/399 - Lot 3 Brand Hwy Granville	
	Mineral ore processing	Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville	
	Rehabilitation purposes	Lot 2 On Diagram 15769 - Volume/Folio 1144/420 - Lot 2 Brand Hwy Granville	
Washdown Purposes			
Duration of Licence	From 24 November 2008 to 24 April 2010		

This Licence is subject to the following terms, conditions and restrictions:

- 1 That should the licensee's draw adversely affect the aquifer or other users in the area, the Department of Water may reduce the amount that may be drawn.
- 2 That the bores are not permitted to run to waste.
- 3 That should the bore be abandoned it shall be cemented off to the satisfaction of the Department of Water within 30 days of being abandoned.
- 4 That the licensee allows officers of the Department of Water access to the bores or wells to measure water levels and obtain samples for monitoring purposes.
- 5 Approval by the Department of Water is to be obtained prior to the construction of additional and replacement wells and the modification or refurbishment of existing wells.
- 6 The licensee shall comply with the operating strategy as prepared by the licensee and approved by the Department of Water on 12 January 2004, including any modifications to the strategy as approved during the term of the licence.
- 7 The report(s) required in condition(s) 6 shall be prepared by a competent groundwater professional and comply with Statewide Policy Report No 19 'Hydrogeological Reporting Associated with a Groundwater Well Licence' (marked Attachment 1).
- 8 Results from monitoring as required in condition 6 are to be reported to the Department of Water by 31 March each year.
- 9 In this licence the quantity of water that may be taken for the authorised activities is limited to 1,500,000kL per water year.
- 10 The annual water year for water taken under this licence is defined as 1 July to 30 June.

This Licence is granted subject to the Rights in Water and Irrigation Regulations 2000



LICENCE TO TAKE WATER

Granted by the Department under section 5C of the Rights in Water and Irrigation Act 1914

This Licence is subject to the following terms, conditions and restrictions:

- 11 That the licensee record their meter readings, and volume pumped, monthly and forward the information to the Department of Water by 7 July each year.

End of terms, conditions and restrictions

Department of Conservation and Environment
Licence

Appendix B



LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: 8071/1

FILE NUMBER: L54/05

LICENSEE AND OCCUPIER OF PREMISES

Iluka Resources Pty Ltd
GPO Box U1988
Perth GPO Boxes S1291-U1997 WA 6845
ABN 008 675 018

NAME AND LOCATION OF PREMISES

Gingin Mineral Sands Project
Lot 2 on Diagram 15769; Lot 3 on Diagram 17098 and Lot 9 on Diagram 53616, Brand Highway, Granville, and Lot 7 on Diagram 28894 and Swan Location 506 on Plan 102632, Dewar Rd, Granville.
GINGIN WA 6503

PRESCRIBED PREMISES CATEGORY

Schedule 1 of the *Environmental Protection Regulations 1987*

CATEGORY	DESCRIPTION	CAPACITY
8	Mineral sands mining or processing: premises on which mineral sands ore is mined, screened, separated or otherwise processed.	5000 tonnes or more per year.

CONDITIONS OF LICENCE

Subject to the conditions of licence set out in attached pages.

Ross Sheridan
Regional Manager
Swan Goldfields Region, Department of Environment

**Officer delegated under Section 20
of the *Environmental Protection Act 1986***

ISSUE DATE Monday, (DRAFT)
COMMENCEMENT DATE Monday,
EXPIRY DATE Monday,

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: 8071/1

FILE NUMBER: L54/05

DEFINITIONS

“Director” for the purposes of correspondence means:

The Regional Manager
Department of Environment
Swan Goldfields Regional Office
7 Ellam St
Victoria Park WA 6100

Telephone: (08) 6250 8000
Facsimile: (08) 6250 8050

“Licensee” means Iluka Resources Pty Ltd;

“mg/L” means milligrams per litre;

“Premises” means Gingin Mineral Sands Project located at Lot 2 on Diagram 15769; Lot 3 on Diagram 17098 and Lot 9 on Diagram 53616, Brand Highway, Granville and Lot 7 on Diagram 28894 and Swan Location 506 on Plan 102632, Dewar Rd, Granville, Gingin WA 6503; and

“Wastewater” means water discharged to the environment from the process water dam.

EMISSIONS TO AIR

DUST MANAGEMENT

- 1 The Licensee shall take all reasonable and practicable measures to ensure that no visible dust crosses the premises boundary.

WATER DISCHARGE CONDITIONS

WASTEWATER DISCHARGE TARGETS

- 2(a) The Licensee shall ensure that all Wastewater to be discharged from the Premises is discharged from the Wastewater discharge point (as shown in Attachment 1).
- 2(b) The Licensee shall, upon becoming aware that Wastewater discharged from the Wastewater discharge point has exceeded the target specified in Column 3 of Table 1, undertake the target exceedance response required by condition 5(a), 5(b), and 5(c).

Table 1: Wastewater Discharge Target

Column 1	Column 2	Column 3
Discharge Point	Parameter	Discharge Target
Wastewater discharge point (as shown in Attachment 1)	Total Suspended Solids (TSS)	80 mg/L

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: 8071/1

FILE NUMBER: L54/05

WATER DISCHARGE MONITORING

- 3(a) The Licensee shall monitor and record the concentration of the Wastewater contaminant specified in Column 2 of Table 2, at the frequency specified in Column 3 of Table 2, for the monitoring location specified in Column 1 of Table 2.

Table 2: Wastewater Discharge Monitoring

Column 1	Column 2	Column 3
Monitoring Location	Wastewater Contaminant Concentration	Frequency
Process Water Dam	TSS (mg/L)	Two samples prior to wastewater being discharged

- 3(b) The Licensee shall ensure that all Wastewater samples, referred to in condition 3(a), are collected, handled and preserved in accordance with Australian Standard 5667.11:1998.
- 3(c) The Licensee shall ensure that all Wastewater samples referred to in condition 3(a), are analysed in accordance with the current "Standard Methods for Examination of Water and Wastewater," APHA-AWWA-WEF.
- 3(d) The Licensee shall ensure that all Wastewater samples, referred to in condition 3(a), are analysed in a laboratory with NATA accreditation for the analyses specified.

REPORTING CONDITIONS

ANNUAL MONITORING REPORT

- 4 The Licensee shall provide to the Director an Annual Monitoring Report by 1 October each year. This report shall contain, but not be limited to:
- (i) the monitoring data and other collected data required by any condition of this licence, for the prescribed period; and
 - (ii) an analysis of the monitoring data collected against historical data, and targets set in this licence.

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: 8071/1

FILE NUMBER: L54/05

TARGET EXCEEDANCE RESPONSE

- 5(a) The Licensee shall, within two days of becoming aware that the discharge target in Table 1 of condition 1 has been exceeded when measured as specified in Table 2 of condition 2, advise the Director of this in writing.
- 5(b) The Licensee shall ensure that the written advice required by condition 5(a) shall include the date, time and reason for the exceedance.
- 5(c) The Licensee shall provide a full report on its investigations into any exceedances reported under condition 5(a) within seven days of becoming aware of that exceedance, and the report shall include, but not be limited to:
- (i) the date, time and reason for the exceedance;
 - (ii) the period over which the exceedance occurred;
 - (iii) the extent of the discharge over that period and potential or known environmental consequences;
 - (iv) corrective action taken or planned to mitigate adverse environmental consequences if appropriate; and
 - (v) corrective action taken or planned to prevent a recurrence of the exceedance, if appropriate, including a timeline for implementation.

ATTACHMENT 1

LICENCE NUMBER 8071/1

FILE NUMBER: L54/05

NAME AND LOCATION OF PREMISES

Measured Groundwater Levels

Appendix C

Standing Water Levels

HOLE No.	GS1S			GS1D			GS2S			GS2D			GS3S			GS3M			GS3D			GS4S			GS4D			GS5S			GS5D			GS6S			GS6D					
	Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer					
	Collar RL			97.80			97.86			100.08			100.15			105.01			105.98			105.80			104.04			103.34			92.15			92.17			90.43			90.45		
	Ground RL			96.96			97.09			99.35			99.35			100.43			100.40			100.41			100.41			99.17			91.44			91.39			89.61			89.70		
Slotted Interval			9-15			28-30			11-17			25-29			9-12			17-21			27-33			5-9			24-30			3-7			17-23			4-8			18-22			
	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl						
16-Nov-00	14.36	83.44	13.52	16.26	81.60	15.49	4.32	95.76	3.59	17.29	82.86	16.49	10.82	90.33	10.10	18.77	82.34	18.06	18.89	82.22	18.19	4.20	95.66	3.53	17.29	82.59	16.58	3.42	88.73	2.71	9.27	82.90	8.49	4.52	85.91	3.70	7.05	83.40	6.30			
23-Jan-01	15.35	82.45	14.51	16.36	81.50	15.59	4.38	95.70	3.65	17.43	82.72	16.63	12.14	89.01	11.42	18.86	82.25	18.15	18.92	82.19	18.22	4.38	95.48	3.71	17.72	82.16	17.01	3.78	88.37	3.07	9.32	82.85	8.54	4.84	85.59	4.02	7.12	83.33	6.37			
1-Nov-01	14.36	83.44	13.52	16.26	81.60	15.49	4.32	95.76	3.59	17.29	82.86	16.49	10.82	90.33	10.10	18.77	82.34	18.06	18.89	82.22	18.19	4.20	95.66	3.53	17.29	82.59	16.58	3.42	88.73	2.71	9.27	82.90	8.49	4.52	85.91	3.70	7.05	83.40	6.30			
30-Aug-02				17.25	80.61	16.48	4.87	95.21	4.14	18.46	81.69	17.66	12.22	88.93	11.50				19.75	81.36	19.05	4.51	95.35	3.84	18.14	81.74	17.43	4.31	87.84	3.60	10.12	82.05	9.34	5.07	85.36	4.25	7.83	82.62	7.08			
28-Oct-02				17.30	80.56	16.53	4.82	95.26	4.09	18.50	81.65	17.70	12.18	88.97	11.46				19.80	81.31	19.10	4.79	95.07	4.12	18.24	81.64	17.53	4.45	87.70	3.74	10.22	81.95	9.44	5.20	85.23	4.38	7.94	82.51	7.19			
28-Nov-02				17.36	80.50	16.59	4.87	95.21	4.14	18.56	81.59	17.76	12.23	88.92	11.51				19.86	81.25	19.16	4.90	94.96	4.23	18.24	81.64	17.53	4.68	87.47	3.97	10.23	81.94	9.45	5.33	85.10	4.51	7.95	82.50	7.20			
24-Dec-02				17.35	80.51	16.58	4.81	95.27	4.08	18.55	81.60	17.75	12.23	88.92	11.51				19.84	81.27	19.14	4.94	94.92	4.27	18.24	81.64	17.53	4.78	87.37	4.07	10.24	81.93	9.46	5.42	85.01	4.60	7.98	82.47	7.23			
28-Jan-03				17.40	80.46	16.63	4.83	95.25	4.10	18.61	81.54	17.81	12.30	88.85	11.58				20.02	81.09	19.32	5.05	94.81	4.38	18.37	81.51	17.66	4.97	87.18	4.26	10.36	81.81	9.58	5.56	84.87	4.74	8.12	82.33	7.37			
25-Feb-03				17.48	80.38	16.71	4.84	95.24	4.11	18.67	81.48	17.87	12.24	88.91	11.52				19.95	81.16	19.25	5.07	94.79	4.40	18.34	81.54	17.63	4.87	87.28	4.16	10.35	81.82	9.57	5.42	85.01	4.60	8.10	82.35	7.35			
28-Mar-03				17.54	80.32	16.77	4.86	95.22	4.13	18.75	81.40	17.95	12.23	88.92	11.51				19.99	81.12	19.29	5.14	94.72	4.47	18.39	81.49	17.68	4.87	87.28	4.16	10.39	81.78	9.61	5.56	84.87	4.74	8.16	82.29	7.41			
29-Apr-03	16.76	81.04	15.92	17.70	80.16	16.93	4.95	95.13	4.22	18.91	81.24	18.11	12.22	88.93	11.50	19.00	82.11	18.29	20.11	81.00	19.41	5.02	94.84	4.35	18.22	81.66	17.51	4.73	87.42	4.02	10.50	81.67	9.72	5.47	84.96	4.65	8.23	82.22	7.48			
29-May-03	15.74	82.06	14.90	17.75	80.11	16.98	4.97	95.11	4.24	18.96	81.19	18.16	12.23	88.92	11.51	18.98	82.13	18.27	20.13	80.98	19.43	4.99	94.87	4.32	18.52	81.36	17.81	4.68	87.47	3.97	10.50	81.67	9.72	5.46	84.97	4.64	8.22	82.23	7.47			
28-Jun-03	15.76	82.04	14.92	18.04	79.82	17.27	4.87	95.21	4.14	18.90	81.25	18.10	12.23	88.92	11.51	19.01	82.10	18.30	20.06	81.05	19.36	4.91	94.95	4.24	18.54	81.34	17.83	4.53	87.62	3.82	10.43	81.74	9.65	5.40	85.03	4.58	8.13	82.32	7.38			
26-Jul-03	16.78	81.02	15.94	17.80	80.06	17.03	4.95	95.13	4.22	19.01	81.14	18.21	12.24	88.91	11.52	20.14	80.97	19.43	20.19	80.92	19.49	4.24	95.62	3.57	18.51	81.37	17.80	3.90	88.25	3.19	10.51	81.66	9.73	4.90	85.53	4.08	8.14	82.31	7.39			
29-Aug-03	15.61	82.19	14.77	17.83	80.03	17.06	4.89	95.19	4.16	18.98	81.17	18.18	12.22	88.93	11.50	18.88	82.23	18.17	20.84	80.27	20.14	4.13	95.73	3.46	18.57	81.31	17.86	3.66	88.49	2.95	10.53	81.64	9.75	4.71	85.72	3.89	8.14	82.31	7.39			
26-Sep-03	15.75	82.05	14.91	17.77	80.09	17.00	4.78	95.30	4.05	18.89	81.26	18.09	12.24	88.91	11.52	18.90	82.21	18.19	20.15	80.96	19.45	4.09	95.77	3.42	18.51	81.37	17.80	3.64	88.51	2.93	10.45	81.72	9.67	4.69	85.74	3.87	8.04	82.41	7.29			
21-Oct-03	15.78	82.02	14.94	17.69	80.17	16.92	4.66	95.42	3.93	18.86	81.29	18.06	12.34	88.81	11.62	19.18	81.93	18.47	20.16	80.95	19.46	4.20	95.66	3.53	18.41	81.47	17.70	3.69	88.46	2.98	10.37	81.80	9.59	4.72	85.71	3.90	8.03	82.42	7.28			
27-Dec-03	15.70	82.10	14.86	17.53	80.33	16.76	4.48	95.60	3.75	18.59	81.56	17.79	12.24	88.91	11.52	18.98	82.13	18.27	19.85	81.26	19.15	4.32	95.54	3.65	18.19	81.69	17.48	4.03	88.12	3.32	10.14	82.03	9.36	4.84	85.59	4.02	7.83	82.62	7.08			
27-Jan-04	15.75	82.05	14.91	17.57	80.29	16.80	4.50	95.58	3.77	18.65	81.50	17.85	12.25	88.90	11.53	19.18	81.93	18.47	19.88	81.23	19.18	4.40	95.46	3.73	18.22	81.66	17.51	4.21	87.94	3.50	10.18	81.99	9.40	4.93	85.50	4.11	7.88	82.57	7.13			
24-Feb-04	15.70	82.10	14.86	17.65	80.21	16.88	4.61	95.47	3.88	18.72	81.43	17.92	12.24	88.91	11.52	18.98	82.13	18.27	19.95	81.16	19.25	4.42	95.44	3.75	18.30	81.58	17.59	4.35	87.80	3.64	10.26	81.91	9.48	5.02	85.41	4.20	7.96	82.49	7.21			
5-Apr-04	15.38	82.42	14.54	17.62	80.24	16.85	4.61	95.47	3.88	18.72	81.43	17.92	12.25	88.90	11.53	18.98	82.13	18.27	19.97	81.14	19.27	4.29	95.57	3.62	18.31	81.57	17.60	3.06	89.09	2.35	10.24	81.93	9.46	4.77	85.66	3.95	7.88	82.57	7.13			
21-Apr-04	15.75	82.05	14.91	17.97	79.89	17.20	4.66	95.42	3.93	18.79	81.36	17.99	12.23	88.92	11.51				19.97	81.14	19.27	4.45	95.41	3.78	18.34	81.54	17.63	4.40	87.75	3.69	10.30	81.87	9.52	5.16	85.27	4.34	8.02	82.43	7.27			
28-May-04	15.75	82.05	14.91	17.90	79.96	17.13	4.84	95.24	4.11	18.97	81.18	18.17	12.28	88.87	11.56				20.15	80.96	19.45	4.49	95.37	3.82	18.56	81.32	17.85	4.61	87.54	3.90	10.48	81.69	9.70	5.21	85.22	4.39	8.18	82.27	7.43			
28-Jun-04	15.75	82.05	14.91	17.80	80.06	17.03	4.72	95.36	3.99	18.89	81.26	18.09	12.30	88.85	11.58				19.94	81.17	19.24	4.01	95.85	3.34	18.44	81.44	17.73	4.12	88.03	3.41	10.39	81.78	9.61	4.84	85.59	4.02	8.09	82.36	7.34			
27-Jul-04	15.10	82.70	14.26	17.78	80.08	17.04	4.61	95.47	3.88	18.86	81.29	18.06	12.35	88.80	11.63	18.67	82.44	17.96	20.03	81.08	19.33	3.93	95.93	3.26	18.40	81.48	17.69	3.96	88.19	3.25	10.40	81.77	9.62	4.75	85.68	3.93	8.02	82.43	7.27			
22-Aug-04	15.70	82.10	14.86	17.76	80.10	16.99	4.65	95.43	3.92	18.91	81.24	18.11	12.25	88.90	11.53	18.94	82.17	18.23	19.95	81.16	19.25	3.99	95.87	3.32	18.37	81.51	17.66	3.91	88.24	3.20	10.33	81.84	9.55	4.79	85.64	3.97	8.01	82.44	7.26			
27-Sep-04																																										

Standing Water Levels

HOLE No.	GS21S			GS21D			GS22S			GS22D			GS23S			GS23D			RG1			RG2			RG3			RG4			RG5			GSP1			GSP2			GSP3			GSP4			GS24 (Whisson)														
TYPE	Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Piezometer			Regional piezo			Regional piezo			Regional piezo			Regional piezo			Regional piezo			Bore			Bore			Bore			Bore			Piezometer														
Collar RL	94.74			94.70			92.36			92.34			83.25			83.27																											0.12																	
Ground RL	94.12			94.16			91.81			91.76			82.65			82.68																																												
Slotted Interval	4-8			14-18			9-15			26-30			9-15			26-30																																												
	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl			
16-Nov-00				9.68	85.02	9.14	6.91	85.45	6.36	6.92	85.42	6.34	2.59	80.66	1.99	4.43	78.84	3.84																																										
23-Jan-01				5.75	88.95	5.21	5.70	86.66	5.15	6.02	86.32	5.44																																																
1-Nov-01				9.68	85.02	9.14	6.91	85.45	6.36	6.92	85.42	6.34	2.59	80.66	1.99	4.43	78.84	3.84																																										
30-Aug-02	2.48	92.26	1.86	9.90	84.80	9.36	7.12	85.24	6.57	7.05	85.29	6.47	3.17	80.08	2.57	4.73	78.54	4.14	4.68	-4.68	3.98	19.15	-19.15	18.60	4.92	-4.92	4.22	10.68	-10.68	10.68																														
28-Oct-02	3.49	91.25	2.87	10.10	84.60	9.56	7.35	85.01	6.80	7.20	85.14	6.62	2.93	80.32	2.33	4.66	78.61	4.07	4.75	-4.75	4.05	13.83	-13.83	13.28	12.08	-12.08	11.38	18.64	-18.64	18.64	1.68	-1.68	1.68	16.55	79.59	16.26	19.40	81.05	18.98	5.56	81.40	5.30	10.75	84.18	10.50															
28-Nov-02																																																												
24-Dec-02	5.47	89.27	4.85	10.19	84.51	9.65	7.55	84.81	7.00	7.51	84.83	6.93	2.98	80.27	2.38	4.81	78.46	4.22	4.84	-4.84	4.14	13.84	-13.84	13.29	12.16	-12.16	11.46	18.70	-18.70	18.70	1.77	-1.77	1.77	16.57	79.57	16.28	19.27	81.18	18.85	6.16	80.80	5.90	10.97	83.96	10.72															
28-Jan-03	5.48	89.26	4.86	10.38	84.32	9.84	7.70	84.66	7.15	7.64	84.70	7.06	3.16	80.09	2.56	5.01	78.26	4.42	4.99	-4.99	4.29	13.89	-13.89	13.34	12.20	-12.20	11.50	18.75	-18.75	18.75	1.85	-1.85	1.85	15.59	80.55	15.30	19.31	81.14	18.89	6.37	80.59	6.11	11.13	83.80	10.88															
25-Feb-03	6.67	88.07	6.05	10.36	84.34	9.82	7.61	84.75	7.06	7.58	84.76	7.00	3.28	79.97	2.68	5.04	78.23	4.45	5.02	-5.02	4.32				12.32	-12.32	11.62	18.82	-18.82	18.82	1.77	-1.77	1.77	16.66	79.48	16.37	19.38	81.07	18.96	5.85	81.11	5.59	11.16	83.77	10.91															
28-Mar-03	6.74	88.00	6.12	10.43	84.27	9.89	7.67	84.69	7.12	7.61	84.73	7.03	3.37	79.88	2.77	5.13	78.14	4.54	5.06	-5.06	4.36				12.41	-12.41	11.71	18.87	-18.87	18.87	1.76	-1.76	1.76	16.70	79.44	16.41	19.42	81.03	19.00	6.19	80.77	5.93	11.21	83.72	10.96															
29-Apr-03	6.66	88.08	6.04	10.42	84.28	9.88	7.69	84.67	7.14	7.65	84.69	7.07	3.54	79.71	2.94	5.11	78.16	4.52	5.09	-5.09	4.39	13.93	-13.93	13.38	12.57	-12.57	11.87	19.03	-19.03	19.03	1.53	-1.53	1.53	16.81	79.33	16.52	19.54	80.91	19.12	5.43	81.53	5.17	11.15	83.78	10.90															
29-May-03	6.63	88.11	6.01	10.36	84.34	9.82	7.61	84.75	7.06	7.54	84.80	6.96	3.57	79.68	2.97	5.12	78.15	4.53	5.06	-5.06	4.36	13.94	-13.94	13.39	12.66	-12.66	11.96	19.02	-19.02	19.02	1.61	-1.61	1.61	16.84	79.30	16.55	19.55	80.90	19.13	5.36	81.60	5.10	11.14	83.79	10.89															
28-Jun-03	6.74	88.00	6.12	10.18	84.52	9.64	7.40	84.96	6.85	7.33	85.01	6.75	3.49	79.76	2.89	5.02	78.25	4.43	4.95	-4.95	4.25	13.93	-13.93	13.38	12.67	-12.67	11.97	19.29	-19.29	19.29	1.34	-1.34	1.34	16.77	79.37	16.48	19.52	80.93	19.10	5.34	81.62	5.08	11.03	83.90	10.78															
26-Jul-03	2.20	92.54	1.58	10.21	84.49	9.67	7.48	84.88	6.93	7.28	85.06	6.70	3.32	79.93	2.72	4.88	78.39	4.29	4.89	-4.89	4.19	13.94	-13.94	13.39	12.70	-12.70	12.00	19.20	-19.20	19.20	1.39	-1.39	1.39	17.10	79.04	16.81	18.64	81.81	18.22	4.34	82.62	4.08	11.03	83.90	10.78															
29-Aug-03	2.02	92.72	1.40	10.05	84.65	9.51	7.26	85.10	6.71	7.56	84.78	6.98	3.29	79.96	2.69	4.98	78.29	4.39	4.81	-4.81	4.11				12.56	-12.56	11.86	19.16	-19.16	19.16	1.36	-1.36	1.36	16.95	79.19	16.66	19.74	80.71	19.32	4.06	82.90	3.80	10.74	84.19	10.49															
26-Sep-03	2.34	92.40	1.72	10.00	84.70	9.46	7.21	85.15	6.66	7.15	85.19	6.57	2.78	80.47	2.18	4.50	78.77	3.91	4.69	-4.69	3.99				12.38	-12.38	11.68	19.14	-19.14	19.14	1.38	-1.38	1.38	16.92	79.22	16.63				4.13	82.83	3.87	10.53	84.40	10.28															
21-Oct-03	2.66	92.08	2.04	10.09	84.61	9.55	7.26	85.10	6.71	7.20	85.14	6.62	2.72	80.53	2.12	4.62	78.65	4.03	4.67	-4.67	3.97	14.03	-14.03	13.48	12.29	-12.29	11.59	19.21	-19.21	19.21	1.46	-1.46	1.46	16.86	79.28	16.57	19.53	80.92	19.11	3.95	83.01	3.69	10.74	84.19	10.49															
27-Dec-03	3.75	90.99	3.13	10.34	84.36	9.80	7.62	84.74	7.07	7.59	84.75	7.01	2.75	80.50	2.15	4.65	78.62	4.06	4.89	-4.89	4.19	13.94	-13.94	13.39	12.08	-12.08	11.38	18.94	-18.94	18.94	1.73	-1.73	1.73	16.68	79.46	16.39	19.27	81.18	18.85	4.42	82.54	4.16	10.74	84.19	10.49															
27-Jan-04	4.29	90.45	3.67	10.40	84.30	9.86	7.71	84.65	7.16	7.66	84.68	7.08	3.28	80.27	2.68	4.81	78.46	4.22	4.97	-4.97	4.27	13.98	-13.98	13.43	12.16	-12.16	11.46	18.98	-18.98	18.98	1.77	-1.77	1.77	16.72	79.42	16.43	19.25	81.20	18.83	5.72	81.24	5.46	10.88	84.05	10.63															
24-Feb-04	5.05	89.69	4.43	10.39	84.31	9.85	7.64	84.72	7.09	7.63	84.71	7.05	3.22	80.03	2.62	4.97	78.30	4.38	5.01	-5.01	4.31	13.96	-13.96	13.41	12.31	-12.31	11.61	19.05	-19.05	19.05	1.76	-1.76	1.76	16.79	79.35	16.50	19.37	81.08	18.95	6.19	80.77	5.93	10.97	83.96	10.72	2.56	-2.44	2.44												
5-Apr-04	3.14	91.60	2.52	10.11	84.59	9.57	7.34	85.02	6.79	7.29	85.05	6.71	2.70	80.55	2.10	4.56	78.71	3.97	4.73	-4.73	4.03	13.93	-13.93	13.38	12.14	-12.14	11.44	19.04	-19.04	19.04	1.61	-1.61	1.61	16.79	79.35	16.50	19.37	81.08	18.95	4.12	82.84	3.86	10.53	84.40	10.28															
21-Apr-04	5.45	88.29	4.83	10.38	84.32	9.84	7.67	84.69	7.12	7.66	84.68	7.08	3.54	79.71	2.94	5.16	78.09	4.59	5.07	-5.07	4.37				12.46	-12.46	11.76	19.07	-19.07	19.07	1.73	-1.73	1.73	16.61	79.53	16.32	19.42	81.03	19.00	6.44	80.52	6.18	11.03	83.90	10.78															
28-May-04	5.95	88.79	5.33	10.41	84.29	9.87	7.67	84.69	7.12	7.67	84.67	7.09	3.88	79.37	3.28	5.29	77.98	4.70	5.13	-5.13	4.43				12.63	-12.63	11.93	19.27	-19.27	19.27	1.69	-1.69	1.69	16.98																										

Standing Water Levels

HOLE No.	GS25 (Golf Course)			GYP1			GY1			Morley			GS25(Birds)			GS24 (Landfarm)		
TYPE	Piezometer			Production Bore			Piezometer			Piezometer			Piezometer			Piezometer		
Collar RL	0.25						85.69						79.00			92.00		
Ground RL							82.63			.28 - pipe above GL			78.50			91.63		
Slotted Interval																15-21		
	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl	DTW	RL	mbgl
16-Nov-00																		
23-Jan-01																		
1-Nov-01																		
30-Aug-02																		
28-Oct-02																		
28-Nov-02																		
24-Dec-02																		
28-Jan-03																		
25-Feb-03																		
28-Mar-03																		
29-Apr-03																		
29-May-03																		
28-Jun-03																		
26-Jul-03																		
29-Aug-03																		
26-Sep-03																		
21-Oct-03																		
27-Dec-03																		
27-Jan-04																		
24-Feb-04	12.49	-12.24	12.24															
5-Apr-04																		
21-Apr-04	12.43	-12.18	12.18															
28-May-04	12.52	-12.27	12.27															
28-Jun-04	12.02	-11.77	11.77															
27-Jul-04	12.35	-12.10	12.10															
22-Aug-04	12.27	-12.02	12.02															
27-Sep-04	12.25	-12.00	12.00	33.58	-33.58	33.58												
20-Oct-04	19.50	-19.25	19.25	33.90	-33.90	33.90												
29-Nov-04	12.55	-12.30	12.30	34.10	-34.10	34.10												
20-Dec-04	12.80	-12.55	12.55	34.24	-34.24	34.24												
24-Jan-05	12.87	-12.62	12.62	34.29	-34.29	34.29												
21-Feb-05	12.80	-12.55	12.55	34.56	-34.56	34.56												
22-Mar-05	12.80	-12.55	12.55	37.76	-37.76	37.76												
27-Apr-05	12.81	-12.56	12.56	34.78	-34.78	34.78												
21-May-05	12.81	-12.56	12.56	34.82	-34.82	34.82												
27-Jun-05	12.57	-12.32	12.32															
19-Jul-05	12.47	-12.22	12.22															
29-Aug-05	12.40	-12.15	12.15															
30-Sep-05	12.43	-12.18	12.18				44.69	41.00	41.63									
25-Oct-05	12.74	-12.49	12.49				44.69	41.00	41.63									
24-Nov-05	12.99	-12.74	12.74				44.97	40.72	41.91									
29-Dec-05	13.54	-13.29	13.29				45.42	40.27	42.36									
24-Jan-06	13.94	-13.69	13.69															
24-Feb-06	14.05	-13.80	13.80				45.77	39.92	42.71									
1-Mar-06							46.35	39.34	43.29									
26-Apr-06	14.22	-13.97	13.97				46.35	39.34	43.29									
30-May-06	14.37	-14.12	14.12				45.40	40.29	42.34									
28-Jun-06	14.58	-14.33	14.33				45.31	40.38	42.25									
2-Aug-06	14.59	-14.34	14.34				45.31	40.38	42.25									
31-Aug-06	14.76	-14.51	14.51				45.06	40.63	42.00									
28-Sep-06	14.15	-13.90	13.90				45.00	40.69	41.94									
25-Oct-06	14.04	-13.79	13.79				45.66	40.03	42.60									
29-Nov-06							45.47	40.22	42.41									
19-Dec-06	13.63	-13.38	13.38	35.68	-35.68	35.68	45.94	39.75	42.88									
30-Jan-07	13.95	-13.70	13.70				46.06	39.63	43.00									
26-Feb-07	14.05	-13.80	13.80				46.33	39.36	43.27									
16-Mar-07	14.17	-13.92	13.92				46.31	39.38	43.25									
11-Apr-07	13.44	-13.19	13.19				46.25	39.44	43.19									
5-May-07	13.33	-13.08	13.08				45.77	39.92	42.71									
24-Jun-07	13.26	-13.01	13.01				45.77	39.92	42.71									
1-Aug-07	13.10	-12.85	12.85				45.52	40.17	42.46									
29-Aug-07	13.04	-12.79	12.79				45.41	40.28	42.35	12.53	12.25	14.05	64.95	13.55	18.72	73.28	18.35	
25-Sep-07	13.03	-12.78	12.78				45.65	40.04	42.59			14.63	64.37	14.13	18.59	73.41	18.22	
23-Oct-07	13.15	-12.90	12.90				46.01	39.68	42.95			14.40	64.60	13.90	18.30	73.70	17.93	
20-Nov-07							46.45	39.24	43.39			14.84	64.16	14.34	18.34	73.66	17.97	
12-Dec-07							46.13	39.56	43.07						18.45	73.55	18.08	
15-Jan-08							46.49	39.20	43.43						18.53	73.47	18.16	
25-Feb-08							47.05	38.64	43.99						18.82	73.18	18.45	
28-Mar-08							47.37	38.32	44.31	13.60	13.32				18.37	73.63	18.00	
6-May-08							47.44	38.25	44.38	13.67	13.39				18.09	73.91	17.72	
27-May-08							46.52	39.17	43.46	13.89	13.61				18.04	73.96	17.67	
11-Jul-08							46.20	39.49	43.14						17.85	74.15	17.48	
22-Jul-08							46.10	39.59	43.04	13.72	13.44				17.66	74.34	17.29	
27-Aug-08							45.98	39.71	42.92	13.37	13.09				17.19	74.81	16.82	
23-Sep-08							45.98	39.71	42.92	13.33	13.05				16.79	75.21	16.42	
28-Oct-08							46.39	39.30	43.33	13.16	12.88				16.47	75.53	16.10	
13-Nov-08							46.15	39.54	43.09	13.21	12.93				16.35	75.65	15.98	
18-Dec-08							46.39	39.30	43.33	13.00	12.72				15.92	76.08	15.55	
19-Jan-09							47.25	38.44	44.19	13.00	12.72				15.73	76.27	15.36	

Groundwater Quality Data

Appendix D

Bore_ID	Date	pH	EC	TDS	HCO3	Alk	Cl	SO4	Na	K	Ca	Mg	Al	Fe	Mn	SiO2	CaCO3	Si	Cr	As	Alkalinity	NO3	NOx_N	NO2	Temp	PO4_P	Tot P	Total Kjeldahl (TKN)	Tot N	NH4_N	TSS	Turbidity				
		mg/L	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
ANZECC Guidelines		6.5 - 8.0											0.055	0.3	1.9										° C	0.04	0.065		1.2	0.08						
GS9D	28/01/2003	5.50	1600	770	25		460	35	220	11	14	29	<0.1	6.9	0.3	54	20								22.7											
GS9D	29/04/2003	6.80		860	25		470	30	260	12	13	28	0.2	6.7	0.3		20	19							24											
GS9D	28/07/2003	6.00		880	25		480	35	250	12	12	29	<0.1	7.1	0.25		20	24							22.1											
GS9D	21/10/2003	6.70		850	20		500	37	250	12	14	33	<0.1	7.2	0.25	54	15								22.4											
GS9D	27/01/2004	5.90		1000	20		500	46	270	13	12	31	<0.1	6.5	0.2		20	24							21.3											
GS9D	21/04/2004	5.90		1000	20		500	46	270	13	12	31	<0.1	6.5	0.2		20	24							28.1											
GS9D	27/07/2004	6.10		840	30		500	35	260	13	14	33	<0.1	6.5	0.1	51	25		<0.05	0.015																
GS9D	20/10/2004	6.10		840	30		500	35	260	13	14	33	<0.1	6.5	0.1	51	25		<0.05	0.015																
GS9D	23/01/2005																																			
GS9D	1/04/2005	5.70		970	25		530	64	270	15	15	42	<0.1	0.2	0.1		20	52	<0.05	0.015																
GS9D	19/07/2005	6.30	1900.0	1100	20		540	34	300	13	16	34	<0.1	0.8	0.1	55	20																			
GS9D	26/10/2005	5.80		1200	30		540	34	270	12	14	32	<0.1	0.05	0.1	48	25		<.05	0.012																
GS9D	23/01/2006	5.50	1948.0	1200	29		570	39	280	12	14	34	0.008	6.2	0.13	120	24																			
GS9D	26/04/2006	5.60	2121.0	1200	22		590	45	280	13	16	34	0.006	6.2	0.12	70																				
GS9D	28/06/2006	5.75	2249	1500	24		590	51	270	9.3	15	32	<.005	5.2	0.11	68																				
GS9D	25/10/2006	5.55	1990.0	1200	21		540	56	280	14	13	30	0.01	.37	0.1	67	590																			
GS9D	31/01/2007	5.80	1900	<1	67		390	47	260		13	28	0.013	5.8	0.082	75					55	0.2	0.038	<0.01		0.035	0.06	0.22	0.26	0.059	<1	1.6				
GS9D	11/04/2007	5.55	1900	1200	18	15	560	44	280	12	14	29	0.008	5.7	0.079	74																				
GS9D	1/08/2007	5.40	1900	1200	24	20	550	46	280	13	14	31	0.012	6.0	0.072	78																				
GS9D	23/10/2007	5.60	2000	1300	18	15	660	53	280	13	15	31	0.012	6.1	0.069	70																				
GS9D	15/01/2008	5.70		1300	21	17	510	40	280	13	15	31	0.011	5.5	0.072	74																				
GS9D	6/05/2008			23.9	5.7																															
GS9D	22/07/2008		1984.0	22.5	5.1																															
GS9D	20/01/2009	5.40	2000	1300	18	15	580	37	270	14	15	32	0.007	0.76	0.062	56	77																			
GS10M	20/01/2009	3.80	5500	3500	<1	<1	1600	130	850	16	43	140	0.32	0.08	0.075	84	75																			
GS10D	20/01/2009	5.65	1300	810	24	20	350	25	160	9.5	12	18	<0.005	0.01	0.43	47	52																			
GS11S	20/01/2009	5.30	3500	1600	6	5	810	270	590	5.2	2.0	16	0.063	<0.01	0.30		26																			
GS11D	20/01/2009	5.85	6100	3200	31	25	1800	330	850	23	36	130	0.037	6.2	0.17	92	60																			
GS12D	20/01/2009	5.45	3100	1700	24	20	860	130	470	16	28	59	0.027	<0.01	0.042	70	120																			
GS13S	28/01/2003																																			
GS13S	29/04/2003																																			
GS13S	28/07/2003	7.00		660	130		300	37	230	1.8	3.4	9.2	0.1	5.9	0.3		100	10																		
GS13S	21/10/2003																																			
GS13S	27/01/2004																																			
GS13S	21/04/2004																																			
GS13S	27/07/2004	7.00		660	130		300	37	230	1.8	3.4	9.2	0.1	5.9	0.3		100	10																		
GS13S	20/10/2004																																			
GS13S	23/01/2005																																			
GS13S	1/04/2005																																			
GS13S	19/07/2005																																			
GS13S	26/10/2005																																			
GS13S	23/01/2006																																			
GS13S	26/04/2006	6.08	1107	600.0	80		300	43	260	1.4	1.7	3.5	0.086	1.5	0.064	35																				
GS13S	28/06/2006	7.20	868	510.0	140		160	23	130	0.9	0.9	2.8	0.088	0.8	0.0	22																				
GS13S	25/10/2006	6.70	1183	700	200		220	30	200	1.4	2.2	9.6	0.012	0.73	0.21	96																				
GS13S	11/04/2007	6.45	1100	680	170	140	250	41	200	1.5	1.5	4.0	0.15	3.8	0.11	36																				
GS13S	1/08/2007	6.65	2100	1800	120	100	540	80	360	2.2	6.1	28	0.023	3.7	0.12	23																				
GS13S	23/10/2007	6.95	1600	1000	130	110	470	40																												

Bore_ID	Date	pH	EC	TDS	HCO3	Alk	Cl	SO4	Na	K	Ca	Mg	Al	Fe	Mn	SiO2	CaCO3	Si	Cr	As	Alkalinity	NO3	NOx_N	NO2	Temp	PO4_P	Tot P	Total Kjeldahl (TKN)	Tot N	NH4_N	TSS	Turbidity					
		ANZECC Guidelines	6.5 - 8.0	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L				° C	0.04	0.065		1.2	0.08						
GS13D	28/01/2003	5.90	300	1600	95		880	120	470	11	25	65	0.3	8.1	0.35	56	75								20.6												
GS13D	29/04/2003	7.80		1700	100		900	96	530	12	25	64	0.2	5.9	0.35		80	19							23.2												
GS13D	28/07/2003	6.50		1300	85		670	92	380	7.6	22	43	0.2	4.2	0.2		70	18							20.7												
GS13D	21/10/2003	7.60		1600	90		900	96	520	10	22	59	0.2	11	0.3	49	75								21.7												
GS13D	27/01/2004	6.90		1800	95		910	100	560	13	23	66	0.4	7.5	0.3		75	23							21.5												
GS13D	21/04/2004	7.00		2000																					20.5												
GS13D	27/07/2004	6.40		1600	95		860	110	490	11	24	61	0.4	5.2	0.2	45	80		<0.05	<0.005					27.4												
GS13D	20/10/2004	6.60		1900																					21.2												
GS13D	23/01/2005				95		890	140	530	15	26	64	<0.1	0.1	0.25		80	50	<0.05																		
GS13D	1/04/2005	7.00		1,800																																	
GS13D	19/07/2005	7.60	3800	1900	90		930	110	560	12	25	66	0.2	0.5	0.25	55	75																				
GS13D	26/10/2005																																				
GS13D	23/01/2006	6.25		1700	100		890	94	500	12	22	62	0.012	7	0.23	100	84																				
GS13D	26/04/2006	6.20	3310	1800.0	85		990	100	500	13	24	64	0.01	4.0	0.2	67																					
GS13D	28/06/2006	7.10	3065	2100	78		840	100	410.0	8.2	23	48	0.015	1.1	0.016	52																					
GS13D	25/10/2006	6.45	3080.0	1600	85		810	100	490	12	25	52	0.008	<.01	<.001	52																					
GS13D	11/04/2007	6.25	3100	1700	98	80	940	110	480	13	22	60	0.026	2.8	0.20	70																					
GS13D	1/08/2007	6.50	2700	1700	100	85	760	94	460	12	20	45	0.055	7.1	0.20	53																					
GS13D	23/10/2007	7.00	2800	2400	85	70	840	110	400	10	19	42	0.029	1.2	0.12	46																					
GS13D	15/01/2008	6.40		1700	84	69	730	81	430	11	20	48	0.017	2.2	0.11	57																					
GS13D	6/05/2008	6.20	3100	1400	92	75	1000	88	530	13	23	61	0.18	10	0.16	71																					
GS13D	22/07/2008	6.25		1100	23	19	450	41	230	1.8	11	16	0.24	3.1	0.022	9.9																					
GS13D	28/10/2008	6.10	1700	1100	18	15	480	140	270	1.6	15	20	0.25	1.1	0.025	10																					
GS13D	20/01/2009	6.05	3400	1800	84	69	950	92	450	13	20	57	<0.005	<0.01	0.15	48	53																				
GS14D	20/01/2009	6.20	4900	2700	84	69	1500	110	870	18	37	77	<0.005	<0.01	0.33	55	88																				
GS15S	20/01/2009	6.35	4700	2800	160	130	1400	68	740	21	66	98	<0.005	0.13	0.48	11	68																				
GS15D	20/01/2009	5.75	1800	1200	42	34	360	240	310	2.4	2.8	18	<0.005	<0.01	0.36	92	46																				
GS16D	20/01/2009	5.90	2900	1600	48	39	770	120	440	8.5	26	44	0.016	0.04	0.030	68	66																				
GS17S	28/01/2003																																				
GS17S	29/04/2003																																				
GS17S	28/07/2003	6.30		3700	65		2000	96	1100	23	110	150	<0.1	<0.05	0.1		52	35																			
GS17S	21/10/2003																																				
GS17S	27/01/2004																																				
GS17S	21/04/2004																																				
GS17S	27/07/2004	6.30	3700	<0.05	52		65	35	23	110	150	2000	0.1	1100			96	<0.1																			
GS17S	20/10/2004																																				
GS17S	23/01/2005																																				
GS17S	1/04/2005																																				
GS17S	19/07/2005																																				
GS17S	26/10/2005																																				
GS17S	23/01/2006																																				
GS17S	1/04/2006																																				
GS17S	1/07/2006																																				
GS17S	1/10/2006																																				
GS17S	1/01/2007																																				
GS17S	1/04/2007																																				
GS17S	1/07/2007																																				
GS17S	1/10/2007																																				
GS17D	28/01/2003	5.70	6400	3600	60		2100	97	890	21	110	150	<0.1	0.15	0.1	79	50								24.5												
GS17D	29/04/2003	7.40		3700	65		2100	90	1000	23	110	150	<0.1	0.1	0.1		55	36							23.2												
GS17D	28/07/2003	5.70		3500	55		2100	98	930	21	100	140	<0.1	0.15	0.1	79	45								21.8												
GS17D	21/10/2003	7.50		3500	55		2100	98	930	21	100	140	<0.1	0.15	0.1	79	45								22.6												
GS17D	27/01/2004	6.70		3700	55		2000	97	890	22	97	140	<0.1	0.15	0.1		45	36							21.4												
GS17D	21/04/2004	6.10		3500	65		2000	96	970	21	100	140	0.1	0.15	<0.05	75	55		<0.005						28.1												
GS17D	27/07/2004	6.10		3500	65		2000	96	970	21	100	140	0.1	0.15	0.05	75	55		<0.05	<0.005					22												
GS17D	20/10/2004	5.90		3,700	55		2,100	130	1,000	28	110	85	<0.1	0.1	0.05		45	82	<0.05	<0.005																	
GS17D	23/01/2005																																				
GS17D	1/04/2005																																				
GS17D	19/07/2005	6.80	5300	2800	45		1700	8																													

Surface Water Quality Data

Appendix E

Date	Site	Al	Alkalinity	Ca	Cl	Cond.	Fe	HCO3	K	Mg	Mn	NO2	NO3	N NH3	N TK	Na	P SR	P total	SO4	SiO2	TSS	TDS @ 180C	Turbidity	alON_BAL	pH	
		mg/L	(CaCO3) mg/L	mg/L	mg/L	mS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	(calc)	NTU	%	
ANZECC guideline		0.055					0.3				1.9		0.7	0.08			0.04	0.065							6.5-8.0	
01-Aug-01	CS1	<0.05	70.00	7	97	45.6	3	85	3	13	<0.02	0.1	0.8	0.04	3	75	0.02	0.1	18	15	15	310	22	2.6	6.9	
03-Oct-01	CS1	0.08	75.00	7	72	43.9	2.3	92	<1	12	<0.02	<0.1	<0.4	0.02	2.2	62	0.01	0.07	11	7.7	12	290	3.5	3.1	7.1	
26-Jun-03	CS1	0.075	95.00	11	170	79.7	5.7	116	4.1	18.2	<0.005	<0.1	<0.4	0.11	4.8	122	0.01	0.2	20.4	16	30	480	28	1.6	7.4	
27-Aug-03	CS1	0.032	78.00	6.5	72	40.2	1.7	95	0.5	10.7	<0.005	<0.1	<0.4	0.01	1.9	55.5	<0.01	0.02	9.6	5.1	2	260	2	-3	7.5	
02-Apr-04	CS1																									
29-Sep-04	CS1																									
02-Jun-05	CS1																									
08-Jul-05	CS1																									
21-Oct-05	CS1	0.43	90.00	5.4	384	145	0.21	110	4.5	14.1	0.001	<.02	<.01	<.01	0.79	256	<.01	0.06	47.2	19	770	960	2600	-4	7.9	
27-Jan-06	CS1	0.63	50.00	11	650		0.84	62	5.1	24	0.008	<.01	1.5			400		0.06	71	70	420	1600	610		7.3	
01-Apr-06	CS1																									
20-Jun-06	CS1																									
01-Oct-06	CS1																									
04-Jan-07	CS1																									
16-Apr-07	CS1																									
09-Jul-07	CS1																									
12-Sep-07	CS1																									
19-Dec-07	CS1																									
15-Jan-08	CS1																									
09-Apr-08	CS1																									
23-Jul-08	CS1																									
23-Sep-08	CS1																									
28-Oct-08	CS1																									
27-Jun-01	CS2	0.09	78.00	10	120	55.2	4.9	95	3	14	<0.02	0.23	1.9	0.07	4.1	91	0.02	0.24	32	15	5	450	40	-0.4	6.9	
01-Aug-01	CS2	<0.05	75.00	10	110	51	4.1	92	4	16	<0.02	<0.1	<0.4	0.07	3.9	83	0.02	0.15	20	12	4	410	18	3.7	6.7	
03-Oct-01	CS2	0.06	91.00	11	85	46.3	3.6	111	1	15	<0.02	<0.1	<0.4	0.03	2.8	71	0.01	0.1	11	3.6	6	320	6	3.6	7.1	
26-Jun-03	CS2	0.64	83.00	12.2	180	80.3	12	101	8.5	16.4	0.017	0.2	1.7	0.05	4.9	124	0.01	0.45	31.9	12	8	650	98	1.4	7.6	
27-Aug-03	CS2	0.087	90.00	10	91	48.9	3.9	110	1.1	11.7	0.013	0.1	<0.4	0.04	2.8	65.2	0.01	0.22	9.9	3.7	8	310	23	-3.6	7.2	
02-Apr-04	CS2																									
29-Sep-04	CS2																									
02-Jun-05	CS2																									
08-Jul-05	CS2																									
21-Oct-05	CS2	0.3	65.00	9.6	404	157	0.3	79	4.6	17.7	<.001	<.02	<.01	0.02	1.1	270	0.01	0.03	56	31	1300	970	650	0	7.7	
27-Jan-06	CS2	0.57	110.00	16	600		1.7	140	19	14	0.037	<.01	2.1			370		0.02	66	50	100	1500	260		8.5	
01-Apr-06	CS2																									
20-Jun-06	CS2																									
01-Oct-06	CS2																									
04-Jan-07	CS2																									
16-Apr-07	CS2																									
09-Jul-07	CS2																									
12-Sep-07	CS2																									
19-Dec-07	CS2																									
15-Jan-08	CS2																									
09-Apr-08	CS2																									
23-Jul-08	CS2	0.022	24	33	780	3000	0.02	29	7.1	34	0.001	<.01	1.9	0.01	0.06	450	<.0005	0.01	100	8.3	68	1400	2		7.15	
23-Sep-08	CS2																									
28-Oct-08	CS2																									
01-Aug-01	CS3	1.4	30.00	4	6	8.7	0.91	37	5	2	<0.02	0.3	4.8	0.02	1.1	8	0.11	0.21	6	3.4	18	68	25	-10	6.0	
03-Oct-01	CS3	0.26	45.00	9	35	22.2	8.4	55	7	5	0.04	0.1	<0.4	0.05	5.5	27	0.04	0.73	11	5.7	56	220	15	-0.4	6.6	
27-Jun-01	NS01	0.22	195.00	44	280	135	0.69	238	6	14	<0.02	<0.1	12	0.02	0.64	234	0.14	0.27	77	32	18	820	15	0	7.8	
01-Aug-01	NS01	0.37	125.00	34	210	102	1	153	5	13	<0.02	<0.1	6.8	0.06	0.88	179	0.15	0.37	55	23	29	620	44	4.1	7.6	
03-Oct-01	NS01	0.65	135.00	28	170	86.6	2.5	165	3	11	<0.02	<0.1	<0.4	0.01	0.77	145	0.09	0.2	37	19	7	520	21	1.3	7.8	
17-Apr-02	NS01	<0.05	230.00	95	740	318	0.07	281	14	37	0.03	0.4	7.6	0.52	3	475	0.07	0.81	153	27	210	1800	77	-0.1	7.7	
26-Jun-02	NS01	0.3	235.00	48	290	155	0.86	287	5	15	<0.02	<0.1	<0.4	0.01	0.45	250	0.05	0.12	69	27	9	860	17	0.8	8	
26-Mar-03	NS01	<0.05	218.00	40	330	163	<0.05	265	7	14	<0.02	<0.1	2	0.05	0.64	271	0.14	0.36	66	21	13	890	7.1	-0.1	8.2	
26-Jun-03	NS01	0.15	155.00	33.8	240	123	0.36	189	7.8	11.1	<0.005	<0.1	1.7	0.08	1.9	184	0.26	1.6	47.4	16	220	660	76	-0.7	7.8	
27-Aug-03	NS01	0.2	93.00	17.4	130	68.8	1.2	113	3.6	7.3	<0.005	0.1	1.5	0.03	1	107	0.18	0.41	31.1	15	46	390	74	-1.2	8	
29-Sep-04	NS01	0.32	185.00	34.5	220	118	0.72	201	3.2	11.9	<0.001	<0.1	<0.4	<0.01	0.55	196	0.08	0.13	50.6	7.8	<1	600	5.8	1.2	8.5	
08-Jul-05	NS01	0.17	100.00	22	158	82.6	0.73	122	2.5	9.2	0.005	<0.02	0.92	0.02	0.6	129	0.1	0.21	39.4	20	<1	510	34	1.5	8	
21-Oct-05	NS01	0.015	195.00	32.7	220	110	0.071	214	2.9	11.8	<0.001	<0.02	<0.1	<0.01	0.49	183	0.04	0.12	47.2	6.7	20	620	14	-2	8.3	
27-Jan-06	NS01	0.054	210.00	37	300		0.69	250	5.5	14	0.006	0.1	2.5		230		0.23	64	50	8	960	7.6		8.6		
01-Apr-06	NS01																									
20-Jun-06	NS01																									
01-Oct-06	NS01																									
04-Jan-07	NS01	0.007	230.00	61	430	2100	0.02	280	16	23	<0.001	<0.1	0.2		1.8	360		0.3	140	7.5	41	1300			8.15	
16-Apr-07	NS01	0.11		95	830	3400	0.77	220	23	31	0.02	1.6	13		4.2	520		1.3	240	29	450	2000	250		7.7	
03-May-07	NS01	0.013		82	530	2300	0.38	260	12	26	0.014	<0.1	0.3	0.044	1.3	360		0.17	240	28	3	3	3.9		7.25	
10-May-07	NS01	0.01	310	54	360	1800	0.46	370	7.3	17	0.008	<0.01	<0.1	<0.005	0.74	280	0.14	0.17	58	35	2	1200	3.9		7.6	
09-Jul-07	NS01	0.009	220	48	300	1500	0.02	270	6.3	14	<0.001	<0.1	2.8	0.009	0.87	250	0.17	0.62	74	37	50	940	90		7.85	
12-Sep-07	NS01	0.13	130	23	160	860	0.58	160	3.3	8.1	0.002</															

Date	Site	Al	Alkalinity	Ca	Cl	Cond.	Fe	HCO3	K	Mg	Mn	NO2	NO3	N NH3	N TK	Na	P SR	P total	SO4	SiO2	TSS	TDS @ 180C	Turbidity	alON BAL	pH	
		mg/L	(CaCO3) mg/L	mg/L	mg/L	mS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	(calc)	NTU	%	6.5-8.0
	ANZECC guideline	0.055					0.3				1.9		0.7	0.08			0.04	0.065								
27-Jun-01	NS02	0.28	205.00	45	260	139	0.98	250	7	14	<0.02	0.1	8.3	0.07	1.6	247	0.11	0.28	77	28	24	820	20	4.2	8.0	
01-Aug-01	NS02	<0.05	135.00	37	250	108	0.87	165	6	14	<0.02	<0.1	5.8	0.09	0.94	189	0.14	0.38	57	20	50	860	48	1.5	7.5	
03-Oct-01	NS02	0.72	150.00	30	200	93.4	2.3	183	4	12	<0.02	<0.1	<0.4	0.02	0.82	161	0.09	0.25	39	18	12	550	22	0.9	8.0	
17-Apr-02	NS02	0.3	223.00	85	640	282	1.2	271	16	30	0.02	0.3	4.1	0.65	2.5	460	0.07	0.27	149	23	29	1600	14	2.4	7.9	
26-Jun-02	NS02	0.27	245.00	50	390	159	0.89	299	5	16	<0.02	<0.1	<0.4	0.01	0.75	259	0.07	0.15	71	25	17	870	14	-7.2	8.1	
26-Mar-03	NS02	<0.05	223.00	45	390	182	0.11	271	10	16	<0.02	<0.1	<0.4	0.03	0.67	305	0.04	0.25	90	0.7	12	990	7.3	-0.6	8.2	
26-Jun-03	NS02	0.13	173.00	32.6	240	120	0.32	210	7.6	11	<0.005	<0.1	2.5	0.13	3	196	0.23	2.2	56	17	700	680	240	-0.3	7.6	
27-Aug-03	NS02	0.22	105.00	19.2	150	74.7	1.6	128	3.4	7.6	0.006	<0.1	1.3	0.03	1	110	0.12	0.39	36.4	14	44	430	75	-4.4	7.9	
02-Apr-04	NS02	<0.005	278.00	44	340	177	0.14	339	7.6	15	0.001	<0.1	<0.4	<0.01	0.7	289	0.16	0.34	63	15	<1	960	2.2	-0.6	8.3	
29-Sep-04	NS02	0.12	205.00	36.9	240	124	0.38	220	3.5	13.1	<0.001	<0.1	<0.4	<0.01	0.46	205	0.08	0.12	51.9	5.2	7	690	4	-0.6	8.4	
02-Jun-05	NS02	0.009	238.00	46.8	330	167	0.068	290	5.7	14.3	0.004	<0.1	<0.4	<0.01	0.41	276	0.12	0.18	66.3	23	<10	840	4.5	0.5	7.6	
08-Jul-05	NS02	0.19	115.00	24.8	169	88.7	0.99	140	2.7	10.3	0.005	<0.02	0.78	0.02	0.69	145	0.1	0.25	45.8	17	7	530	34	2.2	7.9	
21-Oct-05	NS02	<0.005	200.00	33.5	233	114	0.065	207	3.3	12.1	<0.001	<0.02	<0.1	<0.01	0.44	190	0.06	0.1	48.6	6.4	8	760	3.7	-2	8.4	
27-Jan-06	NS02	0.18	230.00	43	380		0.82	280	6.7	17	0.004	<0.1	<1		280		0.28	76	30	25	1200	32		8.25		
01-Apr-06	NS02																									
20-Jun-06	NS02																									
01-Oct-06	NS02																									
04-Jan-07	NS02	<.005	240.00	59	360	1800	0.02	290	8.2	17	<.001	<.01	1.6		0.51	310		0.17	110	38	3	1100			8.05	
16-Apr-07	NS02																									
03-May-07	NS02	0.041		72	440	2000	0.6	320	9.6	22	0.017	0.1	0.8	0.046	1.4	320		0.19	130	37			6.1		7.1	
10-May-07	NS02	0.006	260	81	470	2400	0.33	320	12	27	0.011	0.03	0.2	0.055	4.4	370	0.097	7.2	210	30	1	1300	2.8		7.25	
09-Jul-07	NS02	<0.005	240	61	380	1800	0.01	290	7.5	19	0.002	<0.1	2.1	0.098	0.45	300	0.094	0.18	110	37	14	1100	22		8.05	
12-Sep-07	NS02	0.15	130	23	170	890	0.98	160	3.6	7.8	0.003	<0.01	<0.1	0.006	0.99	110	0.12	0.58	39	16	39	570	89		7.85	
19-Dec-07	NS02	0.011	200	65	400	1900	0.06	240	18	22	0.002	<0.1	0.2	0.064	0.61	310	0.19	0.31	26	140	12	14	1200			7.6
15-Jan-08	NS02																									
09-Apr-08	NS02	0.31		8.5	320	630	0.69	18	4.1	4.7	0.019	0.13	32		4.5	93	0.084	1	33	13	1100	410	460		6	
14-May-08	NS02	0.005		52	400	1900	0.1	340	9.7	19	<0.001	0.02	0.7		0.91	320	0.28	0.37	62	26	7	1200	24		8.15	
23-Jul-08	NS02	0.11	96	23	160	870	0.33	120	4.5	8.4	<0.001	<0.1	1.7	<0.005	1	120	0.076	0.67	41	12	400	560	120		7.7	
23-Sep-08	NS02	<0.005	240	45	300	1500	0.03	290	3.8	16	<0.001	<0.1	<0.1	<0.005	0.66	210	0.025	0.03	47	5.1	3	980	5.9		8.25	
28-Oct-08	NS02	0.018	200	37	260	1300	0.05	250	9.4	14	0.016	<0.1	<0.1	1.2	1.2	230	0.079	1.13	44	8	1	830	3.3		7.95	
01-Aug-01	SS01	0.24	265.00	78	320	153	0.76	323	11	31	<0.02	<0.1	4.3	0.02	2.1	215	0.04	0.09	49	20	12	940	10	1.8	7.60	
03-Oct-01	SS01	0.54	328.00	74	220	127	1.4	400	6	28	<0.02	<0.1	<0.4	0.01	1.5	175	0.01	0.05	21	12	6	770	12	1.8	8.10	
27-Aug-03	SS01	0.22	253.00	57.9	190	108	0.59	271	4.4	20	<0.005	<0.1	<0.4	0.02	1.2	137	0.01	0.03	25.4	24	22	640	32	-0.9	8.50	
19-Sep-04	SS01	0.059	388.00	88.3	360	184	0.27	430	5.6	33.9	0.003	<0.1	<0.4	0.01	1.4	260	0.01	0.05	33.1	3.6	24	980	6	0.1	8.50	
08-Jul-05	SS01	0.099	275.00	63.5	230	136	0.35	336	5.6	24.5	0.005	<0.02	0.09	0.03	1.2	181	0.02	0.05	49.8	20	<1	720	4.3	0.5	8.30	
21-Oct-05	SS01	0.014	395.00	83	289	160	0.082	421	4.2	30.5	0.001	<0.02	0.01	<0.1	0.96	216	0.01	0.03	24.5	13	23	720	21	-1	8.40	
27-Jan-06	SS01	0.025	220.00	44	290		3.2	270	13	23	0.097	<0.1	<1		170		0.11	53	10	14	950	8.7		7.65		
01-Apr-06	SS01																									
20-Jun-06	SS01																									
01-Oct-06	SS01																									
04-Jan-07	SS01																									
16-Apr-07	SS01																									
09-Jul-07	SS01																									
12-Sep-07	SS01	0.14	240	58	200	1200	0.73	290	5.9	20	0.01	<0.01	<0.1	0.012	1.2	150	0.02	0.04	26	23	4	750	9.6		8.05	
19-Dec-07	SS01																									
15-Jan-08	SS01																									
09-Apr-08	SS01																									
23-Jul-08	SS01	0.017	130	40	180	1000	0.18	160	13	16	<0.001	0.3	5.6	0.29	2.9	120	0.16	0.28	54	17	43	670	44		7.4	
23-Sep-08	SS01																									
28-Oct-08	SS01																									
27-Jun-01	SS02	0.05	123.00	13	156	75.8	2.5	149	6	10	<0.02	<0.1	<0.4	0.02	1.6	127	<0.02	<0.02	56	32	7	530	5.5	-5.6	7.40	
01-Aug-01	SS02	<0.05	105.00	13	130	66.2	2.6	128	6	11	<0.02	<0.1	1.9	0.03	2.3	118	0.02	0.07	42	32	10	510	15	0.3	7.40	
03-Oct-01	SS02	0.35	120.00	12	92	53.8	3.6	146	3	10	<0.02	<0.1	<0.4	0.01	1.8	96	0.01	0.06	20	29	15	400	16	2.1	7.60	

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APPENDIX 3

Correspondence Shire of Gingin



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26 September 2008

Russell Harvey
Iluka Resources Ltd
PO Box 96
CAPEL WA 6271

Dear Russell

REHABILITATION AND/OR REDEVELOPMENT OF ILUKA'S GINGIN MINE SITE

I refer to our meeting of 5 September 2008, during which we discussed redevelopment options for the land which currently accommodates the existing Iluka Gingin mineral sands mining operation. Our discussions centred on the possibility of the land being developed as an industrial precinct, given its prime Brand Highway frontage.

In response to the matters raised during the meeting, I can confirm as follows:

Statutory and Strategic Planning Implications

The land in question has not been the subject of structure planning and, in this regard, under the provisions of Town Planning Scheme No 8 (TPS No 8), the landowner would need to facilitate a re-zoning if the "Rural" land was to be utilised for "Industrial" purposes.

Council has previously indicated its willingness to negotiate with the landowner regarding future uses for the land following the mine's decommissioning. Whilst it is not a requirement under TPS No 8 to undertake specific structure planning to accommodate such a proposal, structure planning may be beneficial in order to maximise utilisation of the land and Iluka's subsequent return on investment.

To assist you in determining whether, or not, an industrial precinct is appropriate for further consideration on the subject land, the following extracts from the Shire of Gingin's draft Local Planning Strategy is considered relevant:

KEY ISSUES

3.2 Economy

Industry within the Shire is traditionally based on the fishing industry and rural industry (processing) with service industry being a marginal growing sector in and around the settlements. Such economic activity should continue to be encouraged and additional provision be made for general and service industrial developments in proximity to urban areas.

There is a recognised need to increase local resident employment opportunities and reduce incoming and outgoing commuting employee ratios.

4.0 Settlement and Infrastructure

Some of the key infrastructure works in the Shire include sewerage treatment plant and reticulation to both Gingin and Guilderton townsites where economically feasible.

Strategies

Facilitate the preparation of an Outline Development Plan and possible accompanying design guidelines to promote the consolidation, presentation and improved servicing of Frogmore Rural Industrial Estate.

Map Notation: Identify and undertake planning for strategically located industrial/mixed business area.

5.0 Activity Schedule

Oppose subdivision and fragmentation of rural land that is not included within the coding mechanism for rural small holdings under the Town Planning Scheme unless the subdivision reflects the lot size of predominant larger rural lots in the immediate locality, and has due regard for the requirements under the Rural Agricultural Land Use Planning Policy of the Western Australian Planning Commission.

Gingin Townsite

Identify appropriate land areas adjacent to the urban townsite available for development of a mixed business estate.

Economic Strategies

Support the appropriate placement of rural industries/processing in the Rural zone.

Promote increased demand for service industries in all townsites by facilitating additional land release in terms of urban and industrial land in and around the townsites.

Maintain scope and flexibility for regional infrastructure and development opportunity.

Whilst predominately commercial and mixed business/industrial areas should take advantage of the infrastructure, labour market and client base associated with growing townsites there is a case for special business and nodal commercial developments strategically positioned along major roads and intersections.

I am of the view that there may be merit in your Company further exploring industrial development opportunities. In this regard, the Shire would welcome open dialogue with your Planning Consultants in order to crystallise possible future development opportunities which may include joint venture structure planning for the locality.

From our discussions, I understand there is a requirement for the Brand Highway improvements to be decommissioned upon cessation of your mining operations. I am firmly of the view that any decommissioning of infrastructure should be put on hold until such time that structure planning has been completed and future use options for the land determined.

Should you wish to have further discussions regarding this matter, do not hesitate to contact me at your convenience.

Yours sincerely



SIMON D FRASER
CHIEF EXECUTIVE OFFICER

SF:ivo
File: BLD/3114

