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# YANDI BOREFIELDS

Contact: Yanni Kotsos –General Manager Yandi

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## 10.1 Introduction

### Outline of licensed operation

This Annual Aquifer Review (AAR) report is for the borefields of the Yandi Mining Operations, which includes dewatering in the Western, Central, and Eastern subareas; and water supply in the Barimunya Aerodrome and Spinifex Camp subareas. It covers the review period 1 July 2022 to 30 June 2023 (FY2022–2023). Groundwater abstraction at the Yandi Operation is regulated through a 5C Licence to Take Water issued under the *Rights in Water and Irrigation Act 1914* (the Act). The Department of Water and Environmental Regulation (DWER) is responsible for administering the Act via the licence instruments outlined in Appendix 0.1. Licence commitments are outlined in the Groundwater Licence Operating Strategy (GLOS) (BHP 2018).

The Yandi Operation has the following licence and allocation:

- GWL89501(11) (June 2018–June 2028) - 20,650,520 kL/a

This water allocation is authorised for use to meet the site operational water demands, including, dewatering, dust suppression, earthworks and construction, exploratory drilling, and ore processing.

Additionally:

- Discharge of surplus dewatering volumes to Marillana Creek (Section 10.5) is regulated under the Environmental Protection Act 1986 Part V Environmental Licence L6168/1991/11.
- The Yandi mine site operates under Ministerial Statement 679 (as amended by Ministerial Statement 1039), which contains conditions relating to groundwater receptors. Compliance against Environmental Protection Act 1986 requirements is addressed separately in BHP WAIO Annual Environmental Report (AER).

### Location of operation

The Yandi Operations (Figure 0.1–Figure 0.4) are located approximately 120 km northwest of Newman in the East Pilbara region of Western Australia. The deposits are situated in the Hamersley fractured rock aquifer in the East Pilbara subarea of the DWER Pilbara Groundwater Allocation Plan (Department of Water 2013).

### FY23 events

The following activities took place at Yandi during the review period:

- Continued mining in 9 pits (W1, W2, W3, C1, E1, E2, E4, E35&6, and E7)
- Continued dewatering in all pits (except W0), primarily to enable the tactical mine plan and maintain dry backfilling conditions in W1, W4, W5 and E35&6
- Passively dewatering future pits C3 and C6 through existing dewatering infrastructure
- Installation of 8 monitoring bores in the Marilana Creek Channel to comply with environmental monitoring. Bores screened across the Alluvials, Channel Iron Deposit and Weeli Wolli Formation
- Digging of sump in W6 to intersect water table
- Ceased pumping from 4 bores in pit W0 to intentionally raise groundwater level. This was to prevent further dewatering at Flat Rocks.

## 10.2 Climate and rainfall

The Pilbara region of Western Australia is within 'arid, desert, hot' and 'arid, steppe, hot' climate zones, based on the Köppen-Geiger climate zonations (Charles et al. 2013). Rainfall and temperature exhibit high variability between seasons, with occasional intense rainfall and consistently high temperatures in summer (December to February), an autumn (March to May) transition to dry and warm conditions throughout winter (June to August) and spring (September to November), with the western Pilbara sometimes receiving rain in winter from southern sources. The Pilbara often records temperatures of  $\geq 43^{\circ}\text{C}$  in summer months. There is large rainfall variation between years as well as large spatial heterogeneity. Combined with consistently high potential evaporation, this results in significant hydrological variability.

Long term Bureau of Meteorology (BoM) climate records show average annual rainfall of 329 mm (Marillana rainfall station 005009 [1936–present]). Annual average evaporation is about 3,400 mm/year. Local weather station (WXY001) data (Table 0.1) show that the total rainfall during FY23 was 260 mm. The distribution and intensity of rainfall during FY23 was generally concentrated in the summer months. Groundwater monitoring graphs (Section 10.6) include monthly rainfall for comparison.

**Table 0.1: Yandi borefield monthly rainfall**

| Month        | Rainfall <sup>1</sup> (mm) |              |              |
|--------------|----------------------------|--------------|--------------|
|              | FY21                       | FY22         | FY23         |
| July         | 12.0                       | 0.0          | 0.0          |
| August       | 2.0                        | 0.0          | 1.0          |
| September    | 0.0                        | 0.0          | 89.6         |
| October      | 2.8                        | 0.0          | 1.8          |
| November     | 3.4                        | 24.0         | 0.8          |
| December     | 195.2                      | 8.2          | 1.8          |
| January      | 77.8                       | 28.6         | 27.8         |
| February     | 195.2                      | 64.2         | 51.0         |
| March        | 10.2                       | 34.6         | 44.8         |
| April        | 46.6                       | 10.6         | 28.6         |
| May          | 11.8                       | 111.2        | 0.0          |
| June         | 16.0                       | 2.0          | 13.0         |
| <b>TOTAL</b> | <b>573</b>                 | <b>283.4</b> | <b>260.2</b> |

1. Source: BHP's Yandi Mine weather station (WXY001).

## 10.3 Geology and hydrogeology

### Geology

The Yandi iron ore deposits is hosted by Cenozoic channel iron deposits (CIDs) of the Marillana Formation. The Marillana Formation consists of fluvial deposits within a palaeovalley environment and includes the Munjina Member (conglomerates and clays), Barimunya Member (CID ore), and Eastern Member (clay and CID). The Marillana Formation unconformably overlies the Proterozoic Hamersley Group and is disconformably overlain by the Oakover Formation and various alluvium/colluvium materials. CID consists of pisolitic clasts of goethite-hematite, clay and fossil wood fragments with an average thickness of about 60 m. The CID clasts (peloids) are typically irregular or sub-angular to sub-rounded in shape. These iron rich peloids are interpreted to represent the end product of detrital weathering via sheet wash processes deposited in low lying areas landscape comprising mostly unmineralised banded iron formations (BIFs) of the Proterozoic Hamersley Group.

The underlying Proterozoic Hamersley Group consist of an ~2.5 km thick sequence of banded iron formations (BIFs), cherts, dolostone, siltstone, claystone and felsic volcanic rocks intruded by dolerite sills and dykes. The Hamersley Group includes the Weelli Wolli Formation, which was formed during the third stage of Hamersley sediment deposition with an age of ~2450 Ma. It was accompanied by intense bimodal volcanisms and comprises mostly BIFs and dolerite sills and dykes. The iron bands of the BIFs formed by episodic pulses of hydrothermal volcanic activity, and the deposition of iron hydroxide formed by oxidation of vent fluids by seawater. The Hamersley Group sediments were extensively folded and faulted during Ophthamia and Capricorn Orogenies (2100–1780 Ma). Subsequent erosion resulted to the development of a Phanerozoic land surface (<540 Ma).

Erosion of less competent weathered BIFs between 2 to 23 million years ago left behind the more resistant CID material as mesas above the level of the modern valley floor. During this period, the modern Marillana Creek was incised in the current land surface.

The modern drainage of the Yandicoogina, Marillana, Weeli Wolli Creeks and other tributaries contain unconsolidated conglomerates (river gravels) up to 5 m thick. The alluvial flood plain deposits that overlie the CID and basement aquifers and the river gravel in the beds of Marillana and Weeli Wolli Creek systems consist of mixtures of poorly sorted gravels, sand, silt and clay.

### Hydrogeology

The Yandi Operation area's three main aquifer systems are:

- The Marillana Formation, which incorporates the CID orebody. This aquifer broadly follows the current path of Marillana and Weeli Wolli creeks and forms a major regional aquifer system, approximately 85 km in length, of which about 39 km are on BHP's Yandi tenement AM70/270. This aquifer is heterogeneous, containing zones of higher hydraulic conductivity that are associated with secondary porosity features (such as millimetre- to metres-

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scale cavities). CID-proximal Marillana Formation sediments generally have a lower hydraulic conductivity; however, higher hydraulic conductivity zones also occur where cavities exist. Hydraulic conductivities are lowest within the Lower CID and Basal Clay/Basal Conglomerate, although there are also zones of cavernous permeability within the Lower CID. Hydraulic conductivity generally increases with depth, due to secondary porosity developed in discrete zones formed by fractures, solution channels and cavity features. The development of solution features has largely superseded the primary porosity of the interstitial pore space.

- A shallow alluvial aquifer associated with Marillana Creek. This shallow alluvial aquifer has a hydraulic connection with the CID aquifer where the two units adjoin. The hydraulic connection between these two units is limited in other regions where these two units do not adjoin (due to the presence of alluvial clay layers and low-permeability Weeli Wolli Formation BIFs between these two units).
- Fractured-rock aquifer systems in Weeli Wolli Formation basement. These aquifers generally have hydraulic conductivities that are at least an order of magnitude lower than the CID or alluvium. Increased groundwater flow in the Weeli Wolli Formation is compartmentalised and occurs via discrete structures and at the weathering interface with the overlying palaeochannel sediments.

Recharge generally occurs via direct infiltration of rainfall and through creek beds. The CID is recharged primarily by the leakage through the alluvium in areas where the creeks overly the CID. Exceptionally high creek stage heights have historically resulted in flooding beyond the alluvium, resulting in direct infiltration to the CID. Groundwater discharge occurs to Marillana Creek after flood events and via evapotranspiration.

Pre-mining hydraulic gradients were 0.002–0.004. Discharge of surplus water from mine dewatering operations to Marillana Creek has altered local recharge and aquifer storage dynamics. Groundwater chemistry is impacted by host rock, throughflow and evapotranspiration effects. Total dissolved solids (TDS) in groundwater from the CID and alluvial aquifers are typically 100–1300 mg/L. Groundwater is typically dominated by bicarbonate anions, with sodium constituting a higher portion of the major cations, followed by calcium and magnesium.

## 10.4 Borefield description

In FY23 the Yandi borefields includes:

- 74 operational production bores
- 52 monitoring bores associated with GWL
- 2 operational sumps
- 2 discharge locations for excess dewatering volumes.

Details of these bores are provided in Appendix 0.2 and borehole logs for production bores drilled during FY23 are provided in Appendix 0.3.

## 10.5 Groundwater abstraction and water use

The annual water entitlement (allocation) for the Yandi Borefields is 20,650,520 kL.

- During FY23, the total groundwater abstracted was 7,337,146 kL or approximately 36% of the allocation.

The Yandi Borefields water balance summary diagram Figure 0.5 illustrates groundwater usage for the review period, including Marillana Creek discharge of surplus dewatering volumes on two locations. Marillana Creek discharge preferentially occurs at the outlet located downstream of the Eastern 6 Deposit (E6 Discharge), due to the potential for recirculation between the creek alluvium and the CID.

Monthly abstraction from active production bores and groundwater levels are included in the monitoring summary tables and figures (Figure 0.6–Figure 0.20).

## 10.6 Monitoring results

Monitoring data are assessed with respect to groundwater level responses and groundwater quality, based on the monitoring locations shown in Figure 0.1–Figure 0.4.

### Groundwater levels

Groundwater level responses during the review period are summarised by the results below by region. Hydrographs for the review period are shown in Figure 0.6–Figure 0.20.

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## Regional upgradient

- Regional upgradient hydrographs (Figure 0.6) show:
  - HYW0002M and HYW0003M: continue to exhibit long-term declining groundwater levels. Groundwater level in the CID (HYW0002M) to the west of Yandi declined slightly from 610.45 m RL to 609.71 m RL in FY23.
  - MB16YSN0001M: remained stable (559.83–560.89 m RL)
  - MB16YSN0003M: steady minor decline across FY23 (594.86 m RL to 593.68 m RL)
  - MB16SNY0004M: remained stable (606.17–606.65 m RL).

## Regional downgradient

- Regional downgradient hydrographs (Figure 0.7) show:
  - YM0121M minor steady decline across FY23 (513.19–512.40 mRL)
  - HYE1508M minor steady decline across FY23 (490.89–488.92 mRL)
  - HYE1515M minor steady decline across FY23 (492.86–491.93 mRL)
  - HYM0011M stable at 524 m RL consistent with historic measurements.

## Western pits

- Western pits hydrographs (Figure 0.8–Figure 0.13) show:
  - Western 1: steady decline only being temporarily interrupted by small rises occurring in response to rainfall events (i.e., September 2022), creek flow and subsequent recharge. The lowest groundwater level is 522.29 m RL measured in HYW0222M in June 2023. HYM0005M is the only bore that shows an increase over FY23. Higher decline observed in HYW0008P (574.74 mRL to 558.18 mRL) in Apr 23 to May 23.
  - Western 2: long-term decreasing trends punctuated by increases after high rainfall events (i.e., September 2022). HYW0347M level dropped from 526.43 m RL to 525.71 m RL and HYW0345M from 526.02 M RL to 523.77 m RL.
  - Western 3: steady decline at HYW0401M (529.93–526.34mRL) and HYW1014M (527.46–523.54 mRL) with some recovery observed in Oct 22 in response to rainfall.
  - Western 4: Gradual declining conditions are observed at all in-pit bores in the order of ~2-3m for the reporting period.
  - Western 5: decreasing at HYW0352M and HYW0400M on the south side of Marillana Creek. Groundwater levels higher (~509 m RL) in the centre of the pit (HYW0352M). HYW0400M level ~504 m RL.
  - Western 6: drawdown of ~3 m at 3 monitoring bores (HYW1029M, HYW1023M and HYW1022M) and stable conditions (~522 m RL) at HYW1030M. HYW1028M observed increases in level from December 2022 to March 2023.

## Central pits

- Central pits hydrographs (Figure 0.14 and Figure 0.15) show:
  - Central 1: long-term decreasing trend (HYC0018P and HYC0061M) and same trend in FY23 for HYC0061M (~494–496 mRL). HYC0018P steadily decreasing between July 2022 and April 2023 but then exhibits a sharp increase (~5 m) in May 2023 to 500.77 m RL.
  - Central 5: long-term decreasing trend continued in FY23 (HYC0021P, HYC0066M and HYC0067M). HYC0021P levels dropped from 496.47 m RL to 493.06 m RL. Levels at HYC0066M (~488–487 mRL) and HYC0067M (~489–486 mRL).

## Eastern pits

- Eastern pits hydrographs (Figure 0.16–Figure 0.19) show:
  - Eastern 1 and 2: long-term minor decreasing trend continued in FY23 at HYE0190M, HYE0191M, YE0645DM and HYE0060P
  - Eastern 4: decreasing trend observed at HYE1522M, HYE1536M. Elevation at HYE1525M ranging from 496 m RL to 508 m RL. HYE1538M remained stable.
  - Eastern 3,5, 6: decreasing trend with September 2022 showing a slight rise due to rainfall and fluctuations in response to abstraction variations. Levels ranging from 478 m RL to 493 m RL.
  - Eastern 7: decreasing levels at HYW0003M and HYE0314P. HYW0003M decreasing from 480.61 m

## Water quality

Groundwater quality data and trends during the review period for field pH (Table 0.6) and EC (Table 0.7) for the review period are illustrated in Figure 0.21–Figure 0.33 (graphical format) and Figure 0.34–Figure 0.37 (Piper-diagram format). Piper format major ion data show generally coincident water types (dissolution/mixing) for detritals and detritals-proximal aquifers, with increased carbonate/bicarbonate in Eastern Pits. Laboratory chemistry results are shown in Table 0.8 with Site Specific Trigger Value (SSTV) exceedances highlighted in red.

### Western pits

- Western 1: slightly acidic to slightly alkaline pH (6.2–8.1), fresh to brackish EC (477–1,619  $\mu\text{S}/\text{cm}$ ) and multiple SSTV exceedances for Boron, EC and Nitrate as  $\text{NO}_3$  at HYW0180P and HYW0212P.
- Western 2: slightly acidic to circumneutral pH (6.6–7.5), fresh to brackish EC (553–1,767  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Boron, EC and Nitrate as  $\text{NO}_3$  at HYW0237P and HYW0238P in October 2022 and April 2023.
- Western 3: slightly acidic to circumneutral pH (6.6–7.6), fresh to brackish EC (588–1,230  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Boron, EC, Nitrate as  $\text{NO}_3$  at HYW1015P and HYW1016P. SSTV pH exceedance at HYW1015P in April 2023.
- Western 4: slightly acidic to circumneutral pH (6.3–7.2) and fresh to brackish EC (578–1,522  $\mu\text{S}/\text{cm}$ ). SSTV exceedances at HYW0030P for Boron and Nitrate as  $\text{NO}_3$ . SSTV exceedances for Nitrate as  $\text{NO}_3$  and pH in October 2022 and April 2023 at HYW0051P.
- Western 5: slightly acidic to circumneutral pH (6.5–7.6), fresh to brackish EC (512–1,156  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for EC and Nitrate as  $\text{NO}_3$  at HYW0132P and HYW0134P in October 2022 and April 2023. Exceedances of SSTV for Boron at both bores during April 2023.
- Western 6: slightly acidic to circumneutral pH (6.4–7.6), fresh to brackish EC (662–1,532  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Boron, EC and Nitrate as  $\text{NO}_3$  at HYW0176P, HYW0355P, HYW1021P and SYAN0051. An exceedance of SSTV for pH by 0.1 at SYAN0051 in April 2023.

### Spinifex camp:

- Stable circumneutral pH (7.0–7.4), stable brackish EC (1,100–1,300  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for total and filtered Barium and Boron. Nitrate as  $\text{NO}_3$  also exceeded the SSTV at HNPISP0001P and HNPISP0002P during November 2022 and June 2023 sampling.

### Central pits:

- Central 1: slightly acidic to slightly alkaline pH (6.4–8.6), fresh to brackish EC (522–1,409  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Boron, EC and Nitrate as  $\text{NO}_3$  at HYC0012P and HYC0015P. Exceedance of SSTV for zinc at HYC0015P in October 2022.
- Central 5: slightly acidic to slightly alkaline pH (6.4–8.5), mostly fresh EC (481–1,077  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Nitrate as  $\text{NO}_3$  at HYC0031P and HYC0068P in October 2022 and April 2023.

### Eastern pits:

- Eastern 1 & 2: slightly acidic to circumneutral pH (6.4–7.6), fresh to brackish EC (501–1,067  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Nitrate as  $\text{NO}_3$  at all production bores. An exceedance of SSTV for pH by 0.1 at HYE0193P in October 2022.
- Eastern 4: circumneutral pH (6.9–7.7), fresh to brackish EC (616–1,243  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Nitrate as  $\text{NO}_3$  and pH at HYE1518P and HYE1523P. Exceedances of SSTVs for EC and Boron at HYE1523P.
- Eastern 3,5 & 6: slightly acidic to circumneutral pH (6.5–7.9), fresh EC (414–997  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Nitrate as  $\text{NO}_3$  at HYE0027P and HYE0055P. Exceedances of the SSTV for Boron at HYE0055P in October 2022 and April 2023.
- Eastern 7: slightly acidic to circumneutral pH (6.5–8.2), mostly fresh EC (465–1,001  $\mu\text{S}/\text{cm}$ ) and SSTV exceedances for Boron and Nitrate as  $\text{NO}_3$  at HYE0180P and HYE0181P. An exceedance of the SSTV for pH at HYE0180P in October 2022.

## 10.7 Compliance

A summary of licence compliance is provided with respect to the Operating Strategy monitoring commitments (Table 0.2) and the percentage of the GWL allocation used over the review period (Table 0.3).

**Table 0.2: Summary of Yandi Borefields compliance performance**

| Compliance category          | Measure                                                              | Activity based compliance |
|------------------------------|----------------------------------------------------------------------|---------------------------|
|                              |                                                                      | FY23                      |
| Allocation                   | GWL annual allocation                                                | 100%                      |
| Abstraction                  | Monthly measurements per production bores                            | 100%                      |
| Groundwater level monitoring | Monthly groundwater level from identified monitoring bores           | 94%                       |
| Field chemistry              | Monthly pH and EC measurements as outlined in the Operating Strategy | 83%                       |
| Laboratory chemistry         | Bi-annual measurements as outlined in the Operating Strategy         | 91%                       |
| Rainfall                     | Monthly measurements                                                 | 100%                      |

**Table 0.3: Licence abstraction details**

| Licence No.  | Allocation (kL) | Percent used (%) |
|--------------|-----------------|------------------|
|              | FY23            | FY23             |
| GWL89501(11) | 20,650,520      | 36%              |

There are no thresholds or trigger limits set with respect to groundwater abstraction. However, there are environmental monitoring conditions and requirements for tree health that are outlined in MS679 and there are reported annually through the AER process.

## 10.8 Assessment of impacts

### Mine dewatering

Water levels in most pits with active dewatering declined over the review period. Groundwater level data shows a direct hydraulic connection likely exists between the CID aquifer and sections of the alluvial sediments of the Marillana Creek.

### Regional groundwater levels

- Groundwater levels in the CID upgradient (west) of Yandi operations have gradually declined during the review period. The impacted monitoring bores are close to Western 1 pit and reflect the impact of dewatering. Drawdown in this area is linked to historic tree deaths at the Marillana Creek/CID crossing upstream of Flat Rocks pools. This issue is addressed further in BHP WAIO's Annual Environmental Review (AER)
- Regional groundwater levels downgradient (east) of the Yandi operations have ranged from being near stable to showing a gentle decline (up to ~1-2m).

### Nitrates

This AAR review periods' data, together with previous assessments (BHP 2022), highlight frequent nitrate trigger (4 mg/L as NO<sub>3</sub>) exceedances. Nitrate exceedances in mining environments is often attributed to mine explosive sources (for example, ammonium nitrate); however, other mechanisms also exist, including evaporative concentration of in situ nitrate). Monitoring data is insufficient to assess whether nitrates have any impact on environmental receptors. Refer to Section 10.9 for recommended actions.

### Other

This AAR review periods' data, together with previous assessments (BHP 2022), highlight frequent exceedances of the boron trigger value (0.37 mg/L). Other environments, and in particular, iron ore environments, can have background groundwater boron concentrations in excess of 0.37 mg/L. Refer to Section 10.9 for recommended actions.

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## 10.9 Recommendations

Based on the data provided:

- Further assess the current boron trigger value of 0.37 mg/L, including consideration of background site conditions. This will include groundwater laboratory sampling (or a review of other databases such as bore-completion reporting) for boron.
- Undertake a comprehensive assessment of groundwater nitrate distributions, including nitrate-source sampling to support appropriate site-specific triggers levels and action plans.

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## 10.10 References

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**Yandi Borefields  
Annual Reporting  
Acknowledgement Slip**

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I have reviewed the site Annual Aquifer Review and accept the information provided is an accurate account of site compliance with Department of Water and Environmental Regulation (DWER) conditions for the period 1 July 2022 to 30 June 2023.

**Kotsos,  
Ioannis**

Digitally signed by Kotsos, Ioannis  
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IOANNIS KOTSOS

GENERAL MANAGER YANDI

Tables

**Table 10.4: Abstraction**

| Sample Point ID | Western 1      |                |                |                |               |                |                |               |                |               |               |               |                  |
|-----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|---------------|---------------|------------------|
|                 | FY23 (kL)      |                |                |                |               |                |                |               |                |               |               |               |                  |
|                 | Jul-22         | Aug-22         | Sep-22         | Oct-22         | Nov-22        | Dec-22         | Jan-23         | Feb-23        | Mar-23         | Apr-23        | May-23        | Jun-23        | TOTAL            |
| HNPIYN1704P     | 19,582         | 14,607         | 18,661         | 17,632         | 18,547        | 18,506         |                |               |                |               |               |               | 107,535          |
| HNPIYN1707P     | 30,295         | 34,877         | 32,011         | 30,322         | 31,798        | 31,142         | 33,236         | 32,052        | 35,177         | 5,908         |               |               | 296,818          |
| HYW0008P        | 23,533         | 10,824         |                |                |               | 19,957         | 26,157         | 23,774        | 23,799         | 3,572         |               |               | 131,616          |
| HYW0010P        | 8,103          | 8,000          | 10,537         | 11,603         | 9,268         |                |                | 1,114         | 11,684         | 3,429         |               |               | 63,738           |
| HYW0024P        | 893            | 517            |                |                |               |                |                |               |                |               |               |               | 1,410            |
| HYW0180P        | 5,074          | 5,020          | 4,938          | 4,720          | 5,728         | 5,958          | 6,055          | 5,564         | 4,597          | 5,430         | 5,675         | 5,872         | 64,631           |
| HYW0212P        | 809            | 541            | 602            | 1,442          | 1,689         | 3,043          | 2,601          | 1,269         | 920            | 2,208         | 828           | 3,222         | 19,174           |
| HYW0215P        | 6,252          | 6,872          | 6,707          | 6,541          | 6,630         | 6,169          | 6,066          | 5,201         | 4,576          | 1,036         | 6,292         | 5,913         | 68,255           |
| HYW0226P        | 4,665          | 4,088          | 3,771          | 3,835          | 3,523         | 3,780          | 3,801          | 3,261         | 2,979          | 3,702         | 3,842         | 3,661         | 44,908           |
| HYW0228P        | 5,516          | 5,088          | 4,466          | 4,284          | 4,333         | 4,328          | 4,141          | 3,774         | 3,274          | 4,006         | 4,101         | 3,757         | 51,068           |
| HYW0229P        | 6,270          | 5,615          | 4,963          | 5,202          | 4,707         | 4,748          | 4,240          | 3,622         | 3,966          | 1,755         | 4,337         | 4,537         | 53,962           |
| HYW0230P        | 8,814          | 8,366          | 7,677          | 7,723          | 7,511         | 7,218          | 7,313          | 6,769         | 7,107          | 5,502         | 7,473         | 6,936         | 88,409           |
| HYW0246P        | 11,227         | 11,094         | 9,506          | 11,254         | 6,184         | 643            | 9,244          | 11,008        | 8,335          |               |               |               | 78,495           |
| HYW0322P        | 3,076          |                |                |                |               |                |                |               |                |               |               |               | 3,076            |
| SYAN0043        | 2,922          | 3,338          | 1,032          |                |               |                |                |               |                |               |               |               | 7,292            |
| <b>TOTAL</b>    | <b>137,031</b> | <b>118,847</b> | <b>104,871</b> | <b>104,558</b> | <b>99,918</b> | <b>105,492</b> | <b>102,854</b> | <b>97,408</b> | <b>106,414</b> | <b>36,548</b> | <b>32,548</b> | <b>33,898</b> | <b>1,080,387</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Western 2     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYW0237P        | 5,170         | 4,088         | 5,225         | 3,395         | 3,385         | 3,098         | 3,380         | 3,043         | 3,632         | 3,797         | 4,619         | 4,848         | 47,680         |
| HYW0238P        | 9,993         |               | 9,088         | 10,446        | 9,924         | 10,086        | 9,690         | 8,728         | 11,299        | 28,787        | 14,588        | 7,796         | 130,425        |
| HYW0348P        | 12,003        | 8,814         | 11,317        | 10,623        | 8,629         | 8,903         | 8,949         | 7,178         | 7,503         | 6,519         | 6,620         | 6,541         | 103,599        |
| <b>TOTAL</b>    | <b>27,166</b> | <b>12,902</b> | <b>25,630</b> | <b>24,464</b> | <b>21,938</b> | <b>22,087</b> | <b>22,019</b> | <b>18,949</b> | <b>22,434</b> | <b>39,103</b> | <b>25,827</b> | <b>19,185</b> | <b>281,704</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

**Table 10.4: Abstraction (cont'd)**

| Sample Point ID | Western 3     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYW1015P        | 16,459        | 14,724        | 9,819         |               | 8,138         | 12,036        | 10,611        | 9,893         | 10,133        | 9,736         | 9,323         | 8,429         | 119,301        |
| HYW1016P        | 34,353        | 36,026        | 33,607        | 11,796        | 35,598        | 37,272        | 22,597        | 1,729         | 31,318        | 35,396        | 36,300        | 34,316        | 350,308        |
| <b>TOTAL</b>    | <b>50,812</b> | <b>50,750</b> | <b>43,426</b> | <b>11,796</b> | <b>43,736</b> | <b>49,308</b> | <b>33,208</b> | <b>11,622</b> | <b>41,451</b> | <b>45,132</b> | <b>45,623</b> | <b>42,745</b> | <b>469,609</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Western 4     |               |               |                |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |                |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22         | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYW0030P        | 16,098        | 11,492        | 14,148        | 17,171         | 14,276        | 10,808        | 8,401         | 7,202         | 7,537         | 4,715         | 4,890         | 4,848         | 121,586        |
| HYW0035P        | 26,329        | 23,944        | 21,528        | 21,721         | 19,274        | 18,240        | 16,738        | 14,579        | 14,544        | 13,731        | 13,983        | 12,300        | 216,911        |
| HYW0042P        | 6,637         | 5,717         | 5,333         | 5,688          | 4,988         | 5,317         | 4,792         | 4,680         | 4,961         | 4,898         | 3,238         | 2,206         | 58,455         |
| HYW0051P        | 1,506         | 2,136         | 1,771         | 2,664          | 2,676         | 2,932         | 2,826         | 2,169         | 1,949         | 2,393         | 2,254         | 1,435         | 26,711         |
| HYW0064P        | 5,276         | 6,054         | 5,886         | 10,411         | 9,993         | 9,618         | 8,378         | 6,858         | 6,661         | 5,265         | 6,681         | 6,011         | 87,092         |
| HYW0072P        | 11,286        | 11,448        | 11,296        | 16,898         | 17,008        | 17,261        | 16,496        | 13,605        | 14,908        | 13,311        | 13,180        | 11,848        | 168,545        |
| HYW0165P        | 12,957        | 13,071        | 12,547        | 10,294         | 11,830        | 11,152        | 10,310        | 9,257         | 9,485         | 8,555         | 9,175         | 9,198         | 127,831        |
| HYW0182P        | 9,098         | 9,623         | 9,161         | 8,382          | 5,467         | 7,109         | 6,675         | 5,106         | 6,096         | 5,323         | 4,489         | 4,610         | 81,139         |
| HYW0340P        | 5,006         | 7,905         | 7,226         | 7,036          | 5,825         | 5,438         | 4,341         | 3,555         | 3,489         | 3,073         | 2,769         | 1,787         | 57,450         |
| <b>TOTAL</b>    | <b>94,193</b> | <b>91,390</b> | <b>88,896</b> | <b>100,265</b> | <b>91,337</b> | <b>87,875</b> | <b>78,957</b> | <b>67,011</b> | <b>69,630</b> | <b>61,264</b> | <b>60,659</b> | <b>54,243</b> | <b>945,720</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Western 5     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYW0131P        | 10,174        | 7,481         | 9,588         | 9,538         | 7,413         | 8,760         | 8,040         | 6,960         | 7,330         | 6,381         | 6,605         | 5,961         | 94,231         |
| HYW0132P        | 6,314         | 5,558         | 6,388         | 6,084         | 5,703         | 5,352         | 5,203         | 3,900         | 3,573         | 1,843         | 2,839         | 2,690         | 55,447         |
| HYW0133P        | 4,719         | 4,338         | 3,852         | 4,040         | 4,046         | 4,188         | 3,765         | 2,671         | 2,395         | 555           |               |               | 34,569         |
| HYW0134P        | 21,234        | 22,119        | 17,655        | 26,878        | 22,800        | 22,841        | 21,204        | 18,415        | 17,947        | 14,663        | 15,056        | 17,727        | 238,539        |
| HYW0240P        | 8,960         | 8,027         | 6,656         | 6,148         | 4,248         | 5,630         | 5,465         | 4,676         | 4,285         | 2,017         | 2,706         | 3,866         | 62,684         |
| HYW0241P        | 13,386        | 8,143         | 9,742         | 8,172         | 6,615         | 5,416         | 4,357         | 3,497         | 3,059         | 2,975         | 3,104         | 2,862         | 71,328         |
| <b>TOTAL</b>    | <b>64,787</b> | <b>55,666</b> | <b>53,881</b> | <b>60,860</b> | <b>50,825</b> | <b>52,187</b> | <b>48,034</b> | <b>40,119</b> | <b>38,589</b> | <b>28,434</b> | <b>30,310</b> | <b>33,106</b> | <b>556,798</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

**Table 10.4: Abstraction (cont'd)**

| Sample Point ID | Western 6     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYW0176P        | 2,509         | 2,134         | 1,934         | 1,828         | 1,593         | 1,706         | 1,176         |               |               |               |               |               | 12,880         |
| HYW0355P        | 21,154        | 20,633        | 18,644        | 18,577        | 17,058        | 17,122        | 16,506        | 13,953        | 13,441        | 13,962        | 14,278        | 11,892        | 197,220        |
| HYW1021P        | 7,470         | 6,157         | 5,480         | 4,981         | 4,809         | 6,830         | 5,557         | 4,363         | 6,024         | 5,833         | 5,666         | 5,293         | 68,463         |
| HYW1024P        | 10,365        | 9,472         | 9,180         | 8,953         | 8,270         | 8,087         | 6,928         | 5,433         | 7,430         | 6,943         | 6,604         | 6,619         | 94,284         |
| SYAN0051        |               |               |               |               |               |               |               | 2,860         | 3,263         | 551           | 6,765         | 8,114         | 21,553         |
| <b>TOTAL</b>    | <b>41,498</b> | <b>38,396</b> | <b>35,238</b> | <b>34,339</b> | <b>31,730</b> | <b>33,745</b> | <b>30,167</b> | <b>26,609</b> | <b>30,158</b> | <b>27,289</b> | <b>33,313</b> | <b>31,918</b> | <b>394,400</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Central 1     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYC0012P        | 9,551         | 6,945         | 8,658         | 9,455         | 10,882        | 10,027        | 10,382        | 9,841         | 9,876         | 9,582         | 10,077        | 9,492         | 114,768        |
| HYC0015P        | 14,736        | 15,270        | 13,698        | 14,125        | 15,662        | 13,958        | 12,860        | 13,081        | 12,171        | 12,516        | 12,686        | 11,790        | 162,553        |
| HYC0096P        | 32,290        | 30,152        | 21,841        | 31,923        | 31,246        | 31,549        | 31,613        | 23,899        | 11,104        | 30,764        | 32,680        | 30,503        | 339,564        |
| <b>TOTAL</b>    | <b>56,577</b> | <b>52,367</b> | <b>44,197</b> | <b>55,503</b> | <b>57,790</b> | <b>55,534</b> | <b>54,855</b> | <b>46,821</b> | <b>33,151</b> | <b>52,862</b> | <b>55,443</b> | <b>51,785</b> | <b>616,885</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Central 5     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HNPIYC0034P     | 3,360         | 3,108         | 3,640         | 4,345         | 4,991         | 5,076         | 6,253         | 5,625         | 5,736         | 5,319         | 5,459         | 5,090         | 58,002         |
| HYC0019P        | 1,324         | 7,129         | 8,871         | 9,147         | 8,171         | 7,602         | 7,122         | 6,195         | 6,575         | 6,164         | 6,000         | 5,540         | 79,840         |
| HYC0031P        | 5,160         | 4,862         | 4,512         | 4,445         | 4,110         | 4,034         | 3,804         | 3,322         | 3,450         | 3,147         | 3,257         | 3,076         | 47,179         |
| HYC0068P        | 8,414         | 7,791         | 7,499         | 7,744         | 7,461         | 7,429         | 7,714         | 6,164         | 6,474         | 7,241         | 6,289         | 6,060         | 86,280         |
| HYC0069P        | 11,336        | 10,510        | 9,922         | 10,301        | 9,637         | 9,036         | 9,134         | 8,518         | 7,248         | 6,997         | 8,718         | 6,587         | 107,944        |
| HYC0089P        | 3,739         | 3,396         | 2,769         | 2,930         | 2,380         | 2,141         | 2,051         | 1,683         | 1,799         | 1,670         | 1,363         | 1,105         | 27,026         |
| HYC0090P        |               |               |               |               |               |               |               |               |               |               |               |               | 0              |
| <b>TOTAL</b>    | <b>33,333</b> | <b>36,796</b> | <b>37,213</b> | <b>38,912</b> | <b>36,750</b> | <b>35,318</b> | <b>36,078</b> | <b>31,507</b> | <b>31,282</b> | <b>30,538</b> | <b>31,086</b> | <b>27,458</b> | <b>406,271</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

**Table 10.4: Abstraction (cont'd)**

| Sample Point ID | Eastern 1 & 2 |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYE0023P        | 4,223         | 2,799         | 1,439         | 2,837         | 5,172         | 4,735         | 4,003         | 3,772         | 3,384         | 2,776         | 2,585         | 1,797         | 39,522         |
| HYE0041P        | 7,276         | 6,215         | 5,827         | 4,828         | 4,114         | 6,439         | 5,541         | 6,421         | 6,438         | 5,425         | 5,262         | 5,836         | 69,622         |
| HYE0051P        | 9,368         | 9,679         | 9,136         | 8,893         | 8,799         | 8,142         | 7,990         | 6,874         | 7,494         | 6,924         | 7,235         | 6,778         | 97,312         |
| HYE0061P        | 6,840         | 6,574         | 6,280         | 6,311         | 5,934         | 5,518         | 5,399         | 4,850         | 5,133         | 4,832         | 4,886         | 4,566         | 67,123         |
| HYE0193P        | 10,763        | 11,846        | 11,753        | 11,444        | 9,753         | 9,414         | 9,990         | 10,192        | 10,583        | 9,993         | 9,579         | 7,859         | 123,169        |
| HYE0194P        | 9,366         | 9,015         | 8,120         | 7,428         | 7,160         | 7,827         | 7,256         | 6,253         | 6,191         | 5,890         | 6,941         | 6,768         | 88,215         |
| <b>TOTAL</b>    | <b>47,836</b> | <b>46,128</b> | <b>42,555</b> | <b>41,741</b> | <b>40,932</b> | <b>42,075</b> | <b>40,179</b> | <b>38,362</b> | <b>39,223</b> | <b>35,840</b> | <b>36,488</b> | <b>33,604</b> | <b>484,963</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Eastern 4    |              |            |              |              |              |              |              |              |              |              |              |               |
|-----------------|--------------|--------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|                 | FY23 (kL)    |              |            |              |              |              |              |              |              |              |              |              |               |
|                 | Jul-22       | Aug-22       | Sep-22     | Oct-22       | Nov-22       | Dec-22       | Jan-23       | Feb-23       | Mar-23       | Apr-23       | May-23       | Jun-23       | TOTAL         |
| HYE1518P        | 2,732        | 989          | 147        | 4,660        | 4,952        | 5,075        | 834          |              |              |              | 381          | 4,524        | 24,294        |
| HYE1523P        | 3,252        | 1,128        |            | 1,776        | 3,119        | 3,360        | 3,445        | 3,434        | 3,817        | 3,591        | 2,638        | 1,147        | 30,707        |
| <b>TOTAL</b>    | <b>5,984</b> | <b>2,117</b> | <b>147</b> | <b>6,436</b> | <b>8,071</b> | <b>8,435</b> | <b>4,279</b> | <b>3,434</b> | <b>3,817</b> | <b>3,591</b> | <b>3,019</b> | <b>5,671</b> | <b>55,001</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Eastern 3,5,6 |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYE0026P        | 14,549        | 11,846        | 10,418        | 6,279         | 6,316         | 5,429         | 6,396         | 5,865         | 6,738         | 6,435         | 5,445         | 3,504         | 89,220         |
| HYE0027P        | 8,769         | 8,417         | 8,183         | 35,918        | 35,640        | 27,254        | 21,479        | 18,016        | 9,731         | 8,796         | 25,228        | 30,090        | 237,521        |
| HYE0042P        | 14,704        | 13,000        | 14,096        | 14,355        | 12,825        | 10,448        | 8,925         | 7,559         | 7,620         | 7,414         | 7,839         | 6,379         | 125,164        |
| HYE0044P        | 5,123         | 3,162         |               |               |               | 1,352         | 5,985         | 2,990         |               |               |               |               | 18,612         |
| HYE0045P        | 8,186         | 7,692         | 6,583         | 8,111         | 7,852         | 7,155         | 7,059         | 6,275         | 6,606         | 5,847         | 6,051         | 5,423         | 82,840         |
| HYE0055P        | 4,616         | 4,439         | 3,483         | 5,199         | 5,358         | 4,579         | 3,633         | 2,960         | 2,917         | 2,662         | 2,683         | 2,520         | 45,049         |
| HYE0156P        | 8,219         |               |               |               | 5,028         | 16,268        | 13,081        | 9,683         | 7,288         | 7,169         | 7,069         | 6,101         | 79,906         |
| HYE0157P        | 8,623         | 7,978         | 1,993         | 7,548         | 7,485         | 6,335         | 6,148         | 5,348         | 5,260         | 5,064         | 5,362         | 4,285         | 71,429         |
| HYE0171P        | 5,403         | 5,047         | 1,463         | 5,479         | 4,086         | 3,863         | 3,132         | 3,228         | 3,429         | 3,006         | 3,027         | 3,147         | 44,310         |
| HYE0172P        | 4,347         | 4,229         | 4,213         | 4,444         | 4,251         | 4,064         | 3,825         | 3,327         | 3,407         | 3,151         | 3,269         | 2,948         | 45,475         |
| <b>TOTAL</b>    | <b>82,539</b> | <b>65,810</b> | <b>50,432</b> | <b>87,333</b> | <b>88,841</b> | <b>86,747</b> | <b>79,663</b> | <b>65,251</b> | <b>52,996</b> | <b>49,544</b> | <b>65,973</b> | <b>64,397</b> | <b>839,526</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

**Table 10.4: Abstraction (cont'd)**

| Sample Point ID | Eastern 7     |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)     |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22        | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HYE0130P        | 3,675         | 3,170         | 2,968         | 2,969         | 2,727         | 2,759         | 2,317         | 2,205         | 2,445         | 1,958         | 1,982         | 1,725         | 30,900         |
| HYE0160P        | 8,956         | 8,189         | 5,798         | 8,518         | 7,970         | 7,528         | 7,005         | 5,307         | 4,297         | 5,933         | 6,169         | 6,899         | 82,569         |
| HYE0180P        | 17,831        | 15,229        | 4,511         | 16,246        | 14,709        | 14,992        | 14,208        | 11,574        | 14,207        | 14,791        | 14,568        | 13,593        | 166,459        |
| HYE0181P        | 22,941        | 20,667        | 19,247        | 12,689        | 14,493        | 18,259        | 18,720        | 12,875        | 17,437        | 15,954        | 16,130        | 16,259        | 205,671        |
| HYE0311P        | 1,036         | 872           | 776           | 586           | 702           | 172           |               |               |               |               |               |               | 4,144          |
| <b>TOTAL</b>    | <b>54,439</b> | <b>48,127</b> | <b>33,300</b> | <b>41,008</b> | <b>40,601</b> | <b>43,710</b> | <b>42,250</b> | <b>31,961</b> | <b>38,386</b> | <b>38,636</b> | <b>38,849</b> | <b>38,476</b> | <b>489,743</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Spinifex Borefield |               |               |               |               |               |               |               |               |               |               |               |                |
|-----------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
|                 | FY23 (kL)          |               |               |               |               |               |               |               |               |               |               |               |                |
|                 | Jul-22             | Aug-22        | Sep-22        | Oct-22        | Nov-22        | Dec-22        | Jan-23        | Feb-23        | Mar-23        | Apr-23        | May-23        | Jun-23        | TOTAL          |
| HNPISP0001P     | 31,347             | 30,781        | 28,926        | 25,955        | 25,702        | 31,633        | 33,707        | 25,592        | 6,564         | 29,292        | 26,864        | 21,691        | 318,054        |
| HNPISP0002P     | 31,621             | 31,099        | 31,565        | 38,870        | 37,595        | 28,523        | 25,204        | 28,098        | 41,567        | 40,967        | 30,081        | 31,366        | 396,556        |
| <b>TOTAL</b>    | <b>62,968</b>      | <b>61,880</b> | <b>60,491</b> | <b>64,825</b> | <b>63,297</b> | <b>60,156</b> | <b>58,911</b> | <b>53,690</b> | <b>48,131</b> | <b>70,259</b> | <b>56,945</b> | <b>53,057</b> | <b>714,610</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

| Sample Point ID | Barimunya Aerodrome |           |           |           |           |           |           |           |           |           |           |           |            |
|-----------------|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
|                 | FY23 (kL)           |           |           |           |           |           |           |           |           |           |           |           |            |
|                 | Jul-22              | Aug-22    | Sep-22    | Oct-22    | Nov-22    | Dec-22    | Jan-23    | Feb-23    | Mar-23    | Apr-23    | May-23    | Jun-23    | TOTAL      |
| HYB0001P        | 32                  | 27        | 20        | 23        | 24        | 28        | 25        | 29        | 13        | 19        | 24        | 25        | 289        |
| <b>TOTAL</b>    | <b>32</b>           | <b>27</b> | <b>20</b> | <b>23</b> | <b>24</b> | <b>28</b> | <b>25</b> | <b>29</b> | <b>13</b> | <b>19</b> | <b>24</b> | <b>25</b> | <b>289</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

**Table 10.4: Abstraction (cont'd)**

| Sample Point ID | Yandi Discharge |                |                |                |                |                |                |                |                |               |                |                |                  |
|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|------------------|
|                 | FY23 (kL)       |                |                |                |                |                |                |                |                |               |                |                |                  |
|                 | Jul-22          | Aug-22         | Sep-22         | Oct-22         | Nov-22         | Dec-22         | Jan-23         | Feb-23         | Mar-23         | Apr-23        | May-23         | Jun-23         | TOTAL            |
| <b>FYAN0003</b> |                 |                |                |                |                |                |                |                |                |               |                |                | <b>0</b>         |
| <b>FYAN0011</b> | 543,235         | 409,206        | 385,418        | 363,702        | 331,083        | 273,430        | 290,896        | 150,809        | 161,293        | 93,131        | 189,642        | 281,488        | <b>3,473,333</b> |
| <b>FYAN0054</b> |                 | 8              | 10             |                |                |                |                |                |                |               |                | 149            | <b>167</b>       |
| <b>TOTAL</b>    | <b>543,235</b>  | <b>409,214</b> | <b>385,428</b> | <b>363,702</b> | <b>331,083</b> | <b>273,430</b> | <b>290,896</b> | <b>150,809</b> | <b>161,293</b> | <b>93,131</b> | <b>189,642</b> | <b>281,637</b> | <b>3,473,500</b> |

Note: A blank cell indicates that no reading was taken. '0' indicates no abstraction.

**Table 10.5: Water Levels from Monitoring Bores**

| Sample Point ID | Regional Upgradient |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL)          |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22              | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0002M        | 610.45              | 610.38 | 610.35 | 610.31 | 610.28 | 610.16 | 610.14 | 610.14 | 610.08 | 609.86 | 609.78 | 609.71 |
| HYW0003M        | 571.19              |        |        |        |        |        |        |        |        |        |        |        |
| MB16YSN0001M    | 560.89              | 560.57 | 560.49 | 560.10 | 560.31 | 559.78 | 560.06 | 560.35 | 560.30 |        |        |        |
| MB16YSN0003M    | 594.86              | 594.63 | 594.85 | 594.48 | 594.29 | 594.11 | 594.01 | 593.92 | 593.94 | 593.85 | 593.78 | 593.68 |
| MB16YSN0004M    | 606.65              | 606.54 | 606.49 | 606.50 |        |        |        |        | 606.17 |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Regional Downgradient |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL)            |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22                | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| YM0121M         | 513.19                | 513.14 | 513.06 | 512.98 | 512.86 | 512.77 | 512.66 | 512.71 | 512.62 | 512.47 | 512.47 | 512.40 |
| HYE1508M        | 490.89                | 490.29 | 489.78 | 489.35 | 489.02 | 490.57 | 490.43 | 489.76 | 490.40 | 488.64 | 488.97 | 488.92 |
| HYE1515M        |                       |        | 492.86 |        |        | 494.15 | 493.05 | 493.81 | 492.70 | 492.25 | 492.62 | 491.93 |
| HYM0011M        | 524.79                | 524.81 | 524.79 | 524.75 | 524.59 | 524.56 | 524.76 | 524.54 | 524.60 | 524.52 | 524.49 | 524.50 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 1  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYM0042M        | 522.53     | 522.34 | 522.51 | 522.52 | 522.48 |        | 517.26 | 516.71 |        |        |        |        |
| HYW0005M        | 546.63     | 545.95 | 546.73 | 547.54 | 546.46 | 546.80 | 547.32 | 547.13 | 549.85 | 552.30 | 553.65 | 554.03 |
| HYW0008P        |            |        |        |        |        | 573.31 |        |        | 572.00 | 574.74 | 558.18 | 558.08 |
| HYW0011P        | 549.41     | 549.26 | 550.10 |        |        |        |        |        |        |        |        |        |
| HYW0060P        | 528.78     | 528.72 | 528.83 | 528.68 | 528.59 | 528.46 | 528.41 | 528.35 | 528.27 | 528.31 | 528.27 | 527.04 |
| HYW0179P        |            |        |        |        |        | 541.72 | 541.63 | 541.58 | 541.55 |        | 542.03 | 530.53 |
| HYW0221M        | 527.43     | 527.21 | 527.33 | 527.31 | 527.17 | 527.06 | 526.91 | 526.83 | 526.73 | 526.78 | 526.83 | 526.69 |
| HYW0222M        | 522.51     | 522.45 | 522.50 | 522.75 | 522.41 | 522.42 | 522.33 | 522.33 | 522.33 | 522.36 | 522.34 | 522.29 |
| HYW1032M        |            |        |        |        |        |        |        | 535.82 | 535.83 | 536.06 | 535.80 | 535.58 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 2  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0345M        | 526.02     | 525.63 | 526.12 | 525.95 | 525.63 | 524.97 | 524.45 | 524.25 | 524.13 | 524.45 | 524.29 | 523.77 |
| HYW0347M        | 526.43     | 526.01 | 526.64 | 526.35 | 526.09 | 525.52 |        | 525.71 |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

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**Table 10.5: Water Levels from Monitoring Bores (cont'd)**

| Sample Point ID | Western 3  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0401M        | 529.93     | 529.39 | 528.76 | 529.25 | 528.30 | 527.56 | 527.61 | 528.19 | 527.11 | 526.72 | 526.40 | 526.34 |
| HYW1014M        | 527.46     | 526.37 | 525.62 | 527.51 | 525.00 | 524.03 | 523.54 |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 4  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0050M        | 516.75     | 516.61 | 516.43 | 516.11 | 515.70 | 515.23 | 514.93 | 514.80 | 514.68 | 514.63 | 514.19 | 514.05 |
| HYW0184M        | 510.38     | 510.09 | 509.95 | 510.54 | 509.64 | 509.18 | 509.02 | 508.74 | 508.61 | 508.34 | 509.00 | 508.96 |
| HYW0306P        | 516.34     | 516.19 | 515.98 | 515.56 | 515.19 | 514.59 | 514.17 | 513.96 | 513.78 | 513.59 | 513.38 | 513.18 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 5  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0352M        | 511.61     | 512.49 | 512.33 | 512.18 | 511.58 | 510.79 | 510.21 | 510.13 | 509.47 | 509.39 | 509.21 | 509.10 |
| HYW0400M        | 507.66     | 507.27 | 506.40 | 505.93 | 505.55 | 504.74 | 504.70 | 504.25 | 503.89 | 504.19 | 504.19 | 503.57 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 6  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW1022M        | 523.75     | 522.87 | 522.71 | 523.48 | 522.20 | 521.62 | 523.47 | 522.60 | 521.50 | 520.59 | 520.93 | 520.51 |
| HYW1023M        | 516.94     | 517.10 | 516.57 | 518.29 | 516.23 | 515.10 | 516.60 | 515.42 | 514.21 | 513.75 | 512.94 | 513.14 |
| HYW1028M        | 525.76     | 524.53 | 524.55 | 524.53 | 524.25 | 523.90 | 524.42 | 524.82 | 527.15 |        |        |        |
| HYW1029M        | 519.24     | 518.55 | 520.31 | 521.69 | 517.88 | 517.16 | 519.22 | 517.29 | 516.55 | 516.31 | 516.49 | 516.03 |
| HYW1030M        | 522.38     | 522.33 | 522.44 | 522.42 | 522.39 | 522.32 | 522.25 | 522.43 | 522.42 | 522.41 | 522.36 | 522.24 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Central 1  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYC0018P        | 495.97     | 495.68 | 495.37 | 494.18 | 494.68 | 494.12 |        |        |        |        |        |        |
| HYC0061M        | 497.85     | 497.59 | 497.39 | 497.33 | 496.90 | 496.86 | 496.24 | 496.14 | 495.83 | 495.79 | 495.58 |        |

Note: A blank cell indicates that no reading was taken.

**Table 10.5: Water Levels from Monitoring Bores (cont'd)**

| Sample Point ID | Central 5  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYC0021P        | 496.47     | 496.24 | 495.87 | 495.59 | 495.22 | 494.76 | 494.40 | 494.07 | 494.27 | 493.71 | 493.37 | 493.06 |
| HYC0066M        | 488.82     | 488.66 | 488.51 | 488.38 | 488.22 | 488.02 | 487.83 | 487.67 | 487.62 | 487.45 | 487.24 | 487.52 |
| HYC0067M        | 489.28     | 489.27 | 489.21 | 489.86 | 488.82 | 488.33 | 487.80 | 487.69 | 487.76 | 487.23 | 487.29 | 486.60 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Eastern 1 & 2 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL)    |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22        | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0190M        | 487.27        | 486.97 | 486.60 | 486.46 | 486.31 | 486.75 | 486.02 | 485.79 | 485.74 | 485.35 | 485.43 | 483.16 |
| HYE0191M        | 487.01        | 486.56 | 486.41 | 486.31 | 486.17 | 485.88 | 485.76 | 485.59 | 485.45 | 485.28 | 484.93 | 484.83 |
| YE0645DM        | 487.47        | 487.33 | 486.31 | 487.39 | 487.07 | 486.76 |        | 486.46 | 486.66 | 486.22 | 486.28 | 486.08 |
| HYE0060P        |               |        |        |        |        |        | 486.82 | 485.62 | 486.53 | 486.39 | 486.25 | 486.18 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Eastern 4  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE1522M        | 528.96     | 528.28 | 524.12 | 527.49 | 526.10 | 525.94 |        |        |        |        |        |        |
| HYE1525M        | 496.41     | 496.47 |        |        | 508.16 |        |        |        |        |        |        |        |
| HYE1536M        |            |        |        |        |        |        | 524.68 | 524.11 | 524.97 | 523.42 | 523.17 | 522.52 |
| HYE1538M        |            |        |        |        |        |        | 494.62 | 494.62 | 494.61 | 494.58 |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Eastern 3,5,6 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL)    |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22        | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0153M        | 493.82        | 493.69 | 493.84 | 493.76 | 493.74 | 493.68 | 493.60 | 493.59 | 493.50 | 493.72 | 493.66 | 493.25 |
| HYE0155M        | 487.83        | 487.38 | 487.42 |        |        |        |        |        |        |        |        |        |
| HYE0162M        | 481.66        | 483.13 | 484.84 |        |        |        |        |        |        |        |        |        |
| HYE1520M        | 488.32        | 488.11 | 488.59 | 487.92 |        |        |        | 487.38 | 487.41 | 487.54 | 487.40 | 487.25 |
| HYE1521M        | 485.11        | 484.91 | 485.10 | 485.14 | 485.08 | 484.95 | 484.59 | 484.25 | 484.02 | 484.12 | 483.95 | 483.84 |
| HYE1532M        | 493.49        | 493.30 | 493.27 | 489.41 | 486.76 | 487.05 | 487.65 | 487.86 | 490.41 | 489.78 | 490.78 | 485.06 |
| HYE1533M        | 493.66        | 493.46 | 493.50 | 491.25 | 489.07 | 488.59 | 488.83 | 488.82 | 490.27 | 490.12 | 490.53 | 486.71 |
| HYE1534M        |               |        | 484.38 |        | 482.60 | 482.11 |        |        |        |        |        |        |
| HYE1535M        |               |        |        | 483.61 | 482.84 | 480.49 | 479.69 | 479.16 | 479.30 | 479.12 | 478.79 | 478.67 |
| HYE1537M        |               |        |        |        |        | 481.51 | 480.89 | 480.54 | 480.46 | 480.38 | 480.29 | 480.10 |

Note: A blank cell indicates that no reading was taken.

**Table 10.5: Water Levels from Monitoring Bores (cont'd)**

| Sample Point ID | Eastern 7  |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0300M        | 480.61     | 480.27 | 480.14 | 479.18 | 478.95 | 478.86 | 478.99 | 479.53 | 479.38 | 479.15 | 478.72 | 478.90 |
| HYE0310M        |            |        |        |        |        |        |        |        |        |        |        |        |
| HYE0312M        |            |        |        |        |        |        |        |        |        |        |        |        |
| HYE0314P        | 485.35     | 484.93 | 484.69 | 484.56 | 484.29 | 484.11 | 483.70 | 482.82 | 482.93 | 482.72 | 482.32 | 482.11 |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Spinifex   |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (mRL) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22     | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0003M        | 571.19     |        |        |        |        |        |        |        |        |        |        |        |
| MB16YSN0001M    | 560.89     | 560.57 | 560.49 | 560.10 | 560.31 | 559.78 | 560.06 | 560.35 | 560.30 |        |        |        |

Note: A blank cell indicates that no reading was taken.

**Table 10.6: Field pH from Production Bores and Sumps**

| Sample Point ID | Western 1 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HNPIYN1704P     |           |        |        |        |        |        |        |        |        |        |        |        |
| HNPIYN1707P     |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0008P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0010P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0024P        | 7.1       |        |        |        |        |        |        |        |        |        |        |        |
| HYW0180P        | 7.2       | 6.7    | 7.3    | 7.1    | 7.2    |        |        |        | 7.2    | 7.2    | 7.2    | 7.6    |
| HYW0212P        |           |        |        |        | 6.9    |        |        |        |        |        |        | 7.1    |
| HYW0215P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0226P        | 7.8       | 7.3    | 7.8    | 7.2    | 7.1    |        |        |        | 7.6    | 7.5    | 7.7    | 7.0    |
| HYW0228P        |           |        |        |        |        |        |        |        |        | 7.0    |        |        |
| HYW0229P        | 7.2       | 6.8    | 6.7    | 6.8    | 6.9    |        |        |        | 7.1    |        | 7.3    | 7.1    |
| HYW0230P        | 7.2       | 6.8    | 7.3    | 6.6    | 6.8    |        |        |        | 7.1    | 7.1    | 7.3    | 7.2    |
| HYW0246P        |           |        |        | 6.2    | 7.2    |        |        |        |        |        |        |        |
| HYW0322P        |           |        |        |        |        |        |        |        |        |        |        |        |
| SYAN0043        | 7.2       | 7.1    | 8.1    |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 2 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0237P        | 7.2       | 6.6    | 7.3    |        | 6.7    |        |        |        | 7.0    | 7.3    | 7.1    | 7.0    |
| HYW0238P        | 7.5       | 7.0    | 7.3    |        | 7.1    |        |        |        | 7.2    | 7.0    | 7.1    | 7.0    |
| HYW0348P        |           |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 3 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW1015P        |           | 6.9    | 7.4    |        | 6.9    |        |        |        | 7.6    | 7.4    | 7.5    | 7.3    |
| HYW1016P        |           | 6.6    | 7.3    |        | 7.0    |        |        |        | 7.6    | 7.5    | 7.6    | 7.4    |

Note: A blank cell indicates that no reading was taken.

**Table 10.6: Field pH from Production Bores and Sumps (cont'd)**

| Sample Point ID | Western 4 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0030P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0035P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0042P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0051P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0064P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0072P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0165P        | 7.0       | 6.6    | 7.0    | 6.3    | 6.9    |        |        |        | 7.1    | 7.0    | 7.0    | 6.8    |
| HYW0182P        | 6.8       | 6.5    | 7.0    | 6.4    | 6.8    |        |        |        | 6.9    | 6.8    | 7.1    | 7.2    |
| HYW0340P        |           |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 5 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0131P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0132P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0133P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0134P        | 7.7       | 6.5    | 7.6    | 6.6    | 7.1    |        |        |        | 7.1    | 7.0    | 7.5    | 7.6    |
| HYW0240P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW0241P        | 7.2       | 6.8    | 7.2    | 6.8    | 6.8    |        |        |        | 7.1    | 6.9    | 7.1    | 7.1    |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Western 6 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0176P        | 7.1       | 6.4    | 7.1    | 6.7    | 6.7    |        |        |        |        | 7.0    | 7.0    | 7.1    |
| HYW0355P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYW1021P        | 7.4       | 6.5    | 7.1    | 6.9    | 7.0    |        |        |        | 7.0    | 6.8    | 7.5    | 7.2    |
| HYW1024P        |           |        |        |        |        |        |        |        |        |        |        |        |
| SYAN0051        |           |        |        |        |        |        |        |        |        |        | 7.6    |        |

Note: A blank cell indicates that no reading was taken.

**Table 10.6: Field pH from Production Bores and Sumps (cont'd)**

| Sample Point ID | Central 1 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYC0012P        | 7.3       | 6.5    | 7.1    |        | 7.0    |        |        |        | 8.6    | 7.0    | 6.9    | 7.5    |
| HYC0015P        | 6.9       | 6.4    | 7.0    | 6.4    | 7.1    |        |        |        | 6.7    | 6.7    | 6.8    | 6.9    |
| HYC0096P        | 7.0       | 6.6    | 7.0    | 6.7    | 7.0    |        |        |        |        | 6.7    | 7.0    | 6.9    |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Central 5 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HNPIYC0034P     |           | 6.5    | 7.0    | 6.3    | 7.0    |        |        |        | 8.5    | 6.7    | 6.8    | 6.7    |
| HYC0019P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYC0031P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYC0068P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYC0069P        | 7.5       | 6.4    | 7.0    | 6.9    | 7.0    |        |        |        | 8.4    | 6.7    | 6.9    | 6.8    |
| HYC0089P        | 6.9       |        |        |        |        |        |        |        |        |        |        |        |
| HYC0090P        |           |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Eastern 1 & 2 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH)     |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22        | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0023P        | 7.1           | 6.4    | 7.0    |        |        |        |        |        |        |        |        |        |
| HYE0041P        |               |        |        | 6.5    | 6.8    |        |        |        | 7.1    | 6.7    | 7.0    | 6.8    |
| HYE0051P        | 7.0           | 6.5    | 7.0    | 6.6    | 6.9    |        |        |        | 7.2    | 6.8    | 7.0    | 6.8    |
| HYE0061P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0193P        | 7.6           | 6.6    | 7.8    | 6.8    | 7.0    |        |        |        | 7.1    | 6.7    | 6.9    | 6.8    |
| HYE0194P        | 7.2           | 6.5    | 7.5    | 7.0    | 7.0    |        |        |        | 6.9    | 6.7    | 6.9    | 6.9    |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Eastern 4 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE1518P        | 7.7       |        |        | 7.1    | 7.0    |        |        |        |        |        |        | 7.4    |
| HYE1523P        | 7.7       |        |        | 6.9    | 6.9    |        |        |        | 7.6    | 7.6    |        |        |

Note: A blank cell indicates that no reading was taken.

**Table 10.6: Field pH from Production Bores and Sumps (cont'd)**

| Sample Point ID | Eastern 3,5,6 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH)     |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22        | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0026P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0027P        | 7.1           |        | 7.1    | 6.6    | 6.6    |        |        |        | 7.3    | 6.8    | 7.9    | 7.5    |
| HYE0042P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0044P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0045P        | 7.2           |        | 7.0    | 6.7    | 6.8    |        |        |        | 7.9    | 6.9    | 7.0    | 6.9    |
| HYE0055P        |               |        |        | 6.5    | 6.8    |        |        |        | 7.0    | 6.9    | 7.0    | 7.4    |
| HYE0156P        | 7.0           |        |        |        |        |        |        |        |        |        |        |        |
| HYE0157P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0171P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0172P        | 7.0           | 6.5    | 7.0    | 6.5    | 6.9    |        |        |        | 6.8    | 7.0    | 7.1    | 6.9    |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Eastern 7 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22    | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0130P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYE0160P        |           |        |        |        |        |        |        |        |        |        |        |        |
| HYE0180P        | 7.5       | 6.6    | 7.3    | 6.5    | 6.9    |        |        |        | 6.7    | 6.9    | 7.0    | 6.9    |
| HYE0181P        | 8.2       | 6.5    | 7.1    | 6.6    | 6.9    |        |        |        | 6.9    | 6.9    | 7.0    | 7.5    |
| HYE0311P        |           |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken.

| Sample Point ID | Spinifex Borefield |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (pH)          |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22             | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HNPISP0001P     | 7.3                | 7.2    | 7.1    | 7.2    | 7.0    | 7.2    | 7.2    | 7.1    | 7.2    | 7.2    | 7.2    | 7.3    |
| HNPISP0002P     | 7.3                | 7.3    | 7.1    | 7.1    | 7.0    | 7.2    | 7.2    | 7.1    | 7.2    | 7.2    | 7.2    | 7.2    |

Note: A blank cell indicates that no reading was taken.

**Table 10.7: Field EC from Production Bores and Sumps**

| Sample Point ID | Western 1    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HNPIYN1704P     |              |        |        |        |        |        |        |        |        |        |        |        |
| HNPIYN1707P     |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0008P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0010P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0024P        | 1,417        |        |        |        |        |        |        |        |        |        |        |        |
| HYW0180P        | 1,250        | 1,158  | 610    | 810    | 764    | 1,186  | 1,184  | 1,205  | 1,190  | 1,306  | 1,028  | 1,158  |
| HYW0212P        |              |        |        |        | 767    | 1,261  |        | 1,254  |        |        |        | 1,235  |
| HYW0215P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0226P        | 1,367        | 1,257  | 613    | 824    | 784    | 1,243  | 1,233  | 1,255  | 1,315  | 1,330  | 1,196  | 1,080  |
| HYW0228P        |              |        |        |        |        |        |        |        |        | 1,180  |        |        |
| HYW0229P        | 1,194        | 1,204  | 554    | 768    | 747    | 1,230  | 1,220  | 1,225  | 1,210  |        | 1,130  | 937    |
| HYW0230P        | 1,619        | 1,516  | 697    | 724    | 739    | 1,517  | 1,505  | 1,440  | 1,470  | 1,580  | 1,335  | 1,156  |
| HYW0246P        |              |        |        | 705    | 781    |        | 1,072  |        |        |        |        |        |
| HYW0322P        |              |        |        |        |        |        |        |        |        |        |        |        |
| SYAN0043        | 1,437        | 784    | 477    |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Western 2    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0237P        | 1,532        | 1,243  | 600    |        | 724    | 1,288  | 1,287  | 1,289  | 1,260  | 1,301  | 1,213  | 1,199  |
| HYW0238P        | 1,767        | 1,066  | 553    |        | 777    | 1,240  | 1,241  | 1,251  | 1,290  | 1,325  | 1,005  | 1,123  |
| HYW0348P        |              |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Western 3    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW1015P        |              | 1,096  | 598    |        | 747    | 1,194  | 1,197  | 1,194  | 1,175  | 1,230  | 1,145  | 1,042  |
| HYW1016P        |              | 1,190  | 588    |        | 764    | 1,223  | 1,229  |        | 1,205  | 986    | 1,146  | 1,121  |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

**Table 10.7: Field EC from Production Bores and Sumps (cont'd)**

| Sample Point ID | Western 4    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0030P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0035P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0042P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0051P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0064P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0072P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0165P        | 1,522        | 1,489  | 661    | 708    | 753    | 1,485  | 1,505  | 1,453  | 1,472  | 1,402  | 1,403  | 1,018  |
| HYW0182P        | 1,282        | 1,203  | 578    | 710    | 720    | 1,167  | 1,205  | 1,334  | 1,180  | 1,282  | 1,053  | 1,313  |
| HYW0340P        |              |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Western 5    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0131P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0132P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0133P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0134P        | 1,156        | 1,071  | 570    | 746    | 755    | 1,107  | 1,076  | 1,100  | 1,082  | 1,192  | 1,050  | 1,042  |
| HYW0240P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW0241P        | 972          | 997    | 512    | 738    | 730    | 946    | 925    | 920    | 964    | 1,026  | 924    | 868    |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Western 6    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYW0176P        | 1,424        | 1,513  | 706    | 1,440  | 723    | 1,532  | 1,469  | 1,050  |        | 1,126  | 860    | 1,016  |
| HYW0355P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYW1021P        | 1,416        | 1,415  | 662    | 1,253  | 751    | 1,358  | 1,336  | 1,399  | 1,377  | 1,170  | 1,281  | 1,297  |
| HYW1024P        |              |        |        |        |        |        |        |        |        |        |        |        |
| SYAN0051        |              |        |        |        |        |        |        |        |        |        | 1,109  |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

**Table 10.7: Field EC from Production Bores and Sumps (cont'd)**

| Sample Point ID | Central 1    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYC0012P        | 1,300        | 1,365  | 652    |        | 770    | 1,312  | 1,302  | 1,282  | 1,327  | 1,409  | 1,276  | 1,245  |
| HYC0015P        | 1,266        | 1,185  | 602    | 1,098  | 769    | 1,162  | 1,205  | 1,198  | 1,248  | 1,325  | 1,148  | 1,018  |
| HYC0096P        | 922          | 887    | 522    | 655    | 771    | 938    | 941    | 930    |        | 1,059  | 960    | 950    |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Central 5    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HNPIYC0034P     |              | 981    | 515    | 481    | 719    | 943    | 972    | 974    | 982    | 1,077  | 960    | 801    |
| HYC0019P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYC0031P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYC0068P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYC0069P        | 842          | 842    | 496    | 583    | 721    | 851    | 836    | 864    | 842    | 932    | 731    | 836    |
| HYC0089P        | 904          |        |        |        |        |        |        |        |        |        |        |        |
| HYC0090P        |              |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Eastern 1 & 2 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm)  |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22        | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0023P        | 989           | 1,008  | 527    |        |        |        |        |        |        |        |        |        |
| HYE0041P        |               |        |        | 720    | 720    | 862    | 897    | 871    | 891    | 1,011  |        | 823    |
| HYE0051P        | 868           | 932    | 492    | 725    | 722    | 911    | 919    | 887    | 884    | 988    |        | 820    |
| HYE0061P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0193P        | 1,048         | 951    | 559    | 511    |        | 968    | 972    | 982    | 973    | 1,067  | 953    | 896    |
| HYE0194P        | 968           | 925    | 505    | 501    | 720    | 944    | 942    | 959    | 924    | 1,042  | 935    | 907    |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Eastern 4    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE1518P        | 951          |        |        | 912    | 719    | 916    |        |        |        |        |        | 855    |
| HYE1523P        | 1,182        |        |        | 616    | 718    | 1,190  | 1,167  | 1,136  | 1,160  | 1,243  |        |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

**Table 10.7: Field EC from Production Bores and Sumps (cont'd)**

| Sample Point ID | Eastern 3,5,6 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm)  |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22        | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0026P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0027P        | 675           |        | 414    | 646    | 716    | 775    | 762    | 744    | 743    | 829    |        | 745    |
| HYE0042P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0044P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0045P        | 814           |        | 475    | 703    | 720    | 824    | 809    | 806    | 804    | 903    |        | 761    |
| HYE0055P        |               |        |        | 765    | 715    | 863    | 831    | 844    | 865    | 959    | 847    | 607    |
| HYE0156P        | 655           |        |        |        |        |        |        |        |        |        |        |        |
| HYE0157P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0171P        |               |        |        |        |        |        |        |        |        |        |        |        |
| HYE0172P        | 920           | 885    | 502    | 869    | 716    | 889    | 891    | 908    | 835    | 997    | 866    | 735    |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Eastern 7    |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm) |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22       | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HYE0130P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYE0160P        |              |        |        |        |        |        |        |        |        |        |        |        |
| HYE0180P        | 768          | 856    | 485    | 734    | 719    | 940    | 890    | 823    | 896    | 1,001  | 874    | 819    |
| HYE0181P        | 837          | 856    | 465    | 765    | 718    | 841    | 792    | 879    | 868    | 914    | 833    | 849    |
| HYE0311P        |              |        |        |        |        |        |        |        |        |        |        |        |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

| Sample Point ID | Spinifex Borefield |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | FY23 (µS/cm)       |        |        |        |        |        |        |        |        |        |        |        |
|                 | Jul-22             | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 |
| HNPISP0001P     | 1,200              | 1,200  | 1,200  | 1,300  | 1,200  | 1,200  | 1,100  | 1,200  | 1,200  | 1,100  | 1,200  | 1,100  |
| HNPISP0002P     | 1,200              | 1,300  | 1,300  | 1,400  | 1,300  | 1,200  | 1,200  | 1,300  | 1,300  | 1,200  | 1,200  | 1,200  |

Note: A blank cell indicates that no reading was taken. EC values are in uS/cm

**Table 10.8: Laboratory Chemistry Results from Production Bores**

| Recording Type Name                        | Unit  | Trigger Values | Western 1 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYW0180P  |          | HYW0212P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.079     | 0.076    | 0.072    | 0.071    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 470       | 470      | 360      | 340      |
| Boron                                      | mg/L  | 0.37           | 0.550     | 0.640    | 0.360    | 0.450    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 69.0      | 72.0     | 70.0     | 71.0     |
| Chloride                                   | mg/L  |                | 120       | 130      | 160      | 170      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | 0.006    | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 1200      | 1200     | 1300     | 1300     |
| Fluoride                                   | mg/L  |                | 0.6       | 0.6      | 0.5      | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | 0.014    |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 61.0      | 67.0     | 60.0     | 65.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 10.00     | 10.00    | 61.00    | 61.00    |
| pH                                         | pH    | 6.5-8.0        | 7.9       | 7.8      | 7.8      | 7.8      |
| Potassium                                  | mg/L  |                | 13.0      | 15.0     | 13.0     | 14.0     |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 72.00     | 69.00    | 68.00    | 63.00    |
| Selenium                                   | mg/L  | 0.011          | 0.002     | 0.004    | 0.001    | 0.001    |
| Silica                                     | mg/L  |                | 68.00     | 74.00    | 63.00    | 66.00    |
| Sodium                                     | mg/L  |                | 88.0      | 100.0    | 87.0     | 100.0    |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 59        | 62       | 67       | 77       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 380       | 390      | 290      | 280      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 680       | 720      | 750      | 770      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 420       | 450      | 420      | 440      |
| Zinc                                       | mg/L  | 0.072          | <0.005    | <0.005   | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Western 2 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYW0237P  |          | HYW0238P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.077     | 0.076    | 0.074    | 0.073    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 450       | 460      | 450      | 450      |
| Boron                                      | mg/L  | 0.37           | 0.410     | 0.480    | 0.410    | 0.490    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 72.0      | 74.0     | 70.0     | 71.0     |
| Chloride                                   | mg/L  |                | 150       | 160      | 130      | 140      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | 0.001    | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 1300      | 1300     | 1200     | 1200     |
| Fluoride                                   | mg/L  |                | 0.6       | 0.6      | 0.6      | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 63.0      | 69.0     | 62.0     | 67.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | 0.001    |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 8.50      | 7.70     | 10.00    | 9.90     |
| pH                                         | pH    | 6.5-8.0        | 7.8       | 7.8      | 7.9      | 7.8      |
| Potassium                                  | mg/L  |                | 13.0      | 14.0     | 13.0     | 14.0     |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 70.00     | 67.00    | 69.00    | 68.00    |
| Selenium                                   | mg/L  | 0.011          | 0.002     | <0.001   | 0.002    | <0.001   |
| Silica                                     | mg/L  |                | 65.00     | 72.00    | 66.00    | 71.00    |
| Sodium                                     | mg/L  |                | 92.0      | 100.0    | 89.0     | 99.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 66        | 69       | 63       | 66       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 370       | 370      | 370      | 370      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 740       | 760      | 710      | 720      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 440       | 470      | 430      | 450      |
| Zinc                                       | mg/L  | 0.072          | 0.014     | 0.014    | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Western 3 |          |
|--------------------------------------------|-------|----------------|-----------|----------|
|                                            |       |                | HYW1015P  | HYW1016P |
|                                            |       |                | Apr - 23  | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.061     | 0.066    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 410       | 420      |
| Boron                                      | mg/L  | 0.37           | 0.470     | 0.480    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  |
| Calcium                                    | mg/L  |                | 65.0      | 67.0     |
| Chloride                                   | mg/L  |                | 150       | 150      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 1200      | 1200     |
| Fluoride                                   | mg/L  |                | 0.5       | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   |
| Magnesium                                  | mg/L  |                | 61.0      | 63.0     |
| Manganese                                  | mg/L  | 1.9            | 0.002     | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 7.70      | 8.00     |
| pH                                         | pH    | 6.5-8.0        | 8.1       | 7.8      |
| Potassium                                  | mg/L  |                | 12.0      | 12.0     |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 62.00     | 62.00    |
| Selenium                                   | mg/L  | 0.011          | <0.001    | 0.001    |
| Silica                                     | mg/L  |                | 65.00     | 66.00    |
| Sodium                                     | mg/L  |                | 100.0     | 100.0    |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 64        | 64       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 340       | 340      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 680       | 690      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 410       | 430      |
| Zinc                                       | mg/L  | 0.072          | <0.005    | 0.015    |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Western 4 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYW0030P  |          | HYW0051P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.048     | 0.053    | 0.035    | 0.037    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 320       | 350      | 240      | 260      |
| Boron                                      | mg/L  | 0.37           | 0.290     | 0.390    | 0.300    | 0.370    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 49.0      | 55.0     | 32.0     | 37.0     |
| Chloride                                   | mg/L  |                | 100       | 120      | 95       | 100      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   | 0.009    |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 900       | 980      | 770      | 810      |
| Fluoride                                   | mg/L  |                | 0.5       | 0.5      | 0.6      | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | 0.018    |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 43.0      | 51.0     | 37.0     | 42.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | <0.001   | <0.001   | 0.001    |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 6.50      | 7.60     | 5.30     | 5.00     |
| pH                                         | pH    | 6.5-8.0        | 7.9       | 7.6      | 8.2      | 8.1      |
| Potassium                                  | mg/L  |                | 9.0       | 11.0     | 8.3      | 9.2      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 63.00     | 61.00    | 63.00    | 63.00    |
| Selenium                                   | mg/L  | 0.011          | 0.001     | 0.001    | 0.001    | 0.002    |
| Silica                                     | mg/L  |                | 59.00     | 65.00    | 59.00    | 64.00    |
| Sodium                                     | mg/L  |                | 69.0      | 83.0     | 66.0     | 75.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 49        | 53       | 47       | 48       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 260       | 280      | 190      | 220      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 530       | 590      | 460      | 490      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 300       | 350      | 230      | 260      |
| Zinc                                       | mg/L  | 0.072          | <0.005    | <0.005   | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Western 5 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYW0132P  |          | HYW0134P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.063     | 0.057    | 0.055    | 0.050    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 370       | 370      | 390      | 390      |
| Boron                                      | mg/L  | 0.37           | 0.370     | 0.420    | 0.330    | 0.390    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 60.0      | 61.0     | 58.0     | 59.0     |
| Chloride                                   | mg/L  |                | 130       | 140      | 120      | 120      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 1100      | 1100     | 1100     | 1100     |
| Fluoride                                   | mg/L  |                | 0.5       | 0.5      | 0.5      | 0.5      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 53.0      | 56.0     | 52.0     | 56.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 6.30      | 5.70     | 12.00    | 11.00    |
| pH                                         | pH    | 6.5-8.0        | 7.6       | 7.6      | 7.8      | 7.8      |
| Potassium                                  | mg/L  |                | 9.7       | 11.0     | 8.5      | 9.3      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 62.00     | 60.00    | 62.00    | 59.00    |
| Selenium                                   | mg/L  | 0.011          | 0.002     | 0.002    | 0.002    | 0.002    |
| Silica                                     | mg/L  |                | 59.00     | 64.00    | 57.00    | 62.00    |
| Sodium                                     | mg/L  |                | 86.0      | 95.0     | 84.0     | 94.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 59        | 59       | 58       | 58       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 300       | 310      | 320      | 320      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 640       | 650      | 620      | 640      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 370       | 380      | 360      | 380      |
| Zinc                                       | mg/L  | 0.072          | <0.005    | <0.005   | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Western 6 |          |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|----------|
|                                            |       |                | HYW0176P  | HYW0355P |          | HYW1021P | SYAN0051 |
|                                            |       |                | Oct - 22  | Oct - 22 | Apr - 23 | Apr - 23 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.015     | 0.045    | 0.045    | 0.007    | 0.011    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 480       | 360      | 360      | 500      | 420      |
| Boron                                      | mg/L  | 0.37           | 0.750     | 0.340    | 0.400    | 0.870    | 0.770    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 61.0      | 56.0     | 55.0     | 54.0     | 58.0     |
| Chloride                                   | mg/L  |                | 190       | 130      | 130      | 170      | 150      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 1500      | 1100     | 1100     | 1400     | 1200     |
| Fluoride                                   | mg/L  |                | 0.6       | 0.5      | 0.5      | 0.6      | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | <0.005   | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 69.0      | 49.0     | 53.0     | 66.0     | 70.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | 0.001    | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 34.00     | 12.00    | 11.00    | 17.00    | 5.00     |
| pH                                         | pH    | 6.5-8.0        | 7.9       | 7.7      | 7.7      | 7.8      | 8.1      |
| Potassium                                  | mg/L  |                | 3.8       | 7.5      | 8.1      | 4.1      | 4.5      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 62.00     | 57.00    | 57.00    | 60.00    | 54.00    |
| Selenium                                   | mg/L  | 0.011          | 0.002     | 0.001    | 0.003    | <0.001   | <0.001   |
| Silica                                     | mg/L  |                | 59.00     | 55.00    | 59.00    | 64.00    | 57.00    |
| Sodium                                     | mg/L  |                | 140.0     | 88.0     | 97.0     | 150.0    | 110.0    |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 70        | 55       | 57       | 52       | 63       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 390       | 300      | 300      | 410      | 340      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 860       | 600      | 620      | 780      | 700      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 440       | 340      | 360      | 410      | 430      |
| Zinc                                       | mg/L  | 0.072          | 0.005     | 0.066    | 0.013    | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Central 1 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYC0012P  |          | HYC0015P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.017     | 0.018    | 0.053    | 0.053    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 410       | 410      | 360      | 370      |
| Boron                                      | mg/L  | 0.37           | 0.590     | 0.680    | 0.360    | 0.420    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 64.0      | 64.0     | 61.0     | 65.0     |
| Chloride                                   | mg/L  |                | 160       | 170      | 160      | 170      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 1300      | 1300     | 1200     | 1200     |
| Fluoride                                   | mg/L  |                | 0.6       | 0.6      | 0.5      | 0.5      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | 0.002    |
| Magnesium                                  | mg/L  |                | 72.0      | 76.0     | 58.0     | 65.0     |
| Manganese                                  | mg/L  | 1.9            | 0.001     | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 15.00     | 15.00    | 15.00    | 13.00    |
| pH                                         | pH    | 6.5-8.0        | 7.7       | 7.6      | 7.5      | 7.5      |
| Potassium                                  | mg/L  |                | 6.5       | 6.9      | 7.6      | 8.5      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 58.00     | 55.00    | 59.00    | 57.00    |
| Selenium                                   | mg/L  | 0.011          | 0.003     | <0.001   | 0.002    | <0.001   |
| Silica                                     | mg/L  |                | 56.00     | 59.00    | 55.00    | 61.00    |
| Sodium                                     | mg/L  |                | 99.0      | 110.0    | 94.0     | 110.0    |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 84        | 85       | 79       | 83       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 330       | 340      | 300      | 300      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 770       | 750      | 720      | 720      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 460       | 470      | 390      | 430      |
| Zinc                                       | mg/L  | 0.072          | 0.320     | <0.005   | <0.005   | 0.011    |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Central 5 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYC0031P  |          | HYC0068P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.035     | 0.031    | 0.026    | 0.026    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 260       | 270      | 340      | 330      |
| Boron                                      | mg/L  | 0.37           | 0.260     | 0.300    | 0.310    | 0.340    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 42.0      | 42.0     | 47.0     | 46.0     |
| Chloride                                   | mg/L  |                | 100       | 110      | 110      | 110      |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 850       | 860      | 980      | 940      |
| Fluoride                                   | mg/L  |                | 0.6       | 0.6      | 0.8      | 0.8      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | <0.005   | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 41.0      | 44.0     | 50.0     | 52.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | 0.002    | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 10.00     | 8.90     | 16.00    | 11.00    |
| pH                                         | pH    | 6.5-8.0        | 7.5       | 7.6      | 7.5      | 7.5      |
| Potassium                                  | mg/L  |                | 6.2       | 6.7      | 6.2      | 6.7      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 57.00     | 56.00    | 58.00    | 56.00    |
| Selenium                                   | mg/L  | 0.011          | 0.001     | <0.001   | 0.002    | <0.001   |
| Silica                                     | mg/L  |                | 54.00     | 58.00    | 53.00    | 58.00    |
| Sodium                                     | mg/L  |                | 65.0      | 74.0     | 76.0     | 82.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 53        | 54       | 54       | 55       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 220       | 220      | 280      | 270      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 520       | 510      | 590      | 540      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 270       | 290      | 320      | 330      |
| Zinc                                       | mg/L  | 0.072          | 0.019     | 0.020    | 0.012    | 0.009    |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name             | Unit  | Trigger Values | Eastern 1 & 2 |          |          |          |          |          |          |          |
|---------------------------------|-------|----------------|---------------|----------|----------|----------|----------|----------|----------|----------|
|                                 |       |                | HYE0023P      | HYE0041P | HYE0051P |          | HYE0193P |          | HYE0194P |          |
|                                 |       |                | Apr - 23      | Oct - 22 | Oct - 22 | Apr - 23 | Oct - 22 | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                       | mg/L  | 0.1            | 0.005         | <0.005   | <0.005   | 0.018    | <0.005   | 0.006    | <0.005   | <0.005   |
| Arsenic                         | mg/L  | 0.013          | <0.001        | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   |
| Barium                          | mg/L  | 0.088          | 0.036         | 0.034    | 0.035    | 0.035    | 0.036    | 0.035    | 0.039    | 0.037    |
| Bicarbonate Alkalinity as HCO3  | mg/L  |                | 330           | 270      | 260      | 260      | 290      | 290      | 300      | 300      |
| Boron                           | mg/L  | 0.37           | 0.360         | 0.320    | 0.250    | 0.310    | 0.240    | 0.290    | 0.240    | 0.290    |
| Cadmium                         | mg/L  | 0.001          | <0.0001       | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001  |
| Calcium                         | mg/L  |                | 54.0          | 43.0     | 46.0     | 44.0     | 48.0     | 48.0     | 47.0     | 47.0     |
| Chloride                        | mg/L  |                | 130           | 110      | 120      | 130      | 120      | 130      | 110      | 120      |
| Chromium                        | mg/L  | 0.001          | <0.001        | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   |
| Copper                          | mg/L  | 0.01           | <0.001        | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C | µS/cm | 90-1000        | 980           | 860      | 910      | 890      | 950      | 950      | 930      | 930      |
| Fluoride                        | mg/L  |                | 0.5           | 0.5      | 0.5      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      |
| Iron Sol.                       | mg/L  | 0.3            | <0.005        | <0.005   | 0.088    | <0.005   | <0.005   | <0.005   | <0.005   | <0.005   |
| Lead                            | mg/L  | 0.005          | <0.001        | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   |
| Magnesium                       | mg/L  |                | 54.0          | 40.0     | 43.0     | 45.0     | 45.0     | 48.0     | 44.0     | 48.0     |
| Manganese                       | mg/L  | 1.9            | <0.001        | <0.001   | <0.001   | <0.001   | 0.001    | <0.001   | <0.001   | <0.001   |
| Mercury                         | mg/L  | 0.0006         | <0.00005      | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                      | mg/L  | 0.034          | <0.001        | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   |
| Nickel                          | mg/L  | 0.11           | <0.001        | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   |
| Nitrate as NO3                  | mg/L  | 4.0            | 6.20          | 9.10     | 21.00    | 19.00    | 8.20     | 7.30     | 10.00    | 9.70     |
| pH                              | pH    | 6.5-8.0        | 8.0           | 7.5      | 7.5      | 7.5      | 8.1      | 7.5      | 7.6      | 7.5      |
| Potassium                       | mg/L  |                | 6.9           | 5.7      | 6.0      | 6.4      | 6.5      | 7.0      | 6.4      | 7.0      |
| Reactive Silica as SiO2         | mg/L  |                | 51.00         | 54.00    | 53.00    | 50.00    | 52.00    | 48.00    | 53.00    | 51.00    |
| Selenium                        | mg/L  | 0.011          | <0.001        | <0.001   | <0.001   | <0.001   | 0.002    | 0.003    | 0.001    | <0.001   |
| Silica                          | mg/L  |                | 54.00         | 49.00    | 51.00    | 53.00    | 49.00    | 53.00    | 50.00    | 55.00    |
| Sodium                          | mg/L  |                | 82.0          | 67.0     | 70.0     | 76.0     | 80.0     | 88.0     | 75.0     | 84.0     |
| Sulphate as SO4 2-              | mg/L  |                | 51            | 48       | 49       | 50       | 60       | 62       | 52       | 55       |
| Suspended Solids (SS)           | mg/L  |                | <5            | <5       | <5       | <5       | <5       | <5       | <5       | <5       |
| Total Alkalinity as CaCO3       | mg/L  |                | 270           | 220      | 210      | 210      | 240      | 240      | 240      | 250      |
| Total Dissolved Solids at 180°C | mg/L  |                | 570           | 510      | 530      | 530      | 550      | 560      | 530      | 540      |
| Total Hardness as CaCO3         | mg/L  |                | 360           | 270      | 290      | 300      | 310      | 320      | 300      | 310      |
| Zinc                            | mg/L  | 0.072          | <0.005        | <0.005   | <0.005   | <0.005   | <0.005   | 0.026    | 0.015    | 0.010    |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Eastern 4 |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|
|                                            |       |                | HYE1518P  | HYE1523P |          |
|                                            |       |                | Oct - 22  | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | 0.007    |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.012     | 0.014    | 0.009    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 390       | 480      | 550      |
| Boron                                      | mg/L  | 0.37           | 0.280     | 0.330    | 0.480    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 51.0      | 60.0     | 58.0     |
| Chloride                                   | mg/L  |                | 72        | 92       | 92       |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 890       | 1100     | 1100     |
| Fluoride                                   | mg/L  |                | 0.5       | 0.6      | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005    | <0.005   | 0.005    |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 52.0      | 65.0     | 71.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001    | 0.002    | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001    | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | 0.003    |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 34.00     | 57.00    | 13.00    |
| pH                                         | pH    | 6.5-8.0        | 8.2       | 8.1      | 8.1      |
| Potassium                                  | mg/L  |                | 0.9       | 1.7      | 1.2      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 71.00     | 65.00    | 65.00    |
| Selenium                                   | mg/L  | 0.011          | <0.001    | 0.001    | 0.002    |
| Silica                                     | mg/L  |                | 69.00     | 63.00    | 69.00    |
| Sodium                                     | mg/L  |                | 66.0      | 90.0     | 100.0    |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 22        | 37       | 32       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | 7        | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 320       | 390      | 450      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 500       | 680      | 670      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 340       | 420      | 440      |
| Zinc                                       | mg/L  | 0.072          | 0.007     | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Eastern 3,5,6 |          |          |          |
|--------------------------------------------|-------|----------------|---------------|----------|----------|----------|
|                                            |       |                | HYE0027P      |          | HYE0055P |          |
|                                            |       |                | Oct - 22      | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005        | 0.009    | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001        | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.029         | 0.028    | 0.028    | 0.024    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 240           | 250      | 290      | 320      |
| Boron                                      | mg/L  | 0.37           | 0.260         | 0.290    | 0.380    | 0.500    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001       | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 39.0          | 40.0     | 43.0     | 43.0     |
| Chloride                                   | mg/L  |                | 78            | 83       | 75       | 79       |
| Chromium                                   | mg/L  | 0.001          | <0.001        | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001        | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 710           | 720      | 830      | 850      |
| Fluoride                                   | mg/L  |                | 0.5           | 0.5      | 0.5      | 0.5      |
| Iron Sol.                                  | mg/L  | 0.3            | <0.005        | <0.005   | <0.005   | 0.012    |
| Lead                                       | mg/L  | 0.005          | <0.001        | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 34.0          | 36.0     | 42.0     | 45.0     |
| Manganese                                  | mg/L  | 1.9            | <0.001        | <0.001   | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005      | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | <0.001        | <0.001   | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001        | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 11.00         | 10.00    | 40.00    | 33.00    |
| pH                                         | pH    | 6.5-8.0        | 7.6           | 7.6      | 7.6      | 7.6      |
| Potassium                                  | mg/L  |                | 5.1           | 5.5      | 4.8      | 5.1      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 49.00         | 47.00    | 54.00    | 51.00    |
| Selenium                                   | mg/L  | 0.011          | 0.001         | <0.001   | 0.001    | 0.001    |
| Silica                                     | mg/L  |                | 46.00         | 49.00    | 51.00    | 53.00    |
| Sodium                                     | mg/L  |                | 53.0          | 62.0     | 67.0     | 74.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 42            | 42       | 43       | 44       |
| Suspended Solids (SS)                      | mg/L  |                | <5            | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 200           | 200      | 240      | 260      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 440           | 420      | 510      | 520      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 240           | 250      | 280      | 290      |
| Zinc                                       | mg/L  | 0.072          | <0.005        | <0.005   | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit  | Trigger Values | Eastern 7 |          |          |          |
|--------------------------------------------|-------|----------------|-----------|----------|----------|----------|
|                                            |       |                | HYE0180P  |          | HYE0181P |          |
|                                            |       |                | Oct - 22  | Apr - 23 | Oct - 22 | Apr - 23 |
| Aluminium                                  | mg/L  | 0.1            | <0.005    | <0.005   | <0.005   | <0.005   |
| Arsenic                                    | mg/L  | 0.013          | <0.001    | <0.001   | <0.001   | <0.001   |
| Barium                                     | mg/L  | 0.088          | 0.017     | 0.017    | 0.027    | 0.027    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L  |                | 350       | 350      | 290      | 320      |
| Boron                                      | mg/L  | 0.37           | 0.490     | 0.610    | 0.400    | 0.480    |
| Cadmium                                    | mg/L  | 0.001          | <0.0001   | <0.0001  | <0.0001  | <0.0001  |
| Calcium                                    | mg/L  |                | 44.0      | 43.0     | 43.0     | 43.0     |
| Chloride                                   | mg/L  |                | 85        | 88       | 81       | 87       |
| Chromium                                   | mg/L  | 0.001          | <0.001    | <0.001   | <0.001   | <0.001   |
| Copper                                     | mg/L  | 0.01           | <0.001    | <0.001   | <0.001   | <0.001   |
| Electrical Conductivity at 25°C            | µS/cm | 90-1000        | 870       | 870      | 820      | 820      |
| Fluoride                                   | mg/L  |                | 0.7       | 0.7      | 0.6      | 0.6      |
| Iron Sol.                                  | mg/L  | 0.3            | 0.008     | <0.005   | <0.005   | <0.005   |
| Lead                                       | mg/L  | 0.005          | <0.001    | <0.001   | <0.001   | <0.001   |
| Magnesium                                  | mg/L  |                | 43.0      | 45.0     | 39.0     | 42.0     |
| Manganese                                  | mg/L  | 1.9            | 0.002     | 0.002    | <0.001   | <0.001   |
| Mercury                                    | mg/L  | 0.0006         | <0.00005  | <0.00005 | <0.00005 | <0.00005 |
| Molybdenum                                 | mg/L  | 0.034          | 0.001     | 0.001    | <0.001   | <0.001   |
| Nickel                                     | mg/L  | 0.11           | <0.001    | <0.001   | <0.001   | <0.001   |
| Nitrate as NO <sub>3</sub>                 | mg/L  | 4.0            | 4.30      | 3.90     | 12.00    | 8.90     |
| pH                                         | pH    | 6.5-8.0        | 8.2       | 7.7      | 7.8      | 7.7      |
| Potassium                                  | mg/L  |                | 5.4       | 5.7      | 5.3      | 5.7      |
| Reactive Silica as SiO <sub>2</sub>        | mg/L  |                | 53.00     | 51.00    | 56.00    | 56.00    |
| Selenium                                   | mg/L  | 0.011          | <0.001    | <0.001   | <0.001   | 0.002    |
| Silica                                     | mg/L  |                | 51.00     | 53.00    | 54.00    | 58.00    |
| Sodium                                     | mg/L  |                | 74.0      | 81.0     | 69.0     | 78.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L  |                | 43        | 43       | 43       | 42       |
| Suspended Solids (SS)                      | mg/L  |                | <5        | <5       | <5       | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L  |                | 280       | 290      | 240      | 260      |
| Total Dissolved Solids at 180°C            | mg/L  |                | 520       | 510      | 490      | 490      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L  |                | 290       | 290      | 270      | 280      |
| Zinc                                       | mg/L  | 0.072          | <0.005    | <0.005   | <0.005   | <0.005   |

A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

**Table 10.8: Laboratory Chemistry Results from Production Bores (cont'd)**

| Recording Type Name                        | Unit | Trigger Values | Spinifex Borefield |          |             |          |
|--------------------------------------------|------|----------------|--------------------|----------|-------------|----------|
|                                            |      |                | HNPISP0001P        |          | HNPISP0002P |          |
|                                            |      |                | Nov - 22           | Jun - 23 | Nov - 22    | Jun - 23 |
| Barium                                     | mg/L | 0.088          | 0.110              | 0.073    | 0.110       | 0.081    |
| Bicarbonate Alkalinity as HCO <sub>3</sub> | mg/L |                | 490                | 510      | 480         | 510      |
| Boron                                      | mg/L | 0.37           | 0.400              | 0.450    | 0.430       | 0.450    |
| Calcium                                    | mg/L |                | 65.0               | 63.0     | 66.0        | 64.0     |
| Chloride                                   | mg/L |                | 110                | 110      | 130         | 130      |
| Chromium                                   | mg/L | 0.001          | <0.001             | <0.001   | <0.001      | <0.001   |
| Fluoride                                   | mg/L |                | 0.5                | 0.5      | 0.5         | 0.5      |
| Iron Tot.                                  | mg/L | 0.3            | <0.005             | <0.005   | <0.005      | 0.006    |
| Magnesium                                  | mg/L |                | 62.0               | 60.0     | 64.0        | 62.0     |
| Nitrate as NO <sub>3</sub>                 | mg/L | 4.0            | 15.00              | 15.00    | 12.00       | 12.00    |
| Potassium                                  | mg/L |                | 14.0               | 14.0     | 14.0        | 13.0     |
| Silica                                     | mg/L |                | 73.00              | 67.00    | 71.00       | 65.00    |
| Sodium                                     | mg/L |                | 85.0               | 85.0     | 94.0        | 95.0     |
| Sulphate as SO <sub>4</sub> 2-             | mg/L |                | 56                 | 60       | 67          | 72       |
| Suspended Solids (SS)                      | mg/L |                | <5                 | <5       | <5          | <5       |
| Total Alkalinity as CaCO <sub>3</sub>      | mg/L |                | 400                | 420      | 400         | 410      |
| Total Aluminium                            | mg/L | 0.1            | <0.005             | <0.005   | <0.005      | <0.005   |
| Total Arsenic                              | mg/L | 0.013          | <0.001             | <0.001   | <0.001      | <0.001   |
| Total Barium                               | mg/L | 0.088          | 0.110              | 0.110    | 0.120       | 0.110    |
| Total Boron                                | mg/L | 0.37           | 0.440              | 0.460    | 0.470       | 0.490    |
| Total Cadmium                              | mg/L | 0.001          | <0.0001            | <0.0001  | <0.0001     | <0.0001  |
| Total Copper                               | mg/L | 0.01           | <0.001             | <0.001   | <0.001      | <0.001   |
| Total Dissolved Solids at 180°C            | mg/L |                | 720                | 720      | 760         | 750      |
| Total Hardness as CaCO <sub>3</sub>        | mg/L |                | 420                | 400      | 430         | 410      |
| Total Lead                                 | mg/L | 0.005          | <0.001             | <0.001   | <0.001      | <0.001   |
| Total Manganese                            | mg/L | 1.9            | <0.001             | <0.001   | <0.001      | <0.001   |
| Total Mercury                              | mg/L | 0.0006         | <0.00005           | <0.00005 | <0.00005    | <0.00005 |
| Total Molybdenum                           | mg/L | 0.034          | <0.001             | <0.001   | <0.001      | <0.001   |
| Total Nickel                               | mg/L | 0.11           | <0.001             | <0.001   | <0.001      | <0.001   |
| Total Selenium                             | mg/L | 0.011          | <0.001             | 0.002    | 0.001       | <0.001   |
| Total Zinc                                 | mg/L | 0.072          | <0.005             | <0.005   | <0.005      | <0.005   |

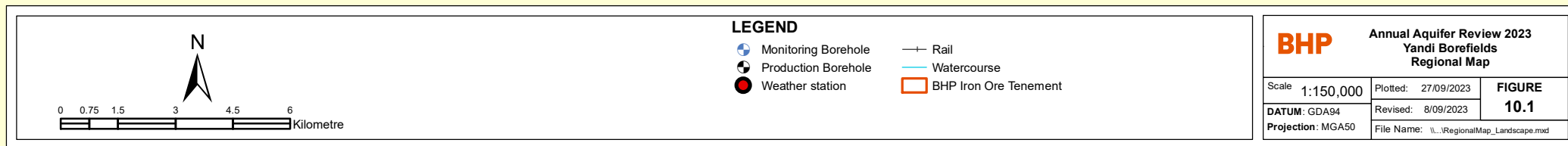
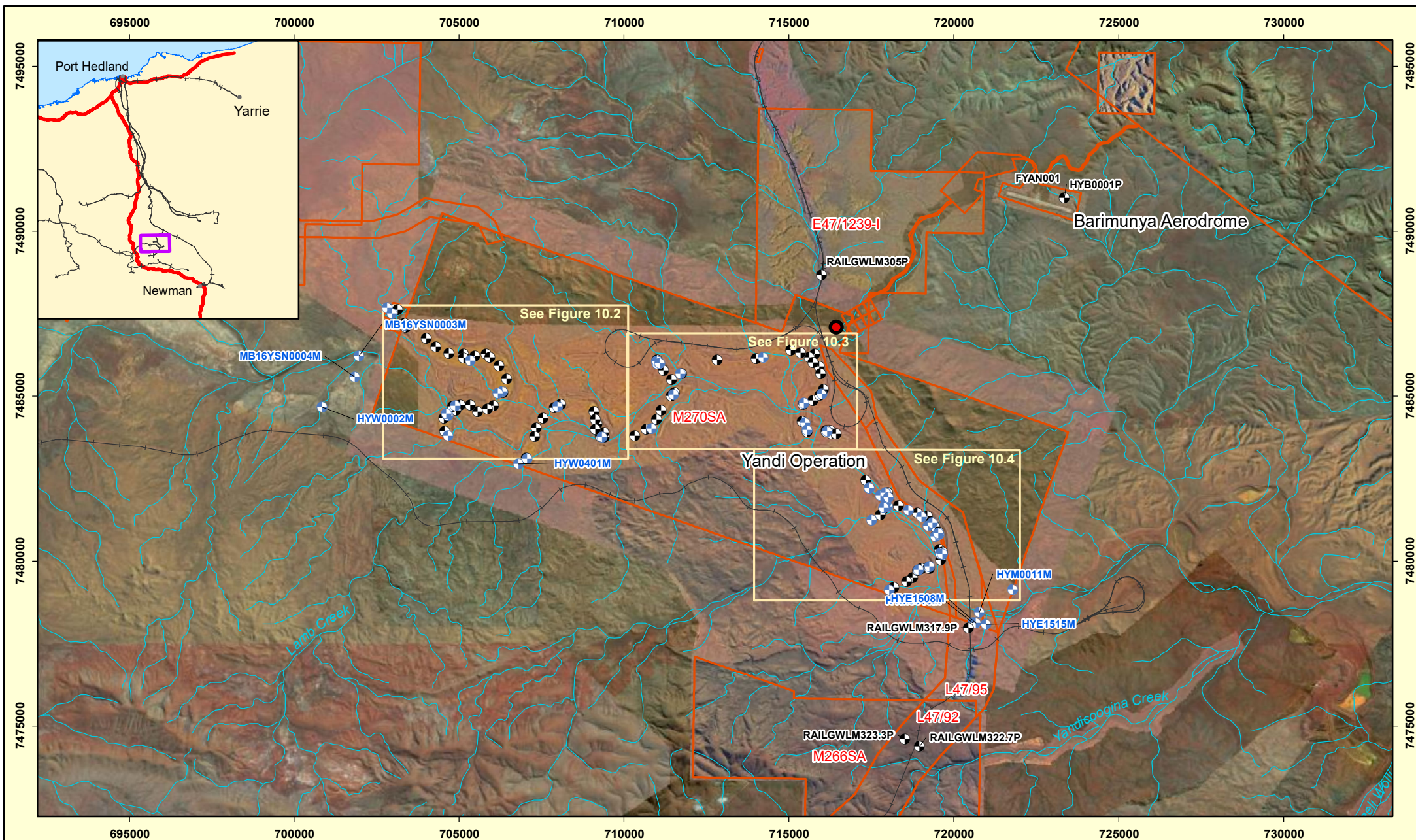
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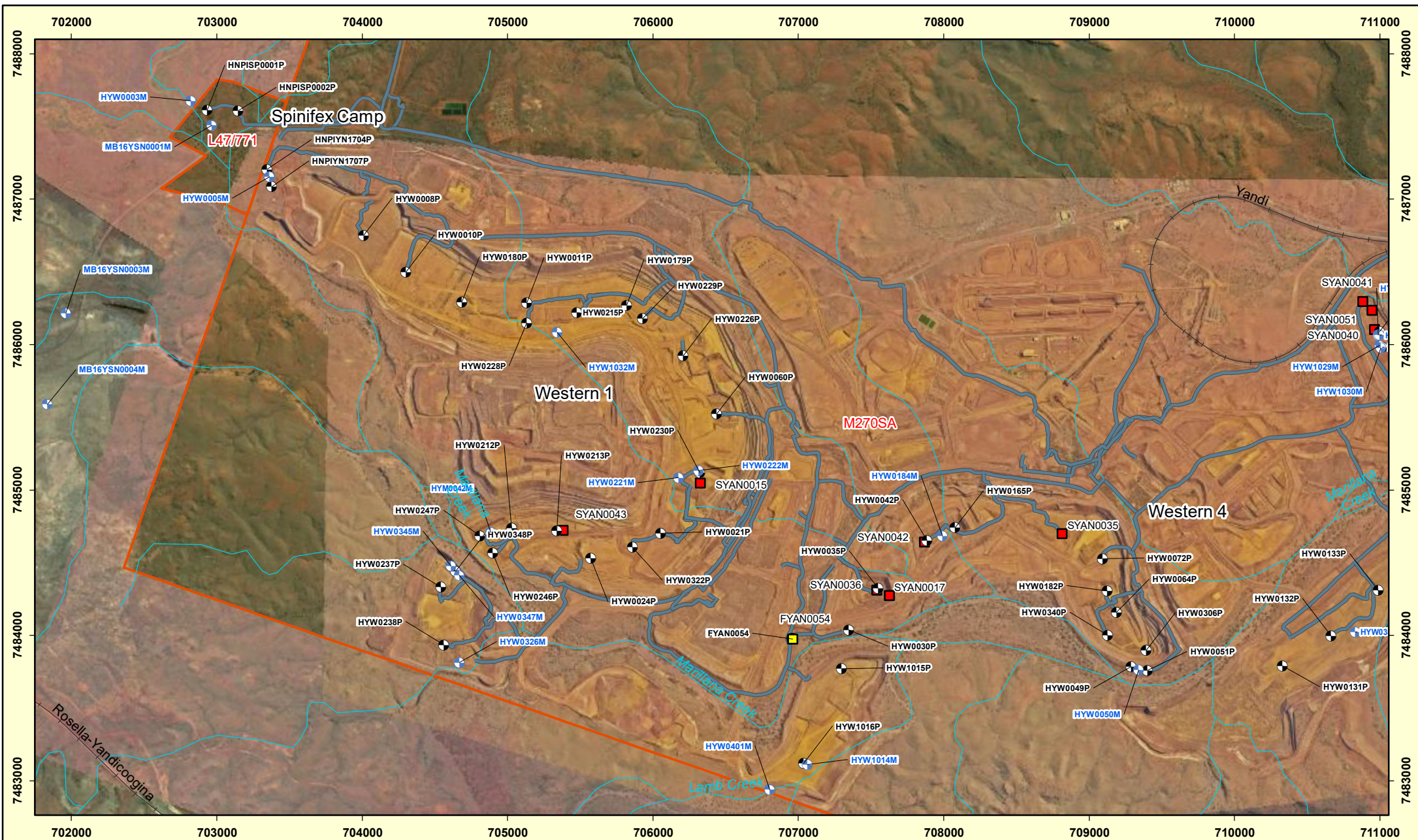
## Yandi Borefields

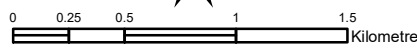
Annual Aquifer Review 2023



Figures





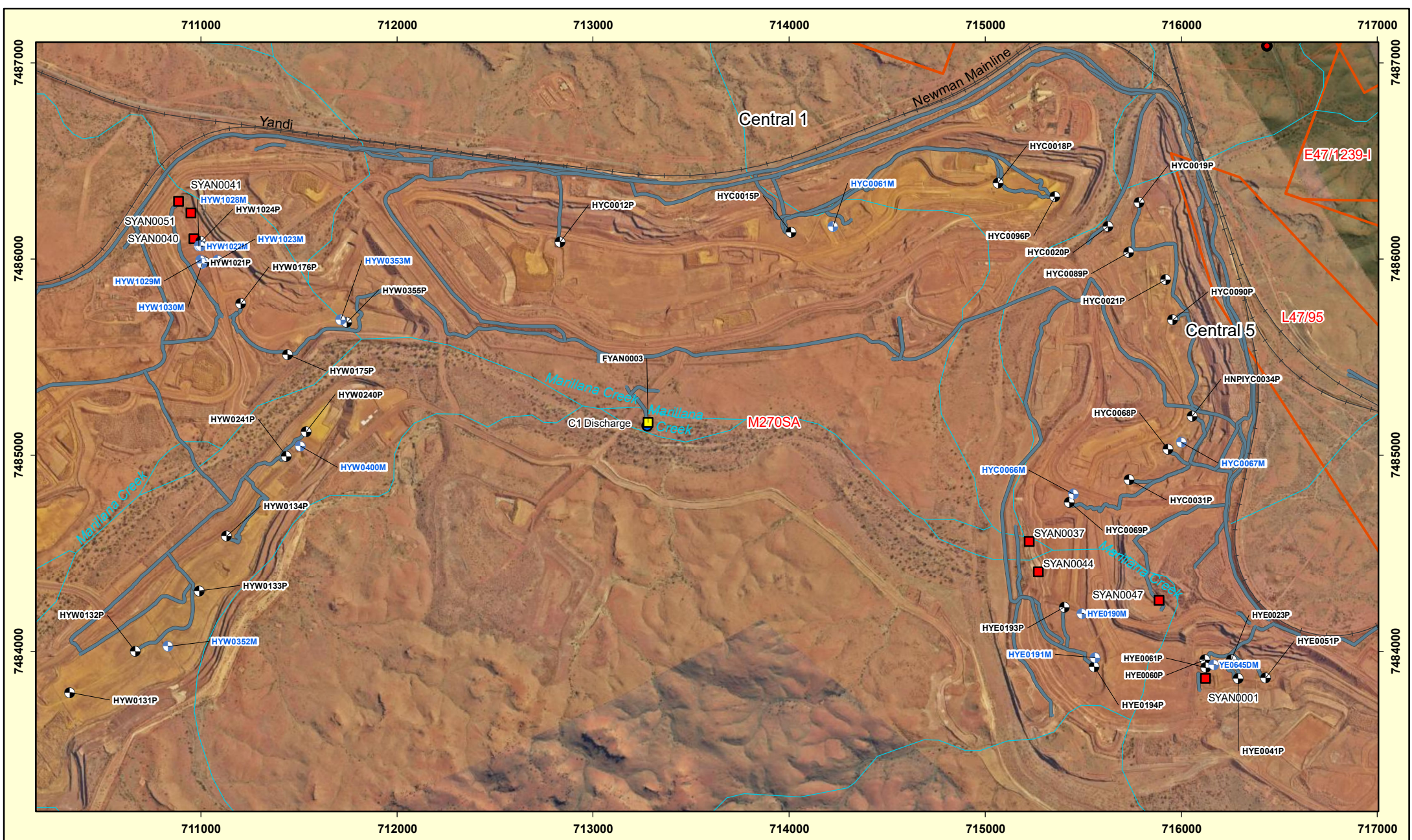
  


**LEGEND**

|                                                                                                         |                                                                                                                  |                                                                                                             |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|  Flowmeter           |  Sump                       |  Watercourse           |
|  Monitoring Borehole |  Dewatering Discharge Point |  Pipeline              |
|  Production Borehole |  Rail                       |  BHP Iron Ore Tenement |

**BHP** Annual Aquifer Review 2023  
Yandi Borefields  
Borefield Map (West)

|                   |                     |                                            |
|-------------------|---------------------|--------------------------------------------|
| Scale 1:34,000    | Plotted: 27/09/2023 | <b>FIGURE</b><br><b>10.2</b>               |
| DATUM: GDA94      | Revised: 8/09/2023  |                                            |
| Projection: MGA50 |                     | File Name: \\...BorefieldMap_Landscape.mxd |



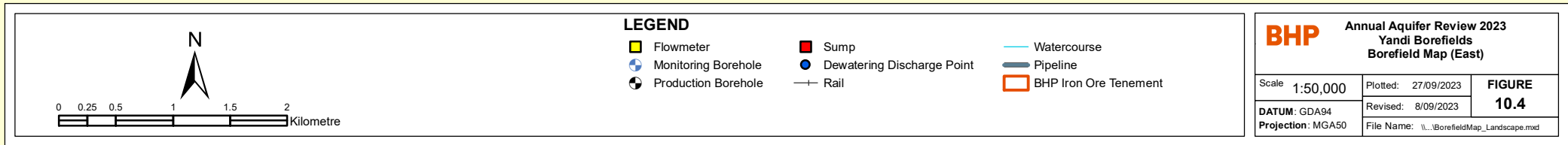
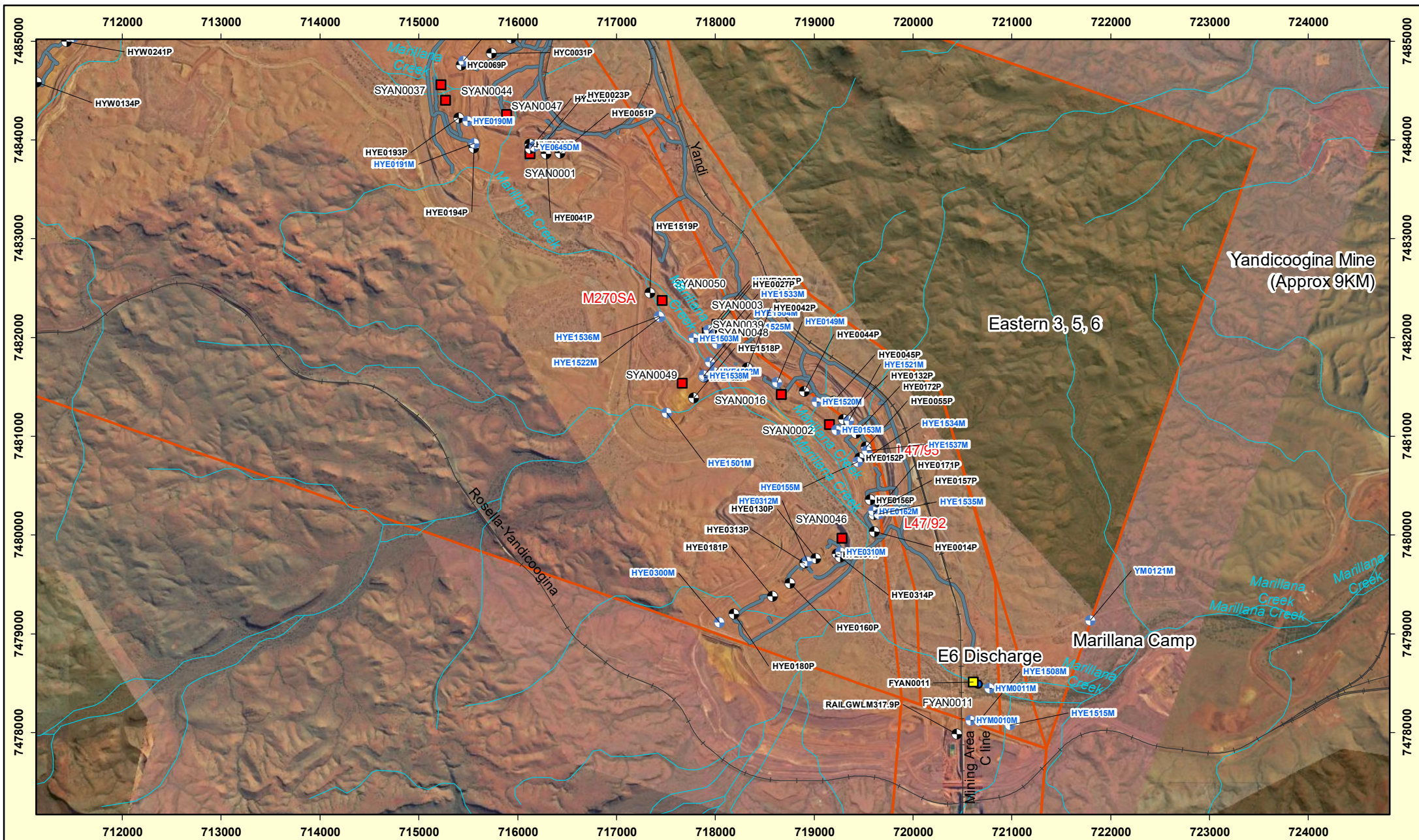
  
0 0.25 0.5 1  
Kilometre

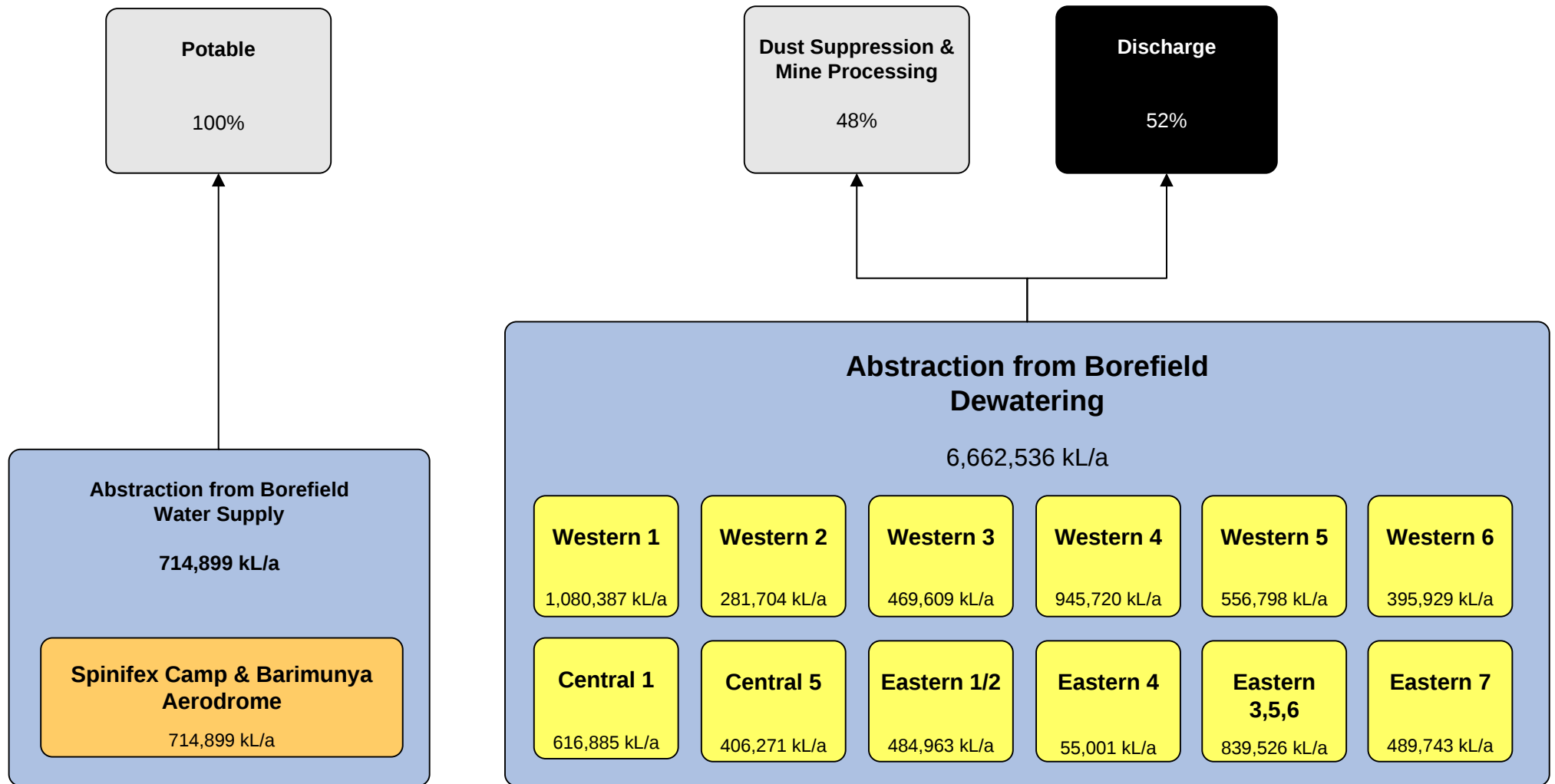
**LEGEND**

|                                                                                                         |                                                                                                                  |                                                                                                             |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|  Flowmeter           |  Sump                       |  Watercourse           |
|  Monitoring Borehole |  Dewatering Discharge Point |  Pipeline              |
|  Production Borehole |  Weather station            |  BHP Iron Ore Tenement |
|                                                                                                         |  Rail                       |                                                                                                             |

**Annual Aquifer Review 2023**  
**Yandi Borefields**  
**Borefield Map (Central)**

|                   |                     |                                              |
|-------------------|---------------------|----------------------------------------------|
| Scale: 1:25,000   | Plotted: 27/09/2023 | <b>FIGURE</b><br><b>10.3</b>                 |
| DATUM: GDA94      | Revised: 8/09/2023  |                                              |
| Projection: MGA50 |                     | File Name: \\...\\BorefieldMap_Landscape.mxd |





#### Activity Type

- Discharge – with portion as % of total abstraction
- Consumption – with portion as % of total abstraction
- Abstraction – with abstraction from borefield subareas

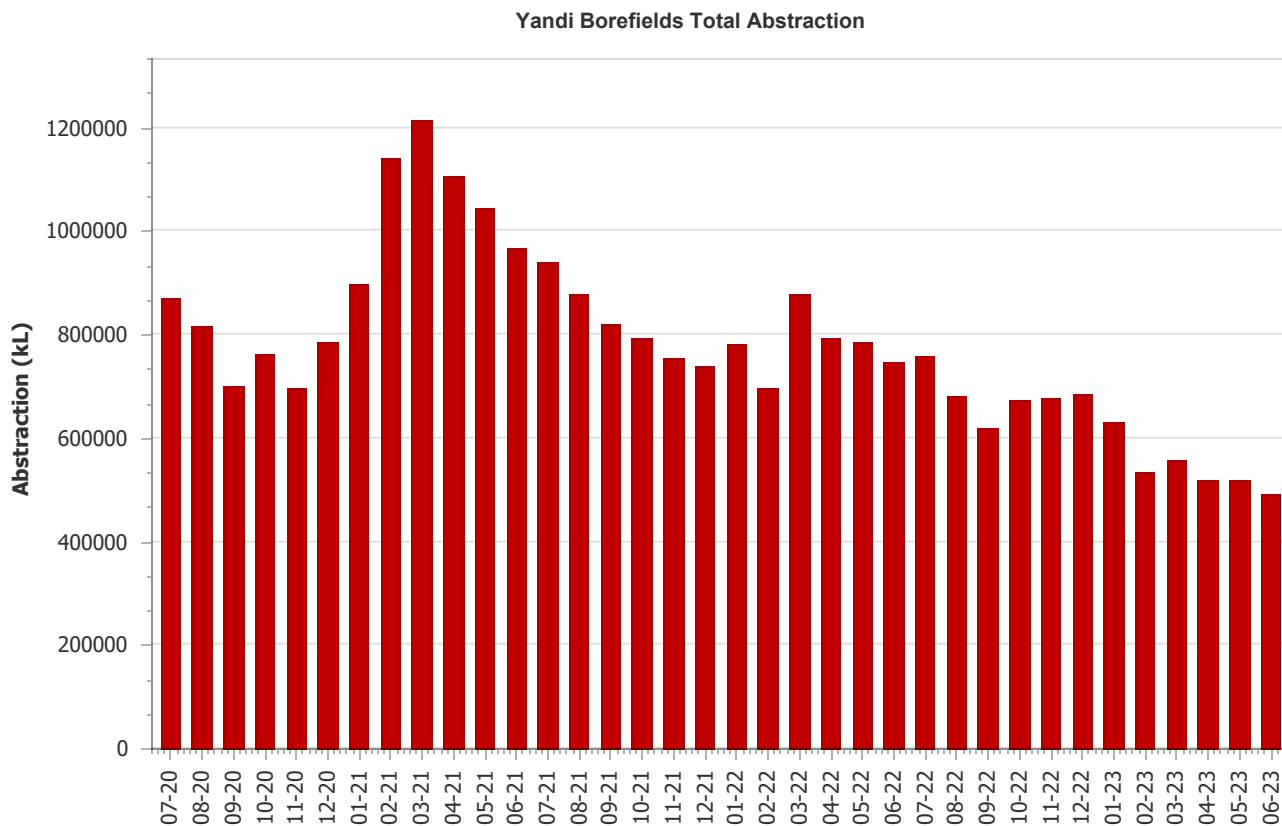
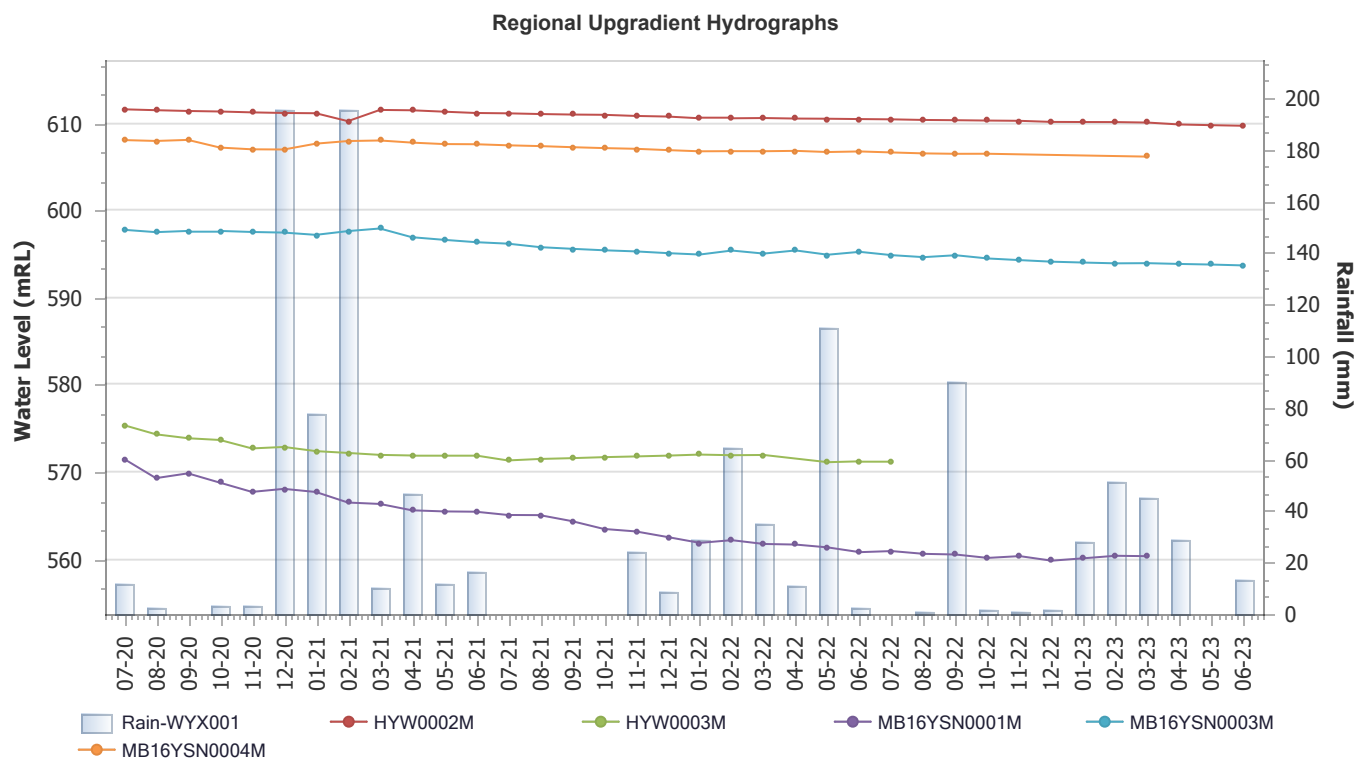
#### KEY

#### Borefield Type

- Dewatering
- Supply

Annual Aquifer Review 2023  
**Yandi Water Balance FY23**  
Figure 10.5

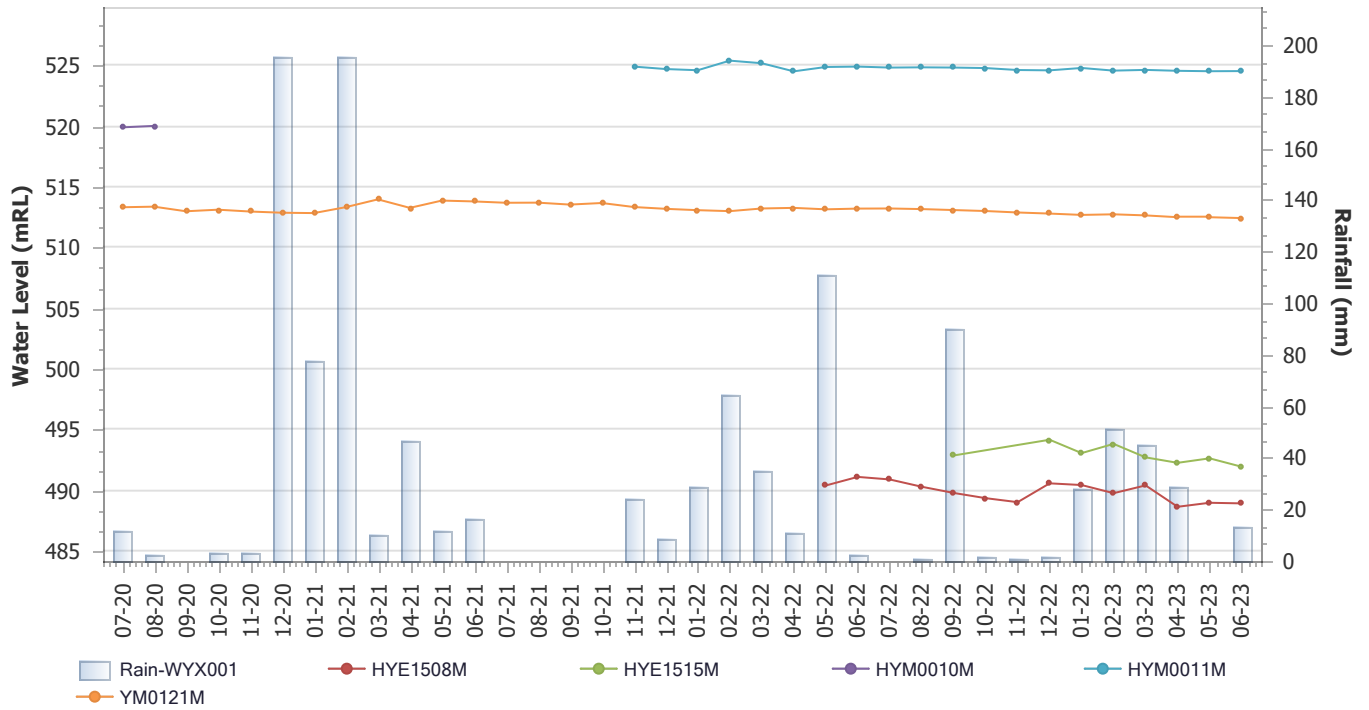
**BHP**



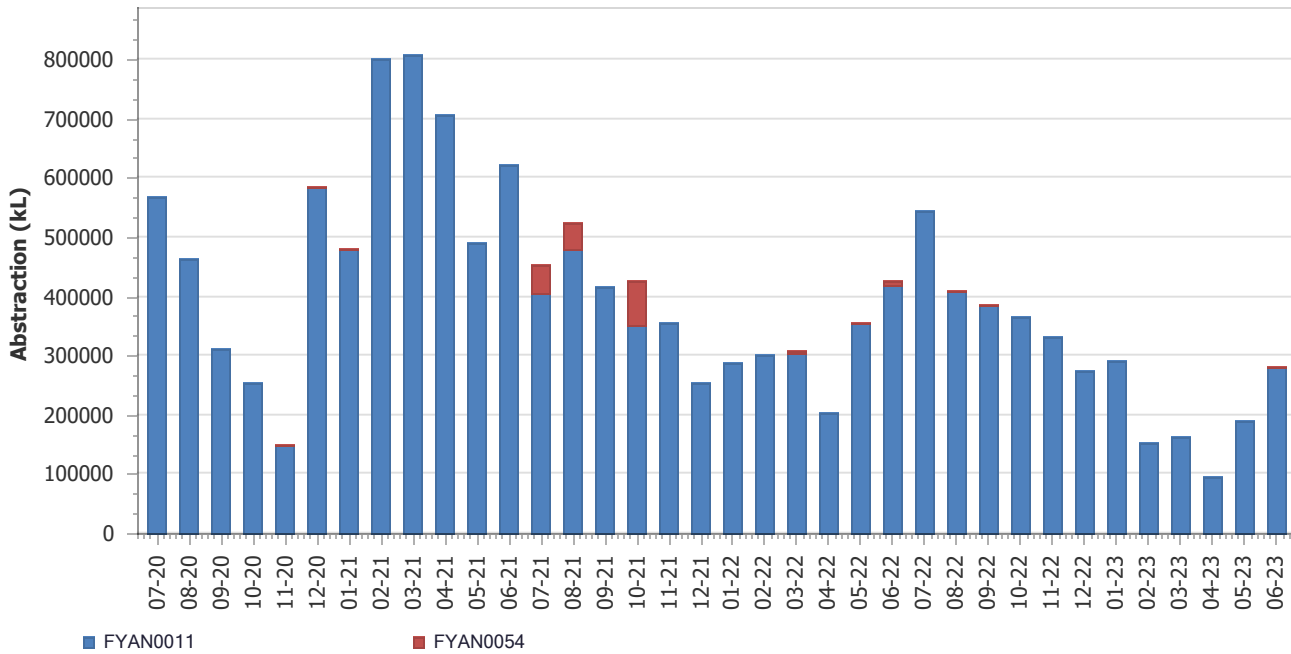
Monitoring summary: Regional Upgradient Hydrographs

Figure 10.6

### Regional Downgradient Hydrographs



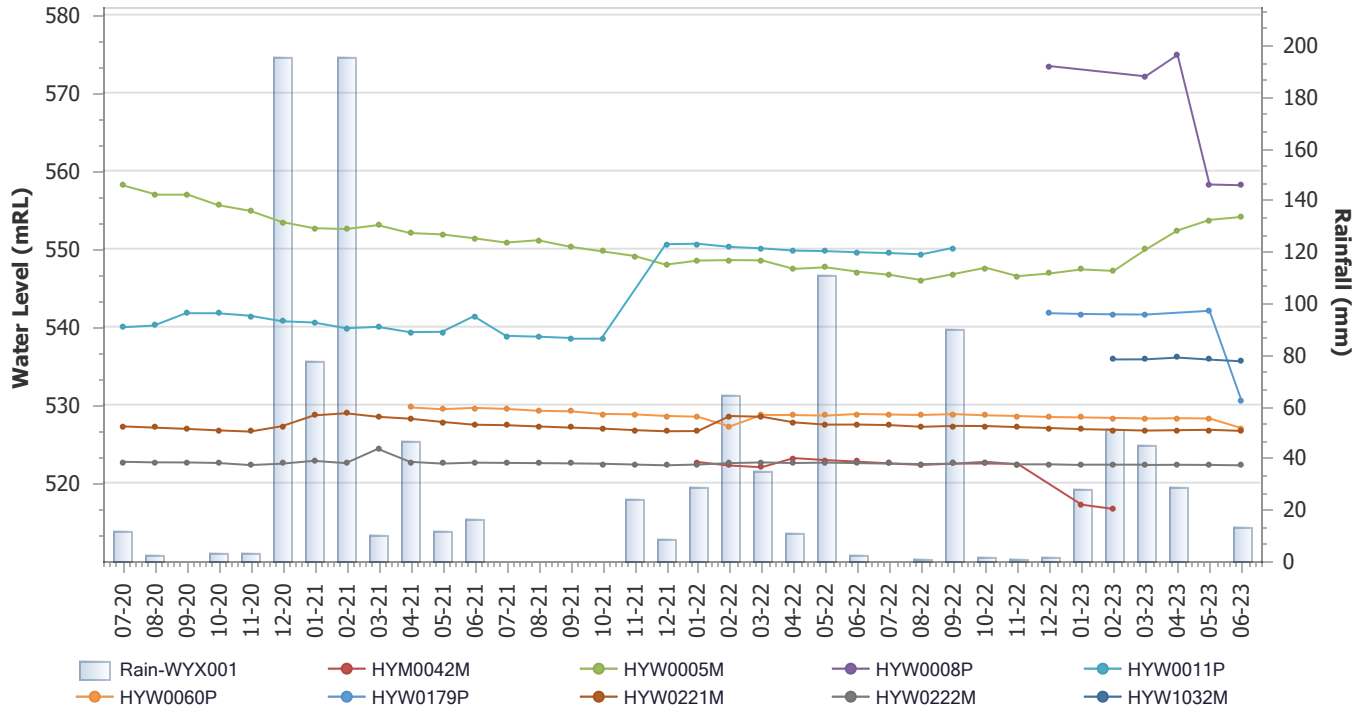
### Yandi Discharge Abstraction



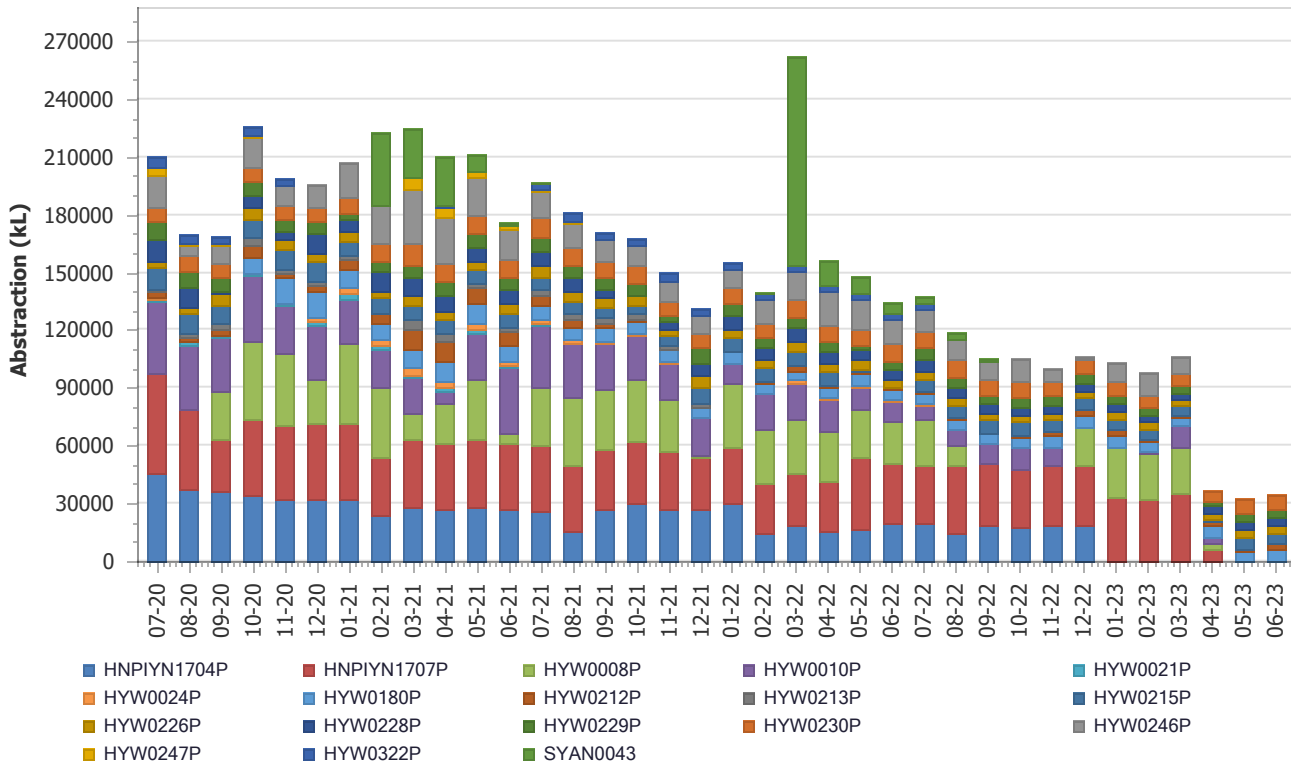
### Monitoring summary: Regional Downgradient Hydrographs

Figure 10.7

### Western 1 Hydrographs



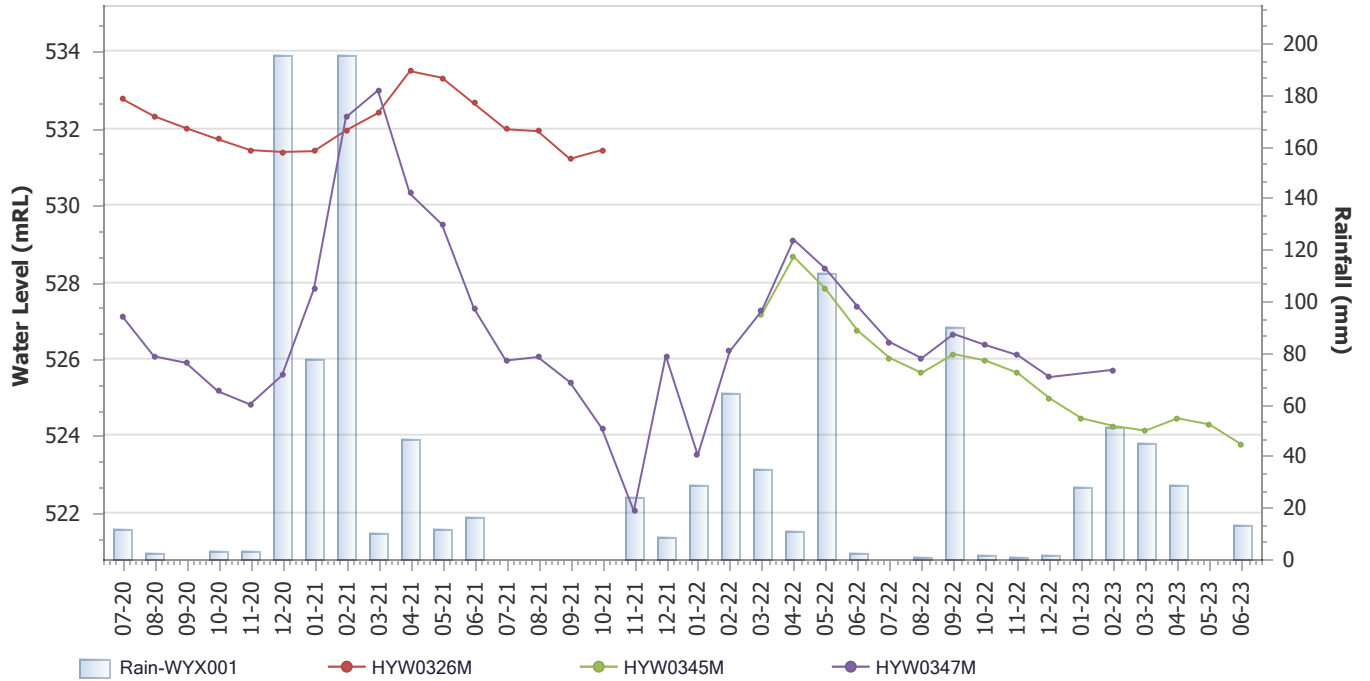
### Western 1 Abstraction



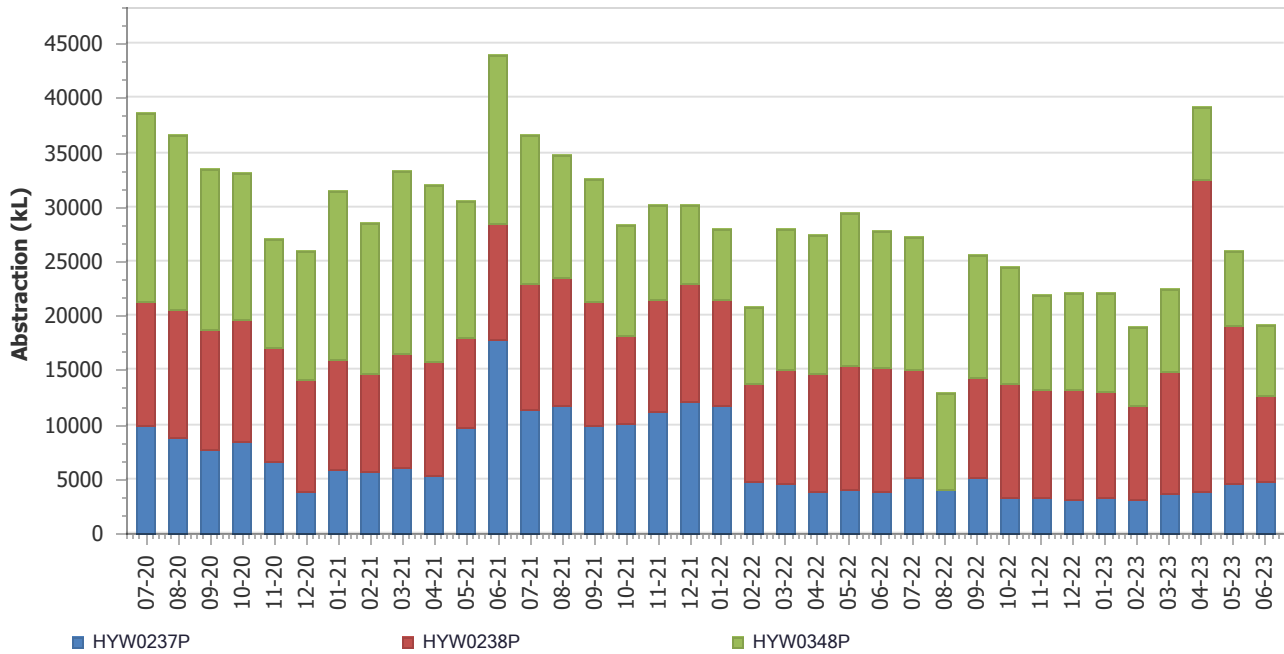
### Monitoring summary: Western 1 Hydrographs

Figure 10.8

### Western 2 Hydrographs



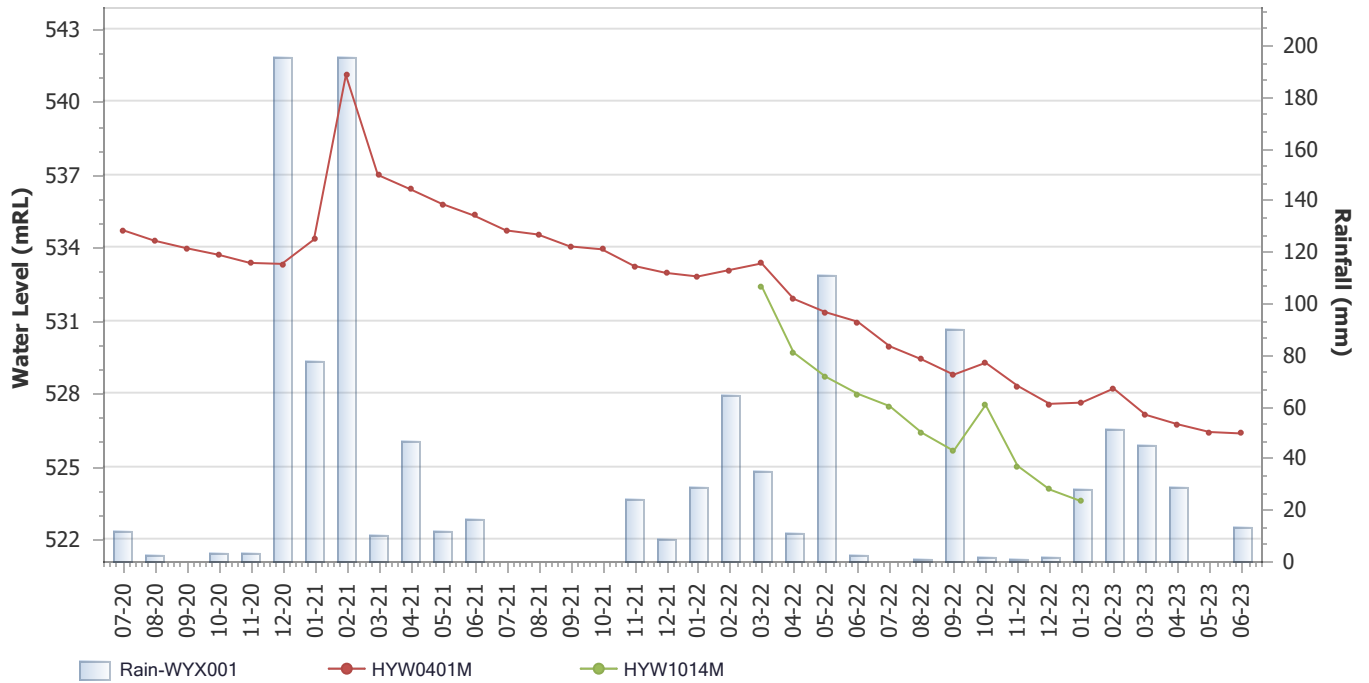
### Western 2 Abstraction



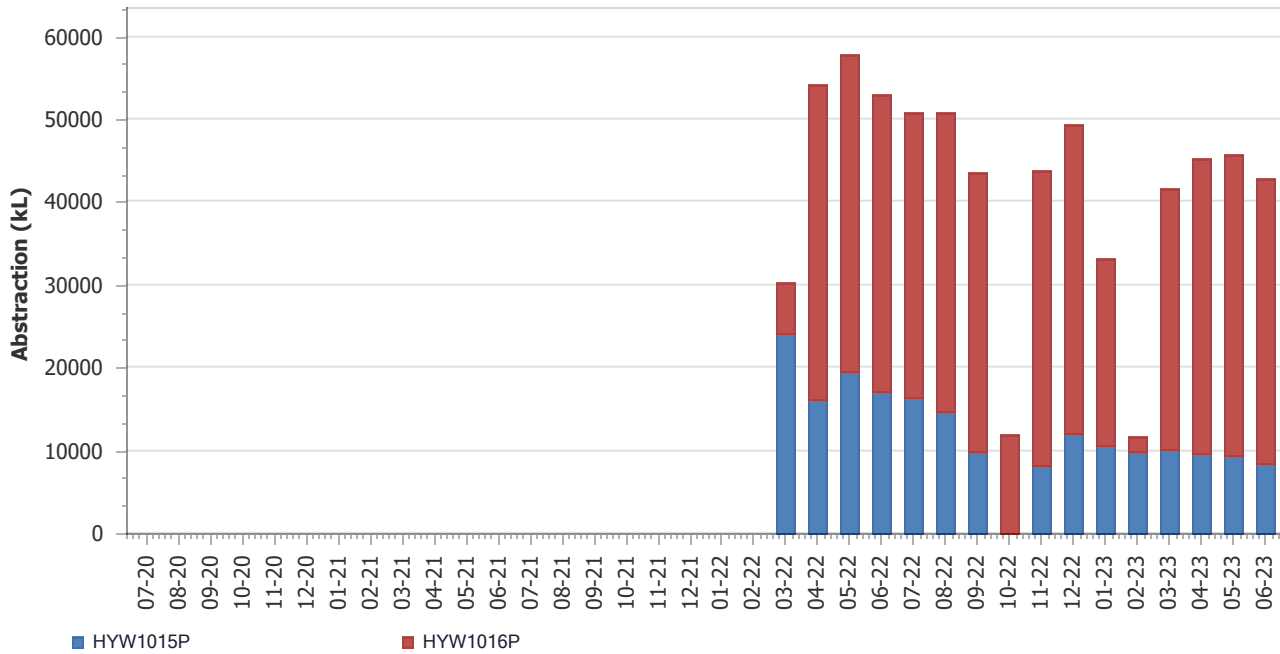
### Monitoring summary: Western 2 Hydrographs

Figure 10.9

### Western 3 Hydrographs



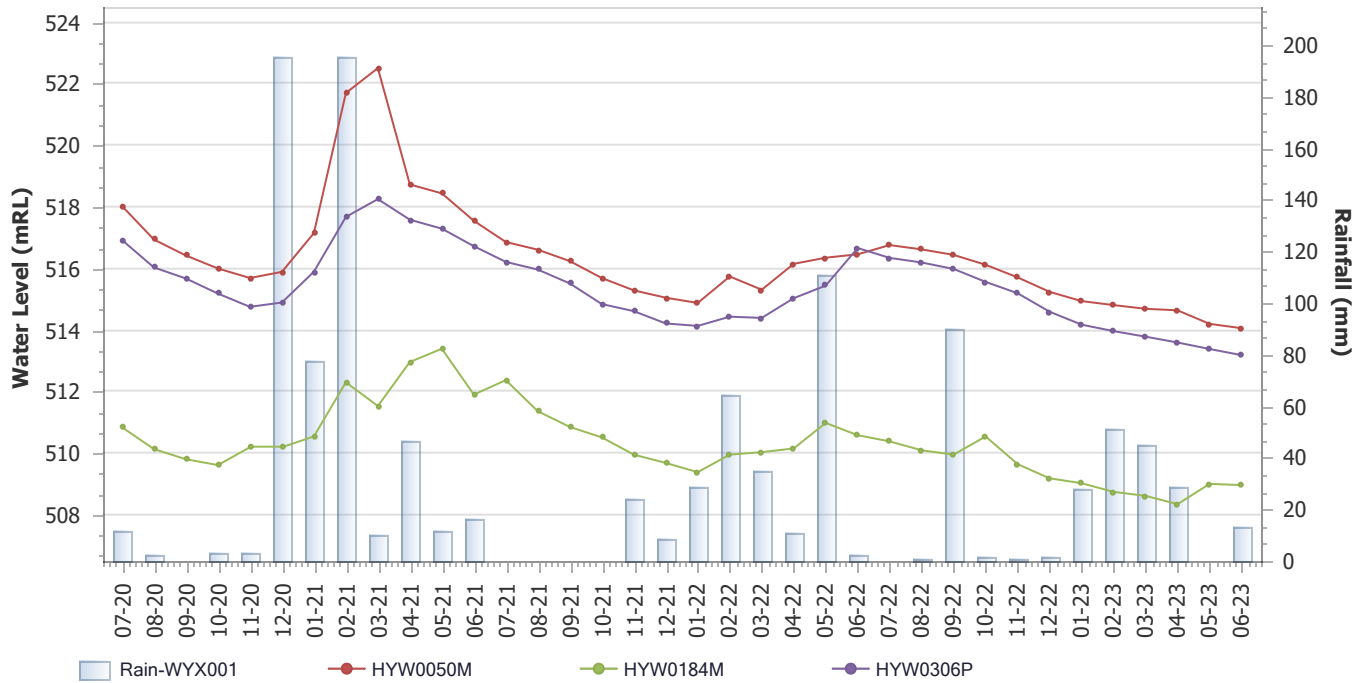
### Western 3 Abstraction



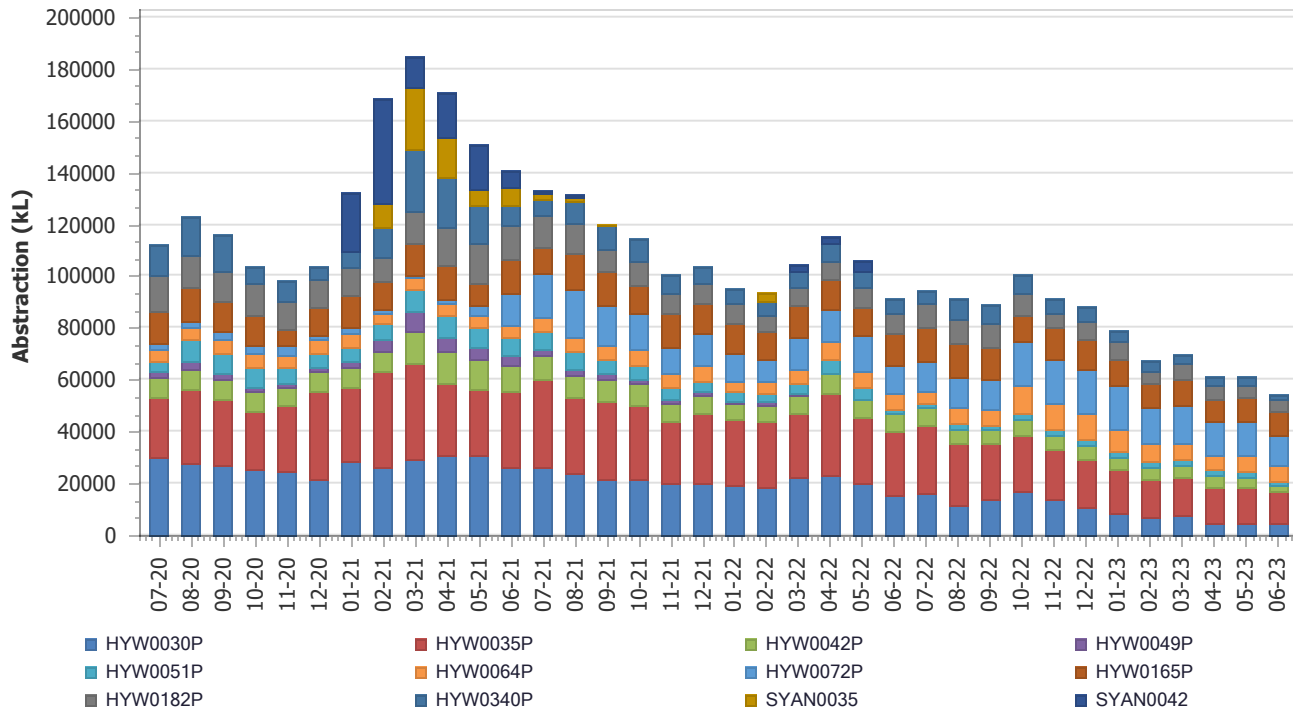
### Monitoring summary: Western 3 Hydrographs

Figure 10.10

### Western 4 Hydrographs



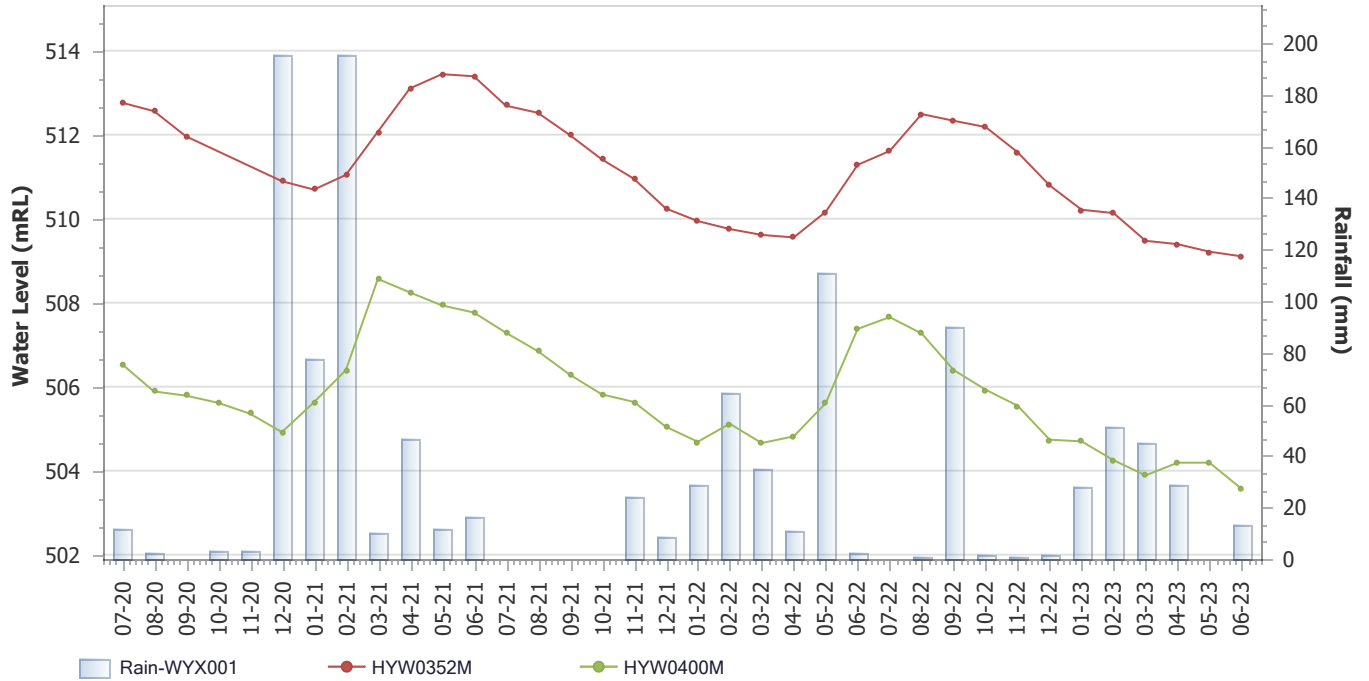
### Western 4 Abstraction



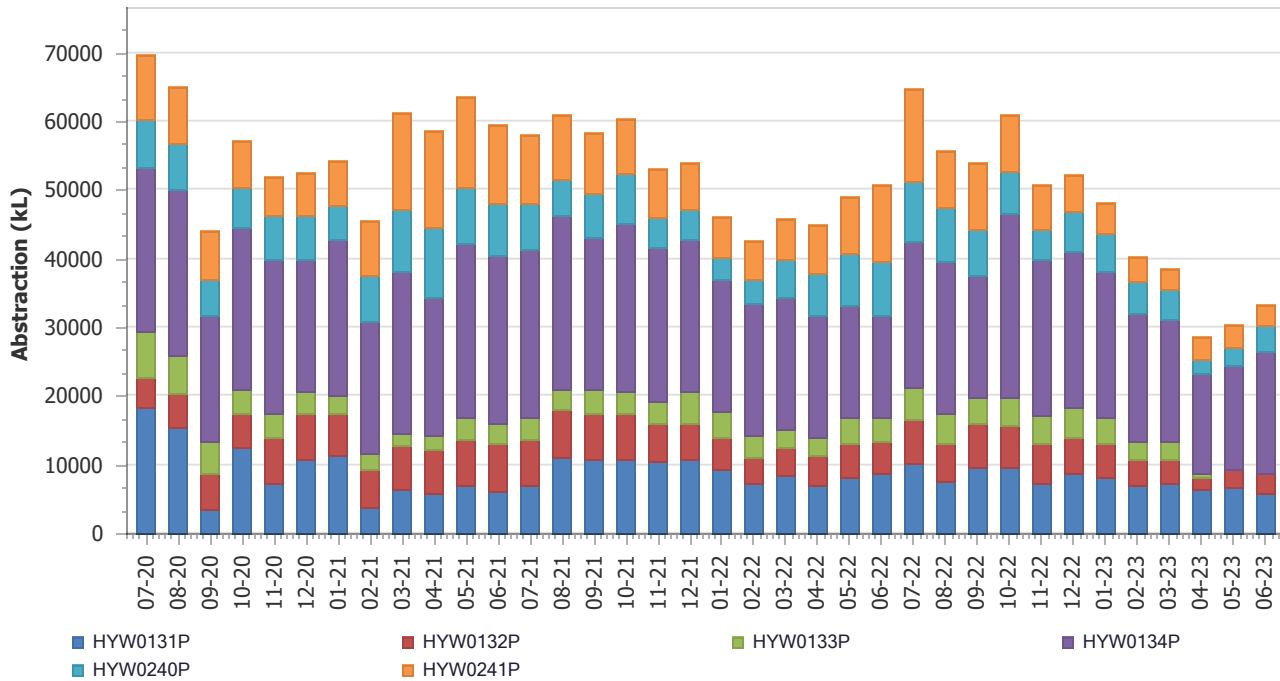
### Monitoring summary: Western 4 Hydrographs

Figure 10.11

### Western 5 Hydrographs



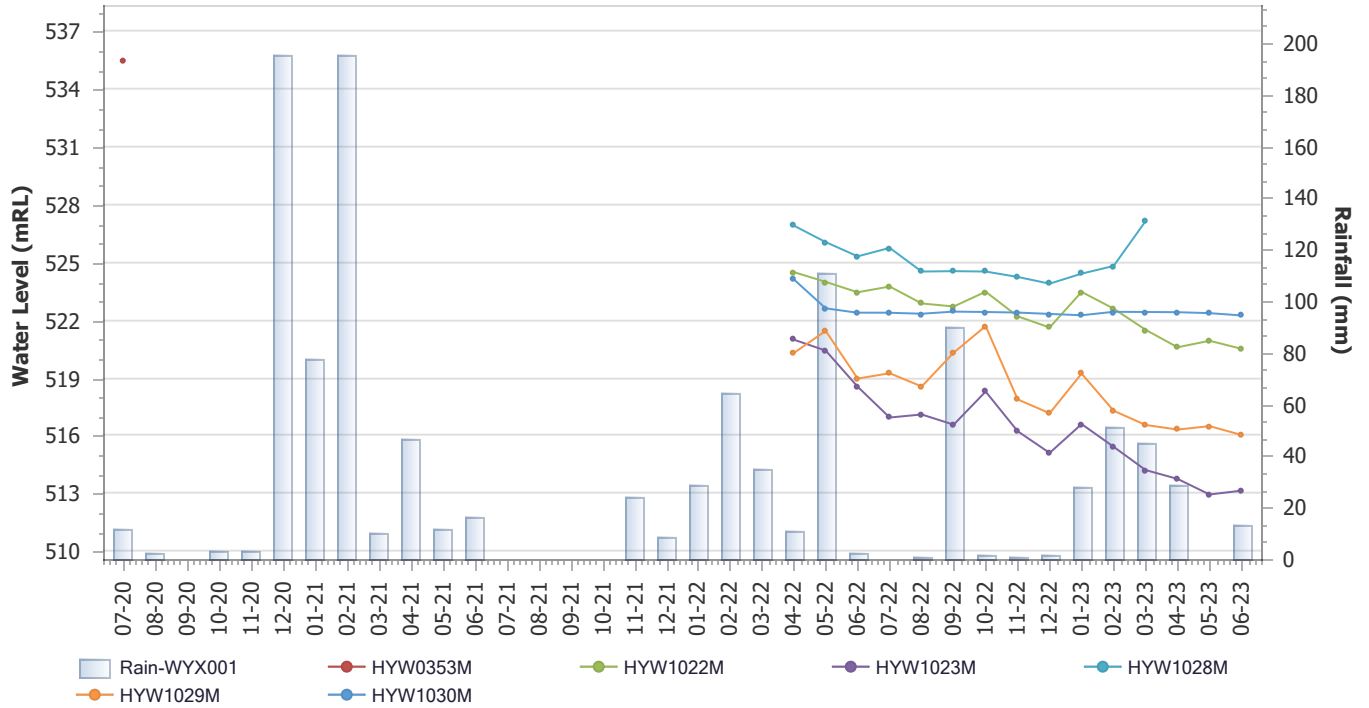
### Western 5 Abstraction



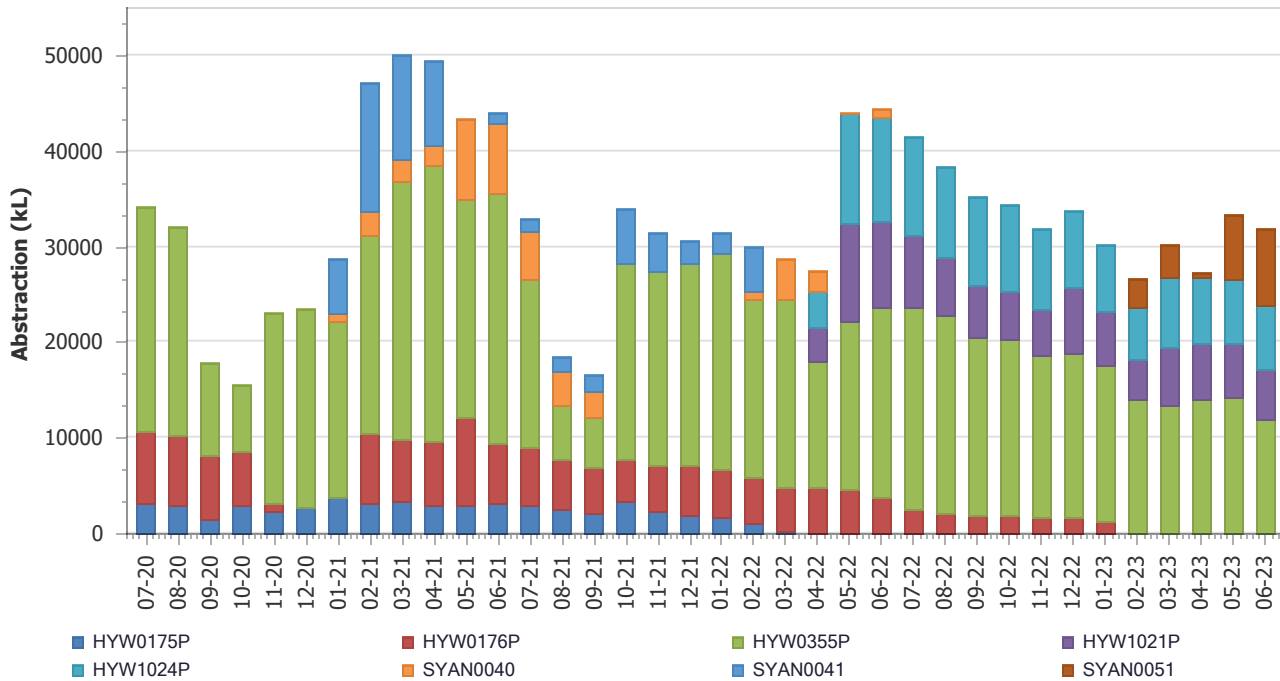
### Monitoring summary: Western 5 Hydrographs

Figure 10.12

### Western 6 Hydrographs

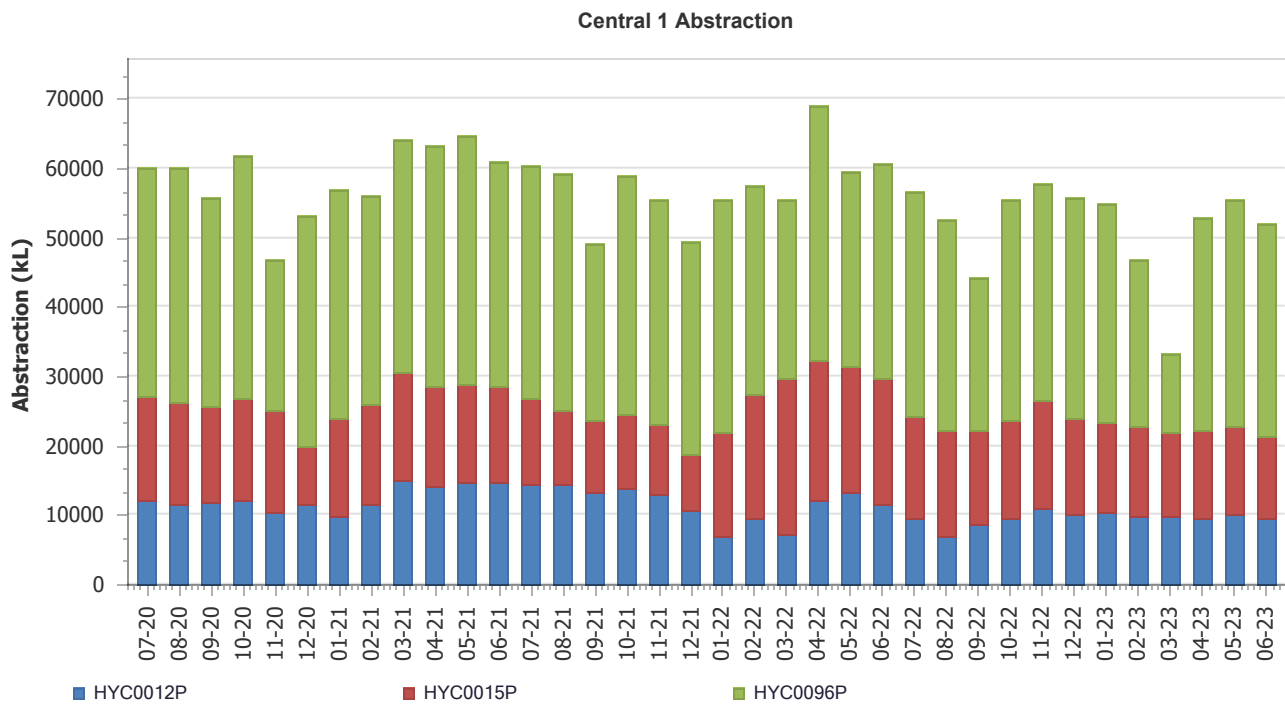
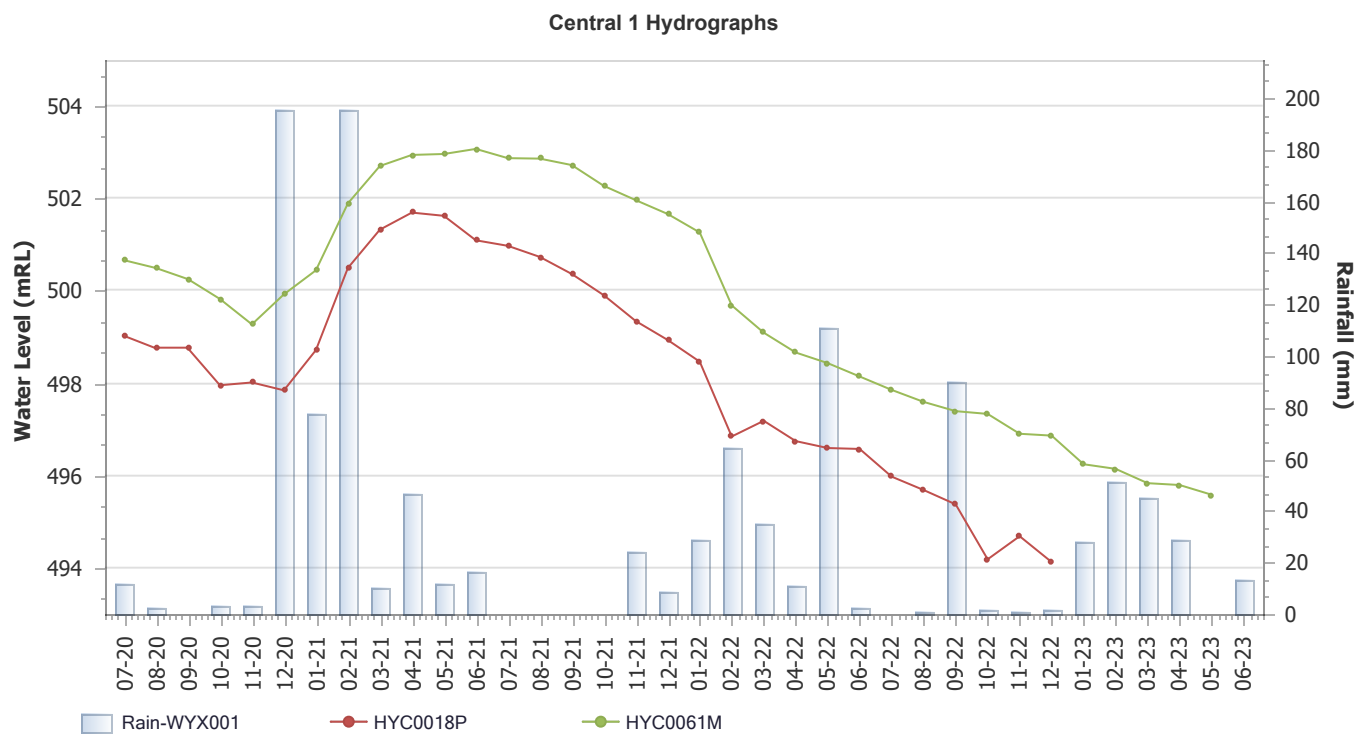


### Western 6 Abstraction



### Monitoring summary: Western 6 Hydrographs

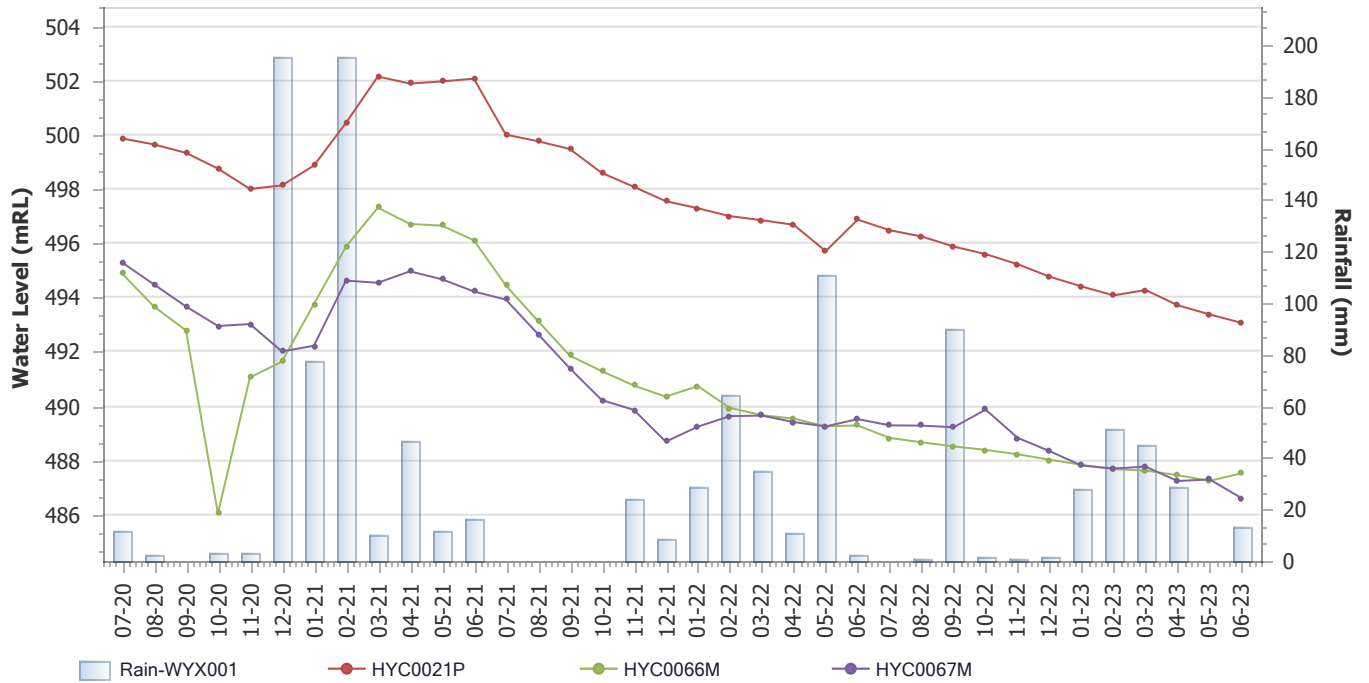
Figure 10.13



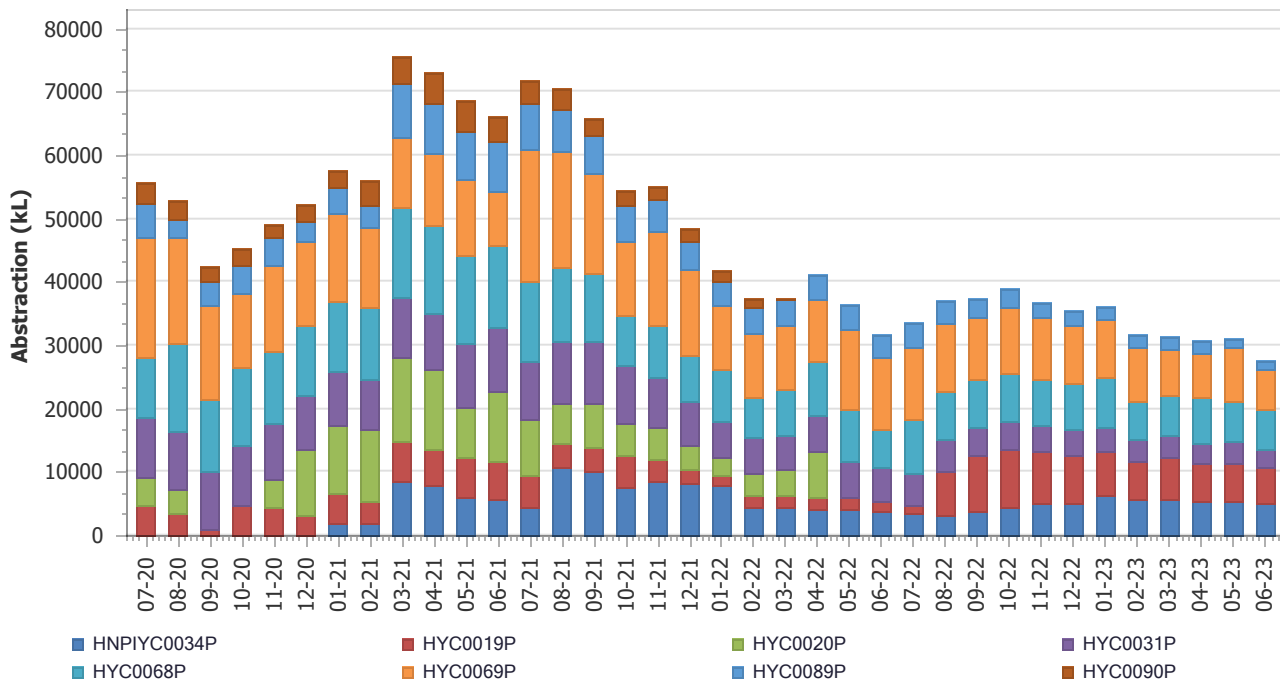
Monitoring summary: Central 1 Hydrographs

Figure 10.14

### Central 5 Hydrographs

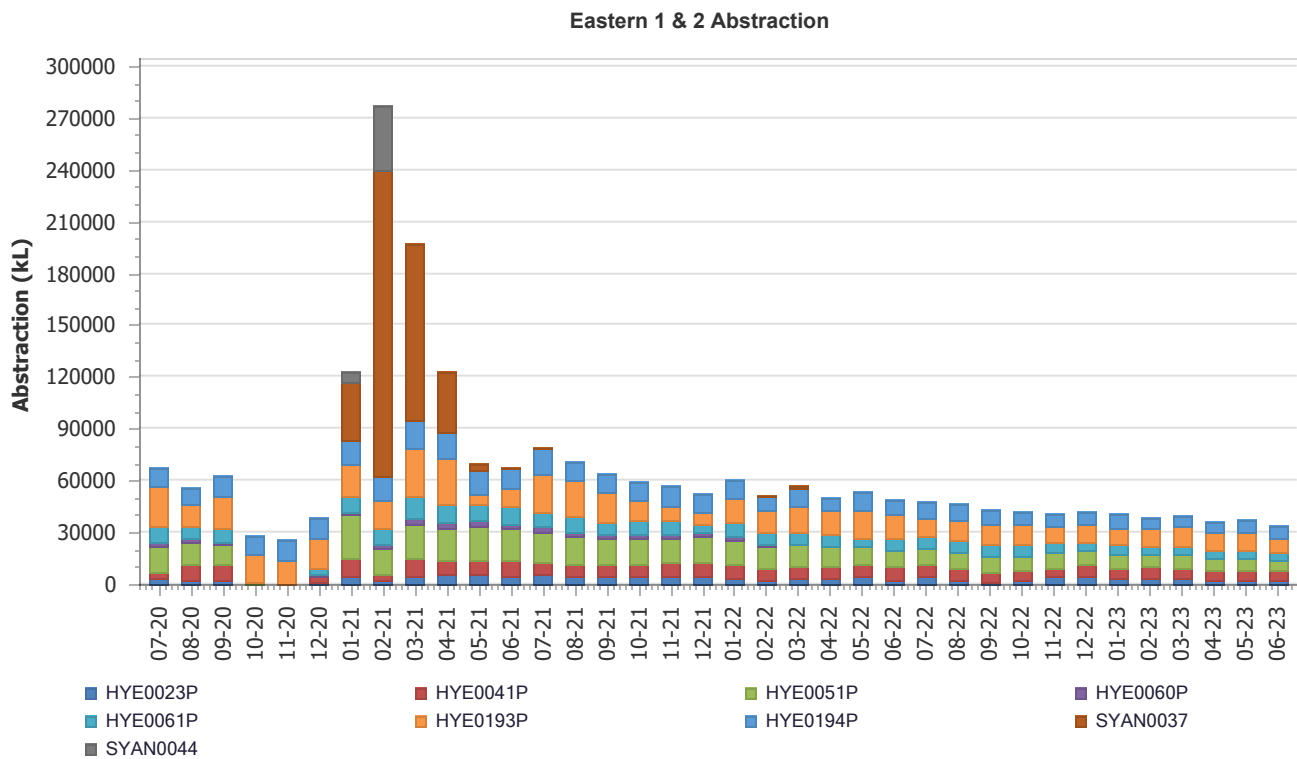
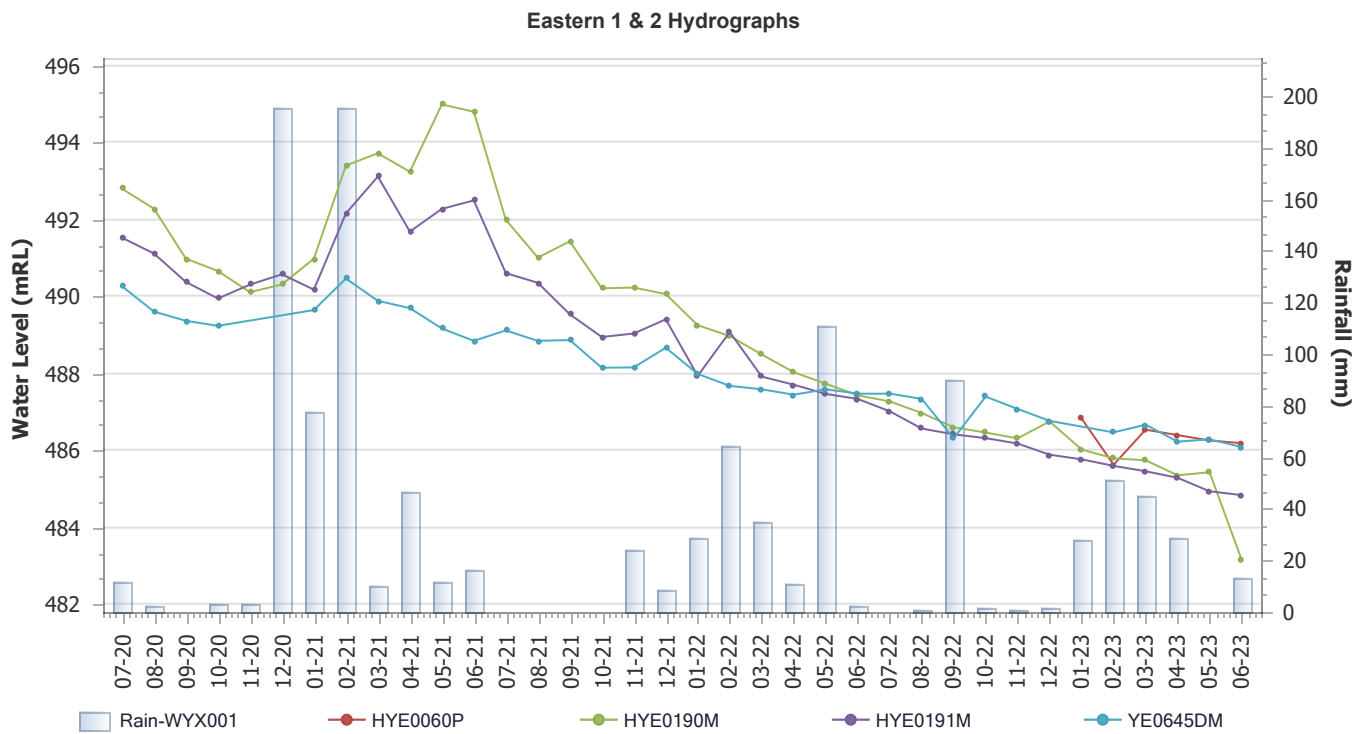


### Central 5 Abstraction



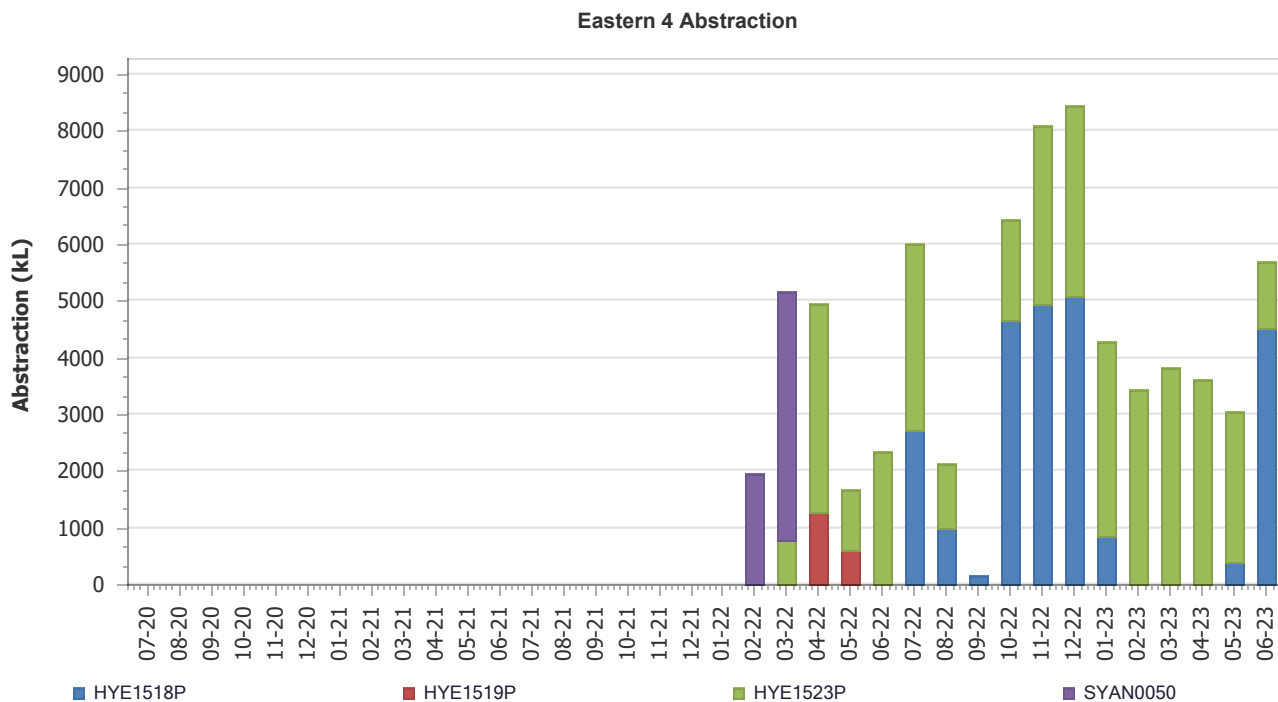
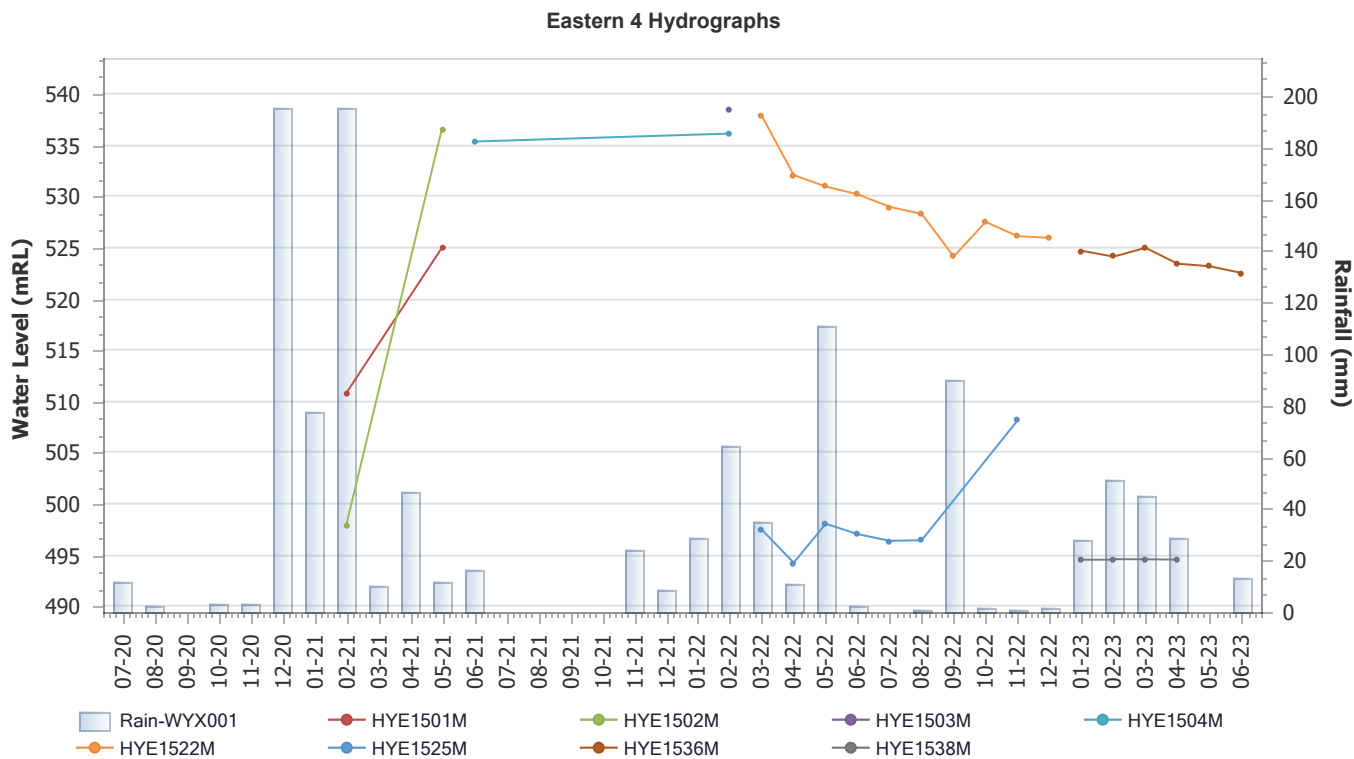
### Monitoring summary: Central 5 Hydrographs

Figure 10.15



**Monitoring summary: Eastern 1 & 2 Hydrographs**

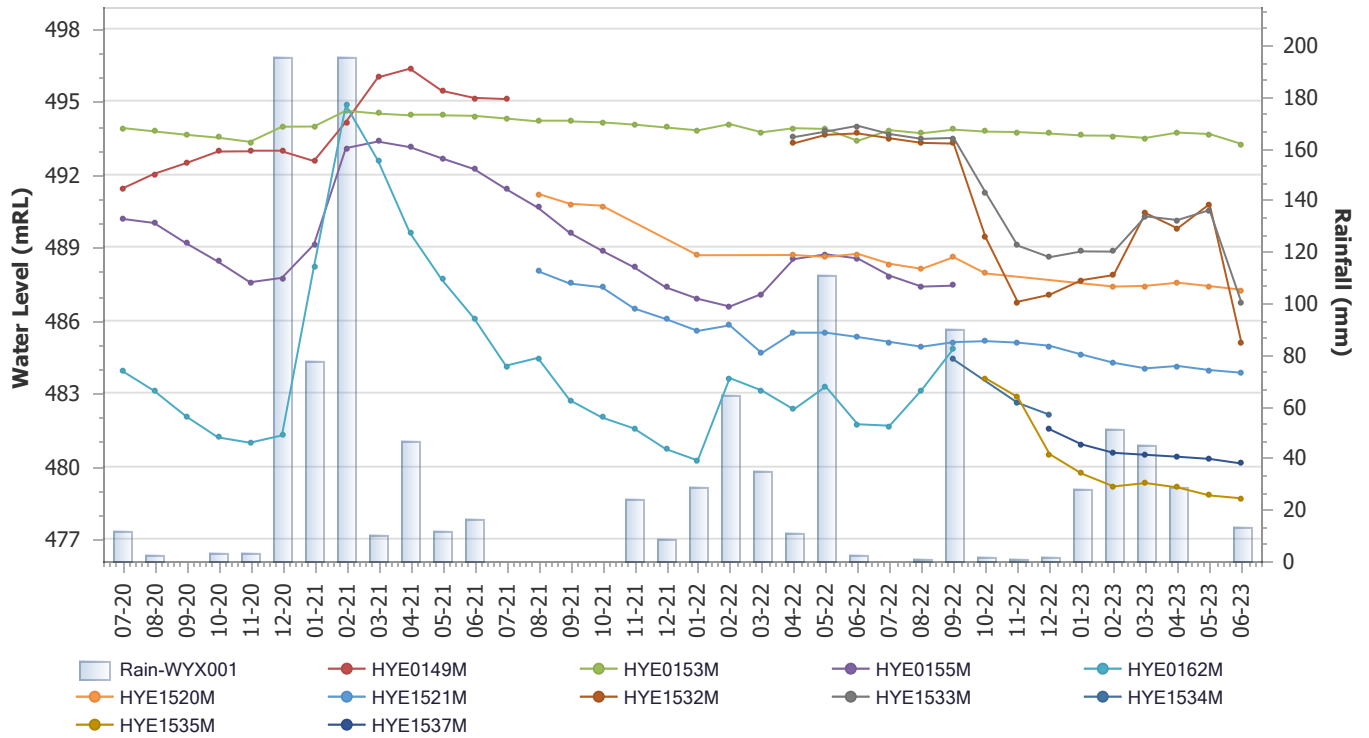
Figure 10.16



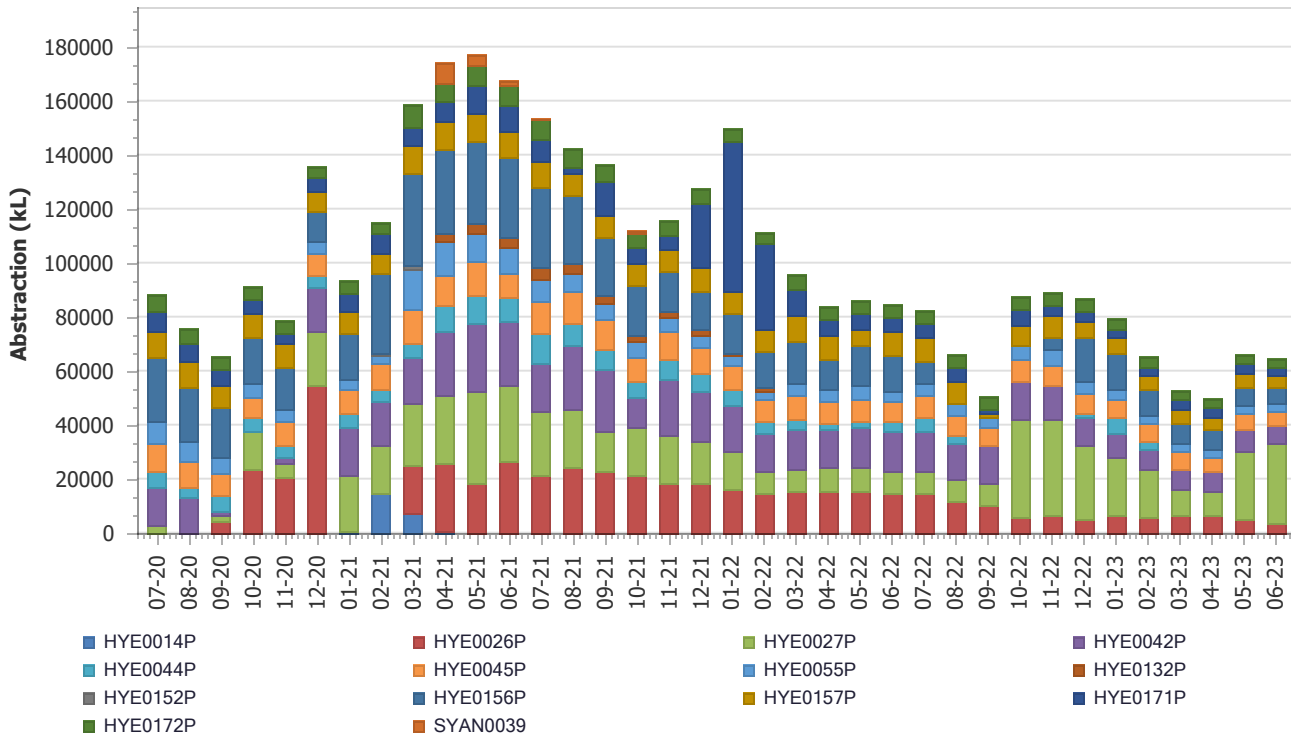
**Monitoring summary: Eastern 4 Hydrographs**

Figure 10.17

### Eastern 3,5,6 Hydrographs



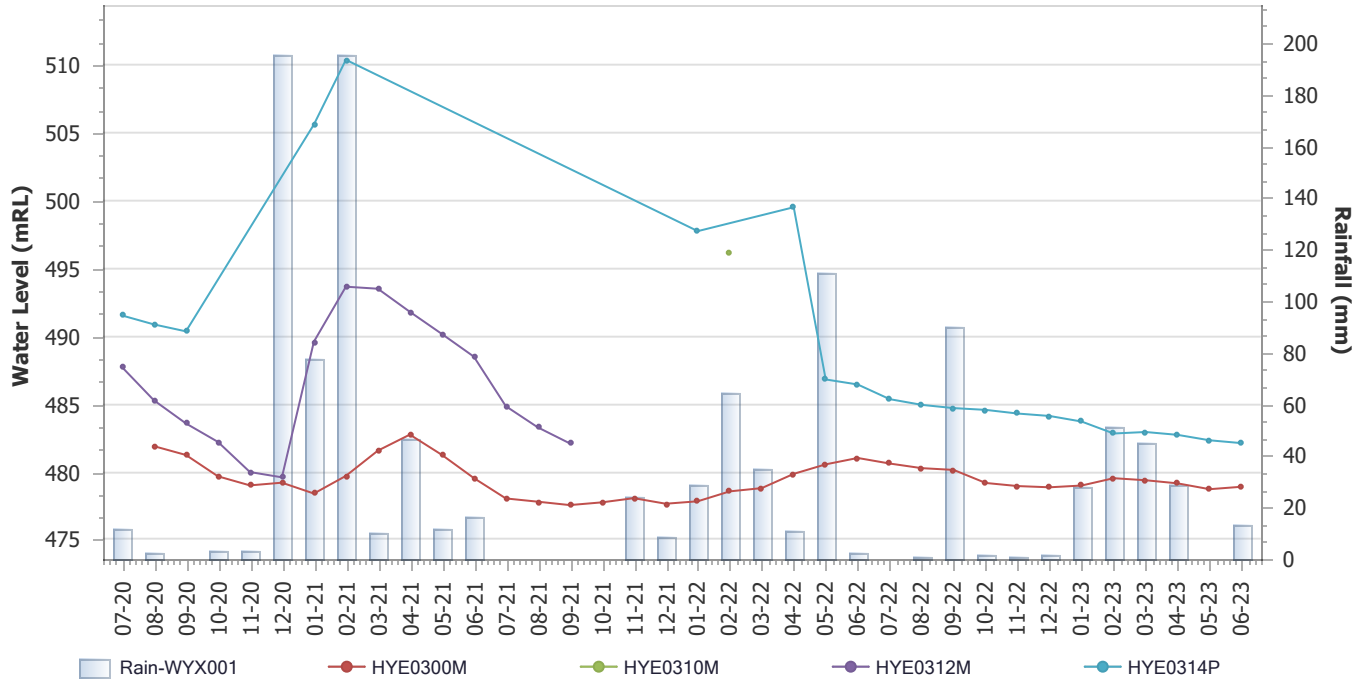
### Eastern 3,5,6 Abstraction



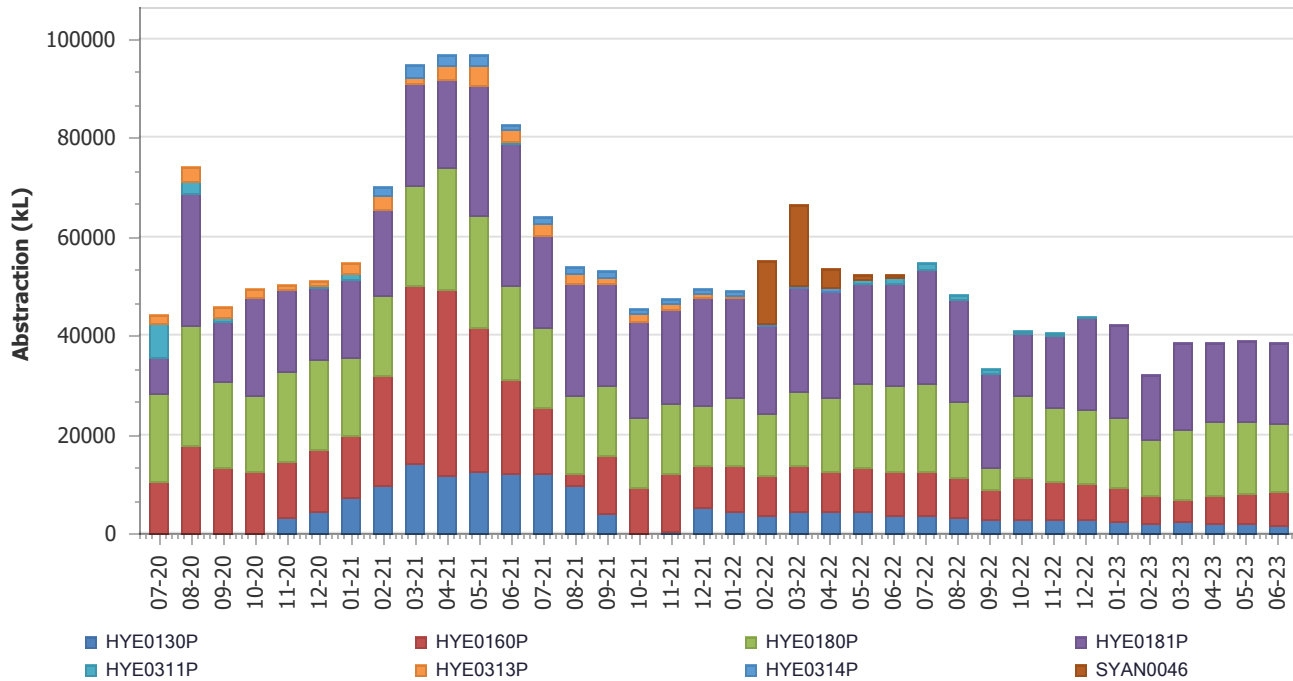
### Monitoring summary: Eastern 3,5,6 Hydrographs

Figure 10.18

### Eastern 7 Hydrographs

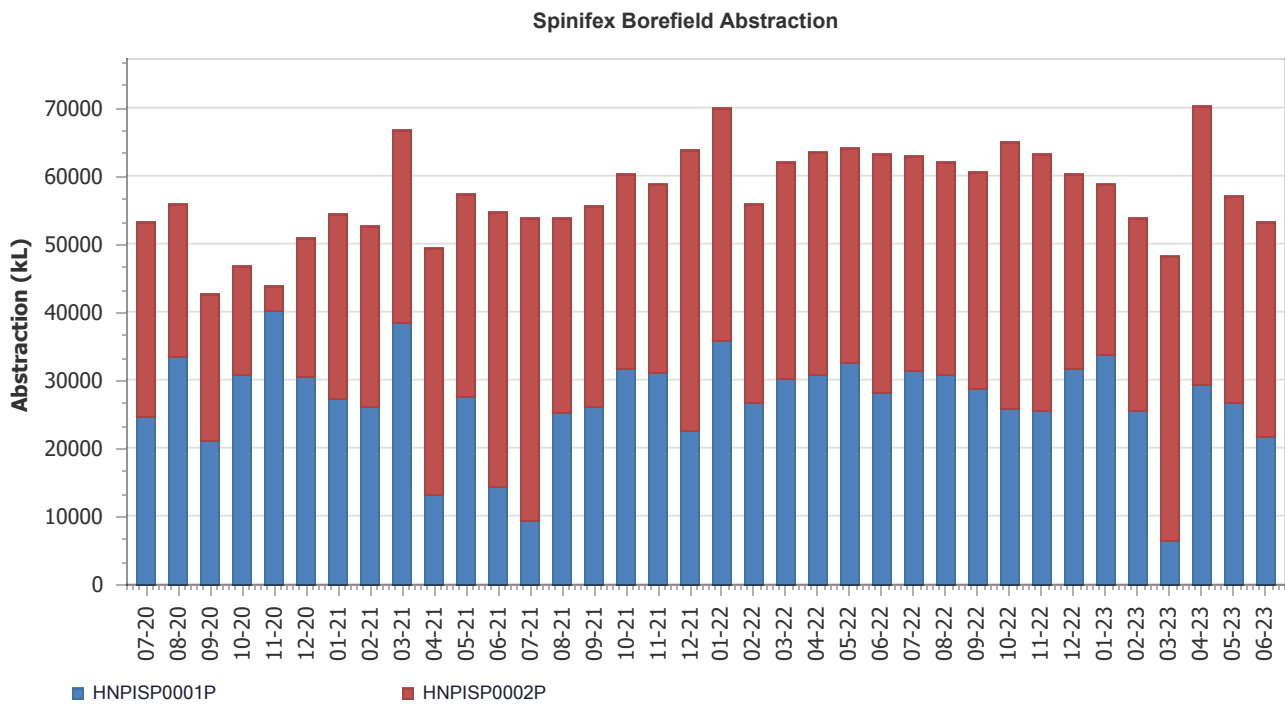
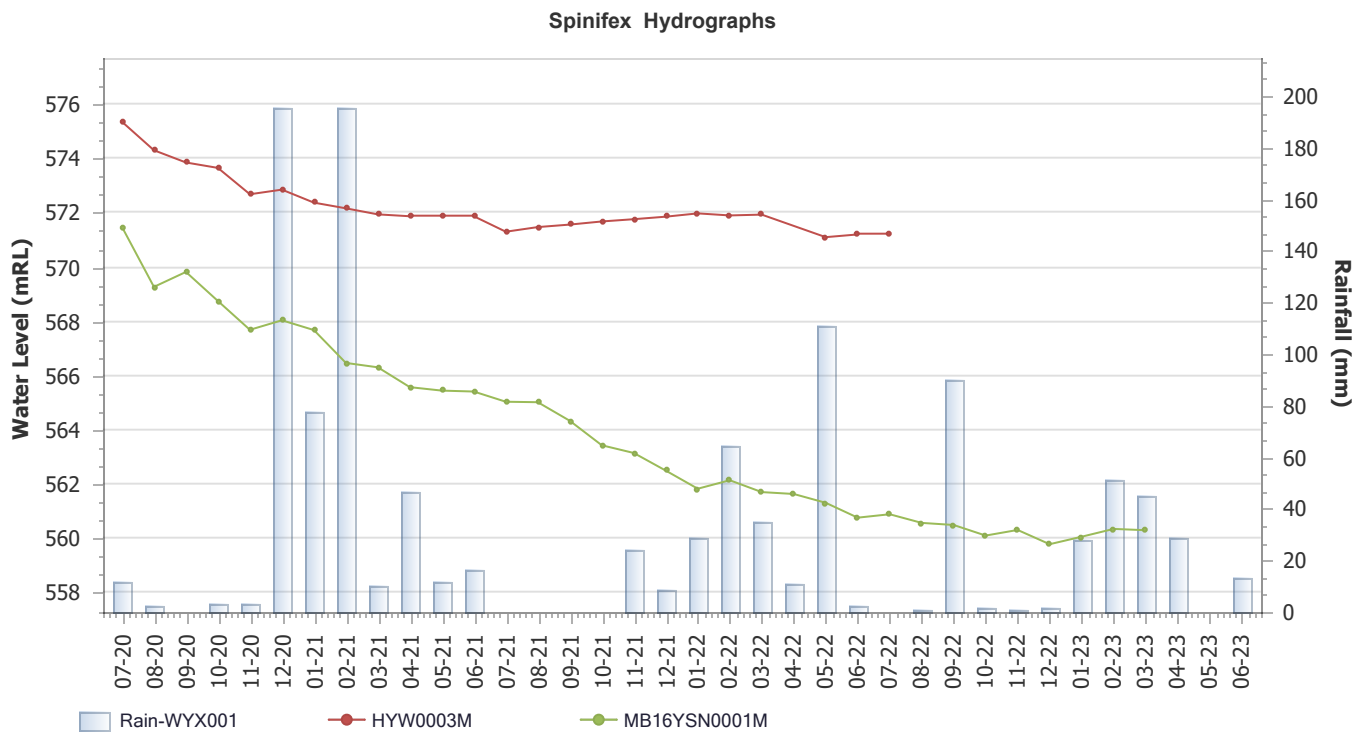


### Eastern 7 Abstraction



### Monitoring summary: Eastern 7 Hydrographs

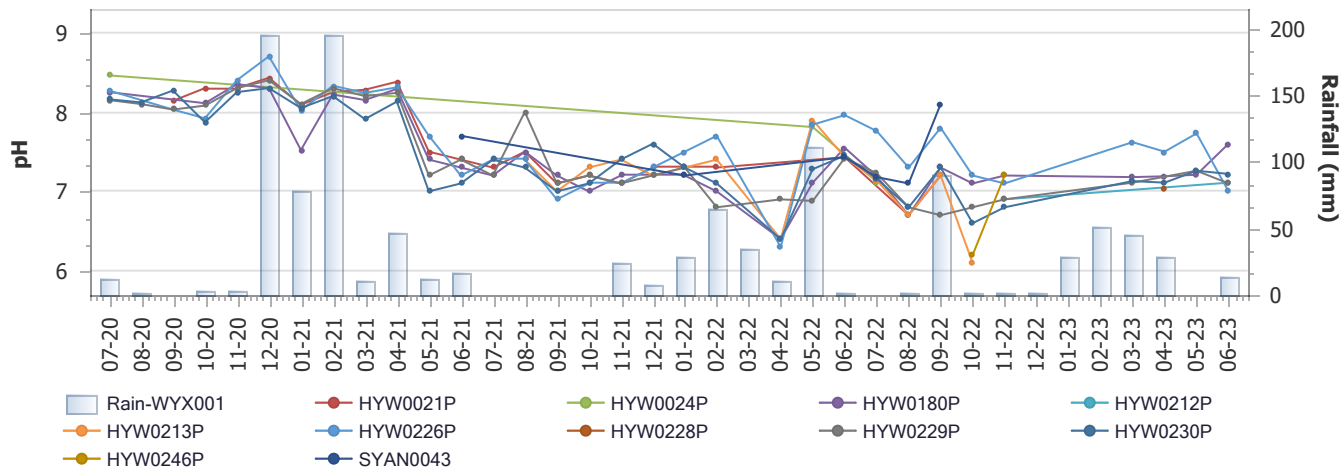
Figure 10.19



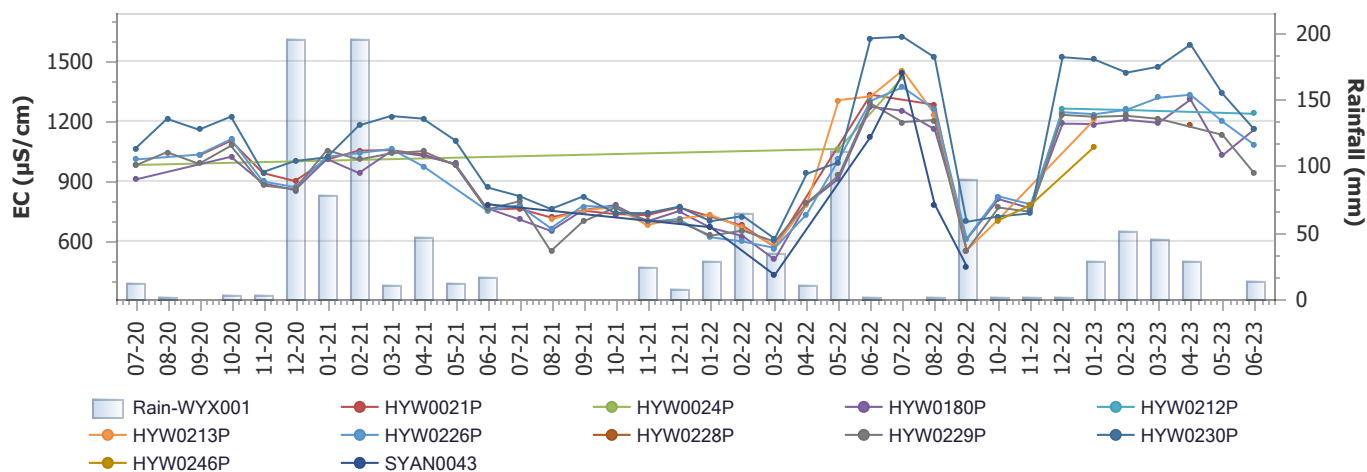
Monitoring summary: Spinifex Hydrographs

Figure 10.20

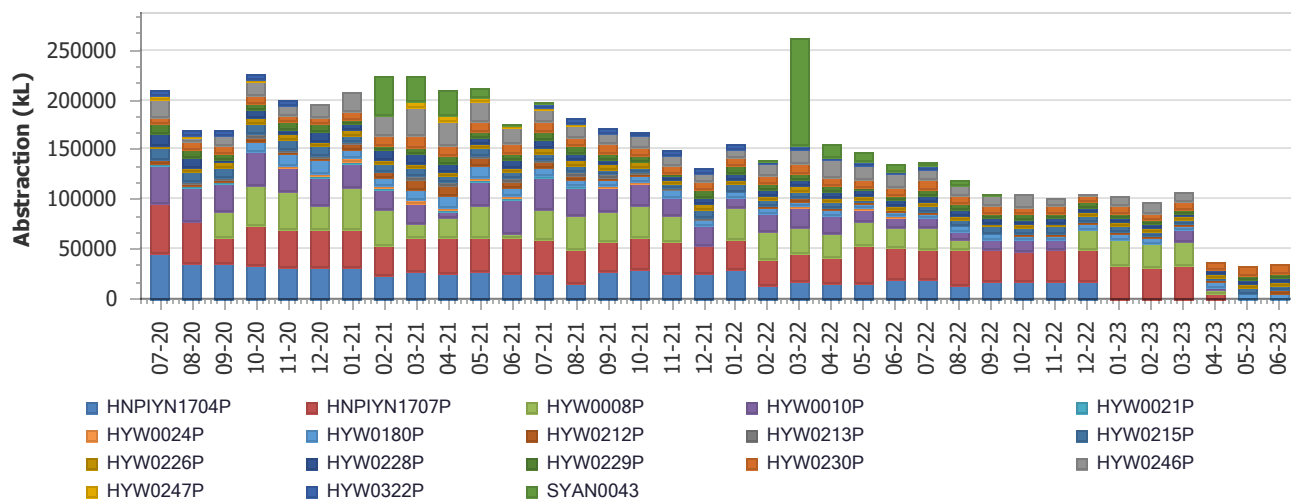
### Western 1 Production Boreholes pH



### Western 1 Production Boreholes EC



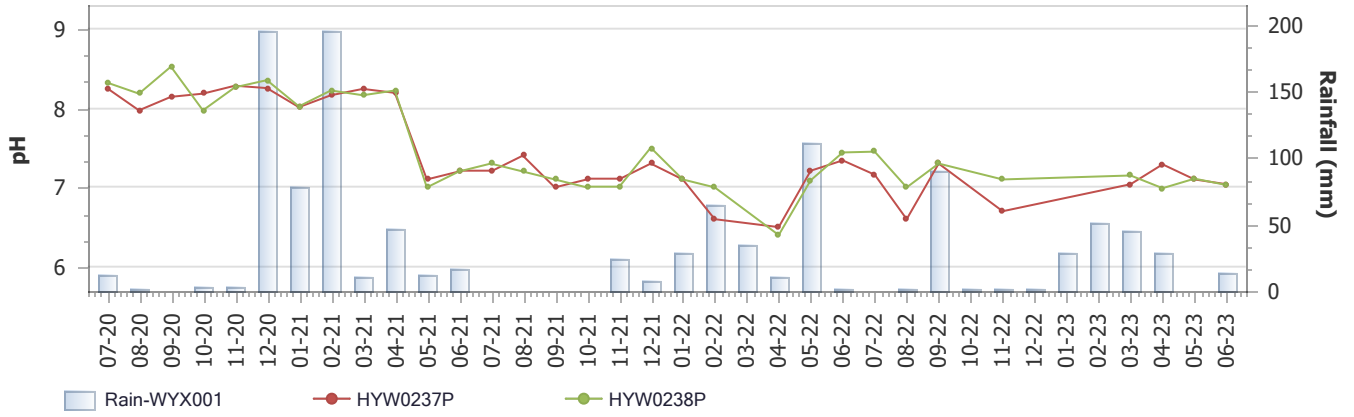
### Western 1 Abstraction



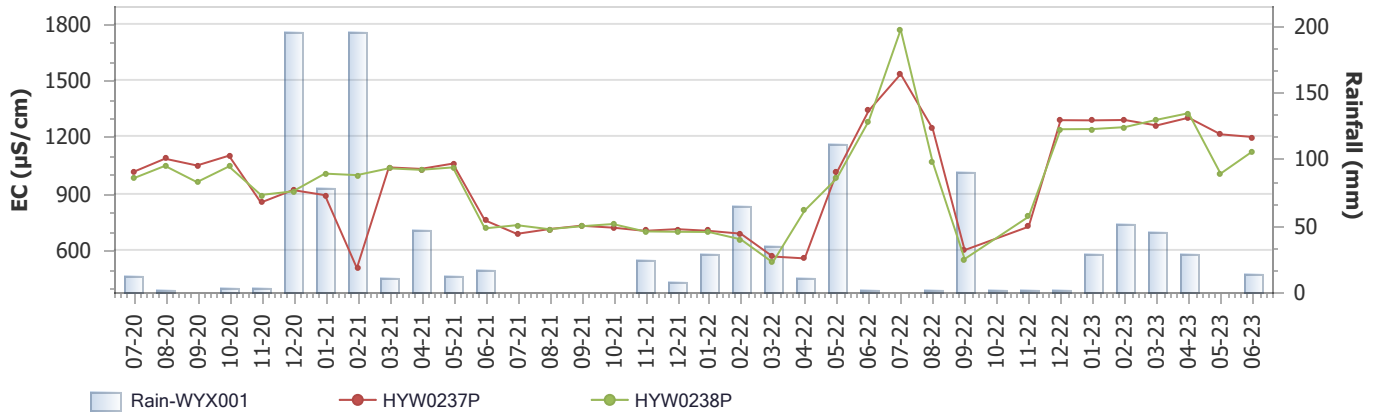
### Monitoring summary: Western 1 Production Boreholes

Figure 10.21

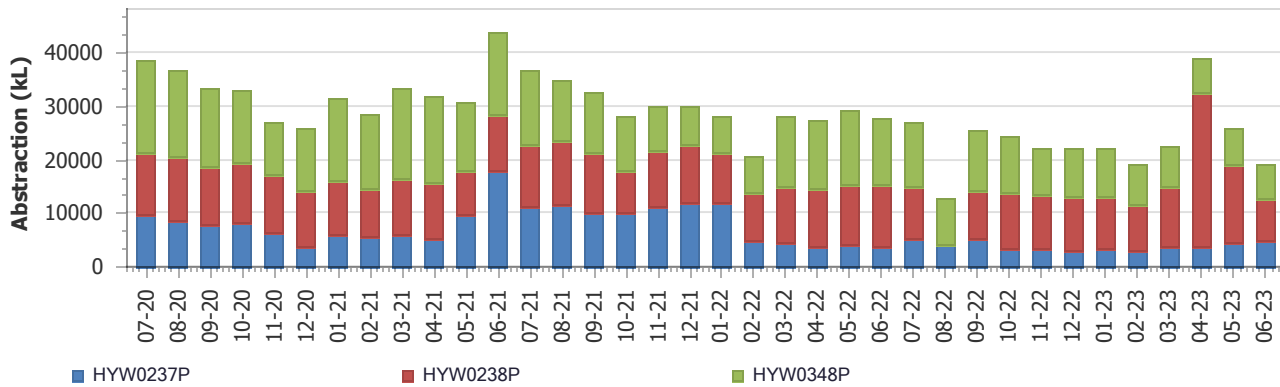
### Western 2 Production Boreholes pH



### Western 2 Production Boreholes EC



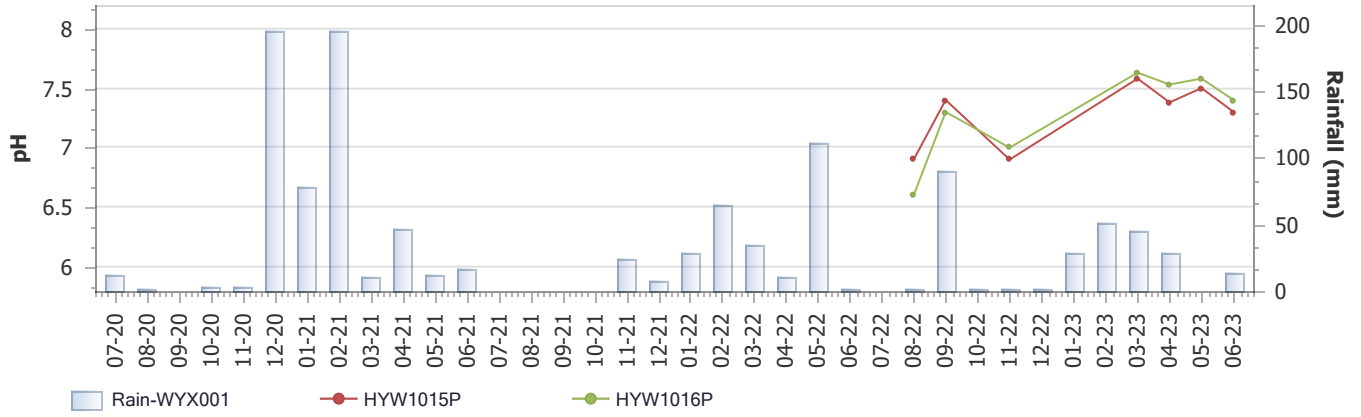
### Western 2 Abstraction



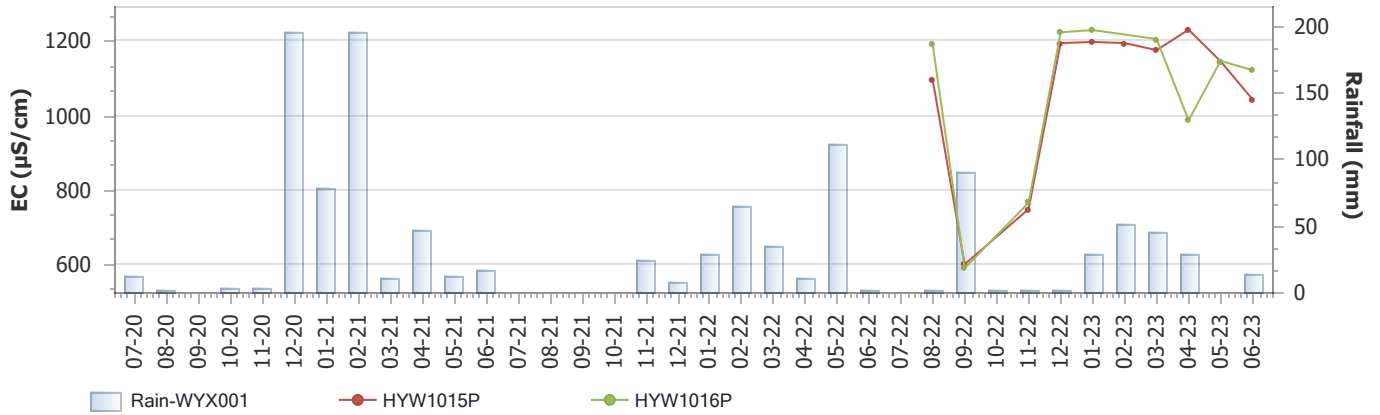
### Monitoring summary: Western 2 Production Boreholes

Figure 10.22

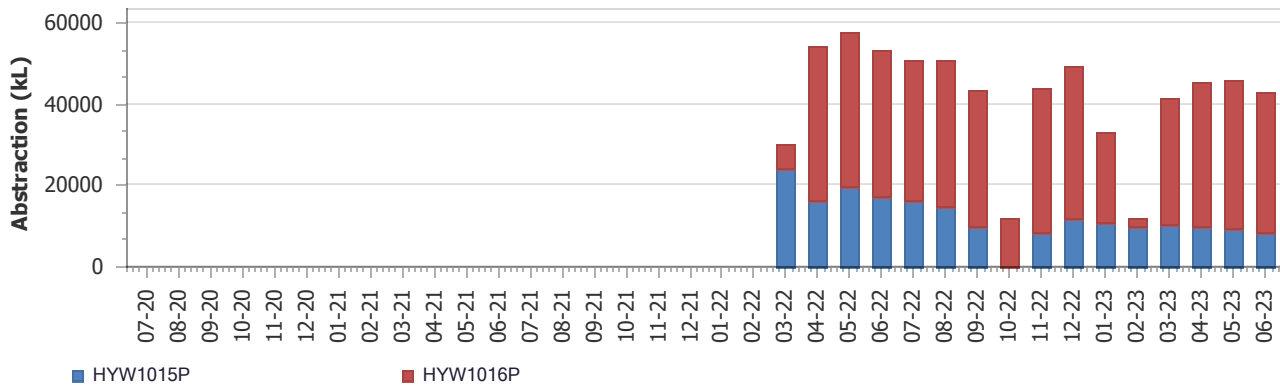
### Western 3 Production Boreholes pH



### Western 3 Production Boreholes EC



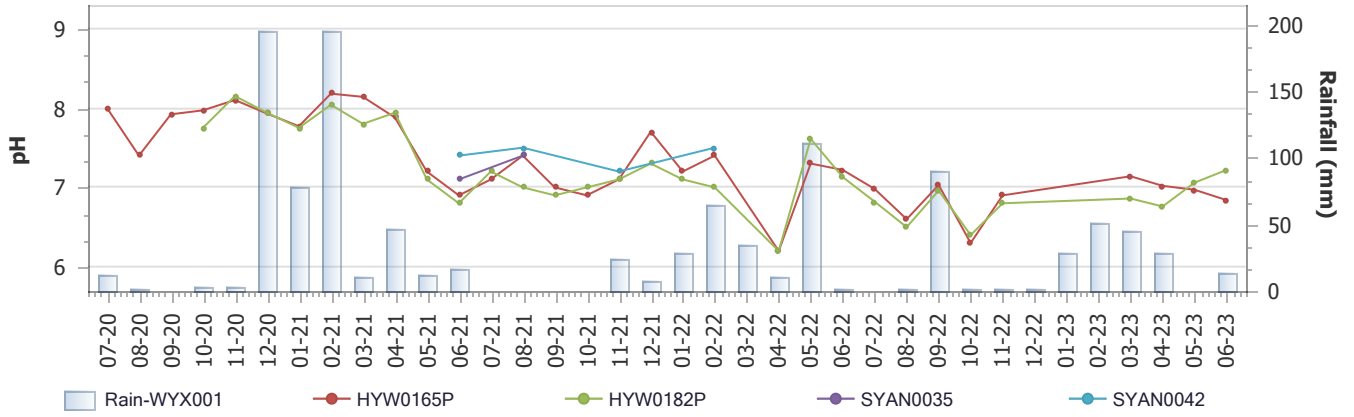
### Western 3 Abstraction



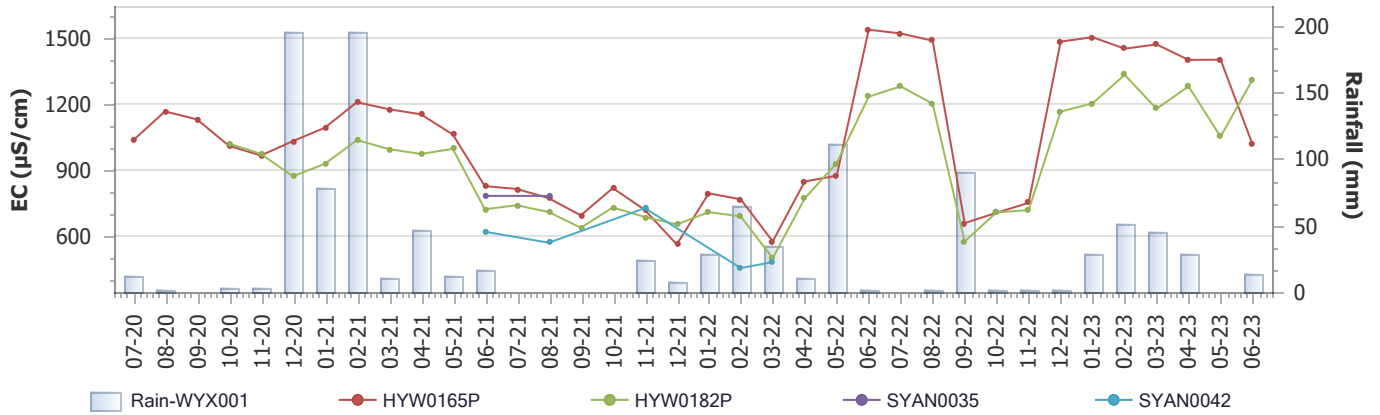
### Monitoring summary: Western 3 Production Boreholes

Figure 10.23

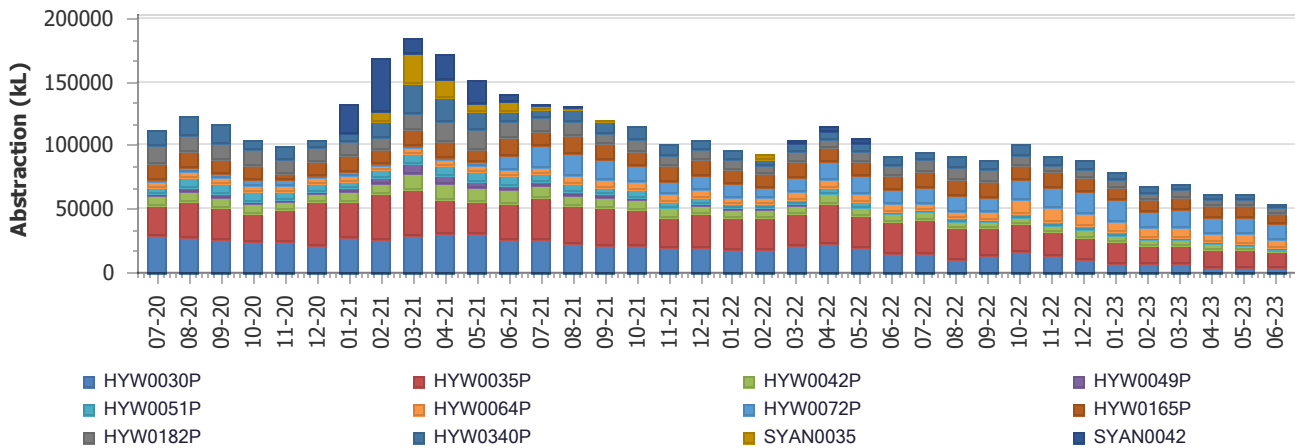
### Western 4 Production Boreholes pH



### Western 4 Production Boreholes EC



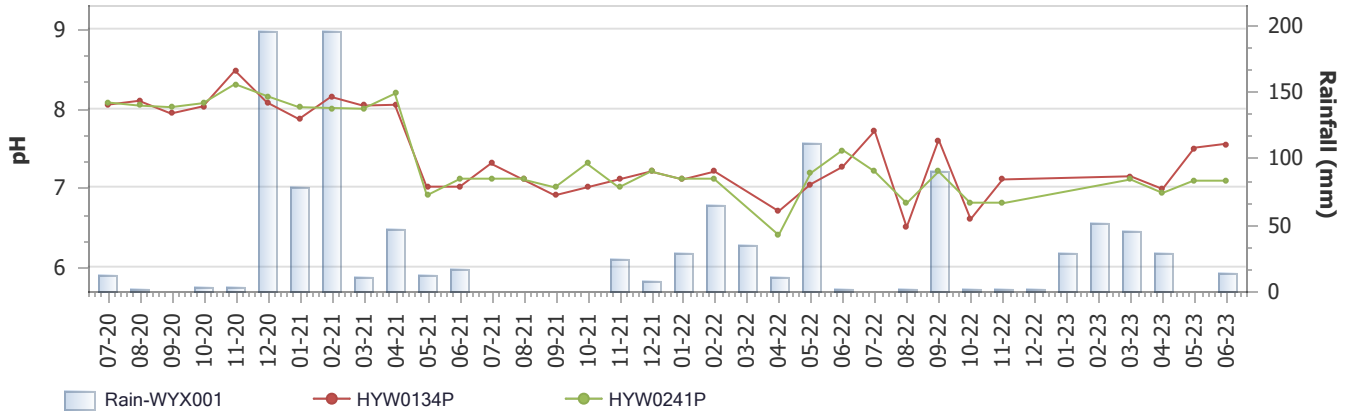
### Western 4 Abstraction



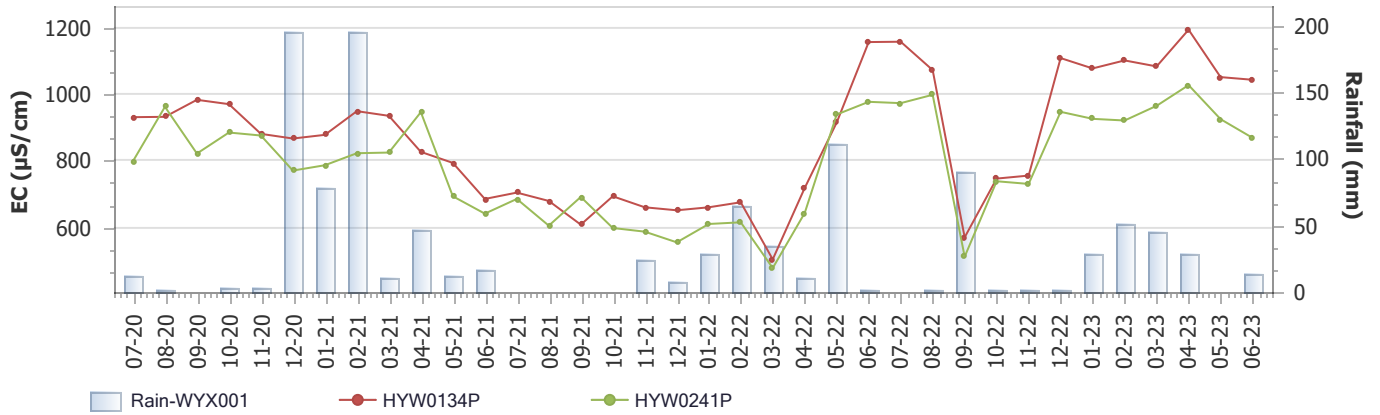
### Monitoring summary: Western 4 Production Boreholes

Figure 10.24

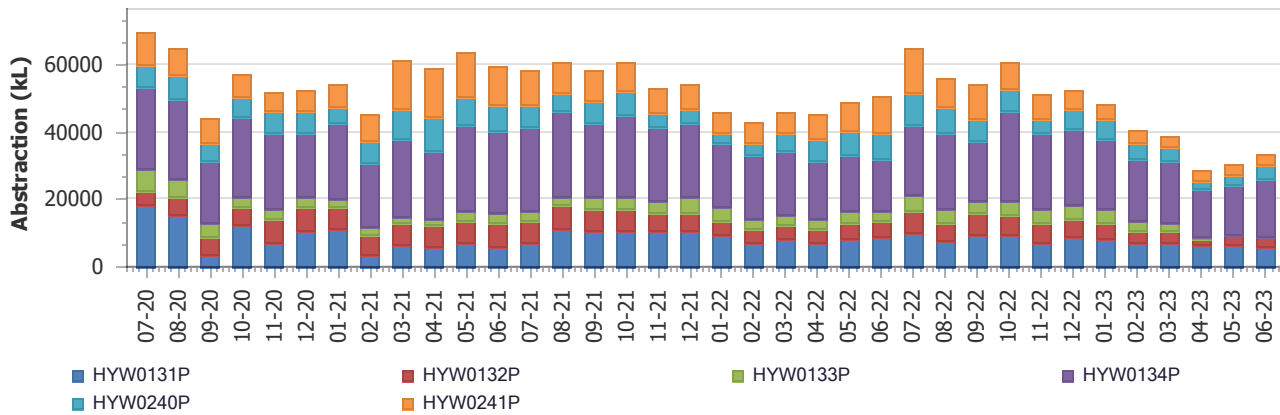
### Western 5 Production Boreholes pH



### Western 5 Production Boreholes EC



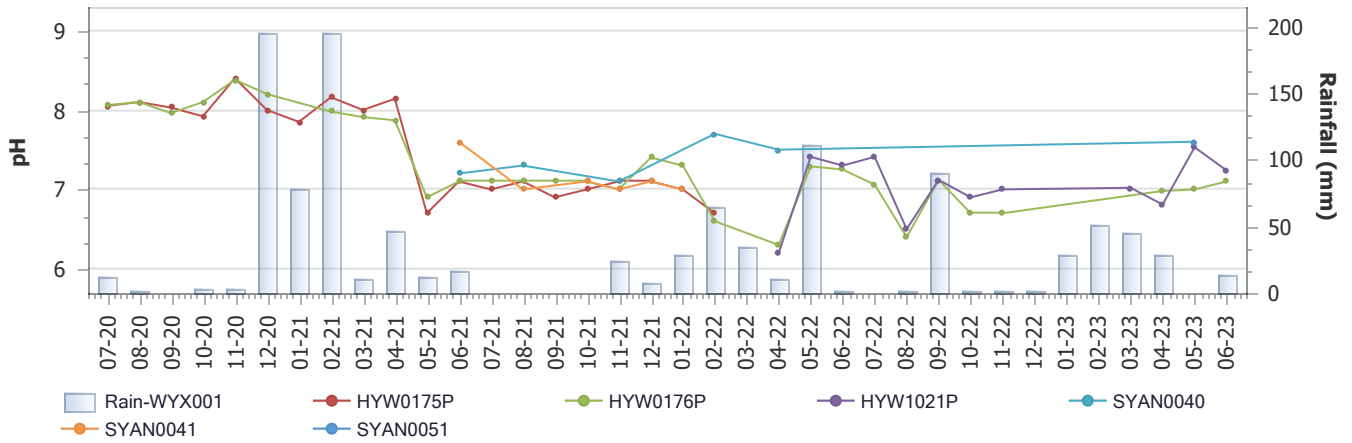
### Western 5 Abstraction



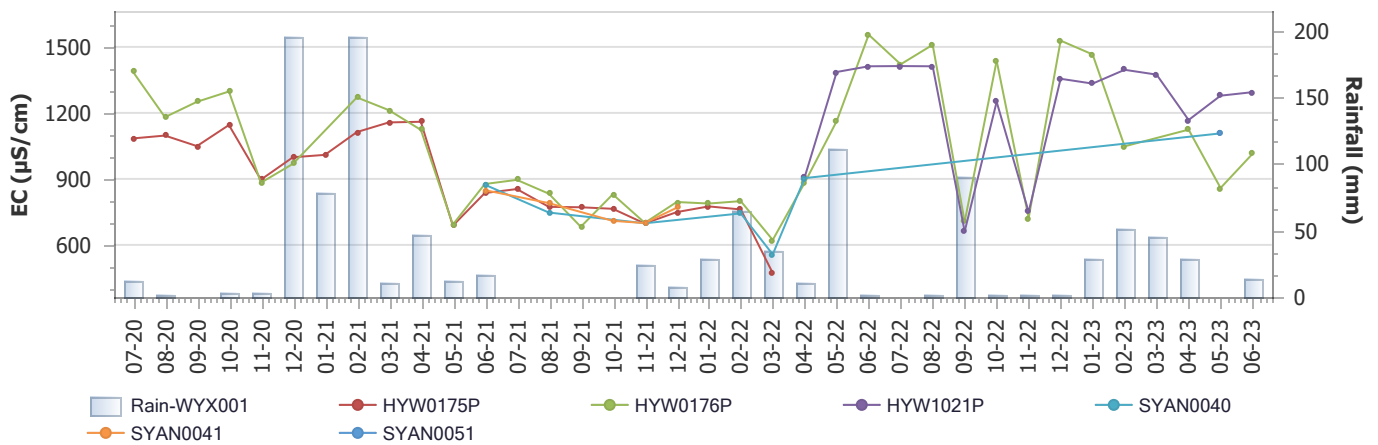
### Monitoring summary: Western 5 Production Boreholes

Figure 10.25

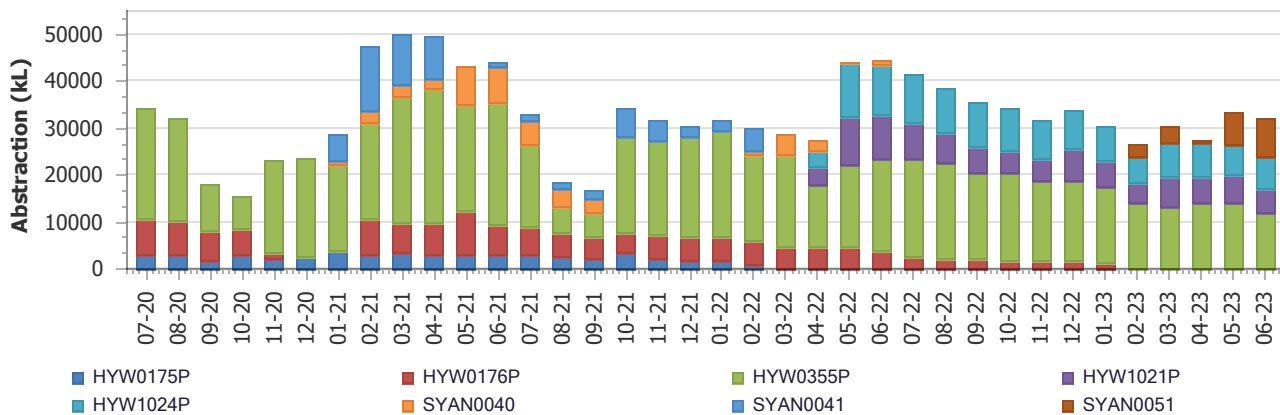
### Western 6 Production Boreholes pH



### Western 6 Production Boreholes EC

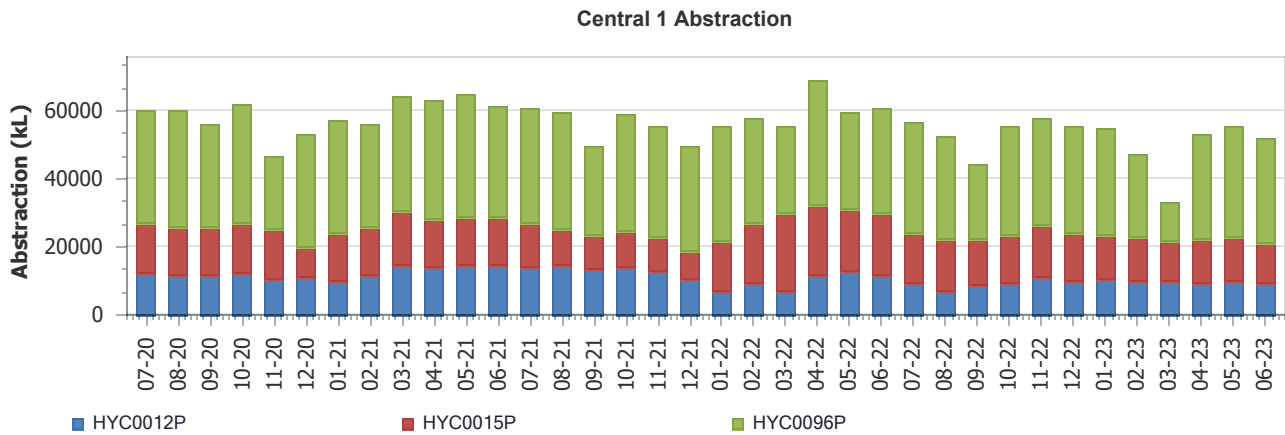
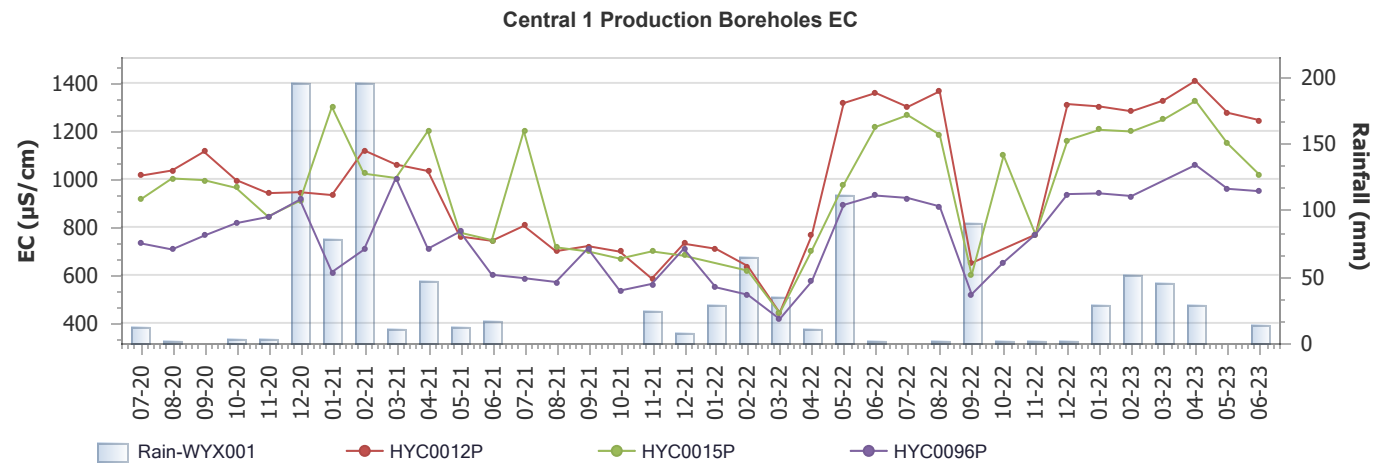
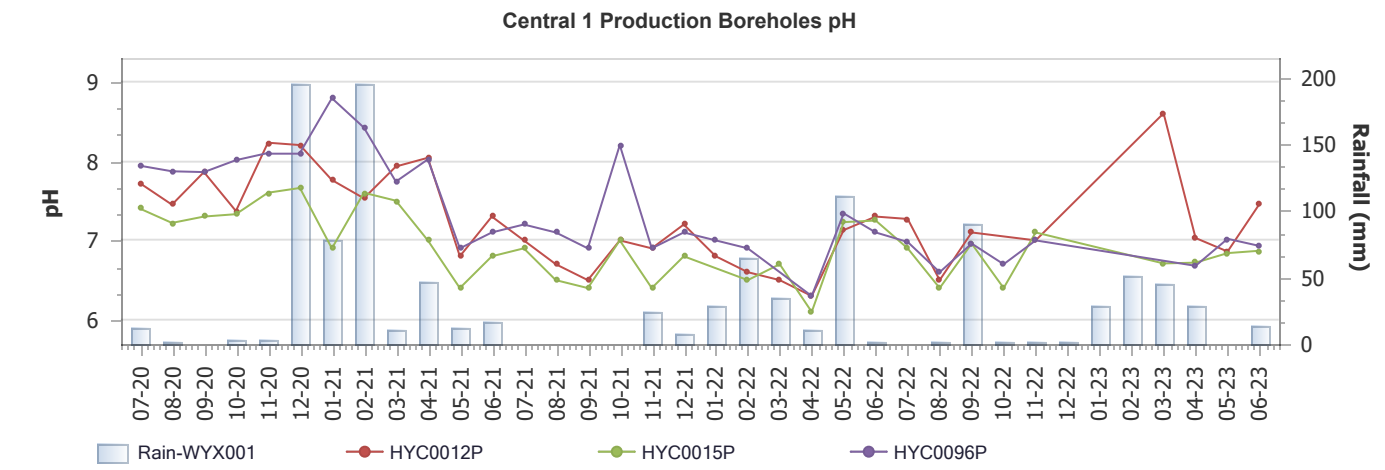


### Western 6 Abstraction



### Monitoring summary: Western 6 Production Boreholes

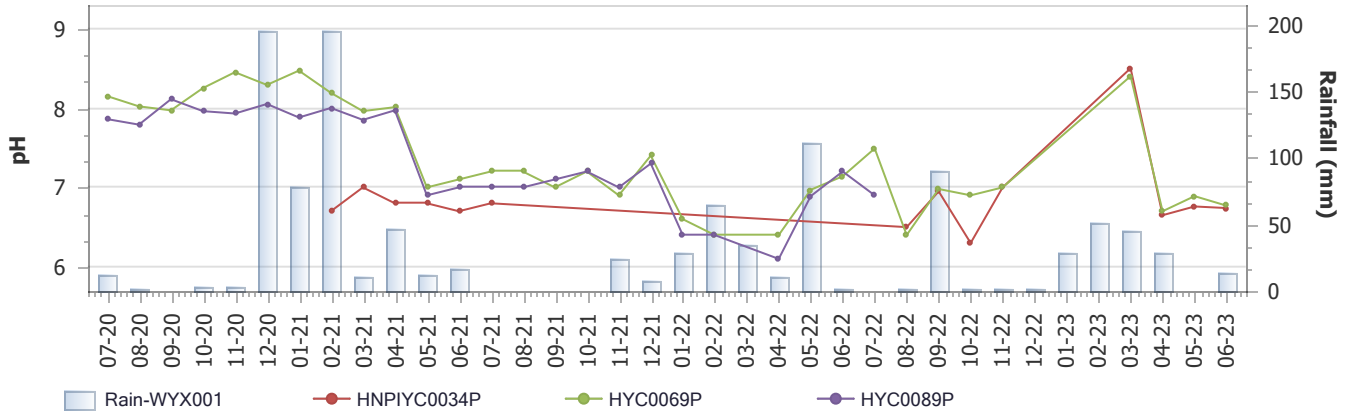
Figure 10.26



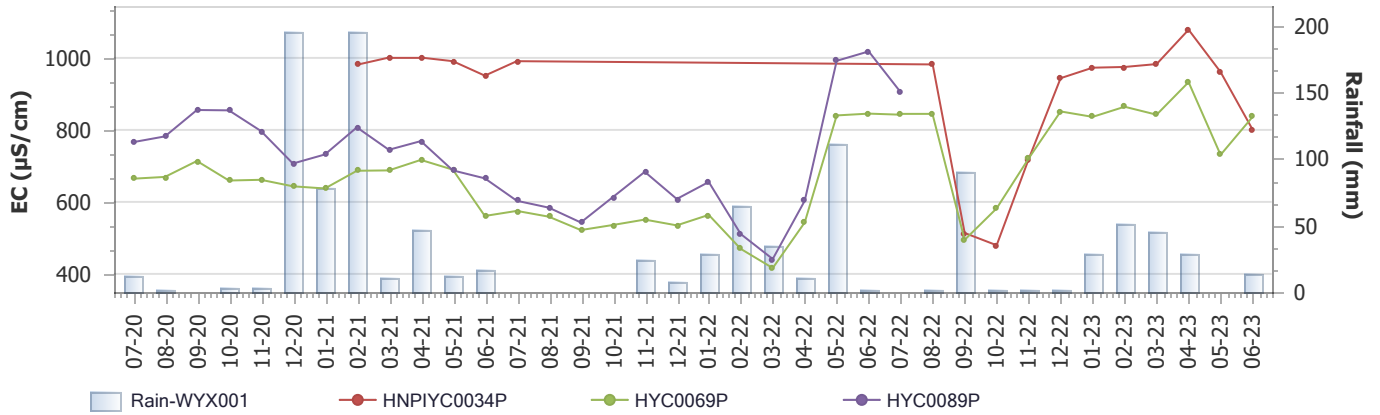
**Monitoring summary: Central 1 Production Boreholes**

Figure 10.27

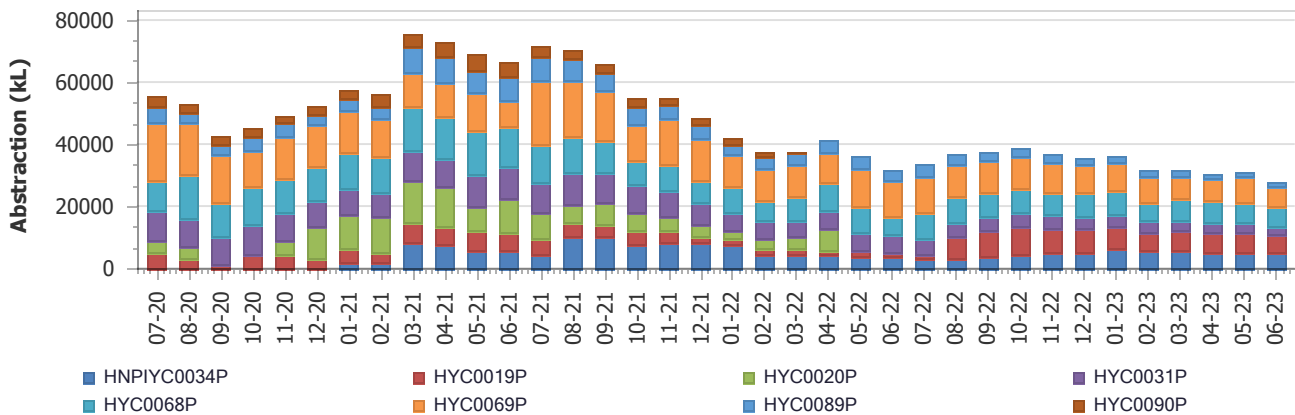
### Central 5 Production Boreholes pH



### Central 5 Production Boreholes EC



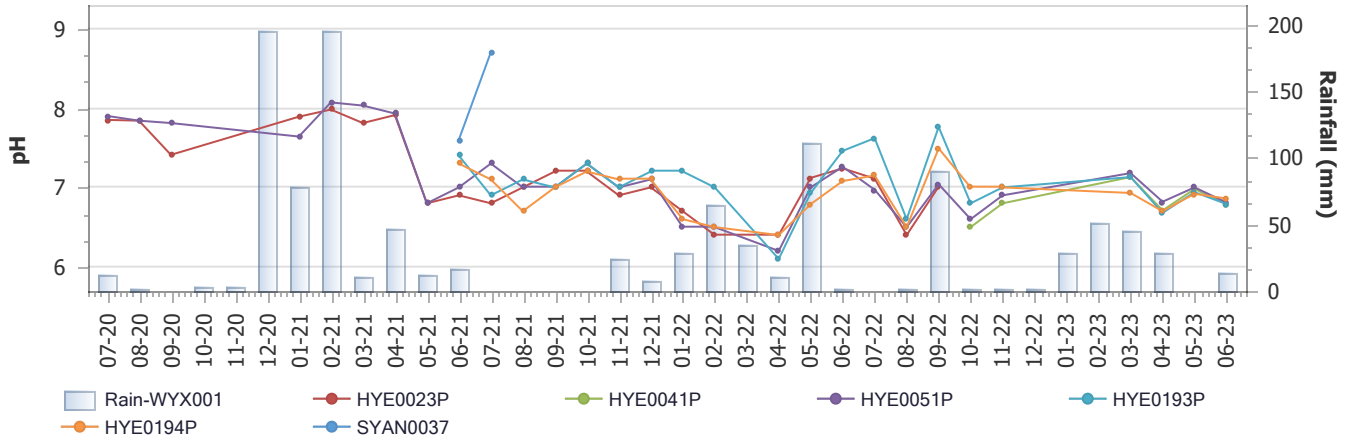
### Central 5 Abstraction



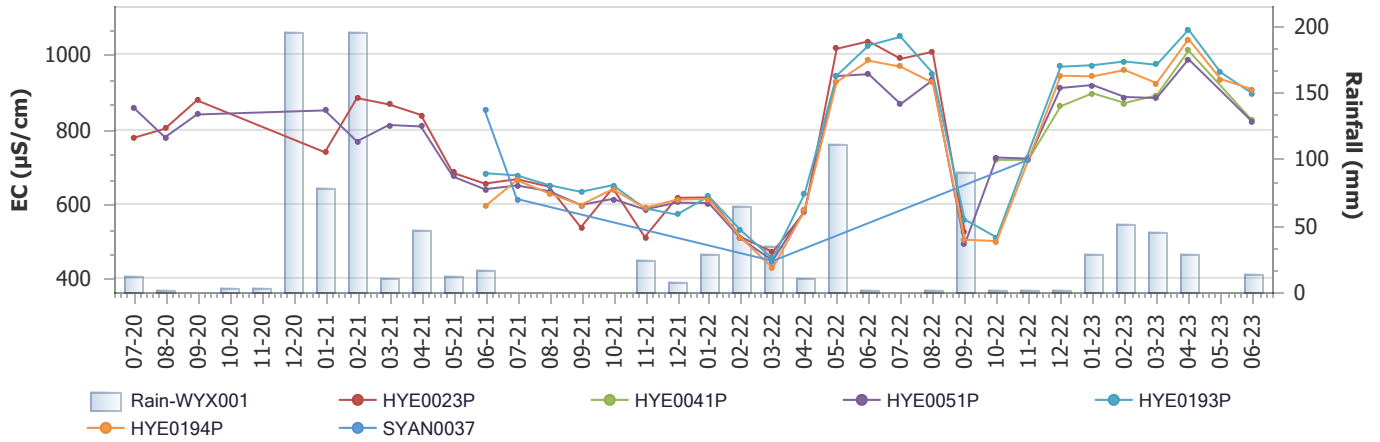
### Monitoring summary: Central 5 Production Boreholes

Figure 10.28

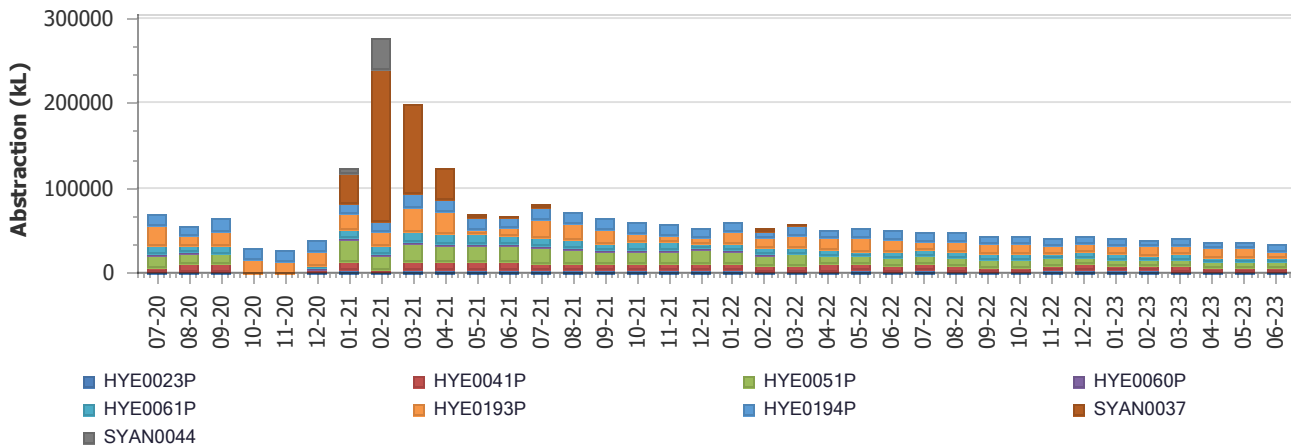
### Eastern 1 & 2 Production Boreholes pH



### Eastern 1 & 2 Production Boreholes EC

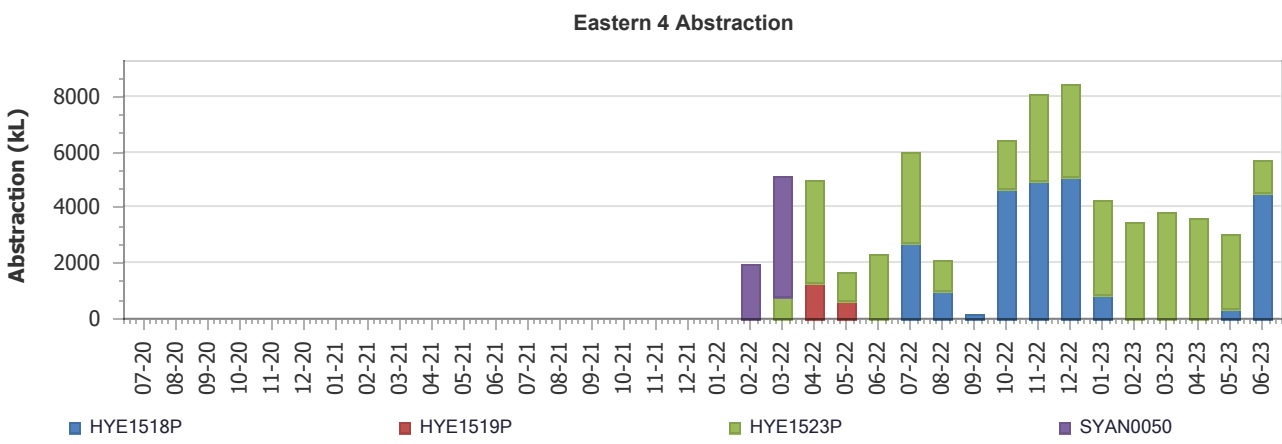
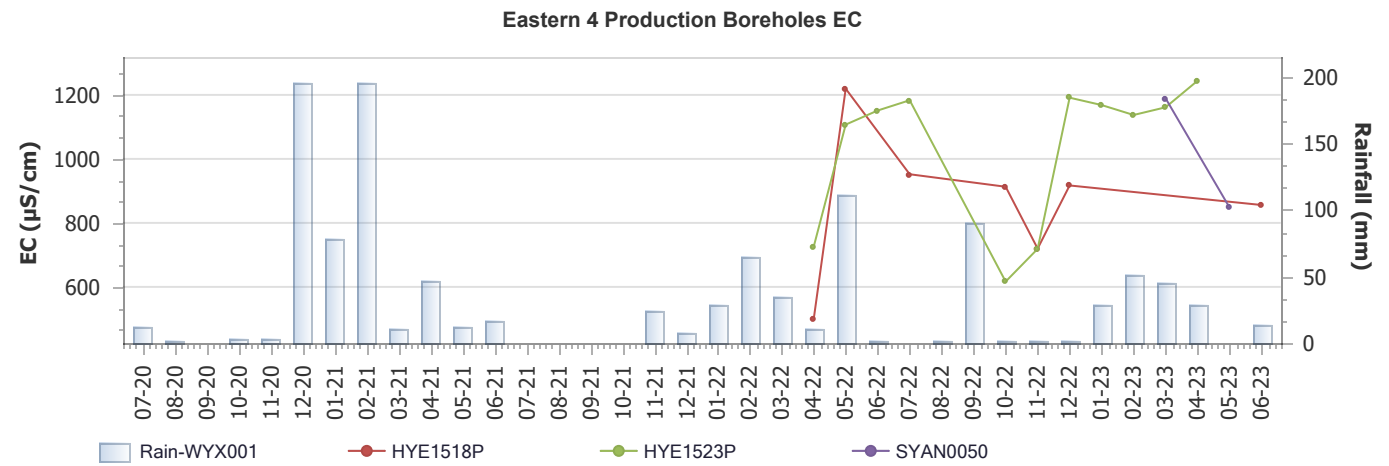
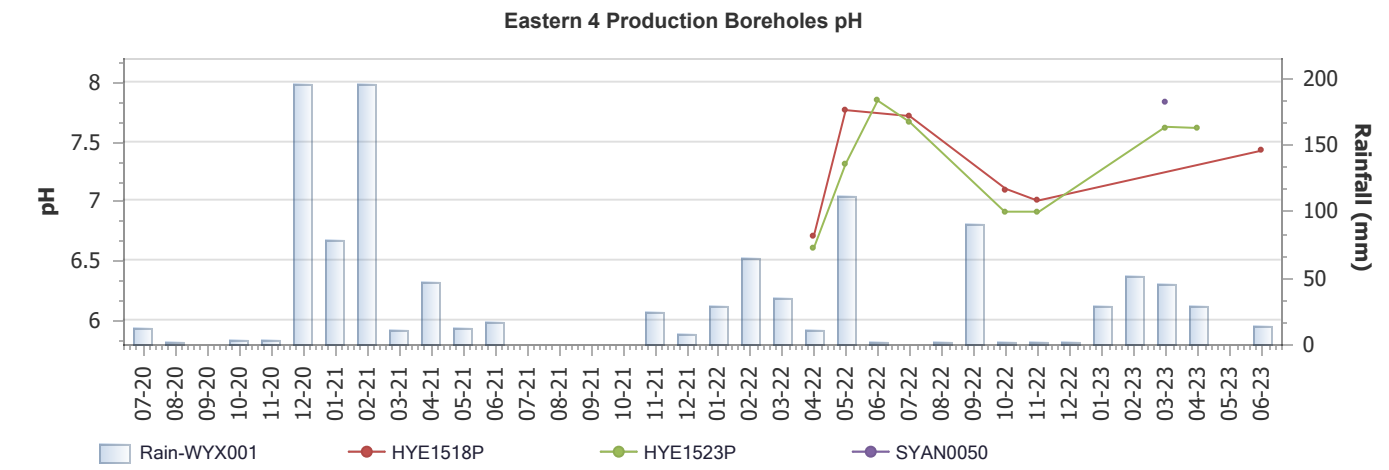


### Eastern 1 & 2 Abstraction



### Monitoring summary: Eastern 1 & 2 Production Boreholes

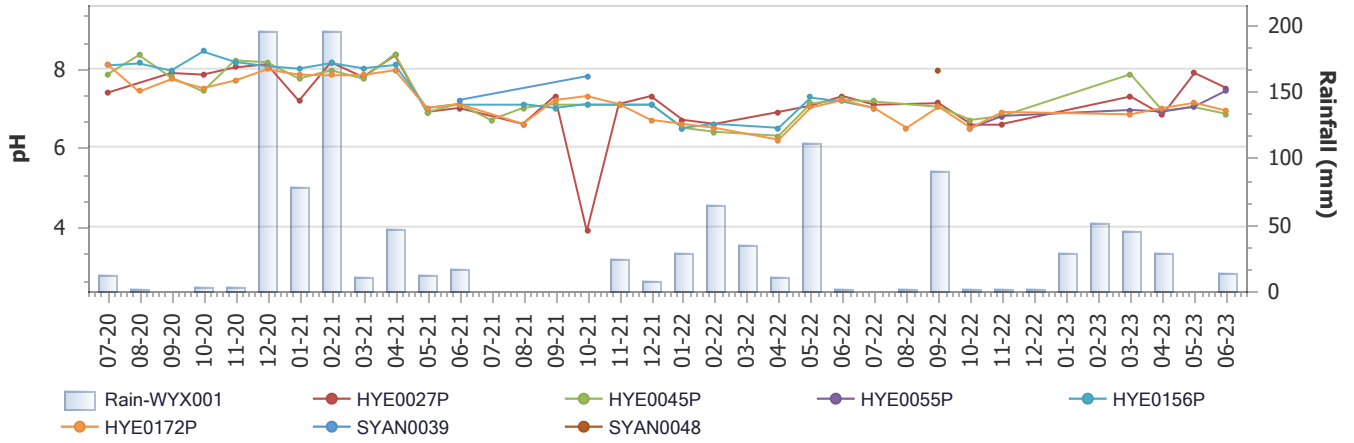
Figure 10.29



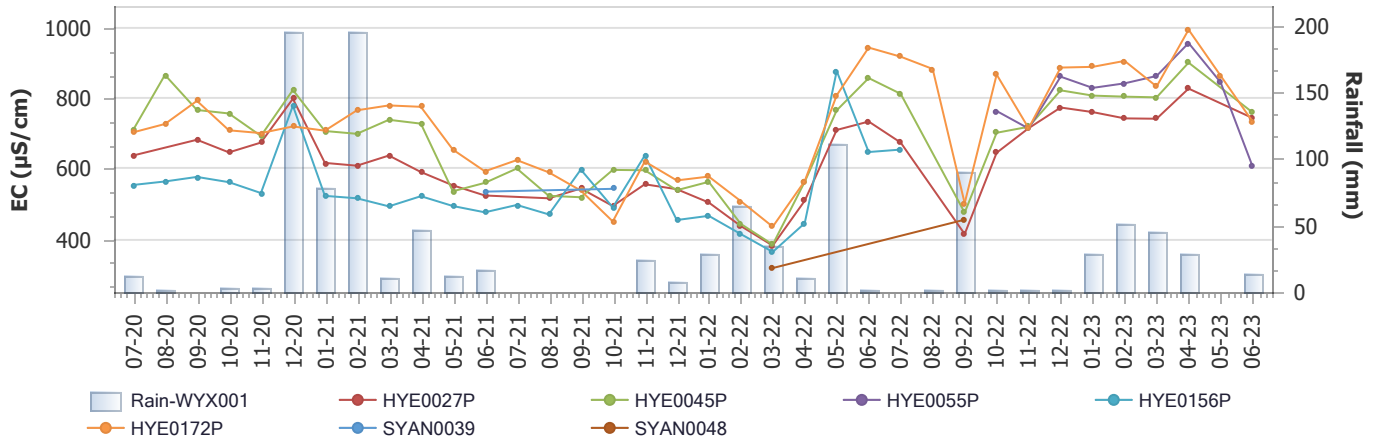
**Monitoring summary: Eastern 4 Production Boreholes**

Figure 10.30

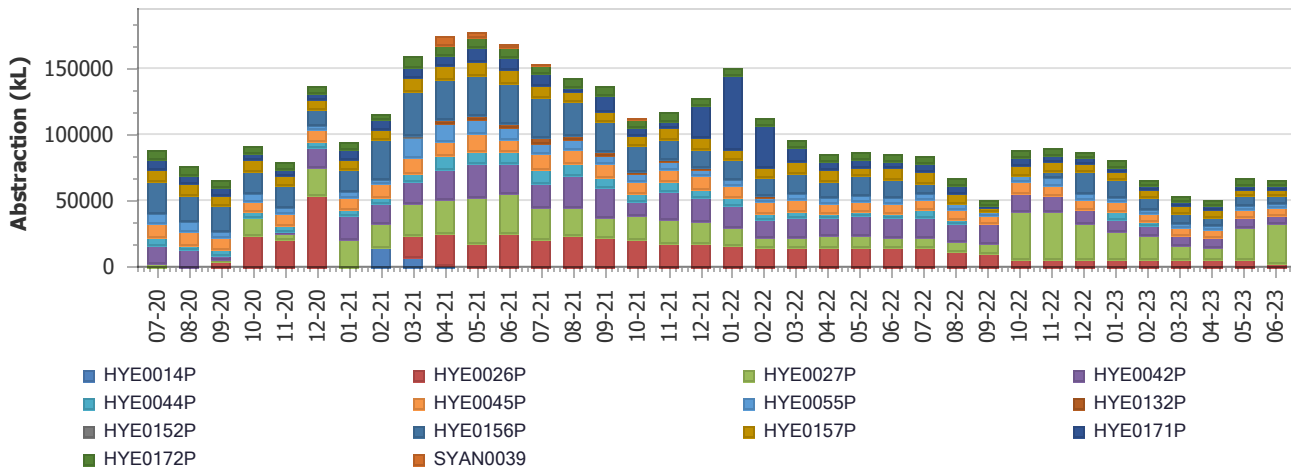
### Eastern 3,5,6 Production Boreholes pH



### Eastern 3,5,6 Production Boreholes EC



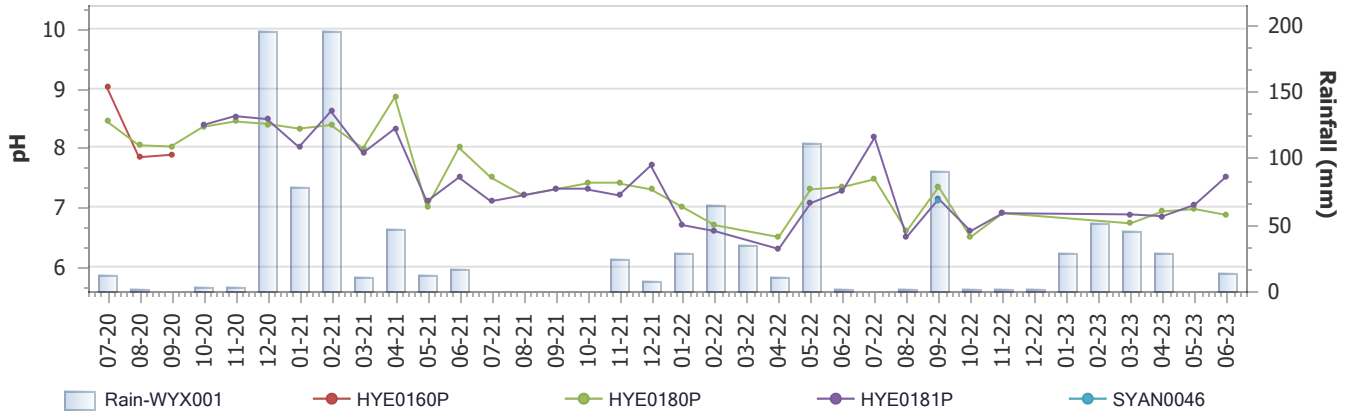
### Eastern 3,5,6 Abstraction



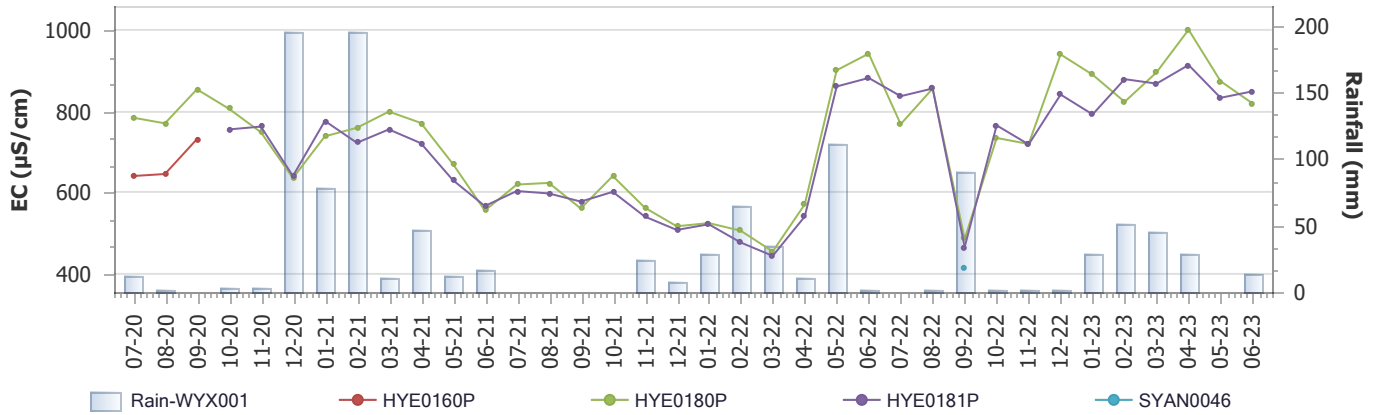
### Monitoring summary: Eastern 3,5,6 Production Boreholes

Figure 10.31

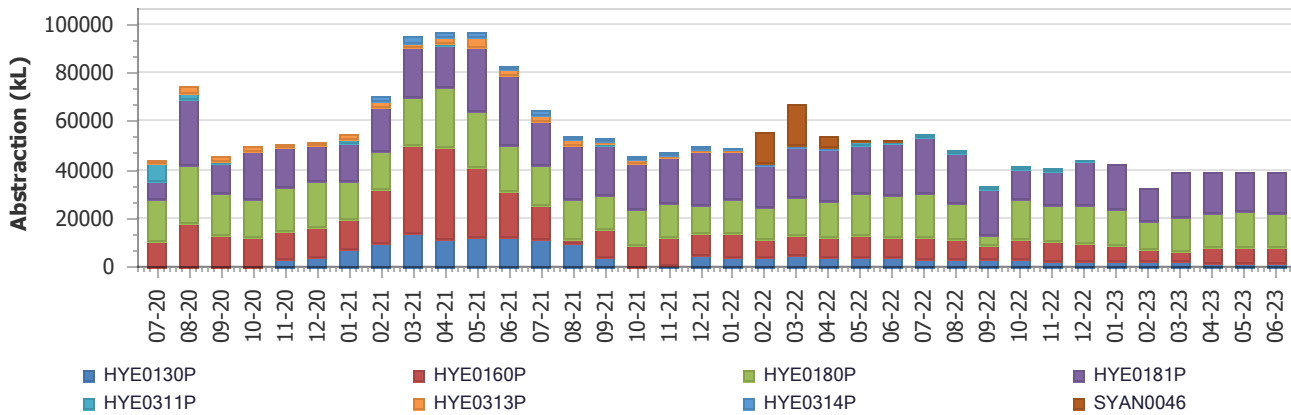
### Eastern 7 Production Boreholes pH



### Eastern 7 Production Boreholes EC



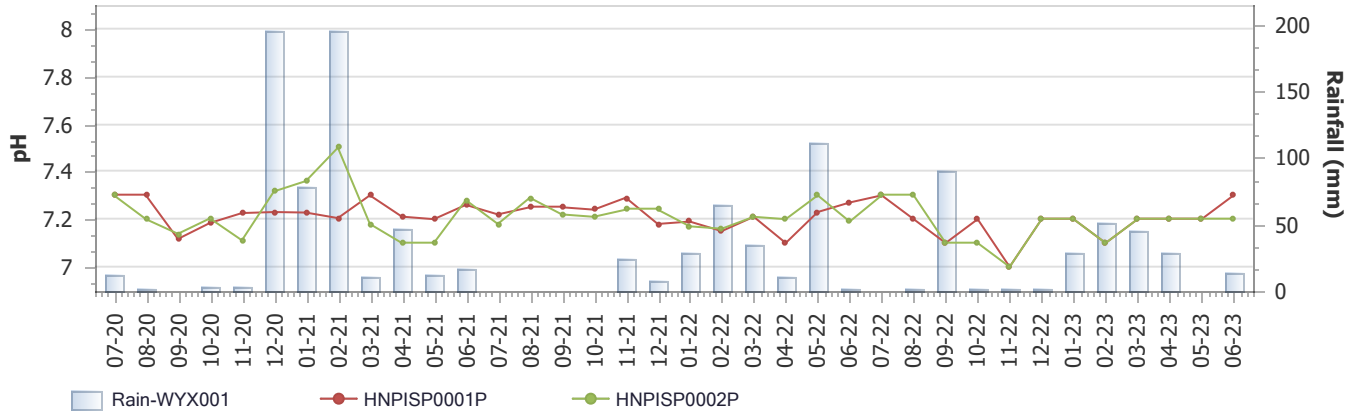
### Eastern 7 Abstraction



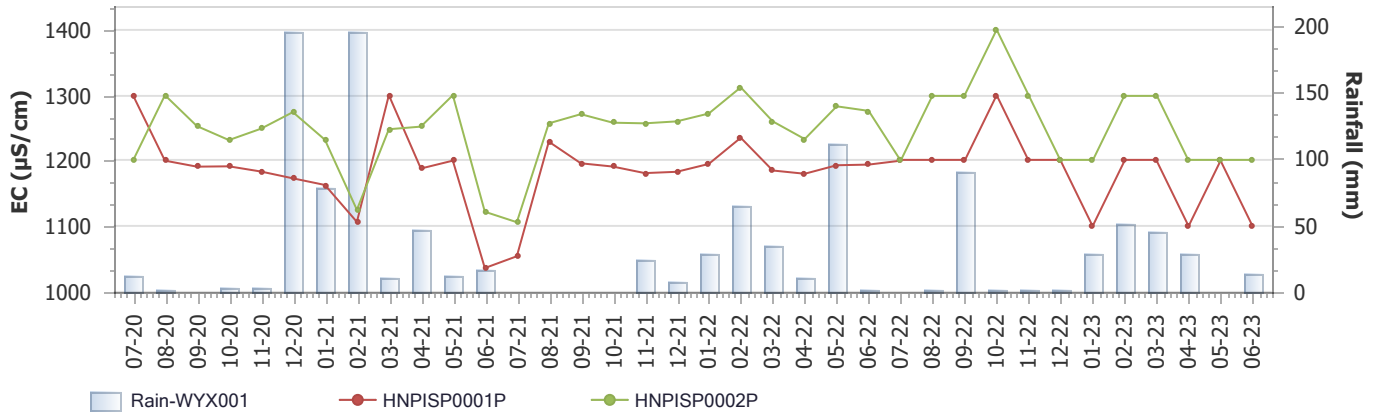
### Monitoring summary: Eastern 7 Production Boreholes

Figure 10.32

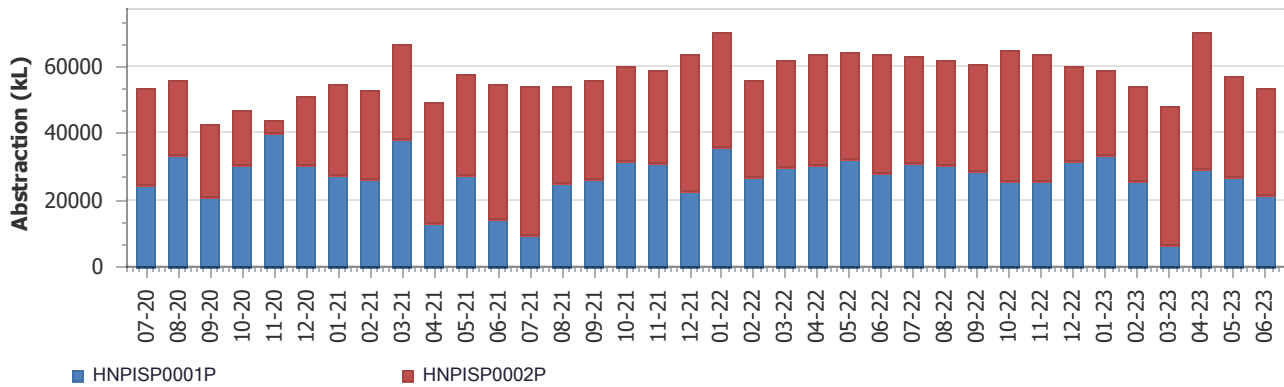
### Spinifex Borefield Production Boreholes pH



### Spinifex Borefield Production Boreholes EC



### Spinifex Borefield Abstraction



### Monitoring summary: Spinifex Borefield Production Boreholes

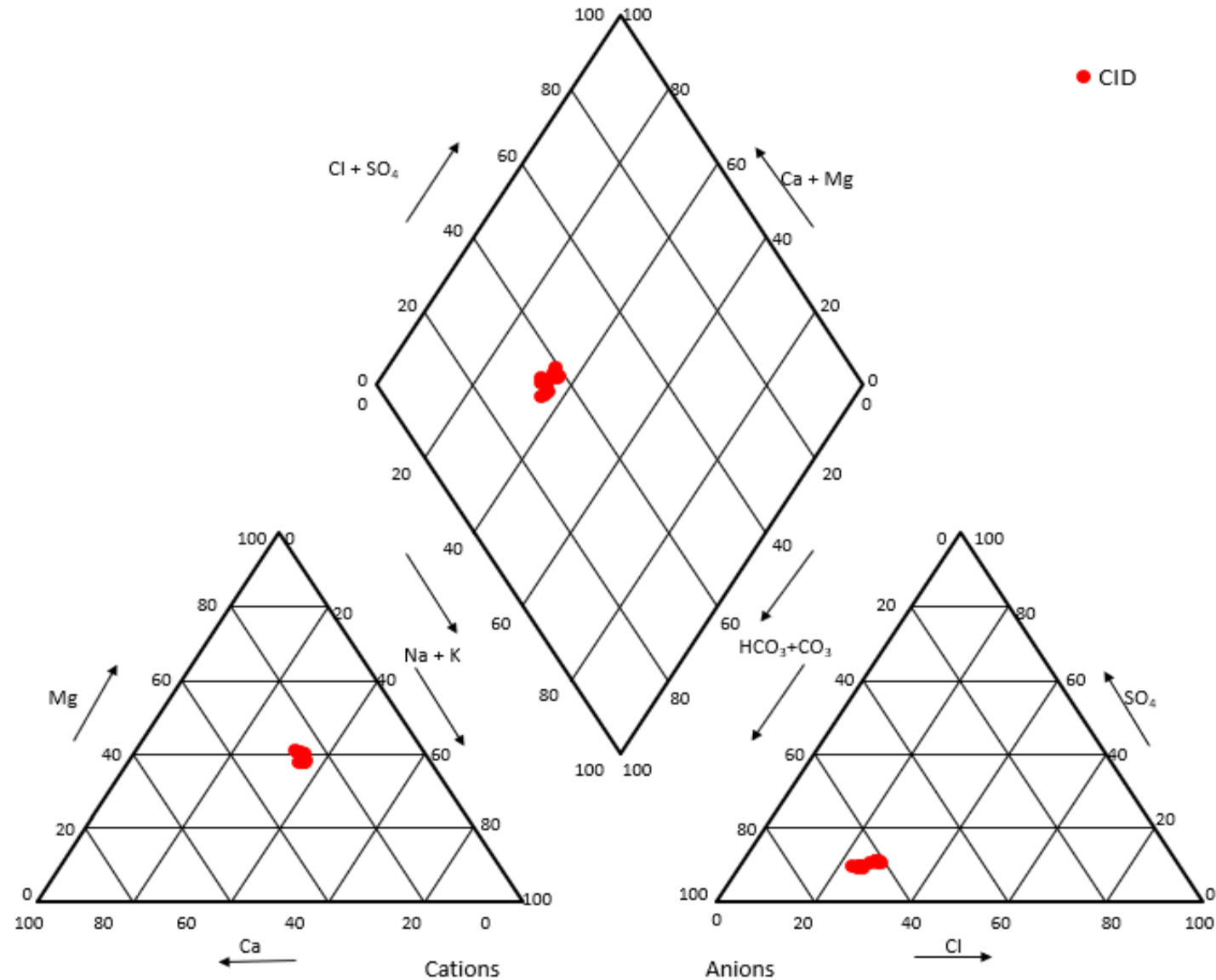
Figure 10.33

## Yandi - Spinifex Borefield

### Spinifex Borefield

HNPISP0001P

HNPISP0002P



Yandi Borefields

Annual Aquifer Review 2023

Piper Diagram  
Figure 10.34

**BHP**

## Yandi – Western Pits

### Western 1

HYW0010P  
HYW0134P  
HYW0180P  
HYW0212P  
HYW0226P

### Western 4

HYW0030P  
HYW0051P

### Western 2

HYW0237P  
HYW0238P  
HYW0348P

### Western 5

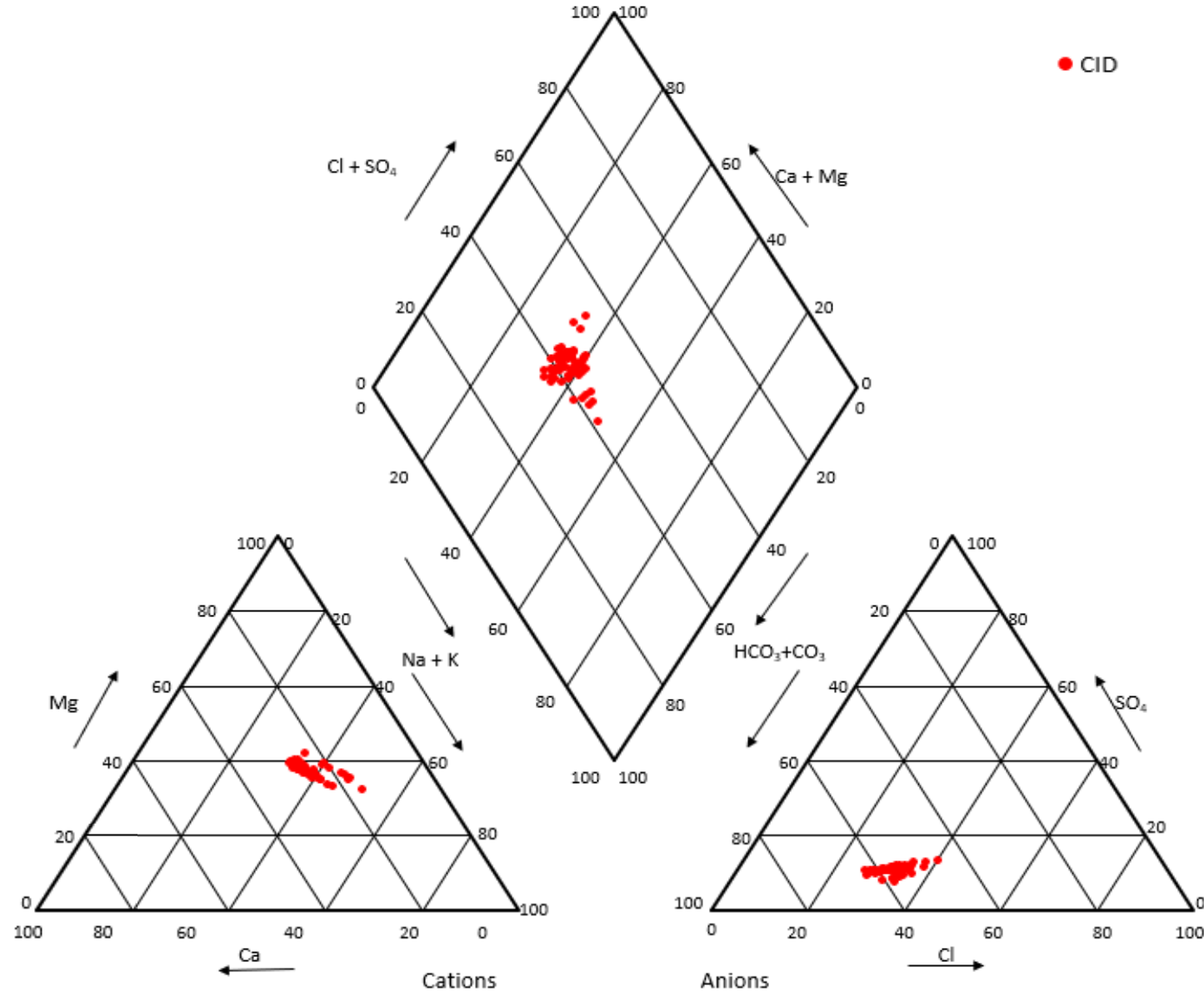
HYW0132P  
HYW0133P

### Western 3

HYW1021P  
HYW1015P  
HYW1024P  
HYW1016P

### Western 6

HYW0175P  
HYW0176P  
HYW0355P



Yandi Borefields

Annual Aquifer Review 2023

Piper Diagram  
Figure 10.35

**BHP**

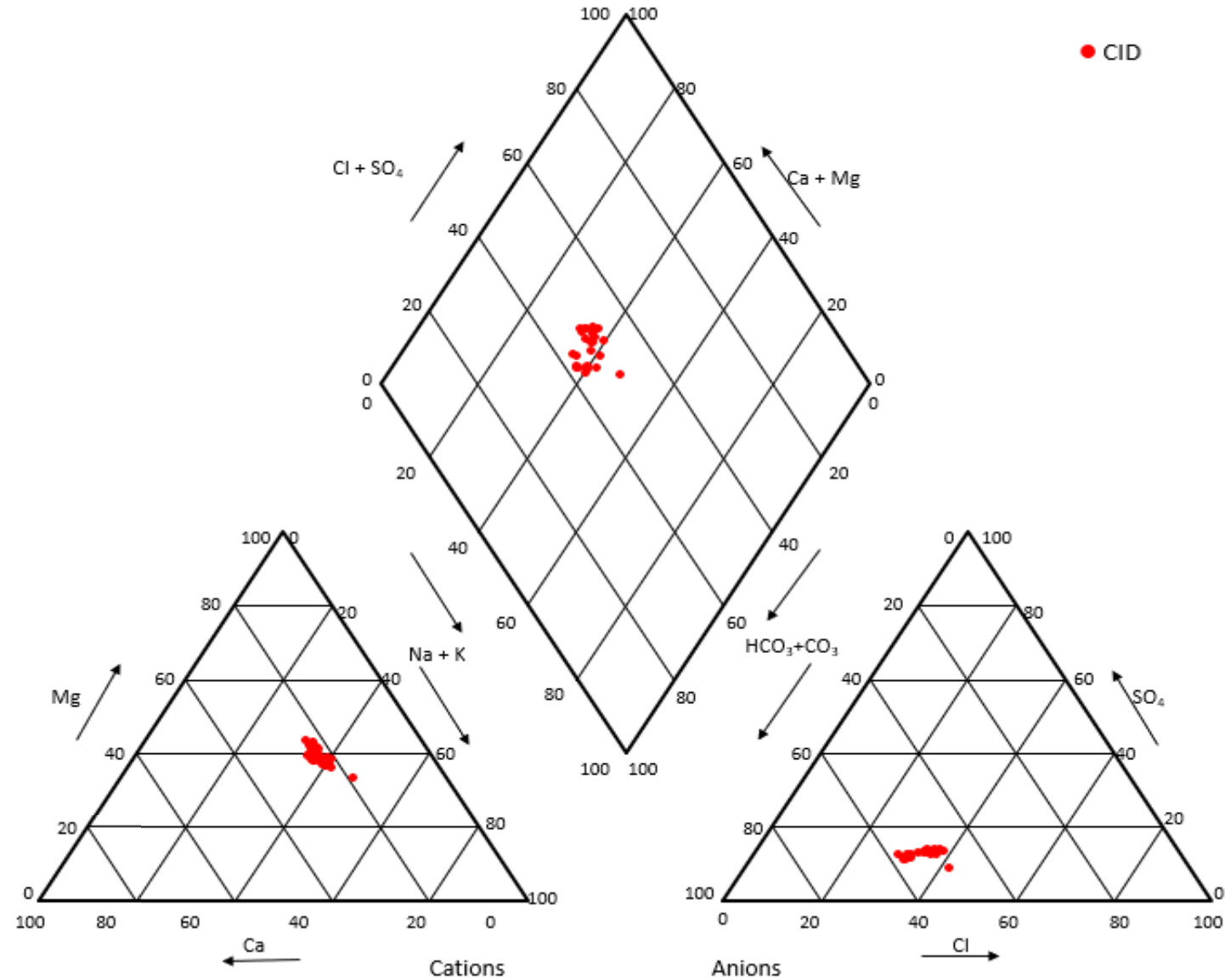
# Yandi – Central Pits

## Central 1

HYC0012P  
HYC0015P

## Central 5

HYC0031P  
HYC0068P  
HNPIYC0034P



Yandi Borefields

Annual Aquifer Review 2023

Piper Diagram  
Figure 10.36

**BHP**

## Yandi – Eastern Pits

### Eastern 1&2

HYE0023P  
HYE0041P  
HYE0051P  
HYE0193P  
HYE0194P

### Eastern 3,5,6

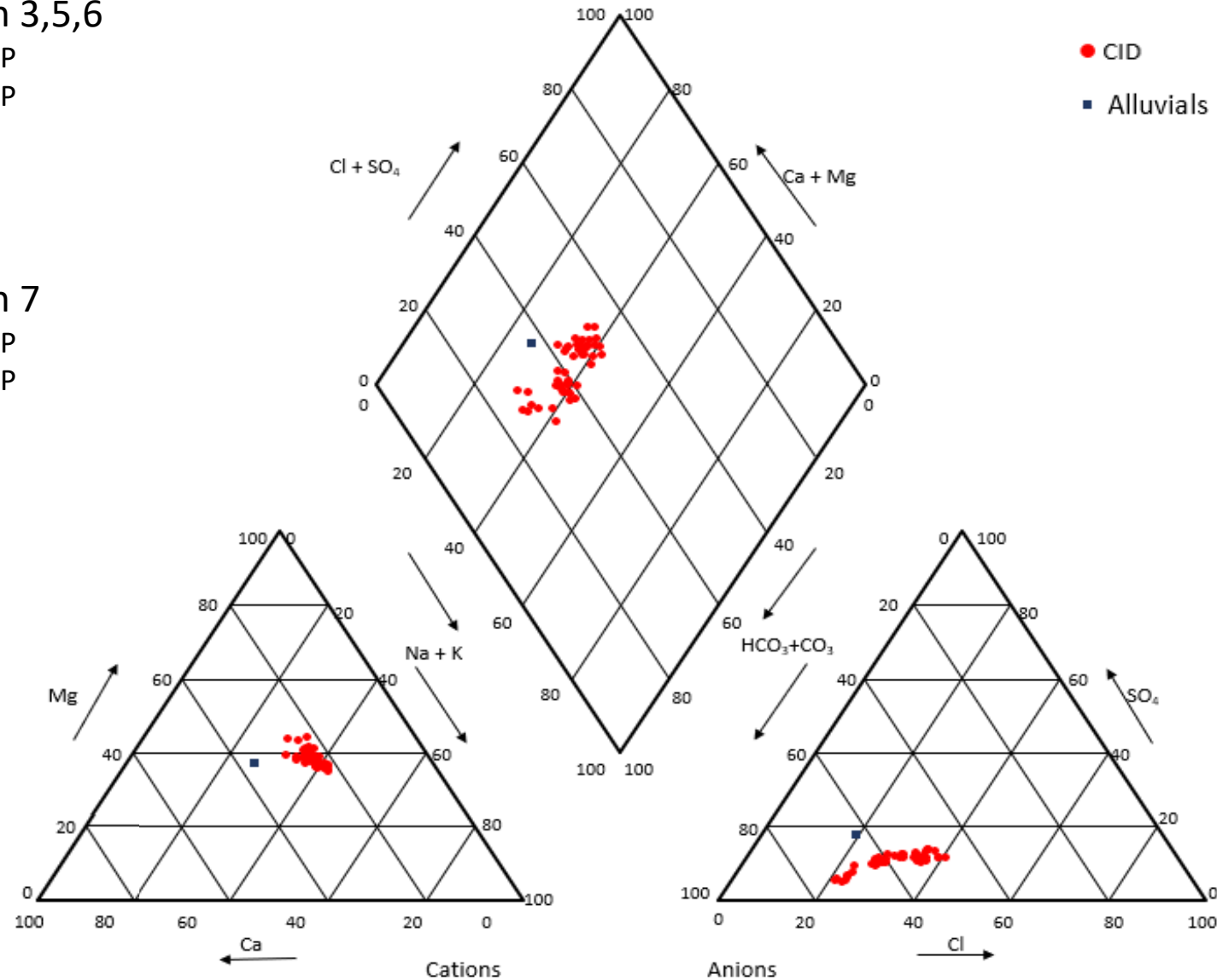
HYE0027P  
HYE0055P

### Eastern 4

HYE1518P  
HYE1523P

### Eastern 7

HYE0180P  
HYE0181P



Yandi Borefields

Annual Aquifer Review 2023

Piper Diagram  
Figure 10.37

Appendices

**Appendix 10.1 Licence**



## LICENCE TO TAKE WATER

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

|                                      |                                       |                                 |              |
|--------------------------------------|---------------------------------------|---------------------------------|--------------|
| <b>Licensee(s)</b>                   | BHP Billiton Iron Ore Pty. Ltd.       |                                 |              |
| <b>Description of Water Resource</b> | Pilbara<br>Hamersley - Fractured Rock | <b>Annual Water Entitlement</b> | 20,650,520kL |
| <b>Location of Water Source</b>      | L47/118, AM70/270<br>L47/771          |                                 |              |

| Authorised Activities | Taking of water for                                       | Location of Activity                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Dewatering for mining purposes                            | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |
|                       | Dust suppression for earthworks and construction purposes | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |
|                       | Dust Suppression for mining purposes                      | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |



## LICENCE TO TAKE WATER

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

|                                                  |                                                                                                                                                                                      |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Earthwork and construction purposes              | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |
| Mineral exploration activities                   | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |
| Mineral ore processing and other mining purposes | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |
| Mining camp purposes                             | Special Lease K843924<br>Special Lease K843925<br>AM70/270<br>M47/292<br>L47/92<br>G47/18<br>G47/12<br>G47/13<br>G47/14<br>G47/15<br>G47/16<br>G47/17<br>L47/118<br>G47/19<br>L47/95 |



## LICENCE TO TAKE WATER

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

|                            |                                   |
|----------------------------|-----------------------------------|
| <b>Duration of Licence</b> | From 29 June 2018 to 28 June 2028 |
|----------------------------|-----------------------------------|

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

1. The licensee must install an approved meter to each water draw-point through which water is taken under this licence.
2. The meter(s) must be installed in accordance with the provisions of the document entitled "Guidelines for Water Meter Installation 2009" before any water is taken under this licence.
3. The licensee shall comply with the commitments of the operating strategy "GWL Operating Strategy for Yandi Document Number: 0021252 Version 2.0 January 2018", as prepared by the licensee and approved by the Department of Water and Environmental Regulation on 27/06/2018 including any modifications to the commitments as approved during the term of the licence.
4. Every 1 Years the licensee shall provide to the Department of Water and Environmental Regulation a Groundwater Monitoring Summary for the preceding water year. The first report is due 30/09/2018.
5. Every 3 Years the licensee shall provide to the Department of Water and Environmental Regulation a Groundwater Monitoring Review. The first report is due 30/09/2019. A Groundwater Monitoring Summary need not be submitted in a year in which a Groundwater Monitoring Review is due.
6. The annual water year for water taken under this licence is defined as 1 July to 30 June.

**End of terms, conditions and restrictions**

**Appendix 10.2 Borehole details**

## Yandi Borefields production borehole details

| Area                | Sample Point ID | Easting (MGA94) | Northing (MGA94) | TOC (m RL) | Construction Date | Depth (m bgl) | SWL (m bTOC) | SWL (m RL) | Screen Interval/Target Geology | Purpose                  |
|---------------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|--------------------------------|--------------------------|
| Barimunya Aerodrome | HYB0001P        | 723355.2        | 7491002.7        | 0.00       |                   | 48            |              |            |                                |                          |
| Central 1           | HYC0012P        | 712830.7        | 7486086.8        | 522.04     | 28-Apr-08         | 57            | 3.11         | 518.92     | Marillana Formation            | Production               |
|                     | HYC0015P        | 714010.4        | 7486135.9        | 520.86     |                   | 90            |              |            | Unknown Stratigraphy           | Production NPI           |
|                     | HYC0096P        | 715356.4        | 7486318.5        | 504.81     | 31-Jan-17         | 58            |              |            | Marillana Formation            | Production               |
| Central 1 WL        | HYC0018P        | 715066.5        | 7486390.7        | 515.64     |                   | 37            |              |            | Marillana Formation            | ction, now used for moni |
|                     | HYC0061M        | 714224.1        | 7486164.5        | 517.54     |                   | 0             |              |            | Unknown Stratigraphy           | Monitoring               |
| Central 5           | HNPIYC0034P     | 716056.3        | 7485199.0        | 509.52     | 25-Jun-11         | 54            |              |            | Unknown Stratigraphy           | Production NPI           |
|                     | HYC0019P        | 715786.3        | 7486288.0        | 516.85     | 11-May-08         | 76            | 16.95        | 551.75     | Marillana Formation            | Production               |
|                     | HYC0020P        | 715626.1        | 7486166.2        | 569.04     |                   | 100           |              |            | Unknown Stratigraphy           | Production               |
|                     | HYC0031P        | 715734.6        | 7484874.4        | 515.81     | 22-Jun-11         | 50            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYC0068P        | 715932.9        | 7485029.0        | 510.16     | 22-Jun-12         | 38            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYC0069P        | 715430.3        | 7484759.6        | 515.49     | 24-Jun-12         | 45            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYC0089P        | 715733.5        | 7486033.7        | 516.37     | 06-May-14         | 32            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYC0090P        | 715956.8        | 7485689.8        | 510.33     | 10-May-14         | 23            |              |            | Unknown Stratigraphy           | Production               |
| Central 5 WL        | HYC0021P        | 715920.8        | 7485895.6        | 517.47     |                   | 39            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYC0066M        | 715451.6        | 7484799.8        | 515.88     | 17-Jun-12         | 58            |              |            | Marillana Formation            | Monitoring               |
|                     | HYC0067M        | 716000.9        | 7485066.1        | 511.10     | 19-Jun-12         | 45            |              |            | Marillana Formation            | Monitoring               |
| Discharge           | FYAN0003        | 713279.7        | 7485167.2        | 556.00     |                   |               |              |            | NA                             | Discharge                |
|                     | FYAN0011        | 720611.2        | 7478512.9        | 528.21     |                   |               |              |            | NA                             | Discharge                |
|                     | FYAN0054        | 706961.9        | 7483974.0        | 400.00     |                   |               |              |            | NA                             | Discharge                |
| Eastern 1 & 2       | HYE0023P        | 716257.3        | 7483956.4        | 506.89     | 06-Jun-11         | 48            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYE0041P        | 716290.4        | 7483862.2        | 506.28     | 09-Jun-11         | 48            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYE0051P        | 716430.2        | 7483863.4        | 503.23     | 13-May-12         | 54            | 3.43         | 499.53     | Unknown Stratigraphy           | Production               |
|                     | HYE0060P        | 716122.6        | 7483956.7        | 505.95     | 29-Jul-12         | 38            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYE0061P        | 716126.6        | 7483916.7        | 506.15     | 01-Aug-12         | 40            |              |            | Unknown Stratigraphy           | Production               |
|                     | HYE0193P        | 715404.8        | 7484224.1        | 511.19     | 29-Oct-19         | 42            |              |            | Marillana Formation            | Production               |
|                     | HYE0194P        | 715556.4        | 7483921.3        | 511.79     | 28-Oct-19         | 42            |              |            | Marillana Formation            | Production               |

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## Yandi Borefields production borehole details (cont'd)

| Area             | Sample Point ID | Easting (MGA94) | Northing (MGA94) | TOC (m RL) | Construction Date | Depth (m bgl) | SWL (m bTOC) | SWL (m RL) | Screen Interval/Target Geology | Purpose    |
|------------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|--------------------------------|------------|
|                  | SYAN0001        | 716124.9        | 7483860.2        | 503.40     |                   |               |              |            | NA                             | Sump       |
|                  | SYAN0037        | 715223.7        | 7484559.3        | 534.00     |                   |               |              |            | NA                             | Sump       |
|                  | SYAN0044        | 715270.9        | 7484404.3        | 534.00     | 01-Jul-20         |               |              |            | NA                             | Sump       |
|                  | SYAN0047        | 715886.5        | 7484259.1        | 550.00     |                   |               |              |            | NA                             | Sump       |
| Eastern 1 & 2 WL | HYE0060P        | 716122.6        | 7483956.7        | 505.95     | 29-Jul-12         | 38            |              |            | Marillana Formation            | Production |
|                  | HYE0190M        | 715493.8        | 7484191.8        | 510.93     | 28-Oct-19         | 36            |              |            | Marillana Formation            | Monitoring |
|                  | HYE0191M        | 715562.1        | 7483966.0        | 511.83     | 28-Oct-19         | 36            |              |            | Marillana Formation            | Monitoring |
|                  | YE0645DM        | 716166.0        | 7483931.7        | 506.08     |                   | 32            |              |            | Marillana Formation            | Monitoring |
| Eastern 3,5,6    | HYE0014P        | 719610.9        | 7480034.8        | 541.36     | 03-Apr-06         | 54            | 8.26         | 531.63     | Marillana Formation            | Production |
|                  | HYE0026P        | 717994.2        | 7482076.5        | 498.80     | 15-Mar-11         | 52            |              |            | Marillana Formation            | Production |
|                  | HYE0027P        | 717928.6        | 7482036.4        | 498.91     | 15-May-11         | 60            |              |            | Marillana Formation            | Production |
|                  | HYE0042P        | 718323.6        | 7481689.7        | 498.16     | 25-Mar-12         | 54            |              |            | Marillana Formation            | Production |
|                  | HYE0044P        | 718899.3        | 7481455.3        | 497.64     | 03-Apr-12         | 39            |              |            | Unknown Stratigraphy           | Production |
|                  | HYE0045P        | 719197.3        | 7481356.1        | 498.72     | 21-Apr-12         | 58            |              |            | Marillana Formation            | Production |
|                  | HYE0055P        | 719524.7        | 7480890.3        | 498.87     | 09-Jul-12         | 86            | 10.14        | 534.22     | Unknown Stratigraphy           | Production |
|                  | HYE0132P        | 719297.8        | 7481172.2        | 498.46     | 12-May-14         | 38            |              |            | Unknown Stratigraphy           | Production |
|                  | HYE0152P        | 719462.8        | 7480782.1        | 498.85     | 28-Feb-16         | 27            |              |            | Marillana Formation            | Production |
|                  | HYE0156P        | 719570.0        | 7480355.7        | 498.68     | 17-Jun-16         | 57            |              |            | Marillana Formation            | Production |
|                  | HYE0157P        | 719660.5        | 7480275.8        | 497.93     | 19-Jun-16         | 50            |              |            | Marillana Formation            | Production |
|                  | HYE0171P        | 719601.5        | 7480208.3        | 498.55     | 18-Nov-17         | 46            |              |            | Marillana Formation            | Production |
|                  | HYE0172P        | 719424.7        | 7481032.7        | 498.66     | 14-Nov-17         | 45            |              |            | Marillana Formation            | Production |
|                  | SYAN0016        | 718667.6        | 7481422.0        | 495.00     |                   |               |              |            | NA                             | Sump       |
|                  | SYAN0039        | 717918.3        | 7482046.4        | 498.00     | 01-Jul-20         |               |              |            | NA                             | Sump       |
|                  | SYAN0048        | 717951.1        | 7482055.1        | 498.00     |                   |               |              |            | NA                             | Sump       |
| Eastern 3,5,6 WL | HYE0149M        | 718623.8        | 7481546.6        | 499.11     | 06-Jun-15         | 20            |              |            | Marillana Formation            | Monitoring |
|                  | HYE0153M        | 719225.3        | 7481063.7        | 499.28     | 22-Mar-16         | 20            |              |            | Marillana Formation            | Monitoring |
|                  | HYE0155M        | 719441.6        | 7480743.0        | 499.01     | 22-Mar-16         | 20            |              |            | Marillana Formation            | Monitoring |
|                  | HYE0162M        | 719597.7        | 7480240.8        | 499.13     | 15-Mar-17         | 34            | 18.00        | 480.31     | Marillana Formation            | Monitoring |

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| Area         | Sample Point ID | Easting (MGA94) | Northing (MGA94) | TOC (m RL) | Construction Date | Depth (m bgl) | SWL (m bTOC) | SWL (m RL) | Screen Interval/Target Geology         | Purpose    |
|--------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|----------------------------------------|------------|
|              | HYE1520M        | 719026.0        | 7481347.9        | 498.88     | 02-Jul-21         | 20            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1521M        | 719354.2        | 7481156.8        | 498.36     | 02-Jul-21         | 20            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1532M        | 717929.2        | 7482073.4        | 498.28     | 26-Mar-22         | 21            |              |            | Unknown Stratigraphy                   | Monitoring |
|              | HYE1533M        | 718015.2        | 7481939.5        | 498.53     | 26-Mar-22         | 21            |              |            | Unknown Stratigraphy                   | Monitoring |
|              | HYE1534M        | 719553.5        | 7480795.7        | 498.63     | 16-Aug-22         | 20            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1535M        | 719651.3        | 7480214.5        | 498.95     | 16-Aug-22         | 20            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1537M        | 719534.6        | 7480853.4        | 499.10     | 20-Oct-22         | 20            |              |            | Marillana Formation                    | Monitoring |
| Eastern 4    | HYE1518P        | 717781.6        | 7481390.5        | 510.59     | 08-Feb-22         | 53            |              |            | Marillana Formation                    | Production |
|              | HYE1519P        | 717340.0        | 7482450.8        | 540.00     | 31-Jan-22         | 24            |              |            | Alluvials                              | Production |
|              | HYE1523P        | 717889.7        | 7481598.5        | 522.15     | 26-Jan-22         | 56            | 24.42        | 497.48     | Marillana Formation                    | Production |
|              | SYAN0049        | 717666.0        | 7481539.7        | 522.00     |                   |               |              |            | NA                                     | Sump       |
|              | SYAN0050        | 717459.7        | 7482375.6        | 528.00     |                   |               |              |            | NA                                     | Sump       |
| Eastern 4 WL | HYE1501M        | 717506.2        | 7481236.0        | 544.96     | 09-Jan-21         | 48            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1502M        | 717989.1        | 7481651.9        | 539.56     | 08-Jan-21         | 75            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1503M        | 717782.8        | 7481993.3        | 540.30     | 04-May-21         | 21            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1504M        | 717946.8        | 7481749.4        | 539.14     | 04-May-21         | 21            |              |            | Marillana Formation                    | Monitoring |
|              | HYE1522M        | 717440.6        | 7482205.1        | 541.06     | 29-Jan-22         | 18            |              |            | Alluvials                              | Monitoring |
|              | HYE1525M        | 717878.8        | 7481610.3        | 522.37     | 27-Jan-22         | 59            | 24.20        | 497.70     | Marillana Formation                    | Monitoring |
|              | HYE1536M        | 717431.8        | 7482215.2        | 541.00     | 21-Sep-22         | 20            |              |            | Weelli Wolli                           | Monitoring |
|              | HYE1538M        | 717882.7        | 7481617.7        | 516.84     | 10-Jan-23         | 24            |              |            | Marillana Formation                    | Monitoring |
| Eastern 7    | HYE0130P        | 719016.7        | 7479764.2        | 492.70     | 30-Oct-13         | 99            |              |            | Marillana Formation                    | Production |
|              | HYE0160P        | 718753.9        | 7479509.1        | 492.62     | 28-Mar-17         | 94            | 51.00        | 441.25     | Marillana Formation                    | Production |
|              | HYE0180P        | 718188.4        | 7479202.6        | 492.85     | 04-May-18         | 62            | 18.00        | 474.50     | Marillana Formation                    | Production |
|              | HYE0181P        | 718577.8        | 7479380.6        | 492.97     | 08-May-18         | 66            | 18.00        | 474.35     | Marillana Formation                    | Production |
|              | HYE0311P        | 719234.5        | 7479805.7        | 498.68     | 22-Apr-20         | 57            |              |            | Marillana Formation/Basal conglomerate | Production |
|              | HYE0313P        | 718902.5        | 7479713.0        | 498.49     | 24-Apr-20         | 48            |              |            | CID/Basal conglomerate                 | Production |
|              | HYE0314P        | 719262.5        | 7479778.5        | 498.63     | 10-May-20         | 53            | 15.00        | 494.98     | CID/Basal conglomerate                 | Production |
|              | SYAN0046        | 719282.6        | 7479967.3        | 0.00       |                   |               |              |            | NA                                     | Sump       |

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|--------------------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|--------------------------------|-----------------|
| Eastern 7 WL             | HYE0300M        | 718041.4        | 7479116.3        | 492.80     | 30-Sep-19         | 21            |              |            | Marillana Formation            | Monitoring      |
|                          | HYE0310M        | 719265.9        | 7479829.9        | 510.43     | 22-Apr-20         | 57            |              |            | Marillana Formation            | Monitoring      |
|                          | HYE0312M        | 718927.5        | 7479733.2        | 498.38     | 25-Apr-20         | 48            |              |            | Marillana Formation            | Monitoring      |
|                          | HYE0314P        | 719262.5        | 7479778.5        | 498.63     | 10-May-20         | 53            | 15.00        | 494.98     | Marillana Formation            | Production      |
| Rainfall                 | WYX001          | 716440.0        | 7487085.0        | 0.00       |                   |               |              |            | NA                             | Weather station |
| Regional Downgradient WL | HYE1508M        | 720668.1        | 7478119.3        | 534.22     | 17-Feb-22         | 96            | 41.84        | 491.60     | Marillana Formation            | Monitoring      |
|                          | HYE1515M        | 720982.6        | 7478076.0        | 532.77     | 02-Feb-22         | 72            | 36.67        | 495.20     | Marillana Formation            | Monitoring      |
|                          | HYM0010M        | 720583.6        | 7478123.7        | 533.09     |                   | 0             |              |            |                                | Monitoring      |
|                          | HYM0011M        | 720776.1        | 7478450.2        | 527.44     | 29-Oct-12         | 30            | 1.90         | 525.54     | Marillana Formation            | Monitoring      |
|                          | YM0121M         | 721792.8        | 7479138.2        | 532.94     | 23-May-95         | 54            | 11.35        | 521.23     | Marillana Formation            | Monitoring      |
| Regional Upgradient WL   | HYW0002M        | 700841.0        | 7484665.4        | 623.95     | 01-Jan-70         | 77            |              |            | Marillana Formation            | Monitoring      |
|                          | HYW0003M        | 702821.2        | 7487679.1        | 610.29     | 01-Jan-70         | 89            |              |            | Marillana Formation            | Monitoring      |
|                          | MB16YSN0001M    | 702965.8        | 7487508.7        | 610.10     | 08-Sep-16         | 82            |              |            | Marillana Formation            | Monitoring      |
|                          | MB16YSN0003M    | 701961.1        | 7486214.8        | 608.62     | 10-Sep-16         | 70            |              |            | Marillana Formation            | Monitoring      |
|                          | MB16YSN0004M    | 701834.4        | 7485588.6        | 618.78     | 12-Sep-16         | 82            |              |            | Marillana Formation            | Monitoring      |
| Spinifex Borefield       | HNPISP0001P     | 702933.3        | 7487612.8        | 610.38     | 30-Sep-17         | 100           |              |            | Marillana Formation            | Production      |
|                          | HNPISP0002P     | 703145.1        | 7487609.0        | 612.93     | 23-Sep-17         | 94            |              |            | Marillana Formation            | Production      |
| Spinifex Camp WL         | HYW0003M        | 702821.2        | 7487679.1        | 610.29     | 01-Jan-70         | 89            |              |            | Marillana Formation            | Monitoring      |
|                          | MB16YSN0001M    | 702965.8        | 7487508.7        | 610.10     | 08-Sep-16         | 82            |              |            | Marillana Formation            | Monitoring      |
| Western 1                | HNPIYN1704P     | 703343.1        | 7487206.2        | 609.91     |                   | 0             |              |            | Unknown Stratigraphy           | Production      |
|                          | HNPIYN1707P     | 703377.4        | 7487085.1        | 611.99     |                   | 0             |              |            | Unknown Stratigraphy           | Production      |
|                          | HYW0008P        | 704007.9        | 7486750.4        | 583.08     |                   | 94            |              |            | Unknown Stratigraphy           | Production      |
|                          | HYW0010P        | 704298.4        | 7486499.3        | 576.84     |                   | 91            |              |            | Unknown Stratigraphy           | Production      |
|                          | HYW0021P        | 706053.3        | 7484703.1        | 535.49     |                   | 99            |              |            | Unknown Stratigraphy           | Production      |
|                          | HYW0024P        | 705570.8        | 7484530.7        | 549.08     |                   | 92            |              |            | Unknown Stratigraphy           | Production      |
|                          | HYW0180P        | 704685.7        | 7486294.5        | 576.88     | 18-Apr-14         | 92            |              |            | Unknown Stratigraphy           | Production      |
|                          | HYW0212P        | 705028.2        | 7484736.7        | 540.12     | 04-Oct-15         | 80            |              |            | Marillana Formation            | Production      |
|                          | HYW0213P        | 705339.3        | 7484720.4        | 546.76     | 28-Sep-15         | 68            |              |            | Marillana Formation            | Production      |

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## Yandi Borefields production borehole details (cont'd)

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|--------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|--------------------------------|------------|
|              | HYW0215P        | 705477.8        | 7486220.0        | 570.41     | 10-Oct-15         | 56            |              |            | Marillana Formation            | Production |
|              | HYW0226P        | 706206.8        | 7485922.0        | 559.15     | 04-Jun-16         | 60            |              |            | Marillana Formation            | Production |
|              | HYW0228P        | 705130.1        | 7486150.9        | 571.22     | 07-Jun-16         | 71            |              |            | Marillana Formation            | Production |
|              | HYW0229P        | 705927.4        | 7486179.5        | 570.68     | 30-May-16         | 65            |              |            | Marillana Formation            | Production |
|              | HYW0230P        | 706322.3        | 7485118.6        | 536.09     | 10-Jun-16         | 30            |              |            | Marillana Formation            | Production |
|              | HYW0246P        | 704899.4        | 7484564.3        | 535.41     | 19-Dec-16         | 60            | 34.00        | 536.18     | Weeli Wolli Formation          | Production |
|              | HYW0247P        | 704809.3        | 7484684.2        | 535.55     | 16-Dec-16         | 60            | 32.00        | 537.98     | Weeli Wolli Formation          | Production |
|              | HYW0322P        | 705858.2        | 7484603.2        | 546.73     | 24-Nov-17         | 48            |              |            | Marillana Formation            | Production |
|              | SYAN0043        | 705382.6        | 7484722.0        | 522.00     | 01-Jul-20         |               |              |            | NA                             | Sump       |
| Western 1 WL | HYM0042M        | 704882.6        | 7484708.4        | 528.65     | 27-Nov-20         | 14            |              |            | Marillana Formation            | Monitoring |
|              | HYW0005M        | 703362.3        | 7487154.0        | 609.90     |                   | 91            |              |            | Marillana Formation            | Monitoring |
|              | HYW0008P        | 704007.9        | 7486750.4        | 583.08     |                   | 94            |              |            | Marillana Formation            | Monitoring |
|              | HYW0011P        | 705129.9        | 7486284.8        | 559.05     |                   | 92            |              |            | Marillana Formation            | Monitoring |
|              | HYW0060P        | 706438.8        | 7485521.8        | 540.22     | 30-Apr-12         | 82            |              |            | Marillana Formation            | Production |
|              | HYW0179P        | 705818.7        | 7486271.5        | 558.96     | 24-Apr-14         | 82            |              |            | Marillana Formation            | Production |
|              | HYW0221M        | 706176.7        | 7485086.4        | 536.29     | 15-Mar-16         | 20            |              |            | Marillana Formation            | Monitoring |
|              | HYW0222M        | 706313.1        | 7485135.3        | 536.29     | 15-Mar-16         | 20            |              |            | Marillana Formation            | Monitoring |
|              | HYW1032M        | 705341.7        | 7486084.3        | 552.82     | 30-Jan-23         | 21            |              |            | Marillana Formation            | Monitoring |
| Western 2    | HYW0237P        | 704542.7        | 7484331.4        | 558.14     | 04-Nov-16         | 105           |              |            | Weeli Wolli Formation          | Production |
|              | HYW0238P        | 704560.2        | 7483934.4        | 565.07     | 13-Nov-16         | 100           |              |            | Marillana Formation            | Production |
|              | HYW0348P        | 704643.4        | 7484439.6        | 564.97     | 12-May-19         | 65            |              |            | Marillana Formation            | Production |
| Western 2 WL | HYW0326M        | 704667.8        | 7483812.8        | 565.37     | 29-May-18         | 36            | 30.00        | 534.51     | Marillana Formation            | Monitoring |
|              | HYW0345M        | 704611.4        | 7484477.4        | 565.25     | 19-Apr-19         | 64            | 36.03        | 528.25     | Marillana Formation            | Monitoring |
|              | HYW0347M        | 704667.5        | 7484411.3        | 565.49     | 12-May-19         | 62            |              |            | Marillana Formation            | Monitoring |
| Western 3    | HYW1015P        | 707297.4        | 7483768.8        | 546.54     | 06-Mar-22         | 62            |              |            | Marillana Formation            | Production |
|              | HYW1016P        | 707035.9        | 7483119.1        | 540.74     | 09-Mar-22         | 56            |              |            | Marillana Formation            | Production |
| Western 3 WL | HYW0401M        | 706802.6        | 7482937.4        | 586.14     | 03-Nov-19         | 60            |              |            | Marillana Formation            | Monitoring |
|              | HYW1014M        | 707061.1        | 7483110.3        | 546.96     | 02-Mar-22         | 54            | 14.10        | 532.11     | Marillana Formation            | Monitoring |

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## Yandi Borefields production borehole details (cont'd)

| Area         | Sample Point ID | Easting (MGA94) | Northing (MGA94) | TOC (m RL) | Construction Date | Depth (m bgl) | SWL (m bTOC) | SWL (m RL) | Screen Interval/Target Geology | Purpose    |
|--------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|--------------------------------|------------|
| Western 4    | HYW0030P        | 707348.2        | 7484038.3        | 587.07     | 06-Oct-04         | 78            |              |            | Unknown Stratigraphy           | Production |
|              | HYW0035P        | 707547.3        | 7484325.8        | 517.33     |                   | 62            |              |            | Unknown Stratigraphy           | Production |
|              | HYW0042P        | 707885.4        | 7484652.4        | 516.92     |                   | 57            |              |            | Unknown Stratigraphy           | Production |
|              | HYW0049P        | 709288.8        | 7483783.6        | 580.30     | 22-Oct-04         | 79            | 14.63        | 565.35     | Marillana Formation            | Production |
|              | HYW0051P        | 709400.5        | 7483759.1        | 576.74     | 15-Oct-04         | 80            | 13.61        | 562.82     | Marillana Formation            | Production |
|              | HYW0064P        | 709189.6        | 7484159.6        | 522.58     | 28-May-12         | 70            |              |            | Unknown Stratigraphy           | Production |
|              | HYW0072P        | 709093.4        | 7484526.8        | 540.20     | 27-Jun-12         | 67            |              |            | Marillana Formation            | Production |
|              | HYW0165P        | 708076.8        | 7484739.8        | 516.96     |                   | 23            |              |            | Unknown Stratigraphy           | Production |
|              | HYW0182P        | 709126.4        | 7484304.1        | 522.78     | 02-May-14         | 48            |              |            | Unknown Stratigraphy           | Production |
|              | HYW0340P        | 709127.5        | 7483999.2        | 524.54     | 09-Sep-18         | 41            |              |            | Marillana Formation            | Production |
|              | SYAN0017        | 707625.0        | 7484274.3        | 514.98     | 01-Jun-16         |               |              |            | NA                             | Sump       |
|              | SYAN0035        | 708814.8        | 7484699.8        | 516.00     |                   |               |              |            | NA                             | Sump       |
|              | SYAN0036        | 707540.5        | 7484310.4        | 518.07     | 02-Aug-19         |               |              |            | NA                             | Sump       |
|              | SYAN0042        | 707867.4        | 7484640.6        | 516.00     | 01-Jul-20         |               |              |            | NA                             | Sump       |
| Western 4 WL | HYW0050M        | 709340.4        | 7483760.5        | 577.75     | 20-Sep-04         | 80            | 12.18        | 564.71     | Marillana Formation            | Monitoring |
|              | HYW0184M        | 707991.7        | 7484684.4        | 517.55     | 21-Aug-14         | 19            |              |            | Marillana Formation            | Monitoring |
|              | HYW0306P        | 709392.8        | 7483896.8        | 522.73     | 25-Mar-17         | 42            | 10.50        | 524.36     | Marillana Formation            |            |
| Western 5    | HYW0131P        | 710329.7        | 7483789.5        | 529.00     | 31-Oct-13         | 87            | 57.30        | 471.07     | Marillana Formation            | Production |
|              | HYW0132P        | 710665.8        | 7483998.3        | 529.40     | 14-Nov-13         | 90            | 55.90        | 524.23     | Marillana Formation            | Production |
|              | HYW0133P        | 710989.8        | 7484306.8        | 528.86     | 08-Jan-14         | 94            | 56.50        | 521.16     | Marillana Formation            | Production |
|              | HYW0134P        | 711131.4        | 7484586.6        | 528.65     | 11-Dec-13         | 93            | 29.80        | 547.51     | Marillana Formation            | Production |
|              | HYW0240P        | 711537.5        | 7485119.7        | 528.61     | 11-Dec-16         | 54            | 22.00        | 512.26     | Marillana Formation            | Production |
|              | HYW0241P        | 711435.9        | 7484995.5        | 529.09     | 07-Dec-16         | 60            | 22.00        | 512.21     | Marillana Formation            | Production |
| Western 5 WL | HYW0352M        | 710831.5        | 7484023.9        | 529.21     | 15-Apr-19         | 28            | 15.62        | 512.50     | Marillana Formation            | Monitoring |
|              | HYW0400M        | 711506.3        | 7485046.5        | 529.29     | 03-Nov-19         | 36            |              |            | Marillana Formation            | Monitoring |
| Western 6    | HYW0175P        | 711441.5        | 7485512.8        | 529.72     | 11-Apr-14         | 84            |              |            | Marillana Formation            | Production |
|              | HYW0176P        | 711201.6        | 7485771.6        | 547.01     | 19-Apr-14         | 76            |              |            | Marillana Formation            | Production |
|              | HYW0355P        | 711743.3        | 7485676.2        | 522.46     | 02-Nov-19         | 48            |              |            | Marillana Formation            | Production |

### Yandi Borefields

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## Yandi Borefields production borehole details (cont'd)

| Area         | Sample Point ID | Easting (MGA94) | Northing (MGA94) | TOC (m RL) | Construction Date | Depth (m bgl) | SWL (m bTOC) | SWL (m RL) | Screen Interval/Target Geology | Purpose    |
|--------------|-----------------|-----------------|------------------|------------|-------------------|---------------|--------------|------------|--------------------------------|------------|
|              | HYW1021P        | 711018.7        | 7485982.5        | 534.62     | 22-Mar-22         | 36            | 6.80         | 527.43     | Marillana Formation            | Production |
|              | HYW1024P        | 710998.3        | 7486088.3        | 535.15     | 29-Mar-22         | 36            | 1.67         | 533.26     | Marillana Formation            | Production |
|              | SYAN0040        | 710963.9        | 7486104.7        | 536.00     | 01-Jul-20         |               |              |            | NA                             | Sump       |
|              | SYAN0041        | 710884.2        | 7486295.3        | 536.00     | 01-Jul-20         |               |              |            | NA                             | Sump       |
|              | SYAN0051        | 710947.9        | 7486234.9        | 534.00     | 13-Feb-23         |               |              |            | NA                             | Sump       |
| Western 6 WL | HYW0353M        | 711712.4        | 7485688.3        | 535.49     | 30-Oct-19         | 36            |              |            | Marillana Formation            | Monitoring |
|              | HYW1022M        | 711000.2        | 7486066.2        | 535.41     | 30-Mar-22         | 33            | 3.17         | 531.51     | Marillana Formation            | Monitoring |
|              | HYW1023M        | 711085.7        | 7485994.7        | 534.64     | 23-Mar-22         | 38            | 8.05         | 525.98     | Marillana Formation            | Monitoring |
|              | HYW1028M        | 710989.8        | 7486065.9        | 535.42     | 30-Mar-22         | 12            | 3.46         | 531.26     | Marillana Formation            | Monitoring |
|              | HYW1029M        | 710999.8        | 7485995.0        | 535.03     | 31-Mar-22         | 36            | 5.70         | 528.49     | Marillana Formation            | Monitoring |
|              | HYW1030M        | 711006.5        | 7485977.9        | 534.92     | 30-Mar-22         | 12            | 6.53         | 527.64     | Marillana Formation            | Monitoring |

## Appendix 10.3 Borehole logs

No new bores were established in FY23