YANDI BOREFIELDS

September 2022
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10.1 Introduction

Outline of licensed operation

This Triannual Aquifer Review (TAR) report is for the Yandi Borefields and covers the review period 1 July 2019 to 30 June 2022 (FY20 to FY22).

Groundwater abstraction is regulated through the *Rights in Water and Irrigation Act 1914* Act 5C Licence to Take Water GWL89501(11). A copy of the GWL is provided in Appendix 10.1. The licensee is BHP Iron Ore Pty Ltd.

The GWL allows the annual abstraction of 20,650,520 kL of groundwater. This water is used to meet site and aerodrome water demands, including dewatering, dust suppression, mineral ore processing, exploration activities, earthworks, construction, mining camp and potable water supply. Groundwater abstraction activities are carried out in accordance with the GWL Operating Strategy for Yandi (BHP Billiton Iron Ore, 2018). Compliance with this licence is reported in Section 10.9.

Dewatering produces more water than site consumption requires. Surplus water is discharged to Marillana Creek. This discharge 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. As discussed in Section 1, compliance against *Environmental Protection Act 1986* requirements is addressed separately in BHP WAIO Annual Environmental Report (AER).

Location of operation

The Yandi Operation is located approximately 120 km northwest of Newman within the main Hamersley Range, in the Pilbara region of Western Australia. The operation is situated in the East Pilbara subarea of the Pilbara groundwater area (Department of Water, 2013) which is typically classified as fractured-rock aquifers. However, Yandi conducts dewatering and mining of the channel-iron deposits (CID), some of which are commonly referred to as “Creek Constrained Ore” (CCO) due to the connection with Marillana Creek (involving two pits, E1 and E4).

The operation includes dewatering in the Western, Central, and Eastern subareas; and water supply in the Barimunya Aerodrome and Spinifex Camp subareas.

Figure 10.1 shows the location of the borefields in regional context. Figures 10.2 to 10.4 show the layout of the Western, Central, and Eastern sections of the borefields respectively.

Events of FY22

The following activities took place at Yandi during the last year:

- Continued mining in 11 pits (W1, W2, W3, W5, W6, C1, E1, E2, E4, E35&6, and E7).
- Continued dewatering in all pits, primarily to enable the tactical mine plan and maintain dry backfilling conditions in W4, E2, and E35&6.
- Drilling and construction of additional monitoring bores and production bores in various pits (including W3, W6, and E4).
- Drilling of additional tree health monitoring bores near E7 within Marillana Creek.
- Installation of three new dewatering sumps in E4 to intersect groundwater flowing through the remnant alluvium of Marillana Creek (where diverted around E4).
- Installation of one new groundwater interception bore upgradient of E4 within the remnant alluvium of Marillana Creek.
- Installation of a new dewatering sump in E7 to minimise wet season groundwater rebound following stream flow in Marillana Creek.

10.2 Rainfall

The Yandi operation is located within the central Pilbara region with a mean annual rainfall of approximately 312.5 mm (Charles et al, 2013). Monthly rainfall for the review period is shown in Table 10.1. This data is measured at BHP’s Yandi weather station.

Plots of monthly rainfall and groundwater levels dating back to July 2012 are included in the monitoring summaries in Figures 10.6 to 10.31.

The total rainfall for FY22 was 283.4 mm, significantly less than the 572.8 mm and 420.2 mm recorded in previous years,

and less than the long-term average of 312.5 mm/year (Charles et al, 2013). The distribution and intensity of rainfall over each year of the review period was generally concentrated in the summer months with rainfall between December and February contributing most of the rainfall for FY21. However, most of the rainfall from FY22 occurred from February to May.

The FY21 rainfall total was the highest since 2018.

Table 10.1: Yandi Borefields monthly rainfall

Month	Rainfall (mm)		
	FY20	FY21	FY22
July	2.0	12.0	0.0
August	14.4	2.0	0.0
September	40.2	0.0	0.0
October	1.4	2.8	0.0
November	2.0	3.4	24.0
December	41.6	195.2	8.2
January	187.2	77.8	28.6
February	96.2	195.2	64.2
March	4.0	10.2	34.6
April	11.2	46.6	10.6
May	20.0	11.8	111.2
June	0.0	16.0	2.0
TOTAL	**420.2**	**572.8**	**283.4**

Source: BHP's Yandi weather station.

10.3 Hydrogeology

Yandi hydrogeology is described in detail in Aquaterra's "RGP5 Yandi LOM Dewatering Requirements and Discharge Projects (87 MT/a Scenario)" report. A copy of this report has been submitted to DWER in support of previous 5C applications and is summarised below.

Geology

The Tertiary alluvial deposits at Yandi that comprise the Marillana Formation are part of the TD2 sequence and include the following units:

- Upper CID, previously referred to as the Main Ore Zone (MOZ), primarily comprises CIDs (pisolitic iron deposits) with a thickness of up to 70 m. Discontinuous clay pods occur within this unit, varying from 0.1 to 1 m in thickness and occurring at random intervals.
- Lower CID comprises denatured CID, CID, and Ochreous clay. In central parts of the channel, the ore is pisolitic and comprises goethite and limonite.
- Denatured CID is the interface between Lower CID and Upper CID and is characterised by cavities and high clay content due to secondary deposition of the clay in the cavities. It varies between 0.1 to 6 m in thickness and is a result of the seasonal fluctuation of the water table during dry and wet seasons and subsequent removal of some minerals due to water level changes.
- Basal Clay comprises intercalated clays and CID, often with some conglomerate lenses. It is not mined and is transitional to the Upper or Lower CID units above. It is possible that the increased clay content of this zone was derived from nearby dolerite sills.
- Basal Conglomerate is comprised of clay or a siliceous matrix- to clast-supported conglomerate of banded iron formation (BIF), chert, weathered dolerite, and shale clasts.

Erosion of less competent weathered BIFs left more resistant CID material as mesas standing above the level of the modern valley floor. During this time the modern Marillana Creek was incised in the current land surface.

Aquifer

There are three recognised aquifer systems within the Yandi Operation area.

- The Marillana Formation, which incorporates the CID orebody, broadly follows the current path of Marillana and Weeli Wolli creeks and forms a major regional aquifer system, approximately 85 km in length (approximately 39 km are on BHP's Yandi tenement AM70/270). This aquifer is heterogeneous, and its permeability varies due to anisotropy, both vertically and laterally. Zones of higher permeability are associated with secondary porosity features, such as cavities (millimetres to metres in dimensions). Marginal sediments have a low permeability but can still transmit groundwater where cavities exist. Permeability is lowest within the Lower CID and Basal Clay/Basal Conglomerate, although there are also zones of cavernous permeability within the Lower CID.
- A shallow aquifer exists in the alluvium associated with Marillana Creek. Drilling and subsequent monitoring indicates a hydraulic connection exists between the Marillana Creek alluvium and the CID aquifer where the two units interface and cross. Elsewhere, the hydraulic connection between these two units is limited, constrained by the presence of alluvial clay layers and low-permeability Weeli Wolli Formation BIFs.
- The basement rocks of the Weeli Wolli Formation constitute a fractured-rock aquifer with hydraulic conductivity at least an order of magnitude lower than the CID or alluvium. Increased groundwater flow in the Weeli Wolli Formation is thought to occur via discrete structures and at the weathering interface with the overlying palaeochannel sediments.

Groundwater system

Groundwater in the Yandi Borefields region flows preferentially along the CID, which forms a long, narrow aquifer that drains groundwater from the adjacent bedrock (Weeli Wolli Formation) into which it is incised. Regional groundwater flow directions follow the surface hydrology of Marillana Creek, moving downgradient and to the east toward the Weeli Wolli palaeochannel (and Rio Tinto Yandicoogina Operations), which ultimately discharges into Fortescue Marsh.

10.4 Borefield description

In FY22, the Yandi Borefields included:

- 84 operational production bores.
- 9 operational sumps.
- 2 operational discharge points.
- 42 associated monitoring bores.

Details of bores for the review period (FY20 to FY22) are provided in Appendix 10.2.

Borehole logs for new production bores drilled during FY22 are included in Appendix 10.3.

10.5 Groundwater abstraction and water use

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

During FY22, the total groundwater abstracted was 9,585,183 kL or 46% of the authorised allocation. The abstraction from each borehole for the review period is shown in Table 10.2.

The Yandi Borefields water balance diagram illustrating the groundwater usage for the review period is shown in Figure 10.5.

Monthly abstraction from active production bores and water levels dating back to July 2019 are included in the monitoring summaries in Figures 10.6 to 10.19. Figures 10.20 to 10.31 show monthly total abstraction for the same period compared to field chemistry data.

During FY22, groundwater abstracted for dewatering operations and not used in mining operations was discharged into Marillana Creek at two locations. Total discharge during the review period was 4,296,122 kL, as shown in Table 10.2. Due to the potential for recirculation between the creek alluvium and the CID, surplus water is preferentially discharged at the outlet located downstream of the Eastern 6 Deposit (E6 Discharge) (Figure 10.4).

10.6 Monitoring results

The location of monitoring and production bores are provided in Figures 10.1 to 10.4. Monitoring results for water levels and water quality for the review period are discussed in Section 10.7 Water Levels, and Section 10.8 Water Quality. A summary of the findings is discussed in Section 10.10 Assessment of Impacts.

10.7 Water levels

Water levels measured in monitoring bores are provided in Table 10.3. Note that water level and water chemistry data for Eastern 4 is limited to FY22. Hydrographs for the review period are shown in Figures 10.6 to 10.19. Water levels are in mRL.

The following commentary regarding groundwater trends is based on the data presented in the hydrographs in Figures 10.6 to 10.19.

Regional water levels

Upgradient (west of Yandi mining area)

Water levels for the regional upgradient monitoring bores are shown in Figure 10.6.

Water levels in monitoring bores that are screened in the CID (HYW0003M and HYW0005M) have continued the long-term declining trend in response to dewatering operations in Western 1 pit. Water levels at these monitoring bores have fallen by 9 m and 20.5 m, respectively, from July 2019 to June 2022.

Monitoring bores MB16YSN0001M, MB16YSN0003M, and MB16SNY0004M were installed in late 2016 west of BHP tenure with assistance from RTIO to assess the potential drawdown upgradient of the Yandi mine. During the July 2019 to June 2022 review period, water levels at MB16YSN0003M and MB16YSN0004M declined by 4 m and 1.6 m respectively.

Water levels declined by approximately 13 m in MB16YSN0001M and 20.5 m in HYW0005M during the review period. The greater decline is due to proximity to Western 1. HYW0005M has the lowest groundwater elevation of the regional upgradient bores at 547 mRL.

Water level in the CID (HYW0002M) to the west of Yandi declined by 1.17 m during the review period to approximately 610 mRL.

Spinifex Camp

Water levels for the Spinifex Camp monitoring bores are shown in Figure 10.7.

The potable supply bores (HNPIS0001P and HNPIS0002P) are located hydraulically upgradient from the western end of the Western 1 pit.

Water levels at HYW0003M (positioned upgradient of the production bores) and MB16YSN0001M (positioned closer to the Western 1 pit) show the following characteristics:

- HYW0003M: The water level was at 571.2 mRL as of July 2022, which is 10 m higher than at MB16YSN0001M (560.8 mRL) nearby. Apart from a brief upward response to significant rainfall in January 2020 and February 2020, groundwater levels have shown a gradual declining trend to about July 2021. This was followed by a small recovery of about 0.7 m until March 2022, whereafter elevation declined to the current level in response to abstraction in the potable supply bore and dewatering activities in the Western 1 pit.
- MB16YSN0001M: The water level was at 560.8 mRL as of June 2022 (the most recent water level gauging event at this location). Water levels at this bore are more directly influenced by both the abstraction at the potable supply bores and dewatering activities in the Western 1 pit.

Operations

Western pits

Groundwater levels at **Western 1** are shown in Figure 10.8. Water levels in the pit show steady decline only being temporarily interrupted by small rises occurring in response to rainfall events, creek flow and subsequent recharge. The lowest water level is 522.6 mRL measured in HYW0221M in June 2022. Direct response to seasonal rainfall is indicated by rising water levels during December 2021 to February 2021, and again during December 2022 to February 2022, at both monitoring locations HYW00221M and HYW00222M.

Groundwater levels in **Western 2** are shown in Figure 10.9. Like Western 1, water levels show long-term decreasing trends punctuated by increases after high rainfall events during the review period. The lowest water level of 522.04 mRL was measured at HYW0347M in November 2021. Direct response to seasonal rainfall is indicated by rising water levels during the December-February period in 2020, 2021, and 2022 at both monitoring locations HYW0326M and HYW0347M.

Groundwater levels at **Western 4** are shown in Figure 10.10. Dewatering activities in Western 4 have been ongoing since 2005 and water levels within the pit appear to have been drawn down towards a steady state range of 510 to 516 mRL to date. Relatively stable conditions are observed at in-pit bores. However, as Western 4 is truncated to the east and west by Marillana Creek (Figure 10.2), the aquifer is susceptible to rapid recharge where the creek alluvium and the CID are in contact. Rapid rises of up to approximately 7 m can be observed in monitoring bores adjacent to the creek in the south-east (e.g., HYW0050M during early 2020 and 2021) following rainfall events. Water levels at in-pit bore HYW0184M have

fluctuated about 3 m over the review period, starting at 509.7 mRL in July 2019 and reaching 510.6 mRL in June 2022 with a maximum of 513.4 mRL in May 2021.

Groundwater levels at **Western 5** are shown in Figure 10.11. Western 5 is on the south side of Marillana Creek. Water levels in Western 5 ranged from 505 to 514 mRL during the review period. Water levels were higher in the centre of the pit (HYW0352M). A rise of approximately 3 m in water levels (HYW0352M and HYW0400M respectively) occurred during the January to March periods in 2020 and 2021, in response to rainfall events. A similar rise but delayed by three to four months is evident in the same bores from April 2022 and reflects the late season rainfalls in early 2022.

Historical water levels for **Western 6** are shown in Figure 10.12. The Western 6 pit lies in a north-south trending tributary paleochannel located at the northern end of W5. Several monitoring bores were destroyed by mining activities during the review period. Alternative bores have been identified, leaving a gap in water level data that has contributed to the <100% compliance for water level monitoring (see Section 10.10). Water level monitoring data range from 508 mRL (HYW0353M) to 528.5 mRL (HYW0343M) during the July 2019 to May 2020 period and 519 mRL (HYW1029M) to 527 mRL (HYW1028M) from April 2022 to June 2022.

Central pits

Water levels in **Central 1** are shown in Figure 10.13. Water levels at the monitoring locations (HYC0018P and HYC0061M) have fluctuated in response to high rainfall events during the summer months with levels at 497-498 mRL as of June 2022.

Water levels in **Central 5** are shown in Figure 10.14. Central 5 water levels ranged from 486 – 508 mRL during the review period. Recharge occurred during January-March in 2020 and 2021 in response to seasonal rainfall. This resulted in average rise in water levels of about 4 m. Modest rise of 0.25 m to 1 m from May 2022 to June 2022 may be the start of a similar response to the late season rainfall of 2022. While seasonal responses and gentle declines in water levels have occurred throughout the review period, the water levels generally are not dis-similar to historical monitoring data (2013).

Eastern pits

Water levels for **Eastern 1 and Eastern 2** are shown in Figure 10.15. Water levels in E1 and E2 ranged from 487 to 510 mRL during the July 2019 to June 2022 review period. Water levels have historically shown rapid and significant responses to large rainfall events. These were more subdued during 2021 and 2022, presumably due to an increase in groundwater abstraction in late 2020-early 2021.

Water level for **Eastern 4** is shown in Figure 10.16. Abstraction in E4 commenced in February 2022. In March 2022, the elevation at HYE1552M was 537.8 mRL. This declined to 530.2 mRL by June 2022. Elevation at HYE1525M fluctuated around 497 mRL.

Water levels for **Eastern 3, 5, 6** are shown in Figure 10.17. Water levels varied from 478 mRL to 502 mRL over the review period. The largest fluctuations in water levels (up to 19 m) were observed at HYE0162M in January-February in 2020 and 2021. This bore is located close to, and is recharged from, the Marillana Creek alluvial sediments.

Water levels for the **Eastern 7** pit are shown in Figure 10.18. Water levels in Eastern 7 were in the range of 477 – 494 mRL during the review period. Water levels declined during the first six months of 2020. During the period January to March 2021 there was an increase of ~14 m in the northern section of the pit (HYE0312M, located closest to the Marillana Creek alluvial sediments) and ~4 m in the southern section of the pit (HYE0300M) following the onset of the rain season. Thereafter, water levels decreased. A modest rise is observed in HYE0300M from 477.6 mRL in December 2021 to 481 mRL in June 2022 in response to rainfall.

Downgradient (east of Yandi mining area)

Regional downgradient water levels are shown in Figure 10.19.

Monitoring bore YM0121M is positioned on the northern side of Marillana Creek and is at least 2 km away from the nearest pit being dewatered. Following earlier decreases in water levels measured in 2018 and 2019, groundwater levels at YM0121M appear stable with minor fluctuations (512.8 mRL to 513.9 mRL) since March 2020.

Monitoring bore HYM0010M is positioned about 350 m south of Marillana Creek. Available gauging data is limited to data collected from November 2019 to August 2020 as this bore was destroyed by mining activities. During this period, water levels were stable at an elevation of 520 mRL. These are consistent with historic measurements.

10.8 Water quality

Field chemistry (pH and Electrical Conductivity [EC]) are shown in Tables 10.4 and 10.5 respectively and results for field pH and EC for the review period are illustrated in Figures 10.20 to 10.31. Piper plots of laboratory analysis results are shown in Figures 10.32 to 10.35.

Laboratory chemistry results are shown in Table 10.6 with Site Specific Trigger Value (SSTV) exceedances highlighted. The SSTVs are being updated and will be incorporated in future Groundwater Operating Strategy documents once the updated SSTVs have been discussed with and approved by DWER.

The field pH and EC and laboratory analysis measurements show the general characteristics outlined in the following

sections.

Spinifex Camp

Field chemistry at Spinifex Camp is shown in Figure 10.20. Field pH measurements were steady and generally varied from 7 to 7.3, with exception of pH 8 in April 2020. Field EC values appear to fluctuate in response to rainfall events and range from 1,122 – 1,400 µS/cm during the review period.

Major ion proportions shown on the Spinifex Camp Piper plot (Figure 10.32) show the samples tightly bunched in the plot indicating that groundwater quality is consistent in composition and likely derived from the same source. All samples have a Ca-Mg-HCO_3 signature indicative of a carbonate/dolomite aquifer, recent rainfall recharge, and/or surface runoff. The Yandi hydrogeology does not include significant carbonate aquifers and this signature is interpreted as surface runoff and recharge of the Marillana alluvial and CID aquifers accessed in these bores.

Laboratory analysis results for Spinifex camp samples show minor exceedances of the SSTV for boron (with reported boron concentrations varying between 0.37 – 0.51 mg/L compared to the SSTV of 0.37 mg/L), barium (with reported barium concentrations varying between 0.073 – 0.110 mg/L compared to the SSTV of 0.083 mg/L), and EC (1,200 µS/cm compared to an upper range SSTV of 1,000 µS/cm). Nitrate consistently exceeds the SSTV (maximum of 16 mg/L as NO_3 against SSTV of 4.0 mg/L as NO_3) in all samples. No other analytes exceeded SSTVs for these sampling locations.

The values shown in Table 10.6 are barium and boron total concentrations, whereas the SSTVs are based on dissolved concentrations.

Western pits

Major ion proportions shown on the Western pits Piper plot (Figure 10.33) indicate samples generally have a Ca-Mg-HCO_3 signature consistent with the Marillana alluvial and CID aquifers that are recharged from rainfall and surface runoff. The exceptions are samples from HYW0042P and HYW0165P which have a higher proportion of chloride (Cl).

Western 1: (Figure 10.21) Field pH measurements have ranged from 5.8 to 9.0 during the review period. A spike of higher pH values is noted in September 2019, which includes the highest values (pH 9) recorded during the review period. A step increase from the range pH 7.0 to pH 7.4 to the range pH 7.8 to pH 8.4 occurs in December 2019. There is considerable variation within this range until May 2021, when the range steps down to about pH 6.9 to pH 7.5. This range, again with considerable variation, lasts until February 2022. After February 2022 pH varies widely among the monitored bores (approximate range pH 6.3 to pH 8) until June 2022. The reason for these step increases and decreases in pH are not clear but may be responses to ongoing dewatering and rainfall recharge.

Field EC values remained within a range similar to historical values, of 900 – 1,300 µS/cm until June 2021 when the values trended downwards to 432 – 613 µS/cm in March 2022. EC values increased markedly after March 2022 with a range of 1,121 to 1,611 µS/cm in June 2022.

Laboratory analysis results for Western 1 samples show minor exceedances of SSTVs for boron (with a maximum reported concentration of 0.56 mg/L compared to the SSTV of 0.37 mg/L), and EC (1,300 µS/cm compared to an upper range SSTV of 1,250 µS/cm). All samples exceed the nitrate SSTV of 4.0 mg/L as NO_3 and 0.9 mg/L as N with a maximum of 120 mg/L as NO_3 from bore HYW0212P in March 2021.

Western 2: (Figure 10.22) Field pH measurements for the review period have ranged from 6.4 – 8.5. Like the measurements reported for Western 1, a step down in pH was observed for all locations during May 2021. Before May 2021 pH varied in a range from 7.9 to 8.5. After May 2021 a new range appears to have been established from 7 to 7.5 up to January 2022. A sharp decrease to a low of pH 6.4 occurs in April 2022, followed by a steep increase to ~pH 7.4 in June 2022.

Except for a single low value of 505 µS/cm in February 2021, field EC measurements range from 852 – 1,200 µS/cm from July 2019 until May 2021. After May 2021, field EC steps downward to range from 657 to 758 µS/cm until February 2022. Like field pH, there is a sharp decrease to a low of EC 535 µS/cm in March-April 2022, followed by a steep increase to ~1,300 µS/cm in Jun-22.

Laboratory analysis results for Western 2 samples show minor exceedances of SSTVs for barium (maximum of 0.085 mg/L versus SSTV of 0.083 mg/L), boron (with a maximum reported concentration of 0.52 mg/L versus the SSTV of 0.37 mg/L), and EC (maximum of 1,400 µS/cm compared to an upper range SSTV of 1,250 µS/cm). The nitrate SSTV (4 mg/L as NO_3) is exceeded in all samples with a maximum of 15 mg/L as NO_3 from HYW0237P in March 2021.

Western 4: (Figure 10.23) Field pH measurements have ranged from 6.2 to 8.4 during the July 2019 to June 2022 review period. The lowest values were reported for April 2022.

Field EC measurements trend downwards from a range of 900 to 1,600 µS/cm in Jul-19 to 484 to 578 µS/cm in March 2022. This downward trend turns steeply upwards after March 2022 to a range of 1,200 to ~1,500 µS/cm in June 2022.

Laboratory analysis results for Western 4 samples show minor exceedances of SSTVs for boron (maximum of 0.46 mg/L versus SSTV of 0.37 mg/L), EC (maximum of 1,400 µS/cm versus upper range SSTV of 1,250 µS/cm), and nitrate (maximum of 30 mg/L as NO_3 versus SSTV of 4 mg/L as NO_3.

Western 5: (Figure 10.24) As with other Western pits, field pH measurements show a step increase in December 2019 to

a range of 7.9 to 8.6 followed by a step decrease in May 2021 to a range of 7 to 7.3. This step ends in April 2022 with a decrease to 6.4 – 6.7, followed by a steep increase to 7.3 to 7.5 in June 2022.

As for Western 4, field EC measurements in Western 5 show a decline from a range of 930 µS/cm to 1,030 µS/cm in July 2019 to a lower range of 480 to 500 µS/cm in March 2022, followed by a steep increase to a range of 980 to 1,200 µS/cm in June 2022.

Laboratory analysis results for Western 5 samples show minor exceedances of SSTVs for boron as with the other pits. Maximum boron exceedance of 0.46 mg/L against the SSTV of 0.37 mg/L. Nitrate exceeded the SSTV (4 mg/L as NO_3) in all samples with the maximum concentration of 12 mg/L as NO_3 measured in HYW0134P in June 2022.

Western 6: (Figure 10.25) Field pH measurements were circumneutral to somewhat alkaline with values in the 7.1 – 8.5 range up to May 2021. Like the measurements reported for other Yandi pits, a drop in pH to a range of 6.7 to 7.6 was observed for all Western 6 locations during May 2021. This was followed by a decrease to ~pH 6.3 in April 2022 and a steep increase to ~pH 7.3 in June 2022.

Like the other Western pits, field EC values at Western 6 show a general decline from the start of the review period which changed to a significant increase in March 2022. At Western 6 the decline, with significant variation, is evident since September 2019. The lowest EC measurements were reported in March 2022, ranging from 472 to 673 µS/cm. This is followed by a steep increase to a range of 1,400 to 1,600 µS/cm in June 2022.

As for the other pits, laboratory analysis results for Western 6 samples show exceedances of SSTVs for boron and EC. The maximum boron SSTV exceedance was 0.90 mg/L against the SSTV of 0.37 mg/L. The maximum EC exceedance of 1,400 µS/cm against the upper range SSTV of 1,250 µS/cm. One sample from HYW0355P in November 2019 also shows exceedances of iron (0.15 mg/L against SSTV of 0.07 mg/L) and molybdenum (0.004 mg/L against SSTV of 0.001 mg/L).

Nitrate concentrations generally exceed the SSTV of 4 mg/L as NO_3 with the maximum of 50 mg/L as NO_3 measured at HYW0176P in June 2022.

Central pits

Major ion proportions shown on the Central pits Piper plot (Figure 10.34) indicate all Central pit samples have a similar signature to the Western pits consistent with the Marillana alluvial and CID aquifers that are recharged from rainfall and surface runoff.

Central 1: (Figure 10.26) Field pH measurements generally declined during the review period from circumneutral to a lower range of 6.3 to 7.3 from May 2021 to March 2022. The lowest field pH measurements occurred in April 2022 with a range of pH 6.1 to 6.3. The most recent measurements (May 2022 and June 2022) show a range of 7.1 to 7.34.

Field EC values for the active production bores covered a broad range from 419 – 1,358 µS/cm during the review period. There appears to be a general declining trend from July 2019 with significant variation and the lowest measurements in March 2022. After March 2022 there is a steep increase to the highest field EC measurements, consistent with the trend observed in other pits.

Laboratory analysis results for Central 1 samples show minor exceedances of SSTVs for boron (maximum concentration of 0.65 mg/L compared to the SSTV of 0.37 mg/L) and EC (1,300 µS/cm compared to the upper range SSTV of 1,250 µS/cm). Copper marginally exceeded the SSTV at HYC0015P in March 2021 (at a reported concentration of 0.006 mg/L compared to SSTV of 0.0048 mg/L). Nitrate generally exceeded the SSTV of 4 mg/L as NO_3 in all samples during the review period with a maximum of 18 mg/L as NO_3 measured at HYC0012P in June 2022.

Central 5: (Figure 10.27) As with measurements reported from other pits, there was a decrease in March-April 2022 to a low of pH 6.1, followed by a steep increase to ~pH 7.2 by June 2022. Groundwater samples from HNPIYC0034P have consistently had the lowest pH measurements, ranging from 5.5 to 7.4 from July 2019 to July 2021.

Field EC values generally decline over the review period from a range of 872 to 920 µS/cm to a range of 418 to 433 µS/cm in March 2022. As for the other pits, this is followed by a steep increase to a range of 845 to 1,017 µS/cm after March 2022.

Laboratory analysis results for Central 5 samples show minor exceedances of SSTVs for boron (maximum of 0.41 mg/L versus SSTV of 0.37 mg/L). Chromium and zinc also exceeded the trigger values at HNPIYC0034P in December 2020, with respective concentrations of 0.031 mg/L (SSTV of 0.001 mg/L) and 0.58 mg/L (SSTV of 0.072 mg/L). Nitrate exceeded the SSTV of 4 mg/L as NO_3 in all samples during the review period (maximum of 23 mg/L as NO_3).

Eastern pits

Major ion proportions shown on the Eastern pits Piper plot (Figure 10.35) indicate all Eastern pit samples have a similar signature to the Western and Central pits which is consistent with the Marillana alluvial and CID aquifers that are recharged from rainfall and surface runoff.

Eastern 1 & 2: (Figure 10.28) Like the other Yandi pits, pH measurements stepped up in December 2019 to a range of 7.4 to 8.2 until April 2021. This was followed by a decline to a low point range of 6.1 to 6.4 in April 2022, followed by a steep increase to a range of 7.1 to 7.3 in June 2022, perhaps in response to significant rainfall in May 2022.

Field EC values are relatively consistent (range 700 to 900 µS/cm) from July 2019 to April 2021. This is followed by a decline to a low point range of 429 to 472 µS/cm in March 2022 and a steep increase to a range of 948 to 1,036 µS/cm by

June 2022.

Laboratory analysis results for the Eastern 1 & 2 production bores show marginal exceedances of boron (maximum of 0.41 mg/L against SSTV of 0.37 mg/L). Nitrate exceeded the 4 mg/L as NO_3 SSTV in all samples with a maximum of 20mg/L.

Eastern 4: (Figure 10.29) Field pH ranged from 6.6 to 7.8 from April 2022 to June 2022. During the same period field EC ranged from 500 to 1,200 µS/cm.

Eastern 4 laboratory analysis results indicate exceedances of pH and nitrate in all samples. Laboratory measured pH ranged from 8.1 to 8.4 (upper limit of the SSTV range is pH 8.0. The maximum nitrate concentration of 77 mg/L as NO_3 was measured in the February 2022 sample from HYE1518P (SSTV of 4 mg/L as NO_3).

Occasional exceedances were noted for boron (maximum of 0.46 mg/L against SSTV of 0.37 mg/L) and lead (maximum of 0.045 mg/L against SSTV of 0.004 mg/L).

Eastern 3,5,6: (Figure 10.30) Field pH measurements step up in December 2019 to a range of 7.2 to 8.6 until April 2021. Like most of the Yandi pits, pH measurements showed a sharp decrease in May 2021 and a general decline to a low range of 6.2 to 6.9 in April 2022. This is followed by a sharp increase to a range of ±pH 7.2 in all bores by June 2022.

Field EC values maintained a downward trend from June 2019 to a low point range of 363 to 435 µS/cm in March 2022. As for other Yandi pits, this is followed by a sharp increase. At Eastern 3, 5, 6, this increase reached a range of 648 to 946 µS/cm in June 2022.

Laboratory analysis results for Eastern 3,5,6 samples show exceedances of SSTVs for boron (maximum concentration of 0.64 mg/L compared to the SSTV of 0.37 mg/L), nitrate (maximum concentration of 44 mg/L compared with SSTV of 4.0mg/L as NO_3), as with the other pits.

Eastern 7: (Figure 10.31) During the review period field pH values show a generally increasing trend from July 2019 to April 2021 with alkaline pH (maximum pH 9). This is followed by a declining trend from about April 2021 to a low of ~pH 6.4 in April 2022, followed (as in other pits) by an increase. In this case June 2022 field pH is about 7.3.

Field EC values appear to vary within a consistent range up to about April 2021, after which there is an overall declining trend to a low of about 450 µS/cm in March 2022. As for other Yandi pits, this is followed by a steep increase in field EC. At Eastern 7 this reaches a range of 882 to 942 µS/cm in June 2022.

Laboratory analysis results for Eastern 7 samples show minor exceedances of SSTVs for boron (maximum concentration of 0.61 mg/L compared to the SSTV of 0.37 mg/L). The laboratory pH measurements are generally lower than field pH. Nitrate frequently exceeded the SSTV of 15 mg/L as NO_3 in all Eastern pit samples during the review period.

10.9 Compliance

A summary of the Yandi Borefields compliance with GWL requirements is shown in Table 10.7. Most of the compliance activities that were missed were due to a lack of access at the time of sampling.

Table 10.7: Summary of Yandi Borefields Compliance Performance

Compliance category	Measure	Compliance		
		FY20	FY21	FY22
Allocation	GWL annual allocation	100%	100%	100%
Abstraction	Monthly readings per production borehole	100%	99%	100%
Water level monitoring	Monthly water level from identified monitoring bores	98%	100%	90%
Field chemistry	Monthly pH and EC readings from 2 representative bores per deposit	99%	88%	93%
Lab chemistry	Bi-annual analysis from 2 representative bores per deposit	94%	79%	82%
Rainfall	Monthly readings	100%	100%	100%

Table 10.8 shows the percentage of the GWL allocation used during the review period. The allocation usage value represents the combined Spinifex Camp Supply volume and mine dewatering volume.

Table 10.8: Licence Abstraction Details

Licence No.	Allocation (kL)			Allocation Usage		
	FY20	FY21	FY22	FY20	FY21	FY22
GWL89501(11)	20,650,520	20,650,520	20,650,520	47%	53%	46%

10.10 Assessment of impacts

Monitoring over the review period reveals declining water levels in most pits, except for some partial recovery in some bores in response to rainfall. Groundwater level monitoring data has also identified that direct hydraulic connection is likely to exist between the CID aquifer and sections of the alluvial sediments of the Marillana Creek.

Water Levels in the CID upgradient (west) of the Yandi operations have declined during the review period. The monitoring bores are close to Western 1 pit and reflect the impact of dewatering at the pit.

During the review period, regional water levels downgradient (east) of the Yandi operations appear to be stable or fluctuate within a narrow range of elevations. This follows decreases in elevation seen in 2018 and 2019.

The Yandi borefields are characterised by the following:

- Boron concentrations that marginally exceed the current trigger value of 0.37 mg/L. Overall, there weren't any significant changes in the water quality when compared to the historical data. Boron exceedances were observed across the Yandi borefield, but values remained relatively low.
- During April-May 2021, in most of Yandi pits, field pH and EC show values lower than measured in the preceding months.
- pH remains in the circumneutral to somewhat alkaline range.
- Generally low EC values less than the low SSTV of 1,195 µS/cm, with occasional exceedances of the high SSTV of 1,250 µS/cm.
- Generally elevated nitrate concentrations that frequently exceed the SSTV of 4 mg/L as NO_3 (0.9 mg/L as N). The inferred source of the nitrate exceedances is ANFO explosive residue associated with waste rock and pit walls. The combined impact of multiple waste rock and pit wall point sources, distributed over the mine site in time and space, result in a ubiquitous groundwater nitrate concentration throughout the site.

There are no thresholds or trigger limits with respect to groundwater abstraction. However, there are environmental conditions which require monitoring of tree health and several related actions outlined in MS679 which are reported annually through the AER process.

10.11 Recommendations

The inclusion of two monitoring bores within the water level monitoring program at Western 6 is recommended as this pit will be dewatered during FY22/FY23.

The Yandi SSTVs should be reviewed and updated in Groundwater Operating Strategy post discussion and approval of DWER.

10.12 References

Aquaterra, 2008. RGP5 Yandi LOM Dewatering Requirements and Discharge Projects (87 MT/a Scenario).

BHP, 2021. Annual Environmental Report. BHP, Perth, Western Australia.

BHP Billiton Iron Ore, 2011. Marillana Creek (Yandi) Mining Operations – Environmental Management Plan. Revision 4. BHP Billiton Iron Ore, Perth, Western Australia.

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BHP Billiton Iron Ore, 2018. GWL Operating Strategy for Yandi. Document ID 0021252, Version 2.0. BHP Billiton Iron Ore, Perth, Western Australia.

Charles SP, Fu G, Silberstein RP, Mpelasoka F, McFarlane D, Hodgson G, Teng J, Gabrovsek C, Ali R, Barron O, Aryal SK, Dawes W, van Niel T, Chiew FHS (2013); Interim report on the hydroclimate of the Pilbara past, present and future. A report to the West Australian Government and industry partners from the CSIRO Pilbara Water Resource Assessment, CSIRO Water for a Healthy Country, Australia.

Department of Water, 2013. Pilbara Groundwater Allocation Plan, October 2013. Department of Water, Perth, Western Australia.

Yandi Borefields
Triennial Reporting
Acknowledgment Slip

I have reviewed the site Triennial 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 2019 to 30 June 2022.

SIGNATURE: Kotsos, Ioannis Digitally signed by Kotsos, Ioannis DN: cn=Kotsos, Ioannis, o=BHP Billiton Group Operations Pty Ltd, ou=MULTI-ALLOWED Date: 2022.09.16 12:21:52 +08'00' DATE: 16/09/2022

YANNI KOTSOS
GENERAL MANAGER
YANDI

Tables

Table 10.2: Abstraction

Sample Point ID	Spinifex Camp												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HNPISP0001P		21,917	25,194	29,828	16,164	11,377	47,987	74,373	61,036	39,133	31,911	33,431	**392,351**
HNPISP0002P		5,898	9,830	4,604	20,478	24,824	14,679	7,909	8,455	50,668	43,257	14,990	**205,592**
TOTAL	**0**	**27,815**	**35,024**	**34,432**	**36,642**	**36,201**	**62,666**	**82,282**	**69,491**	**89,801**	**75,168**	**48,421**	**597,943**

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

Sample Point ID	Western 1												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HNPIYN1704P	14,572	13,572	16,153	21,019	19,114	11,617	15,150	20,357	8,688		4,979	36,319	**181,540**
HNPIYN1707P	11,786	13,300	11,661	7,783	9,074	11,884	9,328	5,382	1,321		3,586	33,276	**118,381**
HYW0008P	44,627	39,763	40,191	43,811	38,288	37,028	24,595	37,041	40,035	37,981	36,408		**419,768**
HYW0010P	41,526	43,201	41,954	43,197	38,880	36,516	32,977	31,816	36,591	35,050	36,386	28,046	**446,140**
HYW0011P									71	35,156	874		**36,101**
HYW0021P	2,188	1,951	1,828	1,857	1,078			1,357	189	2,079	2,534	1,426	**16,487**
HYW0024P	1,701	563	2,232	951				141	3,879	2,209	3,725	2,097	**17,498**
HYW0180P	14,100	14,055	13,720	11,224	14,617		11,619	11,726	13,744	11,066	12,939	10,013	**138,823**
HYW0212P		7,413	5,346	4,916	2,833	1,754	2,954	9,079	21,692	15,661	11,759	4,533	**87,940**
HYW0213P	1,315		3,044	2,573	2,994	2,906	903	3,621	9,157	5,396	5,767	2,787	**40,463**
HYW0215P	7,427	7,789	10,534	10,453	9,531	8,568	7,806	5,207			9,861	10,075	**87,251**
HYW0226P	4,047	2,900	3,143	3,509	3,396	3,619	3,155	3,288	4,831	7,264	5,507	6,074	**50,733**
HYW0228P	8,599			3,350	6,530	14,465	11,124	8,876	12,572	11,880	10,483	9,934	**97,813**
HYW0229P	7,639	7,808	7,365	7,577	7,170	7,106	5,899	1,499		7,207	9,631	9,253	**78,154**
HYW0230P	8,490	8,198	7,656	7,288	6,971	7,185	7,444	7,899	8,997	9,088	8,911	8,231	**96,358**
HYW0246P	17,848	12,594	19,036	14,263	11,943	11,398	24,270	28,424	24,802	33,345	29,115	19,538	**246,576**
HYW0247P	2,362	2,071	7,106	5,334	3,496	2,641	3,525	10,354	14,755	10,534	7,119	5,172	**74,469**
HYW0322P	3,596	267	4,536	4,702	4,401	4,348	4,438	1,236	909	2,563	5,665	4,651	**41,312**
SYAN0015													**0**
SYAN0043													**0**
TOTAL	**191,823**	**175,445**	**195,505**	**193,807**	**180,316**	**161,035**	**165,187**	**187,303**	**202,233**	**226,479**	**205,249**	**191,425**	**2,275,807**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Western 2												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYW0237P	11,640	12,131	10,919	10,042	10,584	10,693	10,206	8,915	9,387	8,225	8,968	8,995	**120,705**
HYW0238P	13,521	13,966	13,338	13,753	13,040	13,488	12,812	12,004	11,465	10,571	11,157	11,014	**150,129**
HYW0348P			4,606	16,865	12,029	10,642	14,699	19,117	20,368	17,997	18,136	16,548	**151,007**
TOTAL	**25,161**	**26,097**	**28,863**	**40,660**	**35,653**	**34,823**	**37,717**	**40,036**	**41,220**	**36,793**	**38,261**	**36,557**	**421,841**

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

Sample Point ID	Western 3												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYW1015P													**0**
HYW1016P													**0**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

Sample Point ID	Western 4												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYW0030P		8,571	17,877	23,049	24,327	16,362	22,856	36,224	36,383	34,636	35,954	32,544	**288,783**
HYW0035P	32,393	31,686	27,401	27,604	22,906	18,880	28,361	22,057	36,248	34,295	35,097	27,721	**344,649**
HYW0042P	8,159	8,407	8,429	7,926	4,564	6,944	7,505	8,542	10,120	9,537	8,005	6,110	**94,248**
HYW0049P	1,382	1,277	480				8,019	52,894	7,963	5,870	5,083	4,024	**86,992**
HYW0051P	5,674	5,025	3,162	4,047	4,292	4,829	7,962	11,334	10,903	9,277	7,331	5,400	**79,236**
HYW0064P	8,016	7,964	7,870	7,815	5,828	7,001	6,631	6,502	6,852	6,602		3,027	**74,108**
HYW0072P	11,885	12,913	11,813	12,395	10,464	8,410	2,645	3,849	1,124	1,553	2,788	1,562	**81,401**
HYW0165P	11,127	9,860	9,549	10,167	10,262	10,014	10,814	11,230	13,021	14,261	13,571	13,094	**136,970**
HYW0181P	4,925	4,751	4,328	3,658	3,664	3,124	5,649	5,764	3,207	8,438	6,406	7,234	**61,148**
HYW0182P	10,888	10,693	9,998	9,969	10,079	9,348	11,190	11,750	15,204	16,144	16,561	16,458	**148,282**
HYW0340P	5,946	5,842	5,493	5,585	5,318	5,394	5,679	11,105	28,200	17,892	14,312	12,104	**122,870**
SYAN0035													**0**
SYAN0036								46,252					**46,252**
SYAN0042													**0**
TOTAL	**100,395**	**106,989**	**106,400**	**112,215**	**101,704**	**90,306**	**117,311**	**227,503**	**169,225**	**158,505**	**145,108**	**129,278**	**1,564,939**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Western 5												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYW0131P	12,678	10,771	9,729	9,904	9,167	10,349	9,721	4,738	621	9,825	14,720	16,827	**119,050**
HYW0132P	2,568	2,837	7,704	7,157	4,755	4,286	4,855	3,421	4,338	4,814	5,416	5,147	**57,298**
HYW0133P	5,955	5,783	4,928	5,262	4,572	4,310	2,946	3,350	5,769	6,076	4,667	4,014	**57,632**
HYW0134P	26,550	18,105	19,946	25,502	23,492	23,364	22,332	21,356	24,176	23,779	24,795	20,031	**273,428**
HYW0240P	8,806	7,235	8,457	7,911	6,251	6,799	5,942	6,788	6,691	7,313	5,940	6,353	**84,486**
HYW0241P	8,131	10,093	9,225	7,499	9,112	8,492	8,444	12,087	15,839	14,152	11,988	10,277	**125,339**
TOTAL	**64,688**	**54,824**	**59,989**	**63,235**	**57,349**	**57,600**	**54,240**	**51,740**	**57,434**	**65,959**	**67,526**	**62,649**	**717,233**

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

Sample Point ID	Western 6												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYW0175P	8,127	4,915			4,830	2,622	3,126	3,918	4,838	3,564	3,639	3,493	**43,072**
HYW0176P	6,807	6,996	7,074	7,050							38,790	6,316	**73,033**
HYW0355P					7,815	28,689	27,630	23,735	31,065	28,811	28,759	23,076	**199,580**
HYW1021P													**0**
HYW1024P													**0**
SYAN0040													**0**
SYAN0041													**0**
TOTAL	**14,934**	**11,911**	**7,074**	**7,050**	**12,645**	**31,311**	**30,756**	**27,653**	**35,903**	**32,375**	**71,188**	**32,885**	**315,685**

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

Sample Point ID	Central 1												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYC0012P	13,003	13,118	12,281	11,737	11,690	11,221	9,588	10,325	12,355	13,254	12,309	13,413	**144,294**
HYC0015P	18,666	18,426	15,851	14,316	15,189	11,446	14,143	13,795	15,043	15,588	15,331	15,128	**182,922**
HYC0096P	26,899	29,126	34,361	34,148	36,503	33,244	33,911	33,478	34,609	33,295	35,968	34,949	**400,491**
TOTAL	**58,568**	**60,670**	**62,493**	**60,201**	**63,382**	**55,911**	**57,642**	**57,598**	**62,007**	**62,137**	**63,608**	**63,490**	**727,707**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Central 5												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HNPIYC0034P	7,659	7,628	4,620	5,758	5,399	5,287	5,758	5,317	3,813				**51,239**
HYC0019P	4,029	2,581	3,562	4,729	4,093	1,847	15	1,676	3,974	2,901	3,915	3,159	**36,481**
HYC0020P	9,895	8,350	6,283	5,973	5,657	4,131	6,026	9,044	11,154	10,883	11,352	6,258	**95,006**
HYC0031P	8,442	8,039	7,184	7,007	7,263	5,894	6,783	8,572	10,710	10,219	9,530	9,426	**99,069**
HYC0068P	10,177	9,675	9,260	8,461	8,777	7,685	9,989	11,182	14,231	17,014	16,686	15,485	**138,622**
HYC0069P	16,039	15,413	14,432	14,368	13,535	13,044	14,461	2,027	10,226	30,526	24,800	21,505	**190,376**
HYC0089P	6,152	5,289	4,495	4,237	3,953	3,430	3,728	4,594	5,751	6,034	5,927	5,494	**59,084**
HYC0090P	1,686	2,297	1,914	1,944	1,789	1,534	2,264	1,956	2,644	3,082	3,328	3,341	**27,779**
TOTAL	**64,079**	**59,272**	**51,750**	**52,477**	**50,466**	**42,852**	**49,024**	**44,368**	**62,503**	**80,659**	**75,538**	**64,668**	**697,656**

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

Sample Point ID	Eastern 1 & 2												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYE0023P	3,991	4,021	3,209	2,912	2,725	2,526	2,272	1,611	898	5,032	4,848	3,914	**37,959**
HYE0041P	8,723	9,861	8,458	7,831	6,803	6,006	7,660	8,834	9,187	7,851	8,405	5,947	**95,566**
HYE0051P	12,484	10,863	15,609	15,855	14,011	9,949	12,397	15,856	15,967	9,562	16,299	10,699	**159,551**
HYE0060P	2,486	2,358	1,922	1,889	1,870	1,733	1,757	2,061	3,236	3,371	3,186	2,468	**28,337**
HYE0061P	6,385	7,707	6,873	6,552	6,568	7,151	7,384	7,858	5,495	8,293	11,792	10,855	**92,913**
HYE0193P								15,706	35,876	25,315	16,988	26,587	**120,472**
HYE0194P								15,859	26,323	18,570	21,148	19,676	**101,576**
SYAN0001													**0**
SYAN0037													**0**
SYAN0044													**0**
TOTAL	**34,069**	**34,810**	**36,071**	**35,039**	**31,977**	**27,365**	**31,470**	**67,785**	**96,982**	**77,994**	**82,666**	**80,146**	**636,374**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Eastern 4												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYE1518P													0
HYE1519P													0
HYE1523P													0
SYAN0050													0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0

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

Sample Point ID	Eastern 3,5,6												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
HYE0014P								7,585	11,999	2,451	359		22,394
HYE0026P													0
HYE0027P	17,720	17,956	16,795	15,892	14,952	12,426	14,413	10,764	12,100	5,702	6,234	5,857	150,811
HYE0028P							158	9,656	13,027	15,119	20,199	19,862	78,021
HYE0031P	9,465	7,166	10,774	9,374	10,399	9,429	12,005	12,937	16,471	16,531	18,116	17,547	150,214
HYE0042P								7,161	13,790	16,039	16,314	13,510	66,814
HYE0043P			956	1,906	2,023	2,056	2,362	2,412	3,245	2,927	2,619	2,555	23,061
HYE0044P	3,564	3,558	3,438	3,419	3,456	3,406	3,919	2,187	4,149	6,458	6,875	6,479	50,908
HYE0045P	5,807	5,793	6,045	6,400	5,053	6,349	7,273	8,370	9,472	9,677	10,531	10,387	91,157
HYE0055P	3,614	3,896	4,985	5,496	5,105	4,453	4,991	5,427	15,971	9,692	11,589	10,037	85,256
HYE0132P													0
HYE0152P													0
HYE0156P	10,263	12,197	12,755	12,820	11,037	9,357	13,216	21,676	40,020	36,889	32,413	29,744	242,387
HYE0157P	16,197	15,968	13,785	10,962	12,259	10,968	10,545	15,911	12,972	12,016	10,941	9,742	152,266
HYE0171P	3,472	3,612	4,014	3,969	3,462	3,124	4,728	7,374	16,602	13,878	11,315	10,181	85,731
HYE0172P	2,634	3,726	3,738	3,902	3,729	3,466	3,660	4,087	6,298	6,450	6,024	6,228	53,942
SYAN0002													0
SYAN0003													0
SYAN0016													0
SYAN0039													0
TOTAL	72,736	73,872	77,285	74,140	71,475	65,034	77,270	115,547	176,116	153,829	153,529	142,129	1,252,962

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Eastern 7												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
SYAN0046													**0**
HYE0130P		5,418											**5,418**
HYE0160P	2,469	9,591	7,286	12,058	13,643	13,285	16,850	34,541	36,789	36,394	26,602	22,494	**232,002**
HYE0180P	18,465	21,770	17,762	10,400	23,450	20,924	21,905	27,617	36,619	35,674	31,718	22,274	**288,578**
HYE0181P	32,727	28,717	25,720	28,569	19,685	28,630	11,024	18,878	36,867	38,420	37,498	38,029	**344,764**
HYE0311P												12,043	**12,043**
HYE0313P													**0**
HYE0314P													**0**
TOTAL	**53,661**	**65,496**	**50,768**	**51,027**	**56,778**	**62,839**	**49,779**	**81,036**	**110,275**	**110,488**	**95,818**	**94,840**	**882,805**

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

Sample Point ID	Barimunya Aerodrome												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
FYAN0001	26	26	22	23	22	29	18	4	12	18	19	10	**229**
TOTAL	**26**	**26**	**22**	**23**	**22**	**29**	**18**	**4**	**12**	**18**	**19**	**10**	**229**

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

Sample Point ID	Yandi Discharge												
	FY20 (kL)												
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	TOTAL
FYAN0011	150,422	323,563	213,073	168,286	157,063	173,521	337,556	481,402	802,076	726,780	685,888	598,687	**4,818,317**
FYAN0054			23,213	51,664	29	9		2,000					**76,915**
TOTAL	**150,422**	**323,563**	**236,286**	**219,950**	**157,092**	**173,530**	**337,556**	**483,402**	**802,076**	**726,780**	**685,888**	**598,687**	**4,895,232**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Spinifex Camp												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HNPISP0001P	24,265	33,530	21,089	30,726	40,262	30,425	27,288	26,149	38,481	13,290	27,528	14,457	**327,490**
HNPISP0002P	28,415	22,262	21,496	16,101	3,434	20,529	26,982	26,582	28,277	36,117	29,756	40,322	**300,273**
TOTAL	**52,680**	**55,792**	**42,585**	**46,827**	**43,696**	**50,954**	**54,270**	**52,731**	**66,758**	**49,407**	**57,284**	**54,779**	**627,763**

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

Sample Point ID	Western 1												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HNPIYN1704P	45,859	37,098	36,044	34,030	32,445	32,665	32,250	24,307	28,056	27,103	27,614	26,505	**383,976**
HNPIYN1707P	51,665	42,288	26,947	39,604	37,835	38,668	39,112	29,659	35,062	34,440	35,396	35,200	**445,876**
HYW0008P			25,175	40,878	37,874	23,339	41,364	36,003	13,488	20,939	31,550	4,643	**275,253**
HYW0010P	36,969	33,140	28,348	34,064	25,087	28,268	23,473	20,570	19,023	5,560	23,991	34,513	**313,006**
HYW0011P													**0**
HYW0021P	1,133	1,244	1,246	1,167	566	1,990	2,737	1,650	1,352	1,922	2,209	1,142	**18,358**
HYW0024P	773				198	2,050	3,041	2,816	3,327	3,133	2,512	1,931	**19,781**
HYW0180P				8,561	13,900	13,405	9,489	8,173	10,014	10,861	10,564	8,539	**93,506**
HYW0212P	3,155	2,970	3,062	5,565	2,005	2,487	5,014	5,472	10,171	9,882	8,234	6,612	**64,629**
HYW0213P	1,737	1,681	2,431	4,024	1,742	2,685	2,306	317	4,844	4,740	2,664	2,819	**31,990**
HYW0215P	10,824	10,417	9,659	10,022	10,209	9,805	6,990	8,051	7,988	6,802	7,266	6,565	**104,598**
HYW0226P	2,670	3,578	5,963	6,192	5,308	4,306	5,420	3,453	4,471	3,981	4,084	5,111	**54,537**
HYW0228P	12,241	10,319	1,236	6,325	4,712	10,202	6,284	10,061	9,833	8,449	6,681	7,851	**94,194**
HYW0229P	8,443	8,150	7,235	6,821	6,235	6,852	2,876	4,995	6,181	7,163	7,094	5,643	**77,688**
HYW0230P	7,803	7,784	7,151	7,060	6,412	7,347	8,497	9,752	11,178	10,280	10,107	9,579	**102,950**
HYW0246P	16,385	5,002	9,636	15,907	11,182	10,952	18,400	19,755	27,938	23,947	19,612	15,708	**194,424**
HYW0247P	4,397	1,362	1,061	623	87			117	6,511	5,013	3,096	1,818	**24,085**
HYW0322P	4,524	4,566	3,047	4,831	2,722					848	156		**20,694**
SYAN0015													**0**
SYAN0043								37,374	24,555	25,136	7,923	1,780	**96,768**
TOTAL	**208,578**	**169,599**	**168,241**	**225,674**	**198,519**	**195,021**	**207,253**	**222,525**	**223,992**	**210,199**	**210,753**	**175,959**	**2,416,313**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Western 2												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYW0237P	9,738	8,804	7,719	8,384	6,532	3,926	5,880	5,778	6,071	5,264	9,694	17,825	**95,615**
HYW0238P	11,412	11,841	11,031	11,279	10,637	10,313	10,108	8,881	10,498	10,479	8,257	10,697	**125,433**
HYW0348P	17,049	15,923	14,678	13,500	9,885	11,716	15,406	13,903	16,678	16,291	12,608	15,426	**173,063**
TOTAL	**38,199**	**36,568**	**33,428**	**33,163**	**27,054**	**25,955**	**31,394**	**28,562**	**33,247**	**32,034**	**30,559**	**43,948**	**394,111**

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

Sample Point ID	Western 3												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYW1015P													**0**
HYW1016P													**0**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

Sample Point ID	Western 4												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYW0030P	29,456	27,910	26,979	25,433	24,644	21,441	28,567	26,058	29,675	30,734	30,791	26,463	**328,151**
HYW0035P	23,508	28,467	25,446	22,340	25,329	34,441	28,696	37,188	36,724	27,768	25,215	29,373	**344,495**
HYW0042P	7,223	7,863	7,961	7,862	7,441	7,759	7,812	7,932	12,373	12,202	11,697	9,846	**107,971**
HYW0049P	2,239	3,069	2,149	1,734	1,398	1,334	2,444	4,432	7,963	5,764	4,577	3,465	**40,568**
HYW0051P	3,845	8,034	7,587	7,110	5,697	5,576	5,306	6,115	8,353	8,430	7,882	7,213	**81,148**
HYW0064P	4,965	5,003	5,204	5,487	5,079	4,954	4,936	4,021	4,754	4,635	4,611	4,689	**58,338**
HYW0072P	1,815	2,604	3,729	3,320	3,673	1,975	2,519	1,159	491	1,897	3,880	12,267	**39,329**
HYW0165P	12,272	12,625	11,217	11,398	6,109	10,806	12,506	11,212	12,681	13,022	8,612	12,922	**135,382**
HYW0181P	8,153	7,173	4,268	251									**19,845**
HYW0182P	13,966	12,673	11,791	12,255	11,038	10,146	10,698	9,524	12,229	14,775	15,726	13,712	**148,533**
HYW0340P	11,114	14,658	13,882	6,442	8,008	4,668	6,170	11,181	24,036	19,041	14,315	7,498	**141,013**
SYAN0035								9,274	23,680	15,074	6,331	7,186	**61,545**
SYAN0036													**0**
SYAN0042							22,380	40,465	11,599	17,486	16,946	5,645	**114,521**
TOTAL	**118,556**	**130,079**	**120,213**	**103,632**	**98,416**	**103,100**	**132,034**	**168,561**	**184,558**	**170,828**	**150,583**	**140,279**	**1,620,839**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Western 5												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYW0131P	18,263	15,509	3,375	12,584	7,350	10,880	11,227	3,707	6,356	5,710	6,856	6,223	**108,040**
HYW0132P	4,132	4,989	5,249	4,996	6,728	6,696	6,360	5,663	6,528	6,491	6,980	6,875	**71,687**
HYW0133P	6,580	5,394	4,670	3,388	3,439	3,242	2,378	2,399	1,728	2,046	3,026	3,060	**41,350**
HYW0134P	23,740	24,133	18,408	23,695	22,368	19,115	22,777	19,134	23,631	20,106	25,264	24,457	**266,828**
HYW0240P	6,876	6,717	5,403	5,815	6,312	6,298	5,043	6,758	8,813	10,323	8,385	7,419	**84,162**
HYW0241P	9,365	8,245	6,885	6,670	5,715	6,267	6,266	7,678	14,075	13,887	13,032	11,392	**109,477**
TOTAL	**68,956**	**64,987**	**43,990**	**57,148**	**51,912**	**52,498**	**54,051**	**45,339**	**61,131**	**58,563**	**63,543**	**59,426**	**681,544**

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

Sample Point ID	Western 6												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYW0175P	3,150	2,962	1,503	2,837	2,265	2,650	3,683	3,199	3,392	3,022	2,831	3,179	**34,673**
HYW0176P	7,460	7,322	6,643	5,688	964			7,352	6,521	6,679	9,359	6,312	**64,300**
HYW0355P	23,160	21,796	9,595	6,990	19,837	20,773	18,441	20,738	26,929	28,840	22,832	26,096	**246,027**
HYW1021P													**0**
HYW1024P													**0**
SYAN0040							981	2,414	2,372	2,045	8,250	7,361	**23,423**
SYAN0041							5,513	13,487	10,844	8,819		917	**39,580**
TOTAL	**33,770**	**32,080**	**17,741**	**15,515**	**23,066**	**23,423**	**28,618**	**47,190**	**50,058**	**49,405**	**43,272**	**43,865**	**408,003**

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

Sample Point ID	Central 1												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYC0012P	12,023	11,501	11,820	12,076	10,384	11,403	9,785	11,589	14,863	14,038	14,595	14,754	**148,831**
HYC0015P	14,826	14,633	13,802	14,766	14,631	8,545	14,141	14,340	15,757	14,439	14,286	13,772	**167,938**
HYC0096P	32,639	33,935	30,021	34,929	21,715	33,258	33,007	30,130	33,411	34,713	35,657	32,399	**385,814**
TOTAL	**59,488**	**60,069**	**55,643**	**61,771**	**46,730**	**53,206**	**56,933**	**56,059**	**64,031**	**63,190**	**64,538**	**60,925**	**702,583**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Central 5												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HNPIYC0034P							2,022	1,954	8,486	7,740	5,973	5,567	**31,742**
HYC0019P	4,823	3,437	1,027	4,704	4,459	3,021	4,514	3,449	6,348	5,889	6,248	6,004	**53,923**
HYC0020P	4,182	3,965			4,447	10,488	10,804	11,289	13,391	12,729	8,010	11,121	**90,426**
HYC0031P	9,385	8,992	9,137	9,549	8,802	8,648	8,512	7,920	9,467	8,823	10,166	10,033	**109,434**
HYC0068P	9,585	13,883	11,349	12,238	11,207	10,963	11,217	11,276	14,196	13,615	13,960	13,075	**146,564**
HYC0069P	18,617	16,748	14,888	11,601	13,795	13,276	13,898	12,666	11,064	11,355	11,992	8,446	**158,346**
HYC0089P	5,214	2,962	3,819	4,677	4,307	3,329	4,030	3,543	8,290	8,026	7,551	7,825	**63,573**
HYC0090P	3,187	2,882	2,234	2,385	1,977	2,265	2,342	3,859	4,247	4,610	4,760	4,034	**38,782**
TOTAL	**54,993**	**52,869**	**42,454**	**45,154**	**48,994**	**51,990**	**57,339**	**55,956**	**75,489**	**72,787**	**68,660**	**66,105**	**692,790**

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

Sample Point ID	Eastern 1 & 2												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYE0023P	3,290	2,607	2,399	75		1,352	4,373	1,960	4,720	5,306	5,510	4,522	**36,114**
HYE0041P	3,675	8,980	9,171	290		3,832	10,534	3,764	10,030	8,502	8,144	9,291	**76,213**
HYE0051P	14,953	12,877	11,415	471			25,205	15,559	19,966	19,008	19,487	18,402	**157,343**
HYE0060P	2,176	1,837	1,774	59		1,013	1,493	2,237	3,836	3,442	3,419	3,088	**24,374**
HYE0061P	9,202	6,770	7,577	247		3,480	9,856	9,325	11,908	10,487	9,643	9,949	**88,444**
HYE0193P	22,636	12,803	18,186	16,004	14,461	16,876	18,406	15,809	28,154	26,135	6,135	10,034	**205,639**
HYE0194P	10,711	9,411	12,583	11,016	11,360	11,271	13,299	13,815	16,042	15,419	13,964	11,306	**150,197**
SYAN0001													**0**
SYAN0037							34,101	177,286	102,662	34,433	3,205	656	**352,343**
SYAN0044							5,685	37,100					**42,785**
TOTAL	**66,643**	**55,285**	**63,105**	**28,162**	**25,821**	**37,824**	**122,952**	**276,855**	**197,318**	**122,732**	**69,507**	**67,248**	**1,133,452**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Eastern 4												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYE1518P													0
HYE1519P													0
HYE1523P													0
SYAN0050													0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0

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

Sample Point ID	Eastern 3,5,6												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
HYE0014P						30	522	14,670	7,783	775			23,780
HYE0026P			4,160	23,615	21,001	55,088			17,091	24,835	18,325	26,371	190,486
HYE0027P	3,195		2,623	14,274	4,775	20,115	20,724	17,970	23,149	25,875	34,312	28,834	195,846
HYE0028P	9,914												9,914
HYE0031P	17,149	6,806											23,955
HYE0042P	13,480	13,261	1,696		2,187	15,852	17,901	15,989	17,004	23,229	25,421	23,226	169,246
HYE0043P	2,691	2,246	2,494	2,941	2,984	2,983	2,718	2,405	2,445	5,836	9,331	4,017	43,091
HYE0044P	6,402	4,104	5,301	5,167	4,534	4,402	5,209	4,948	5,424	9,493	9,901	9,114	73,999
HYE0045P	10,052	9,699	8,523	7,063	8,711	8,537	9,308	9,685	12,639	11,560	12,756	9,259	117,792
HYE0055P	7,639	7,136	5,526	5,317	4,655	4,070	3,499	2,877	14,571	12,410	10,886	8,966	87,552
HYE0132P									521	3,202	3,672	3,662	11,057
HYE0152P								476	987				1,463
HYE0156P	23,469	20,135	19,239	17,261	15,783	11,647	16,792	29,649	34,011	31,287	30,082	30,118	279,473
HYE0157P	9,555	9,265	8,034	9,140	8,641	7,451	8,215	7,871	10,386	9,976	10,099	9,884	108,517
HYE0171P	7,727	6,640	5,696	4,917	3,896	4,760	6,530	7,270	7,100	7,538	10,390	9,663	82,127
HYE0172P	5,693	5,203	4,548	4,451	4,081	4,129	4,525	3,904	7,780	7,001	7,749	7,251	66,315
SYAN0002													0
SYAN0003													0
SYAN0016													0
SYAN0039										7,300	3,768	1,117	12,185
TOTAL	116,966	84,495	67,840	94,146	81,248	139,064	95,943	117,714	160,891	180,317	186,692	171,482	1,496,798

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Eastern 7												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
SYAN0046													**0**
HYE0130P					3,212	4,389	7,456	9,646	14,161	11,808	12,434	12,279	**75,385**
HYE0160P	10,297	17,837	13,315	12,621	11,458	12,502	12,190	22,300	35,846	37,721	29,208	18,841	**234,136**
HYE0180P	17,511	24,135	17,480	15,235	18,275	18,313	15,945	16,278	20,231	24,324	22,768	18,855	**229,350**
HYE0181P	7,249	26,947	12,106	19,825	16,340	14,756	15,955	17,473	20,793	18,129	26,037	29,102	**224,712**
HYE0311P	6,664	2,465	755			161	1,208	42	47	45	47	45	**11,479**
HYE0313P	1,592	2,603	1,987	1,692	1,080	814	1,913	2,730	1,379	2,759	4,367	2,649	**25,565**
HYE0314P								1,670	2,247	1,887	1,889	739	**8,432**
TOTAL	**43,313**	**73,987**	**45,643**	**49,373**	**50,365**	**50,935**	**54,667**	**70,139**	**94,704**	**96,673**	**96,750**	**82,510**	**809,059**

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

Sample Point ID	Barimunya Aerodrome												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
FYAN0001	4	4	2	15	26	27	27	25	27	26	24	22	**229**
TOTAL	**4**	**4**	**2**	**15**	**26**	**27**	**27**	**25**	**27**	**26**	**24**	**22**	**229**

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

Sample Point ID	Yandi Discharge												
	FY21 (kL)												
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
FYAN0011	559,270	463,163	309,152	254,798	147,213	583,228	479,308	798,676	807,300	706,785	489,155	621,969	**6,220,017**
FYAN0054					478	8	6						**492**
TOTAL	**559,270**	**463,163**	**309,152**	**254,798**	**147,691**	**583,236**	**479,314**	**798,676**	**807,300**	**706,785**	**489,155**	**621,969**	**6,220,509**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Spinifex Camp												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HNPISP0001P	9,425	25,314	26,187	31,597	31,230	22,621	35,976	26,852	30,225	30,734	32,566	28,329	**331,056**
HNPISP0002P	43,869	28,427	29,393	28,517	27,468	41,099	34,106	29,009	31,711	32,825	31,553	34,909	**392,886**
TOTAL	**53,294**	**53,741**	**55,580**	**60,114**	**58,698**	**63,720**	**70,082**	**55,861**	**61,936**	**63,559**	**64,119**	**63,238**	**723,942**

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

Sample Point ID	Western 1												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HNPIYN1704P	25,284	15,580	27,211	30,144	26,922	26,526	29,719	14,706	18,750	15,687	16,977	19,955	**267,461**
HNPIYN1707P	33,858	33,786	30,961	31,910	30,574	27,331	29,836	25,694	27,210	25,903	36,614	31,397	**365,074**
HYW0008P	30,022	35,976	31,155	32,984	26,524	1,245	33,216	27,704	27,478	25,423	25,313	21,823	**318,863**
HYW0010P	32,531	28,129	23,766	22,135	19,081	19,548	10,519	18,710	19,397	16,801	11,837	10,228	**232,682**
HYW0011P													**0**
HYW0021P	1,072	229	35										**1,336**
HYW0024P	1,451	1,335	1,003	773	407			496	1,267	1,052	914	969	**9,667**
HYW0180P	6,868	6,545	7,130	7,047	6,432	5,564	6,206	5,603	4,837	5,810	5,617	4,721	**72,380**
HYW0212P	5,313	4,025	2,453	1,130	430	56		693	2,924	1,137	1,490	1,379	**21,030**
HYW0213P	3,227	3,516	2,974	2,305	2,246	2,105	39						**16,412**
HYW0215P	6,406	5,747	5,115	5,016	4,439	8,153	6,703	7,235	7,663	6,501	1,042		**64,020**
HYW0226P	5,573	5,269	5,195	4,724	3,037	5,799	4,432	4,575	4,790	4,688	4,868	4,382	**57,332**
HYW0228P	7,783	7,489	4,068		4,394	6,903	6,992	6,125	6,874	6,008	5,732	5,295	**67,663**
HYW0229P	7,462	6,505	6,623	6,747	2,797	8,005	6,760	5,144	5,345	5,192	1,727	4,252	**66,559**
HYW0230P	9,539	9,180	8,302	8,378	7,635	7,329	7,532	7,449	9,417	8,864	8,694	8,758	**101,077**
HYW0246P	13,567	12,182	11,109	10,764	10,609	9,154	9,945	11,968	14,365	17,006	14,918	12,749	**148,336**
HYW0247P	1,241	801	17					21					**2,080**
HYW0322P	2,931	4,121	3,526	3,227	3,555	3,331	2,635	2,943	3,843	3,544	3,503	3,307	**40,466**
SYAN0015													**0**
SYAN0043	49							360	107,441	11,885	8,290	5,304	**133,329**
TOTAL	**194,177**	**180,415**	**170,643**	**167,284**	**149,082**	**131,049**	**154,534**	**139,426**	**261,601**	**155,501**	**147,536**	**134,519**	**1,985,767**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Western 2												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYW0237P	11,198	11,681	9,934	10,046	11,220	12,048	11,807	4,805	4,563	3,854	4,020	3,897	**99,073**
HYW0238P	11,525	11,901	11,368	8,122	10,329	10,943	9,648	8,991	10,546	10,766	11,427	11,350	**126,916**
HYW0348P	13,474	11,125	11,141	10,067	8,510	7,129	6,539	6,939	12,811	12,721	13,914	12,435	**126,805**
TOTAL	**36,197**	**34,707**	**32,443**	**28,235**	**30,059**	**30,120**	**27,994**	**20,735**	**27,920**	**27,341**	**29,361**	**27,682**	**352,794**

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

Sample Point ID	Western 3												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYW1015P									24,179	16,253	19,543	17,197	**77,172**
HYW1016P									6,036	37,790	38,227	35,823	**117,876**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30,215**	**54,043**	**57,770**	**53,020**	**195,048**

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

Sample Point ID	Western 4												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYW0030P	25,698	23,586	21,892	21,452	19,686	19,891	18,982	18,154	22,616	23,101	20,340	15,609	**251,007**
HYW0035P	33,846	29,382	30,186	28,475	24,070	27,259	25,602	26,139	24,782	31,742	25,045	24,772	**331,300**
HYW0042P	9,094	8,826	8,348	8,527	7,451	7,099	6,336	6,017	6,882	7,834	6,858	6,385	**89,657**
HYW0049P	2,616	2,153	1,774	1,470	1,216	1,006	741	1,150	147				**12,273**
HYW0051P	6,826	7,094	5,838	5,844	4,934	4,533	3,994	3,442	4,547	5,622	4,495	2,237	**59,406**
HYW0064P	4,860	5,666	5,242	5,893	5,104	6,107	3,425	4,547	5,292	6,278	6,720	5,710	**64,844**
HYW0072P	16,998	18,101	15,808	13,879	10,239	11,893	11,298	8,351	11,951	12,990	13,637	10,672	**155,817**
HYW0165P	9,854	14,376	12,619	10,940	13,021	12,004	11,741	11,067	12,697	11,122	11,054	12,302	**142,797**
HYW0181P													**0**
HYW0182P	12,038	10,871	8,680	8,946	7,737	7,761	7,407	6,387	6,500	7,158	7,541	7,977	**99,003**
HYW0340P	6,037	8,817	9,132	8,803	6,849	6,155	5,711	4,889	6,147	6,583	6,532	5,299	**80,954**
SYAN0035	2,912	1,264	69					3,389					**7,634**
SYAN0036													**0**
SYAN0042	458	1,189							2,991	2,934	3,593		**11,165**
TOTAL	**131,237**	**131,325**	**119,588**	**114,229**	**100,307**	**103,708**	**95,237**	**93,532**	**104,552**	**115,364**	**105,815**	**90,963**	**1,305,857**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Western 5												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYW0131P	6,912	11,017	10,782	10,709	10,416	10,730	9,442	7,225	8,420	7,079	8,215	8,613	**109,560**
HYW0132P	6,774	7,184	6,655	6,745	5,730	5,305	4,505	3,951	4,050	4,293	4,932	4,824	**64,948**
HYW0133P	2,996	2,880	3,417	3,310	3,185	4,528	3,795	2,954	2,737	2,653	3,669	3,375	**39,499**
HYW0134P	24,181	25,227	22,158	24,496	22,355	22,251	19,122	19,224	19,039	17,735	16,378	14,996	**247,162**
HYW0240P	6,826	5,323	6,504	7,157	4,261	4,397	3,219	3,672	5,791	6,100	7,469	7,788	**68,507**
HYW0241P	9,717	9,233	8,726	8,019	7,176	6,730	5,844	5,537	5,806	6,977	8,271	11,154	**93,190**
TOTAL	**57,406**	**60,864**	**58,242**	**60,436**	**53,123**	**53,941**	**45,927**	**42,563**	**45,843**	**44,837**	**48,934**	**50,750**	**622,866**

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

Sample Point ID	Western 6												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYW0175P	2,993	2,428	2,081	3,346	2,202	1,910	1,611	1,018	136				**17,725**
HYW0176P	5,882	5,364	4,835	4,435	4,978	5,126	5,116	4,793	4,673	4,764	4,571	3,729	**58,266**
HYW0355P	17,429	5,630	5,161	20,467	20,342	21,313	22,559	18,728	19,730	13,265	17,653	19,898	**202,175**
HYW1021P										3,612	10,314	9,060	**22,986**
HYW1024P										3,615	11,410	10,791	**25,816**
SYAN0040	5,009	3,459	2,705					847	4,242	2,137	16	857	**19,272**
SYAN0041	1,111	1,590	1,780	5,741	3,855	2,164	2,216	4,506					**22,963**
TOTAL	**32,424**	**18,471**	**16,562**	**33,989**	**31,377**	**30,513**	**31,502**	**29,892**	**28,781**	**27,393**	**43,964**	**44,335**	**369,203**

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

Sample Point ID	Central 1												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYC0012P	14,125	14,444	13,263	13,873	12,973	10,743	6,943	9,622	7,075	12,014	13,218	11,531	**139,824**
HYC0015P	12,445	10,736	10,354	10,730	9,979	8,064	14,914	17,703	22,763	20,304	18,122	18,325	**174,439**
HYC0096P	33,027	34,097	25,514	34,236	32,562	30,546	33,675	30,042	25,629	36,655	27,989	30,767	**374,739**
TOTAL	**59,597**	**59,277**	**49,131**	**58,839**	**55,514**	**49,353**	**55,532**	**57,367**	**55,467**	**68,973**	**59,329**	**60,623**	**689,002**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Central 5												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HNPIYC0034P	4,359	10,579	10,101	7,682	8,437	8,080	7,944	4,355	4,326	4,229	4,081	3,807	**77,980**
HYC0019P	4,937	4,006	3,901	4,867	3,715	2,456	1,431	1,978	1,939	1,816	1,962	1,619	**34,627**
HYC0020P	8,669	6,188	6,949	5,223	4,806	3,708	2,985	3,436	4,124	7,075			**53,163**
HYC0031P	9,268	9,901	9,724	9,038	7,893	6,788	5,673	5,547	5,367	5,856	5,689	5,317	**86,061**
HYC0068P	12,491	11,581	10,580	7,963	8,413	7,453	8,116	6,596	7,294	8,410	8,248	6,076	**103,221**
HYC0069P	20,535	18,385	15,883	11,700	14,843	13,496	10,253	10,088	10,106	9,877	12,388	11,336	**158,890**
HYC0089P	7,319	6,747	6,148	5,734	4,994	4,586	3,689	3,965	4,050	3,745	3,959	3,515	**58,451**
HYC0090P	3,537	2,958	2,453	2,195	1,914	1,735	1,599	1,340	123				**17,854**
TOTAL	**71,115**	**70,345**	**65,739**	**54,402**	**55,015**	**48,302**	**41,690**	**37,305**	**37,329**	**41,008**	**36,327**	**31,670**	**590,247**

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

Sample Point ID	Eastern 1 & 2												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYE0023P	5,201	5,049	4,194	4,103	4,698	4,542	3,579	2,183	2,953	3,472	4,368	2,706	**47,048**
HYE0041P	7,071	6,862	7,391	7,408	7,987	8,116	7,725	6,906	7,573	7,329	6,992	7,253	**88,613**
HYE0051P	17,622	15,330	14,506	15,015	14,370	14,800	13,968	12,383	12,265	11,072	10,749	9,890	**161,970**
HYE0060P	2,839	2,598	2,449	2,340	2,268	2,143	2,214	1,743	180				**18,774**
HYE0061P	8,867	9,381	7,458	8,389	8,012	5,647	8,696	6,907	7,521	6,613	4,745	6,333	**88,569**
HYE0193P	21,596	20,903	16,935	10,998	7,816	6,491	14,155	12,217	14,902	14,406	15,989	14,550	**170,958**
HYE0194P	14,861	10,237	10,277	10,336	11,465	9,818	9,817	8,039	10,723	7,252	9,960	8,291	**121,076**
SYAN0001													**0**
SYAN0037	195							580	209				**984**
SYAN0044													**0**
TOTAL	**78,252**	**70,360**	**63,210**	**58,589**	**56,616**	**51,557**	**60,154**	**50,958**	**56,326**	**50,144**	**52,803**	**49,023**	**697,992**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Eastern 4												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYE1518P													**0**
HYE1519P										1,282	616		**1,898**
HYE1523P									790	3,660	1,048	2,311	**7,809**
SYAN0050								1,951	4,346				**6,297**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,951**	**5,136**	**4,942**	**1,664**	**2,311**	**16,004**

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

Sample Point ID	Eastern 3,5,6												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
HYE0014P							229	171					**400**
HYE0026P	20,850	24,290	23,129	21,250	18,195	18,276	15,962	14,542	15,430	15,399	15,719	14,656	**217,698**
HYE0027P	23,844	21,579	14,844	17,790	17,882	15,856	14,332	8,028	7,967	9,100	8,551	8,534	**168,307**
HYE0028P													**0**
HYE0031P													**0**
HYE0042P	17,374	24,041	22,502	11,044	21,181	18,701	17,095	14,052	15,003	13,771	14,870	14,898	**204,532**
HYE0043P													**0**
HYE0044P	10,903	8,154	8,062	6,542	7,493	6,696	5,556	4,661	4,158	2,584	2,602	3,493	**70,904**
HYE0045P	12,248	11,565	10,678	8,506	10,006	9,473	8,779	8,004	8,325	7,808	8,291	7,197	**110,880**
HYE0055P	7,987	6,923	6,176	5,799	5,055	4,665	4,106	3,311	4,681	4,484	4,595	3,915	**61,697**
HYE0132P	3,844	3,557	2,975	2,234	2,242	1,758	966	1,380	107				**19,063**
HYE0152P													**0**
HYE0156P	29,338	24,896	21,576	19,128	15,377	14,470	14,261	13,315	15,188	11,557	15,079	13,575	**207,760**
HYE0157P	9,800	8,258	7,875	7,838	7,913	8,599	8,455	8,418	9,694	8,901	5,834	8,667	**100,252**
HYE0171P	8,034	2,312	12,939	5,911	5,299	23,754	55,444	31,366	10,292	6,078	5,889	4,974	**172,292**
HYE0172P	7,178	6,486	6,037	5,406	5,312	5,023	4,698	4,208	4,551	4,293	4,310	4,395	**61,897**
SYAN0002													**0**
SYAN0003													**0**
SYAN0016													**0**
SYAN0039	60			382									**442**
TOTAL	**151,460**	**142,061**	**136,793**	**111,830**	**115,955**	**127,271**	**149,883**	**111,456**	**95,396**	**83,975**	**85,740**	**84,304**	**1,396,124**

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

Table 10.2: Abstraction (cont'd)

Sample Point ID	Eastern 7												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
SYAN0046								12,426	16,443	3,695	441	246	**33,251**
HYE0130P	11,807	9,899	3,957		414	5,336	4,323	3,791	4,620	4,533	4,302	3,807	**56,789**
HYE0160P	13,255	2,058	11,706	9,316	11,786	8,475	9,446	8,108	8,958	7,948	9,070	8,846	**108,972**
HYE0180P	16,274	16,091	14,394	14,224	14,069	12,002	13,927	12,569	15,002	15,142	17,048	17,254	**177,996**
HYE0181P	18,231	22,598	20,678	19,317	19,092	21,985	19,895	17,590	21,250	21,322	19,995	20,859	**242,812**
HYE0311P	46	47	45	47	45	47	47	42	47	45	1,175	1,157	**2,790**
HYE0313P	2,181	1,780	1,062	1,480	1,163	779	689	69	30				**9,233**
HYE0314P	1,290	1,475	1,081	826	764	626	520	472	84	620			**7,758**
TOTAL	**63,084**	**53,948**	**52,923**	**45,210**	**47,333**	**49,250**	**48,847**	**55,067**	**66,434**	**53,305**	**52,031**	**52,169**	**639,601**

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

Sample Point ID	Barimunya Aerodrome												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
FYAN0001	24	24	20	19	21	20	19	18	19	23	23	22	**252**
TOTAL	**24**	**24**	**20**	**19**	**21**	**20**	**19**	**18**	**19**	**23**	**23**	**22**	**252**

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

Sample Point ID	Yandi Discharge												
	FY22 (kL)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
FYAN0011	397,124	480,811	414,849	350,538	353,454	254,823	288,150	302,134	304,751	202,563	356,105	417,894	**4,123,196**
FYAN0054	46,614	41,709		75,888					1,671		6	7,038	**172,926**
TOTAL	**443,738**	**522,520**	**414,849**	**426,426**	**353,454**	**254,823**	**288,150**	**302,134**	**306,422**	**202,563**	**356,111**	**424,932**	**4,296,122**

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

Table 10.3: Water Levels from Monitoring Bores

Sample Point ID	Regional Upgradient											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0002M		611.65			611.45			611.95	612.10	612.01	611.92	611.71
HYW0003M	580.94	580.19	579.58	578.64	578.59	577.48	576.36	576.09	577.86	577.10	576.42	576.00
HYW0005M	567.53	566.42	565.20	567.20	564.05	563.55		563.77	564.18	564.14	563.32	562.21
MB16YSN0001M									573.66	573.19	572.07	571.72
MB16YSN0003M	599.29	599.13	599.09						599.71	599.41	598.19	597.93
MB16YSN0004M	608.37	608.26	608.23	608.10	608.05	607.98	608.24	608.63	608.77	608.65	608.38	608.21

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

Sample Point ID	Spinifex Camp											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0003M	580.94	580.19	579.58	578.64	578.59	577.48	576.36	576.09	577.86	577.10	576.42	576.00
MB16YSN0001M									573.66	573.19	572.07	571.72

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

Sample Point ID	Western 1											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0217M	536.12	536.09	535.91	536.24	538.12	535.93	535.86	535.91			571.12	
HYW0221M	527.06	526.91	526.93	526.63	526.47	526.43	527.59	522.96	522.95	522.81	522.75	522.74
HYW0222M	522.75	522.74	522.73	522.60	522.49	522.53	522.76	528.92	528.56	528.34	527.88	527.50
HYW0502M				521.82	521.30	520.98	527.85	531.62	530.58	527.58	524.62	523.67

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

Sample Point ID	Western 2											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0326M	533.12	532.85	532.65	532.38	532.04	531.78	531.80	533.57	535.13	535.02	533.83	533.55
HYW0345M			528.13									
HYW0347M			528.15	525.83	525.05	524.53	532.92	536.41	534.85	531.78	529.49	528.44

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Western 4											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0050M	515.45	515.20	515.40	515.22	515.16	515.42	521.14	523.00	520.29	519.08	518.21	517.10
HYW0184M	509.67	509.65	509.59	509.27	509.17		509.37	510.96	511.54	511.17	511.13	510.96
HYW0329M	508.14	507.98	507.92	507.95	507.94	507.92	508.26	509.00	510.26	510.77	511.00	511.16

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

Sample Point ID	Western 5											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0352M	511.56	511.20	510.98	510.60	510.61	510.38	510.15	510.69	511.74	512.73	513.14	513.23
HYW0400M					506.34	505.78	506.72	508.52	508.93	508.05	507.87	507.19

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

Sample Point ID	Western 6											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0175P		513.13		513.61	513.92							
HYW0343M	528.53											
HYW1022M												
HYW1023M												
HYW1028M												
HYW1029M												
HYW1030M												

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

Sample Point ID	Central 1											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYC0018P		499.44	499.88	498.44	497.85	497.47	497.80	498.96	499.52	499.88	499.67	499.50
HYC0061M	501.93	501.44	500.96	500.45	499.88	499.66	499.99	500.60	500.89	501.01	501.00	500.87

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Central 5											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYC0021P	499.28	498.18	497.99	497.70	497.27	496.96	497.53	498.98	499.76	500.30	500.44	500.26
HYC0066M	491.68	491.13	491.07	490.77	490.58	490.45	494.40	508.32	506.60	502.11	498.68	496.63
HYC0067M	490.15	489.88	490.88	489.69	489.75	489.36	490.29	493.29	497.59	497.44	496.90	496.19

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

Sample Point ID	Eastern 1 & 2											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
YE0645DM	489.58	489.63	489.21	489.00	489.04	489.26	489.36	490.51	492.27	492.14	490.96	490.87
HYE0190M							501.40	509.72	506.23	499.57	496.76	494.08
HYE0191M							497.00	499.96	500.44	496.57	494.59	492.48

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

Sample Point ID	Eastern 4											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE1522M												
HYE1525M												

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

Sample Point ID	Eastern 3,5,6											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE0026P		488.21	488.65	488.56	489.12	488.87	490.30	491.66	492.98	495.14	496.33	496.39
HYE0148M	489.43	489.67	489.57	489.55	489.54	489.54	491.03	491.32	491.59	492.87	493.56	493.81
HYE0149M	487.81	487.98	487.85	487.70	487.65	487.60	488.98	490.90	493.54	494.45	493.72	493.14
HYE0153M	492.88	492.77	492.83	492.71	492.62	492.51	493.58	494.07	494.13	494.14	494.14	494.06
HYE0154M								488.49	490.11	489.68	489.18	487.89
HYE0155M	485.83	485.70	485.79	485.50	485.39	485.30	487.34	491.05	493.39	493.04	492.57	492.06
HYE0162M	477.99	478.63	478.65	478.98	477.89	477.81	492.13	497.21	494.41	491.00	488.21	485.61

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Eastern 7											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE0310M												
HYE0312M												488.44
HYE0314P											505.85	492.30
HYE0300M				483.10	481.95	482.14	484.50	486.76	489.33	490.04	487.60	487.07

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

Sample Point ID	Regional Downgradient											
	FY20 (mRL)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYM0010M					519.92				519.91	519.62	519.89	519.72
YM0121M		512.54			512.14				513.48	513.07	513.50	513.19

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

Sample Point ID	Regional Upgradient											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0002M	611.60	611.50	611.41	611.35	611.25	611.18	611.15	610.24	611.53	611.49	611.33	611.18
HYW0003M	575.34	574.29	573.84	573.64	572.67	572.84	572.36	572.15	571.93	571.86	571.86	571.86
HYW0005M	558.10	556.97	556.97	555.54	554.81	553.38	552.59	552.48	552.98	551.97	551.80	551.31
MB16YSN0001M	571.47	569.26	569.81	568.74	567.68	568.03	567.67	566.46	566.30	565.57	565.44	565.41
MB16YSN0003M	597.77	597.50	597.64	597.64	597.52	597.45	597.19	597.62	597.92	596.92	596.62	596.35
MB16YSN0004M	608.07	607.97	608.09	607.21	607.01	606.99	607.66	607.96	608.02	607.78	607.61	607.59

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

Sample Point ID	Spinifex Camp											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0003M	575.34	574.29	573.84	573.64	572.67	572.84	572.36	572.15	571.93	571.86	571.86	571.86
MB16YSN0001M	571.47	569.26	569.81	568.74	567.68	568.03	567.67	566.46	566.30	565.57	565.44	565.41

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Western 1											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0217M	571.12											
HYW0221M	522.74	522.67	522.66	522.59	522.32	522.50	522.86	522.57	524.39	522.74	522.51	522.63
HYW0222M	527.27	527.11	526.95	526.76	526.60	527.29	528.67	528.94	528.49	528.25	527.84	527.48
HYW0502M	535.28											

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

Sample Point ID	Western 2											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0326M	532.75	532.30	531.99	531.70	531.42	531.37	531.39	531.93	532.38	533.47	533.30	532.63
HYW0345M												
HYW0347M	527.11	526.06	525.89	525.15	524.81	525.56	527.81	532.27	532.97	530.29	529.49	527.31

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

Sample Point ID	Western 4											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0050M	518.02	516.93	516.41	515.99	515.68	515.88	517.14	521.69	522.50	518.72	518.43	517.54
HYW0184M	510.84	510.13	509.80	509.61	510.19	510.19	510.54	512.30	511.53	512.96	513.39	511.90
HYW0329M	510.92	510.98	511.92	510.66	510.29							

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

Sample Point ID	Western 5											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0352M	512.76	512.56	511.96			510.89	510.69	511.04	512.07	513.10	513.44	513.39
HYW0400M	506.54	505.89	505.79	505.62	505.36	504.92	505.63	506.40	508.57	508.25	507.94	507.77

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Western 6											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0175P												
HYW0343M												
HYW1022M												
HYW1023M												
HYW1028M												
HYW1029M												
HYW1030M												

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

Sample Point ID	Central 1											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYC0018P	499.02	498.75		497.95	498.01	497.84	498.71	500.49	501.32	501.69	501.62	501.09
HYC0061M	500.66	500.49	500.25	499.82	499.27	499.92	500.44	501.89	502.70	502.94	502.96	503.07

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

Sample Point ID	Central 5											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYC0021P	499.85	499.63	499.32	498.74	497.99	498.12	498.85	500.42	502.13	501.87	501.95	502.05
HYC0066M	494.88	493.66	492.78	486.04	491.05	491.63	493.75	495.86	497.30	496.70	496.64	496.10
HYC0067M	495.28	494.47	493.66	492.94	493.01	492.00	492.21	494.61	494.53	494.95	494.66	494.21

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

Sample Point ID	Eastern 1 & 2											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
YE0645DM	490.26	489.60	489.36	489.23			489.64	490.46	489.88	489.69	489.16	488.84
HYE0190M	492.80	492.28	490.98	490.66	490.11	490.31	490.98	493.40	493.72	493.24	494.99	494.80
HYE0191M	491.52	491.11	490.37	489.94	490.30	490.57	490.17	492.15	493.11	491.68	492.27	492.49

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Eastern 4											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE1522M												
HYE1525M												

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

Sample Point ID	Eastern 3,5,6											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE0026P	496.19		489.86	489.88		489.08	501.91				501.91	
HYE0148M	493.54	493.39										
HYE0149M	491.41	492.02	492.46	492.94	492.95	492.95	492.55	494.16	495.99	496.35	495.44	495.15
HYE0153M	493.91	493.77	493.63	493.51	493.34	493.96	493.97	494.62	494.50	494.43	494.43	494.41
HYE0154M	487.50	486.85	486.63									
HYE0155M	490.17	490.00	489.17	488.41	487.56	487.74	489.11	493.08	493.35	493.12	492.66	492.22
HYE0162M	483.92	483.10	482.05	481.18	480.96	481.26	488.19	494.85	492.58	489.60	487.67	486.09

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

Sample Point ID	Eastern 7											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE0310M												
HYE0312M	487.71	485.26	483.56	482.20	479.98	479.59	489.58	493.63	493.48	491.78	490.15	488.48
HYE0314P	491.51	490.85	490.34				505.57	510.34				
HYE0300M		481.89	481.24	479.67	479.00	479.20	478.40	479.70	481.56	482.74	481.25	479.54

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

Sample Point ID	Regional Downgradient											
	FY21 (mRL)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYM0010M	519.87	519.99										
YM0121M	513.29	513.34	512.96	513.09	512.94	512.84	512.81	513.30	513.94	513.24	513.84	513.77

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Regional Upgradient											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0002M	611.14	611.06	611.00	610.97	610.84	610.77	610.57	610.57	610.60	610.54	610.52	610.48
HYW0003M	571.29	571.46	571.55	571.67	571.75	571.85	571.97	571.89	571.92		571.09	571.19
HYW0005M	550.75	551.05	550.23	549.63	549.06	547.93	548.45	548.51	548.48	547.39	547.59	547.03
MB16YSN0001M	565.03	565.01	564.33	563.43	563.14	562.50	561.83	562.14	561.70	561.63	561.31	560.76
MB16YSN0003M	596.18	595.78	595.59	595.42	595.29	595.09	594.93	595.39	595.04	595.40	594.91	595.24
MB16YSN0004M	607.47	607.38	607.26	607.15	607.07	606.92	606.78	606.80	606.79	606.83	606.70	606.77

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

Sample Point ID	Spinifex Camp											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0003M	571.29	571.46	571.55	571.67	571.75	571.85	571.97	571.89	571.92		571.09	571.19
MB16YSN0001M	565.03	565.01	564.33	563.43	563.14	562.50	561.83	562.14	561.70	561.63	561.31	560.76

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

Sample Point ID	Western 1											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0217M												
HYW0221M	522.60	522.57	522.54	522.49	522.39	522.29	522.39	522.57	522.66	522.58	522.64	522.57
HYW0222M	527.42	527.26	527.11	526.99	526.79	526.64	526.67	528.59	528.50	527.78	527.49	527.50
HYW0502M												

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

Sample Point ID	Western 2											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0326M	531.96	531.91	531.19	531.42								
HYW0345M									527.15	528.65		526.73
HYW0347M	525.95	526.04	525.39	524.19	522.04	526.07	523.49	526.19	527.24	529.09		527.35

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Western 4											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0050M	516.85	516.60	516.23	515.68	515.28	515.04	514.87	515.73	515.30	516.14	516.34	516.45
HYW0184M	512.37	511.36	510.85	510.51	509.95	509.68	509.38	509.95	510.03	510.15	510.98	510.58
HYW0329M												

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

Sample Point ID	Western 5											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0352M	512.69	512.52	511.99	511.41	510.95	510.24	509.94	509.75	509.61	509.55	510.16	511.28
HYW0400M	507.29	506.85	506.29	505.82	505.64	505.05	504.69	505.12	504.66	504.82	505.61	507.38

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

Sample Point ID	Western 6											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0175P												
HYW0343M												
HYW1022M										524.50	523.99	523.45
HYW1023M										520.99	520.42	518.54
HYW1028M										526.92	526.06	525.32
HYW1029M										520.29	521.44	518.96
HYW1030M										524.12	522.61	522.38

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

Sample Point ID	Central 1											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYC0018P	500.97	500.73	500.36	499.90	499.34	498.93	498.46	496.84	497.18	496.74	496.59	496.57
HYC0061M	502.87	502.86	502.72	502.27	501.96	501.66	501.26	499.68	499.09	498.66	498.43	498.14

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Central 5											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYC0021P	499.99	499.75	499.46	498.58	498.07	497.54	497.28	496.99	496.84	496.67	495.70	496.86
HYC0066M	494.44	493.13	491.85	491.28	490.75	490.34	490.73	489.93	489.66	489.53	489.25	489.28
HYC0067M	493.91	492.65	491.38	490.21	489.85	488.68	489.23	489.62	489.64	489.40	489.24	489.51

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

Sample Point ID	Eastern 1 & 2											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
YE0645DM	489.11	488.84	488.86	488.14	488.15	488.66	487.98	487.67	487.58	487.44	487.58	487.47
HYE0190M	491.99	491.01	491.43	490.21	490.23	490.06	489.25	488.97	488.49	488.03	487.73	487.43
HYE0191M	490.60	490.35	489.53	488.94	489.03	489.40	487.93	489.07	487.91	487.70	487.46	487.33

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

Sample Point ID	Eastern 4											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE1522M									537.84	532.06	530.94	530.18
HYE1525M									497.50	494.28	498.07	497.07

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

Sample Point ID	Eastern 3,5,6											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE0026P	499.99											
HYE0148M												
HYE0149M	495.10											
HYE0153M	494.30	494.18	494.18	494.14	494.05	493.93	493.81	494.07	493.73	493.90	493.87	493.38
HYE0154M												
HYE0155M	491.40	490.63	489.59	488.86	488.18	487.35	486.88	486.56	487.08	488.51	488.71	488.54
HYE0162M	484.13	484.45	482.71	482.00	481.55	480.70	480.23	483.62	483.11	482.33	483.27	481.72

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

Table 10.3: Water Levels from Monitoring Bores (cont'd)

Sample Point ID	Eastern 7											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE0310M								496.07				
HYE0312M	484.83	483.27	482.09									
HYE0314P							497.72			499.48	486.80	486.43
HYE0300M	478.04	477.80	477.55	477.75	478.06	477.65	477.83	478.56	478.80	479.85	480.55	481.02

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

Sample Point ID	Regional Downgradient											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYM0010M												
YM0121M	513.66	513.67	513.51	513.64	513.31	513.16	513.05	512.97	513.19	513.24	513.12	513.18

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

Table 10.4: Field pH from Production Bores and Sumps

Sample Point ID	Spinifex Camp											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HNPISP0001P		7.2	7.1	7.0	7.0	7.1	7.2		7.2	8.0	7.1	7.2
HNPISP0002P	7.3	7.2		7.1	7.0	7.1	7.2			7.9	7.3	7.3

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

Sample Point ID	Western 1											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HNPIYN1704P		7.3	7.1	7.0	7.0	7.1	7.3	7.2	7.0	7.9	7.3	
HNPIYN1707P		7.3	7.2	7.0	7.2	7.2		7.2	5.8	7.5	7.2	
HYW0008P												
HYW0010P												
HYW0011P												
HYW0021P												
HYW0024P												
HYW0180P					7.3	8.3	8.4	8.2	8.4	8.1	8.1	8.1
HYW0212P												
HYW0213P												
HYW0215P			8.5									
HYW0226P	7.1	7.3	8.7	7.2	7.4	8.4	8.2	7.9	8.1	8.2	8.4	8.3
HYW0228P												
HYW0229P			9.0	7.1	7.2	8.3	8.1	8.1		8.1	8.3	8.2
HYW0230P			8.2	7.0	7.4	7.9	8.5	7.8		8.1	8.0	8.1
HYW0246P												
HYW0247P				7.2								
HYW0322P	7.2	7.2	8.2	7.1	7.1	7.7	7.8	7.6		8.3	8.1	8.1
SYAN0015												
SYAN0043												

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

Sample Point ID	Western 2											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0237P			8.1	7.1	6.7	8.2	8.2	8.1	8.3	8.2	8.2	8.4
HYW0238P			8.3	7.2	7.1	8.2	8.2	8.1	8.2	8.2	8.4	8.2
HYW0348P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Western 3											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW1015P												
HYW1016P												

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

Sample Point ID	Western 4											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0030P												
HYW0035P	7.8											
HYW0042P												
HYW0049P												
HYW0051P												
HYW0064P												
HYW0072P												
HYW0165P	7.4	7.2	7.9	6.8	6.9	8.0	8.1	7.7	8.0	8.0	7.7	8.0
HYW0181P	7.1	7.1	7.8	6.8	7.0	8.0	8.1	8.0	8.0	8.0	7.9	7.8
HYW0182P												
HYW0340P												
SYAN0035												
SYAN0036												
SYAN0042												

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

Sample Point ID	Western 5											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0131P												
HYW0132P			8.0									
HYW0133P			8.1									
HYW0134P	7.3	7.5		7.1	7.0	7.9	8.1	8.4	8.0	8.0	8.1	8.0
HYW0240P												
HYW0241P	7.3	7.6		7.0	7.0	8.0	8.2	8.6	8.3	8.2	7.9	8.4

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Western 6											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0175P					7.1	8.1	7.8	7.9	8.0	7.9	7.9	8.4
HYW0176P			7.9	7.1					8.5	8.3	8.0	8.0
HYW0355P						7.9	7.8	7.8	8.5			
HYW1021P												
HYW1024P												
SYAN0040												
SYAN0041												

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

Sample Point ID	Central 1											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYC0012P	7.4	7.2	8.1	7.0	7.1	8.0	8.2			8.0	7.1	8.0
HYC0015P	6.8	7.1	7.7	7.1	7.2	8.2	7.7	8.1	8.0	10.3	8.1	7.9
HYC0096P		7.5	7.9	7.2	7.0	8.0	8.1	8.1	8.1	7.9	8.0	7.9

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

Sample Point ID	Central 5											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HNPIYC0034P	6.8			6.9	7.1	7.4	6.8	7.4	5.5	6.9		
HYC0019P												
HYC0020P												
HYC0031P												
HYC0068P												
HYC0069P	7.6	7.5	8.1	7.3	7.2	8.2	8.1	7.8	8.1	7.6	7.9	8.1
HYC0089P	7.2	7.2	7.9	7.4	6.9	8.1	8.3	8.0		8.1	7.9	8.0
HYC0090P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 1 & 2											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE0023P	7.4	7.1	7.9	7.0	7.0	7.9	8.1	8.1		7.6	7.9	8.0
HYE0041P												
HYE0051P	7.3	7.3	7.9	7.2	7.2	8.1	8.2	8.2	8.1	7.6	7.9	7.9
HYE0060P												
HYE0061P												
HYE0193P												
HYE0194P												
SYAN0001												
SYAN0037												
SYAN0044												

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

Sample Point ID	Eastern 4											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE1518P												
HYE1519P												
HYE1523P												
SYAN0050												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 3,5,6											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE0014P												
HYE0026P												
HYE0027P	7.0	7.2			7.0	8.2	7.6	7.8	7.8	7.7	7.8	7.6
HYE0028P	7.4	7.3										
HYE0031P			8.0	7.3								
HYE0042P												
HYE0043P												
HYE0044P												
HYE0045P	7.1	7.5	8.0	7.1	6.9	8.0	7.9	8.2	7.9	8.0	7.9	8.0
HYE0055P												
HYE0132P												
HYE0152P												
HYE0156P			8.0	7.3	7.2	8.3	8.0	8.6	8.1	8.2	8.0	8.1
HYE0157P												
HYE0171P												
HYE0172P			7.9	7.2	6.7	7.8	7.9	7.5	7.5	7.4	7.8	7.4
SYAN0002												
SYAN0003												
SYAN0016												
SYAN0039												

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

Sample Point ID	Eastern 7											
	FY20 (pH)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
SYAN0046												
HYE0130P												
HYE0160P			8.0	8.2	7.3		8.3	8.2	7.8	8.6	8.0	7.9
HYE0180P			7.7		7.3	8.0	7.7	8.2	7.9	8.9	8.2	7.5
HYE0181P				7.5								
HYE0311P												
HYE0313P												
HYE0314P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Spinifex Camp											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HNPISP0001P	7.3	7.3	7.1	7.2	7.2	7.2	7.2	7.2	7.3	7.2	7.2	7.3
HNPISP0002P	7.3	7.2	7.1	7.2	7.1	7.3	7.4	7.5	7.2	7.1	7.1	7.3

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

Sample Point ID	Western 1											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HNPIYN1704P												
HNPIYN1707P												
HYW0008P												
HYW0010P												
HYW0011P												
HYW0021P			8.1	8.3	8.3	8.4	8.1	8.3	8.3	8.4	7.5	7.4
HYW0024P	8.5											
HYW0180P	8.3			8.1	8.4	8.3	7.5	8.2	8.2	8.3	7.4	7.3
HYW0212P												
HYW0213P												
HYW0215P												
HYW0226P	8.3		8.0	7.9	8.4	8.7	8.0	8.3	8.2	8.3	7.7	7.2
HYW0228P												
HYW0229P	8.2	8.1	8.0	8.1	8.3	8.4	8.1	8.3	8.2	8.2	7.2	7.4
HYW0230P	8.2	8.1	8.3	7.9	8.3	8.3	8.1	8.2	7.9	8.1	7.0	7.1
HYW0246P												
HYW0247P												
HYW0322P												
SYAN0015												
SYAN0043												7.7

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

Sample Point ID	Western 2											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0237P	8.3	8.0	8.1	8.2	8.3	8.3	8.0	8.2	8.2	8.2	7.1	7.2
HYW0238P	8.3	8.2	8.5	8.0	8.3	8.4	8.0	8.2	8.2	8.2	7.0	7.2
HYW0348P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Western 3											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW1015P												
HYW1016P												

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

Sample Point ID	Western 4											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0030P												
HYW0035P												
HYW0042P												
HYW0049P												
HYW0051P												
HYW0064P												
HYW0072P												
HYW0165P	8.0	7.4	7.9	8.0	8.1	7.9	7.8	8.2	8.1	7.9	7.2	6.9
HYW0181P	8.4	8.1	7.3									
HYW0182P				7.8	8.2	7.9	7.8	8.0	7.8	7.9	7.1	6.8
HYW0340P												
SYAN0035												7.1
SYAN0036												
SYAN0042												7.4

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

Sample Point ID	Western 5											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0131P												
HYW0132P												
HYW0133P												
HYW0134P	8.0	8.1	7.9	8.0	8.5	8.1	7.9	8.1	8.0	8.0	7.0	7.0
HYW0240P												
HYW0241P	8.1	8.0	8.0	8.1	8.3	8.2	8.0	8.0	8.0	8.2	6.9	7.1

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Western 6											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0175P	8.1	8.1	8.0	7.9	8.4	8.0	7.9	8.2	8.0	8.1	6.7	7.1
HYW0176P	8.1	8.1	8.0	8.1	8.4	8.2		8.0	7.9	7.9	6.9	7.1
HYW0355P												
HYW1021P												
HYW1024P												
SYAN0040												7.2
SYAN0041												7.6

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

Sample Point ID	Central 1											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYC0012P	7.7	7.5	7.9	7.4	8.2	8.2	7.8	7.5	7.9	8.0	6.8	7.3
HYC0015P	7.4	7.2	7.3	7.3	7.6	7.7	6.9	7.6	7.5	7.0	6.4	6.8
HYC0096P	7.9	7.9	7.9	8.0	8.1	8.1	8.8	8.4	7.7	8.0	6.9	7.1

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

Sample Point ID	Central 5											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HNPIYC0034P								6.7	7.0	6.8	6.8	6.7
HYC0019P												
HYC0020P												
HYC0031P												
HYC0068P												
HYC0069P	8.2	8.0	8.0	8.3	8.5	8.3	8.5	8.2	8.0	8.0	7.0	7.1
HYC0089P	7.9	7.8	8.1	8.0	7.9	8.1	7.9	8.0	7.9	8.0	6.9	7.0
HYC0090P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 1 & 2											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE0023P	7.9	7.8	7.4				7.9	8.0	7.8	7.9	6.8	6.9
HYE0041P												
HYE0051P	7.9	7.8	7.8				7.6	8.1	8.0	7.9	6.8	7.0
HYE0060P												
HYE0061P												
HYE0193P												7.4
HYE0194P												7.3
SYAN0001												
SYAN0037												7.6
SYAN0044												

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

Sample Point ID	Eastern 4											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE1518P												
HYE1519P												
HYE1523P												
SYAN0050												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 3,5,6											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE0014P												
HYE0026P												
HYE0027P	7.4		7.9	7.8	8.0	8.1	7.2	8.2	7.8	8.3	6.9	7.0
HYE0028P												
HYE0031P												
HYE0042P												
HYE0043P												
HYE0044P												
HYE0045P	7.8	8.3	7.8	7.4	8.2	8.2	7.7	8.0	7.7	8.4	6.9	7.1
HYE0055P												
HYE0132P												
HYE0152P												
HYE0156P	8.1	8.1	7.9	8.4	8.2	8.1	8.0	8.1	8.0	8.1	7.0	7.1
HYE0157P												
HYE0171P												
HYE0172P	8.1	7.4	7.7	7.5	7.7	8.0	7.8	7.8	7.8	8.0	7.0	7.1
SYAN0002												
SYAN0003												
SYAN0016												
SYAN0039												7.2

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

Sample Point ID	Eastern 7											
	FY21 (pH)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
SYAN0046												
HYE0130P												
HYE0160P	9.0	7.8	7.9									
HYE0180P	8.4	8.0	8.0	8.4	8.4	8.4	8.3	8.4	8.0	8.9	7.0	8.0
HYE0181P				8.4	8.5	8.5	8.0	8.6	7.9	8.3	7.1	7.5
HYE0311P												
HYE0313P												
HYE0314P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Spinifex Camp											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HNPISP0001P	7.2	7.3	7.3	7.2	7.3	7.2	7.2	7.2	7.2	7.1	7.2	7.3
HNPISP0002P	7.2	7.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.3	7.2

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

Sample Point ID	Western 1											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HNPIYN1704P												
HNPIYN1707P												
HYW0008P												
HYW0010P												
HYW0011P												
HYW0021P	7.3	7.5	7.1	7.2	7.1	7.3	7.3	7.3				7.4
HYW0024P											7.8	
HYW0180P	7.2	7.5	7.2	7.0	7.2	7.2	7.2	7.0		6.4	7.1	7.6
HYW0212P												
HYW0213P		7.4	7.0	7.3	7.4	7.2	7.3	7.4		6.4	7.9	7.4
HYW0215P												
HYW0226P	7.4	7.4	6.9	7.1	7.1	7.3	7.5	7.7		6.3	7.8	8.0
HYW0228P												
HYW0229P	7.2	8.0	7.1	7.2	7.1	7.2	7.3	6.8		6.9	6.9	7.4
HYW0230P	7.4	7.3	7.0	7.1	7.4	7.6	7.3	7.1		6.4	7.3	7.5
HYW0246P												
HYW0247P												
HYW0322P												
SYAN0015												
SYAN0043							7.2					7.4

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

Sample Point ID	Western 2											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0237P	7.2	7.4	7.0	7.1	7.1	7.3	7.1	6.6		6.5	7.2	7.3
HYW0238P	7.3	7.2	7.1	7.0	7.0	7.5	7.1	7.0		6.4	7.1	7.4
HYW0348P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Western 3											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW1015P												
HYW1016P												

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

Sample Point ID	Western 4											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0030P												
HYW0035P												
HYW0042P												
HYW0049P												
HYW0051P												
HYW0064P												
HYW0072P												
HYW0165P	7.1	7.4	7.0	6.9	7.1	7.7	7.2	7.4		6.2	7.3	7.2
HYW0181P												
HYW0182P	7.2	7.0	6.9	7.0	7.1	7.3	7.1	7.0		6.2	7.6	7.1
HYW0340P												
SYAN0035		7.4										
SYAN0036												
SYAN0042		7.5			7.2			7.5				

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

Sample Point ID	Western 5											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0131P												
HYW0132P												
HYW0133P												
HYW0134P	7.3	7.1	6.9	7.0	7.1	7.2	7.1	7.2		6.7	7.0	7.3
HYW0240P												
HYW0241P	7.1	7.1	7.0	7.3	7.0	7.2	7.1	7.1		6.4	7.2	7.5

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Western 6											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0175P	7.0	7.1	6.9	7.0	7.1	7.1	7.0	6.7				
HYW0176P	7.1	7.1	7.1	7.1	7.0	7.4	7.3	6.6		6.3	7.3	7.3
HYW0355P												
HYW1021P										6.2	7.4	7.3
HYW1024P												
SYAN0040		7.3			7.1			7.7		7.5		
SYAN0041		7.0		7.1	7.0	7.1	7.0					

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

Sample Point ID	Central 1											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYC0012P	7.0	6.7	6.5	7.0	6.9	7.2	6.8	6.6	6.5	6.3	7.1	7.3
HYC0015P	6.9	6.5	6.4	7.0	6.4	6.8		6.5	6.7	6.1	7.2	7.3
HYC0096P	7.2	7.1	6.9	8.2	6.9	7.1	7.0	6.9		6.3	7.3	7.1

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

Sample Point ID	Central 5											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HNPIYC0034P	6.8											
HYC0019P												
HYC0020P												
HYC0031P												
HYC0068P												
HYC0069P	7.2	7.2	7.0	7.2	6.9	7.4	6.6	6.4		6.4	7.0	7.1
HYC0089P	7.0	7.0	7.1	7.2	7.0	7.3	6.4	6.4		6.1	6.9	7.2
HYC0090P												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 1 & 2											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE0023P	6.8	7.0	7.2	7.2	6.9	7.0	6.7	6.4		6.4	7.1	7.2
HYE0041P												
HYE0051P	7.3	7.0	7.0	7.3	7.0	7.1	6.5	6.5		6.2	7.0	7.3
HYE0060P												
HYE0061P												
HYE0193P	6.9	7.1	7.0	7.3	7.0	7.2	7.2	7.0		6.1	6.9	7.5
HYE0194P	7.1	6.7	7.0	7.2	7.1	7.1	6.6	6.5		6.4	6.8	7.1
SYAN0001												
SYAN0037	8.7											
SYAN0044												

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

Sample Point ID	Eastern 4											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE1518P										6.7	7.8	
HYE1519P												
HYE1523P										6.6	7.3	7.8
SYAN0050												

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

Table 10.4: Field pH from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 3,5,6											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE0014P												
HYE0026P												
HYE0027P		6.6	7.3	3.9	7.1	7.3	6.7	6.6		6.9	7.1	7.3
HYE0028P												
HYE0031P												
HYE0042P												
HYE0043P												
HYE0044P												
HYE0045P	6.7	7.0	7.1	7.1	7.1	7.1	6.5	6.4		6.3	7.1	7.2
HYE0055P												
HYE0132P												
HYE0152P												
HYE0156P		7.1	7.0	7.1	7.1	7.1	6.5	6.6		6.5	7.3	7.2
HYE0157P												
HYE0171P												
HYE0172P		6.6	7.2	7.3	7.1	6.7	6.6	6.5		6.2	7.0	7.2
SYAN0002												
SYAN0003												
SYAN0016												
SYAN0039				7.8								

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

Sample Point ID	Eastern 7											
	FY22 (pH)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
SYAN0046												
HYE0130P												
HYE0160P												
HYE0180P	7.5	7.2	7.3	7.4	7.4	7.3	7.0	6.7		6.5	7.3	7.3
HYE0181P	7.1	7.2	7.3	7.3	7.2	7.7	6.7	6.6		6.3	7.1	7.3
HYE0311P												
HYE0313P												
HYE0314P												

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

Table 10.5: Field EC from Production Bores and Sumps

Sample Point ID	Spinifex Camp											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HNPISP0001P		1,100	1,200	1,300	1,300	1,200	1,200		1,300	1,300	1,300	1,300
HNPISP0002P	1,200	1,200		1,300	1,300	1,200	1,200			1,400	1,300	1,300

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

Sample Point ID	Western 1											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HNPIYN1704P		1,200	1,300	1,300	1,300	1,200	1,200	1,158	1,300	1,300	1,300	
HNPIYN1707P		1,200	1,300	1,300	1,300	1,200		1,158	1,200	1,200	1,300	
HYW0008P												
HYW0010P												
HYW0011P												
HYW0021P												
HYW0024P												
HYW0180P					1,170	973	1,033	952	1,013	1,055	1,037	1,060
HYW0212P												
HYW0213P												
HYW0215P			1,077									
HYW0226P	992	1,116	1,058	927	1,168	1,023	1,045	897	1,059	1,034	1,121	1,020
HYW0228P												
HYW0229P			1,062	926	1,172	1,018	1,069	937		1,030	1,083	1,071
HYW0230P			1,219	1,013	1,327	982	1,192	1,192		1,160	994	1,250
HYW0246P												
HYW0247P				990								
HYW0322P	1,128	1,105	1,067	950	1,204	997	1,076	1,076		986	1,012	1,060
SYAN0015												
SYAN0043												

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

Sample Point ID	Western 2											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0237P			1,075	923	1,203	995	1,060	1,015	966	1,023	1,103	1,070
HYW0238P			1,137	949	1,164	1,014	1,066	994	1,009	1,029	1,064	1,071
HYW0348P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Western 3											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW1015P												
HYW1016P												

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

Sample Point ID	Western 4											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0030P												
HYW0035P	910											
HYW0042P												
HYW0049P												
HYW0051P												
HYW0064P												
HYW0072P												
HYW0165P	1,209	1,287	1,135	949	1,324	1,230	1,192	1,181	1,173	1,171	1,255	1,161
HYW0181P	1,607	1,470	1,430	1,176	1,605	1,549	1,483	1,390	1,350	1,302	1,382	1,386
HYW0182P												
HYW0340P												
SYAN0035												
SYAN0036												
SYAN0042												

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

Sample Point ID	Western 5											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0131P												
HYW0132P			949									
HYW0133P			967									
HYW0134P	1,025	991		846	1,079	954	962	920	938	933	983	928
HYW0240P												
HYW0241P	926	900		722	931	830	888	867	810	808	872	798

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Western 6											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYW0175P					1,207	1,111	1,089	947	1,072	934	1,158	799
HYW0176P			1,203	1,027					917	916	1,102	1,113
HYW0355P						945	977	903	917			
HYW1021P												
HYW1024P												
SYAN0040												
SYAN0041												

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

Sample Point ID	Central 1											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYC0012P	1,215	1,155	1,078	905	1,250	1,160	1,061			1,041	1,131	1,114
HYC0015P	1,165	1,009	991	871	1,156	1,032	1,200	997	963	795	1,088	1,030
HYC0096P		758	710	615	794	711	700	712	716	716	738	734

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

Sample Point ID	Central 5											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HNPIYC0034P	920			1,000	1,000	960	980	1,000	1,000	1,000		
HYC0019P												
HYC0020P												
HYC0031P												
HYC0068P												
HYC0069P	872	752	716	592	860	714	705	741	664	693	753	617
HYC0089P	891	822	820	573	954	825	802	790		778	805	764
HYC0090P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 1 & 2											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE0023P	804	906	847	670	968	812	811	831		794	867	849
HYE0041P												
HYE0051P	839	767	781	651	917	766	766	769	759	804	833	800
HYE0060P												
HYE0061P												
HYE0193P												
HYE0194P												
SYAN0001												
SYAN0037												
SYAN0044												

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

Sample Point ID	Eastern 4											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE1518P												
HYE1519P												
HYE1523P												
SYAN0050												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 3,5,6											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
HYE0014P												
HYE0026P												
HYE0027P	777	690			796	647	680	661	655	647	684	655
HYE0028P	686	771										
HYE0031P			686	631								
HYE0042P												
HYE0043P												
HYE0044P												
HYE0045P	810	732	665	561	855	710	710	715	708	727	738	729
HYE0055P												
HYE0132P												
HYE0152P												
HYE0156P			561	514	694	569	625	616	519	537	595	567
HYE0157P												
HYE0171P												
HYE0172P			686	623	891	735	730	760	634	757	772	724
SYAN0002												
SYAN0003												
SYAN0016												
SYAN0039												

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

Sample Point ID	Eastern 7											
	FY20 (µS/cm)											
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
SYAN0046												
HYE0130P												
HYE0160P			696	647	802		682	631	777	752	690	647
HYE0180P			754		795	743	775	806	657	781	857	828
HYE0181P				667								
HYE0311P												
HYE0313P												
HYE0314P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Spinifex Camp											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HNPISP0001P	1,300	1,200	1,191	1,191	1,183	1,173	1,163	1,106	1,300	1,188	1,200	1,036
HNPISP0002P	1,200	1,300	1,253	1,231	1,249	1,274	1,232	1,125	1,248	1,252	1,300	1,122

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

Sample Point ID	Western 1											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HNPIYN1704P												
HNPIYN1707P												
HYW0008P												
HYW0010P												
HYW0011P												
HYW0021P			1,027	1,101	940	900	1,007	1,052	1,054	1,033	983	758
HYW0024P	980											
HYW0180P	907			1,021	889	855	1,010	940	1,048	1,026	987	765
HYW0212P												
HYW0213P												
HYW0215P												
HYW0226P	1,007		1,032	1,108	898	870	1,021	1,039	1,060	975		754
HYW0228P												
HYW0229P	977	1,044	986	1,076	878	860	1,054	1,007	1,038	1,049	980	758
HYW0230P	1,060	1,210	1,156	1,221	945	1,000	1,018	1,177	1,224	1,211	1,104	869
HYW0246P												
HYW0247P												
HYW0322P												
SYAN0015												
SYAN0043												785

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

Sample Point ID	Western 2											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0237P	1,013	1,084	1,048	1,100	852	918	891	505	1,038	1,030	1,058	758
HYW0238P	979	1,046	960	1,043	892	911	1,005	997	1,033	1,025	1,038	715
HYW0348P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Western 3											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW1015P												
HYW1016P												

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

Sample Point ID	Western 4											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0030P												
HYW0035P												
HYW0042P												
HYW0049P												
HYW0051P												
HYW0064P												
HYW0072P												
HYW0165P	1,036	1,168	1,132	1,012	968	1,033	1,094	1,210	1,178	1,155	1,063	829
HYW0181P	1,192	1,275	1,187									
HYW0182P				1,022	975	874	930	1,038	997	975	998	724
HYW0340P												
SYAN0035												784
SYAN0036												
SYAN0042												622

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

Sample Point ID	Western 5											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0131P												
HYW0132P												
HYW0133P												
HYW0134P	930	931	982	969	880	866	877	948	934	826	793	685
HYW0240P												
HYW0241P	798	961	821	884	875	770	786	822	824	945	693	641

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Western 6											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYW0175P	1,086	1,099	1,051	1,147	898	1,000	1,011	1,115	1,159	1,162	688	837
HYW0176P	1,390	1,183	1,253	1,300	884	970		1,273	1,215	1,125	693	878
HYW0355P												
HYW1021P												
HYW1024P												
SYAN0040												875
SYAN0041												850

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

Sample Point ID	Central 1											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYC0012P	1,014	1,036	1,114	997	942	946	934	1,120	1,061	1,034	762	744
HYC0015P	914	1,003	996	964	845	910	1,300	1,023	1,005	1,200	778	747
HYC0096P	734	708	765	817	843	915	614	707	1,005	711	782	603

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

Sample Point ID	Central 5											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HNPIYC0034P								980	1,000	1,000	990	950
HYC0019P												
HYC0020P												
HYC0031P												
HYC0068P												
HYC0069P	665	670	714	660	662	644	638	687	688	717	690	562
HYC0089P	766	782	855	854	797	707	732	807	745	769	688	666
HYC0090P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 1 & 2											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE0023P	777	802	878				739	884	867	839	684	655
HYE0041P												
HYE0051P	860	779	840				851	768	812	808	674	640
HYE0060P												
HYE0061P												
HYE0193P												683
HYE0194P												594
SYAN0001												
SYAN0037												850
SYAN0044												

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

Sample Point ID	Eastern 4											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE1518P												
HYE1519P												
HYE1523P												
SYAN0050												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 3,5,6											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
HYE0014P												
HYE0026P												
HYE0027P	638		683	647	675	800	617	609	638	591	553	524
HYE0028P												
HYE0031P												
HYE0042P												
HYE0043P												
HYE0044P												
HYE0045P	710	868	768	758	694	825	708	700	740	729	536	560
HYE0055P												
HYE0132P												
HYE0152P												
HYE0156P	554	564	577	562	531	780	523	516	493	522	494	476
HYE0157P												
HYE0171P												
HYE0172P	704	728	794	710	702	721	709	767	781	777	655	593
SYAN0002												
SYAN0003												
SYAN0016												
SYAN0039												535

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

Sample Point ID	Eastern 7											
	FY21 (µS/cm)											
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
SYAN0046												
HYE0130P												
HYE0160P	640	645	731									
HYE0180P	784	770	854	806	748	635	738	759	799	771	670	555
HYE0181P				755	762	640	776	722	755	721	630	566
HYE0311P												
HYE0313P												
HYE0314P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Spinifex Camp											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HNPISP0001P	1,054	1,229	1,196	1,191	1,181	1,183	1,195	1,235	1,185	1,180	1,193	1,194
HNPISP0002P	1,106	1,257	1,271	1,258	1,257	1,260	1,272	1,312	1,260	1,233	1,283	1,276

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

Sample Point ID	Western 1											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HNPIYN1704P												
HNPIYN1707P												
HYW0008P												
HYW0010P												
HYW0011P												
HYW0021P	763	719	753	736	730	769	723	677	572			1,330
HYW0024P											1,060	
HYW0180P	710	652	755	780	699	750	667	626	509	787	912	1,270
HYW0212P												
HYW0213P		709	754	770	681	714	731	668	574	784	1,303	1,322
HYW0215P												
HYW0226P	779	665	776	770	697	710	620	599	567	735	1,007	1,300
HYW0228P												
HYW0229P	799	551	698	767	704	698	628	654	598	791	927	1,286
HYW0230P	826	761	823	742	740	772	700	726	613	936	994	1,611
HYW0246P												
HYW0247P												
HYW0322P												
SYAN0015												
SYAN0043							670		432			1,121

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

Sample Point ID	Western 2											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0237P	686	711	729	719	702	711	702	687	566	556	1,010	1,338
HYW0238P	732	711	726	738	699	697	696	657	535	810	979	1,283
HYW0348P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Western 3											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW1015P												
HYW1016P												

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

Sample Point ID	Western 4											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0030P												
HYW0035P												
HYW0042P												
HYW0049P												
HYW0051P												
HYW0064P												
HYW0072P												
HYW0165P	816	774	696	820	721	564	796	769	578	850	876	1,539
HYW0181P												
HYW0182P	742	711	640	732	689	655	711	691	502	773	934	1,235
HYW0340P												
SYAN0035		784										
SYAN0036												
SYAN0042		572			729			457	484			

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

Sample Point ID	Western 5											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0131P												
HYW0132P												
HYW0133P												
HYW0134P	704	679	608	693	660	651	660	675	504	718	914	1,155
HYW0240P												
HYW0241P	685	605	691	598	587	555	610	615	478	643	938	976

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Western 6											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYW0175P	855	774	772	765	698	750	776	762	472			
HYW0176P	897	834	683	831	701	796	789	800	623	884	1,165	1,559
HYW0355P												
HYW1021P										910	1,389	1,415
HYW1024P												
SYAN0040		748			699			744	557	905		
SYAN0041		791		710	700	770						

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

Sample Point ID	Central 1											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYC0012P	806	701	722	699	587	732	711	639	445	766	1,316	1,358
HYC0015P	1,200	717	700	670	700	682		620	444	703	977	1,217
HYC0096P	589	573	712	537	565	711	551	520	419	575	893	932

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

Sample Point ID	Central 5											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HNPIYC0034P	990											
HYC0019P												
HYC0020P												
HYC0031P												
HYC0068P												
HYC0069P	576	560	523	537	552	536	565	471	418	544	840	845
HYC0089P	604	585	544	614	684	609	656	512	443	604	991	1,017
HYC0090P												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 1 & 2											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE0023P	667	647	538	643	512	617	618	512	472	579	1,016	1,036
HYE0041P												
HYE0051P	650	635	598	614	586	604	603	508	449	584	943	948
HYE0060P												
HYE0061P												
HYE0193P	677	651	633	651	589	572	621	530	454	628	944	1,025
HYE0194P	664	629	598	640	590	612	614	511	429	584	927	984
SYAN0001												
SYAN0037	614								448			
SYAN0044												

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

Sample Point ID	Eastern 4											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE1518P										499	1,218	
HYE1519P												
HYE1523P										725	1,106	1,150
SYAN0050												

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

Table 10.5: Field EC from Production Bores and Sumps (cont'd)

Sample Point ID	Eastern 3,5,6											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
HYE0014P												
HYE0026P												
HYE0027P		516	544	494	556	542	504	437	381	509	711	735
HYE0028P												
HYE0031P												
HYE0042P												
HYE0043P												
HYE0044P												
HYE0045P	601	523	519	597	596	539	563	443	384	563	767	859
HYE0055P												
HYE0132P												
HYE0152P												
HYE0156P	497	470	598	490	638	454	466	414	363	445	879	648
HYE0157P												
HYE0171P												
HYE0172P	625	590	538	450	621	567	578	508	435	565	810	946
SYAN0002												
SYAN0003												
SYAN0016												
SYAN0039				543								

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

Sample Point ID	Eastern 7											
	FY22 (µS/cm)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
SYAN0046												
HYE0130P												
HYE0160P												
HYE0180P	619	623	560	640	562	516	524	505	454	570	901	942
HYE0181P	603	597	577	601	540	507	521	476	443	540	861	882
HYE0311P												
HYE0313P												
HYE0314P												

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

Table 10.6: Laboratory Chemistry Results from Production Bores

			Spinifex Camp			
			HNPISP0001P		HNPISP0002P	
Recording Type Name	Unit	Trigger Values	Dec - 19	Jun - 20	Dec - 19	Jun - 20
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	0.073	0.110	0.076	0.110
Bicarbonate Alkalinity as HCO3	mg/L		530.000	520.000	530.000	530.000
Boron	mg/L	0.37	0.470	0.440	0.500	0.440
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		65.000	70.000	67.000	69.000
Chloride	mg/L		110.000	120.000	130.000	110.000
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	1200.000		1200.000	
Fluoride	mg/L		0.500	0.500	0.600	0.400
Iron Tot.	mg/L		0.010	0.006	0.005	0.012
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		59.000	66.000	61.000	63.000
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 NO3	mg/L	4.0	16.000	13.000	14.000	15.000
Potassium	mg/L		14.000	13.000	13.000	13.000
Selenium	mg/L	0.011	0.002	0.001	0.002	0.002
Silica	mg/L		69.000	63.000	68.000	63.000
Sodium	mg/L		87.000	88.000	93.000	81.000
Sulphate as SO4 2-	mg/L		58.000	68.000	65.000	59.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		430.000	420.000	440.000	430.000
Total Dissolved Solids at 180°C	mg/L		700.000	710.000	720.000	690.000
Total Hardness as CaCO3	mg/L		410.000	450.000	420.000	430.000
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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 1				
			HNPIYN1704P		HNPIYN1707F	HYW0215P	HYW0229P
Recording Type Name	Unit	Trigger Values	Dec - 19	Jun - 20	Dec - 19	Sep - 19	Sep - 19
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	0.073	0.086	0.074	0.076	0.077
Bicarbonate Alkalinity as HCO3	mg/L		520.000	510.000	550.000	500.000	500.000
Boron	mg/L	0.37	0.500	0.490	0.480	0.480	0.480
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		66.000	65.000	67.000	64.000	65.000
Chloride	mg/L		120.000	110.000	110.000	130.000	130.000
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	1200.000	1200.000	1200.000	1200.000	1200.000
Fluoride	mg/L		0.500	0.500	0.600	0.600	0.600
Iron Sol.	mg/L	0.3		<0.005		<0.005	<0.005
Iron Tot.	mg/L		0.009		0.022		
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		60.000	60.000	60.000	62.000	63.000
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 NO3	mg/L	4.0	15.000	14.000	16.000	13.000	12.000
pH	pH	6.5-8.0		7.900		8.200	8.200
Potassium	mg/L		13.000	13.000	14.000	13.000	13.000
Reactive Silica as SiO2	mg/L			73.000		68.000	68.000
Selenium	mg/L	0.011	0.002	0.001	0.002	0.002	0.002
Silica	mg/L		68.000	61.000	68.000	69.000	70.000
Sodium	mg/L		89.000	83.000	87.000	85.000	87.000
Sulphate as SO4 2-	mg/L		60.000	59.000	59.000	65.000	67.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		430.000	420.000	450.000	410.000	410.000
Total Dissolved Solids at 180°C	mg/L		710.000	720.000	700.000	720.000	710.000
Total Hardness as CaCO3	mg/L		410.000	410.000	410.000	410.000	420.000
Zinc	mg/L	0.072	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 2	
			HYW0237P	HYW0238P
Recording Type Name	Unit	Trigger Values	Jun - 20	Jun - 20
Aluminium	mg/L	0.1	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001
Barium	mg/L	0.088	0.076	0.075
Bicarbonate Alkalinity as HCO3	mg/L		480.000	480.000
Boron	mg/L	0.37	0.490	0.490
Cadmium	mg/L	0.001	<0.0001	<0.0001
Calcium	mg/L		66.000	66.000
Chloride	mg/L		140.000	130.000
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	1200.000	1200.000
Fluoride	mg/L		0.600	0.600
Iron Sol.	mg/L	0.3	<0.005	<0.005
Lead	mg/L	0.005	<0.001	<0.001
Magnesium	mg/L		60.000	60.000
Manganese	mg/L	1.9	<0.001	<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 NO3	mg/L	4.0	9.200	11.000
pH	pH	6.5-8.0	8.300	8.300
Potassium	mg/L		12.000	12.000
Reactive Silica as SiO2	mg/L		69.000	70.000
Selenium	mg/L	0.011	0.002	0.002
Silica	mg/L		59.000	59.000
Sodium	mg/L		88.000	85.000
Sulphate as SO4 2-	mg/L		67.000	66.000
Suspended Solids (SS)	mg/L		<5	<5
Total Alkalinity as CaCO3	mg/L		390.000	390.000
Total Dissolved Solids at 180°C	mg/L		750.000	730.000
Total Hardness as CaCO3	mg/L		410.000	410.000
Zinc	mg/L	0.072	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 4		
			HYW0042P	HYW0051P	HYW0165P
Recording Type Name	Unit	Trigger Values	Sep - 19	Apr - 20	Sep - 19
Aluminium	mg/L	0.1	<0.005	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.062	0.044	0.067
Bicarbonate Alkalinity as HCO3	mg/L		330.000	300.000	350.000
Boron	mg/L	0.37	0.460	0.340	0.460
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		66.000	43.000	69.000
Chloride	mg/L		260.000	94.000	240.000
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	1400.000	820.000	1400.000
Fluoride	mg/L		0.500	0.500	0.400
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		67.000	42.000	66.000
Manganese	mg/L	1.9	<0.001	<0.001	<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	<0.001
Nitrate as NO3	mg/L	4.0	30.000	5.000	27.000
pH	pH	6.5-8.0	8.100	8.100	8.200
Potassium	mg/L		8.500	8.300	9.900
Reactive Silica as SiO2	mg/L		55.000	58.000	59.000
Selenium	mg/L	0.011	0.002	0.001	0.002
Silica	mg/L		57.000	57.000	61.000
Sodium	mg/L		110.000	68.000	100.000
Sulphate as SO4 2-	mg/L		98.000	46.000	88.000
Suspended Solids (SS)	mg/L		<5	<5	<5
Total Alkalinity as CaCO3	mg/L		270.000	250.000	290.000
Total Dissolved Solids at 180°C	mg/L		860.000	480.000	840.000
Total Hardness as CaCO3	mg/L		440.000	280.000	440.000
Zinc	mg/L	0.072	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 5					
			HYW0132P		HYW0133P	HYW0134P		
Recording Type Name	Unit	Trigger Values	Apr - 20	May - 20	Sep - 19	Sep - 19	Apr - 20	May - 20
Aluminium	mg/L	0.1	<0.005	0.009	<0.005	<0.005	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.060	0.057	0.053	0.051	0.053	0.060
Bicarbonate Alkalinity as HCO3	mg/L		380.000	390.000	390.000	410.000	400.000	410.000
Boron	mg/L	0.37	0.380	0.460	0.390	0.370	0.360	0.450
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		56.000	59.000	56.000	56.000	58.000	58.000
Chloride	mg/L		140.000	140.000	150.000	140.000	130.000	130.000
Chromium	mg/L	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
Electrical Conductivity at 25°C	µS/cm	90-1000	1100.000	1100.000	1100.000	1100.000	1100.000	1100.000
Fluoride	mg/L		0.500	0.500	0.500	0.500	0.500	0.500
Iron Sol.	mg/L	0.3	0.008	0.012	0.009	<0.005	<0.005	0.012
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		54.000	52.000	53.000	55.000	56.000	53.000
Manganese	mg/L	1.9	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
Mercury	mg/L	0.0006	<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
Nickel	mg/L	0.11	0.001	0.001	0.002	<0.001	<0.001	<0.001
Nitrate as NO3	mg/L	4.0	5.700	5.500	6.600	10.000	9.600	9.600
pH	pH	6.5-8.0	8.300	8.100	8.200	8.200	8.300	8.100
Potassium	mg/L		9.600	9.400	9.200	8.700	8.700	8.400
Reactive Silica as SiO2	mg/L		58.000	61.000	59.000	59.000	60.000	60.000
Selenium	mg/L	0.011	0.001	0.002	0.002	0.002	0.002	0.003
Silica	mg/L		54.000	52.000	60.000	59.000	55.000	51.000
Sodium	mg/L		87.000	91.000	84.000	85.000	89.000	91.000
Sulphate as SO4 2-	mg/L		61.000	59.000	64.000	61.000	60.000	59.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		310.000	320.000	320.000	330.000	330.000	340.000
Total Dissolved Solids at 180°C	mg/L		630.000	640.000	640.000	630.000	620.000	630.000
Total Hardness as CaCO3	mg/L		360.000	360.000	360.000	360.000	370.000	360.000
Zinc	mg/L	0.072	<0.005	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 6			
			HYW0175P	HYW0176P		HYW0355P
Recording Type Name	Unit	Trigger Values	Apr - 20	Sep - 19	Apr - 20	Nov - 19
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	0.049	0.013	0.051	0.037
Bicarbonate Alkalinity as HCO3	mg/L		510.000	530.000	380.000	370.000
Boron	mg/L	0.37	0.490	0.790	0.340	0.350
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		58.000	47.000	53.000	51.000
Chloride	mg/L		150.000	190.000	150.000	130.000
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	1300.000	1400.000	1200.000	1000.000
Fluoride	mg/L		0.500	0.600	0.500	0.600
Iron Sol.	mg/L	0.3	<0.005	<0.005	<0.005	0.150
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		57.000	63.000	51.000	46.000
Manganese	mg/L	1.9	<0.001	<0.001	<0.001	0.029
Mercury	mg/L	0.0006	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	mg/L	0.034	<0.001	<0.001	<0.001	0.004
Nickel	mg/L	0.11	0.004	0.001	<0.001	<0.001
Nitrate as NO3	mg/L	4.0	10.000	8.900	8.400	4.100
pH	pH	6.5-8.0	8.300	8.300	8.000	8.200
Potassium	mg/L		7.300	3.500	7.600	8.000
Reactive Silica as SiO2	mg/L		55.000	58.000	57.000	
Selenium	mg/L	0.011	0.002	0.002	0.002	<0.001
Silica	mg/L		50.000	60.000	49.000	56.000
Sodium	mg/L		140.000	150.000	93.000	83.000
Sulphate as SO4 2-	mg/L		56.000	63.000	60.000	63.000
Suspended Solids (SS)	mg/L		<5	<5	<5	390.000
Total Alkalinity as CaCO3	mg/L		420.000	430.000	310.000	300.000
Total Dissolved Solids at 180°C	mg/L		720.000	790.000	640.000	600.000
Total Hardness as CaCO3	mg/L		380.000	380.000	340.000	320.000
Zinc	mg/L	0.072	0.006	<0.005	0.008	<0.005

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Central 1						
			HYC0012P			HYC0015P			HYC0096P
Recording Type Name	Unit	Trigger Values	Sep - 19	Apr - 20	May - 20	Mar - 20	Apr - 20	May - 20	Sep - 19
Aluminium	mg/L	0.1	<0.005	<0.005	<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	<0.001	<0.001
Barium	mg/L	0.088	0.020	0.021	0.020	0.048	0.052	0.049	0.034
Bicarbonate Alkalinity as HCO3	mg/L		410.000	430.000	420.000	380.000	370.000	370.000	270.000
Boron	mg/L	0.37	0.570	0.620	0.600	0.400	0.370	0.450	0.290
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		58.000	61.000	63.000	57.000	58.000	61.000	39.000
Chloride	mg/L		190.000	170.000	180.000	160.000	160.000	160.000	100.000
Chromium	mg/L	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
Electrical Conductivity at 25°C	µS/cm	90-1000	1300.000	1300.000	1300.000		1200.000	1200.000	800.000
Fluoride	mg/L		0.500	0.600	0.600	0.500	0.500	0.500	0.500
Iron Sol.	mg/L	0.3	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005
Iron Tot.	mg/L					<0.005			
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		71.000	74.000	72.000	57.000	58.000	57.000	38.000
Manganese	mg/L	1.9	0.001	0.002	0.002	<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
Molybdenum	mg/L	0.034	<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
Nitrate as NO3	mg/L	4.0	17.000	15.000	15.000	16.000	16.000	16.000	12.000
pH	pH	6.5-8.0	8.000	8.200	8.100		8.200	8.200	7.700
Potassium	mg/L		6.600	6.700	6.600	7.900	7.700	7.600	6.400
Reactive Silica as SiO2	mg/L		54.000	55.000	55.000		58.000	58.000	54.000
Selenium	mg/L	0.011	0.002	0.003	0.002	0.002	0.002	<0.001	<0.001
Silica	mg/L		55.000	49.000	48.000	58.000	51.000	50.000	55.000
Sodium	mg/L		96.000	100.000	110.000	91.000	95.000	100.000	56.000
Sulphate as SO4 2-	mg/L		90.000	88.000	86.000	81.000	80.000	78.000	45.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		340.000	350.000	340.000	310.000	310.000	310.000	220.000
Total Dissolved Solids at 180°C	mg/L		760.000	740.000	760.000	690.000	690.000	690.000	480.000
Total Hardness as CaCO3	mg/L		440.000	460.000	450.000	380.000	380.000	390.000	250.000
Zinc	mg/L	0.072	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Central 5						
			HNPIYC0034F	HYC0031P			HYC0068P		
Recording Type Name	Unit	Trigger Values	Mar - 20	Sep - 19	Apr - 20	May - 20	Sep - 19	Apr - 20	May - 20
Aluminium	mg/L	0.1	<0.005	<0.005	<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	<0.001	<0.001
Barium	mg/L	0.088	0.024	0.031	0.037	0.034	0.027	0.027	0.026
Bicarbonate Alkalinity as HCO3	mg/L		350.000	290.000	290.000	290.000	350.000	340.000	340.000
Boron	mg/L	0.37	0.340	0.290	0.280	0.360	0.330	0.310	0.410
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		43.000	39.000	41.000	43.000	44.000	43.000	44.000
Chloride	mg/L		110.000	110.000	110.000	110.000	110.000	100.000	100.000
Chromium	mg/L	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
Electrical Conductivity at 25°C	µS/cm	90-1000		870.000	890.000	860.000	950.000	930.000	920.000
Fluoride	mg/L		0.700	0.500	0.500	0.500	0.700	0.700	0.700
Iron Sol.	mg/L	0.3		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Iron Tot.	mg/L		0.020						
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		47.000	42.000	43.000	42.000	47.000	50.000	47.000
Manganese	mg/L	1.9	<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
Molybdenum	mg/L	0.034	<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
Nitrate as NO3	mg/L	4.0	15.000	8.400	11.000	10.000	13.000	14.000	14.000
pH	pH	6.5-8.0		7.900	8.000	7.800	7.700	8.200	8.000
Potassium	mg/L		7.000	6.200	6.400	6.200	6.000	6.100	6.000
Reactive Silica as SiO2	mg/L			55.000	57.000	57.000	55.000	57.000	57.000
Selenium	mg/L	0.011	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Silica	mg/L		56.000	55.000	50.000	49.000	54.000	51.000	48.000
Sodium	mg/L		73.000	63.000	68.000	72.000	69.000	74.000	76.000
Sulphate as SO4 2-	mg/L		53.000	58.000	56.000	55.000	57.000	56.000	55.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		290.000	240.000	240.000	240.000	280.000	280.000	280.000
Total Dissolved Solids at 180°C	mg/L		550.000	510.000	510.000	510.000	540.000	530.000	500.000
Total Hardness as CaCO3	mg/L		300.000	270.000	280.000	280.000	300.000	310.000	300.000
Zinc	mg/L	0.072	0.007	<0.005	<0.005	0.008	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 1 & 2							
			HYE0023P			HYE0051P			HYE0193P	HYE0194P
Recording Type Name	Unit	Trigger Values	Sep - 19	Apr - 20	May - 20	Sep - 19	Apr - 20	May - 20	Oct - 19	Oct - 19
Aluminium	mg/L	0.1	<0.005	<0.005	<0.005	<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	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.034	0.035	0.034	0.036	0.038	0.035	0.040	0.040
Bicarbonate Alkalinity as HCO3	mg/L		320.000	320.000	330.000	300.000	300.000	300.000	330.000	330.000
Boron	mg/L	0.37	0.340	0.330	0.410	0.350	0.330	0.410	0.320	0.280
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		48.000	47.000	48.000	45.000	44.000	45.000	55.000	50.000
Chloride	mg/L		120.000	120.000	120.000	120.000	120.000	120.000	160.000	120.000
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	940.000	950.000	940.000	900.000	890.000	890.000	1100.000	970.000
Fluoride	mg/L		0.500	0.500	0.500	0.400	0.500	0.500	0.500	0.400
Iron Sol.	mg/L	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012	0.015
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		45.000	50.000	47.000	42.000	46.000	43.000	50.000	46.000
Manganese	mg/L	1.9	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.016	0.016
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	5.200	5.000	4.900	17.000	13.000	13.000	5.900	20.000
pH	pH	6.5-8.0	8.100	8.100	8.000	8.200	8.200	8.100	8.400	8.400
Potassium	mg/L		5.900	6.000	5.800	5.900	6.000	5.800	7.100	7.300
Reactive Silica as SiO2	mg/L		50.000	52.000	52.000	51.000	53.000	53.000		
Selenium	mg/L	0.011	<0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.001
Silica	mg/L		50.000	47.000	44.000	52.000	49.000	45.000	40.000	45.000
Sodium	mg/L		65.000	71.000	73.000	66.000	72.000	73.000	90.000	83.000
Sulphate as SO4 2-	mg/L		53.000	54.000	53.000	49.000	47.000	47.000	76.000	62.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5	130.000	40.000
Total Alkalinity as CaCO3	mg/L		260.000	260.000	270.000	240.000	240.000	250.000	280.000	280.000
Total Dissolved Solids at 180°C	mg/L		530.000	540.000	550.000	520.000	510.000	520.000	620.000	600.000
Total Hardness as CaCO3	mg/L		300.000	320.000	320.000	280.000	300.000	290.000	340.000	320.000
Zinc	mg/L	0.072	<0.005	<0.005	<0.005	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 3,5,6					
			HYE0027P		HYE0044P	HYE0045P	HYE0055P	
Recording Type Name	Unit	Trigger Values	Apr - 20	May - 20	Sep - 19	Sep - 19	Apr - 20	May - 20
Aluminium	mg/L	0.1	<0.005	<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	<0.001
Barium	mg/L	0.088	0.031	0.027	0.029	0.031	0.029	0.028
Bicarbonate Alkalinity as HCO3	mg/L		250.000	240.000	300.000	320.000	310.000	310.000
Boron	mg/L	0.37	0.270	0.340	0.610	0.640	0.440	0.440
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		37.000	37.000	40.000	41.000	42.000	42.000
Chloride	mg/L		87.000	80.000	97.000	79.000	80.000	79.000
Chromium	mg/L	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
Electrical Conductivity at 25°C	µS/cm	90-1000	730.000	690.000	850.000	840.000	850.000	840.000
Fluoride	mg/L		0.500	0.500	0.500	0.500	0.500	0.500
Iron Sol.	mg/L	0.3	<0.005	0.007	<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
Magnesium	mg/L		34.000	32.000	38.000	39.000	44.000	41.000
Manganese	mg/L	1.9	<0.001	0.002	<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
Molybdenum	mg/L	0.034	<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
Nitrate as NO3	mg/L	4.0	10.000	8.100	25.000	40.000	42.000	40.000
pH	pH	6.5-8.0	7.800	7.600	8.100	8.100	8.300	8.100
Potassium	mg/L		5.100	5.000	5.400	5.200	4.900	4.700
Reactive Silica as SiO2	mg/L		49.000	48.000	49.000	50.000	53.000	53.000
Selenium	mg/L	0.011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silica	mg/L		43.000	40.000	50.000	51.000	47.000	45.000
Sodium	mg/L		55.000	51.000	66.000	65.000	68.000	69.000
Sulphate as SO4 2-	mg/L		41.000	42.000	43.000	42.000	43.000	43.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		210.000	200.000	250.000	260.000	260.000	260.000
Total Dissolved Solids at 180°C	mg/L		410.000	400.000	490.000	500.000	490.000	500.000
Total Hardness as CaCO3	mg/L		230.000	220.000	260.000	260.000	290.000	280.000
Zinc	mg/L	0.072	<0.005	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 7							
			HYE0160P	HYE0180P		HYE0181P			HYE0311P	HYE0313P
Recording Type Name	Unit	Trigger Values	Sep - 19	Apr - 20	May - 20	Sep - 19	Apr - 20	May - 20	Apr - 20	Apr - 20
Aluminium	mg/L	0.1	<0.005	<0.005	<0.005	<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	<0.001	<0.001	0.001
Barium	mg/L	0.088	0.032	0.020	0.018	0.028	0.029	0.027	0.024	0.029
Bicarbonate Alkalinity as HCO3	mg/L		280.000	370.000	380.000	330.000	300.000	310.000	270.000	360.000
Boron	mg/L	0.37	0.350	0.540	0.510	0.470	0.350	0.440	0.270	0.320
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		41.000	45.000	45.000	42.000	39.000	40.000	34.000	47.000
Chloride	mg/L		97.000	96.000	96.000	88.000	75.000	76.000	68.000	92.000
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	810.000	930.000	920.000	840.000	790.000	780.000	750.000	910.000
Fluoride	mg/L		0.500	0.700	0.800	0.600	0.500	0.500	0.400	0.400
Iron Sol.	mg/L	0.3	0.006	<0.005	0.007	0.008	<0.005	<0.005	<0.005	0.040
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		37.000	48.000	45.000	38.000	39.000	37.000	31.000	42.000
Manganese	mg/L	1.9	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.020	0.035
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	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate as NO3	mg/L	4.0	7.300	10.000	11.000	5.900	31.000	25.000	10.000	8.200
pH	pH	6.5-8.0	8.100	7.900	8.200	8.300	8.200	8.100	8.600	8.400
Potassium	mg/L		5.000	5.600	5.300	5.100	5.100	4.800	5.000	4.600
Reactive Silica as SiO2	mg/L		54.000	54.000	54.000	54.000	55.000	56.000	52.000	59.000
Selenium	mg/L	0.011	<0.001	<0.001	<0.001	0.001	0.001	0.003	0.002	0.001
Silica	mg/L		54.000	49.000	44.000	55.000	50.000	47.000	50.000	56.000
Sodium	mg/L		59.000	79.000	80.000	65.000	65.000	66.000	55.000	76.000
Sulphate as SO4 2-	mg/L		49.000	44.000	44.000	43.000	40.000	42.000	47.000	46.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5	130.000	21.000
Total Alkalinity as CaCO3	mg/L		230.000	300.000	310.000	270.000	250.000	250.000	240.000	310.000
Total Dissolved Solids at 180°C	mg/L		470.000	510.000	510.000	480.000	460.000	470.000	410.000	550.000
Total Hardness as CaCO3	mg/L		260.000	310.000	300.000	260.000	260.000	250.000	210.000	290.000
Zinc	mg/L	0.072	<0.005	0.005	0.007	0.006	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 7
			HYE0314P
Recording Type Name	Unit	Trigger Values	May - 20
Aluminium	mg/L	0.1	<0.005
Arsenic	mg/L	0.013	0.003
Barium	mg/L	0.088	0.009
Bicarbonate Alkalinity as HCO3	mg/L		300.000
Boron	mg/L	0.37	0.340
Cadmium	mg/L	0.001	<0.0001
Calcium	mg/L		32.000
Chloride	mg/L		99.000
Chromium	mg/L	0.001	<0.001
Copper	mg/L	0.01	<0.001
Electrical Conductivity at 25°C	µS/cm	90-1000	830.000
Fluoride	mg/L		0.500
Iron Sol.	mg/L	0.3	0.056
Lead	mg/L	0.005	<0.001
Magnesium	mg/L		30.000
Manganese	mg/L	1.9	0.079
Mercury	mg/L	0.0006	<0.00005
Molybdenum	mg/L	0.034	0.004
Nickel	mg/L	0.11	0.002
Nitrate as NO3	mg/L	4.0	1.100
pH	pH	6.5-8.0	8.400
Potassium	mg/L		5.500
Selenium	mg/L	0.011	<0.001
Silica	mg/L		59.000
Sodium	mg/L		92.000
Sulphate as SO4 2-	mg/L		66.000
Suspended Solids (SS)	mg/L		43.000
Total Alkalinity as CaCO3	mg/L		250.000
Total Dissolved Solids at 180°C	mg/L		580.000
Total Hardness as CaCO3	mg/L		200.000
Zinc	mg/L	0.072	<0.005

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

Table 10.6: Laboratory Chemistry Results from Production Bores

			Spinifex Camp			
			HNPISP0001P		HNPISP0002P	
Recording Type Name	Unit	Trigger Values	Dec - 20	Jun - 21	Dec - 20	Jun - 21
Aluminium	mg/L	0.1	<0.005	0.007	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.089	0.084	0.088	0.088
Bicarbonate Alkalinity as HCO3	mg/L		510.000	520.000	500.000	500.000
Boron	mg/L	0.37	0.460	0.370	0.470	0.380
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		65.000	65.000	67.000	67.000
Chloride	mg/L		100.000	110.000	120.000	130.000
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
Fluoride	mg/L		0.500	0.500	0.500	0.400
Iron Tot.	mg/L		<0.005	<0.005	0.010	<0.005
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		61.000	58.000	65.000	61.000
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 NO3	mg/L	4.0	16.000	15.000	14.000	13.000
Potassium	mg/L		14.000	13.000	13.000	13.000
Selenium	mg/L	0.011	0.002	0.002	0.002	0.001
Silica	mg/L		70.000	69.000	69.000	69.000
Sodium	mg/L		96.000	96.000	100.000	100.000
Sulphate as SO4 2-	mg/L		58.000	57.000	68.000	67.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		420.000	430.000	410.000	410.000
Total Dissolved Solids at 180°C	mg/L		680.000	680.000	700.000	710.000
Total Hardness as CaCO3	mg/L		410.000	400.000	430.000	420.000
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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 1				
			HNPIYN1704P		HYW0212P	HYW0226P	SYAN0015
Recording Type Name	Unit	Trigger Values	Oct - 20	Mar - 21	Mar - 21	Oct - 20	Mar - 21
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	0.078	0.081	0.075	0.072	0.031
Bicarbonate Alkalinity as HCO3	mg/L		520.000	510.000	520.000	500.000	200.000
Boron	mg/L	0.37	0.470	0.420	0.420	0.540	0.280
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		69.000	66.000	67.000	71.000	28.000
Chloride	mg/L		120.000	120.000	130.000	130.000	66.000
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	1200.000	1200.000	1300.000	1200.000	600.000
Fluoride	mg/L		0.600	0.500	0.600	0.600	0.700
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		60.000	59.000	56.000	61.000	24.000
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 NO3	mg/L	4.0	14.000	15.000	120.000	11.000	4.800
pH	pH	6.5-8.0	7.900	8.000	8.300	8.300	8.300
Potassium	mg/L		14.000	13.000	14.000	13.000	7.300
Reactive Silica as SiO2	mg/L		74.000	73.000	69.000	72.000	77.000
Selenium	mg/L	0.011	0.002	0.002	0.001	0.002	<0.001
Silica	mg/L		65.000	66.000	63.000	66.000	58.000
Sodium	mg/L		93.000	91.000	86.000	100.000	45.000
Sulphate as SO4 2-	mg/L		62.000	62.000	62.000	66.000	37.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		430.000	420.000	430.000	420.000	170.000
Total Dissolved Solids at 180°C	mg/L		710.000	670.000	720.000	670.000	370.000
Total Hardness as CaCO3	mg/L		420.000	410.000	400.000	430.000	170.000
Zinc	mg/L	0.072	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 2				
			HYW0237P		HYW0238P		HYW0348P
Recording Type Name	Unit	Trigger Values	Oct - 20	Mar - 21	Oct - 20	Mar - 21	Oct - 20
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	0.071	0.069	0.068	0.071	0.059
Bicarbonate Alkalinity as HCO3	mg/L		490.000	450.000	480.000	500.000	440.000
Boron	mg/L	0.37	0.500	0.430	0.480	0.420	0.520
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		68.000	62.000	68.000	63.000	57.000
Chloride	mg/L		140.000	130.000	130.000	140.000	140.000
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	1200.000	1200.000	1200.000	1300.000	1200.000
Fluoride	mg/L		0.600	0.600	0.600	0.600	0.600
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		58.000	55.000	60.000	57.000	52.000
Manganese	mg/L	1.9	<0.001	<0.001	<0.001	<0.001	0.008
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 NO3	mg/L	4.0	9.000	15.000	11.000	10.000	6.900
pH	pH	6.5-8.0	8.300	8.300	8.400	8.300	8.400
Potassium	mg/L		13.000	12.000	13.000	12.000	11.000
Reactive Silica as SiO2	mg/L		72.000	80.000	73.000	81.000	69.000
Selenium	mg/L	0.011	0.002	0.002	0.001	0.002	0.002
Silica	mg/L		61.000	62.000	64.000	63.000	56.000
Sodium	mg/L		95.000	90.000	95.000	92.000	90.000
Sulphate as SO4 2-	mg/L		68.000	64.000	66.000	69.000	65.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		400.000	370.000	400.000	410.000	370.000
Total Dissolved Solids at 180°C	mg/L		700.000	670.000	700.000	710.000	680.000
Total Hardness as CaCO3	mg/L		410.000	380.000	420.000	390.000	350.000
Zinc	mg/L	0.072	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 4				
			HYW0030P		HYW0051P		SYAN0035
Recording Type Name	Unit	Trigger Values	Oct - 20	Mar - 21	Oct - 20	Mar - 21	Oct - 20
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	0.050	0.041	0.043	0.039	0.060
Bicarbonate Alkalinity as HCO3	mg/L		360.000	320.000	320.000	300.000	340.000
Boron	mg/L	0.37	0.350	0.300	0.360	0.320	0.370
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		53.000	41.000	46.000	39.000	48.000
Chloride	mg/L		120.000	88.000	110.000	89.000	110.000
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	0.01	<0.001	0.003	<0.001	<0.001	<0.001
Electrical Conductivity at 25°C	µS/cm	90-1000	950.000	830.000	840.000	810.000	890.000
Fluoride	mg/L		0.500	0.600	0.500	0.600	0.600
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		47.000	36.000	41.000	35.000	43.000
Manganese	mg/L	1.9	0.003	<0.001	<0.001	<0.001	0.003
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	0.003	<0.001	<0.001	<0.001
Nitrate as NO3	mg/L	4.0	7.200	6.900	5.400	5.200	3.600
pH	pH	6.5-8.0	7.800	7.700	8.000	8.000	8.200
Potassium	mg/L		9.700	8.100	8.600	7.800	9.800
Reactive Silica as SiO2	mg/L		64.000	63.000	63.000	61.000	65.000
Selenium	mg/L	0.011	0.002	<0.001	0.001	0.001	0.001
Silica	mg/L		58.000	57.000	57.000	56.000	57.000
Sodium	mg/L		88.000	66.000	83.000	67.000	84.000
Sulphate as SO4 2-	mg/L		54.000	46.000	50.000	46.000	53.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	54.000
Total Alkalinity as CaCO3	mg/L		290.000	260.000	260.000	250.000	280.000
Total Dissolved Solids at 180°C	mg/L		560.000	460.000	500.000	440.000	530.000
Total Hardness as CaCO3	mg/L		330.000	250.000	280.000	240.000	300.000
Zinc	mg/L	0.072	0.006	0.022	0.006	0.010	0.006

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 5			
			HYW0132P	HYW0133P	HYW0134P	
Recording Type Name	Unit	Trigger Values	Mar - 21	Oct - 20	Oct - 20	Mar - 21
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	0.059	0.052	0.050	0.050
Bicarbonate Alkalinity as HCO3	mg/L		390.000	400.000	420.000	410.000
Boron	mg/L	0.37	0.370	0.410	0.390	0.340
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		57.000	59.000	58.000	58.000
Chloride	mg/L		140.000	140.000	130.000	130.000
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	1100.000	1100.000	1100.000	1100.000
Fluoride	mg/L		0.500	0.500	0.500	0.500
Iron Sol.	mg/L	0.3	<0.005	0.006	<0.005	<0.005
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		49.000	52.000	53.000	50.000
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	0.004	<0.001	<0.001
Nitrate as NO3	mg/L	4.0	6.500	6.300	10.000	11.000
pH	pH	6.5-8.0	8.100	8.200	8.200	8.200
Potassium	mg/L		9.600	9.500	8.800	8.600
Reactive Silica as SiO2	mg/L		62.000	63.000	63.000	62.000
Selenium	mg/L	0.011	0.002	0.002	0.002	0.003
Silica	mg/L		57.000	57.000	56.000	57.000
Sodium	mg/L		88.000	100.000	100.000	89.000
Sulphate as SO4 2-	mg/L		61.000	64.000	62.000	60.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		320.000	330.000	340.000	340.000
Total Dissolved Solids at 180°C	mg/L		620.000	630.000	640.000	620.000
Total Hardness as CaCO3	mg/L		350.000	360.000	360.000	350.000
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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 6	
			HYW0175P	HYW0176P
Recording Type Name	Unit	Trigger Values	Oct - 20	Oct - 20
Aluminium	mg/L	0.1	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001
Barium	mg/L	0.088	0.044	0.013
Bicarbonate Alkalinity as HCO3	mg/L		530.000	540.000
Boron	mg/L	0.37	0.540	0.790
Cadmium	mg/L	0.001	<0.0001	<0.0001
Calcium	mg/L		62.000	54.000
Chloride	mg/L		160.000	180.000
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	1300.000	1400.000
Fluoride	mg/L		0.600	0.600
Iron Sol.	mg/L	0.3	<0.005	<0.005
Lead	mg/L	0.005	<0.001	<0.001
Magnesium	mg/L		56.000	64.000
Manganese	mg/L	1.9	<0.001	<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	0.004	<0.001
Nitrate as NO3	mg/L	4.0	20.000	48.000
pH	pH	6.5-8.0	7.900	8.200
Potassium	mg/L		8.100	3.700
Reactive Silica as SiO2	mg/L		59.000	65.000
Selenium	mg/L	0.011	0.002	0.003
Silica	mg/L		51.000	57.000
Sodium	mg/L		130.000	160.000
Sulphate as SO4 2-	mg/L		58.000	65.000
Suspended Solids (SS)	mg/L		<5	<5
Total Alkalinity as CaCO3	mg/L		430.000	440.000
Total Dissolved Solids at 180°C	mg/L		730.000	840.000
Total Hardness as CaCO3	mg/L		380.000	400.000
Zinc	mg/L	0.072	0.007	0.016

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Central 1				
			HYC0012P	HYC0015P			
Recording Type Name	Unit	Trigger Values	Oct - 20	Sep - 20	Oct - 20	Mar - 21	Mar - 21
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	0.019	0.057	0.047	0.051	0.058
Bicarbonate Alkalinity as HCO3	mg/L		430.000	370.000	390.000		470.000
Boron	mg/L	0.37	0.580	0.410	0.380	0.470	0.360
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		61.000	59.000	59.000		57.000
Chloride	mg/L		170.000	160.000	160.000		160.000
Chromium	mg/L	0.001	<0.001	<0.001	<0.001		<0.001
Copper	mg/L	0.01	<0.001	0.002	<0.001	0.006	<0.001
Electrical Conductivity at 25°C	µS/cm	90-1000	1300.000		1200.000		1200.000
Fluoride	mg/L		0.600	0.500	0.500		<0.1
Iron Sol.	mg/L	0.3	<0.005		<0.005		<0.005
Iron Tot.	mg/L			<0.005		<0.005	
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		69.000	55.000	55.000		55.000
Manganese	mg/L	1.9	0.003	<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 NO3	mg/L	4.0	15.000	14.000	16.000		16.000
pH	pH	6.5-8.0	8.000		7.600		7.700
Potassium	mg/L		6.500	7.600	7.400		7.700
Reactive Silica as SiO2	mg/L		57.000		61.000		59.000
Selenium	mg/L	0.011	0.002	<0.001	0.001	<0.001	0.001
Silica	mg/L		51.000	55.000	53.000		54.000
Sodium	mg/L		100.000	94.000	98.000		110.000
Sulphate as SO4 2-	mg/L		87.000	75.000	79.000		78.000
Suspended Solids (SS)	mg/L		<5	<5	<5		<5
Total Alkalinity as CaCO3	mg/L		350.000	300.000	320.000		380.000
Total Dissolved Solids at 180°C	mg/L		750.000	690.000	700.000		730.000
Total Hardness as CaCO3	mg/L		440.000	370.000	380.000		370.000
Zinc	mg/L	0.072	0.005	<0.005	0.006	0.008	<0.005

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Central 5					
			HNPIYC0034P		HYC0031P		HYC0068P	
Recording Type Name	Unit	Trigger Values	Dec - 20	Mar - 21	Oct - 20	Mar - 21	Oct - 20	Mar - 21
Aluminium	mg/L	0.1	0.008	<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	<0.001
Barium	mg/L	0.088	0.025	0.021	0.030	0.039	0.025	0.030
Bicarbonate Alkalinity as HCO3	mg/L		370.000	350.000	300.000	280.000	350.000	340.000
Boron	mg/L	0.37	0.360	0.350	0.290	0.270	0.330	0.290
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		43.000	45.000	40.000	39.000	45.000	42.000
Chloride	mg/L		180.000	110.000	100.000	100.000	110.000	110.000
Chromium	mg/L	0.001	0.031	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	0.01	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Electrical Conductivity at 25°C	µS/cm	90-1000			830.000	870.000	930.000	980.000
Fluoride	mg/L		0.700	0.700	0.600	0.500	0.800	0.700
Iron Sol.	mg/L	0.3			0.022	0.007	<0.005	<0.005
Iron Tot.	mg/L		0.310	0.006				
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		46.000	47.000	39.000	39.000	47.000	47.000
Manganese	mg/L	1.9	0.027	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.0006	0.000	<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
Nickel	mg/L	0.11	0.011	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate as NO3	mg/L	4.0	12.000	23.000	9.900	11.000	22.000	21.000
pH	pH	6.5-8.0			7.800	8.000	8.100	8.200
Potassium	mg/L		7.000	6.800	5.900	6.200	6.000	6.200
Reactive Silica as SiO2	mg/L				60.000	57.000	60.000	58.000
Selenium	mg/L	0.011	0.003	<0.001	<0.001	0.001	0.001	<0.001
Silica	mg/L		51.000	51.000	51.000	52.000	52.000	52.000
Sodium	mg/L		120.000	80.000	75.000	81.000	83.000	89.000
Sulphate as SO4 2-	mg/L		52.000	54.000	55.000	55.000	56.000	57.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		300.000	290.000	240.000	230.000	290.000	280.000
Total Dissolved Solids at 180°C	mg/L		660.000	610.000	490.000	510.000	540.000	580.000
Total Hardness as CaCO3	mg/L		300.000	300.000	260.000	260.000	300.000	300.000
Zinc	mg/L	0.072	0.580	0.006	0.018	0.009	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 1 & 2	
			HYE0023P	HYE0051P
Recording Type Name	Unit	Trigger Values	Mar - 21	Mar - 21
Aluminium	mg/L	0.1	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001
Barium	mg/L	0.088	0.041	0.042
Bicarbonate Alkalinity as HCO3	mg/L		340.000	290.000
Boron	mg/L	0.37	0.320	0.310
Cadmium	mg/L	0.001	<0.0001	<0.0001
Calcium	mg/L		48.000	43.000
Chloride	mg/L		130.000	120.000
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	1000.000	940.000
Fluoride	mg/L		0.500	0.500
Iron Sol.	mg/L	0.3	<0.005	<0.005
Lead	mg/L	0.005	<0.001	<0.001
Magnesium	mg/L		48.000	43.000
Manganese	mg/L	1.9	<0.001	<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 NO3	mg/L	4.0	5.500	16.000
pH	pH	6.5-8.0	8.200	8.100
Potassium	mg/L		6.100	6.000
Reactive Silica as SiO2	mg/L		53.000	54.000
Selenium	mg/L	0.011	<0.001	<0.001
Silica	mg/L		48.000	48.000
Sodium	mg/L		87.000	86.000
Sulphate as SO4 2-	mg/L		54.000	48.000
Suspended Solids (SS)	mg/L		<5	<5
Total Alkalinity as CaCO3	mg/L		280.000	240.000
Total Dissolved Solids at 180°C	mg/L		590.000	550.000
Total Hardness as CaCO3	mg/L		320.000	280.000
Zinc	mg/L	0.072	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 3,5,6				
			HYE0027P		HYE0055P		SYAN0002
Recording Type Name	Unit	Trigger Values	Oct - 20	Mar - 21	Oct - 20	Mar - 21	Mar - 21
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	0.026	0.033	0.025	0.032	0.041
Bicarbonate Alkalinity as HCO3	mg/L		250.000	220.000	330.000	310.000	180.000
Boron	mg/L	0.37	0.300	0.230	0.500	0.410	0.220
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		37.000	35.000	43.000	40.000	35.000
Chloride	mg/L		80.000	82.000	93.000	79.000	96.000
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	690.000	730.000	840.000	860.000	760.000
Fluoride	mg/L		0.500	0.500	0.500	0.500	0.700
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		31.000	30.000	41.000	40.000	30.000
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 NO3	mg/L	4.0	14.000	28.000	40.000	42.000	37.000
pH	pH	6.5-8.0	7.700	7.900	8.100	8.200	8.300
Potassium	mg/L		4.800	4.900	4.700	4.800	5.000
Reactive Silica as SiO2	mg/L		52.000	49.000	55.000	54.000	45.000
Selenium	mg/L	0.011	0.001	<0.001	0.001	<0.001	<0.001
Silica	mg/L		44.000	43.000	48.000	49.000	40.000
Sodium	mg/L		50.000	53.000	77.000	81.000	76.000
Sulphate as SO4 2-	mg/L		40.000	43.000	44.000	44.000	54.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		200.000	180.000	270.000	250.000	150.000
Total Dissolved Solids at 180°C	mg/L		400.000	450.000	490.000	500.000	460.000
Total Hardness as CaCO3	mg/L		220.000	210.000	280.000	260.000	210.000
Zinc	mg/L	0.072	0.038	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 7			
			HYE0180P		HYE0181P	
Recording Type Name	Unit	Trigger Values	Oct - 20	Mar - 21	Oct - 20	Mar - 21
Aluminium	mg/L	0.1	<0.005	<0.005	0.017	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.017	0.020	0.026	0.035
Bicarbonate Alkalinity as HCO3	mg/L		390.000	480.000	330.000	260.000
Boron	mg/L	0.37	0.540	0.500	0.420	0.300
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		45.000	43.000	44.000	40.000
Chloride	mg/L		78.000	96.000	83.000	73.000
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	900.000	950.000	800.000	870.000
Fluoride	mg/L		0.800	0.800	0.600	0.500
Iron Sol.	mg/L	0.3	0.009	0.008	0.010	<0.005
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		44.000	44.000	40.000	38.000
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 NO3	mg/L	4.0	7.600	7.100	16.000	89.000
pH	pH	6.5-8.0	8.200	8.300	8.100	8.200
Potassium	mg/L		5.300	5.500	5.300	5.300
Reactive Silica as SiO2	mg/L		54.000	53.000	59.000	56.000
Selenium	mg/L	0.011	0.001	<0.001	<0.001	0.001
Silica	mg/L		48.000	48.000	54.000	51.000
Sodium	mg/L		85.000	91.000	80.000	80.000
Sulphate as SO4 2-	mg/L		44.000	44.000	43.000	43.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		320.000	400.000	270.000	220.000
Total Dissolved Solids at 180°C	mg/L		510.000	540.000	480.000	530.000
Total Hardness as CaCO3	mg/L		290.000	290.000	280.000	260.000
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 10.6: Laboratory Chemistry Results from Production Bores

			Spinifex Camp			
			HNPISP0001P		HNPISP0002P	
Recording Type Name	Unit	Trigger Values	Dec - 21	Jun - 22	Dec - 21	Jun - 22
Aluminium	mg/L	0.1	<0.005	0.007	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.083	0.081	0.083	0.083
Bicarbonate Alkalinity as HCO3	mg/L		500.000	510.000	490.000	510.000
Boron	mg/L	0.37	0.440	0.480	0.470	0.510
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		72.000	68.000	73.000	66.000
Chloride	mg/L		110.000	110.000	130.000	130.000
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
Fluoride	mg/L		0.500	0.500	0.500	0.600
Iron Tot.	mg/L		<0.005	0.007	<0.005	0.009
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		62.000	60.000	65.000	60.000
Manganese	mg/L	1.9	<0.001	0.005	<0.001	0.003
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	0.002
Nitrate as NO3	mg/L	4.0	14.000	14.000	12.000	12.000
Potassium	mg/L		14.000	14.000	14.000	13.000
Selenium	mg/L	0.011	0.002	0.002	0.003	<0.001
Silica	mg/L		74.000	71.000	73.000	66.000
Sodium	mg/L		100.000	100.000	110.000	100.000
Sulphate as SO4 2-	mg/L		60.000	61.000	71.000	74.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		410.000	420.000	400.000	420.000
Total Dissolved Solids at 180°C	mg/L		680.000	690.000	730.000	760.000
Total Hardness as CaCO3	mg/L		430.000	420.000	450.000	410.000
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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 1				
			HYW0010P	HYW0180P	HYW0212P		SYAN0043
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22	Jun - 22
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	0.081	0.080	0.077	0.084	0.044
Bicarbonate Alkalinity as HCO3	mg/L		490.000	500.000	380.000	360.000	270.000
Boron	mg/L	0.37	0.370	0.560	0.380	0.410	0.300
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		66.000	66.000	64.000	72.000	43.000
Chloride	mg/L		120.000	130.000	140.000	160.000	95.000
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	1200.000	1200.000	1200.000	1200.000	780.000
Fluoride	mg/L		0.600	0.700	0.600	0.600	0.700
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		61.000	60.000	56.000	62.000	38.000
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 N	mg/L	0.9	2.900		14.000		
Nitrate as NO3	mg/L	4.0		10.000		66.000	20.000
pH	pH	6.5-8.0	8.100	7.900	8.200	7.900	8.200
Potassium	mg/L		13.000	13.000	13.000	14.000	8.900
Reactive Silica as SiO2	mg/L		70.000	72.000	66.000	70.000	61.000
Selenium	mg/L	0.011	0.002	0.002	0.001	0.001	<0.001
Silica	mg/L		68.000	68.000	64.000	67.000	58.000
Sodium	mg/L		100.000	100.000	96.000	100.000	79.000
Sulphate as SO4 2-	mg/L		67.000	68.000	67.000	75.000	51.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		400.000	410.000	310.000	300.000	220.000
Total Dissolved Solids at 180°C	mg/L		710.000	710.000	710.000	770.000	480.000
Total Hardness as CaCO3	mg/L		420.000	410.000	390.000	430.000	260.000
Zinc	mg/L	0.072	<0.005	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 2			
			HYW0237P		HYW0238P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22
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	0.083	0.085	0.079	0.084
Bicarbonate Alkalinity as HCO3	mg/L		460.000	470.000	470.000	480.000
Boron	mg/L	0.37	0.410	0.450	0.390	0.440
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		68.000	73.000	67.000	73.000
Chloride	mg/L		150.000	160.000	140.000	140.000
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	1200.000	1200.000	1200.000	1200.000
Fluoride	mg/L		0.600	0.600	0.600	0.600
Iron Sol.	mg/L	0.3	0.006	0.007	<0.005	<0.005
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		61.000	64.000	61.000	64.000
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 N	mg/L	0.9	2.000		2.400	
Nitrate as NO3	mg/L	4.0		8.500		10.000
pH	pH	6.5-8.0	8.100	7.900	8.100	7.900
Potassium	mg/L		13.000	13.000	13.000	13.000
Reactive Silica as SiO2	mg/L		67.000	69.000	67.000	71.000
Selenium	mg/L	0.011	0.002	0.002	0.002	0.003
Silica	mg/L		65.000	68.000	65.000	69.000
Sodium	mg/L		100.000	110.000	100.000	110.000
Sulphate as SO4 2-	mg/L		73.000	75.000	69.000	71.000
Suspended Solids (SS)	mg/L		<5	27.000	<5	<5
Total Alkalinity as CaCO3	mg/L		380.000	390.000	390.000	390.000
Total Dissolved Solids at 180°C	mg/L		720.000	750.000	710.000	730.000
Total Hardness as CaCO3	mg/L		420.000	450.000	420.000	450.000
Zinc	mg/L	0.072	<0.005	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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 3	
			HYW1015P	HYW1016P
Recording Type Name	Unit	Trigger Values	Mar - 22	Mar - 22
Aluminium	mg/L	0.1	<0.005	<0.005
Arsenic	mg/L	0.013	<0.001	<0.001
Barium	mg/L	0.088	0.058	0.060
Bicarbonate Alkalinity as HCO3	mg/L		380.000	420.000
Boron	mg/L	0.37	0.470	0.460
Cadmium	mg/L	0.001	<0.0001	<0.0001
Calcium	mg/L		61.000	64.000
Chloride	mg/L		150.000	150.000
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	1100.000	1200.000
Fluoride	mg/L		0.500	0.500
Iron Sol.	mg/L	0.3	0.016	0.014
Lead	mg/L	0.005	<0.001	<0.001
Magnesium	mg/L		57.000	57.000
Manganese	mg/L	1.9	0.008	0.007
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 NO3	mg/L	4.0	7.300	9.500
pH	pH	6.5-8.0	8.500	8.400
Potassium	mg/L		11.000	12.000
Selenium	mg/L	0.011	0.002	0.002
Silica	mg/L		59.000	59.000
Sodium	mg/L		110.000	110.000
Sulphate as SO4 2-	mg/L		69.000	71.000
Suspended Solids (SS)	mg/L		5.000	10.000
Total Alkalinity as CaCO3	mg/L		330.000	350.000
Total Dissolved Solids at 180°C	mg/L		690.000	750.000
Total Hardness as CaCO3	mg/L		390.000	400.000
Zinc	mg/L	0.072	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 4				
			HYW0030P		HYW0051P		SYAN0042
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22	Jun - 22
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	0.057	0.055	0.046	0.045	0.056
Bicarbonate Alkalinity as HCO3	mg/L		340.000	330.000	300.000	290.000	320.000
Boron	mg/L	0.37	0.290	0.330	0.280	0.330	0.330
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		51.000	50.000	43.000	44.000	48.000
Chloride	mg/L		110.000	110.000	100.000	100.000	120.000
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	930.000	870.000	830.000	800.000	890.000
Fluoride	mg/L		0.500	0.600	0.500	0.600	0.600
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		45.000	43.000	39.000	40.000	42.000
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 N	mg/L	0.9	1.500		1.200		
Nitrate as NO3	mg/L	4.0		6.400		5.100	6.200
pH	pH	6.5-8.0	8.000	7.900	8.000	8.200	8.000
Potassium	mg/L		9.200	9.200	8.300	8.600	8.800
Reactive Silica as SiO2	mg/L		61.000	63.000	60.000	63.000	62.000
Selenium	mg/L	0.011	0.001	0.001	0.001	0.001	0.001
Silica	mg/L		59.000	61.000	57.000	61.000	56.000
Sodium	mg/L		86.000	84.000	81.000	83.000	82.000
Sulphate as SO4 2-	mg/L		55.000	56.000	50.000	51.000	54.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		280.000	270.000	250.000	240.000	260.000
Total Dissolved Solids at 180°C	mg/L		560.000	530.000	510.000	490.000	540.000
Total Hardness as CaCO3	mg/L		310.000	300.000	270.000	270.000	290.000
Zinc	mg/L	0.072	<0.005	<0.005	<0.005	<0.005	0.063

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 5			
			HYW0132P		HYW0134P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22
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	0.064	0.067	0.056	0.060
Bicarbonate Alkalinity as HCO3	mg/L		390.000	390.000	400.000	410.000
Boron	mg/L	0.37	0.330	0.430	0.310	0.400
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		57.000	57.000	56.000	56.000
Chloride	mg/L		140.000	150.000	130.000	130.000
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	1100.000	1100.000	1100.000	1100.000
Fluoride	mg/L		0.500	0.500	0.500	0.500
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		52.000	51.000	52.000	52.000
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 N	mg/L	0.9	1.400		2.500	
Nitrate as NO3	mg/L	4.0		6.200		12.000
pH	pH	6.5-8.0	8.000	7.700	8.100	7.700
Potassium	mg/L		9.600	9.700	8.600	8.600
Reactive Silica as SiO2	mg/L		61.000	63.000	59.000	62.000
Selenium	mg/L	0.011	0.002	0.002	0.002	0.003
Silica	mg/L		58.000	58.000	57.000	57.000
Sodium	mg/L		99.000	100.000	99.000	100.000
Sulphate as SO4 2-	mg/L		63.000	66.000	63.000	65.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		320.000	320.000	330.000	330.000
Total Dissolved Solids at 180°C	mg/L		650.000	630.000	640.000	630.000
Total Hardness as CaCO3	mg/L		360.000	350.000	360.000	350.000
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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Western 6						
			HYW0175P	HYW0176P		HYW0355P	HYW1021P	HYW1024P	SYAN0040
Recording Type Name	Unit	Trigger Values	Sep - 21	Sep - 21	Jun - 22	Jun - 22	Mar - 22	Mar - 22	Sep - 21
Aluminium	mg/L	0.1	<0.005	<0.005	<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	0.002	<0.001
Barium	mg/L	0.088	0.052	0.015	0.016	0.053	0.010	0.018	0.025
Bicarbonate Alkalinity as HCO3	mg/L		500.000	510.000	520.000	380.000	510.000	430.000	420.000
Boron	mg/L	0.37	0.450	0.830	0.830	0.420	0.900	0.770	0.560
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		61.000	51.000	56.000	54.000	47.000	61.000	56.000
Chloride	mg/L		170.000	180.000	190.000	140.000	170.000	140.000	160.000
Chromium	mg/L	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
Electrical Conductivity at 25°C	µS/cm	90-1000	1300.000	1400.000	1400.000	1000.000	1400.000	1200.000	1200.000
Fluoride	mg/L		0.500	0.600	0.600	0.500	0.700	0.600	0.700
Iron Sol.	mg/L	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	0.009	<0.005
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		57.000	64.000	68.000	49.000	58.000	67.000	62.000
Manganese	mg/L	1.9	<0.001	<0.001	<0.001	<0.001	0.006	0.041	<0.001
Mercury	mg/L	0.0006	<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
Nickel	mg/L	0.11	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate as N	mg/L	0.9	5.200	13.000					7.100
Nitrate as NO3	mg/L	4.0			50.000	12.000	32.000	10.000	
pH	pH	6.5-8.0	8.100	8.200	7.800	7.600	8.400	8.300	8.200
Potassium	mg/L		7.500	3.700	3.700	7.500	3.700	4.800	4.000
Reactive Silica as SiO2	mg/L		56.000	60.000	64.000	60.000	61.000	53.000	53.000
Selenium	mg/L	0.011	0.002	0.002	0.003	0.002	0.001	0.001	<0.001
Silica	mg/L		53.000	59.000	60.000	54.000	56.000	50.000	50.000
Sodium	mg/L		140.000	160.000	160.000	100.000	170.000	100.000	120.000
Sulphate as SO4 2-	mg/L		64.000	66.000	71.000	65.000	59.000	68.000	68.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	12.000	20.000	5.000
Total Alkalinity as CaCO3	mg/L		410.000	410.000	430.000	310.000	440.000	360.000	340.000
Total Dissolved Solids at 180°C	mg/L		790.000	860.000	870.000	630.000	870.000	690.000	730.000
Total Hardness as CaCO3	mg/L		390.000	390.000	420.000	340.000	360.000	430.000	400.000
Zinc	mg/L	0.072	0.005	<0.005	<0.005	0.017	<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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Central 1			
			HYC0012P		HYC0015P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22
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	0.021	0.020	0.051	0.058
Bicarbonate Alkalinity as HCO3	mg/L		420.000	420.000	380.000	380.000
Boron	mg/L	0.37	0.650	0.580	0.420	0.430
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		62.000	61.000	61.000	59.000
Chloride	mg/L		170.000	180.000	160.000	170.000
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	1200.000	1300.000	1200.000	1200.000
Fluoride	mg/L		0.600	0.600	0.500	0.600
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		68.000	70.000	56.000	57.000
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 NO3	mg/L	4.0	16.000	18.000	17.000	17.000
pH	pH	6.5-8.0	7.700	7.700	7.600	7.500
Potassium	mg/L		6.500	6.500	7.600	7.700
Reactive Silica as SiO2	mg/L		53.000	60.000	56.000	63.000
Selenium	mg/L	0.011	0.002	0.001	0.002	0.002
Silica	mg/L		54.000	55.000	57.000	55.000
Sodium	mg/L		100.000	110.000	99.000	110.000
Sulphate as SO4 2-	mg/L		90.000	92.000	84.000	87.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		350.000	350.000	310.000	310.000
Total Dissolved Solids at 180°C	mg/L		710.000	750.000	680.000	720.000
Total Hardness as CaCO3	mg/L		430.000	440.000	380.000	380.000
Zinc	mg/L	0.072	<0.005	0.013	0.006	0.007

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Central 5			
			HYC0031P		HYC0068P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22
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	0.033	0.037	0.026	0.029
Bicarbonate Alkalinity as HCO3	mg/L		290.000	280.000	340.000	340.000
Boron	mg/L	0.37	0.310	0.300	0.350	0.360
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		42.000	40.000	46.000	44.000
Chloride	mg/L		110.000	110.000	100.000	110.000
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	820.000	830.000	900.000	910.000
Fluoride	mg/L		0.600	0.600	0.700	0.800
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		41.000	41.000	47.000	48.000
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 NO3	mg/L	4.0	10.000	10.000	18.000	14.000
pH	pH	6.5-8.0	8.000	7.400	8.100	7.500
Potassium	mg/L		6.200	6.200	6.100	6.200
Reactive Silica as SiO2	mg/L		54.000	60.000	55.000	59.000
Selenium	mg/L	0.011	<0.001	0.001	0.001	0.001
Silica	mg/L		56.000	54.000	56.000	54.000
Sodium	mg/L		75.000	82.000	82.000	89.000
Sulphate as SO4 2-	mg/L		58.000	60.000	60.000	62.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		230.000	230.000	280.000	280.000
Total Dissolved Solids at 180°C	mg/L		480.000	510.000	540.000	550.000
Total Hardness as CaCO3	mg/L		270.000	270.000	310.000	310.000
Zinc	mg/L	0.072	0.006	0.020	<0.005	0.008

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 1 & 2							
			HYE0023P		HYE0051P		HYE0193P		HYE0194P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22	Sep - 21	Jun - 22	Sep - 21	Jun - 22
Aluminium	mg/L	0.1	<0.005	<0.005	<0.005	<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	<0.001	<0.001	<0.001
Barium	mg/L	0.088	0.036	0.040	0.036	0.042	0.036	0.041	0.040	0.043
Bicarbonate Alkalinity as HCO3	mg/L		340.000	330.000	290.000	280.000	310.000	310.000	320.000	320.000
Boron	mg/L	0.37	0.380	0.380	0.350	0.340	0.300	0.290	0.300	0.280
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		51.000	50.000	45.000	43.000	49.000	45.000	47.000	45.000
Chloride	mg/L		130.000	130.000	120.000	130.000	130.000	130.000	120.000	120.000
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	940.000	940.000	890.000	880.000	940.000	930.000	920.000	900.000
Fluoride	mg/L		0.500	0.600	0.400	0.500	0.400	0.400	0.400	0.400
Iron Sol.	mg/L	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<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		49.000	50.000	42.000	42.000	45.000	43.000	44.000	43.000
Manganese	mg/L	1.9	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<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	6.800	6.500	19.000	18.000	9.000	8.800	13.000	11.000
pH	pH	6.5-8.0	7.900	7.600	7.900	7.500	7.700	8.000	7.700	7.600
Potassium	mg/L		6.100	6.300	5.900	6.000	6.400	6.400	6.400	6.400
Reactive Silica as SiO2	mg/L		50.000	56.000	50.000	55.000	48.000	53.000	50.000	54.000
Selenium	mg/L	0.011	0.001	0.001	<0.001	<0.001	0.001	0.001	<0.001	0.002
Silica	mg/L		51.000	50.000	50.000	50.000	49.000	46.000	50.000	49.000
Sodium	mg/L		81.000	89.000	77.000	85.000	88.000	93.000	82.000	90.000
Sulphate as SO4 2-	mg/L		55.000	56.000	51.000	52.000	68.000	69.000	57.000	59.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5	<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		280.000	270.000	240.000	230.000	260.000	250.000	260.000	260.000
Total Dissolved Solids at 180°C	mg/L		550.000	560.000	520.000	530.000	540.000	550.000	520.000	540.000
Total Hardness as CaCO3	mg/L		330.000	330.000	280.000	280.000	310.000	290.000	300.000	290.000
Zinc	mg/L	0.072	<0.005	0.012	<0.005	<0.005	0.007	0.010	0.023	0.014

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

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 4			
			HYE1518P	HYE1519P	HYE1523P	
Recording Type Name	Unit	Trigger Values	Feb - 22	Mar - 22	Jan - 22	Jun - 22
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	0.016	0.050	0.019	0.014
Bicarbonate Alkalinity as HCO3	mg/L		380.000	260.000	520.000	490.000
Boron	mg/L	0.37	0.300	0.190	0.460	0.390
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		51.000	47.000	59.000	55.000
Chloride	mg/L		72.000	46.000	100.000	84.000
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	0.01	<0.001	<0.001	0.002	<0.001
Electrical Conductivity at 25°C	µS/cm	90-1000	940.000	640.000	1100.000	1000.000
Fluoride	mg/L		0.500	0.200	0.600	0.600
Iron Sol.	mg/L	0.3	0.017	<0.005	0.008	<0.005
Lead	mg/L	0.005	<0.001	<0.001	0.045	<0.001
Magnesium	mg/L		53.000	29.000	67.000	60.000
Manganese	mg/L	1.9	0.015	0.012	0.020	0.002
Mercury	mg/L	0.0006	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	mg/L	0.034	0.001	<0.001	0.002	<0.001
Nickel	mg/L	0.11	<0.001	<0.001	0.001	<0.001
Nitrate as NO3	mg/L	4.0	77.000	6.900	16.000	57.000
pH	pH	6.5-8.0	8.400	8.300	8.400	8.100
Potassium	mg/L		1.300	6.400	2.100	1.400
Reactive Silica as SiO2	mg/L					68.000
Selenium	mg/L	0.011	0.002	0.001	0.002	0.001
Silica	mg/L		66.000	39.000	61.000	64.000
Sodium	mg/L		83.000	35.000	110.000	94.000
Sulphate as SO4 2-	mg/L		23.000	59.000	38.000	31.000
Suspended Solids (SS)	mg/L		<5	13.000	27.000	<5
Total Alkalinity as CaCO3	mg/L		320.000	220.000	450.000	400.000
Total Dissolved Solids at 180°C	mg/L		610.000	390.000	700.000	660.000
Total Hardness as CaCO3	mg/L		340.000	240.000	420.000	390.000
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 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 3,5,6			
			HYE0027P		HYE0055P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22
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	0.027	0.032	0.028	0.030
Bicarbonate Alkalinity as HCO3	mg/L		250.000	240.000	320.000	320.000
Boron	mg/L	0.37	0.290	0.260	0.510	0.500
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		37.000	37.000	43.000	41.000
Chloride	mg/L		76.000	79.000	79.000	81.000
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	670.000	660.000	830.000	830.000
Fluoride	mg/L		0.500	0.500	0.500	0.600
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		31.000	32.000	41.000	42.000
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 NO3	mg/L	4.0	14.000	11.000	44.000	42.000
pH	pH	6.5-8.0	7.700	7.600	8.100	7.700
Potassium	mg/L		4.800	5.100	4.700	4.800
Reactive Silica as SiO2	mg/L		46.000	50.000	51.000	56.000
Selenium	mg/L	0.011	<0.001	0.001	<0.001	0.002
Silica	mg/L		46.000	46.000	51.000	50.000
Sodium	mg/L		44.000	50.000	75.000	83.000
Sulphate as SO4 2-	mg/L		42.000	43.000	45.000	46.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		200.000	200.000	260.000	260.000
Total Dissolved Solids at 180°C	mg/L		400.000	400.000	500.000	510.000
Total Hardness as CaCO3	mg/L		220.000	220.000	280.000	280.000
Zinc	mg/L	0.072	<0.005	<0.005	<0.005	<0.005

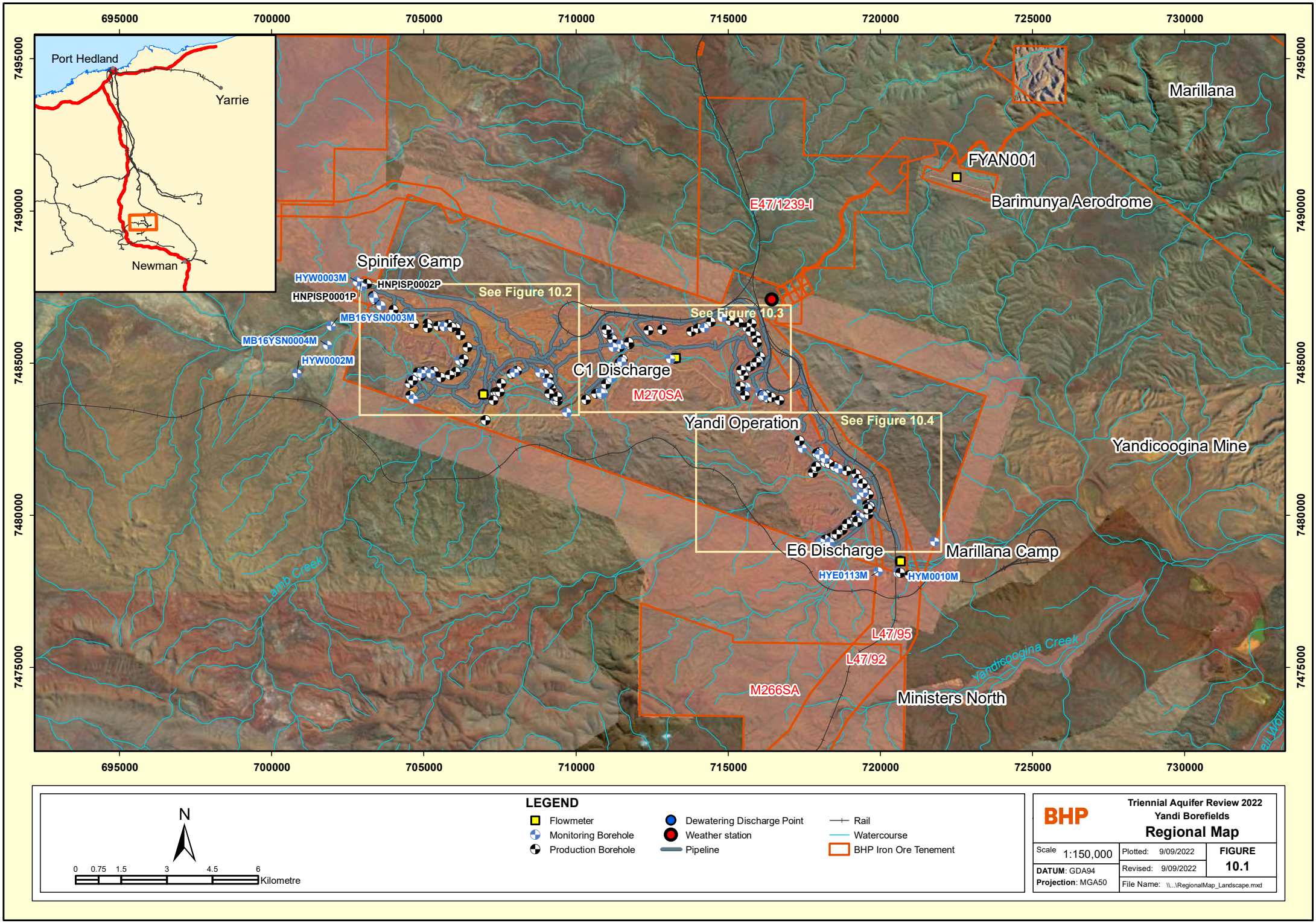
A blank cell indicates not analysed. Values in red indicate that it exceeded the site-specific trigger values. (Golder, 2014)

Table 10.6: Laboratory Chemistry Results from Production Bores (cont'd)

			Eastern 7			
			HYE0180P		HYE0181P	
Recording Type Name	Unit	Trigger Values	Sep - 21	Jun - 22	Sep - 21	Jun - 22
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	0.020	0.029	0.031
Bicarbonate Alkalinity as HCO3	mg/L		380.000	370.000	310.000	330.000
Boron	mg/L	0.37	0.610	0.580	0.420	0.500
Cadmium	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L		46.000	42.000	43.000	40.000
Chloride	mg/L		96.000	94.000	82.000	89.000
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	890.000	860.000	810.000	810.000
Fluoride	mg/L		0.500	0.800	0.600	0.600
Iron Sol.	mg/L	0.3	0.012	<0.005	<0.005	<0.005
Lead	mg/L	0.005	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L		45.000	43.000	39.000	38.000
Manganese	mg/L	1.9	0.003	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 NO3	mg/L	4.0	6.300	4.400	36.000	15.000
pH	pH	6.5-8.0	8.200	8.000	8.200	7.800
Potassium	mg/L		5.500	5.400	5.100	5.200
Reactive Silica as SiO2	mg/L		50.000	55.000	54.000	59.000
Selenium	mg/L	0.011	0.001	0.001	<0.001	0.001
Silica	mg/L		51.000	50.000	54.000	52.000
Sodium	mg/L		85.000	90.000	76.000	84.000
Sulphate as SO4 2-	mg/L		46.000	46.000	45.000	44.000
Suspended Solids (SS)	mg/L		<5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L		320.000	300.000	260.000	270.000
Total Dissolved Solids at 180°C	mg/L		510.000	500.000	490.000	500.000
Total Hardness as CaCO3	mg/L		300.000	280.000	270.000	260.000
Zinc	mg/L	0.072	<0.005	0.010	<0.005	<0.005

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

Figures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Port Hedland
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Marillana
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Barimunya Aerodrome
E47/1239-I
Spinifex Camp
HYW0003M
HNPISP0002P
HNPISP0001P
MB16YSN0003M
MB16YSN0004M
HYW0002M
See Figure 10.2
See Figure 10.3
See Figure 10.4
C1 Discharge
M270SA
Yandi Operation
Yandicoogina Mine
E6 Discharge
Marillana Camp
HYE0113M
HYM0010M
Lamb Creek
L47/95
L47/92
M266SA
Ministers North
Yandicoogina Creek
N
0 0.75 1.5 3 4.5 6
Kilometre
LEGEND
Flowmeter
Monitoring Borehole
Production Borehole
Dewatering Discharge Point
Weather station
Pipeline
Rail
Watercourse
BHP Iron Ore Tenement
BHP
Triennial Aquifer Review 2022
Yandi Borefields
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DATUM: GDA94
Projection: MGA50
Plotted: 9/09/2022
Revised: 9/09/2022
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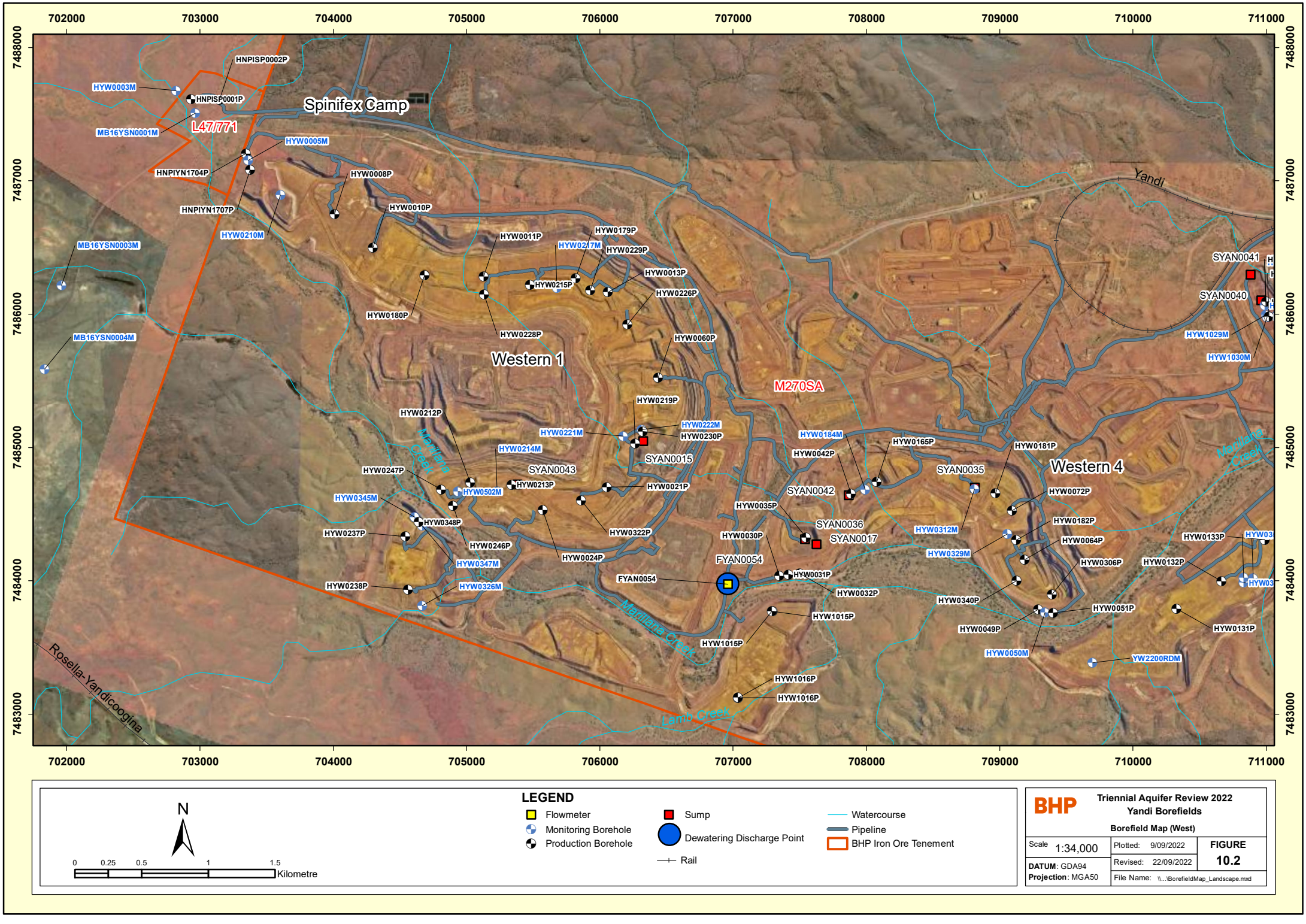
FIGURE
10.1


702000
703000
704000
705000
706000
707000
708000
709000
710000
711000
7488000
7487000
7486000
7485000
7484000
7483000
Spinifex Camp
L47/771
M270SA
Western 1
Western 4
Yandi
HNPISP0002P
HNPISP0001P
HYW0003M
MB16YSN0001M
HYW0005M
HNPIYN1704P
HNPIYN1707P
HYW0008P
HYW0010P
HYW0210M
MB16YSN0003M
MB16YSN0004M
HYW0011P
HYW0179P
HYW0217M
HYW0229P
HYW0215P
HYW0013P
HYW0226P
HYW0180P
HYW0228P
HYW0060P
HYW0219P
HYW0212P
HYW0221M
HYW0222M
HYW0230P
HYW0214M
HYW0247P
HYW0502M
HYW0213P
SYAN0043
SYAN0015
HYW0021P
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HYW0238P
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HYW0030P
HYW0031P
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HYW0035P
SYAN0036
SYAN0017
HYW0042P
HYW0184M
HYW0165P
SYAN0042
SYAN0035
HYW0312M
HYW0329M
HYW0181P
HYW0072P
HYW0182P
HYW0064P
HYW0306P
HYW0340P
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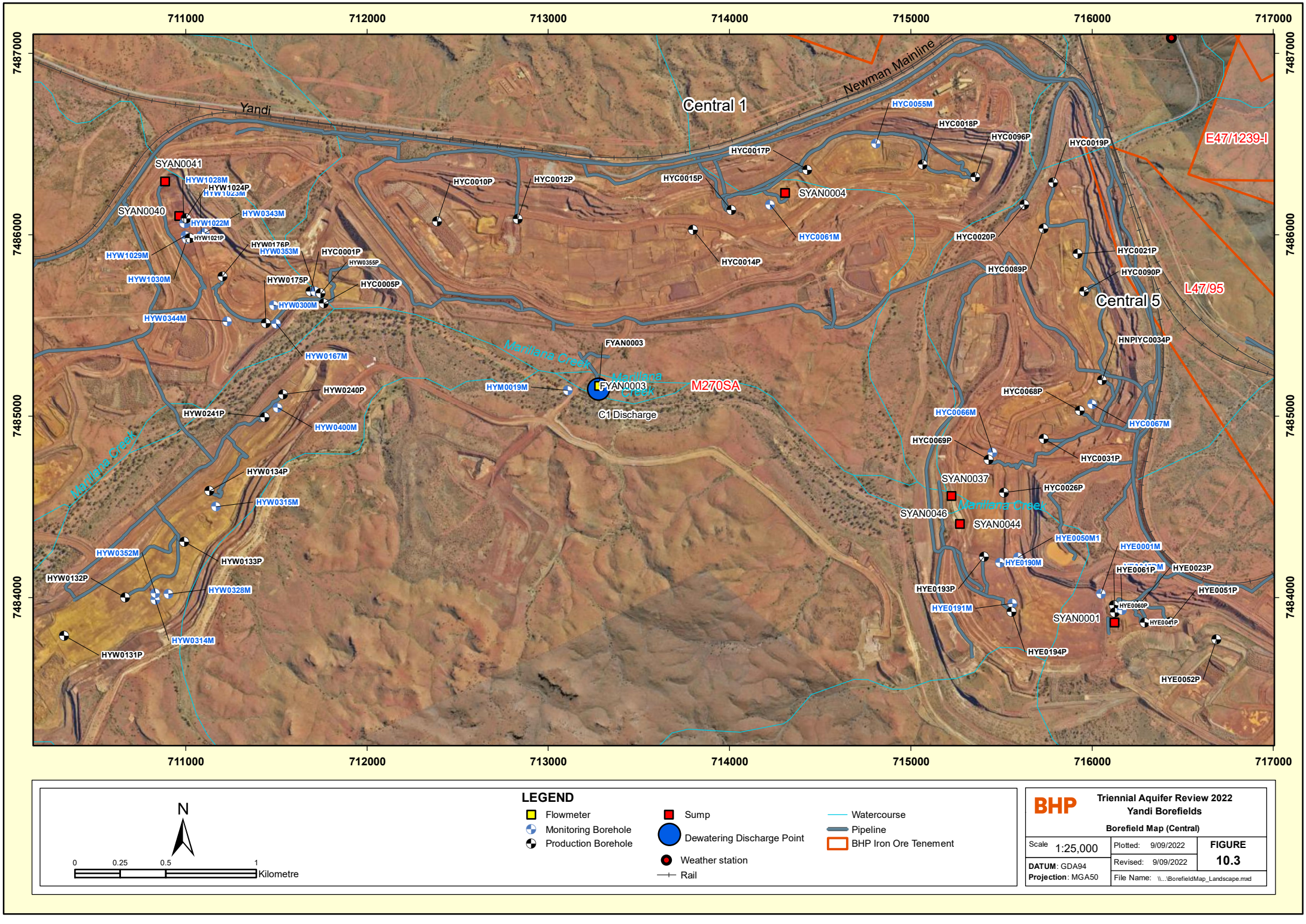
HYW0051P
HYW0133P
HYW0132P
HYW0131P
HYW1015P
HYW1016P
SYAN0041
SYAN0040
HYW1029M
HYW1030M
YW2200RDM
Merriwana Creek
Lamb Creek
Rosella-Yandicoogina
N
0
0.25
0.5
1
1.5
Kilometre
LEGEND
Flowmeter
Monitoring Borehole
Production Borehole
Sump
Dewatering Discharge Point
Rail
Watercourse
Pipeline
BHP Iron Ore Tenement
BHP
Triennial Aquifer Review 2022
Yandi Borefields
Borefield Map (West)
Scale 1:34,000
Plotted: 9/09/2022
FIGURE
10.2
Revised: 22/09/2022
DATUM: GDA94
Projection: MGA50
File Name: \\...\BorefieldMap_Landscape.mxd



LEGEND

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

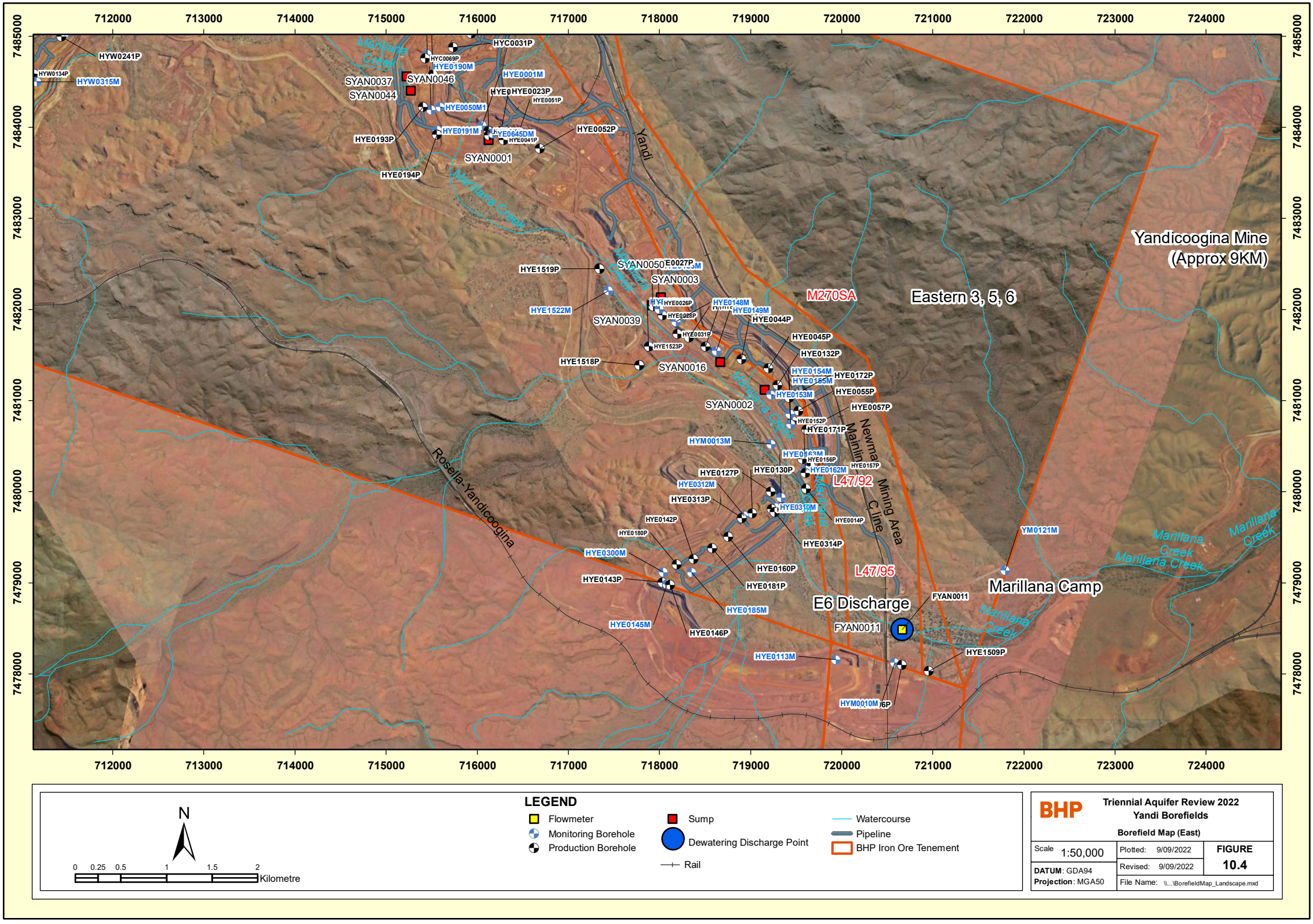
N

0 0.25 0.5 1 Kilometre

BHP

Triennial Aquifer Review 2022
Yandi Borefields
Borefield Map (Central)

Scale 1:25,000	Plotted: 9/09/2022	**FIGURE 10.3**
DATUM: GDA94 **Projection**: MGA50	Revised: 9/09/2022	
	File Name: \\...\BorefieldMap_Landscape.mxd	



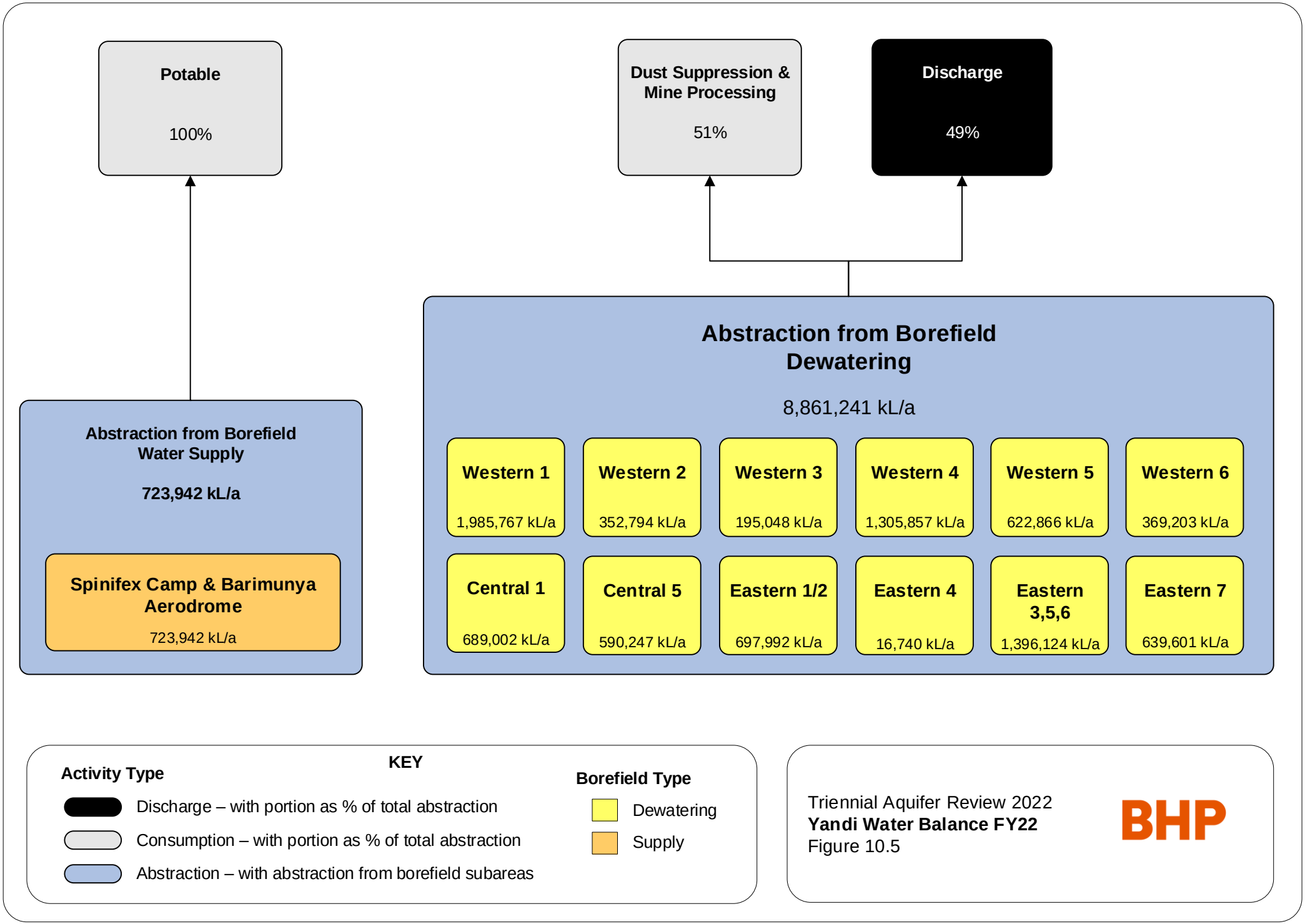
LEGEND

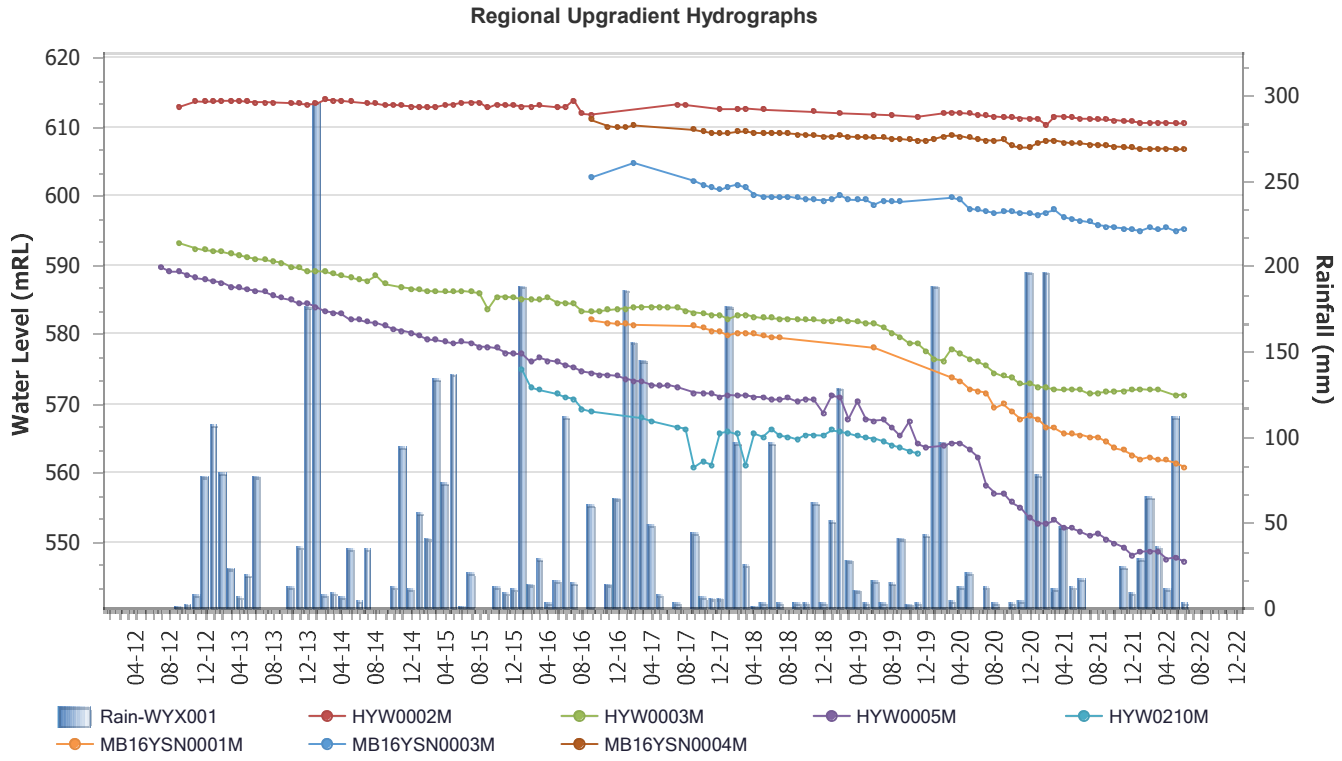
- Flowmeter
- Monitoring Borehole
- Production Borehole
- Sump
- Dewatering Discharge Point
- Rail
- Watercourse
- Pipeline
- BHP Iron Ore Tenement

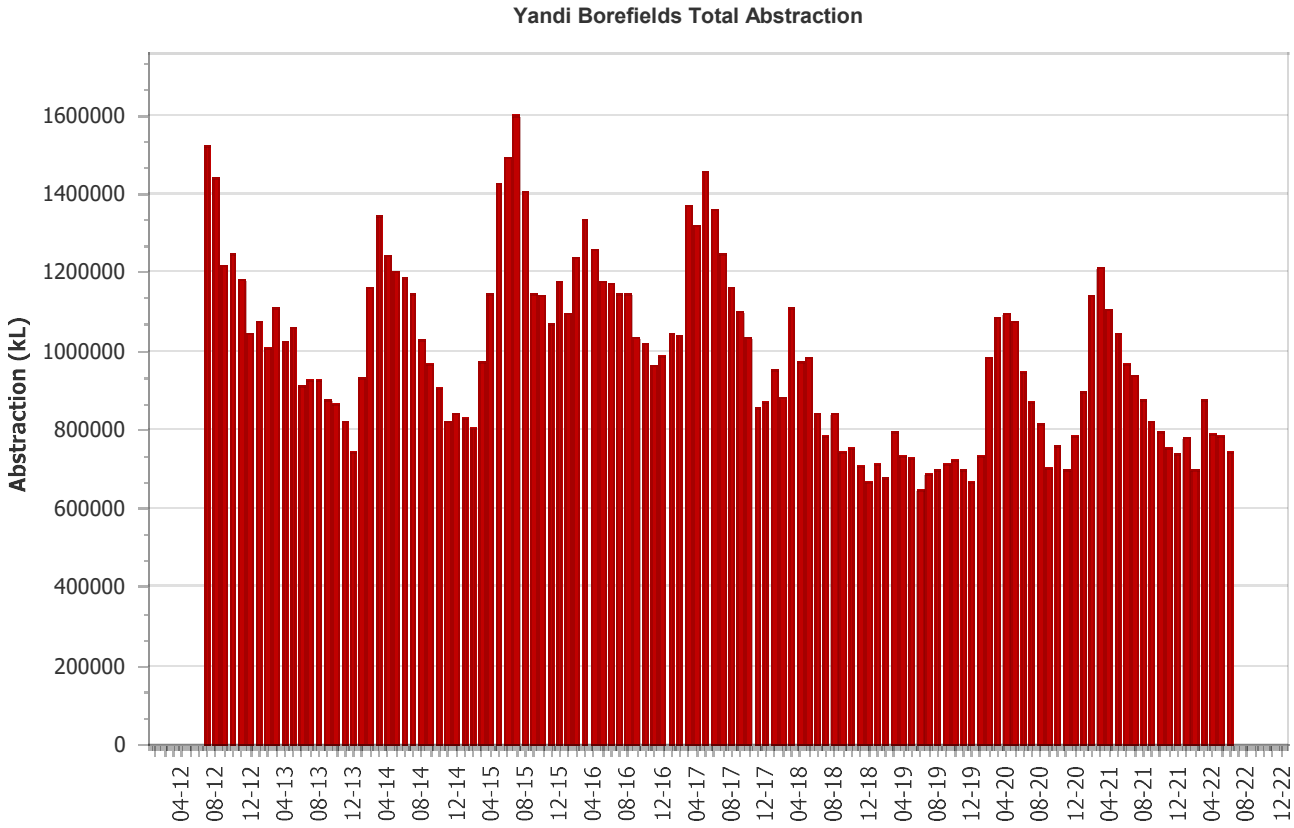
BHP

Triennial Aquifer Review 2022
Yandi Borefields
Borefield Map (East)

Scale 1:50,000	Plotted: 9/09/2022	**FIGURE**
DATUM: GDA94	Revised: 9/09/2022	**10.4**
Projection: MGA50	File Name: \\...\BorefieldMap_Landscape.mxd	

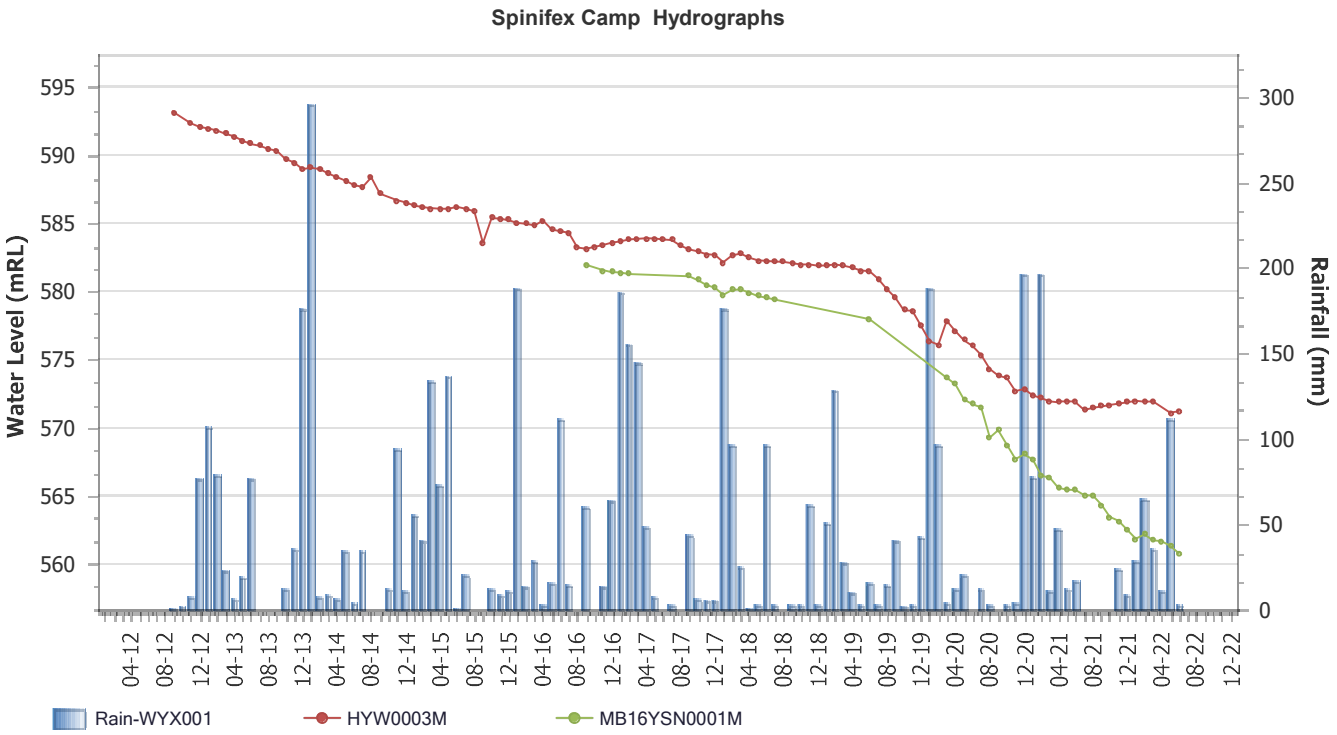

Potable
100%
Dust Suppression & Mine Processing
51%
Discharge
49%
Abstraction from Borefield Water Supply
723,942 kL/a
Spinifex Camp & Barimunya Aerodrome
723,942 kL/a
Abstraction from Borefield Dewatering
8,861,241 kL/a
Western 1
1,985,767 kL/a
Western 2
352,794 kL/a
Western 3
195,048 kL/a
Western 4
1,305,857 kL/a
Western 5
622,866 kL/a
Western 6
369,203 kL/a
Central 1
689,002 kL/a
Central 5
590,247 kL/a
Eastern 1/2
697,992 kL/a
Eastern 4
16,740 kL/a
Eastern 3,5,6
1,396,124 kL/a
Eastern 7
639,601 kL/a
KEY
Activity Type
Discharge – with portion as % of total abstraction
Consumption – with portion as % of total abstraction
Abstraction – with abstraction from borefield subareas
Borefield Type
Dewatering
Supply
Triennial Aquifer Review 2022
Yandi Water Balance FY22
Figure 10.5
BHP

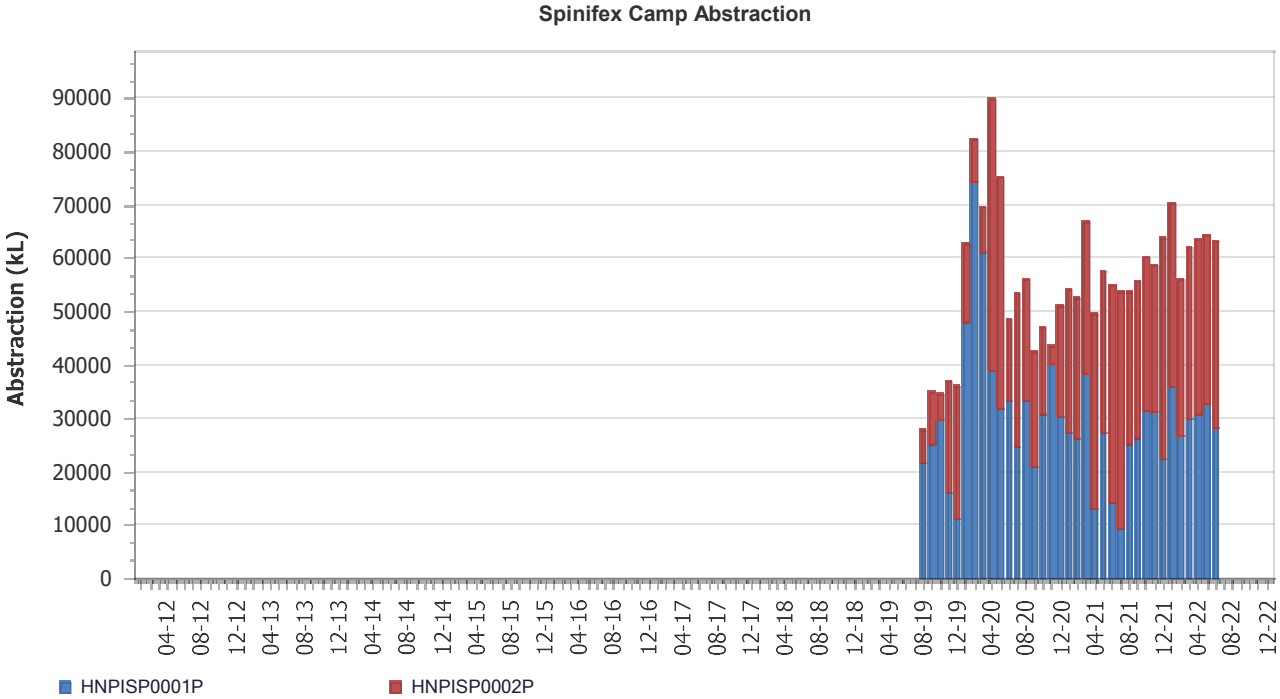




Monitoring summary: Regional Upgradient Hydrographs

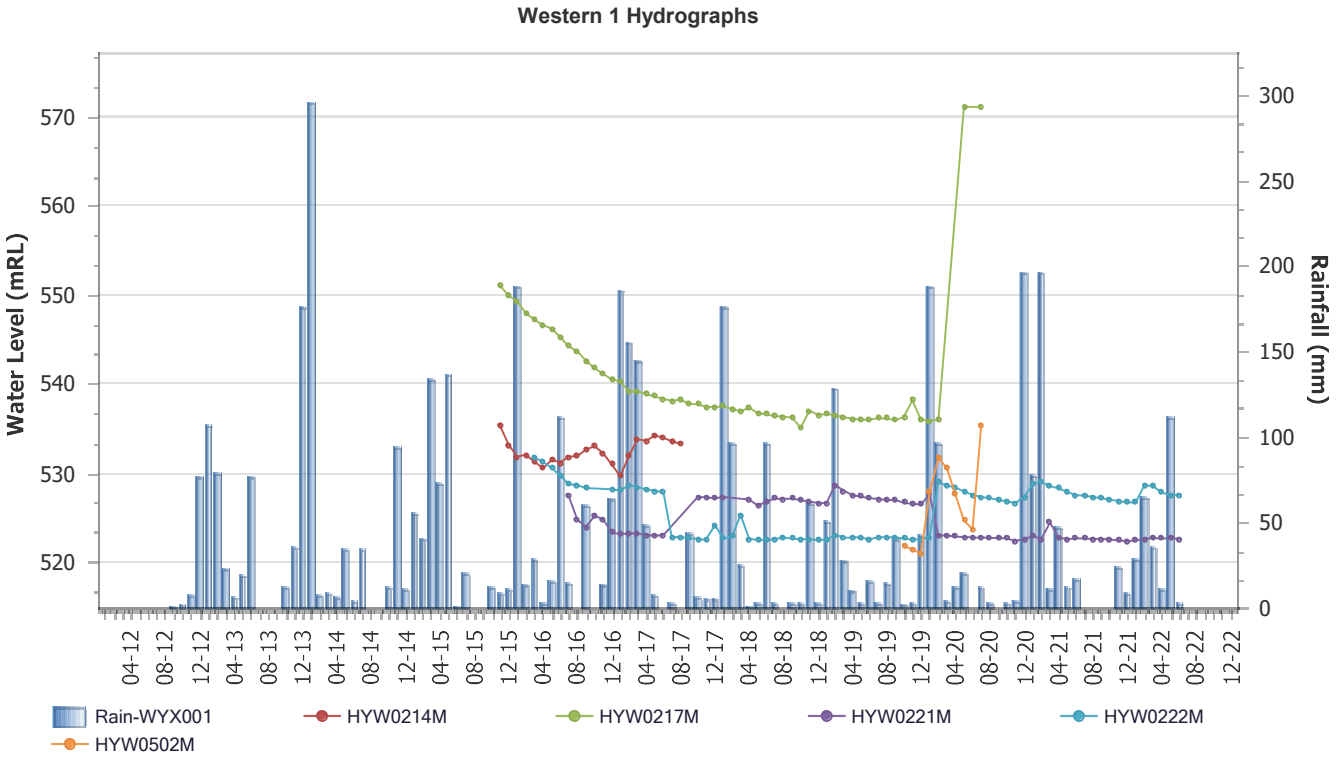
Figure 10.6

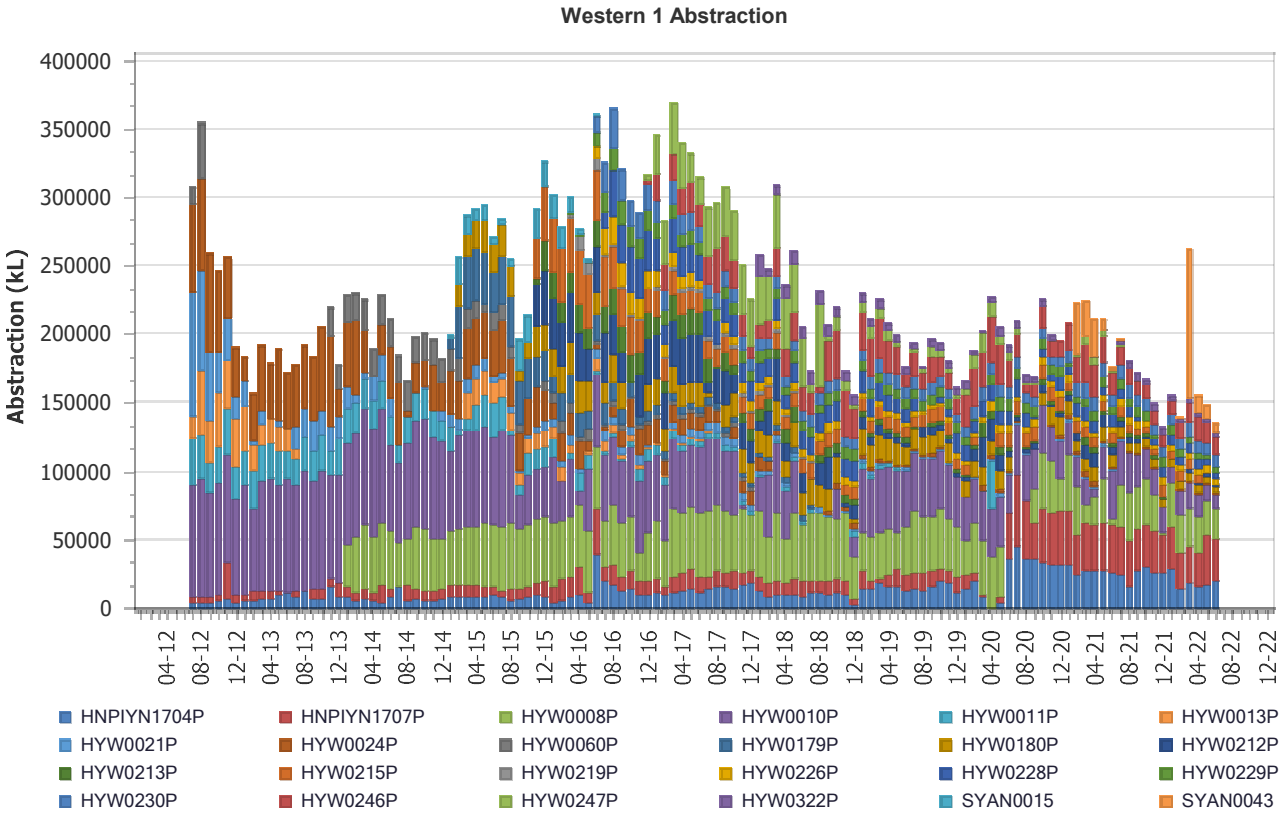




Monitoring summary: Spinifex Camp Hydrographs

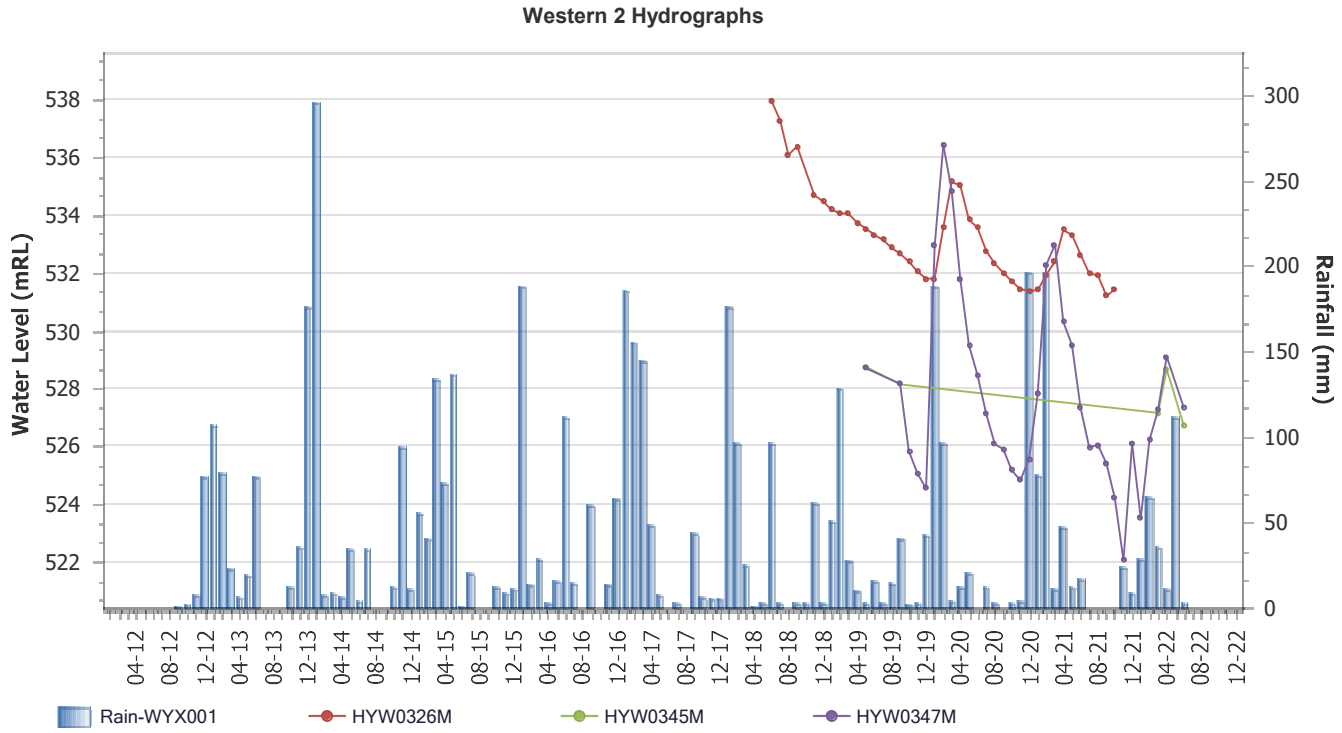
Figure 10.7

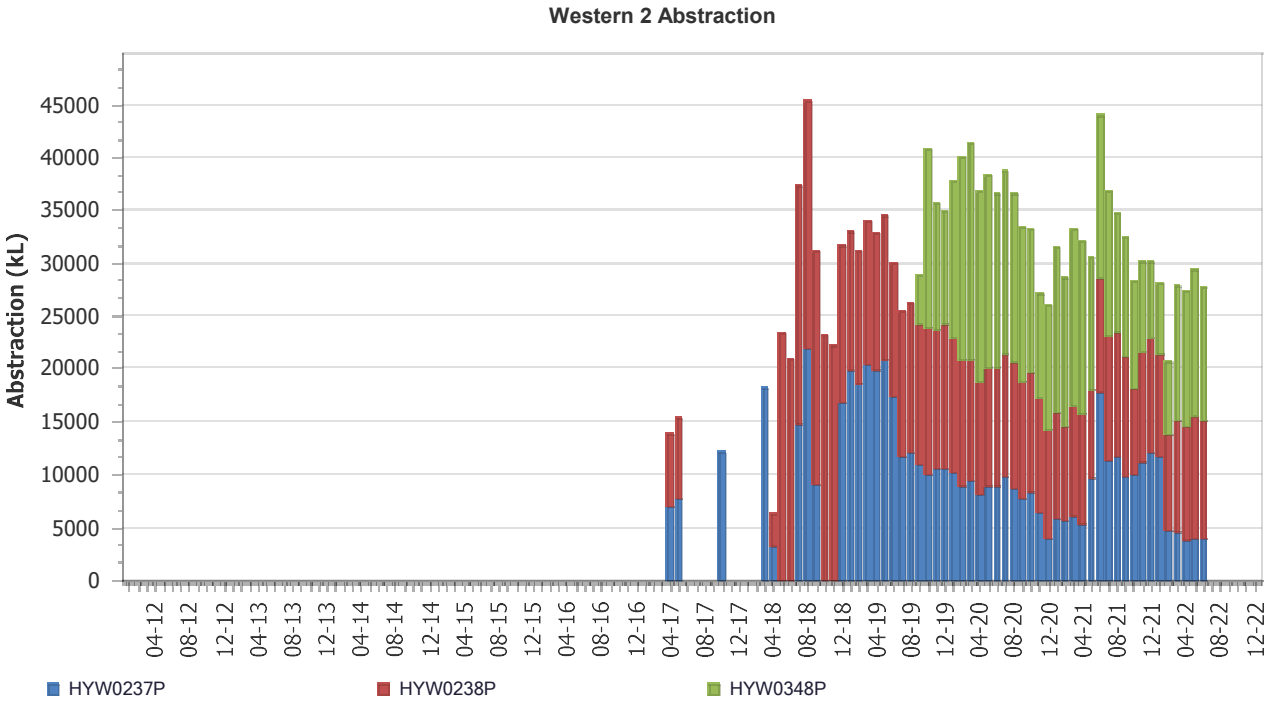




Monitoring summary: Western 1 Hydrographs

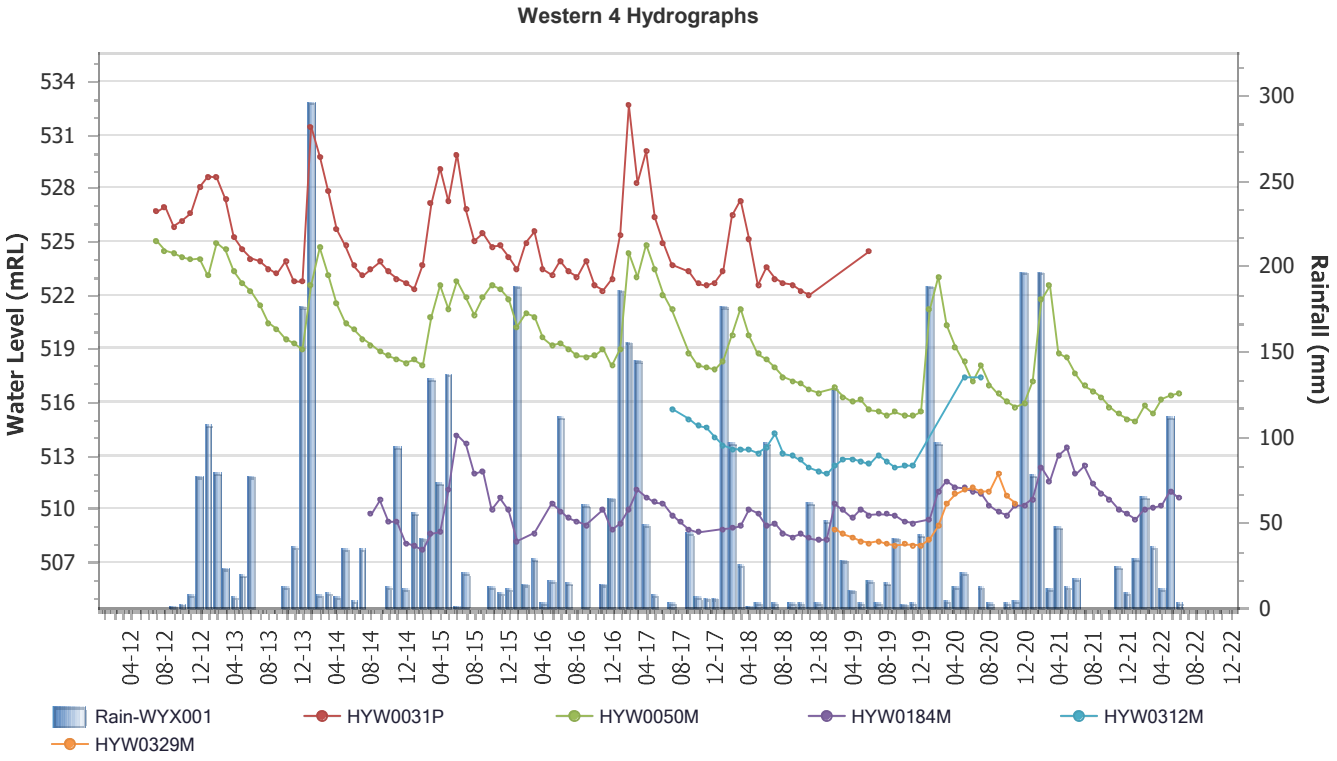
Figure 10.8

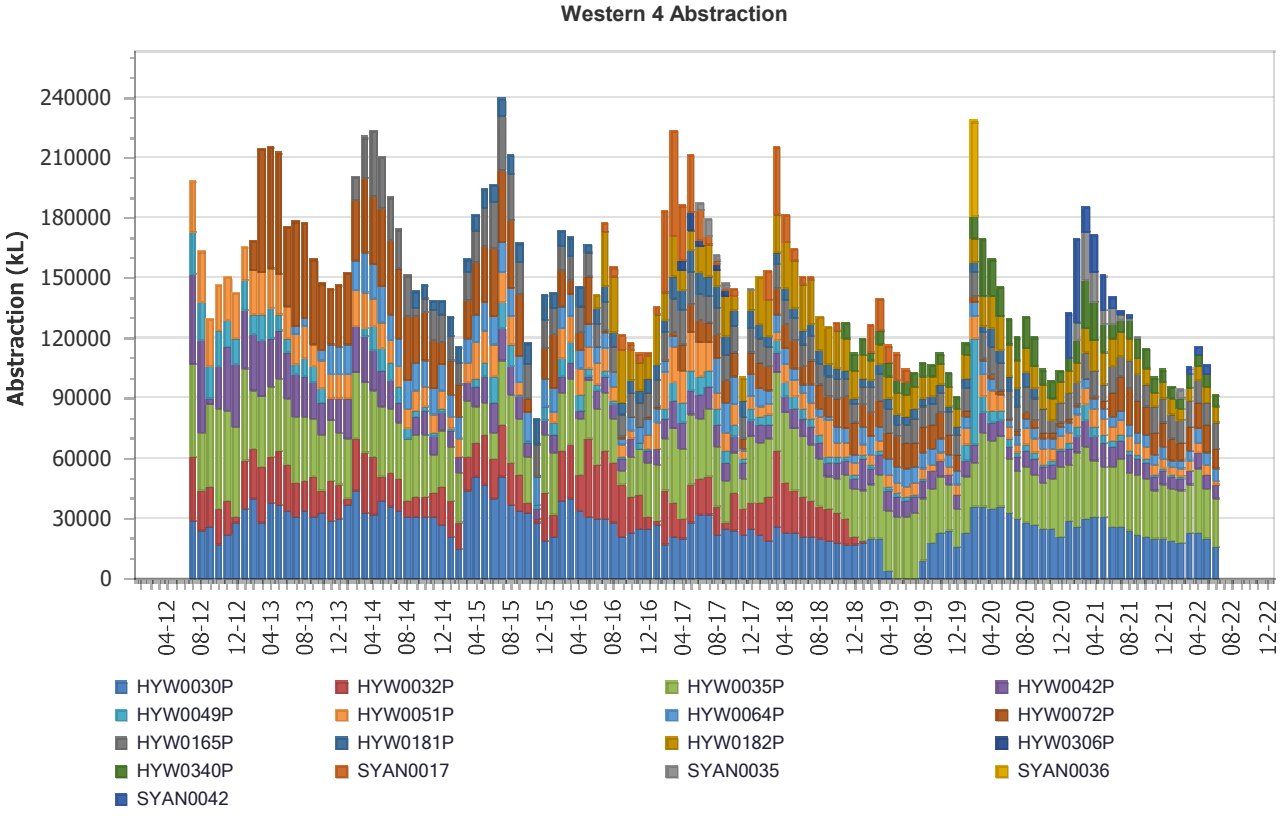




Monitoring summary: Western 2 Hydrographs

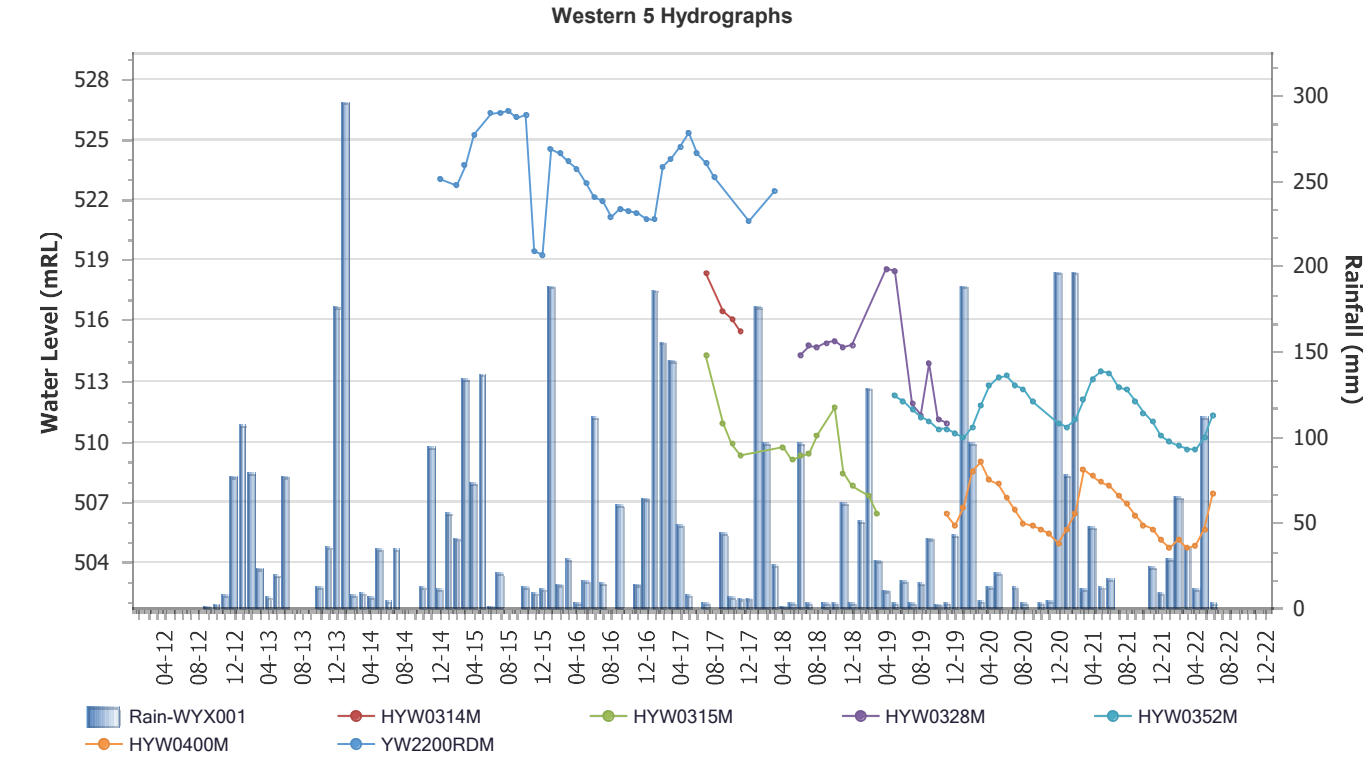
Figure 10.9

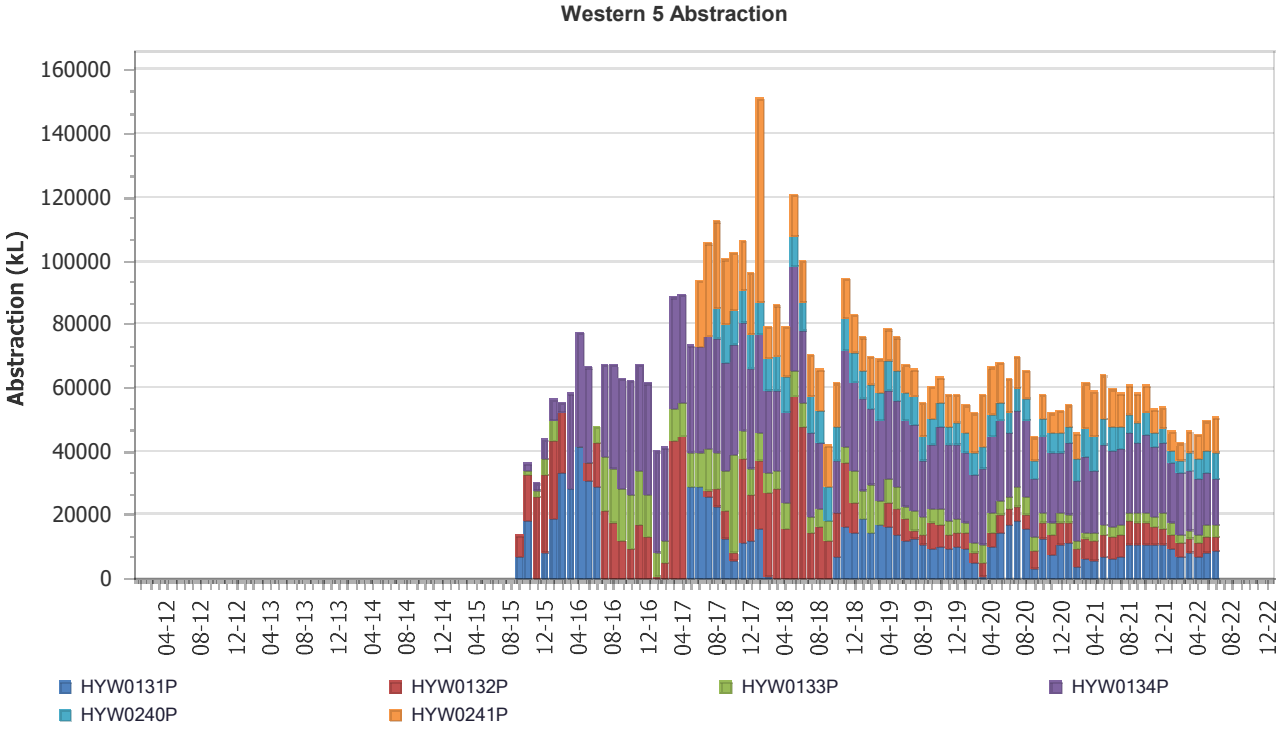




Monitoring summary: Western 4 Hydrographs

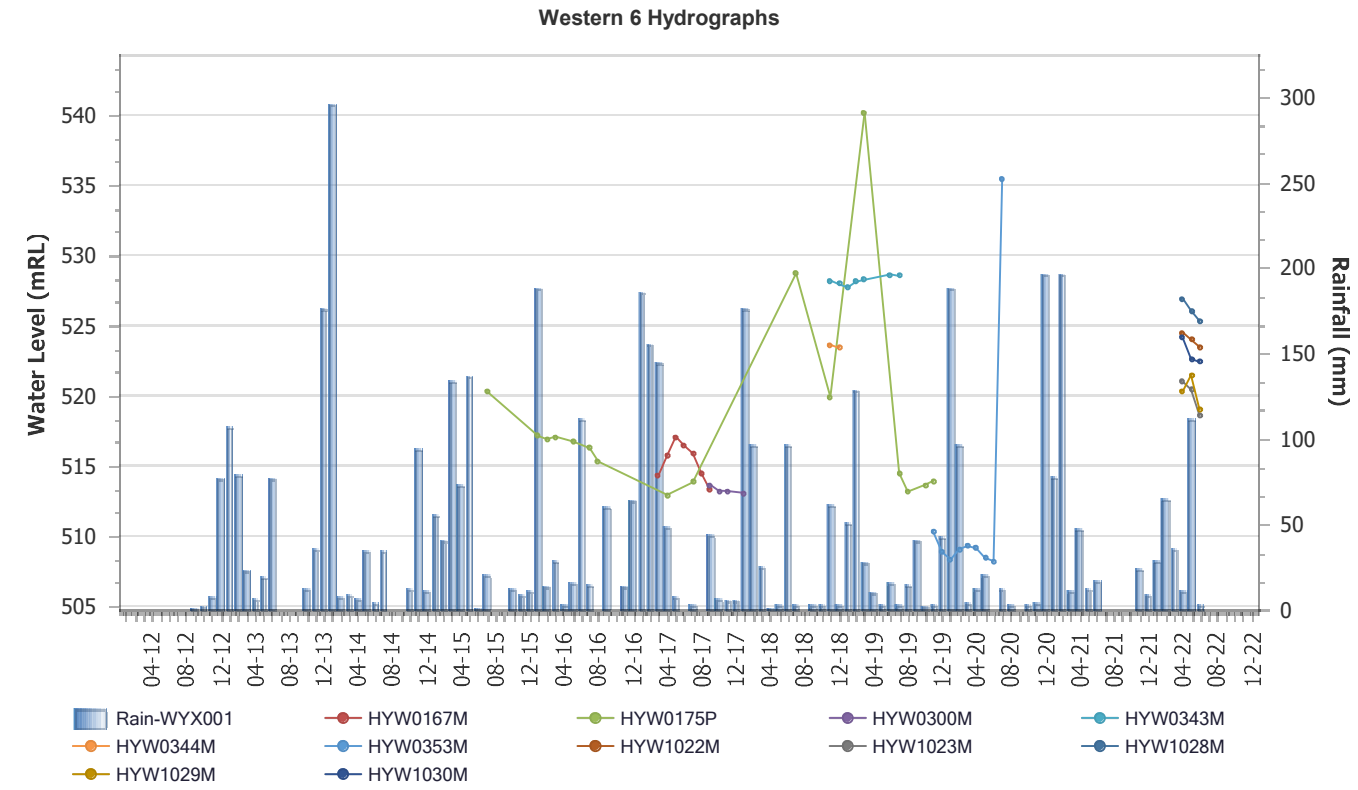
Figure 10.10

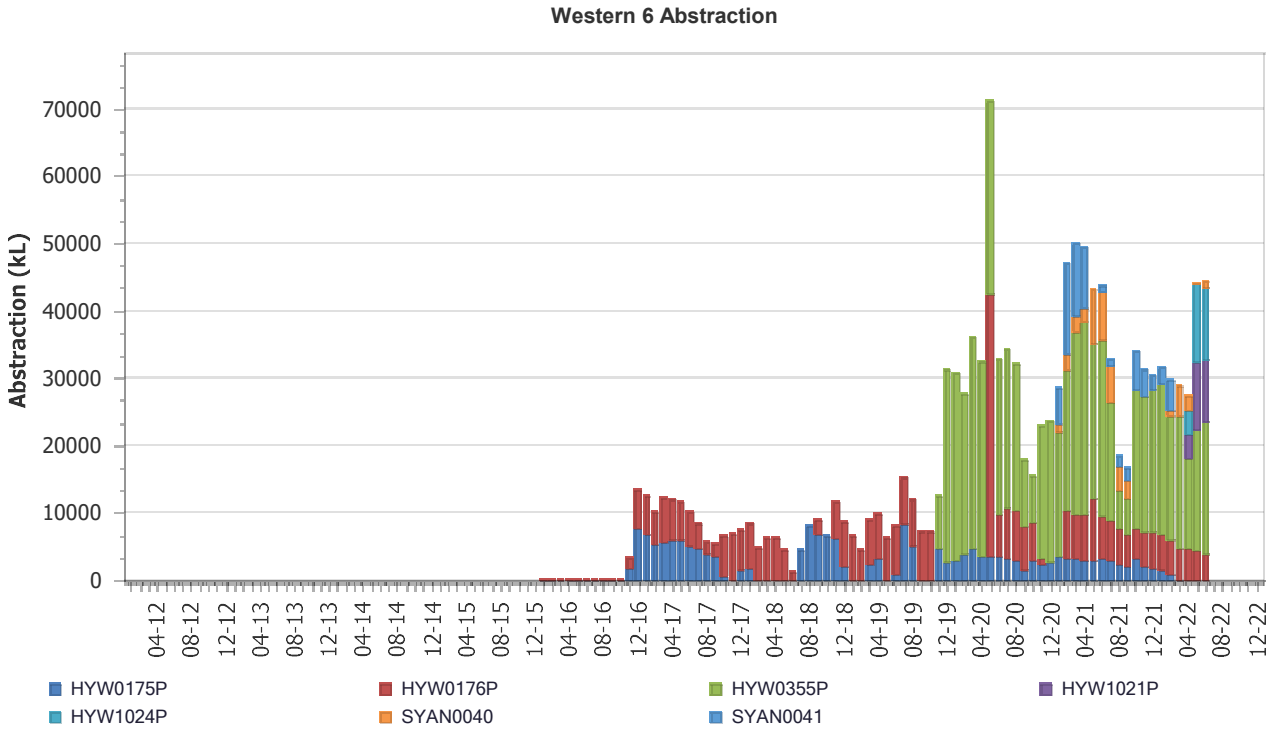




Monitoring summary: Western 5 Hydrographs

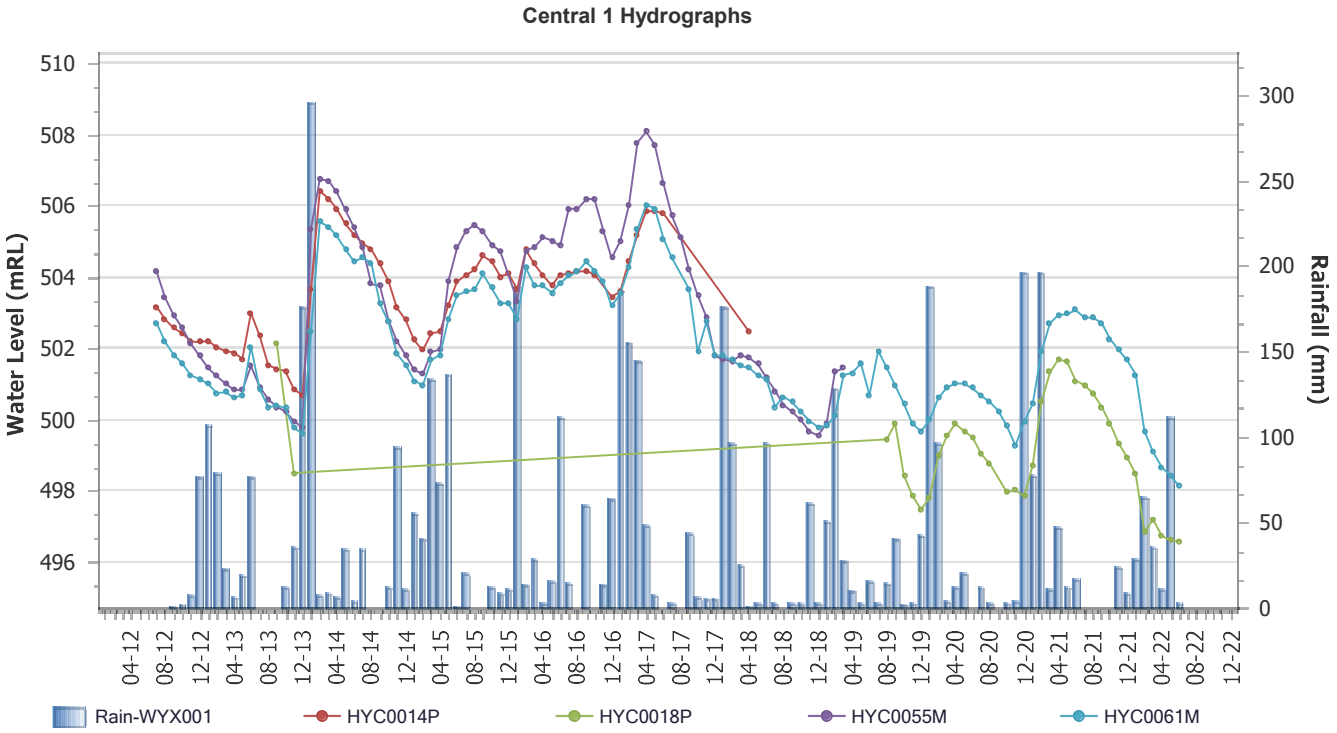
Figure 10.11

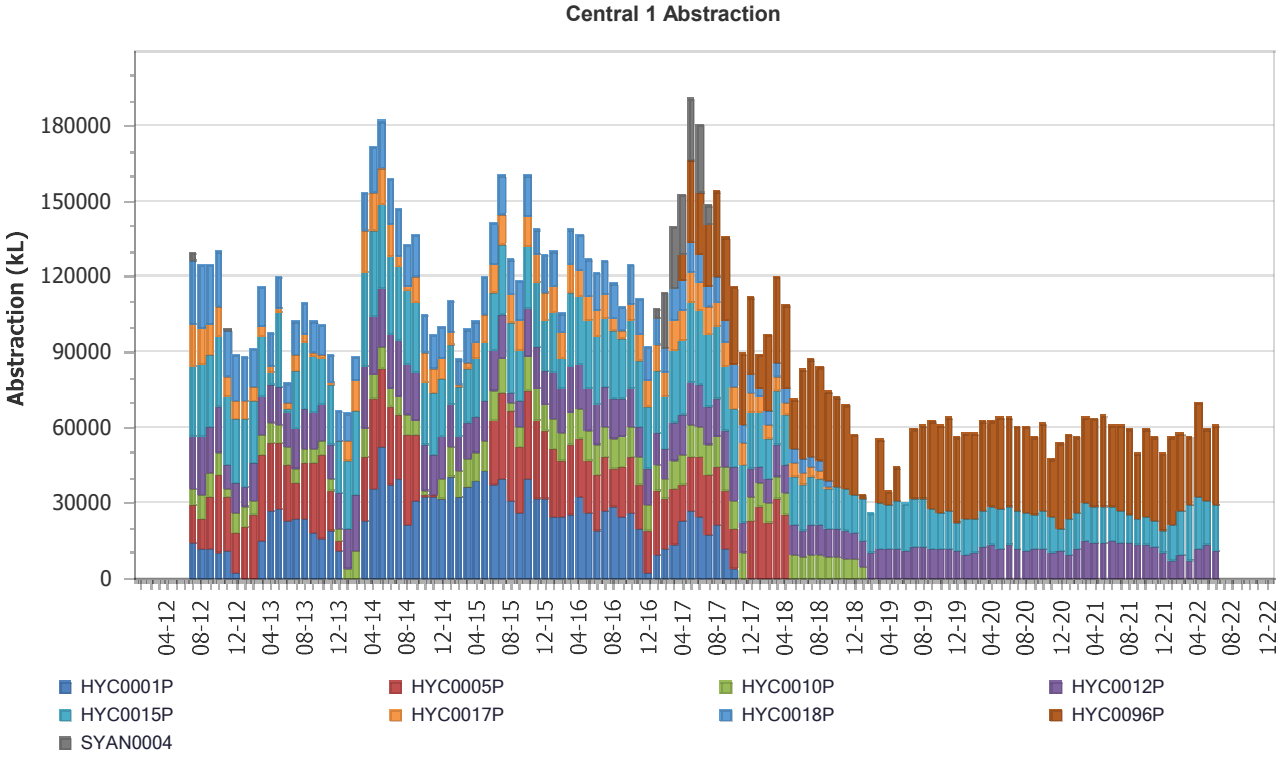




Monitoring summary: Western 6 Hydrographs

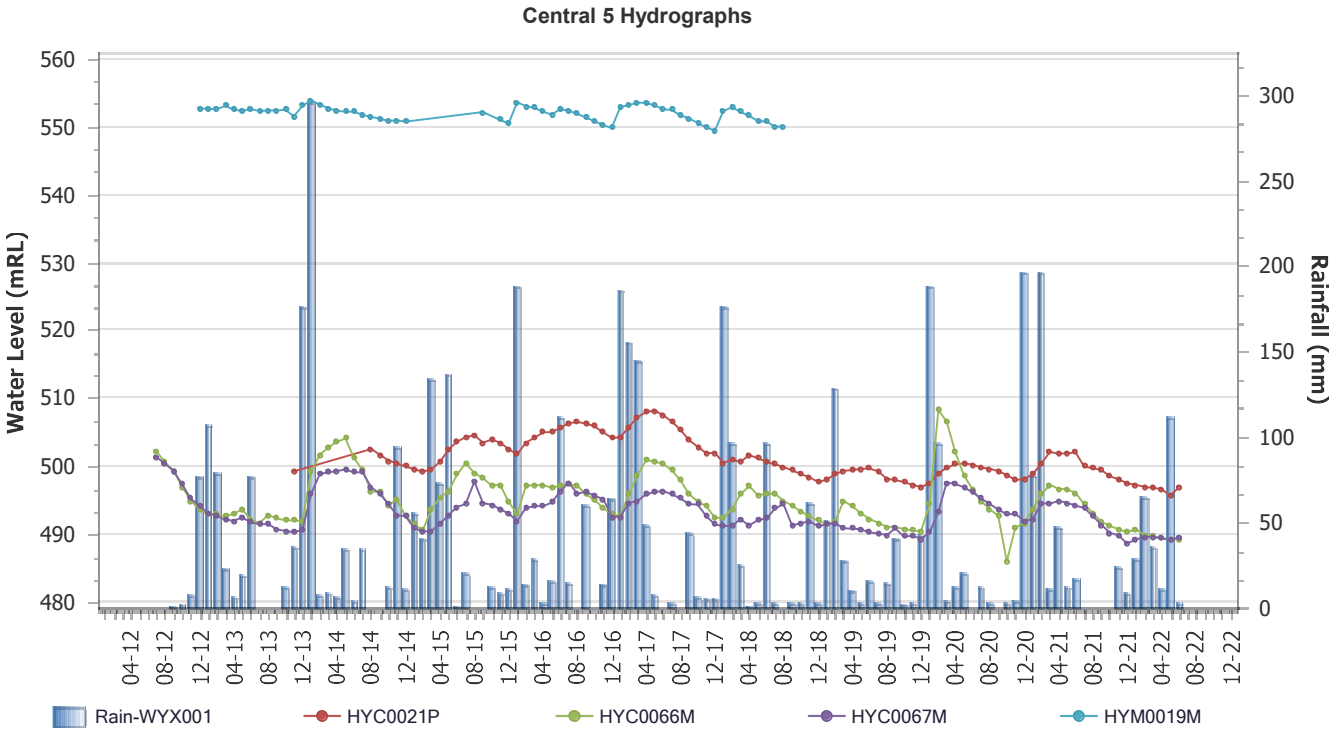
Figure 10.12

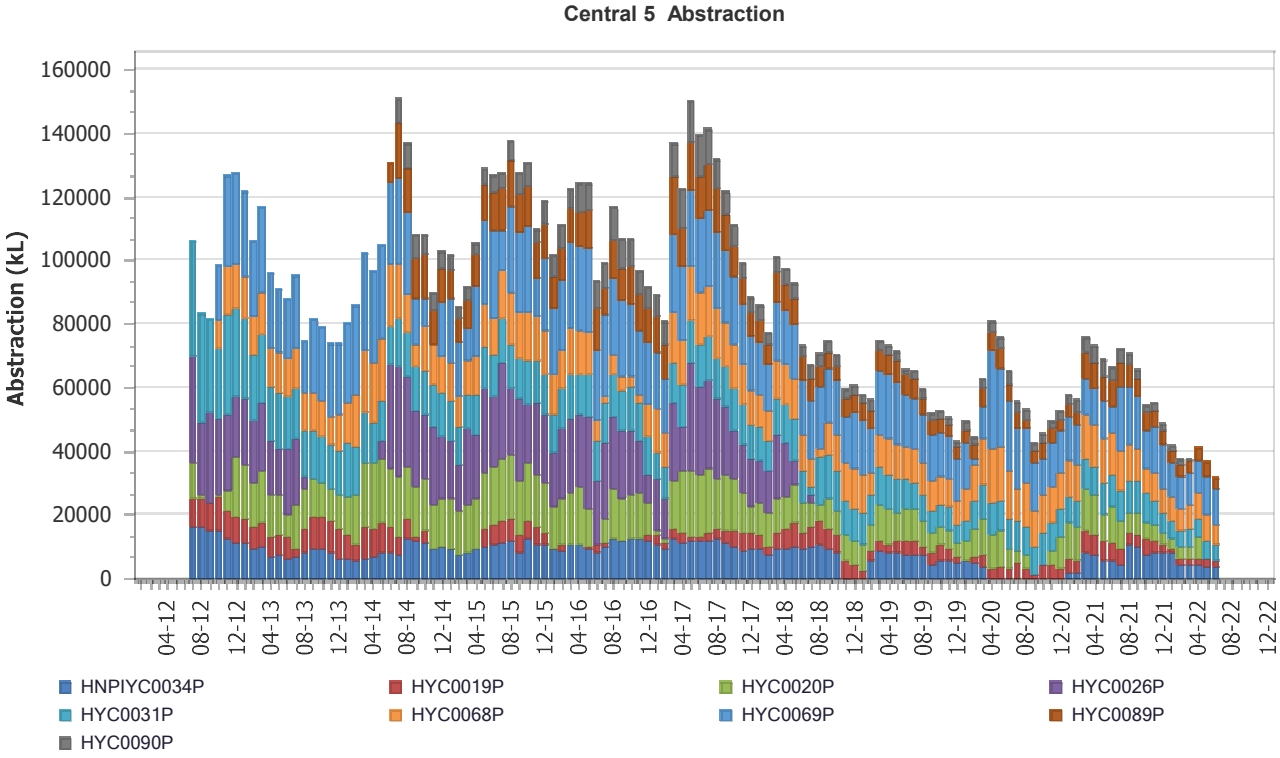




Monitoring summary: Central 1 Hydrographs

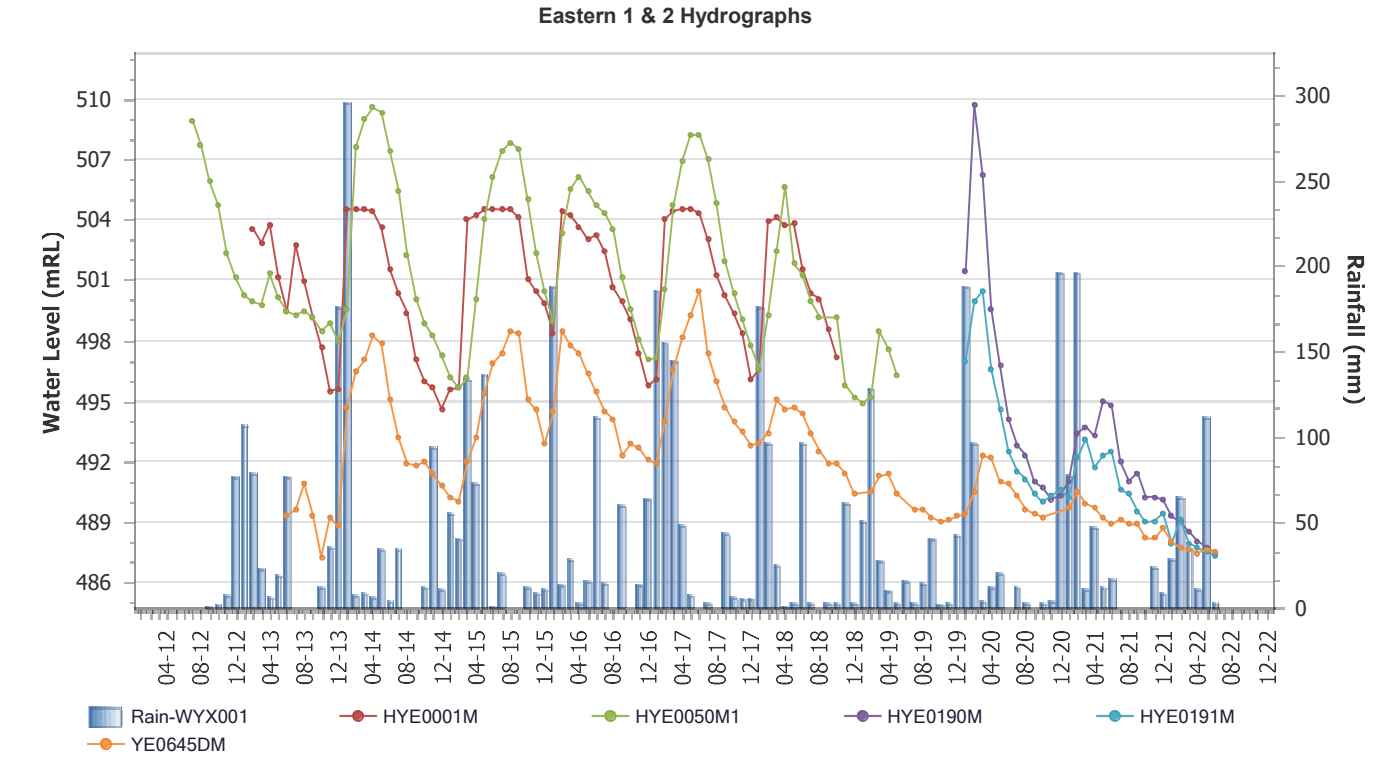
Figure 10.13

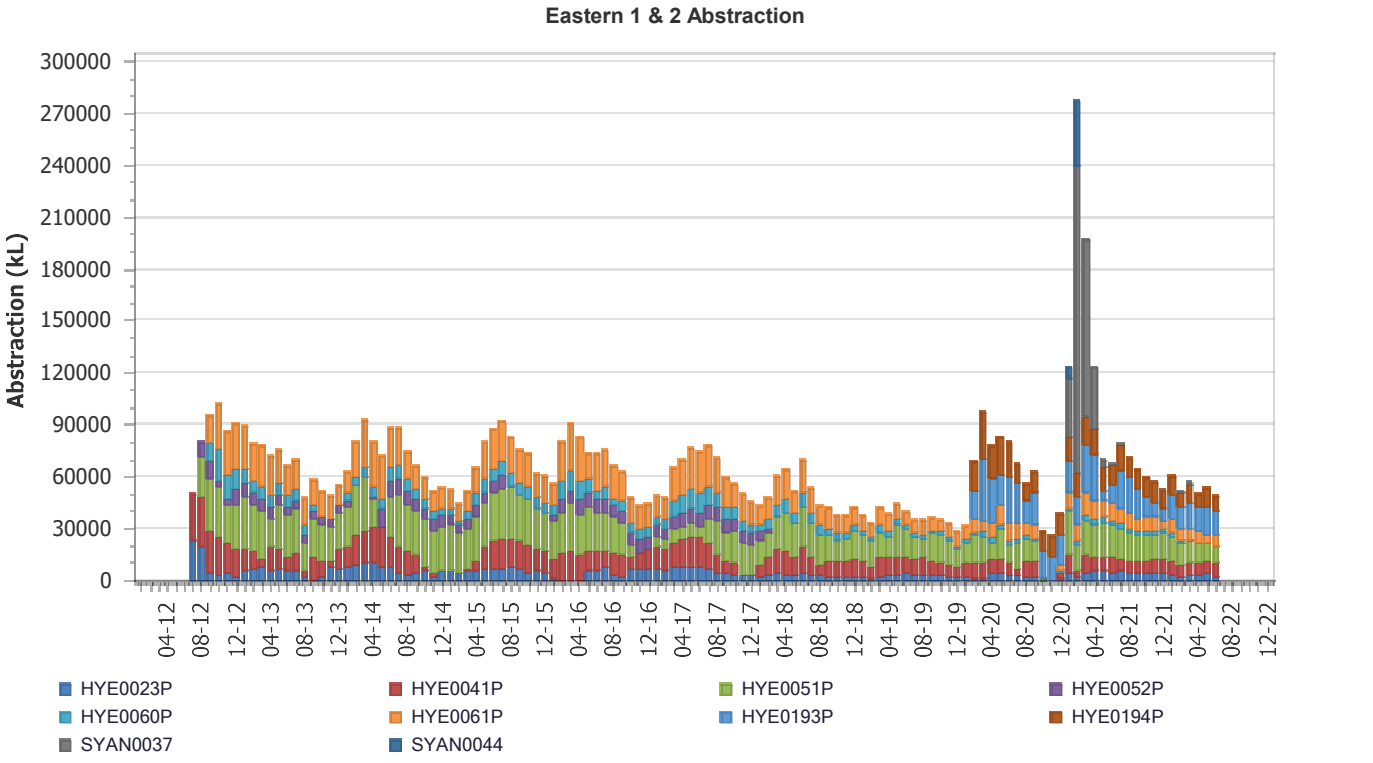




Monitoring summary: Central 5 Hydrographs

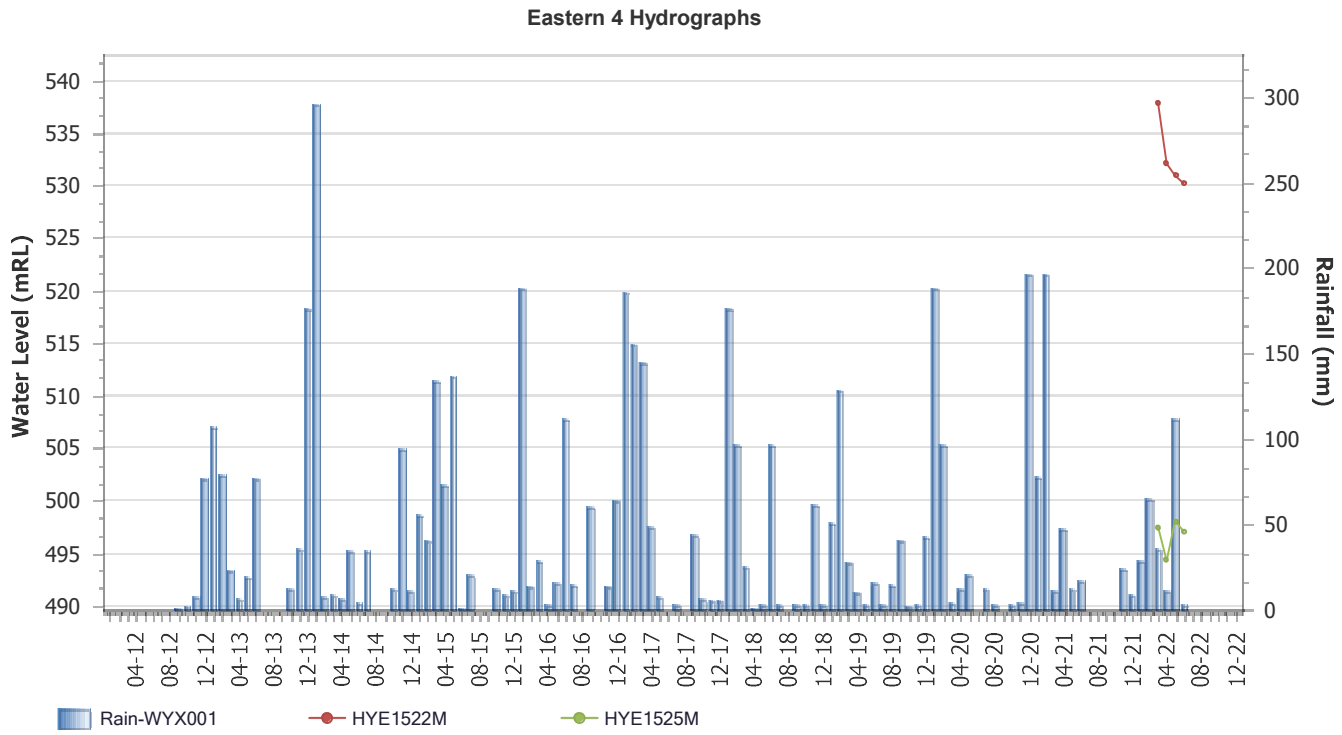
Figure 10.14

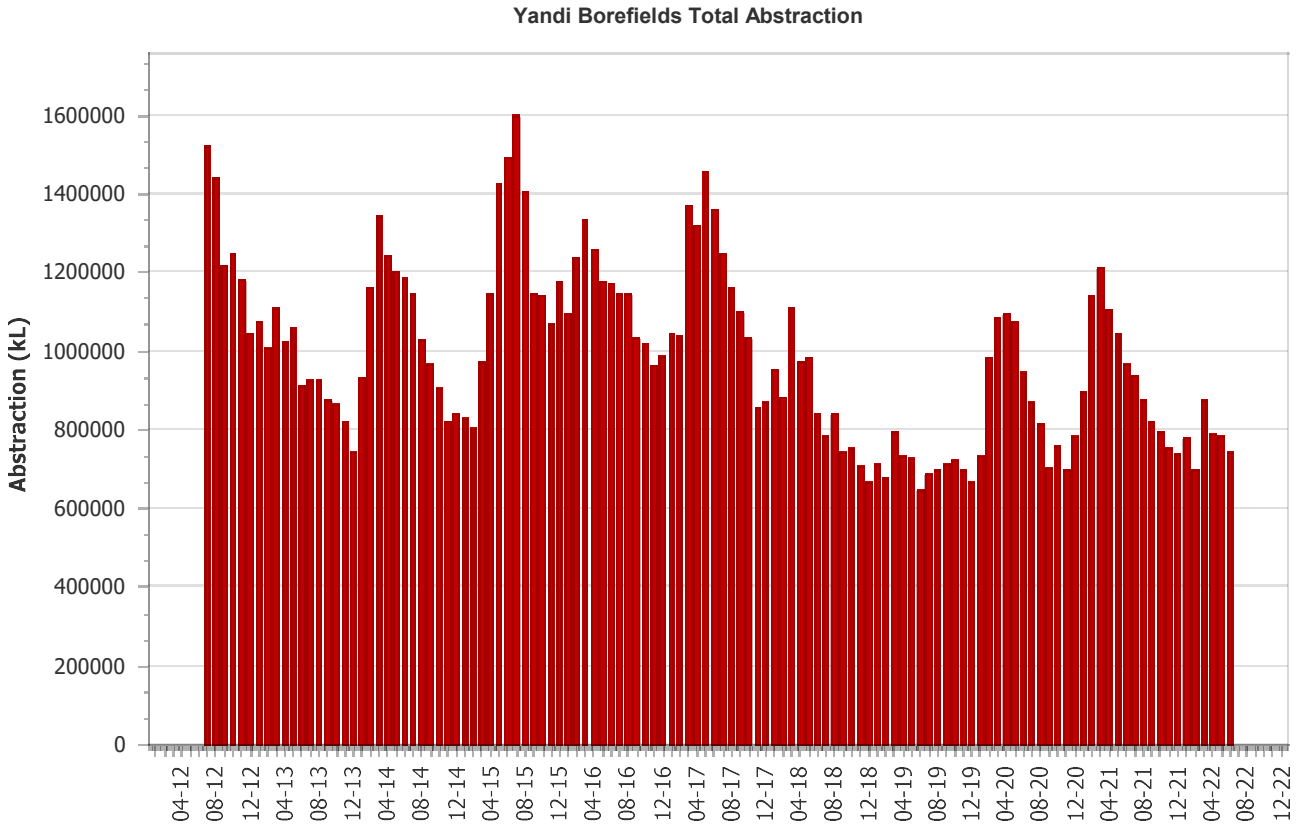




Monitoring summary: Eastern 1 & 2 Hydrographs

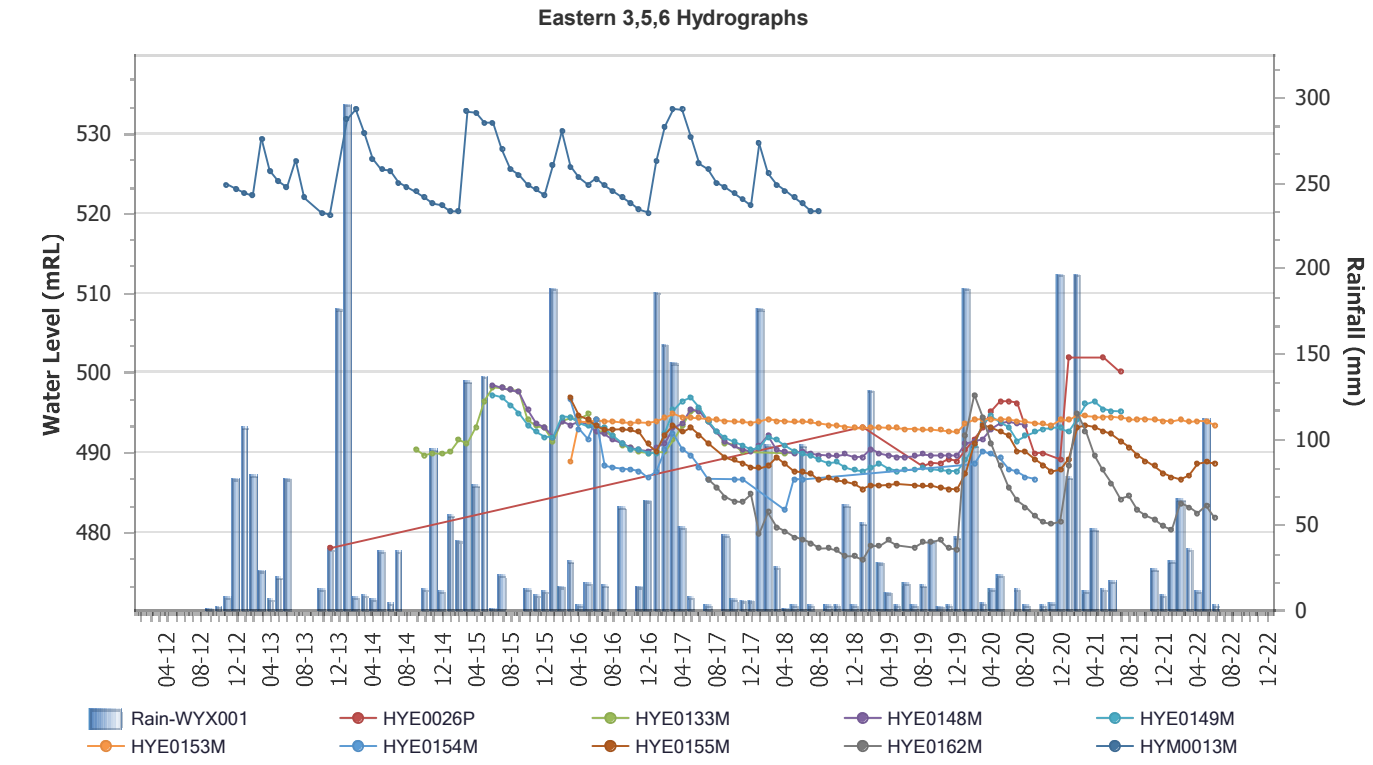
Figure 10.15

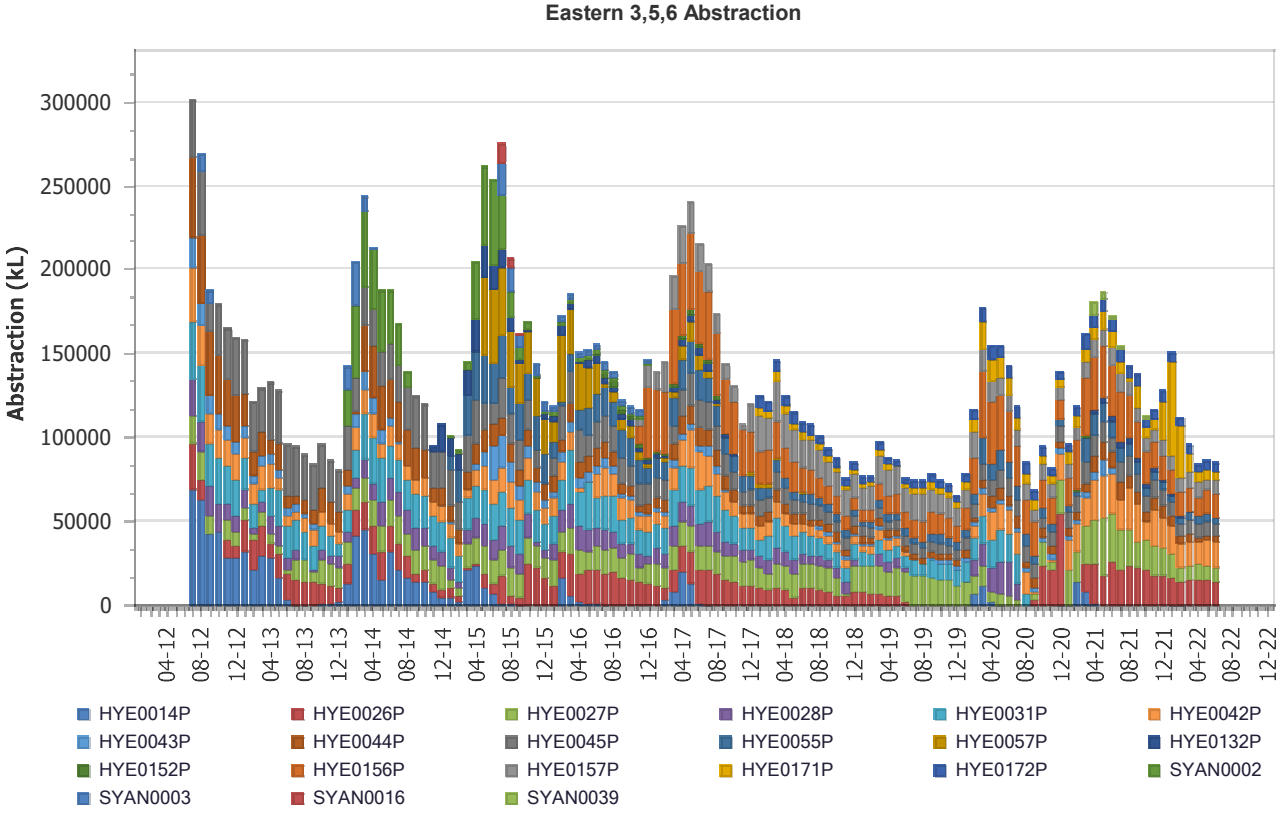




Monitoring summary: Eastern 4 Hydrographs

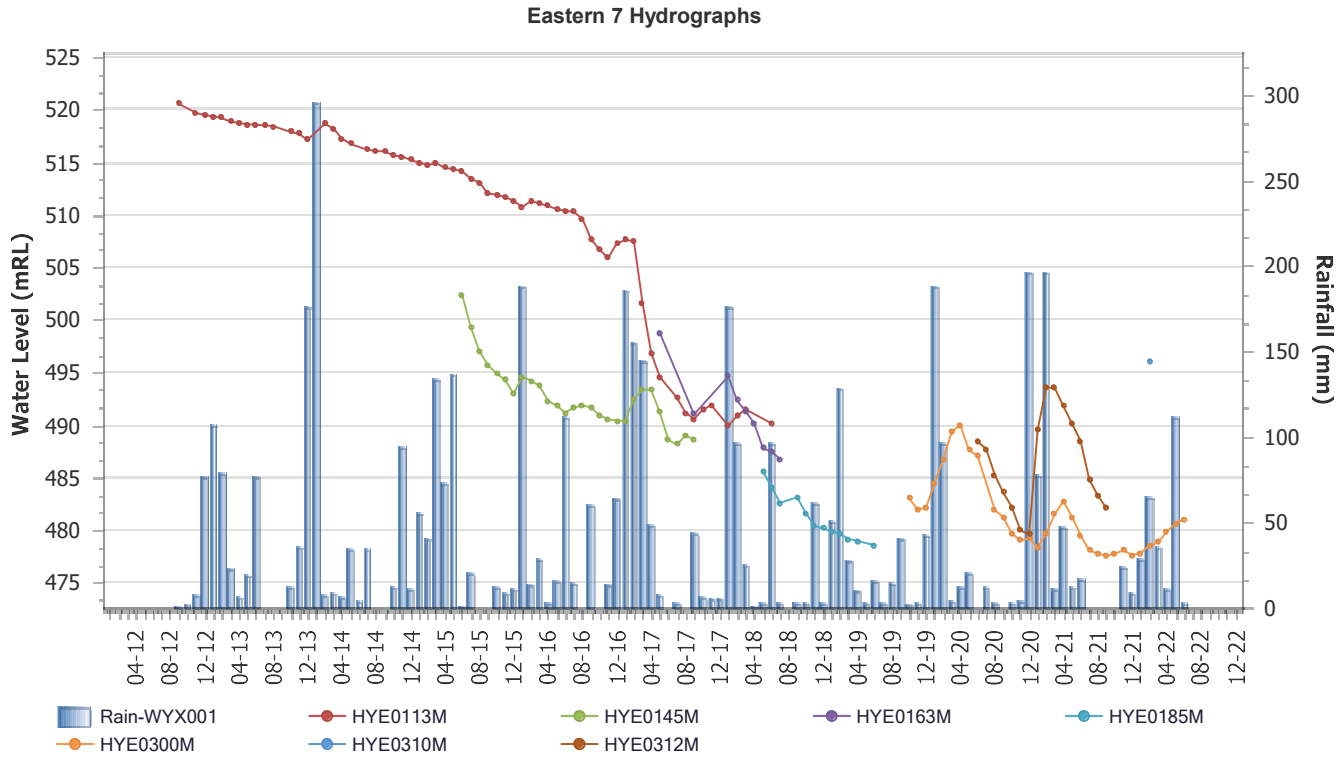
Figure 10.16

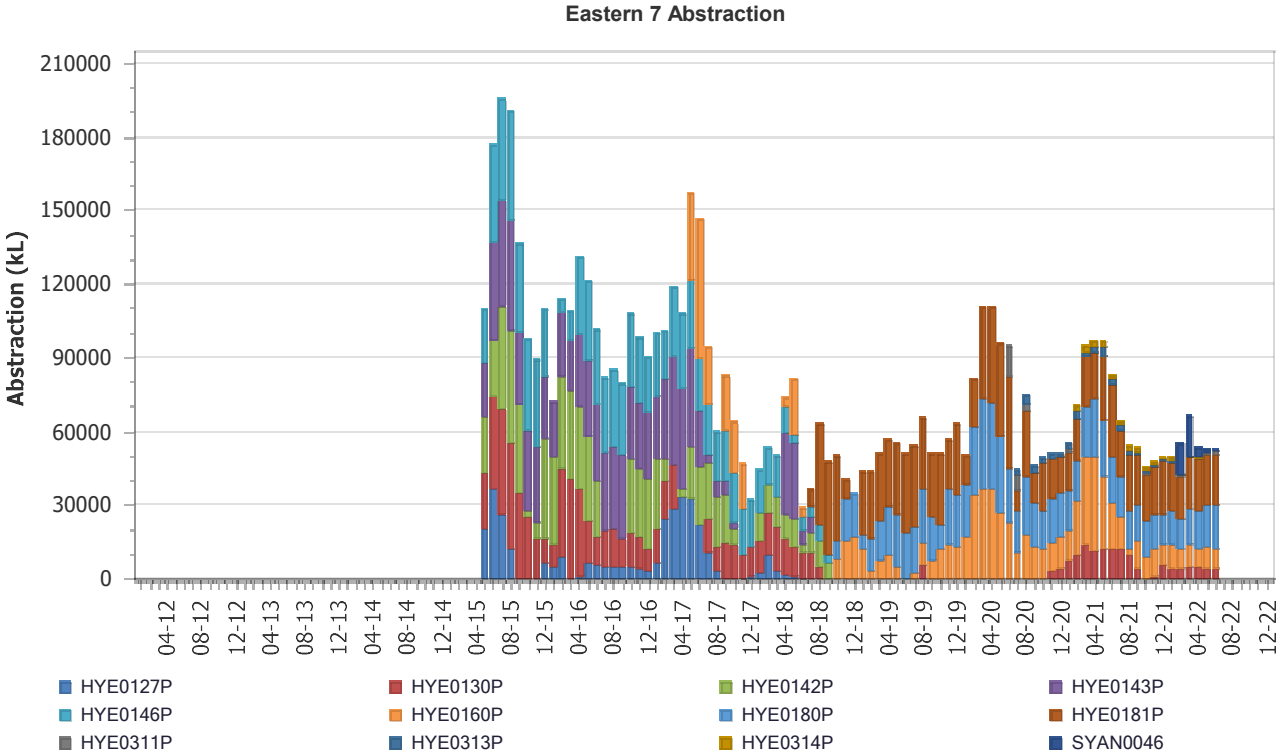




Monitoring summary: Eastern 3,5,6 Hydrographs

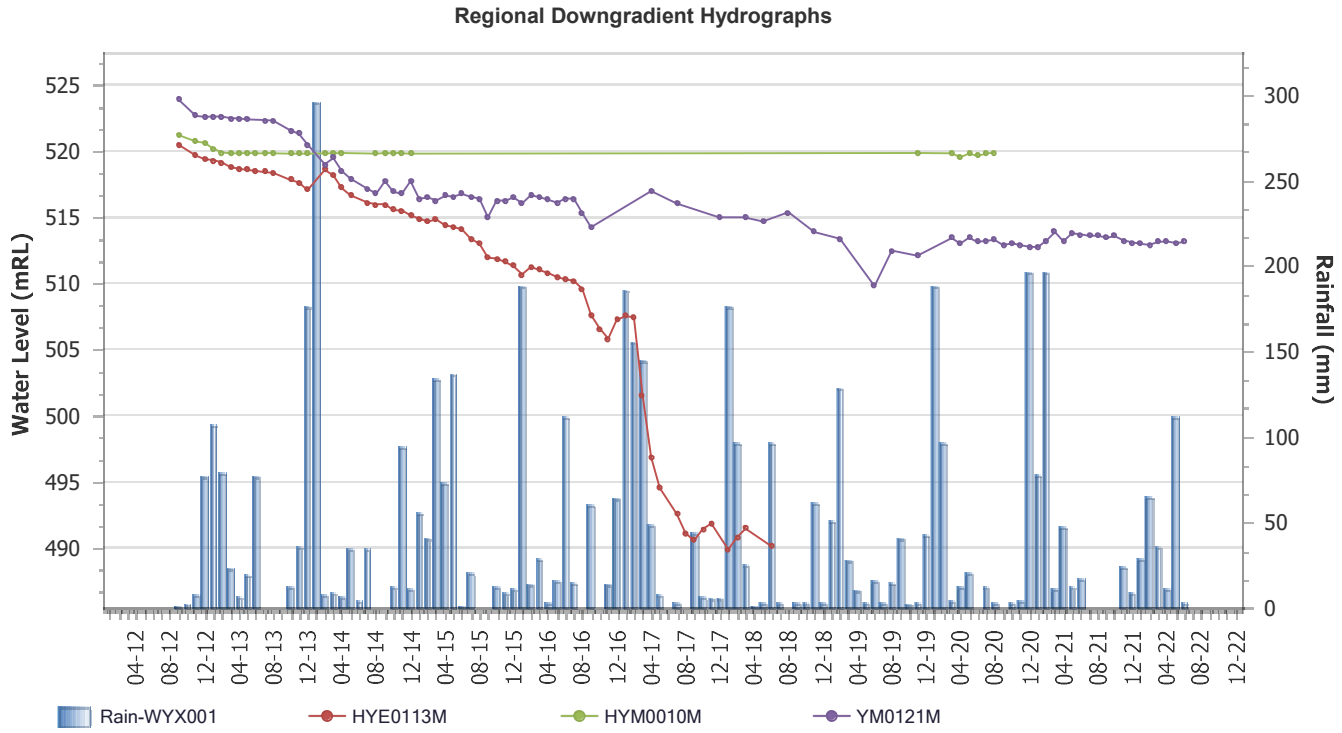
Figure 10.17

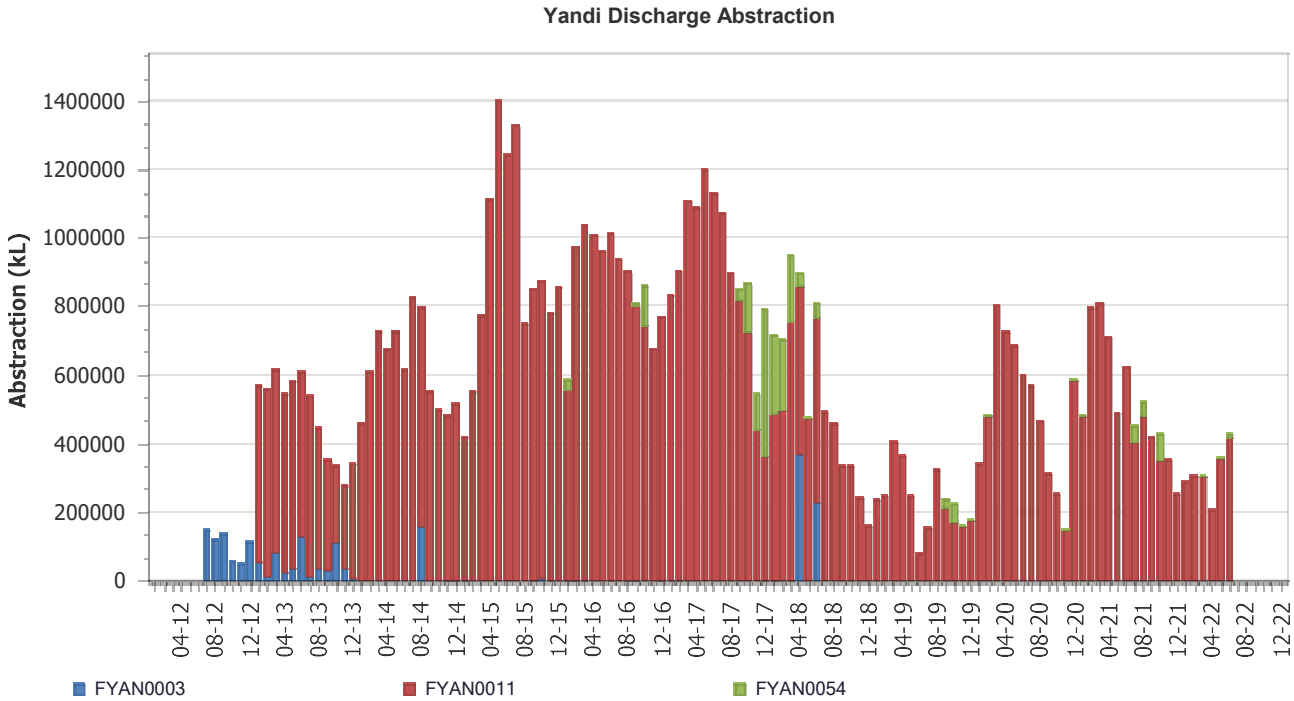




Monitoring summary: Eastern 7 Hydrographs

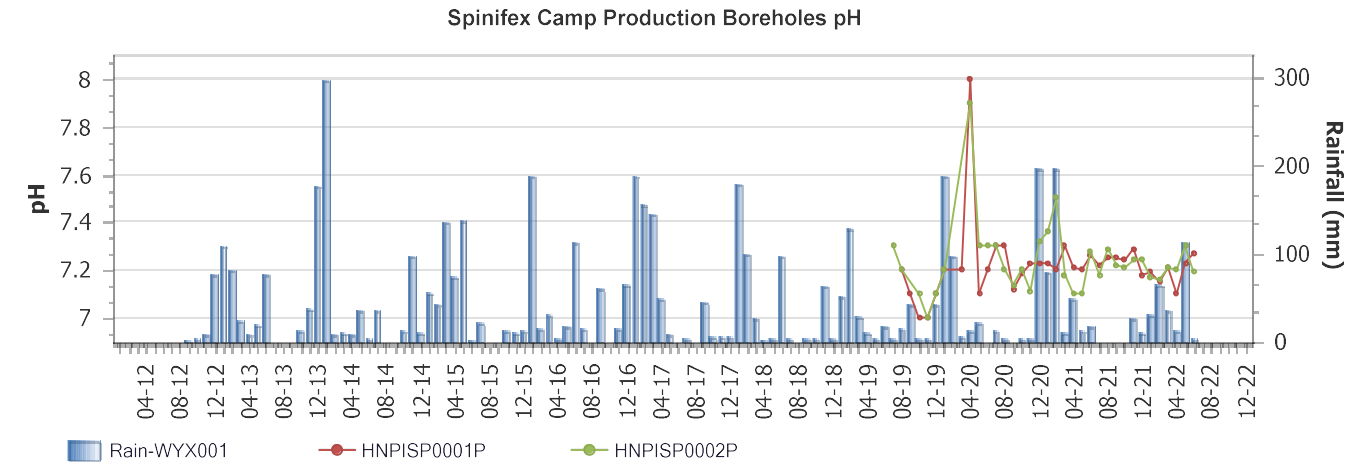
Figure 10.18

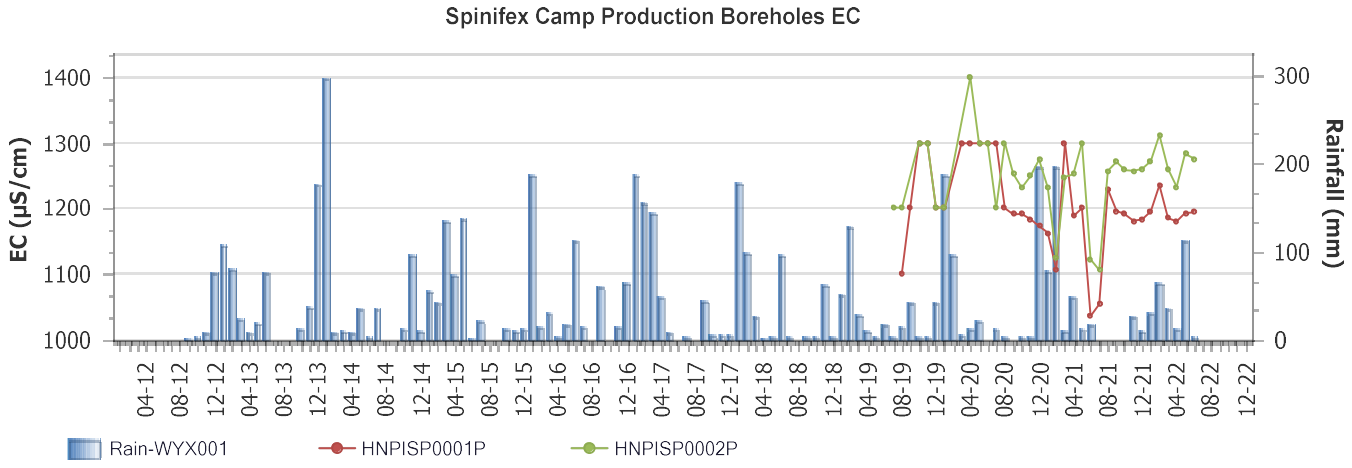


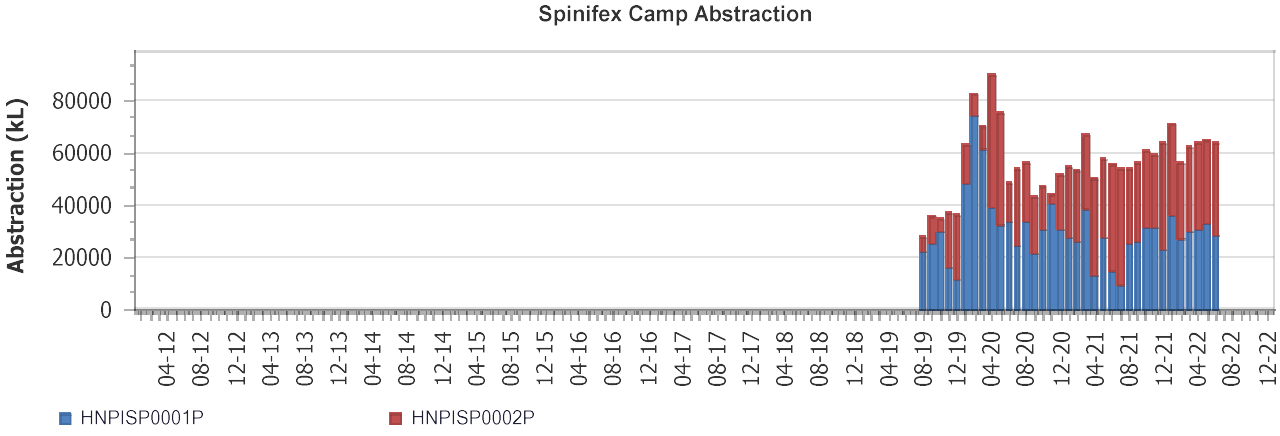


Monitoring summary: Regional Downgradient Hydrographs

Figure 10.19

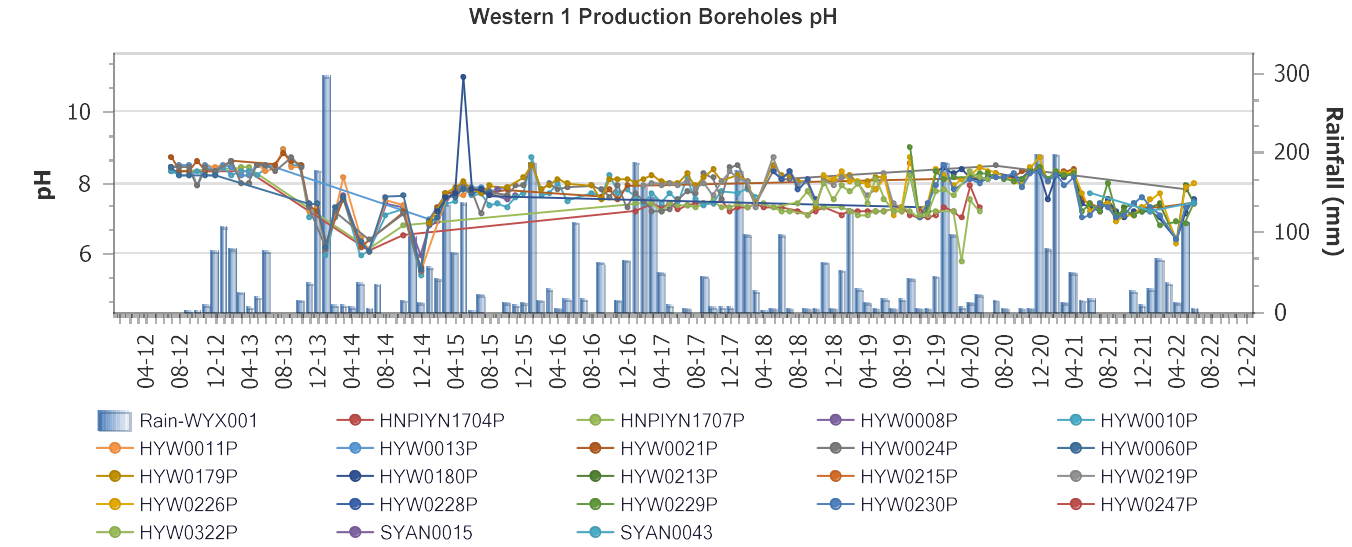


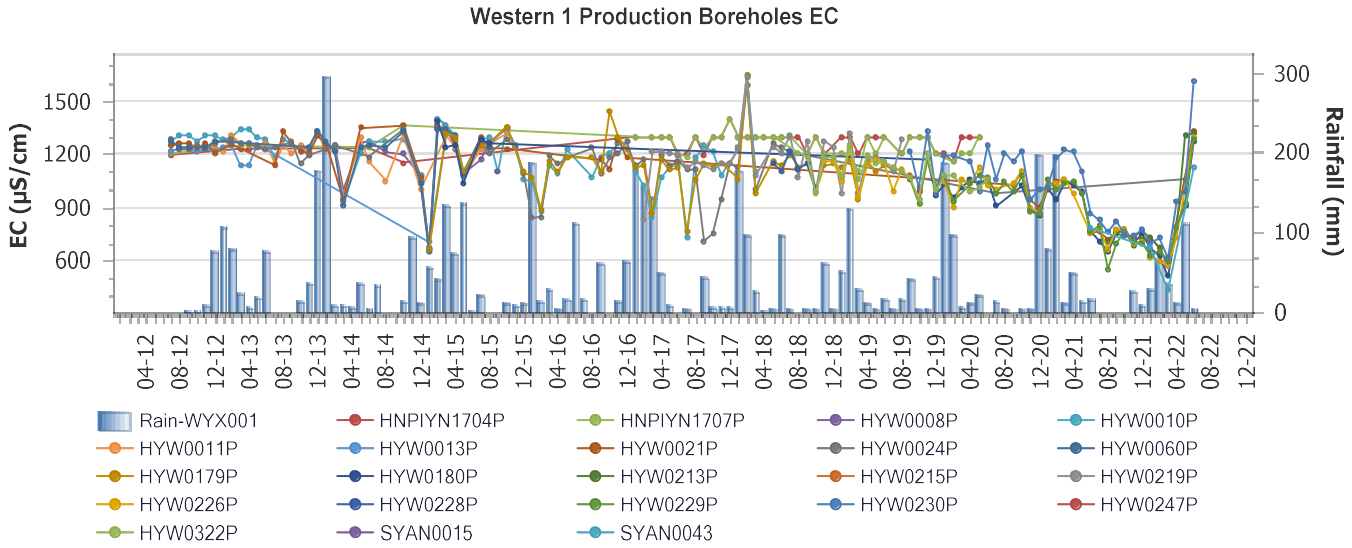


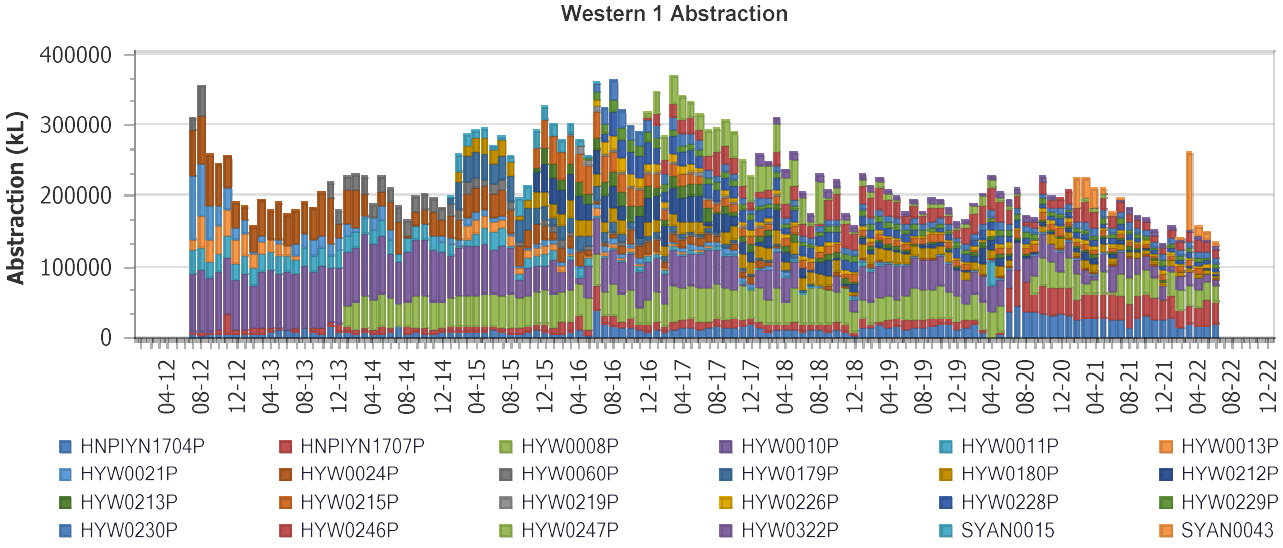


Monitoring summary: Spinifex Camp Production Boreholes

Figure 10.20

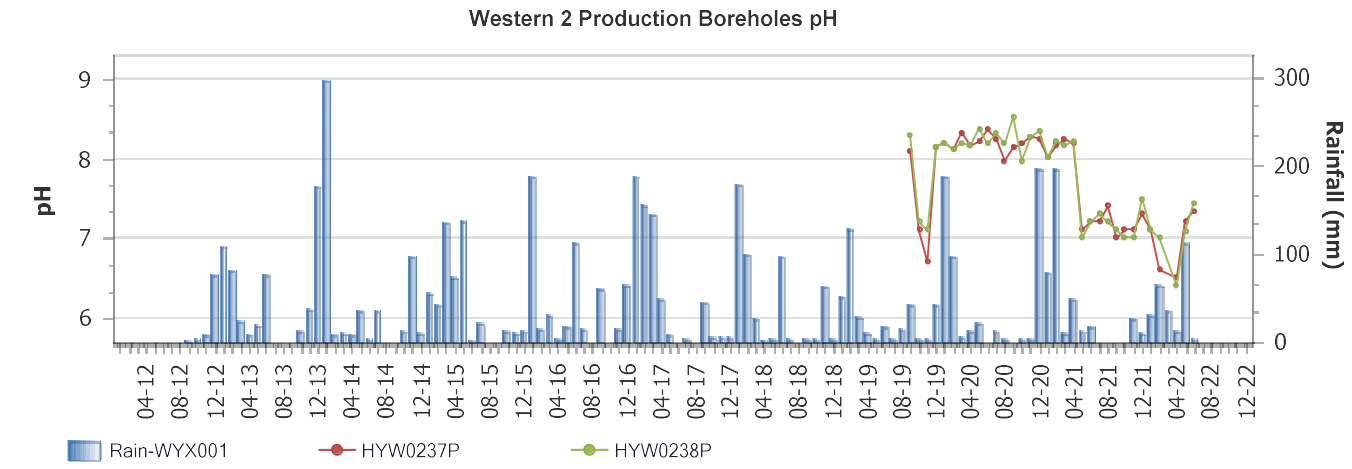


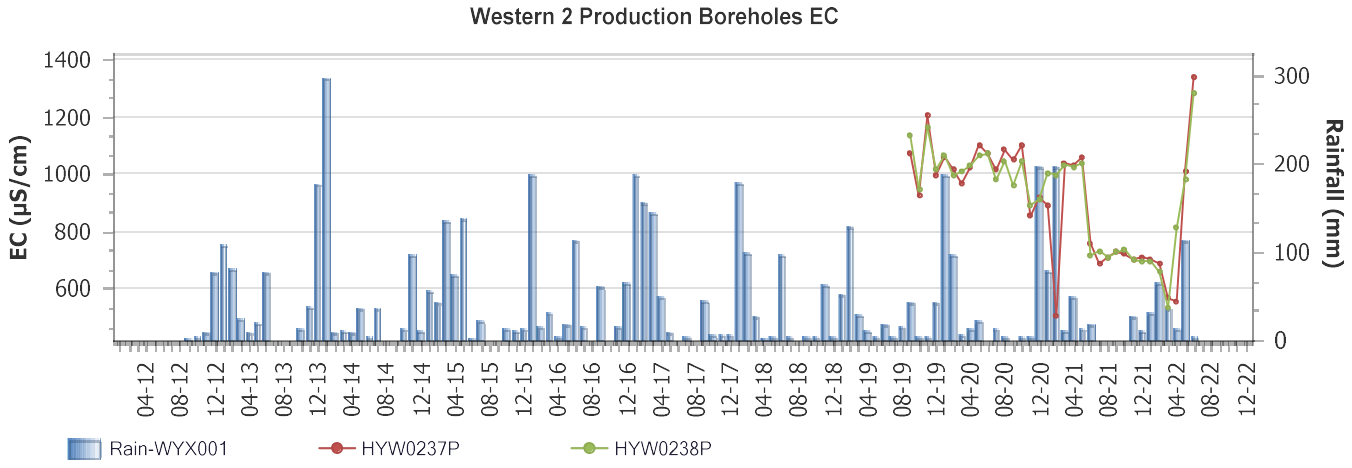


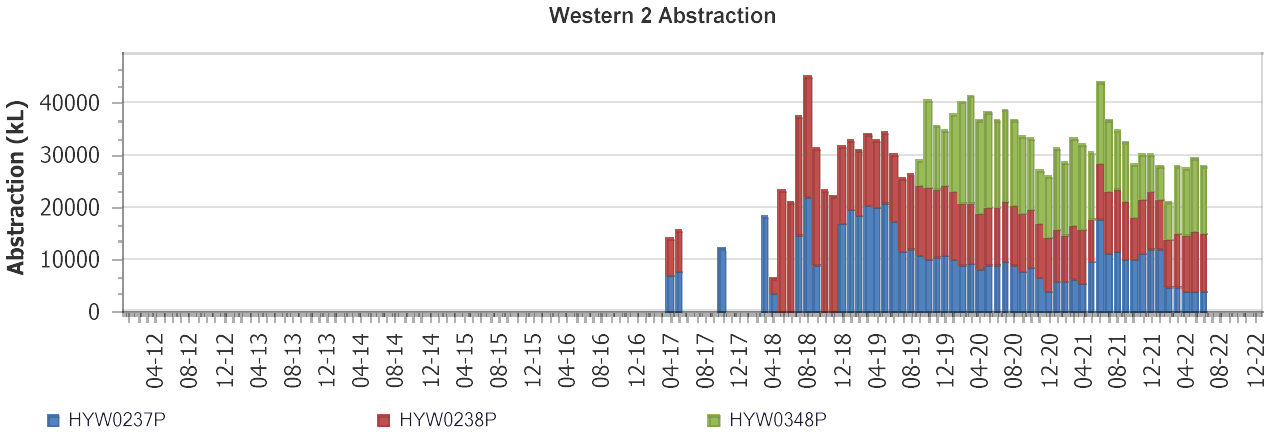


Monitoring summary: Western 1 Production Boreholes

Figure 10.21

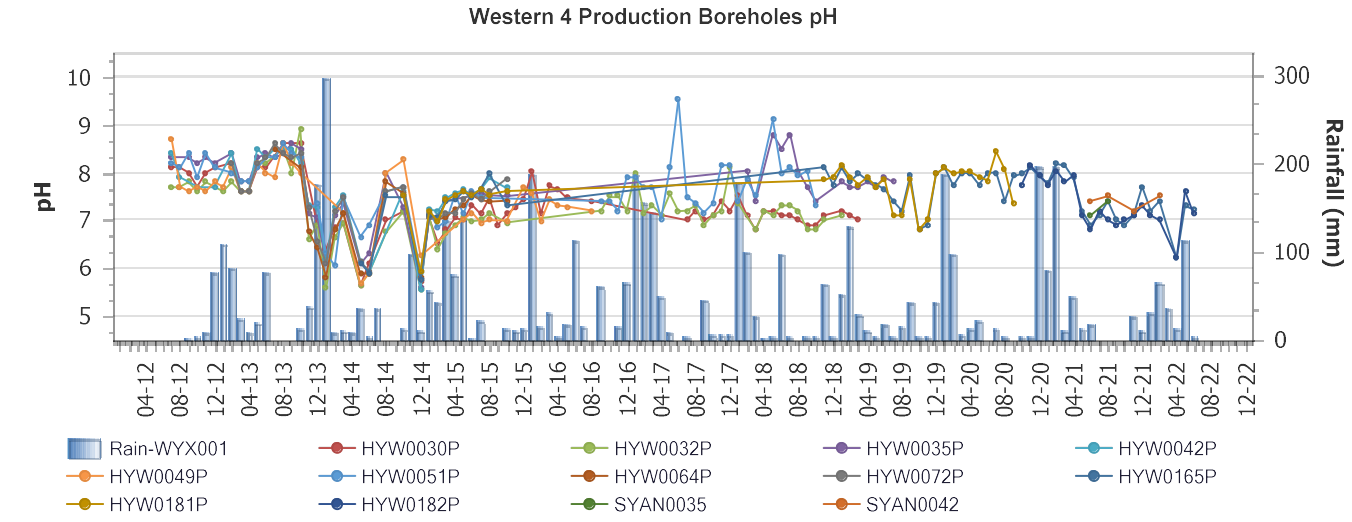


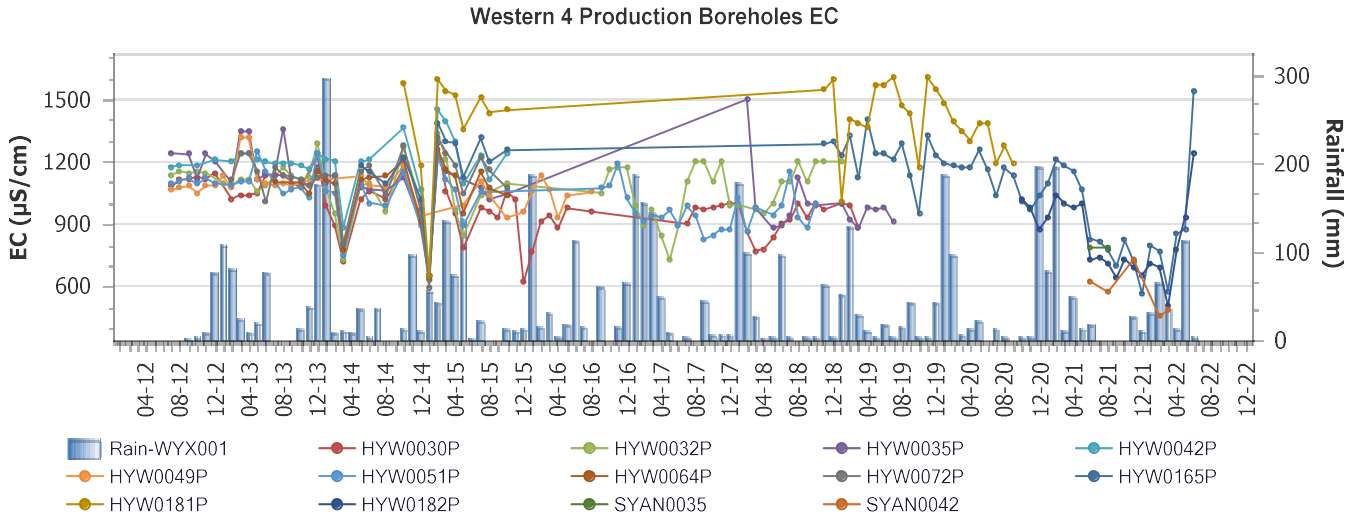


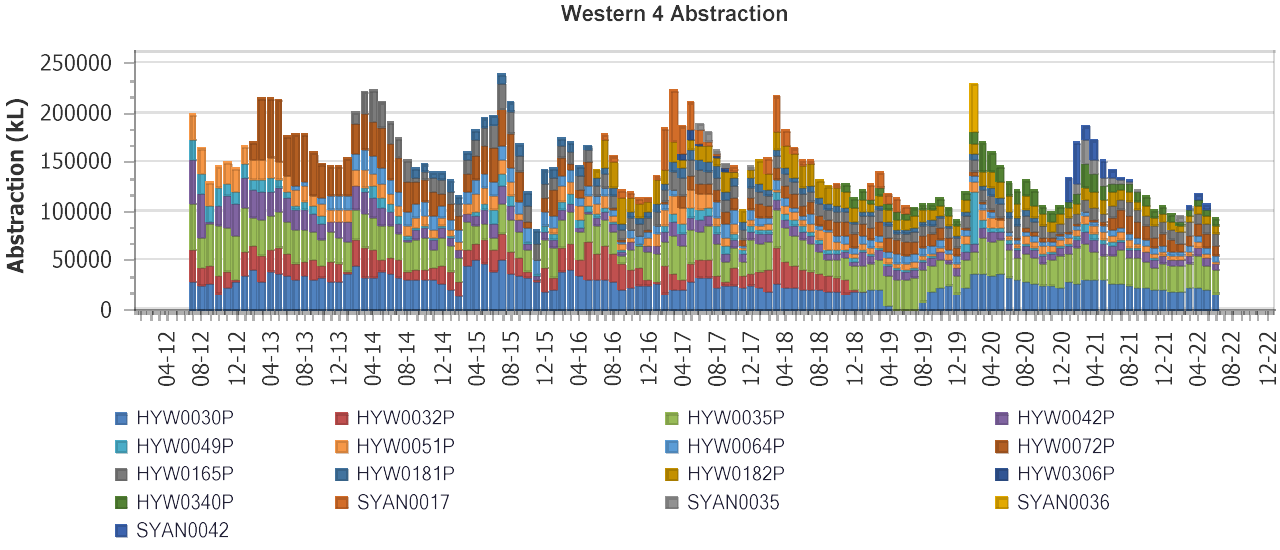


Monitoring summary: Western 2 Production Boreholes

Figure 10.22

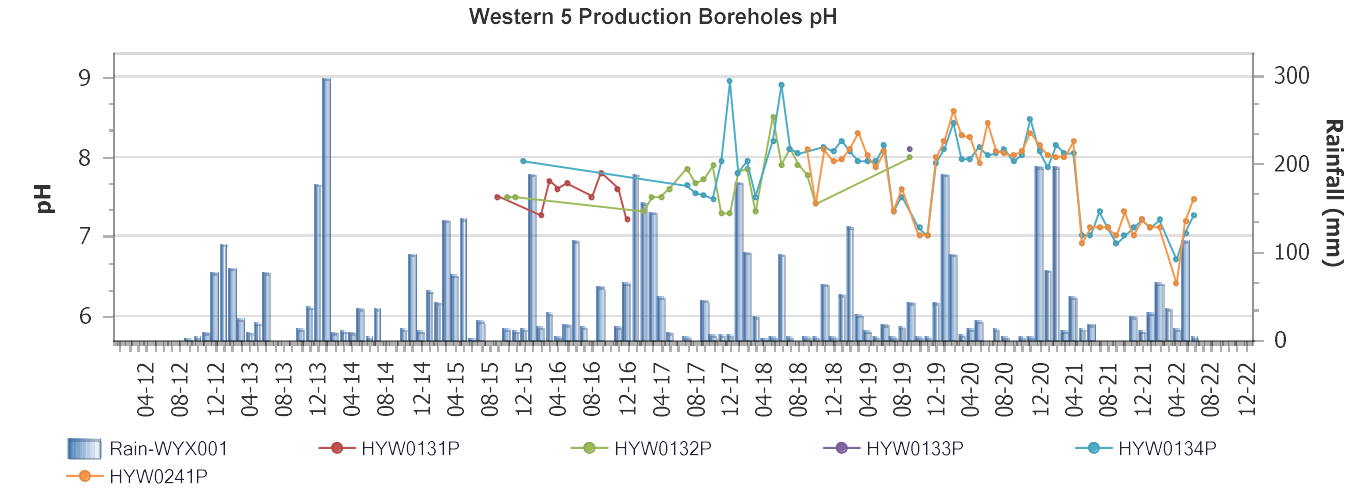


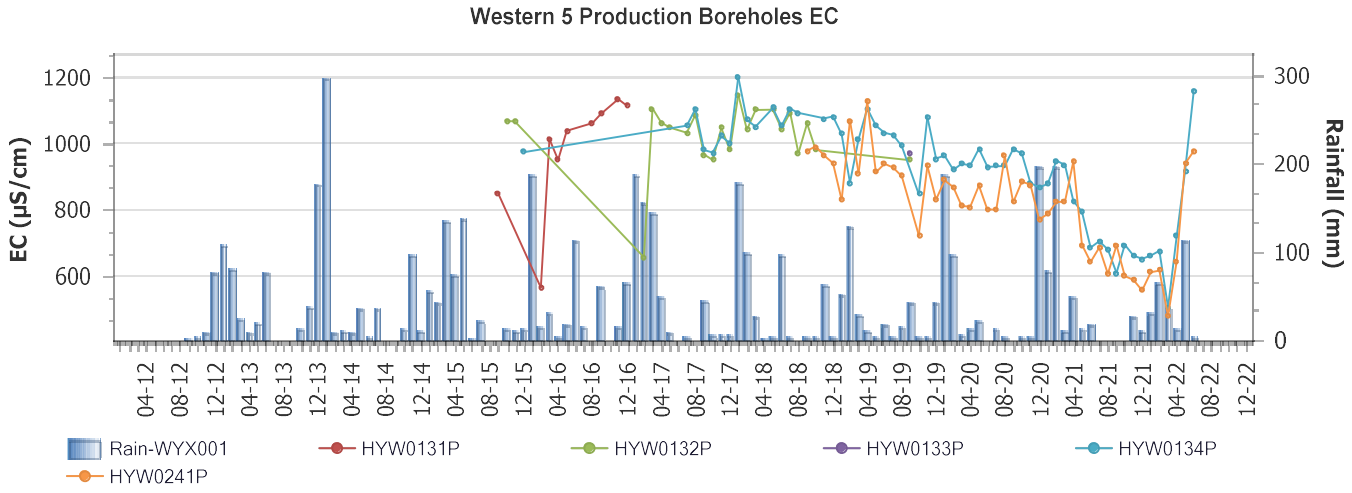


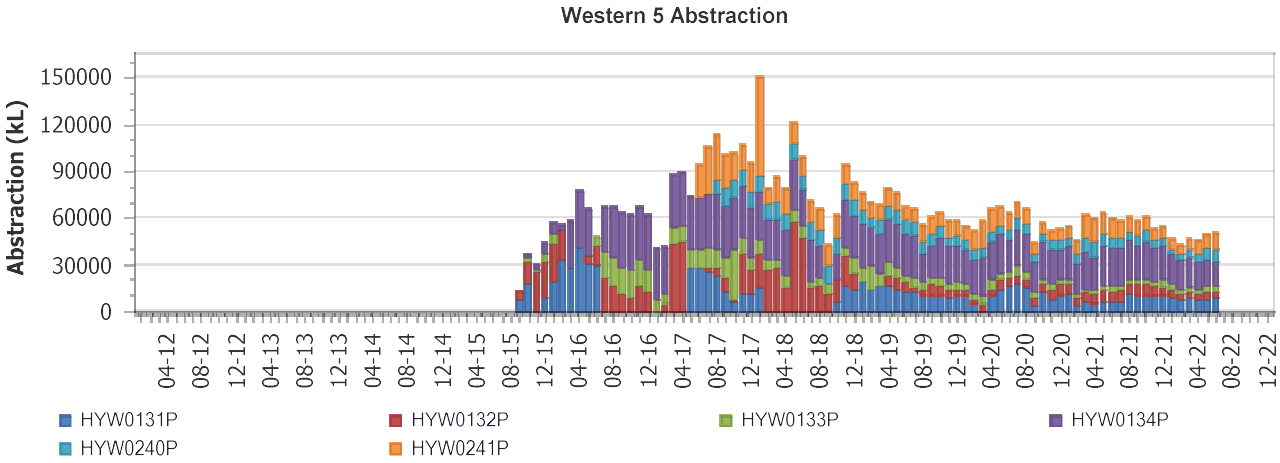


Monitoring summary: Western 4 Production Boreholes

Figure 10.23

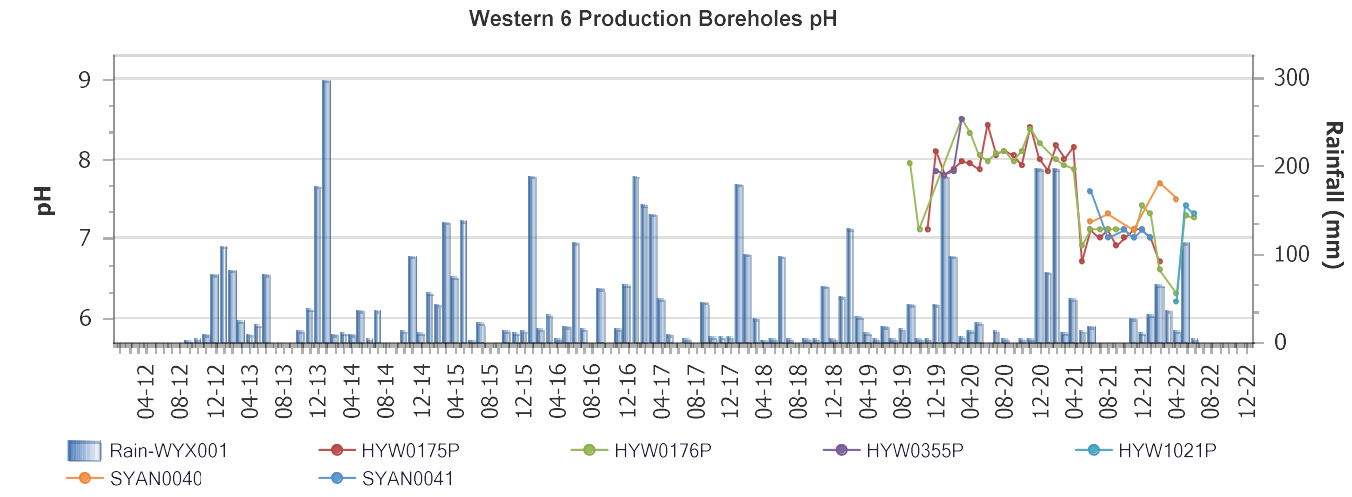


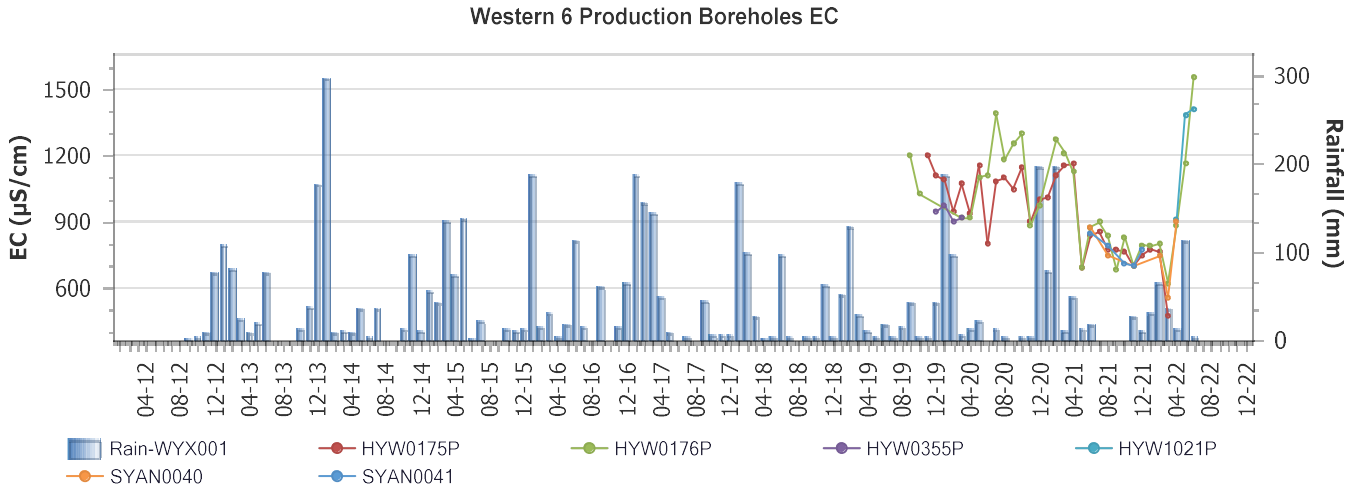


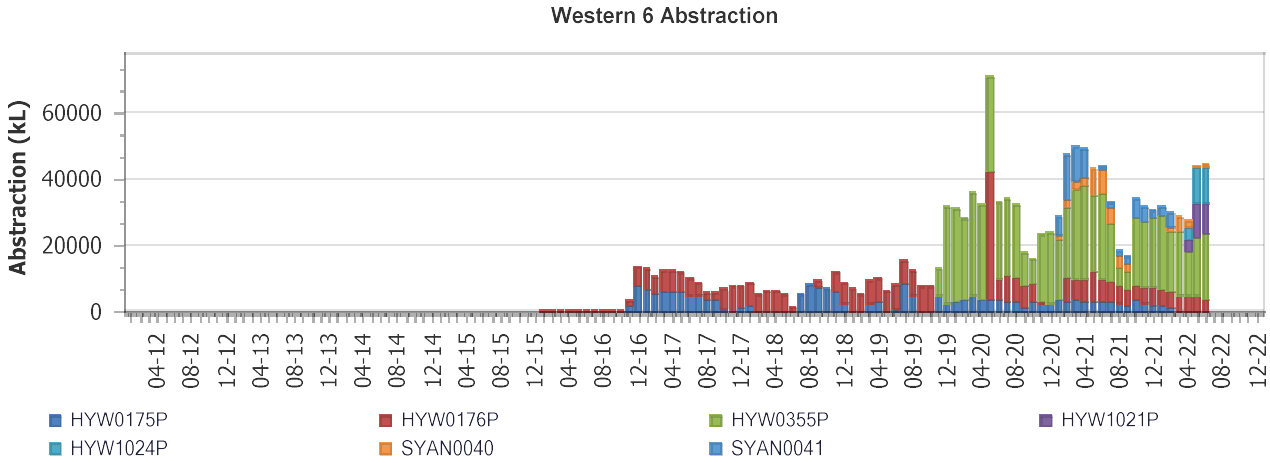


Monitoring summary: Western 5 Production Boreholes

Figure 10.24

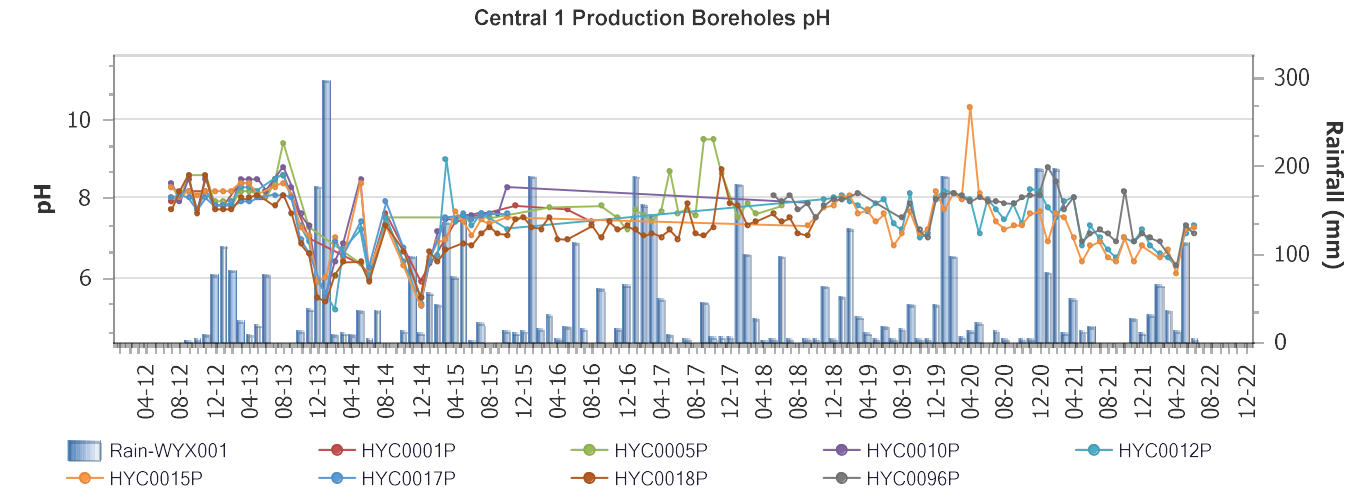


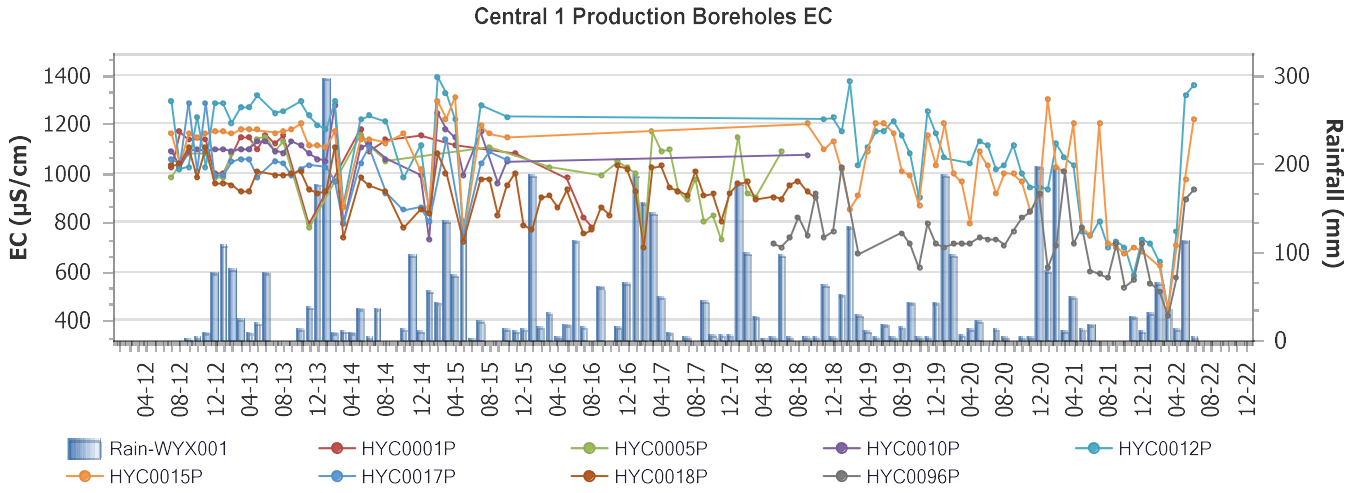


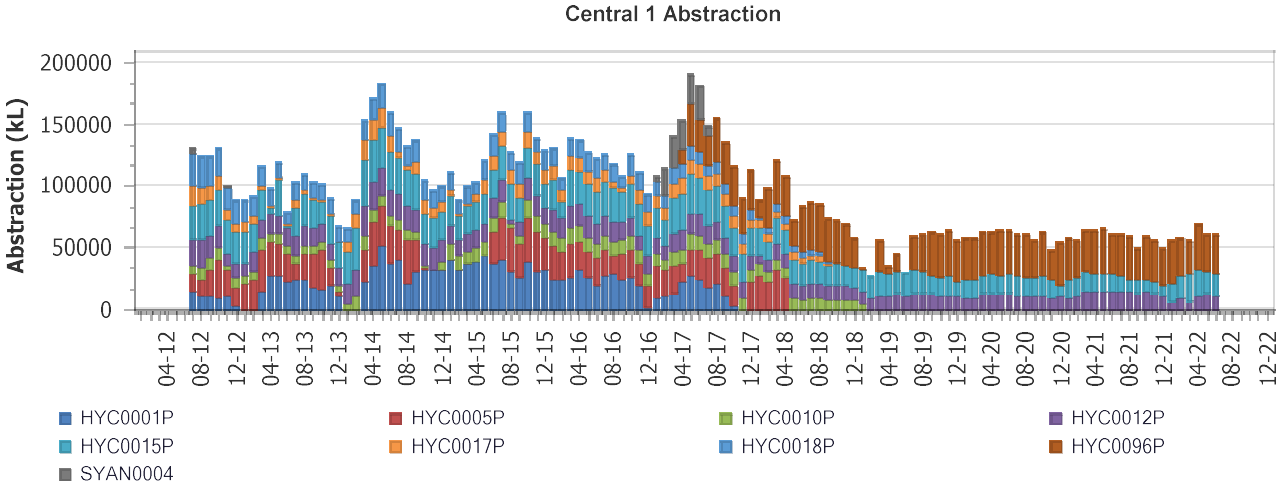


Monitoring summary: Western 6 Production Boreholes

Figure 10.25

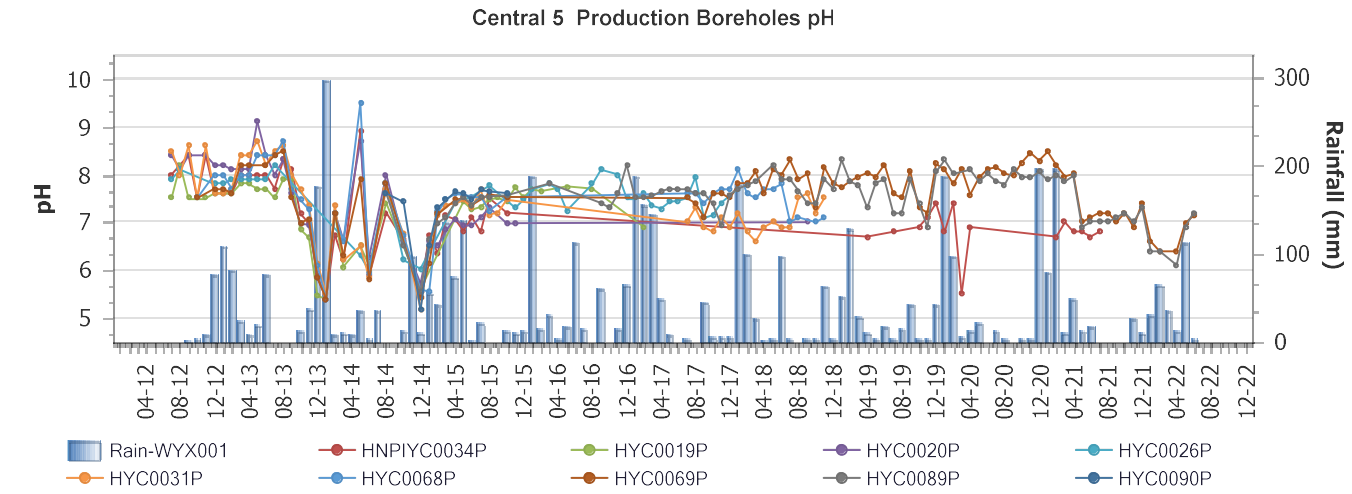


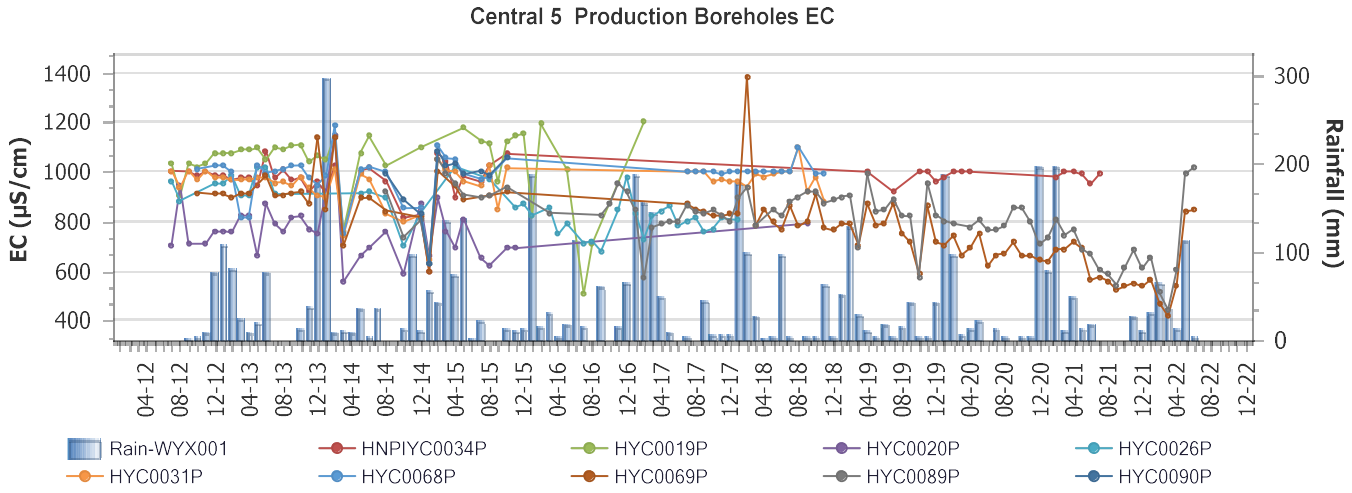


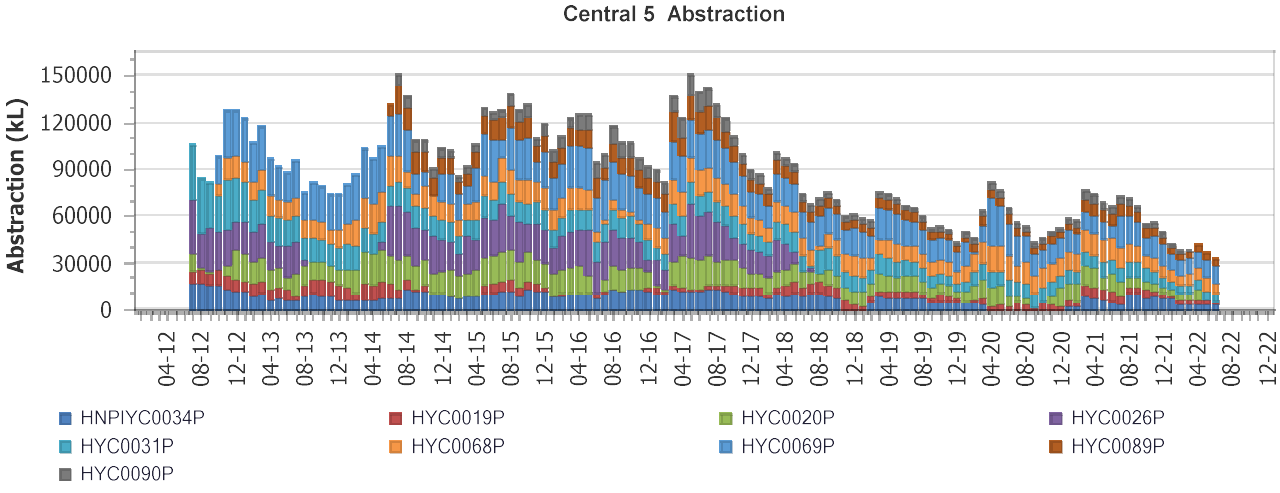


Monitoring summary: Central 1 Production Boreholes

Figure 10.26

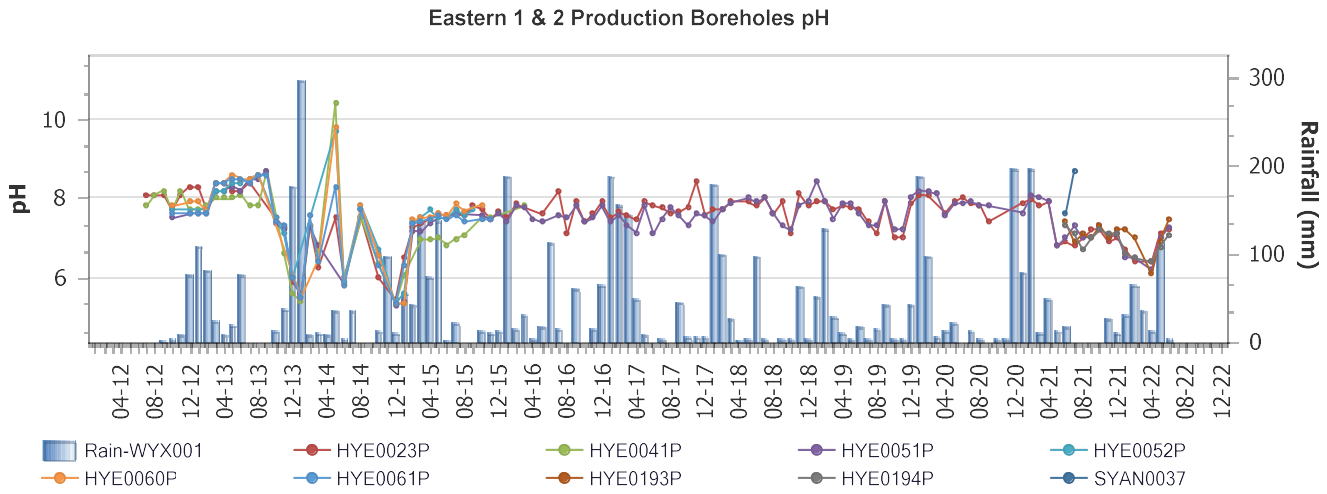


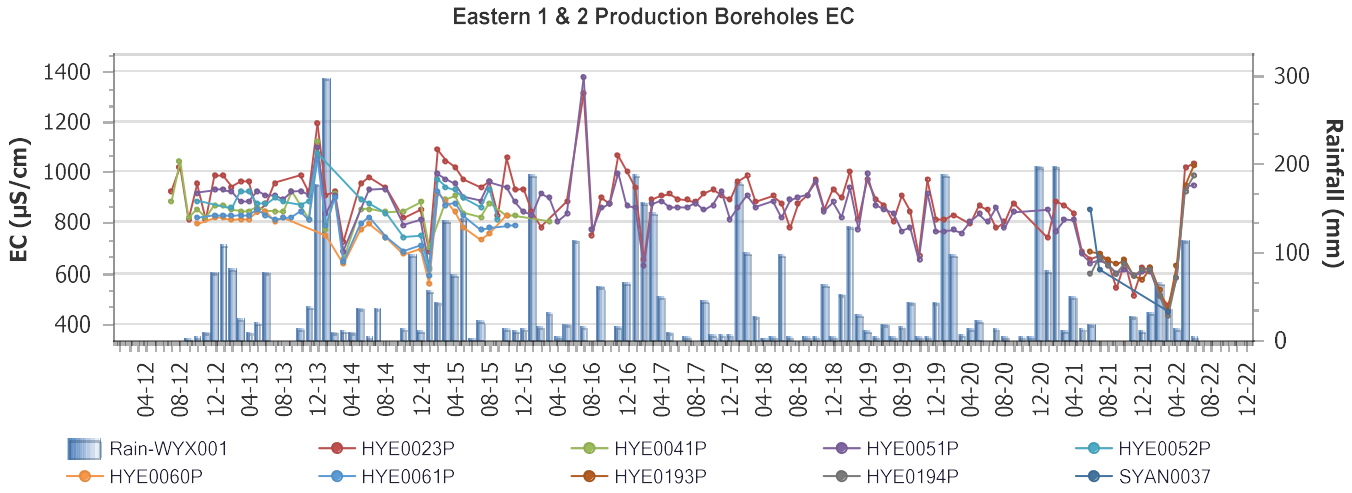


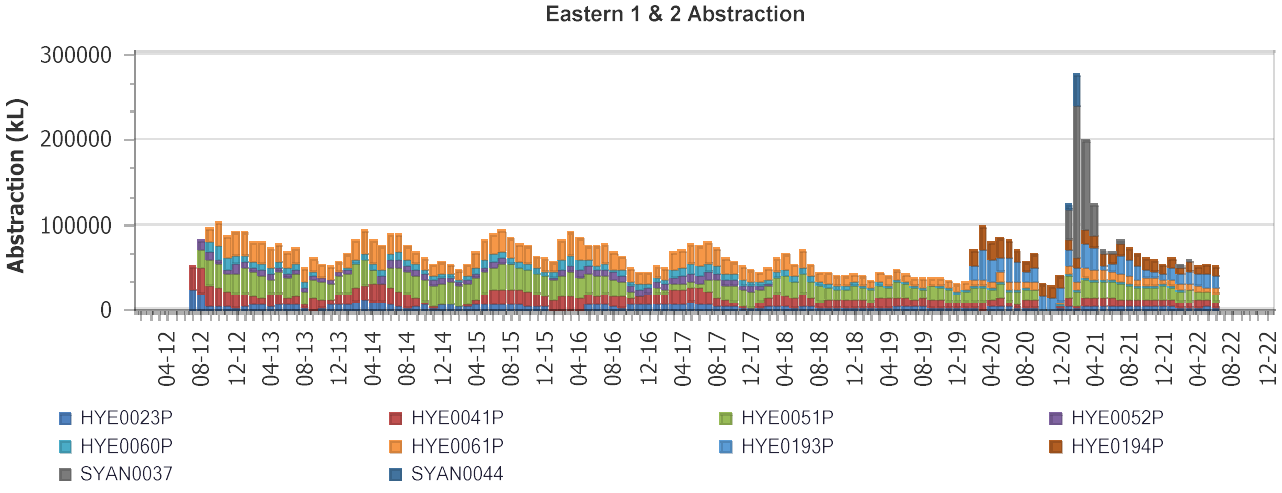


Monitoring summary: Central 5 Production Boreholes

Figure 10.27

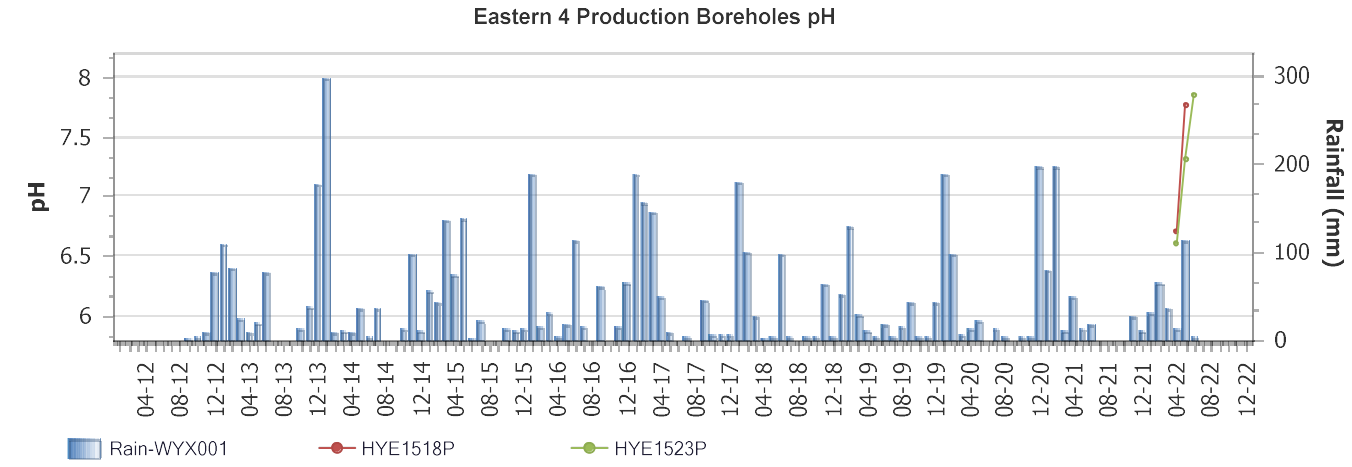


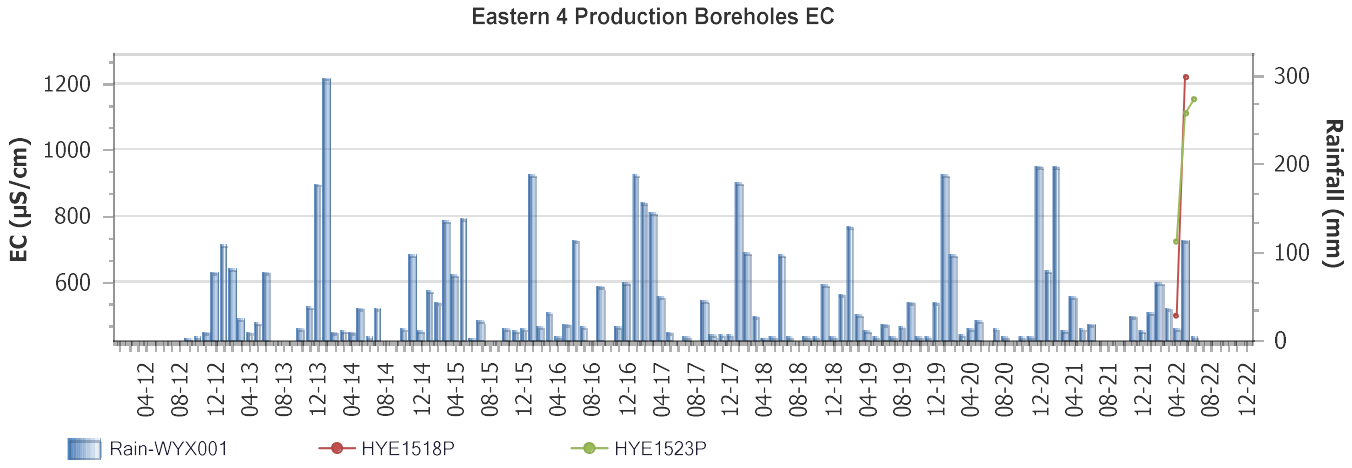


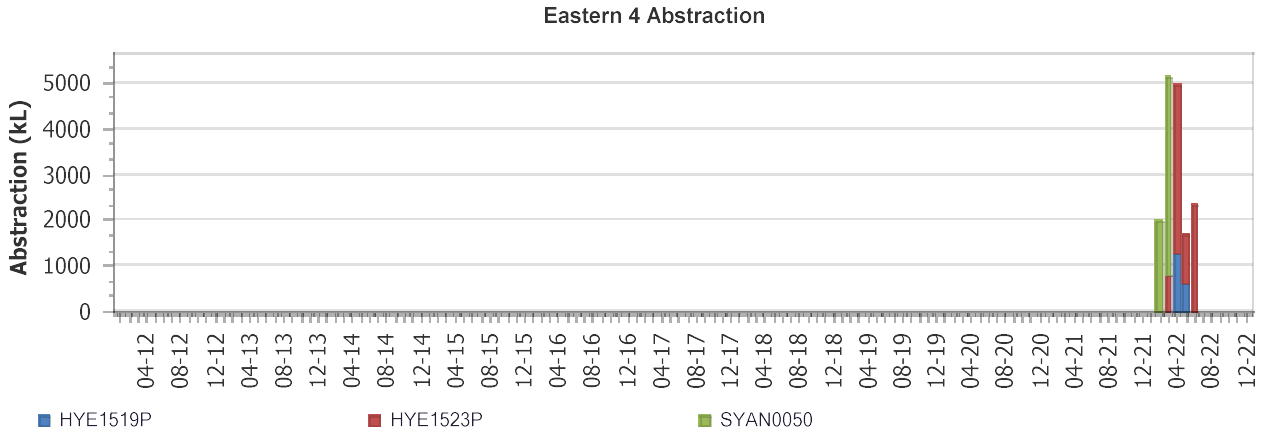


Monitoring summary: Eastern 1 & 2 Production Boreholes

Figure 10.28

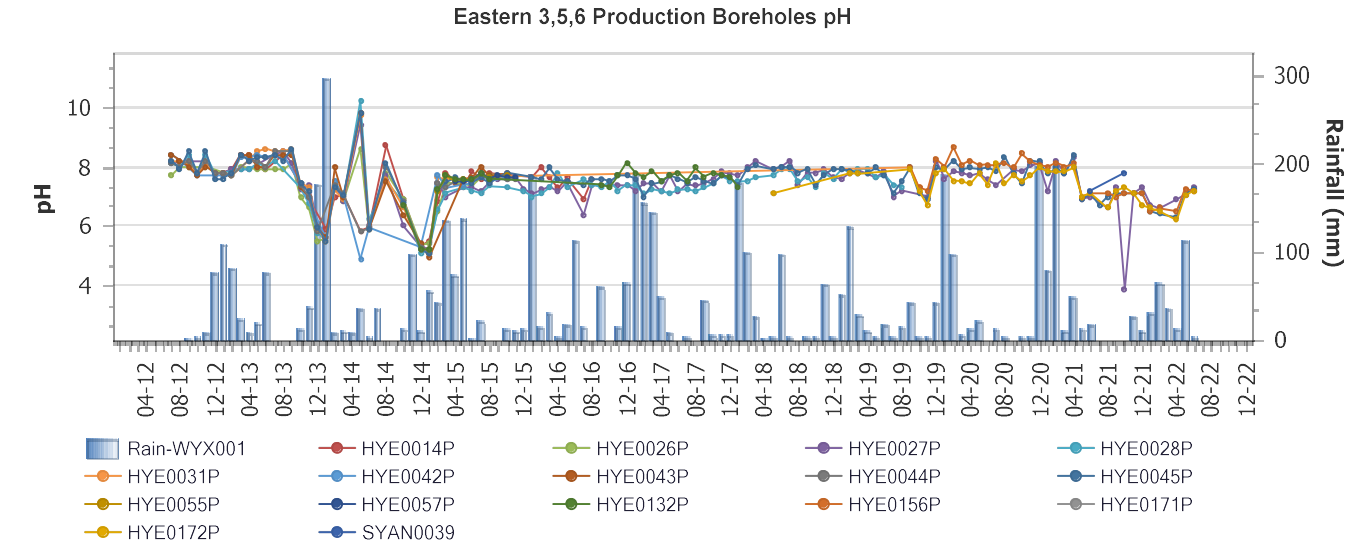


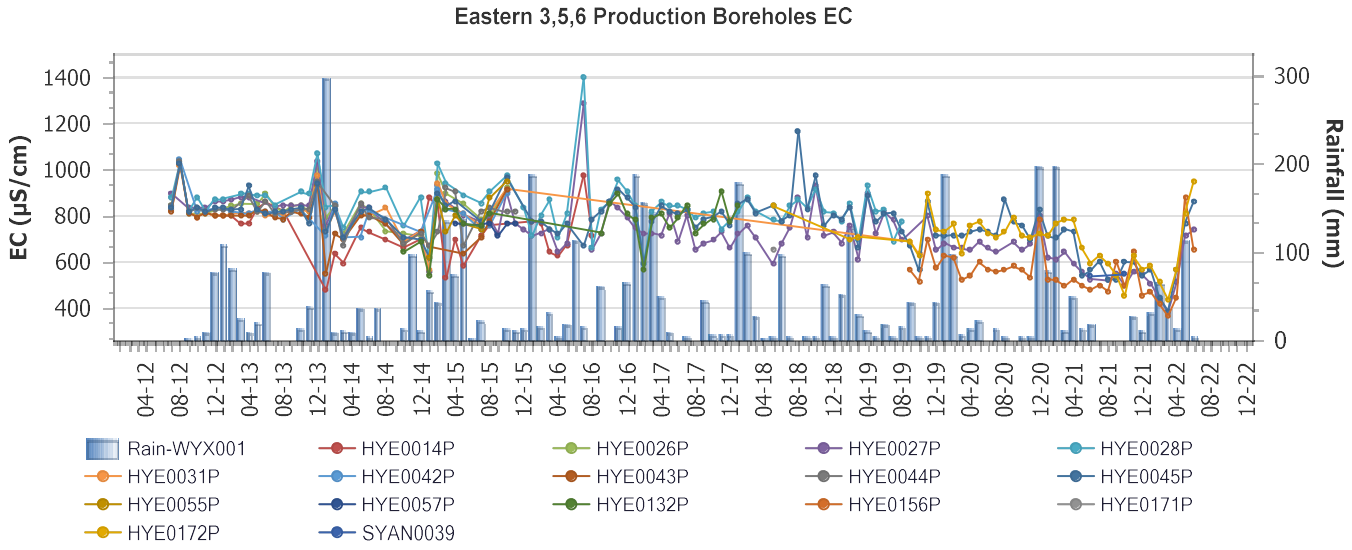


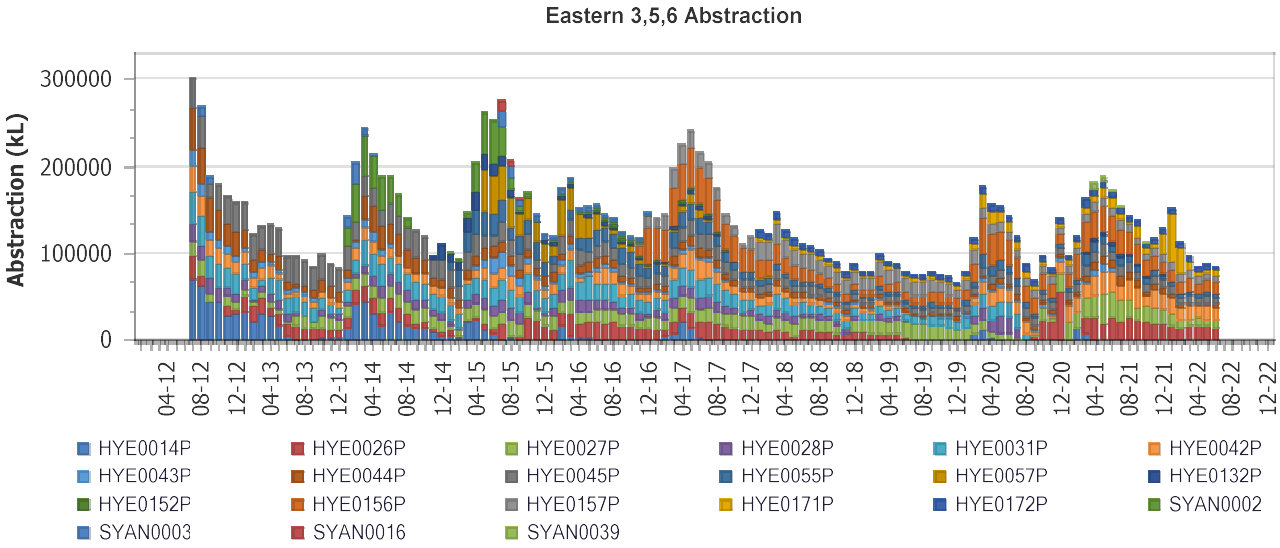


Monitoring summary: Eastern 4 Production Boreholes

Figure 10.29

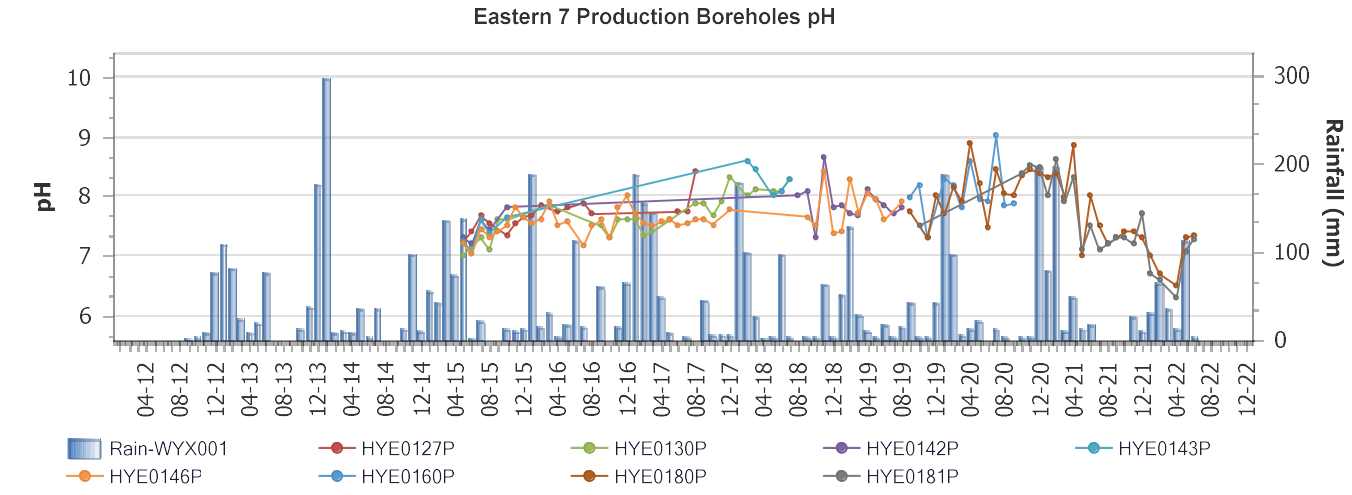


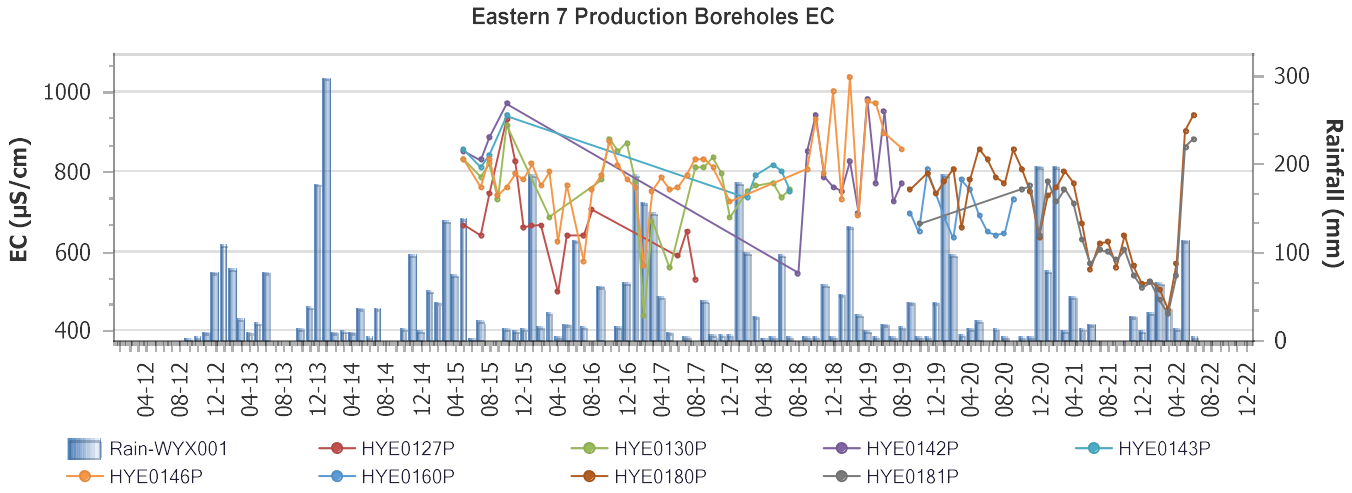


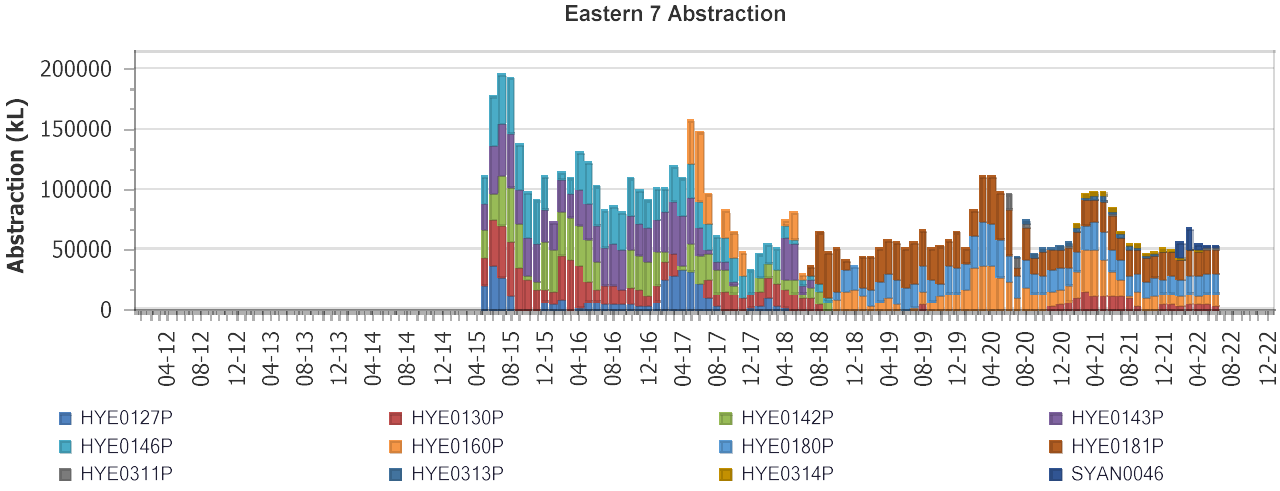


Monitoring summary: Eastern 3,5,6 Production Boreholes

Figure 10.30



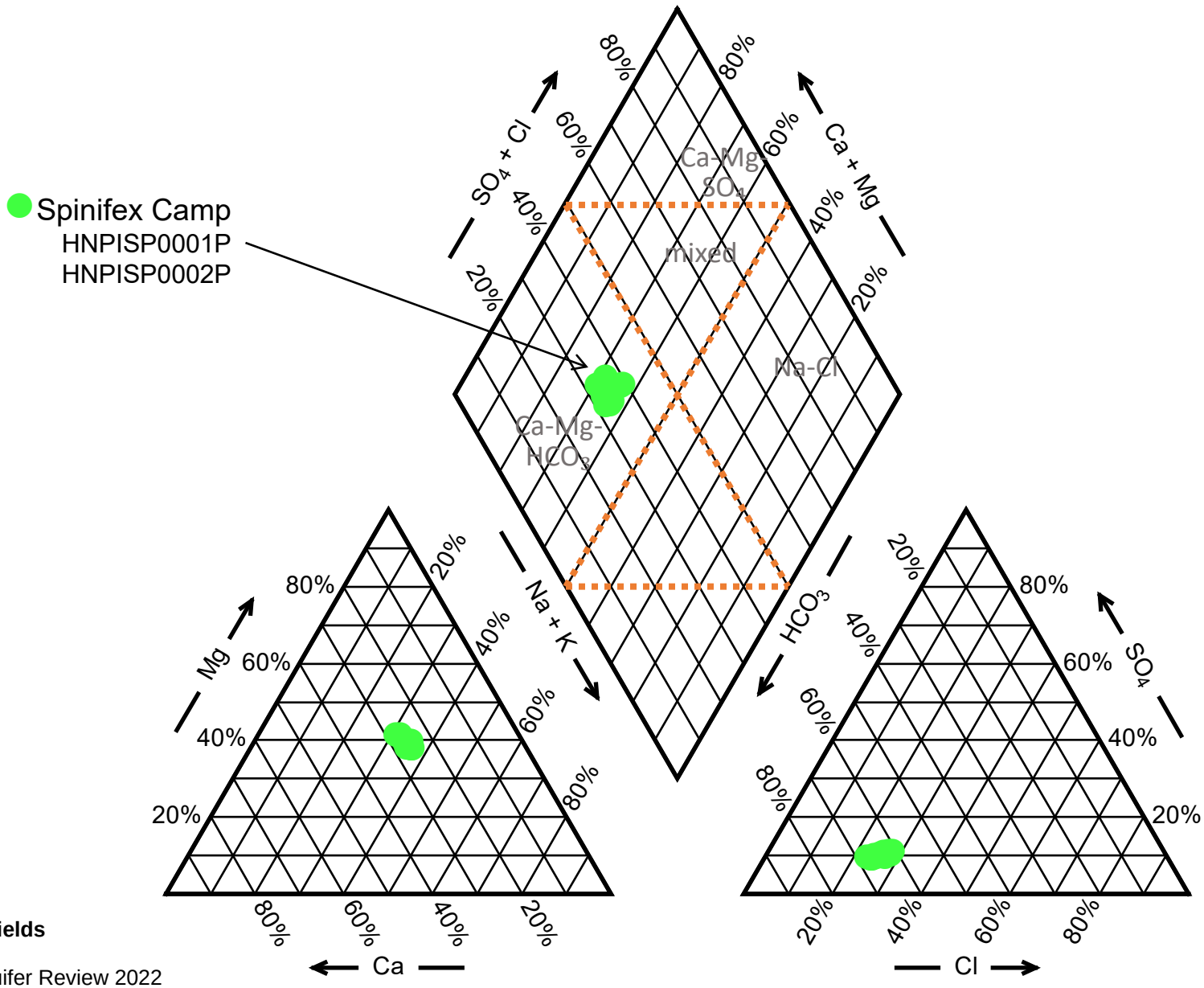




Monitoring summary: Eastern 7 Production Boreholes

Figure 10.31

Yandi- Spinifex Camp



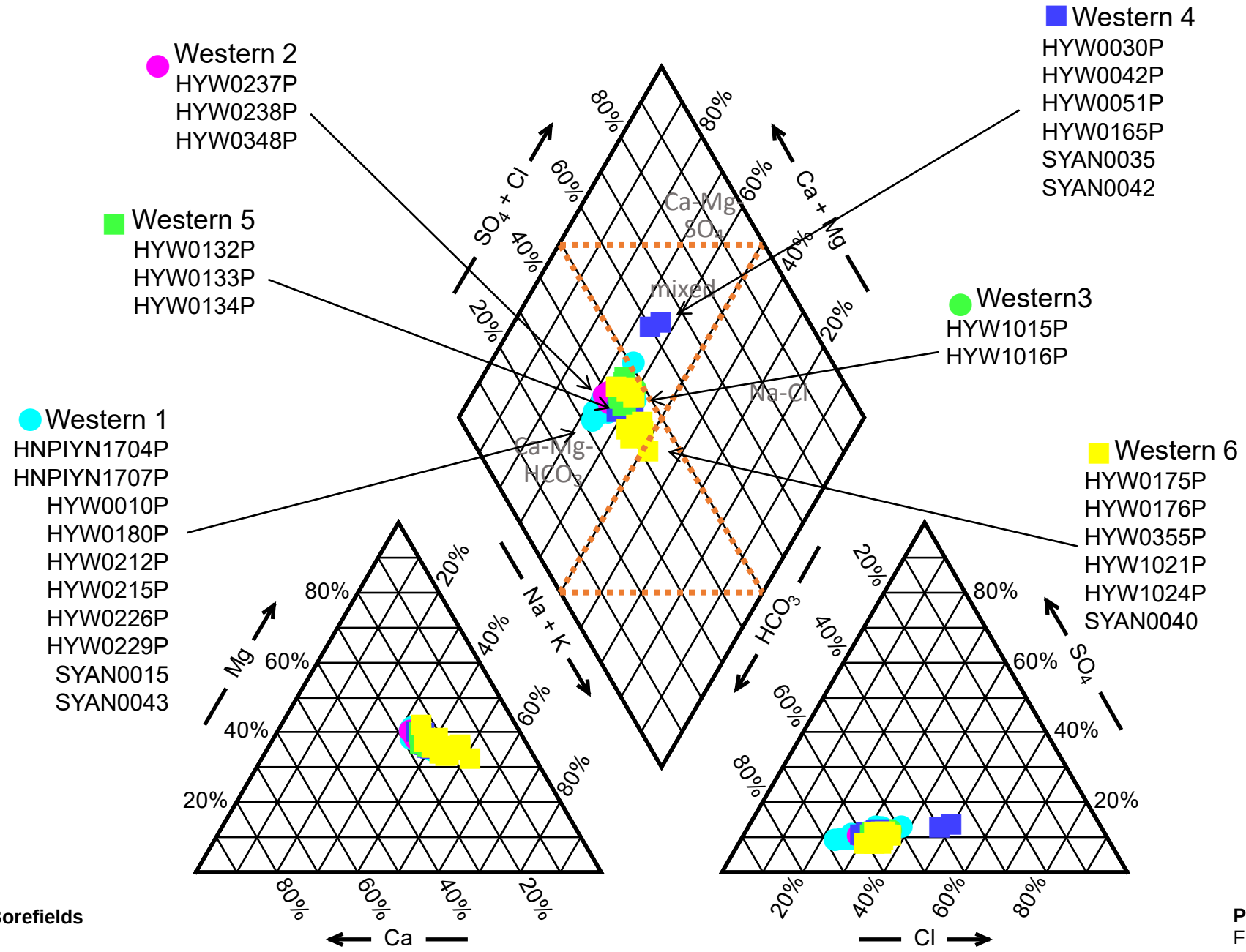
Yandi Borefields

Triennial Aquifer Review 2022

Piper Diagram
Figure 10.32

BHP

Yandi- Western Pits



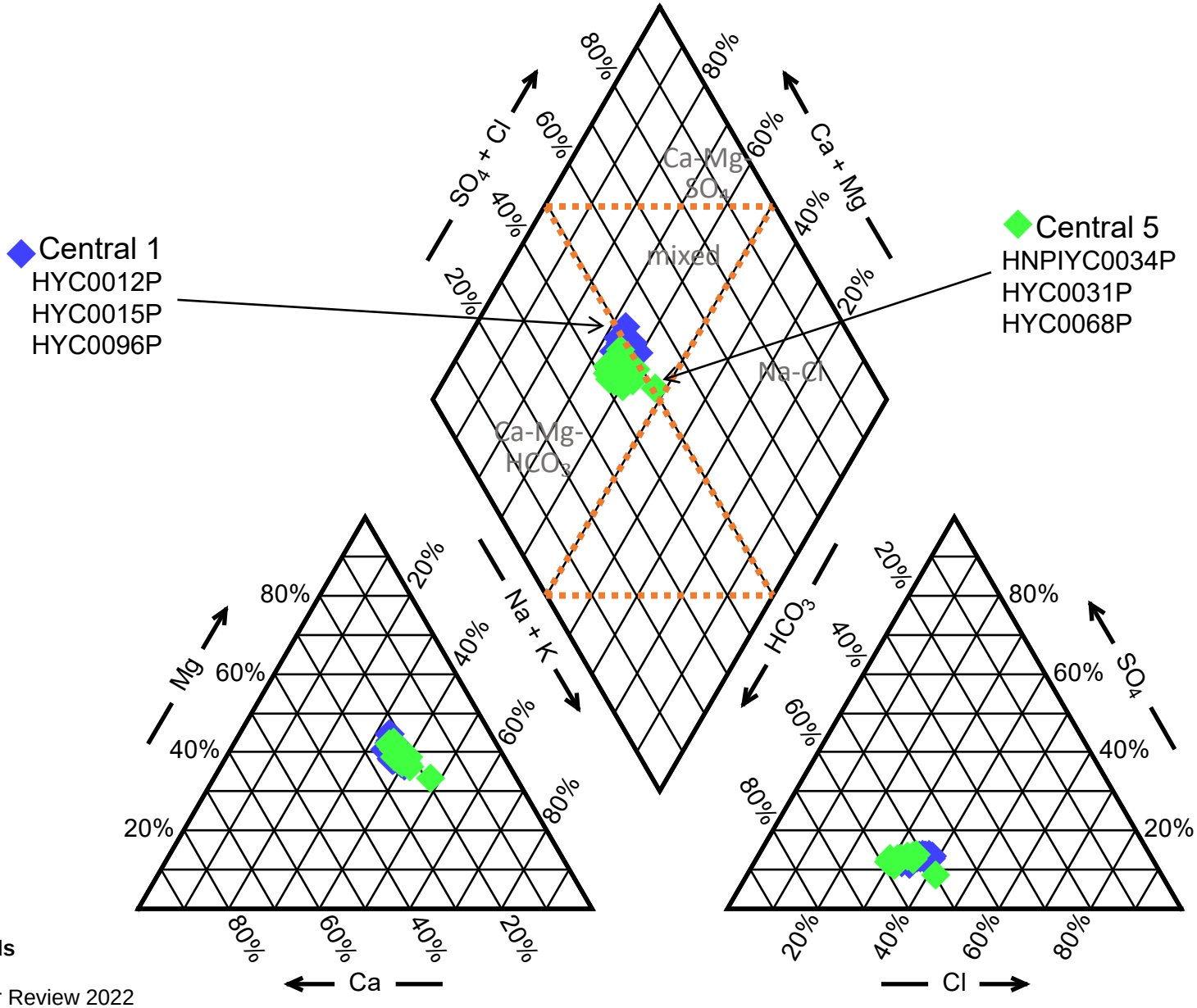
Yandi Borefields

Triennial Aquifer Review 2022

Piper Diagram
Figure 10.33

BHP

Yandi- Central Pits



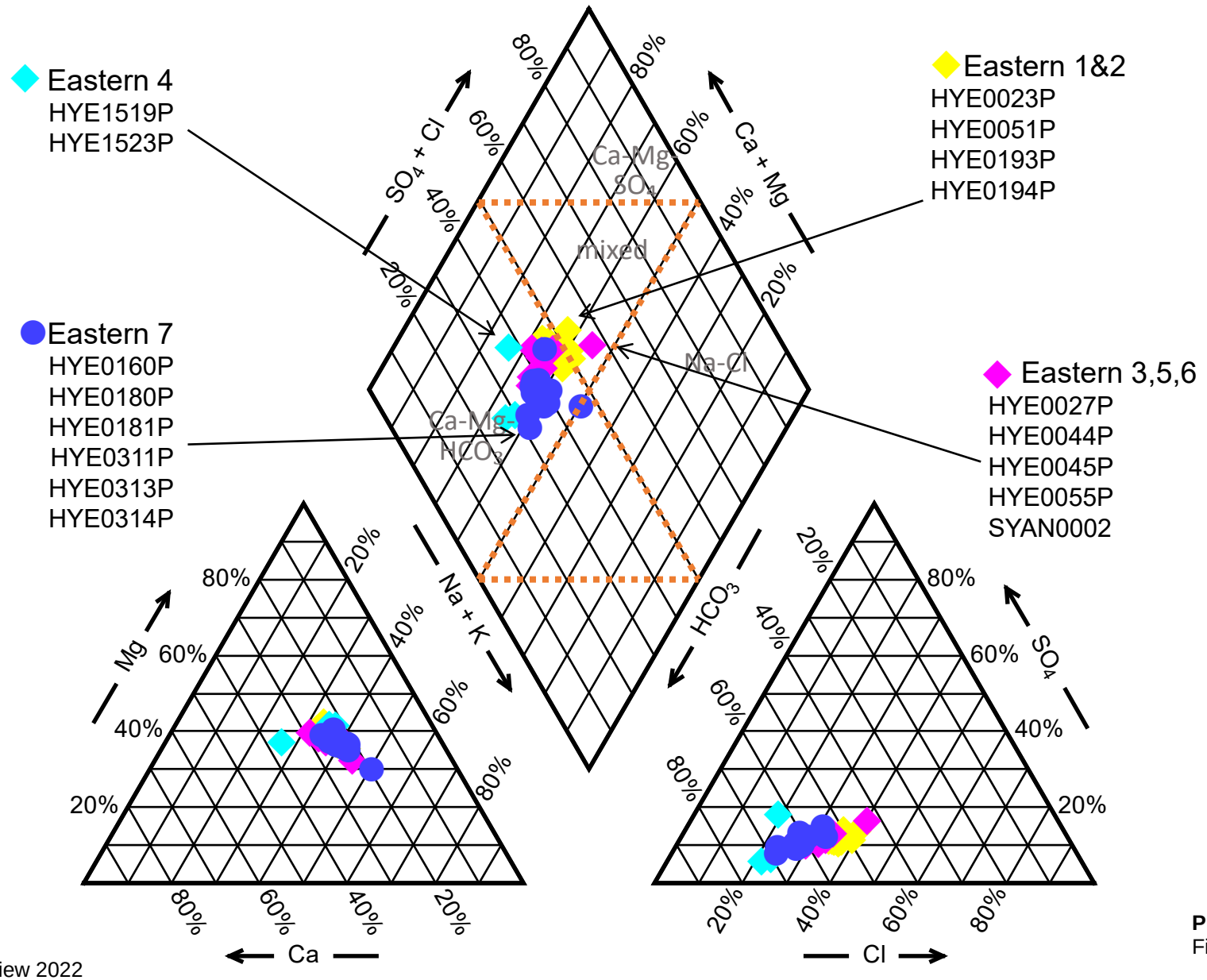
Yandi Borefields

Triennial Aquifer Review 2022

Piper Diagram
Figure 10.34

BHP

Yandi- Eastern Pits



Yandi Borefields

Triennial Aquifer Review 2022

Piper Diagram
Figure 10.35

BHP

Appendices

Appendix 10.1 Licences

LICENCE TO TAKE WATER

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

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

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

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

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

LICENCE TO TAKE WATER

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

Duration of Licence	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	FYAN0001	722507.3	7491107.5	579.00					NA	Potable
Central 1	HYC0001P	711689.8	7485688.1	572.66		0			Unknown Stratigraphy	Production
	HYC0005P	711760.8	7485621.6	572.36		0			Unknown Stratigraphy	Production
	HYC0010P	712386.6	7486073.5	517.96		38			Unknown Stratigraphy	Production
	HYC0012P	712830.7	7486086.8	522.04	28-Apr-08	57	3.11	518.92	Marillana Formation	Production
	HYC0015P	714010.4	7486135.9	520.87		90			Unknown Stratigraphy	Production NPI
	HYC0017P	714430.1	7486359.1	515.97		35			Unknown Stratigraphy	Production
	HYC0018P	715066.5	7486390.7	515.64		37			Unknown Stratigraphy	Production
	HYC0096P	715356.4	7486318.5	504.81	31-Jan-17	58			Marillana Formation	Production
	SYAN0004	714305.7	7486230.0	516.00					NA	Sump
Central 1 WL	HYC0014P	713798.0	7486028.0	520.69		35			Unknown Stratigraphy	Production
	HYC0018P	715066.5	7486390.7	515.64		37				ıction, now used for moni
	HYC0055M	714807.2	7486503.8	516.71		20			Unknown Stratigraphy	Monitoring
	HYC0061M	714224.1	7486164.5	517.54		0			Unknown Stratigraphy	Monitoring
Central 5	HNPIYC0034P	716056.3	7485199.0	509.52	25-Jun-11	54			Marillana Formation	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
	HYC0026P	715514.4	7484578.8	563.24		100			Marillana Formation	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
	HYM0019M	713109.7	7485142.1	553.44	17-Nov-12	14	0.97	552.47	Weeli Wolli Formation	Monitoring

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
Discharge	FYAN0003	713279.7	7485167.2	556.00					NA	Discharge
	FYAN0011	720665.6	7478484.5	528.00					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			Marillana Formation	Production
	HYE0041P	716290.4	7483862.2	506.28	09-Jun-11	48			Marillana Formation	Production
	HYE0051P	716430.2	7483863.4	503.23	13-May-12	54	3.43	499.53	Unknown Stratigraphy	Production
	HYE0052P	716686.2	7483768.6		15-May-12	34			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				Production
	HYE0194P	715556.4	7483921.3	511.79	28-Oct-19	42				Production
	SYAN0001	716124.9	7483860.2	503.40						Sump
	SYAN0037	715223.7	7484559.3	534.00						Sump
	SYAN0044	715270.9	7484404.3	534.00	01-Jul-20					
Eastern 1 & 2 WL	HYE0001M	716050.4	7484019.7	510.31		14			Unknown Stratigraphy	Monitoring
	HYE0050M1	715592.9	7484221.3	557.69	11-May-12	80			Weeli Wolli Formation	Monitoring
	HYE0190M	715493.8	7484191.8	510.93	28-Oct-19	36				
	HYE0191M	715562.1	7483966.0	511.83	28-Oct-19	36				
	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	717994.3	7482076.4	501.91	15-Mar-11	52			Marillana Formation	Production
	HYE0027P	717928.9	7482036.2	504.87	15-May-11	60			Marillana Formation	Production
	HYE0028P	718033.9	7481934.3	504.58	24-May-11	42			Marillana Formation	Production
	HYE0031P	718196.1	7481730.4	503.93	26-May-11	45			Marillana Formation	Production
	HYE0042P	718323.2	7481689.7	505.57	25-Mar-12	54			Marillana Formation	Production
	HYE0043P	718507.5	7481596.8	497.84	19-Mar-12	36			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

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
	HYE0055P	719524.7	7480890.3	498.87	09-Jul-12	86	10.14	534.22	Unknown Stratigraphy	Production
	HYE0057P	719616.0	7480681.0	492.66	15-Jul-12	82	7.35	535.09	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
	SYAN0002	719151.7	7481117.3	493.50					NA	Sump
	SYAN0003	718014.5	7482133.6	500.00					NA	Sump
	SYAN0016	718667.6	7481422.0	495.00					NA	Sump
	SYAN0039	717918.3	7482046.4	498.00	01-Jul-20				NA	Sump
Eastern 3,5,6 WL	HYE0026P	717994.3	7482076.4	501.91	15-Mar-11	52				Production
	HYE0133M	717997.9	7482004.2	505.19	06-Jul-14	20			Marillana Formation	Monitoring
	HYE0148M	718179.3	7481868.1	501.79	06-Jun-15	20			Marillana Formation	Monitoring
	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				Monitoring
	HYE0154M	719433.0	7480852.7	498.98	22-Mar-16	20				Monitoring
	HYE0155M	719441.6	7480743.0	499.01	22-Mar-16	20				Monitoring
	HYE0162M	719597.7	7480240.8	499.13	15-Mar-17	34	18.00	480.31	Marillana Formation	Monitoring
	HYM0013M	719226.3	7480521.1	534.57	05-Nov-12	16	10.78	523.79	Marillana Formation	Monitoring
Eastern 4 Production Bores	HYE1518P	717781.7	7481390.2	522.63	08-Feb-22	53	21.34	500.88		Production
	HYE1519P	717340.0	7482450.8	540.00	31-Jan-22	24				Production
	HYE1523P	717889.7	7481598.5	522.15	26-Jan-22	56	24.42	497.48		Production
	SYAN0050	717459.7	7482375.6	528.00						Sump
Eastern 4 WL	HYE1522M	717440.6	7482205.1	541.06	29-Jan-22	18				
	HYE1525M	717878.8	7481610.3	522.37	27-Jan-22	59	24.20	497.70		
Eastern 7	HYE0127P	719223.1	7480001.0	558.20	09-Oct-13	86			Marillana Formation	Production

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
	HYE0130P	719017.5	7479764.1	499.07	30-Oct-13	99			Marillana Formation	Production
	HYE0142P	718373.9	7479260.5	541.91	03-May-15	75			Marillana Formation	Production
	HYE0143P	718030.6	7479006.0	551.47	07-May-15	70	40.45	510.49	Marillana Formation	Production
	HYE0146P	718117.0	7478975.4	551.50	10-May-15	80			Marillana Formation	Production
	HYE0160P	718754.5	7479508.1	498.37	28-Mar-17	94	51.00	494.80	Marillana Formation	Production
	HYE0180P	718188.1	7479201.9	492.86	04-May-18	62	18.00	480.19	Marillana Formation	Production
	HYE0181P	718577.4	7479380.1	498.30	08-May-18	66	18.00	480.19	Marillana Formation	Production
	HYE0311P	719234.9	7479805.1	498.69	22-Apr-20	57			CID/Basal conglomerate	Production
	HYE0313P	718902.5	7479712.6	498.47	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	715223.2	7484534.0	0.00						Sump
Eastern 7 WL	HYE0113M	719936.5	7478158.0	534.15		100			Unknown Stratigraphy	Monitoring
	HYE0145M	718082.1	7478987.5	551.93	05-May-15	72	40.20	510.95	Marillana Formation	Monitoring
	HYE0163M	719335.2	7479939.4	541.81	16-Mar-17	66	48.00	492.92	Marillana Formation	Monitoring
	HYE0185M	718355.8	7479114.2	498.48	07-May-18	21	7.00	490.65	Marillana Formation	Monitoring
	HYE0300M	718041.4	7479116.3	492.80	30-Sep-19	21				
	HYE0310M	719265.9	7479829.9	510.43	22-Apr-20	57			Marillana Formation	Monitoring Bore
	HYE0312M	718927.5	7479733.2	498.38	25-Apr-20	48				
	HYE0314P	719262.5	7479778.5	498.63	10-May-20	53	15.00	494.98		
Rainfall	WYX001	716440.0	7487085.0	0.00					NA	Weather station
Regional Downgradient WL	HYE0113M	719936.5	7478158.0	534.15		100			Marillana Formation	Monitoring
	HYM0010M	720583.6	7478123.7	533.09		0				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-30	77			Marillana Formation	Monitoring
	HYW0003M	702821.2	7487679.1	610.29	01-Jan-30	89			Marillana Formation	Monitoring
	HYW0005M	703362.3	7487154.0	609.90		91			Marillana Formation	Monitoring
	HYW0210M	703604.2	7486895.8	610.86	21-Aug-15	96	36.53	573.85	Marillana Formation	Monitoring
	MB16YSN0001M	702965.8	7487508.7	610.10	08-Sep-16	82			Marillana Formation	Monitoring

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
	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 Camp	HNPISP0001P	702933.3	7487612.8	610.38	30-Sep-17	100			Unknown Stratigraphy	Production
	HNPISP0002P	703145.1	7487609.0	612.93	23-Sep-17	94			Unknown Stratigraphy	Production
Spinifex Camp WL	HYW0003M	702821.2	7487679.1	610.29	01-Jan-30	89			Marillana Formation	Monitoring GWOS
	MB16YSN0001M	702965.8	7487508.7	610.10	08-Sep-16	82			Marillana Formation	Monitoring GWOS
Western 1	HNPIYN1704P	703343.1	7487206.2	609.91		0				Production
	HNPIYN1707P	703377.4	7487085.1	611.99		0				Production
	HYW0008P	704008.0	7486750.9	610.68		94			Unknown Stratigraphy	Production
	HYW0010P	704298.2	7486499.4	582.75		91			Unknown Stratigraphy	Production
	HYW0011P	705129.6	7486284.4	571.23		92			Unknown Stratigraphy	Production
	HYW0013P	706060.3	7486165.5	570.50		98			Unknown Stratigraphy	Production
	HYW0021P	706053.3	7484703.1	535.49		99			Unknown Stratigraphy	Production
	HYW0024P	705570.8	7484530.7	539.95		92			Unknown Stratigraphy	Production
	HYW0060P	706438.8	7485521.8	540.22	30-Apr-12	82			Unknown Stratigraphy	Production
	HYW0179P	705819.7	7486271.9	570.03	24-Apr-14	82			Unknown Stratigraphy	Production
	HYW0180P	704685.7	7486294.5	576.88	18-Apr-14	92			Unknown Stratigraphy	Production
	HYW0212P	705028.0	7484736.6	535.45	04-Oct-15	80			Marillana Formation	Production
	HYW0213P	705339.3	7484720.4	546.76	28-Sep-15	68			Marillana Formation	Production
	HYW0215P	705477.8	7486220.0	570.41	10-Oct-15	56			Marillana Formation	Production
	HYW0219P	706265.5	7485031.7	528.89	19-Feb-16	34			Marillana Formation	Production
	HYW0226P	706206.9	7485921.5	564.40	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	Marillana Formation & Weeli Wolli Formation	Production
	HYW0247P	704809.3	7484684.2	535.55	16-Dec-16	60	32.00	537.98	Marillana Formation	Production
	HYW0322P	705858.2	7484603.2	546.73	24-Nov-17	48			Marillana Formation	Production

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
	SYAN0015	706325.2	7485048.7	528.00					NA	Sump
	SYAN0043	705382.6	7484722.0	522.00	01-Jul-20				NA	Sump
Western 1 WL	HYW0214M	705229.5	7484666.6	571.05	24-Sep-15	41			Marillana Formation	Monitoring
	HYW0217M	705677.8	7486194.7	571.12	07-Oct-15	40			Marillana Formation	Monitoring
	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
	HYW0502M	704936.7	7484668.7	535.28	30-Sep-19	21				Monitoring
Western 2	HYW0237P	704542.7	7484331.4	558.14	04-Nov-16	105			Marillana 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				
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	vel to the method type. (c
	HYW0347M	704667.5	7484411.3	565.49	12-May-19	62				
Western 3	HYW1015P	707297.0	7483769.1	552.59	06-Mar-22	62	23.60	528.50		Production
	HYW1016P	707036.1	7483118.7	546.69	09-Mar-22	56	13.96	532.23		Production
Western 4	HYW0030P	707348.2	7484038.3	587.07	06-Oct-04	78			Unknown Stratigraphy	Production
	HYW0032P	707500.4	7484053.9	586.28	07-Oct-04	80	16.14	569.81	Marillana Formation	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
	HYW0181P	708970.9	7484655.5	535.09	27-Apr-14	32			Unknown Stratigraphy	Production
	HYW0182P	709126.4	7484304.1	522.78	02-May-14	48			Unknown Stratigraphy	Production
	HYW0306P	709392.8	7483896.8	522.73	25-Mar-17	42	10.50	524.36	Marillana Formation	Production
	HYW0340P	709127.5	7483999.2	524.54	09-Sep-18	41			Marillana Formation	

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
	SYAN0017	707625.0	7484274.3	514.98	01-Jun-16				NA	Sump
	SYAN0035	708814.8	7484699.8	516.00						Sump
	SYAN0036	707540.5	7484310.4	518.07	02-Aug-19					Sump
	SYAN0042	707867.4	7484640.6	516.00	01-Jul-20					Sump
Western 4 WL	HYW0031P	707416.1	7484047.7	586.45	02-Oct-04	80	16.06	570.35	Marillana Formation	Production
	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
	HYW0312M	708813.2	7484686.6	517.37	20-Mar-17	18	1.00	515.26	Marillana Formation	Monitoring
	HYW0329M	709059.7	7484351.8	523.24	07-May-18	21	18.00	504.17		
Western 5	HYW0131P	710329.4	7483789.7	535.09	31-Oct-13	87	57.30	524.78	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 & Weeli Wolli Formation	Production
Western 5 WL	HYW0314M	710832.3	7483985.2		22-Mar-17	54	20.50	513.83	Marillana Formation	Monitoring
	HYW0315M	711165.4	7484500.1	529.67	21-Mar-17	44	19.44	509.33	Marillana Formation	Monitoring
	HYW0328M	710903.2	7484017.3	535.31	30-May-18	36	20.00	514.28	Marillana Formation	Monitoring
	HYW0352M	710831.5	7484023.9	529.21	15-Apr-19	28	15.62	512.50		
	HYW0400M	711506.3	7485046.5	529.29	03-Nov-19	36				
	YW2200RDM	709697.3	7483384.2	577.23	30-Dec-14	87			Marillana Formation	Monitoring
Western 6	HYW0175P	711441.0	7485512.7	535.93	11-Apr-14	84			Marillana Formation	Production
	HYW0176P	711201.6	7485771.6	547.01	19-Apr-14	76			Marillana Formation	Production
	HYW0355P	711743.3	7485675.7	535.23	02-Nov-19	48				Production
	HYW1021P	711018.7	7485982.5	534.62	22-Mar-22	36	6.80	527.43		Production
	HYW1024P	710998.3	7486088.3	535.15	29-Mar-22	36	1.67	533.26		Production
	SYAN0040	710963.9	7486104.7	536.00	01-Jul-20					Sump
	SYAN0041	710884.2	7486295.3	536.00	01-Jul-20					Sump

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 6 WL	HYW0167M	711499.5	7485508.7	572.53	02-Mar-14	108			Weeli Wolli Formation	Monitoring
	HYW0175P	711441.0	7485512.7	535.93	11-Apr-14	84			Marillana Formation	Production
	HYW0300M	711485.1	7485611.9	568.60	26-Feb-17	87	27.97	539.61	Marillana Formation	Monitoring
	HYW0343M	711105.3	7486011.6	548.30	25-Aug-18	40	36.00	511.25	Marillana Formation	Monitoring
	HYW0344M	711226.9	7485521.2	559.27	24-Aug-18	58	48.00	510.23	Marillana Formation	Monitoring
	HYW0353M	711712.4	7485688.3	535.49	30-Oct-19	36				Monitoring
	HYW1022M	711000.2	7486066.2	535.41	30-Mar-22	33	3.17	531.51		Monitoring
	HYW1023M	711085.7	7485994.7	534.64	23-Mar-22	38	8.05	525.98		Monitoring
	HYW1028M	710989.8	7486065.9	535.42	30-Mar-22	12	3.46	531.26		Monitoring
	HYW1029M	710999.8	7485995.0	535.03	31-Mar-22	36	5.70	528.49		Monitoring
	HYW1030M	711006.5	7485977.9	534.92	30-Mar-22	12	6.53	527.64		Monitoring

Appendix 10.3 Borehole logs

BHPIO - Hydrogeology Log

BHP

Project: YANDI **Hole Name:** HYE1506 **Hole Length:** 97.00

Easting: 720660.70
Northing: 7478098.88
Surface RL: 533.58
Grid Name: MGA94_50
Incl / Azm: -90-->0
Construct: 10 Feb 22 - 16 Feb 22
License: CAW204538
Comments: Headworks: concrete plinth & lockable steel cover

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	CM10
6.0 - 97.0	WLDRIG5	CH	425		WELLDRILL	CM10

TOC RL: 534.02 (Stickup 0.39m) (drilled) SWL: 42.35 MBTOC (18 Feb 22) Dev: Y: 6.0 hour(s) Final pH: 7.7
TOC RL: 534.02 (Stickup 0.39m) (current) Is Live: Y (-) Date: 15 Feb 2022 Final EC: 765.00

Depth mgbl	Cond	Strat	Major	Minor	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s	Notes
0	MG	A	ZXH	3		GRAVEL, cobbled, trace sand, (SCREE), , Transported, Non-Cohesive soils, Poorly graded, Sub-rounded				CEMENT (0.00-2.00)
		M3	ZWG	XH		GRAVEL, sandy, trace clay, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular				BLANK STEEL: Size 18" - W.T.9.53mm (0.00-6.00)
										BLANK STEEL: Size 12" - W.T.9.53mm (0.00-63.50)
										GRAVEL MED (2.00-93.50)
50	SF	M2	ZG	WK		GRAVEL, sandy, trace clay, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Poorly graded, Sub-rounded	435	7.1	1	
60							537	7.1	1	
	MG						528	7.4	2	SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (63.50-75.50)
70							707	7.7	7	
80		BG	ZO	HX		GRAVEL, cobbled, trace silt, (BRECCIA), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular	675	7.7	10	W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (75.50-93.50)
90							729	7.7	10	
		HJ	E	J		DOLERITE, (HJ), , Slightly Weathered, Very Strong Rock	747	7.9	10	
100										END CAP (93.50) FALLBACK (93.50-97.00)

0 100 200 0-5000 0-14 0-50

Program: YANDI FY22 BOREFIELD AUGMENTATION Eastern Pits E8 Planned Hole: HYE1506 Page: 1

BHPIO - Hydrogeology Log

BHP

Project:	YANDI	Hole Name:	HYE1509	Hole Length:	88.00

Easting:	720960.55
Northing:	7478026.89
Surface RL:	532.85
Grid Name:	MGA94_50
Incl / Azm:	-90-->0
Construct:	12 Mar 22 - 15 Mar 22
Comments:	Q: 10-15 L/s. Headworks: Lockable Steel cover

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 12.0	WLDRIG5	CH	550		WELLDRILL	CM10
12.0 - 88.0	WLDRIG5	CH	425		WELLDRILL	CM10

License: CAW204538

TOC RL:	533.13	(Stickup 0.30m)	(drilled)	SWL:	39.29 MBTOC	(17 Mar 22)	Dev:	Y: 6.0 hour(s)	Final pH:	7.6
TOC RL:	533.13	(Stickup 0.30m)	(current)	Is Live:	Y	(-)	Date:	15 Mar 2022	Final EC:	796.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s	Diagram Scaled to 600mm	Notes
0	SF	A	ZJ	G			COBBLE, gravelly, trace sand, (SCREE), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular					BLANK STEEL: Size 18" - W.T.9.53mm (0.00-12.00)
10	MG	M3	ZG	HI			GRAVEL, cobbled, trace sand, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Uniform, Sub-angular					BLANK STEEL: Size 12" - W.T.9.53mm (0.00-62.00)
20												GRAVEL MED (2.00-86.00)
30												
40												
50	CV	UN	V					1190	6.7	1		
	SF	OK	ZK	CJ			CLAY, gravelly, trace cobble, (CLAY), , Transported, Soft, Poorly graded, Flat or Tabular	920	7.1	4		
60		M2	ZGL	H			GRAVEL, silty, trace clay, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Poorly graded, Sub-rounded	870	7.3	7		SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (62.00-74.00)
	MG	BK	ZK	GLC			CLAY, gravelly, trace silt, (CLAY), , Transported, Firm, Poorly graded, Flat or Tabular	530	7.2	10		
70		BG	ZJ	GKC			GRAVEL, cobbled, trace sand, (BRECCIA), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular	490	7.6	10		
80	CV	UN	V					720	7.5	10		W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (74.00-86.00)
	HG	HE	E	J			DOLERITE, (HE), Blue and Green, Moderately Weathered, Strong Rock	1760	7.6	10		
90								840	7.8	15		END CAP (86.00) FALLBACK (86.00-88.00)
100												
						0 100 200		0-5000	0-14	0-50		

BHPIO - Hydrogeology Log

BHP

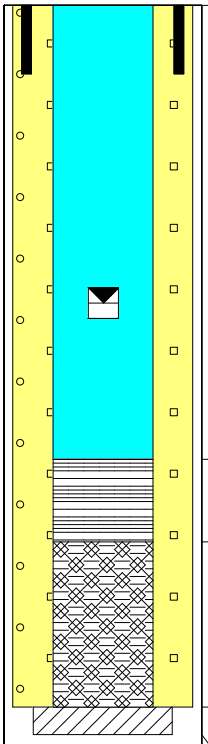
Project:	YANDI	Hole Name:	HYE1518	Hole Length:	53.00	
Easting:	717781.72					
Northing:	7481390.16					
Surface RL:	522.22					
Grid Name:	MGA94_50					
Incl / Azm:	-90-->0					
Construct:	06 Feb 22 - 08 Feb 22			License:	CAW204538	
Comments:	Headworks: Steel stickup and lockable. Drilled to 52m - Reamed to 53m					

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	EC6
6.0 - 53.0	WLDRIG5	CH	425		WELLDRILL	EC6

TOC RL:	522.63	(Stickup 0.31m)	(drilled)	SWL:	21.65 MBTOC	(12 Feb 22)	Dev:	Y: 9.5 hour(s)	Final pH:	8.1
TOC RL:	522.63	(Stickup 0.31m)	(current)	Is Live:	Y	(-)	Date:	08 Feb 2022	Final EC:	944.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s
0 - 10	SF	M3	ZG				GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Well graded, Sub-angular			
10 - 30	SF	M2	ZGL	K			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Well graded, Sub-angular	560	7.4	1
30 - 40	MG	M2	ZKH	L			GRAVEL, silty, (CANGA WELDED PISOLITE), , Transported, Non-Cohesive soils, Well graded, Sub-angular	661	8.0	2
40 - 50	MG	BK	ZK	GL			CLAY, gravelly, (CLAY), , Transported, Very Soft, Well graded, Sub-angular	644	8.2	4
50 - 53		HE	E				DOLERITE, (HE), , Slightly Weathered, Strong Rock	664	8.2	4
								681	8.4	5
						0 100 200		0-5000	0-14	0-50

Diagram Scaled to 600mm



Notes

- BLANK STEEL: Size 20" - W.T.6.35mm (0.00-5.00)
- BLANK STEEL: Size 12" - W.T.9.53mm (0.00-33.00)
- GRAVEL MED (0.00-51.00)
- SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (33.00-39.00)
- W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (39.00-51.00)
- END CAP (51.00)
- FALLBACK (51.00-53.00)

BHPIO - Hydrogeology Log

BHP

Project:	YANDI	Hole Name:	HYE1519	Hole Length:	24.00

Easting: 717340.04
Northing: 7482450.81
Surface RL: 539.50
Grid Name: MGA94_50
Incl / Azm: -90-->0
Construct: 29 Jan 22 - 31 Jan 22
License: CAW204538

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	CM10
6.0 - 24.0	WLDRIG5	CH	425		WELLDRILL	CM10

Comments: Headworks: Steel stickup with concrete plinth and lockable cover. Drilled to 24m. Dry bore - not dev...

TOC RL: 540.00 (Stickup 0.30m) (drilled) SWL: Dev: N Final pH: -
TOC RL: 540.00 (Stickup 0.30m) (current) Is Live: Y (-) Date: - Final EC: -

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s	Diagram Scaled to 600mm	Notes
0	BG	A	ZJ	C			GRAVEL, sandy, trace silt, (SCREE), , Transported, Non-Cohesive soils, Poorly graded, Sub-rounded					BLANK STEEL: Size 18" - W.T.9.53mm (0.00-5.00)
10	UG											BLANK STEEL: Size 12" - W.T.9.53mm (0.00-6.00)
	MG											GRAVEL MED (0.00-24.00)
		BK	ZK				CLAY, gravelly, trace silt, (CLAY), , Transported, Soft, Gap graded, Flat or Tabular					SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (6.00-12.00)
20		BG	ZO	K			GRAVEL, silty, trace sand, (CANGA WELDED PISOLITE), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular					W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (12.00-24.00)
		HJ	J	G			UNMINERALISED BIF, (HJ), , Slightly Weathered, Strong Rock					END CAP (24.00)
30												
40												
50												
60												
70												
80												
90												
100						0 100 200		0-5000	0-14	0-50		

BHPIO - Hydrogeology Log

BHP

Project:	YANDI	Hole Name:	HYE1523	Hole Length:	56.00

Easting:	717889.72
Northing:	7481598.53
Surface RL:	521.90
Grid Name:	MGA94_50
Incl / Azm:	-90-->0
Construct:	24 Jan 22 - 26 Jan 22
Comments:	

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	EC6
6.0 - 56.0	WLDRIG5	CH	425		WELLDRILL	EC6

License: CAW204538

TOC RL:	522.15	(Stickup 0.35m)	(drilled)	SWL:	24.77 MBTOC	(30 Jan 22)	Dev:	Y: 8.0 hour(s)	Final pH:	8.9
TOC RL:	522.15	(Stickup 0.35m)	(current)	Is Live:	Y	(-)	Date:	25 Jan 2022	Final EC:	847.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s	Diagram Scaled to 600mm	Notes
0	SF	M3	ZG	KWL			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Uniform, Sub-angular					BLANK STEEL: Size 18" - W.T.6.35mm (0.00-4.00)
10												BLANK STEEL: Size 12" - W.T.9.53mm (0.00-23.60)
20												GRAVEL MED (0.00-53.60)
30		M2	ZGK	L			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Uniform, Sub-angular	803 / 800 / 775	8.1 / 8.0 / 8.1	3 / 3 / 3		SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (23.60-41.60)
40			ZH	KX			GRAVEL, (CANGA WELDED PISOLITE), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular	823	8.2	3		W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (41.60-53.60)
50		BK	ZK	GL			CLAY, gravelly, (CLAY), , Transported, Very Soft, Uniform, Sub-angular	864	8.2	3		
60	MG	HE	E				DOLERITE, (HE), , Slightly Weathered, Strong Rock	876	8.3	3		END CAP (53.60) FALLBACK (53.60-56.00)
70												
80												
90												
100						0 100 200		0-5000	0-14	0-50		

Program: YANDI FY22 BOREFIELD AUGMENTATION Eastern Pits E4 Planned Hole: HYE1523

BHPIO - Hydrogeology Log

BHP

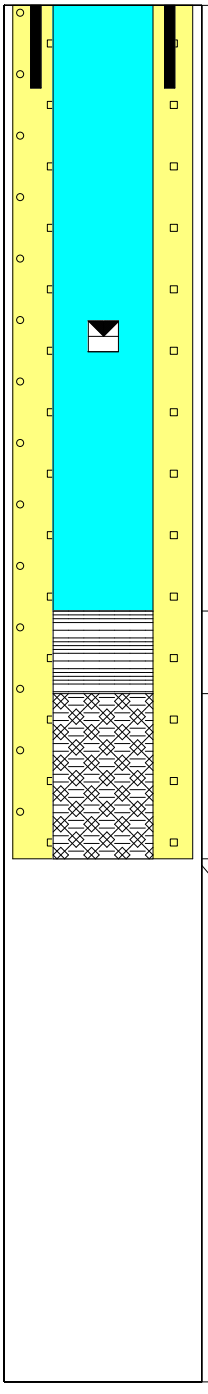
Project:	YANDI	Hole Name:	HYW1015	Hole Length:	62.00	
Easting:	707297.02					
Northing:	7483769.09					
Surface RL:	552.10					
Grid Name:	MGA94_50					
Incl / Azm:	-90-->0					
Construct:	04 Mar 22 - 06 Mar 22			License:	CAW204538	
Comments:	Headworks: Lockable Steel cover					

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	EC6
6.0 - 62.0	WLDRIG5	CH	425		WELLDRILL	EC6

TOC RL:	552.59	(Stickup 0.43m)	(drilled)	SWL:	24.03 MBTOC	(07 Mar 22)	Dev:	Y: 0.0 hour(s)	Final pH:	8.2
TOC RL:	552.59	(Stickup 0.43m)	(current)	Is Live:	Y	(-)	Date:	06 Mar 2022	Final EC:	1182.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s
0	MG	M2	ZG	L			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Well graded, Sub-angular	970	7.2	1
10			ZK	GL			SILT, gravelly, (CLAY), , Transported, Soft, Poorly graded, Sub-angular	970	7.2	1
20								827	7.1	1
30			ZGK	W			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Well graded, Sub-angular	1066	7.3	1
40		BK	ZK	GW			SILT, clayey, (CLAY), , Transported, Soft, Poorly graded, Sub-angular	1023	7.3	3
50		BG	ZJK	CG			GRAVEL, silty, (BRECCIA), , Transported, Non-Cohesive soils, Poorly graded, Sub-angular	1127	7.5	3
60		HJ	JC	S			UNMINERALISED BIF, (HJ), , Slightly Weathered, Strong Rock	1152	7.9	3
70										
80										
90										
100						0 100 200		0-5000	0-14	0-50

Diagram Scaled to 600mm



Notes

- BLANK STEEL: Size 18" - W.T.9.53mm (0.00-6.00)
- BLANK STEEL: Size 12" - W.T.9.53mm (0.00-44.00)
- GRAVEL MED (0.00-62.00)
- SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (44.00-50.00)
- W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (50.00-62.00)
- END CAP (62.00)

BHPIO - Hydrogeology Log

BHP

Project:	YANDI	Hole Name:	HYW1016	Hole Length:	56.00

Easting:	707036.09
Northing:	7483118.67
Surface RL:	546.19
Grid Name:	MGA94_50
Incl / Azm:	-90-->0
Construct:	08 Mar 22 - 09 Mar 22
Comments:	Q: 20+ L/s. Headworks: Lockable Steel cover

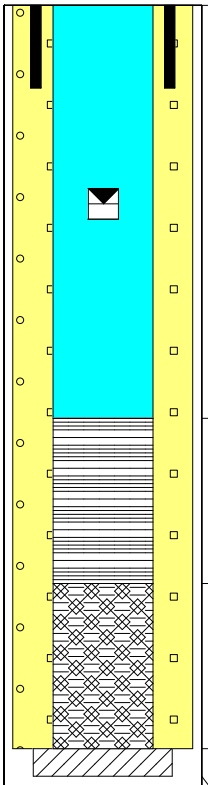
Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	EC6
6.0 - 56.0	WLDRIG5	CH	425		WELLDRILL	EC6

License: CAW204538

TOC RL:	546.69	(Stickup 0.44m)	(drilled)	SWL:	14.40 MBTOC	(10 Mar 22)	Dev:	Y: 3.5 hour(s)	Final pH:	8.0
TOC RL:	546.69	(Stickup 0.44m)	(current)	Is Live:	Y	(-)	Date:	09 Mar 2022	Final EC:	1240.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s
0	SF	M2	ZGK	L			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Uniform, Sub-angular	1280	7.2	1
10			ZK	GFL			SILT, gravelly, (CLAY), , Transported, Firm, Uniform, Sub-angular	1110	7.6	4
20								1250	8.0	10
30			ZG	WK			GRAVEL, silty, (VUGHY BRECCIA), , Transported, Non-Cohesive soils, Well graded, Sub-angular	1230	7.9	10
40								1230	8.0	10
50	MG	BG	ZJ	CK			GRAVEL, silty, (BRECCIA), , Transported, Non-Cohesive soils, Well graded, Angular	1250	8.1	18
60		HJ	J				UNMINERALISED BIF, (HJ), , Slightly Weathered, Strong Rock	1230	8.0	20
70										
80										
90										
100										
						0 100 200		0-5000	0-14	0-50

Diagram Scaled to 600mm



Notes

- BLANK STEEL: Size 18" - W.T.9.53mm (0.00-6.00)
- BLANK STEEL: Size 12" - W.T.9.53mm (0.00-30.00)
- GRAVEL MED (0.00-54.00)
- SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (30.00-42.00)
- W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (42.00-54.00)
- END CAP (54.00)
- FALLBACK (54.00-56.00)

BHPIO - Hydrogeology Log

BHP

Project:	YANDI	Hole Name:	HYW1021	Hole Length:	36.00

Easting: 711018.68
Northing: 7485982.53
Surface RL: 534.23
Grid Name: MGA94_50
Incl / Azm: -90-->0
Construct: 21 Mar 22 - 22 Mar 22
License: CAW204538
Comments: Converted from original intent of MB to a PB due to yield of 5+ L/s

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	NS3
6.0 - 36.0	WLDRIG5	CH	425		WELLDRILL	NS3

TOC RL:	534.62	(Stickup 0.38m)	(drilled)	SWL:	7.18 MBTOC	(24 Mar 22)	Dev:	Y: 8.0 hour(s)	Final pH:	8.1
TOC RL:	534.62	(Stickup 0.38m)	(current)	Is Live:	Y	(-)	Date:	22 Mar 2022	Final EC:	1438.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s	Diagram Scaled to 600mm	Notes
0	MG	M3	ZG	HX			GRAVEL, cobbled, trace clay, (VUGHY BRECCIA), Red and Brown, Transported, Non-Cohesive soils, Poorly graded, Sub-angular	1730	7.7	2		BLANK STEEL: Size 18" - W.T.9.53mm (0.00-6.00)
6		OK	ZGK	HX			GRAVEL, clayey, trace cobble, (CLAY), Yellow and Brown, Transported, Non-Cohesive soils, Poorly graded, Sub-angular	71560	7.7	3		BLANK STEEL: Size 12" - W.T.9.53mm (0.00-11.00)
11		M2	ZJ	XGK			GRAVEL, clayey, trace sand, (VUGHY BRECCIA), Red and Brown, Transported, Non-Cohesive soils, Poorly graded, Sub-angular	1570	7.8	4		GRAVEL MED (0.00-35.00)
23								1540	7.7	4		SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (11.00-23.00)
30	HG	BG	ZGH	K			GRAVEL, silty, trace clay, (BRECCIA), Yellow and Brown, Transported, Non-Cohesive soils, Poorly graded, Sub-angular	1520	7.8	5		W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (23.00-35.00)
35		HE	E	J			DOLERITE, (HE), Blue and Green, Fresh, Strong Rock					END CAP (35.00)
36												FALLBACK (35.00-36.00)
100						0 100 200		0-5000	0-14	0-50		

BHPIO - Hydrogeology Log

BHP

Project:	YANDI	Hole Name:	HYW1024	Hole Length:	36.00

Easting:	710998.29
Northing:	7486088.28
Surface RL:	534.93
Grid Name:	MGA94_50
Incl / Azm:	-90-->0
Construct:	28 Mar 22 - 29 Mar 22
Comments:	Q: 4L/s in pilot hole prior to reaming

Depth	Drill Rig	Type	Size	Fluid	Drilled By	Logged By
0.0 - 6.0	WLDRIG5	CH	550		WELLDRILL	CM10
6.0 - 36.0	WLDRIG5	CH	425		WELLDRILL	CM10

License: CAW204538

TOC RL:	535.15	(Stickup 0.20m) (drilled)	SWL:	1.87 MBTOC	(02 Apr 22)	Dev:	Y: 2.0 hour(s)	Final pH:	8.0
TOC RL:	535.15	(Stickup 0.20m) (current)	Is Live:	Y	(-)	Date:	29 Mar 2022	Final EC:	1162.00

Depth mgbl	Cond	Strat	Major	Minor	Log	Gamma CPS API	Hydrogeological Description	EC us/cm	pH	Yield L/s	Diagram Scaled to 600mm	Notes
0	SF	M3	ZGX	H			GRAVEL, sandy, trace clay, (VUGHY BRECCIA), Red and Brown, Transported, Non-Cohesive soils, Poorly graded, Sub-angular					BLANK STEEL: Size 18" - W.T.9.53mm (0.00-6.00)
10		OK	ZK	H			CLAY, gravelly, (CLAY), Brown and Yellow, Transported, Firm, Poorly graded, Flat or Tabular	880	7.9	2		BLANK STEEL: Size 12" - W.T.9.53mm (0.00-11.50)
20		M2	ZHG	K			GRAVEL, clayey, trace silt, (VUGHY BRECCIA), Brown and Yellow, Transported, Non-Cohesive soils, Poorly graded, Sub-angular	830	7.7	2		GRAVEL MED (0.00-35.50)
30		BK	ZK	JD			CLAY, gravelly, (CLAY), Brown and Yellow, Transported, Firm, Gap graded, Flat or Tabular	840	7.8	3		SLOTTED STEEL: Size 12" - W.T.9.53mm, Slots 1mm (11.50-23.50)
40	MG	HE	E	J			DOLERITE, (HE), Blue and Green, Slightly Weathered, Strong Rock	8	8.1	4		W/W STEEL: Size 12" - W.T.9.53mm, Slots 1mm (23.50-35.50)
50								870	8.1	4		END CAP (35.50)
60												FALLBACK (35.50-36.00)
70												
80												
90												
100						0 100 200		0-5000	0-14	0-50		