Date: 05/07/2025

#### Site reference 61410669 - Murray Superficial - HS104\_1A - HS104\_1A

## **Alternative Site References**

Numbering System	Reference Code	Site Name	Short Name
AWRC	61410669	Murray Superficial - HS104_1A	HS104_1A
WIN_ID	23034247		HS104_1A

## **General Details**

Site Type	Groundwater	Sub Type	Bore or Well	Site Geofeature	Ground
Northing	6402339.97	Easting	390278.35	Zone	50
Latitude	-32.510822842	Longitude	115.831887148	Spheroid	GDA2020
Thou250 Map Index	SI5002	Geographic Precision (+/- m)			
<b>Local Govt Authority</b>	SHIRE OF MURRAY	Locality	NAMBEELUP	DWER Region	Kwinana-Peel
Catchment	Peel Estuary_Serpentine River	Estuary		BOM Rainfall District	9A - South Coast
River Basin	614 - Murray River	Groundwater Area	Murray	Groundwater Province	Perth
Surface Water Area	Serpentine River Catchment	Surface Water SubArea	Lower Serpentine	GgStn Catchment Area(km2)	N/A
Site Comment					

## **Depth Measurement Points** (Site reference: 61410669)

71	Elevation (m as per Datum Plane)		Measurement Method	Date	Comments
Top of inner casing	13.180	AHD	Surveyed	17/07/2009	Surveyed in July 2009, start date used as the datum date

Drilling - No Data Available



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#### Borehole Information (Site reference: 61410669)

Completed Date		Drill Method Name	Unknown		
Owner Name	Department of Water	Drill Rig Name	Unknown		
Drill Company Name	Unknown Company	Total Construction Depth (mbGL)	58.8	Depth Drilled (mbGL)	0
Comments					

## Casing (Site reference: 61410669)

From (mbGL)	To (mbGL)	Element	Material	Inlet Type	Inside Dia. (mm)	Outside Dia. (mm)	Aperture (mm)	Comments
55.800	58.800	Inlet (screen)	Unknown					

#### Fill - No Data Available

Aquifers (Site reference: 61410669)

Aquifer Name	Depth From/To (mbGL)	Comments
Perth-Leederville	-	

## Lithology Log (Site reference: 61410669)

From (mbGL)	To (mbGL)	Interpreted By	Substance	Lithological Description
0.000	0.200	GeologistConsultant/Mining	TOPSOIL	Medium to coarse grained (1-2mm diameter) quartz. subrounded with minor heavy minerals and organic matter (roots/ grass) in silty loam matrix. Black/brown colour.
0.200	0.600	GeologistConsultant/Mining	LOAMY SAND	Medium to coarse grained quartz. subrounded. poorly sorted with heavy minerals. organic matter (roots) and loam/silt matrix. Brey/black colour.
0.600	1.500	GeologistConsultant/Mining	SAND	Fine to coarse grained quartz. minor feldspar (<5%). subrounded. moderately to well sorted with minor heavy minerals (~1-3%) and minor silty matrix. Beige colour.
1.500	2.300	GeologistConsultant/Mining	SILTY SAND	Slight fining upwards from fine - medium grained to medium - coarse grained sand. subrounded. moderately to well sorted with heavy minerals (increasing to ~3% heavy minerals with depth) and silt matrix (increasing silt content with depth). Beige/tan to tan brown colour with depth.
2.300	2.400	GeologistConsultant/Mining	INDURATED SAND	Medium to coarse grained (0.5 - 3mm diameter) quartz/feldspar. subrounded. iron staining on quartz. poorly sorted with organic and clay rich matrix. loose. Dark brown colour.

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From (mbGL)	To (mbGL)	Interpreted By	Substance	Lithological Description
2.400	2.500	GeologistConsultant/Mining	INDURATED/CEMENTE D SAND	Medium to coarse grained quartz. subrounded to rounded with iron staining. poorly sorted with iron and organic rich cement. dense to very dense with areas of loose to dense material (heterogeneous unit). Black/orange colour.
2.500	3.260	GeologistConsultant/Mining	INDURATED/CEMENTE D SAND	Bedded unit of cemented sand. fine to medium grained quartz/feldspar. subrounded. poorly sorted with organic & iron rich cemented layers. loose to dense. Black and orange.
3.260	3.400	GeologistConsultant/Mining	INDURATED SAND/SILT	Bedded unit with minor fine to coarse grained quartz. subrounded. in iron and organic rich silt matrix. moderately to poorly consolidated with a dry/crumbly texture. Pale brown/orange colour.
3.400	4.300	GeologistConsultant/Mining	INDURATED SAND/GRAVEL	Fine to very coarse grained (0.5- 20mm diameter) quartz. subrounded. poorly sorted with iron and organic rich silt matrix. loose. Orange/brown colour.
4.300	4.500	GeologistConsultant/Mining	SILTY SAND	Fine to very coarse grained (0.5 - 3mm diameter) quartz. subrounded.iron staining. moderately to well sorted with minor heavy minerals (~1-3%) in silty matrix 5 - 10%). Tan brown colour.
4.500	4.650	GeologistConsultant/Mining	SILTY SAND TO SANDY SILT	Fine to very coarse grained (0.5 - 3mm diameter) quartz. subrounded. iron staining. moderately sorted with minor heavy minerals (~1-3%) in silt matrix (~10% silt). Medium to tan brown colour.
4.650	4.700	GeologistConsultant/Mining	SILTY SAND/GRAVEL	Medium to very coarse grained quartz (1-4mm) quartz. subrounded to rounded. moderately sorted with minor silt matrix (~5%). Pale brown colour.
4.700	5.700	GeologistConsultant/Mining	SAND/GRAVEL CLAY	Fining upwards from medium - very coarse grained (1- 3mm diameter) to very coarse grained/granule (2 - 4mm diameter) sand. iron staining. rounded. moderately to well sorted with iron and clay rich matrix (~20- 30% clay).moderately plastic. dense to very dense. Orange/brown colour.
5.700	6.000	GeologistConsultant/Mining	SILTY SAND	Very coarse grained/granule sized(2 - 4mm diameter) quartz rounded. iron staining. iron rich silt matrix. low plasticity. loose to dense. Pale orange colour.
6.000	6.500	GeologistConsultant/Mining	SILTY SAND/GRAVEL	Very coarse grained/granule sized quartz. rounded to well rounded. iron staining. poorly to moderately sorted with iron and clay rich matrix (~20 - 30% clay) with cobbles/river stones (20 - 50mm diameter. rounded to subangular quartz). Khaki brown colour.
6.500	6.700	GeologistConsultant/Mining	SANDY SILT TO SILTY SAND	Fine to very coarse grained (0.5-3mm diameter) quartz. subrounded. moderately to well sorted with minor heavy minerals (~1-3%) and silt matrix (~15-20%). Olive green/ khaki colour.
6.700	6.900	GeologistConsultant/Mining	SANDY SILT/CLAY	Fine to very coarse grained quartz. subrounded. moderately sorted with increased silty clay matrix (~20- 30% clay) and minor heavy minerals. Olive green/ khaki colour.
6.900	7.200	GeologistConsultant/Mining	SANDY CLAY	Coarse to very coarse grained quartz. subrounded. moderately sorted with iron staining. minor heavy minerals (~1%) and clay matrix. moderately to highly plastic. moderately dense.
7.200	7.450	GeologistConsultant/Mining	SANDY GRAVEL	Medium to very coarse grained/granule (1 - 5mm diameter) quartz. subrounded to subangular. moderately to well sorted with minor silt matrix (<5% silt). Beige/tan brown colour.
7.450	7.550	GeologistConsultant/Mining	SILTY SAND  Medium to coarse grained (1-2 mm diameter) quartz. subrounded to subangular. with silt/clay matrix (~5-10% clay). Tan brown colour.	
7.550	9.150	GeologistConsultant/Mining	SILTY SAND	Fining upwards. medium - coarse grained to coarse- very coarse grained (1-6 mm diameter) quartz/feldspar (~10% feldspar). subangular. moderately sorted with silt matrix (~5% silt). Tan brown colour.
9.150	10.500	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained quartz/feldspar (5-10% feldspar). subangular. moderately sorted with silt matrix (~5- 10% silt). Tan brown colour.

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From (mbGL)	To (mbGL)	Interpreted By	Substance	Lithological Description
10.500	10.600	GeologistConsultant/Mining	SAND	Coarse to very coarse grained quartz/feldspar (~5-10% feldspar). subangular. moderately sorted with minor silt matrix (<5% silt). Beige colour.
10.600	13.300	GeologistConsultant/Mining	SILTY SAND	Fining upwards. coarse-very coarse grained to very coarse - granule sized (2 - 6mm diameter) quartz/feldspar (~10-15% feldspar) with silt matrix. Tan brown/beige colour.
13.300	14.500	GeologistConsultant/Mining	SILTY GRAVEL	Coarse to pebble sized (2 - 20mm diameter) quartz/feldspar (~10% feldspar). subangular to subrounded (larger grains more rounded) and silty/clay matrix (~5% silt/clay). Beige/ tan brown colour.
14.500	14.850	GeologistConsultant/Mining	SILTY SAND	Coarse to very coarse grained (1 - 7mm diameter. predominantly 2-3 mm diameter) quartz/feldspar (~20% feldspar). subangular to subrounded. poorly sorted with minor silt. Beige/ tan brown colour.
14.850	15.600	GeologistConsultant/Mining	SILTY SAND	Slight fining upwards from medium- coarse grained to coarse- very coarse grained quartz/feldspar (~5-10% feldspar). subangular. moderately sorted with silt/clay matrix. Tan brown colour.
15.600	16.500	GeologistConsultant/Mining	CLAYEY SAND	Medium to very coarse grained quartz/feldspar (~5% feldspar). subangular with white clay (kaolinite rich) matrix (~10% clay). Beige/ white colour.
16.500	17.000	GeologistConsultant/Mining	SILTY SAND/GRAVEL	Slight fining upwards from coarse - very coarse grained to coarse to granule sized quartz/feldspar (~15% feldspar). subangular to subrounded. moderately to poorly sorted with minor silty matrix. Beige/tan brown colour.
17.000	22.500	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained quartz/feldspar (~20% feldspar). subangular. moderately sorted with minor silt and no heavy minerals. Beige/ tan brown colour.
22.500	24.500	GeologistConsultant/Mining	SILTY SAND	Fining upwards from medium grained to coarse - very coarse grained (2-3 mm diameter) quartz/ feldspar (~5 - 10% feldspar). subrounded to subangular. moderately sorted with silt matrix and minor heavy minerals (~1%). Beige/ tan brown colour.
24.500	25.500	GeologistConsultant/Mining	SILTY CLAY/SAND	Fine to medium grained quartz/ feldspar (~5 -10% feldspar). subrounded to subangular with minor silt matrix and clods of pale grey sandy clay (~30% clay content). Tan brown/ beige colour.
25.500	25.800	GeologistConsultant/Mining	SILTY SAND	Coarse to very coarse grained (1 - 5mm diameter. predominantly 2 mm diameter) quartz/feldspar (~5-10% feldspar). subrounded to rounded. moderately sorted with silty matrix. Tan brown/ khaki colour.
25.800	26.500	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained quartz/feldspar (~5% feldspar). subangular. moderately sorted with silt/clay matrix (minor kaolinite). Tan brown/ khaki colour.
26.500	26.800	GeologistConsultant/Mining	CLAYEY SAND	Medium to coarse grained quartz/feldspar (~10 - 15% feldspar). subangular to subrounded. iron staining. moderately to poorly sorted with clay matrix (~5%) and clods of grey sandy clay. loose to moderately plastic. Tan brown to khaki brown colour
26.800	28.400	GeologistConsultant/Mining	CLAYEY SAND	Medium to coarse grained quartz/feldspar (~10 - 15% feldspar). subangular to subrounded. iron staining. moderately to poorly sorted with clay matrix (~5%) and clods of grey sandy clay. loose to moderately plastic. Tan brown to khaki brown colou
28.400	29.500	GeologistConsultant/Mining	SILTY SAND/GRAVEL	Coarse to very coarse grained (1- 3mm diameter) quartz/feldspar. rounded to subrounded. moderately sorted with minor heavy minerals. silt/clay matrix with clods of grey sandy clay. low to moderate plasticity. Tan brown to khaki brown colour.
29.500	31.250	GeologistConsultant/Mining	SILTY SAND/GRAVEL	Coarse grained quartz/feldspar (~10% feldspar) with minor mafics (black material). subangular. moderately to well sorted with silty clay matrix (~5 - 10% clay) and clods of grey sandy clay. loose to moderately plastic. Khaki to tan brown colour.

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From (mbGL)	To (mbGL)	Interpreted By	Substance	Lithological Description	
31.250	31.500	GeologistConsultant/Mining	CLAYEY SAND	Coarse grained quartz/ feldspar and minor mafic material. subangular. moderately to poorly sorted with clay matrixk (kaolinite rich) with clay lenses (~10% clay). Khaki colour with pale grey clay lenses.	
31.500	31.890	GeologistConsultant/Mining	CLAYEY SAND	Coarse to very coarse grained quartz/feldspar with minor mafic material. subangular. moderately sorted with kaolinite rich clay matrix. Pale to medium grey colour.	
31.890	33.300	GeologistConsultant/Mining	SILTY/CLAY SAND	Fining upwards from coarse grained to coarse - very coarse grained (1- 3mm diameter) quartz/feldspar (~10% feldspar) and minor mafic material. subangular to subrounded. moderately to well sorted with silty matrix. Khaki colour.	
33.300	33.650	GeologistConsultant/Mining	CLAYEY SAND	Medium to very coarse grained (0.5 - 3mm diameter) quartz/feldspar and minor mafics (<5%). rounded to subrounded. moderately to well sorted with kaolinite rich clay matrix and clods of pale grey sandy clay. Khaki/ grey colour.	
33.650	34.200	GeologistConsultant/Mining	CLAYEY SAND	Fine to coarse grained (0.5 - 2mm diameter) quart/feldspar (<5% feldspar). subrounded. moderately to poorly sorted with white/ pale grey sandy clay clods with surficial iron staining (weathering). Grey/ tan brown colour.	
34.200	35.400	GeologistConsultant/Mining	SILTY CLAY SAND	Fine to coarse grained quartz/feldspar (~10% feldspar). subangular to subrounded. moderately sorted with silty/clay matrix.	
35.400	36.100	GeologistConsultant/Mining	CLAYEY SAND	Coarse to very coarse grained quartz/feldspar (~5% feldspar) with minor mafics (~1%). subrounded. moderately to poorly sorted with clay matrix (minor kaolinite) with clods of pale grey sandy clay. Pale grey/ tan brown colour.	
36.100	37.300	GeologistConsultant/Mining	SILTY SAND	Slight fining upwards from fine - very coarse grained (0.5 - 3mm diameter) to coarse - very coarse grained (1 - 4mm diameter) quartz/feldspar (~5 - 10% feldspar). subangular to subrounded. moderately to well sorted with minor iron staining and silty/clay matrix. Tan brown colour.	
37.300	39.000	GeologistConsultant/Mining	CLAYEY SAND	Coarse to very coarse grained/granule (1 - 4mm diameter) quartz/feldspar (~10-15% feldspar). with clay matrix (<5%). loose. Pale grey to tan brown colour.	
39.000	39.300	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained quartz/feldspar (<5% feldspar). subangular to angular. moderately to well sorted with silty matrix.	
39.300	39.600	GeologistConsultant/Mining	CLAYEY SAND	Fine to coarse grained (0.5 - 2mm diameter) quartz/feldspar (<5% feldspar). subrounded. poorly sorted. moderately to poorly cemented with kaolinite rich clay matrix. Pale grey/white colour.	
39.600	40.200	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained quartz/feldspar (~10 - 15% feldspar). subangular to subrounded. iron staining. moderately to poorly sorted with clay matrix (~5%) and clods of grey sandy clay. loose to moderately plastic. Tan brown to khaki brown colour	
40.200	40.400	GeologistConsultant/Mining	SILT/CLAY/SAND	Fine to medium grained (0.5 - 1mm diameter) quartz/feldspar (<5% feldspar). subrounded to subangular. moderately sorted with silt/clay matrix (~10% clay). Tan brown colour.	
40.400	41.100	GeologistConsultant/Mining	CLAYEY SAND/GRAVEL	Coarse to very coarse grained (2 - 3mm diameter) quartz/feldspar (~5-10% feldspar). subangular to subrounded. moderately to poorly sorted with minor clay matrix and clods of dark grey/blue sandy clay. Grey/brown colour.	
41.100	42.600	GeologistConsultant/Mining	SILTY SAND/GRAVEL	Coarse to very coarse grained (2- 4mm diameter) quartz/feldspar (~5- 10%). subangular to subrounded. moderately to poorly sorted with silty matrix. Tan brown colour.	

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From (mbGL)	To (mbGL)	Interpreted By	Substance	Lithological Description	
42.600	43.500	GeologistConsultant/Mining	CLAYEY SAND	Slight fining upwards. fine - coarse grained (0.5 - 2mm diameter) to medium - coarse grained (1 - 2.5mm diameter) quartz/feldspar. minor heavy minerals and clay matrix (<5% clay) with clods of p grey sandy clay. Pale grey/ tan brown colour.	
43.500	47.000	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained (1- 3mm diameter) quartz/feldspar (~5-10%). subangular. moderately to well sorted with minor heavy minerals (very fine <1mm diameter minerals). in silty matrix (~5% silt). Grey/brown colour.	
47.000	47.100	GeologistConsultant/Mining	SILTY SAND	Fine to coarse grained (0.5 - 3mm diameter) quartz/ feldspar and minor mafic minerals. subangular. moderately sorted with silty matrix (~5- 10% silt). Medium to dark grey colour banded with khaki.	
47.100	47.500	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained (1-3mm diameter) quartz/feldspar (~10% feldspar) with minor mafics. subangular. minor iron staining (quartz).moderately to well sorted with silt matrix (~5% silt). Grey/ dark khaki colour.	
47.500	49.500	GeologistConsultant/Mining	SILTY SAND	Medium to coarse grained (0.5 - 2mm diameter) quartz/feldspar (~10% feldspar) and minor mafic material (~1%). subangular to subrounded. minor iron staining. moderately to well sorted with silt matrix (~5% silt). Medium brown/grey colour.	
49.500	49.900	GeologistConsultant/Mining	CLAYEY SAND	Coarse to very coarse grained (1 - 3mm diameter) quartz/feldspar (~10-15% feldspar) with minor mafic material (~1- 5%). subrounded to subangular. moderately sorted with clay matrix (~5- 10% clay). Blue/grey/ khaki colour.	
49.900	50.200	GeologistConsultant/Mining	SILTY SAND	Coarse to very coarse grained (1- 3mm diameter) quartz/feldspar (~10-15% feldspar) with minor mafic material (<3%). subangular to subrounded. moderately sorted with silty matrix (<5%). Tan brown colour.	
50.200	51.300	GeologistConsultant/Mining	CLAYEY SAND	Fining upwards from fine- coarse grained (0.3 -2mm diameter) to coarse- very coarse grained (1-3mm diameter) quartz/feldspar (~5-10% feldspar) with minor mafic material (~1-5%). subangular. moderately sorted with clayey matrix. Dark grey /brown colour.	
51.300	54.300	GeologistConsultant/Mining	CLAYEY SAND/GRAVEL	Coarse to very coarse grained (1-3mm diameter) quartz/feldspar (~10- 15% feldspar) with minor mafic material. subangular to subrounded with clay matrix (<5% clay). Grey/ brown colour.	
54.300	55.800	GeologistConsultant/Mining	CLAYEY SAND	Fine to very coarse grained (0.5 - 3mm diameter) quartz/feldspar (~15-20% feldspar) with minor mafic material (~5%). moderately to well sorted with clay matrix (~5- 10% clay) and clods of pale grey sandy clay. moderately plastic. loose. Grey/brown colour.	
55.800	56.400	GeologistConsultant/Mining	CLAYEY SAND TO SANDY CLAY	Coarse grained (1-2mm diameter) quartz/feldspar (~5-10% feldspar). subangular to subrounded. moderately sorted with clay matrix (~8- 10% clay). Pale grey colour.	
56.400	58.500	GeologistConsultant/Mining	SILTY SAND/GRAVEL		
58.500	58.600	GeologistConsultant/Mining	SANDY CLAY	Coarse to pebble sized (1 - 8mm diameter) quartz/feldspar (<5% feldspar). subrounded. with heavy minerals (~1-5%) and minor organic matter (sticks) in green clay matrix (~15-20%clay). moderately to highly plastic. loose to moderate density. Khaki green colour.	
58.600	59.100	GeologistConsultant/Mining	SANDY CLAY	Medium to very coarse grained (1-4mm diameter) quartz/feldspar (~5- 10% feldspar). subangular to subrounded with minor iron staining. moderately to poorly sorted with high heavy mineral content (~15- 20%) and clay matrix (~30-40% clay). Dark copper green colour.	



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From (mbGL)	To (mbGL)	Interpreted By	Substance	Lithological Description
59.100	59.500	GeologistConsultant/Mining	CLAYEY SAND	Slight fining upwards from fine - very coarse grained (0.5-5mm diameter. predominantly 2-3mm diameter) to coarse - very coarse grained (1-5mm diameter) quartz/feldspar (~5% feldspar). subangular to subrounded (larger grains more rounded). moderately to poorly sorted with minor organic matter (twigs). heavy minerals (~30%) and clay matrix (~10% clay). Dark copper green.
59.500	61.300	GeologistConsultant/Mining	CLAYEY SAND TO SANDY CLAY	Fine to very coarse grained/granule (0.5 - 5mm diameter) quartz/feldspar (~10% feldspar). subangular. moderately to poorly sorted with high heavy mineral content (~30%). organic matter (twigs) and green clay matrix (~10-15% clay). loose. low plasticity. Dark copper green colour.
61.300	61.500	GeologistConsultant/Mining	CLAYEY SAND TO SANDY CLAY	Fine to very coarse grained (0.5 - 3mm diameter) quartz/feldspar (~5-10% feldspar). subrounded. moderately sorted with heavy minerals (~20- 30%) and clay matrix (~15% clay). Dark copper green.

Stratigraphy Log - No Data Available

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#### Advanced Data Summary (Site reference: 61410669 WIN Site ID: 61410669)

## **Readings by Project**

Default Site Reference	Project Code	Project Name	First Measurement		No of Measurements
61410669	KP-G-GMKP	Groundwater Monitoring - Kwinana Peel Region	14/09/2017	17/06/2025	33
61410669	KP-R-DW3	Murray Groundwater Bores	17/07/2009	28/06/2012	76
61410669	KP-R-DW3	Murray Groundwater Bores	14/12/2009	14/12/2009	49
61410669	WA-S-TSDATA	WA State-wide Time Series Data Collection	18/08/2010	30/04/2025	15868

#### **Readings by Data Category**

Default Site Reference	Data Category	First Measurement	Last Measurement	No of Measurements
61410669	Water level-flow - TS archive	18/08/2010	30/04/2025	15868
61410669	Water levels - discrete	17/07/2009	17/06/2025	109
61410669	Water levels - discrete	14/12/2009	14/12/2009	2
61410669	Water quality indicators - discrete	14/12/2009	14/12/2009	47

## **Readings By Variable Type**

Default Site Reference	Variable Type	First Measurement	Last Measurement	No of Measurements
61410669	A discrete (non-continuous) water level-related value (includes derived flow)	14/12/2009	14/12/2009	2
61410669	Inorganic metals	14/12/2009	14/12/2009	20
61410669	Inorganic non-metals	14/12/2009	14/12/2009	9
61410669	Nutrients	14/12/2009	14/12/2009	6
61410669	Physical	14/12/2009	14/12/2009	12
61410669	Time series water levels	18/08/2010	30/04/2025	15868
61410669	Water level (discrete)	17/07/2009	17/06/2025	109