

**Hydrogeology Report HR 159**

**TOOLIBIN LAKE  
BORE COMPLETION REPORT**

**by  
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**Perth 2000**

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## INTRODUCTION

The rise of a saline groundwater table and its interaction with surface water is the major problem causing degradation of the ecological system at Toolibin Lake, one of the last remaining freshwater lakes in the Wheatbelt of Western Australia (Halse, S. A., 1987). Groundwater levels generally rise due to increased recharge and/or decreased discharge rates. The recharge rate increase due to replacement of native vegetation with European style agriculture, is the main cause for the rising groundwater water table at Toolibin Lake. To maintain the current groundwater table, the only practical solution is to enhance the groundwater discharge by installation of production bores.

The recovery plan for Toolibin Lake therefore included the construction of a comprehensive de-watering scheme, with a bore field established to suppress the water level beneath the lake. Based on previous investigations, 9 sites were selected for the construction of the production bores within the lake Toolibin (George and Bennett, 1995).

This report summarises the drilling results for six observation bores, commissioned by CALM to monitor the effectiveness of groundwater pumping throughout the Toolibin Lake. The report includes the details of bore construction, lithology, hydrogeology and groundwater salinity. The assessment and synthesis of the outcomes of this investigation will be presented in a separate report.

## REFERENCES

- Halse, S. A., 1987, Probable effect of increased salinity on the water birds of Lake Toolibin, Western Australia: Department of Conservation and Land Management, Technical Report No. 15.
- George, G., and Bennett, D., 1995, Toolibin Groundwater Management Program, Drilling Results, Explanatory notes and drill logs, Catchment Hydrology Group, South-Western Rivers Region, Agriculture Western Australia, Western Australia (unpublished report).

## Observation Bore TL 29

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management  
BORE ID : TL29  
LOCATION : Lake Toolibin Flora and Fauna reserve, closer to the eastern side of Lake Toolibin (15 m from Production Bore P11)  
AQWABase Ref : 2432-3-sw-0103  
MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III  
AMG REF : 557142.99mE  
6357680.90mN  
PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Great Southern Drilling  
RIG : Wirth 120  
METHOD : Rotary Air Blast (RAB)  
DRILLED : 05/02/2000  
ELEVATION : Natural Surface-  
DIAMETER : 100 m  
DEPTH : 37.5 m

### CASING

Interval (m bns)	Type	ID (mm)	Comments
-0.5-18.0	Class 9 Plain pvc	50	
18.0-37.5	Class 9 Slotted pvc	50	End cap installed

## GRAVEL PACK AND SEAL

Interval (m bns)	Item	Type	Description
0.0-10.0	Seal	Concrete	Cement and gravel 8/16 grade
10.0-37.5	Cuttings	Sand	

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 9 pvc	0.5 m above natural surface
Cap	50 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## GEOLOGICAL DATA

SAMPLES : Cuttings logged at 1.0 m intervals,

### SUMMARY LOG:

Depth (m)	Age	Stratigraphic Unit	Lithology
0.0-8.0	Quaternary	Surficial	Clay
8.0-37.5	Tertiary	Palaeochannel	Sand, clay

## HYDROGEOLOGICAL DATA

AQUIFER : Tertiary sediments

WATER LEVEL: 0.35 m (below ground level)

SALINITY : 6560 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology	Description
0.0-1.0	Clay	Grey, heavy, plastic clay, fine to medium sub-angular sand, poorly sorted
1.0-7.0	Clay	Grey, yellow plastic clay, no sand or quartz grains
7.0-10.0	Clay/Sand	Red to grey clay, ferruginised matter, fine to medium angular sand
10.0-11.0	Sand	Grey, fine to medium sub angular sand, minor red clay
11.0-12.0	Clay	Grey red ferruginised clay, fine to medium angular to sub-angular quartz sand
12.0-13.0	Clay/Sand	Ferruginised clay, patches of grey fine to medium sand
13.0-14.0	Sand/Clay	Brown to grey fine to medium sand, sub-angular, patches of ferruginised clay
14.0-16.0	Sand	Grey to brown sandy clay, fine to medium sand, angular sub-angular, occasional pink feldspar
16.0-18.0	Sand	Grey clay, angular fine to medium quartz sand

18.0-19.0	Clay/Sand	Grey clay, fine quartz sand
19.0-20.0	Clay	Grey to brown yellow clay, low fine to medium quartz sand
20.0-21.0	Clay/Sand	Grey yellow clay, fine to medium quartz sand
21.0-22.0	Sand/Clay	Grey medium quartz sand, minor clay
22.0-23.0	Sand	Grey fine to medium sand, angular to sub-angular, relatively low clay content
23.0-35.0	Sand	Grey medium sand very low clay content
35.0-37.5	Clay/Sand	Grey clay, fine to medium sub-angular quartz sand, patches of green clay

## Observation Bore TL 30

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management

BORE ID : TL30

LOCATION : Lake Toolibin Flora and Fauna reserve, closer to the eastern side of Lake Toolibin (30m west of the Production Bore P11)

AQWABase Ref : 2432-3-sw-0104

MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III

AMG REF : 557128.72mE  
6357674.71mN

PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Great Southern Drilling

RIG : Wirth 120

METHOD : Rotary Air Blast (RAB)

DRILLED : 05/02/2000

ELEVATION : Natural Surface-

DIAMETER : 100 m

DEPTH : 37.0 m

### CASING

Interval (m bns)	Type	ID (mm)	Comments
-0.5-18.0	Class 9 Plain pvc	50	
18.0-37.0	Class 12 Slotted pvc	50	End cap installed



## GRAVEL PACK AND SEAL

Interval (m bns)	Item	Type	Description
0.0-10.0	Seal	Concrete	Cement and gravel 8/16 grade
10.0-37.0	Pea Gravel	Sand	

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 9 pvc	0.5 m above natural surface
Cap	50 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## GEOLOGICAL DATA

SAMPLES : Cuttings logged at 1.0m intervals,

### SUMMARY LOG:

Depth (m)	Age	Stratigraphic Unit	Lithology
0.0-8.0	Quaternary	Surficial	Clay
8.0-37.0	Tertiary	Palaeochannel	Sand, clay

## HYDROGEOLOGICAL DATA

AQUIFER : Tertiary sediments

WATER LEVEL: 0.35 m (below ground level)

SALINITY : 6600 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology	Description
0.0-1.0	Clay	Grey, heavy, plastic clay, fine to medium sub-angular sand, poorly sorted
1.0-7.0	Clay	Grey, plastic yellow clay, no sand or quartz grains
7.0-10.0	Clay/Sand	Red to grey clay, ferruginised matter, fine to medium angular sand
10.0-11.0	Sand	Grey red, fine to medium sub angular sand, minor clay
11.0-12.0	Clay	Grey red ferruginised clay, fine to medium angular to sub-angular quartz sand
12.0-13.0	Clay/Sand	Ferruginised clay, patches of grey fine to medium sand
13.0-14.0	Sand/Clay	Brown to grey fine to medium sand, sub-angular, patches of ferruginised clay
14.0-16.0	Sand/Clay	Grey to brown sandy clay, fine to medium sand, angular sub-angular, occasional pink feldspar
16.0-18.0	Sand	Grey angular fine to medium quartz sand, minor clay

18.0-19.0	Clay/Sand	Grey clay, fine quartz sand
19.0-20.0	Clay	Grey to brown yellow clay, low fine to medium quartz sand
20.0-21.0	Clay/Sand	Grey yellow clay, fine to medium quartz sand
21.0-22.0	Sand/Clay	Grey medium quartz sand, minor clay
22.0-23.0	Sand	Grey fine to medium sand, angular to sub-angular, relatively low clay content
23.0-35.0	Sand	Grey medium sand very low clay content
35.0-37.0	Clay/Sand	Grey clay, fine to medium sub-angular quartz sand, green patches of green clay

## Observation Bore TL 31

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management

BORE ID : TL31

LOCATION : Lake Toolibin Flora and Fauna reserve, central part of Lake Toolibin, north of P12

AQWABase Ref : 2432-3-sw-0108

MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III

AMG REF 556975.68mE  
6357606.17mN

PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Bunbury Drilling Company

RIG : Gardener Denver 15W

METHOD : Mud Rotary Drilling

DRILLED : 31.3.99

ELEVATION : Natural Surface-

DIAMETER : 240 mm

DEPTH : 49.6 m

### CASING

Interval (m)	Type	Id (mm)	Comments
-0.5-31.6	Class 12 Plain pvc	150	
31.6-49.6	Class 12 Slotted pvc	150	End cap installed

## GRAVEL PACK AND SEAL

Interval (m)	Item	Type	Description
0.0-14.6	Seal	Concrete	Cement and gravel 8/16 grade
14.6-49.6	Gravel Pack	Sand	8/16 grade

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 12 pvc	0.5 m above nbs
Cap	150 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## GEOLOGICAL DATA

SAMPLES : Cuttings logged at 1.0m intervals, bagged and retained for each bore hole.

## SUMMARY LOG

Depth (m)	Age	Stratigraphic Unit	Lithology
0.0-5.5	Quaternary	Surficial	Clay
5.5-49.6	Archaean	Weathered Granite	Sand, clay

## HYDROGEOLOGICAL DATA

AQUIFER : Weathered granite

WATER LEVEL: 0.76 m (below ground level)

AIRLIFT YIELD: 0.5 litre/sec

SALINITY : 7550 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology Description	
0.0-1.0	Clay	Grey, brown, fine to medium sub-angular sandy (quartz) clay, Minor feldspar grains
1.0-2.0	Clay	Grey, yellow sandy clay, fine to medium subangular to angular Sand, relatively high feldspar content
2.0-3.0	Clay	Brown grey sandy clay, semi-indurated plastic clay interbedded with thin layers of fine to medium quartz sandy clay
3.0-5.5	Clay	Grey clay, heavy plastic, fine sand
5.5-9.0	Clay	White clay fine sub-angular quartz sand
9.0-10.0	Clay	Brown, reddish ferruginised clay, angular sand, occasional thin band of

		white clay
10.0-13.0	Clay	Multicoloured clay
13.0-16.0	Clay	White, pink clay, fine to medium angular sand
16.0-37.0 (Aquifer)	Sand/Clay	White to pink medium to coarse quartz sand occasional medium feldspar grains
37-38	Clay	White, yellow fine quartz sand
38.0- 45.0 (Aquifer)	Sand/Clay	Yellow white clay, angular quartz grains up to 7 mm embedded in clay matrix
45-49.6	Sandy/Clay	Yellow white sandy clay, granite grains up to 5mm in grey yellow clay matrix

## Observation Bore TL 32

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management  
BORE ID : TL 32  
LOCATION : Lake Toolibin Flora and Fauna reserve, (150m west of P15)  
AQWABase Ref : 2432-3-sw-0107  
MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III  
AMG REF : 557004.90mE  
6356744.37mN  
PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Great Southern Drilling  
RIG : Wirth 120  
METHOD : Rotary Air Blast (RAB)  
DRILLED : 27/02/2000  
ELEVATION : Natural Surface-  
DIAMETER : 100m  
DEPTH : 28.5 m

### CASING

Interval (m bns)	Type	ID (mm)	Comments
-0.5-18.0	Class 9 Plain pvc	50	
18-28.5	Class 9 Slotted pvc	50	End cap installed

## GRAVEL PACK AND SEAL

Interval (m bns)	Item	Type	Description
0.0-10.0	Seal	Concrete	Cement
10-28.5	Pea Gravel	Sand	

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 9 pvc	0.5 m above natural surface
Cap	100 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## GEOLOGICAL DATA

SAMPLES : Cuttings logged at 1.0m intervals, bagged and retained for each bore hole.

## SUMMARY LOG

Depth (m)	Age	Stratigraphic Unit	Lithology
0.0-8.0	Quaternary	Surficial	Clay
8.0-28.5	Tertiary	Palaeochannel	Sand, clay

## HYDROGEOLOGICAL DATA

AQUIFER : Tertiary sediments

WATER LEVEL: 0.32 m (below ground level)

AIRLIFT YIELD: 0.5 litre/sec

SALINITY : 6200 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology	Description
0.0-1.0	Clay/Sand	Grey, brown clay, fine to medium sub-angular sand, poorly sorted
1.0-2.0	Sand	Grey, sandy quartz, semi-indurated medium grains of pink feldspar
3.0-8.0	Clay	Grey sandy plastic clay, fine quartz sand
8.0-9.5	Sand/Clay	Brown sandy clay, medium to coarse quartz sand
9.5-10.0	Clay/Clay	Grey brown sandy clay, fine quartz sand
10.0-11.5	Sand/Clay	Grey brown ferruginised matter, fine to medium quartz sand
11.5-12.5	Clay	White, fine clay occasional pink grains of feldspar
12.5-14.0	Sand/Clay	Red sandy clay, fine to medium sub-angular quartz sand
14.0-18.0	Clay/Sand	Multicolour (grey, white, red and pink) clay, fine to medium

		sand
18.0-28.5	Sand/Clay	Brown red medium to coarse sandy clay



## Observation Bore TL 33

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management

BORE ID : TL33

LOCATION : Lake Toolibin Flora and Fauna reserve, closer to the south eastern side  
of Lake Toolibin (25m from Production Bore P13)

AQWABase Ref : 2432-111-sw-0105

MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III

AMG REF : 556705.42mE  
6356454.47mN

PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Great Southern Drilling

RIG : Wirth 120

METHOD : Rotary Air Blast (RAB)

DRILLED : 02/02/2000

ELEVATION : Natural Surface-

DIAMETER : 100 m

DEPTH : 41.0 m

### CASING

Interval (m bns)	Type	ID (mm)	Comments
-0.5-23.5	Class 9 Plain pvc	50	
23.0-41.0	Class 12 Slotted pvc	50	End cap installed

## GRAVEL PACK AND SEAL

Interval (m bns)	Item	Type	Description
0.0-10.0	Seal	Concrete	Cement
10.0-41.0	Pea Gravel	Sand	

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 9 pvc	0.5 m above natural surface
Cap	50 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## HYDROGEOLOGICAL DATA

AQUIFER : Tertiary

WATER LEVEL: 0.76 m (below ground level)

AIRLIFT YIELD: 1.5 litre/sec

SALINITY : 6670 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology	Description
0.0-1.0	Clay	Grey clay, minor fine to medium sand (quartz), patches of ferruginised reddish clay
1.0-2.0	Clay/Sand	Grey, medium sub-angular sandy clay, poorly sorted, yellow patches of clay (lemonite)
2.0-9.0	Clay	Grey heavy plastic yellow, no quartz sand present
9.0-10.5	Clay	Grey yellow clay plastic, no sand present
10.5-11.0	Clay	Reddish brown, ferruginised clay, indurated, fine sub-angular sand
11.0-13.0	Clay/Sand	Grey brown ferruginised clay, angular fine to medium sand
13.0-14.0	Clay/Sand	Grey yellow fine clay, minor sand
14.0-15.0	Clay/Sand	Grey reddish ferruginised clay, angular fine to medium sand
15.0-16.0	Sand/Clay	Silicified clay, relatively higher content of fine to medium quartz sand
16.0-17.0	Sand/Clay	Silicified clay, fine to medium quartz sand, poorly sorted, ferruginised reddish clay, sub angular sand
17.0-18.0	Sand	Grey fine to medium sand, sub angular quartz sand
18.0-19.0	Sand	Grey clayey fine to medium quartz sand
19.0-20.0	Clay	Grey, yellow clay, fine sand
20.0-21.0	Sand/Clay	Grey clay, fine sand
21.0-22.0	Sand	Silicified quartz sand, chips up to 1 cm, sub-angular coarse sand
22.0-23.0	Clay/ Sand	Grey, clay fine to medium sub-angular sand

23.0-24.0	Sand	Grey medium sub angular sand
24.0-34.0	Sand	Grey medium to coarse sub-angular quartz sand
34.0-35.0	Sand	Grey to black (organic matter) coarse sand up to 8mm in diameter
35.0-36.0	Sand	Grey to black clayey sand, the % of sand decrease
36.0-37.0	Sand/Clay	Grey to black fine sand (organic matter)
37.0-41.0	Granite	Granitic gneiss chips

## Observation Bore TL 34

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management  
BORE ID : TL34  
LOCATION : Lake Toolibin Flora and Fauna reserve, (15m west of P15)  
AQWABase Ref : 2432-3-sw-0109  
MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III  
AMG REF : 557174.18mE  
6356744.91mN  
SWRIS NO :  
PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Great Southern Drilling  
RIG : Wirth 120  
METHOD : Rotary Air Blast (RAB)  
DRILLED : 15/02/2000  
ELEVATION : Natural Surface-  
DIAMETER : 100 m  
DEPTH : 28.0 m

### CASING

Interval (m bns)	Type	ID (mm)	Comments
-0.5-10.0	Class 9 Plain pvc	50	
10.0-28.0	Class 9 Slotted pvc	50	End cap installed

## GRAVEL PACK AND SEAL

Interval (m bns)	Item	Type	Description
0.0-18.0	Seal	Concrete	Cement
18.0-28.0	Pea Gravel	Sand	

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 9 pvc	0.5 m above bns
Cap	100 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## GEOLOGICAL DATA

SAMPLES : Cuttings logged at 1.0m intervals, bagged and retained for each bore hole.

## SUMMARY LOG

Depth (m)	Age	Stratigraphic Unit	Lithology
0.0-8.0	Quaternary	Surficial	Clay
8.0-31.6	Archaean	Yilgarn Craton	Saprolite, granitic gneiss

## HYDROGEOLOGICAL DATA

AQUIFER : Weathered Granite

WATER LEVEL: 0.32 m (below ground level)

AIRLIFT YIELD: 0.5 litre/sec

SALINITY : 6480 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology	Description
0.0-1.0	Clay/Sand	Grey, brown clay, fine to medium sub-angular sand, poorly sorted
1.0-2.0	Sand	Grey, sandy quartz, semi-indurated medium grains of pink feldspar
3.0-8.0	Clay	Grey sandy plastic clay, fine quartz sand
8.0-9.5	Sand/Clay	Brown ferruginised sandy clay, medium to coarse quartz sand
9.5-10.0	Clay	Grey brown clay, fine quartz sand
10.0-11.5	Sand/Clay	Grey brown ferruginised matter, fine to medium quartz sand
11.5-12.5	Clay	White, fine clay occasional pink grains of feldspar
12.5-14.0	Sand/Clay	Red ferruginised sandy clay, fine to medium sub-angular quartz sand

14.0-16.0	Clay	White clay, fine to medium sand
16.0-18.0	Clay	Multicolour (grey, white, red and pink) clay, fine to medium quartz sand
18.0-28.0	Sand	Brown red medium to coarse sandy clay, quartz grains up to 3mm

## Observation Bore TL 35

### LOCATION AND IDENTIFICATION

OWNER : Conservation and Land Management  
BORE ID : TL 35  
LOCATION : Lake Toolibin Flora and Fauna reserve, Eastern boundary of Lake Toolibin, on the Lunette  
AQWABase Ref : 2432-3-sw-0110  
MAP SHEET : 1: 250 000 CORRIGIN SI 50-3  
1: 100 000 YEALERING SI 50-3/2432  
1: 50 000 TOOLIBIN SI 50-3/2432 - III  
AMG REF : 557760.32mE  
6357614.05mN  
PURPOSE : Observation Bore

### CONSTRUCTION

DRILLED BY : Great Southern Drilling  
RIG : Wirth 120  
METHOD : Rotary Air Blast (RAB)  
DRILLED : 15/02/2000  
ELEVATION : Natural Surface-  
DIAMETER : 100 m  
DEPTH : 42.0 m

### CASING

Interval (m)	Type	Id (mm)	Comments
-0.5-40.0	Class 12 Plain pvc	150	
40.0-42.0	Class 12 Slotted pvc	150	End cap installed

## GRAVEL PACK AND SEAL

Interval (m)	Item	Type	Description
0.0-9.0	Cuttings		
9.0-10.0	Benseal	Concrete	Cement and gravel 8/16 grade
10.0-42.0	Cuttings	Sand	

## HEADWORK DETAILS

Item	Type	Description
Extension of casing	Class 9 pvc	0.5 m above bns
Cap	50 mm pvc protective cap	
Surface protection pad	Concrete	600x600x300 mm

## GEOLOGICAL DATA

SAMPLES : Cuttings logged at 1.0m intervals, bagged and retained for each bore hole.

### SUMMARY LOG

Depth (m)	Age	Stratigraphic Unit	Lithology
0.0-16.0	Quaternary	Surficial	Clay
16.0-42.0	Archaean	Weathered Granite	Sand, clay

## HYDROGEOLOGICAL DATA

AQUIFER : Weathered granite

WATER LEVEL: 0.76 m (below ground level)

AIRLIFT YIELD: 0.1 litre/sec

SALINITY : 5900 mS/m obtained at the end of drilling

## LOG OF SAMPLES

Depth (m bns)	Lithology	Description
0.0-1.0	Sand	Black, grey, organic matter, fine to medium sub-angular sand
1.0-3.0	Sand	Pink, yellow sandy clay, fine to medium sub-angular to angular
3.0-9.0	Sand	Brown, pink sand, fine to medium quartz sandy clay
9.0-16.0	Clay	Grey clay, heavy plastic, fine sand
13.0-16.0	Clay	White, pink clay, fine to medium angular sand
16.0-37.0 (Aquifer)	Sand/Clay	White to pink medium to coarse quartz sand
37.0-38.0	Clay	White, yellow fine quartz sand
38.0-42.0	Sand/Clay	Yellow white clay, angular quartz grains embedded in clay matrix