

<b>Well Profile</b>	<b>19-14/069</b>
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**1 General Information**  
 (The information is according to the survey carried out on 31/05/2007)

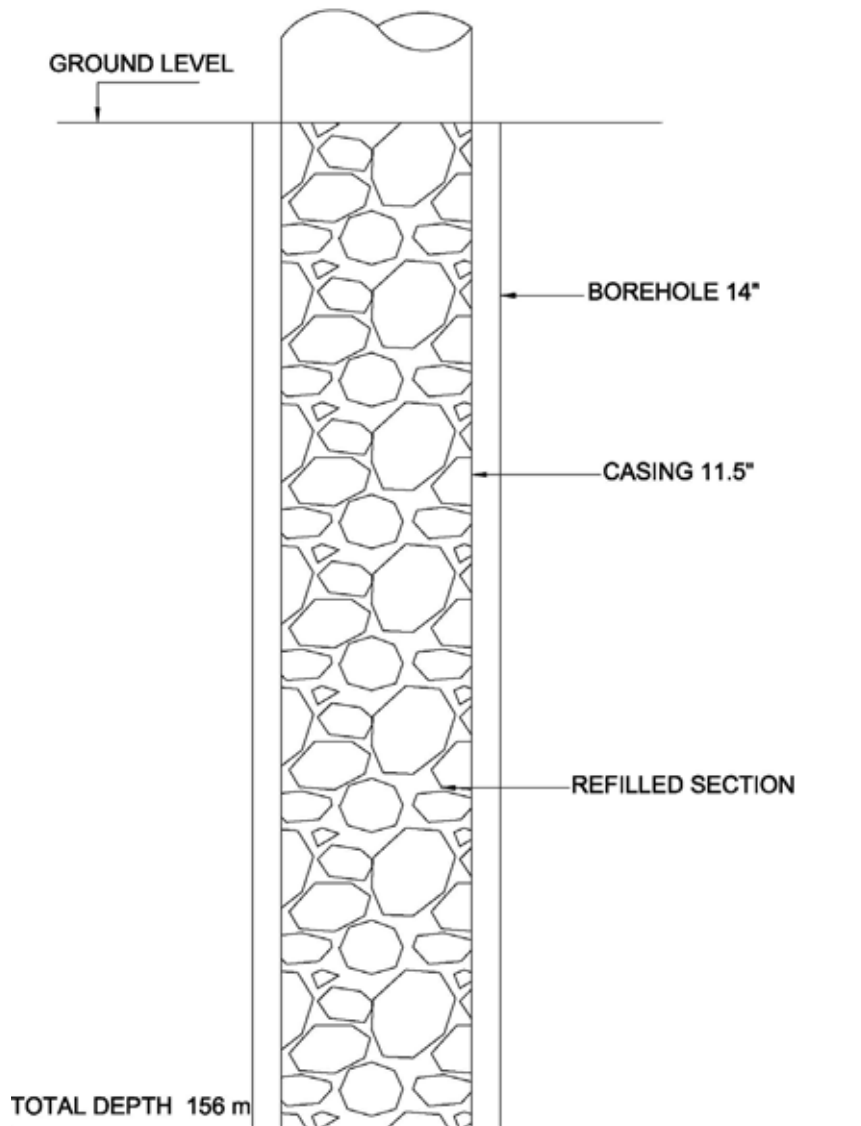
<b>Well Name</b>	Arab Project
<b>Locality Name</b>	Jericho (Ariha)
<b>Well Number</b>	19-14/069
<b>Coordinates</b>	<input type="checkbox"/> PGE 196950 / PGN 139250
<b>Date of Survey</b>	31/05/2007
<b>Status</b>	Abandoned
<b>Extraction License</b>	NA
<b>Abstraction</b>	NA
<b>Water Usage</b>	Agricultural Use Only
<b>Availability of Electric Grid</b>	YES
<b>Rehabilitation since Drilling</b>	NO



## 2 Well Structure

(The information is according to the survey carried out on 31/05/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	NA
<b>Total Well Depth</b>	156 m, but it is closed with rocks
<b>Drilling Diameter/Length</b>	14"
<b>Upper Casing (Blank)</b>	11.5" - steel / threaded/ blank
<b>Lower Casing (Screen)</b>	11.5" - steel/ threaded /perforated
<b>Current needs to maintain</b>	Cleaning the well up to 156 meters.



# 19-14/069

- N.B.**
- (1) Drawing is not to scale,
  - (2) The length of upper and lower casing is unknown,
  - (3) Information about cementing/grouting and other construction data are not available,
  - (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

(The information is according to the survey carried out on 31/05/2007)

<b>Tapped Aquifer</b>	NA
<b>Static Water Level</b>	NA
<b>Average Pumping Duration</b>	NA
<b>Estimated Discharge Rate</b>	NA
<b>Dynamic Water Level</b>	NA
<b>Specific Capacity</b>	NA
<b>Current needs to maintain</b>	As mentioned before cleaning up to 156 meters

### 4 Pumping Unit

<b>Pump</b>	
<b>Pump type</b>	There is no pump
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	NA
<b>Engine</b>	
<b>Method of Driving Engine</b>	NA
<b>Condition</b>	NA
<b>Horse Power</b>	NA
<b>Volt</b>	NA
<b>Speed Rotations</b>	NA
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	NA
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	NA
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	NA
<b>Pump and Engine House</b>	NA

### 5 Piping

<b>Pipe Connection</b>	NA
<b>Leakage</b>	NA
<b>Pipe Condition</b>	NA
<b>Type</b>	Na
<b>Diameter</b>	NA

**Well Profile      19-14/080**

**1      General Information**

(The information is according to the survey carried out on 31/05/2007)

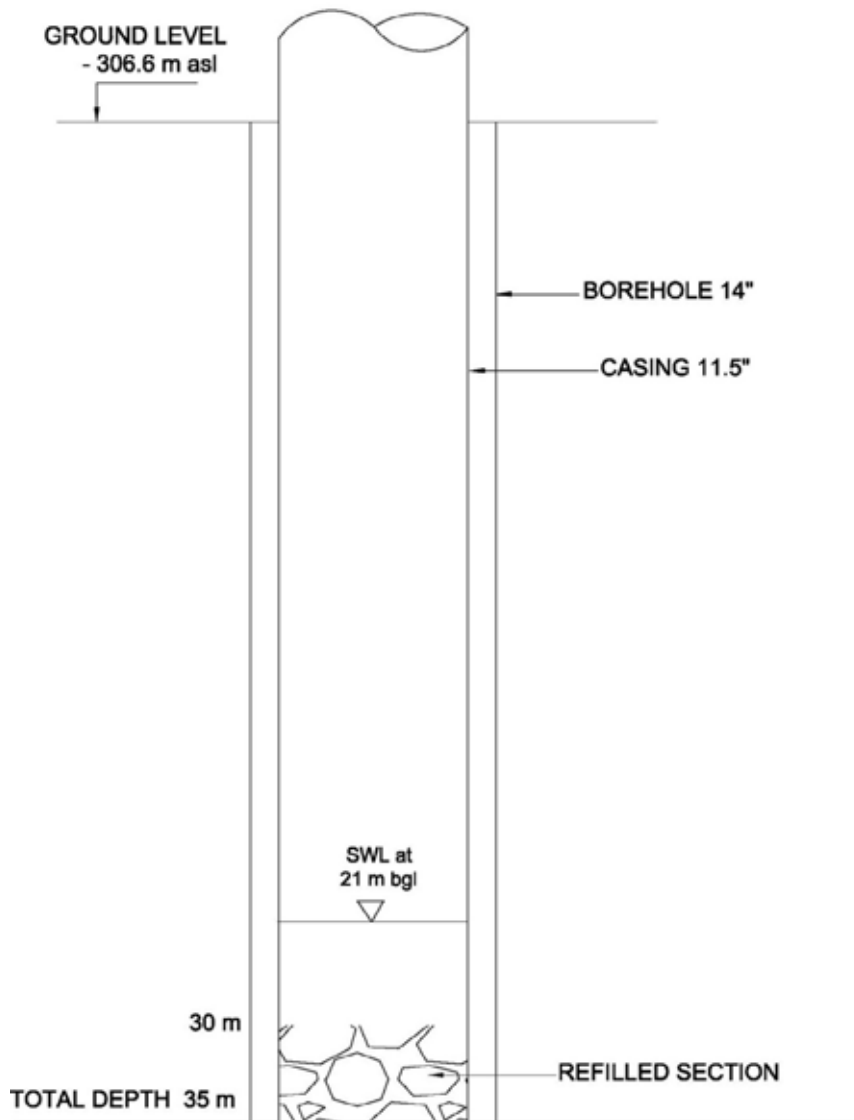
<b>Well Name</b>	Arab Project No.19
<b>Locality Name</b>	Jericho (Ariha)
<b>Well Number</b>	19-14/080
<b>Coordinates</b>	PGE 197130 / PGN 141870 / Z : - 306.57 m asl
<b>Date of Survey</b>	31/05/2007
<b>Status</b>	Abandoned
<b>Extraction License</b>	60300 m <sup>3</sup> /yr, PWA
<b>Abstraction</b>	NA
<b>Water Usage</b>	Agricultural Use Only
<b>Availability of Electric Grid</b>	YES
<b>Rehabilitation since Drilling</b>	NO



## 2 Well Structure

(The information is according to the survey carried out on 31/05/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1962
<b>Total Well Depth</b>	35 m, but it is refilled to a depth of 30 m below ground level
<b>Drilling Diameter/Length</b>	14"
<b>Upper Casing (Blank)</b>	11.5" - steel / threaded/ blank
<b>Lower Casing (Screen)</b>	11.5" - steel/ threaded /perforated
<b>Current needs to maintain</b>	Cleaning the last 5 meters in the well.



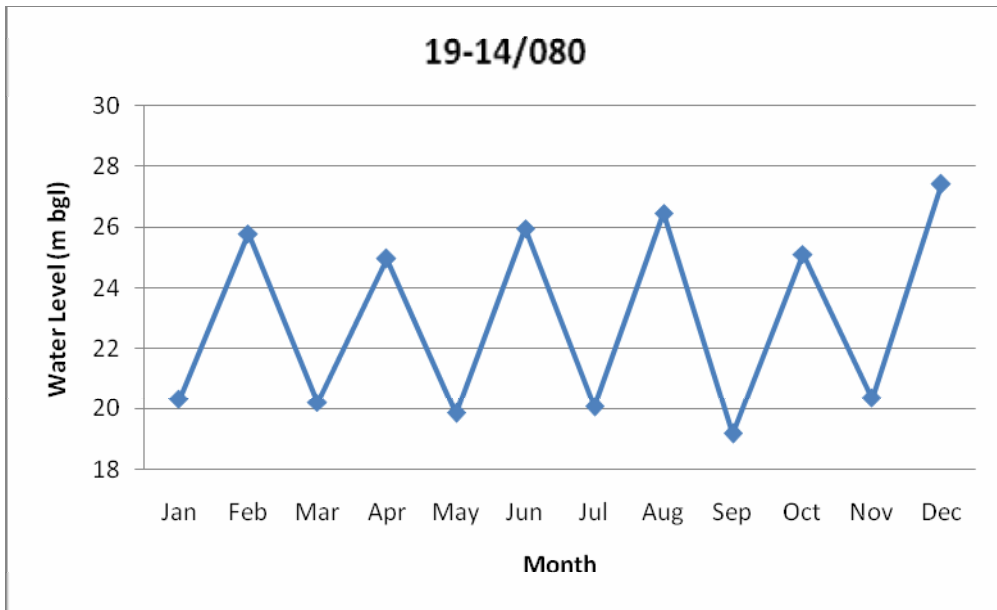
- N.B.**
- (1) Drawing is not to scale,
  - (2) The length of upper and lower casing is unknown,
  - (3) Information about cementing/grouting and other construction data are not available,
  - (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

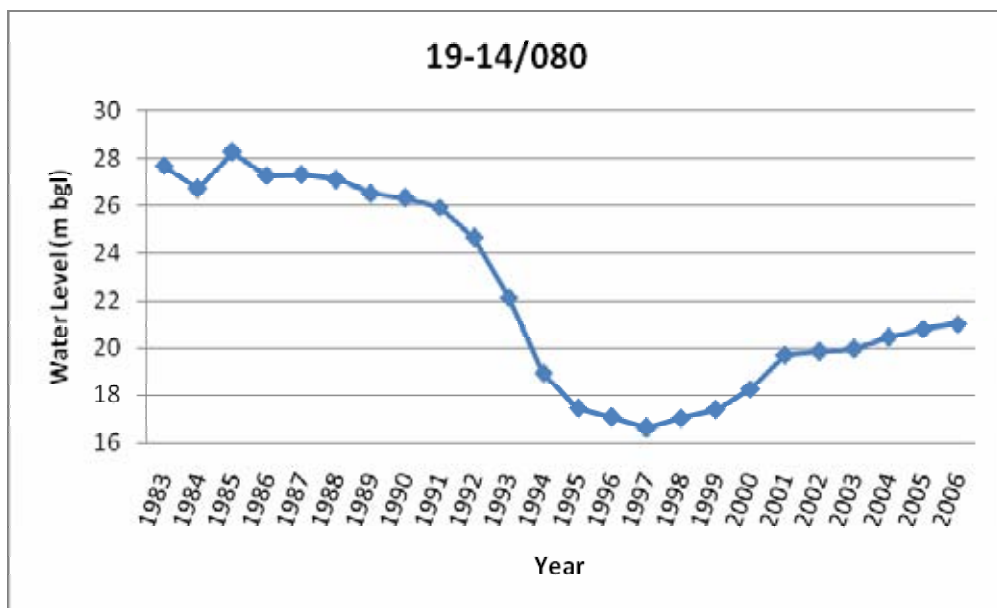
(The information is according to the survey carried out on 31/05/2007)

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	21 meters below ground level (measured)
<b>Average Pumping Duration</b>	NA
<b>Estimated Discharge Rate</b>	NA
<b>Dynamic Water Level</b>	NA
<b>Specific Capacity</b>	NA
<b>Current needs to maintain</b>	As mentioned before cleaning the last 5 meters in the well

#### Water Level Fluctuation (The data are for the period before the well stops pumping)

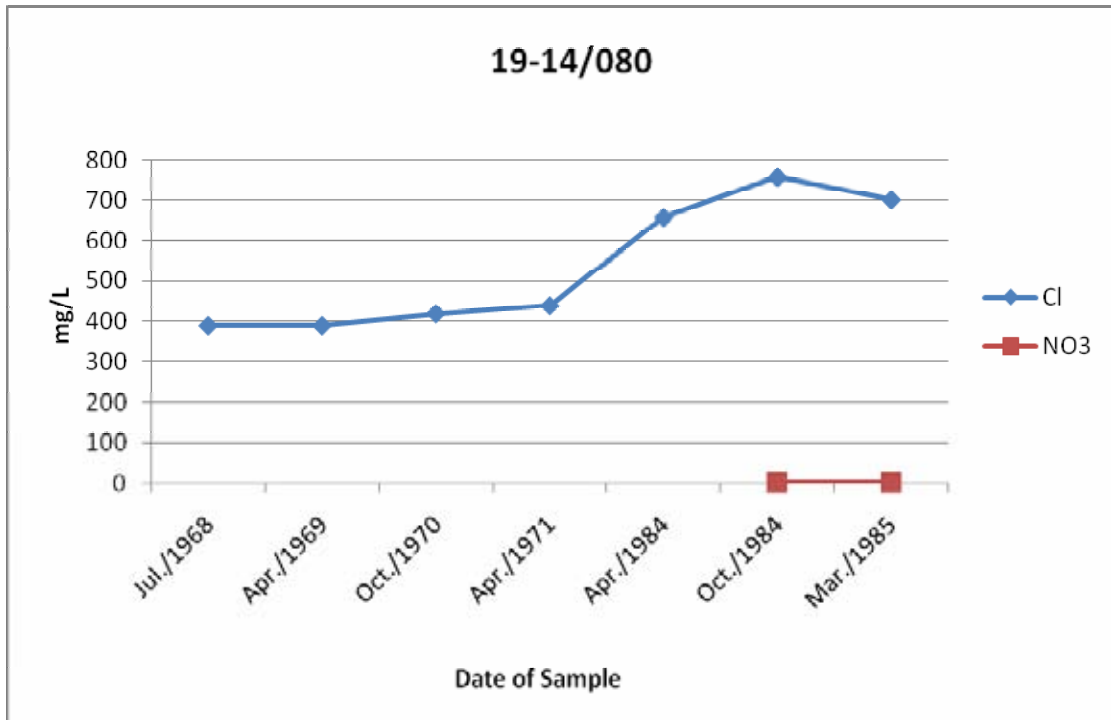


#### Average Monthly Water Level Fluctuation (1983 – 2006), (PWA Database)

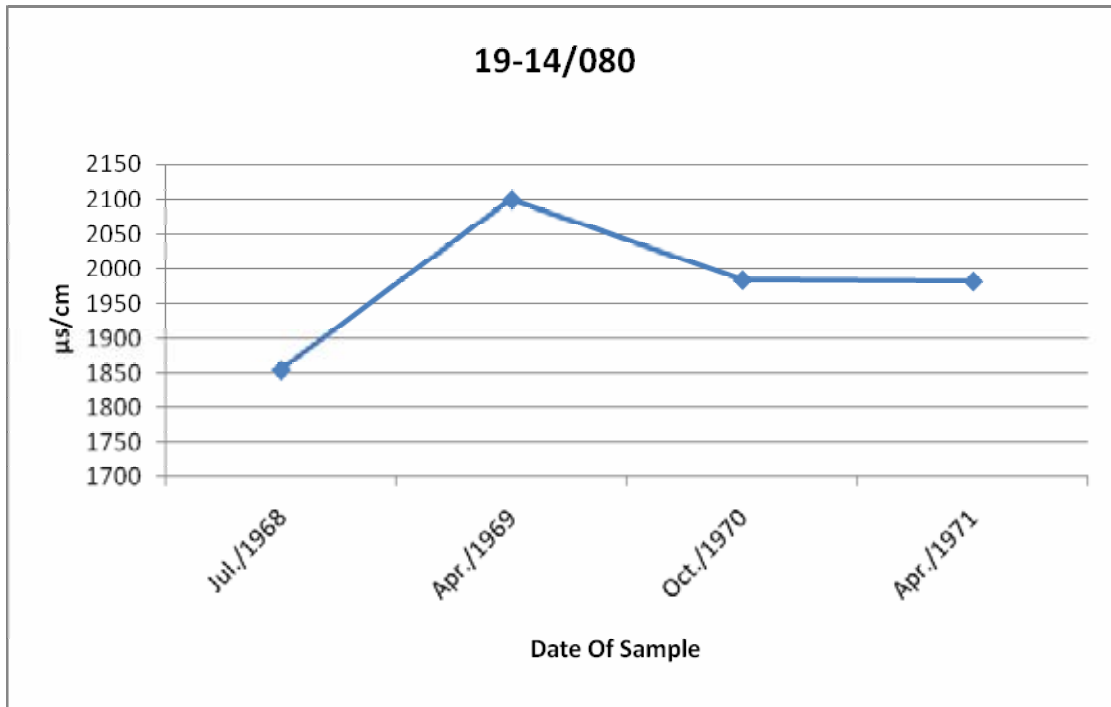


#### Yearly Water Level Fluctuation, (PWA Database)

**Water Quality (The data are for the period before the well stops pumping)**



**Cl and NO<sub>3</sub> Concentration, (PWA Database)**



**Electric Conductivity (EC) - µS/cm, (PWA Database)**

#### 4 Pumping Unit

<b>Pump</b>	
<b>Pump type</b>	There is no pump
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	NA
<b>Engine</b>	
<b>Method of Driving Engine</b>	NA
<b>Condition</b>	NA
<b>Horse Power</b>	NA
<b>Volt</b>	NA
<b>Speed Rotations</b>	NA
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	NA
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	NA
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	NA
<b>Pump and Engine House</b>	NA

#### 5 Piping

<b>Pipe Connection</b>	NA
<b>Leakage</b>	NA
<b>Pipe Condition</b>	NA
<b>Type</b>	Na
<b>Diameter</b>	NA



<b>Well Profile</b>	<b>19-15/008</b>
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**1 General Information**  
(The information is according to the survey carried out on 03/06/2007)

<b>Well Name</b>	'Abed Al Kareem Njum
<b>Locality Name</b>	Al 'Auja
<b>Well Number</b>	19-15/008
<b>Coordinates</b>	PGE 194320 / PGN 150600 / Z : - 240 m asl
<b>Date of Survey</b>	03/06/2007
<b>Status</b>	Not pumping
<b>Extraction License</b>	NA
<b>Abstraction</b>	NA
<b>Water Usage</b>	Agricultural Use Only
<b>Availability of Electric Grid</b>	NO
<b>Rehabilitation since Drilling</b>	NO



## 2 Well Structure

<b>Drilling Method</b>	Dug Well
<b>Drilling Year</b>	1957
<b>Total Well Depth</b>	58 m
<b>Drilling Diameter/Length</b>	NA
<b>Upper Casing (Blank)</b>	NA
<b>Lower Casing (Screen)</b>	NA
<b>Current needs to maintain</b>	Cleaning up to 58 meters below ground level

## 3 Hydro-geological Condition

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	NA
<b>Average Pumping Duration</b>	NA
<b>Estimated Discharge Rate</b>	NA
<b>Dynamic Water Level</b>	NA
<b>Specific Capacity</b>	NA
<b>Current needs to maintain</b>	As mentioned before, cleaning up to 58 meters below ground level

## 4 Pumping Unit

<b>Pump</b>	
<b>Pump type</b>	No Pump
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	NA
<b>Engine</b>	
<b>Method of Driving Engine</b>	NA
<b>Condition</b>	NA
<b>Horse Power</b>	NA
<b>Volt</b>	NA
<b>Speed Rotations</b>	NA
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	There is no gear head
<b>Speed Rotations</b>	
<b>Horse Power</b>	
<b>Others</b>	
<b>Type of Lubrication</b>	NA
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	NA
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	NA
<b>Pump and Engine House</b>	NA

## 5 Piping

<b>Pipe Connection</b>	NA
<b>Leakage</b>	NO
<b>Pipe Condition</b>	NA
<b>Type</b>	NA
<b>Diameter</b>	NA

<b>Well Profile</b>	<b>19-15/019</b>
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**1 General Information**  
(The information is according to the survey carried out on 03/06/2007)

<b>Well Name</b>	Yusef Mahmood Al Nojoom
<b>Locality Name</b>	Al 'Auja
<b>Well Number</b>	19-15/019
<b>Coordinates</b>	PGE 195644 / PGN 152371
<b>Date of Survey</b>	03/06/2007
<b>Status</b>	Abundant
<b>Extraction License</b>	NA
<b>Abstraction</b>	NA
<b>Water Usage</b>	Agricultural Use Only (1000 dunums)
<b>Availability of Electric Grid</b>	NO
<b>Rehabilitation since Drilling</b>	NO



## 2 Well Structure

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	NA
<b>Total Well Depth</b>	50 m, it was drilled in 1965, but after that the casing and the pump were removed from the well. Hence, the well collapsed.
<b>Drilling Diameter/Length</b>	NA
<b>Upper Casing (Blank)</b>	NA
<b>Lower Casing (Screen)</b>	NA
<b>Current needs to maintain</b>	Cleaning the well up to 50 meters.

## 3 Hydro-geological Condition

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	NA
<b>Average Pumping Duration</b>	NA
<b>Estimated Discharge Rate</b>	NA
<b>Dynamic Water Level</b>	NA
<b>Specific Capacity</b>	NA
<b>Current needs to maintain</b>	As mentioned before cleaning up to 50 meters

## 4 Pumping Unit

<b>Pump</b>	
<b>Pump type</b>	There is no pump
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	NA
<b>Engine</b>	
<b>Method of Driving Engine</b>	NA
<b>Condition</b>	NA
<b>Horse Power</b>	NA
<b>Volt</b>	NA
<b>Speed Rotations</b>	NA
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	NA
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	NA
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	NA
<b>Pump and Engine House</b>	NA

## 5 Piping

<b>Pipe Connection</b>	NA
<b>Leakage</b>	NA
<b>Pipe Condition</b>	NA
<b>Type</b>	NA
<b>Diameter</b>	NA

<b>Well Profile</b>	<b>19-15/028A</b>
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**1 General Information**  
(The information is according to the survey carried out on 03/06/2007)

<b>Well Name</b>	Al 'Auja
<b>Locality Name</b>	Jericho (Ariha)
<b>Well Number</b>	19-15/028A
<b>Coordinates</b>	PGE 194800 / PGN 150174 / Z : -246.2 m asl
<b>Date of Survey</b>	03/06/2007
<b>Status</b>	Not Pumping
<b>Extraction License</b>	NA
<b>Abstraction</b>	NA
<b>Water Usage</b>	Agricultural Use Only
<b>Availability of Electric Grid</b>	NO
<b>Rehabilitation since Drilling</b>	NO



## 2 Well Structure

(The information is according to the survey carried out on 03/06/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1999
<b>Total Well Depth</b>	110 m.
<b>Drilling Diameter/Length</b>	Ø 12"
<b>Upper Casing (Blank)</b>	Ø 8"
<b>Lower Casing (Screen)</b>	Ø 8"
<b>Current needs to maintain</b>	Drilling a substitute well to a depth of 110 meters. The well is dry.

## 3 Hydro-geological Condition

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	NA
<b>Average Pumping Duration</b>	NA
<b>Estimated Discharge Rate</b>	NA
<b>Dynamic Water Level</b>	NA
<b>Specific Capacity</b>	NA
<b>Current needs to maintain</b>	As mentioned before, drilling a new well as the well is dry since drilling, but this needs a hydro-geological assessment for selecting the well site

## 4 Pumping Unit

<b>Pump</b>	
<b>Pump type</b>	There is no pump
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	NA
<b>Engine</b>	
<b>Method of Driving Engine</b>	NA
<b>Condition</b>	NA
<b>Horse Power</b>	NA
<b>Volte</b>	NA
<b>Speed Rotations</b>	NA
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	NA
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	NA
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	NA
<b>Pump and Engine House</b>	NA



## 5 Piping

<b>Pipe Connection</b>	NA
<b>Leakage</b>	NA
<b>Pipe Condition</b>	NA
<b>Type</b>	NA
<b>Diameter</b>	NA

<b>Well Profile</b>	<b>19-16/005</b>
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**1 General Information**  
(The information is according to the survey carried out on 04/06/2007)

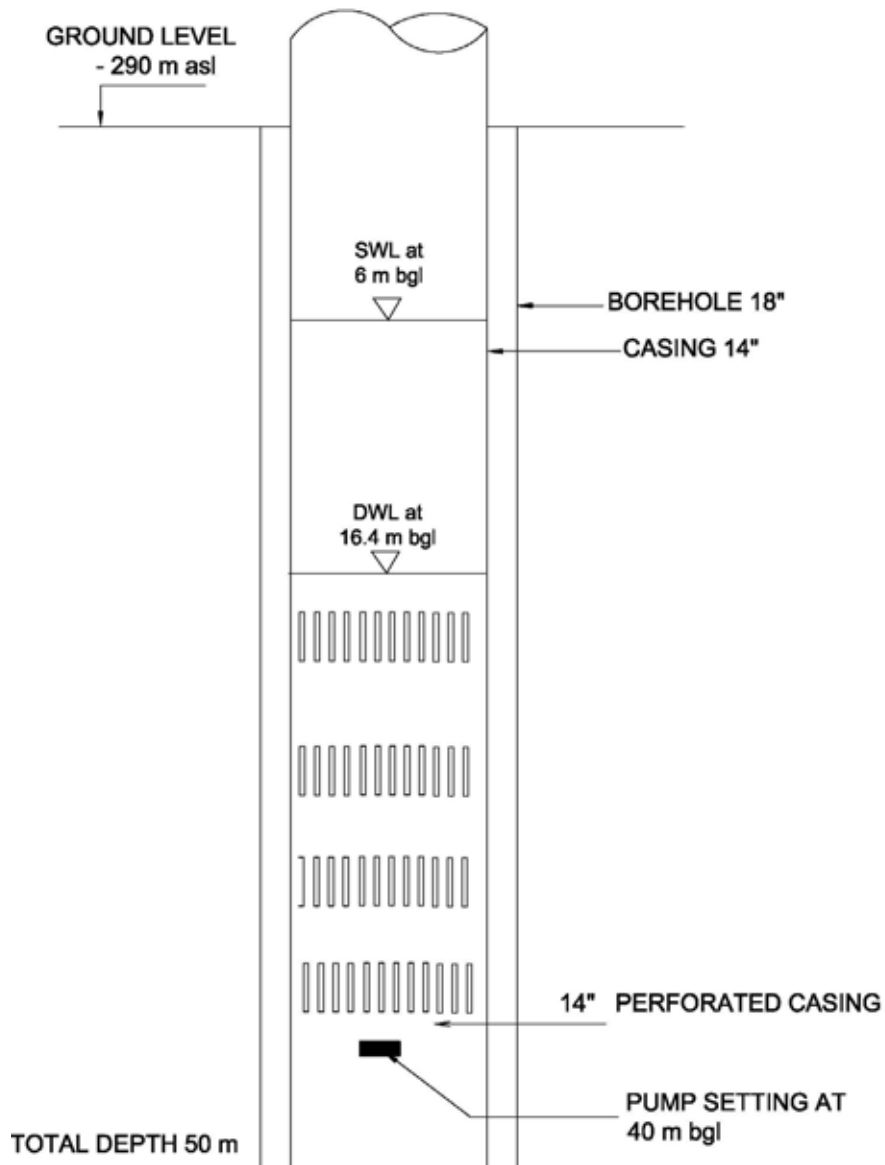
<b>Well Name</b>	'Abed Al'azeez Lubbad Sareess
<b>Locality Name</b>	Al Jiftlik
<b>Well Number</b>	19-16/005
<b>Coordinates</b>	PGE 199590 / PGN 168850 / Z: - 290 m asl
<b>Date of Survey</b>	04/06/2007
<b>Contact Person/Mobile</b>	Habes Attawnah / 0528859401
<b>Owner(s)</b>	'Abed Al'azeez Lubbad Sareess
<b>Status</b>	Pumping
<b>Extraction License</b>	89,000 m <sup>3</sup> /year, PWA
<b>Abstraction</b>	52,763 m <sup>3</sup> /year (average from 1981 to 2003), PWA 78,400 m <sup>3</sup> /year (according to the survey)
<b>Water Usage</b>	Agricultural Use Only (50 dunums)
<b>Availability of Electric Grid</b>	YES
<b>Rehabilitation since Drilling</b>	NO



## 2 Well Structure

(The information is according to the survey carried out on 04/06/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1972
<b>Total Well Depth</b>	50 m
<b>Drilling Diameter/Length</b>	18"
<b>Upper Casing (Blank)</b>	14" - steel / blank
<b>Lower Casing (Screen)</b>	14" - steel / perforated
<b>Current needs to maintain</b>	No needs



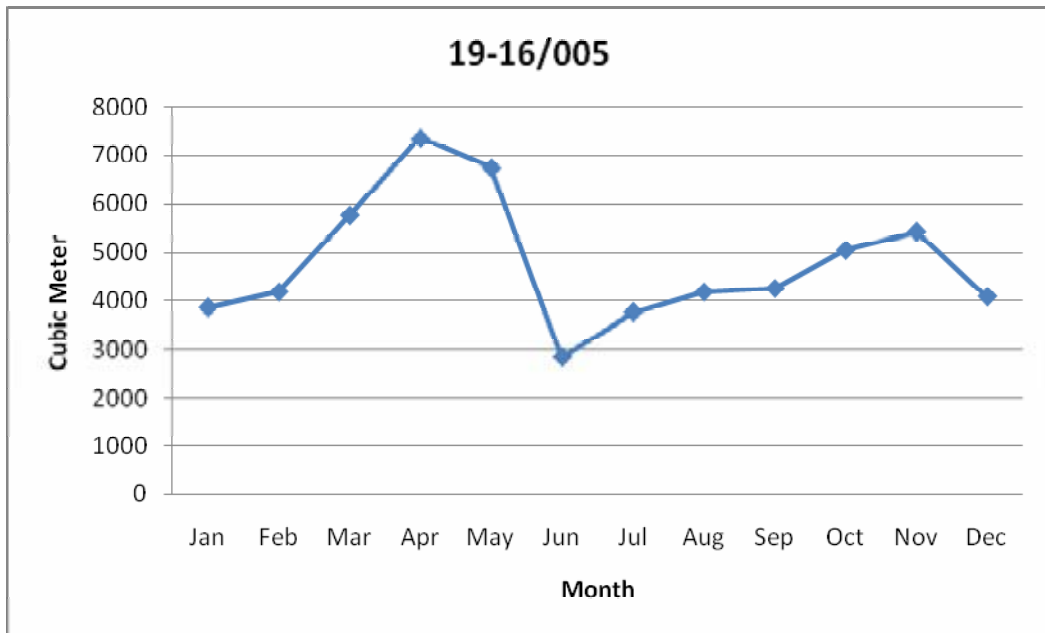
- N.B.** (1) Drawing is not to scale,  
 (2) The length of upper and lower casing is unknown,  
 (3) Information about cementing/grouting and other construction data are not available,  
 (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

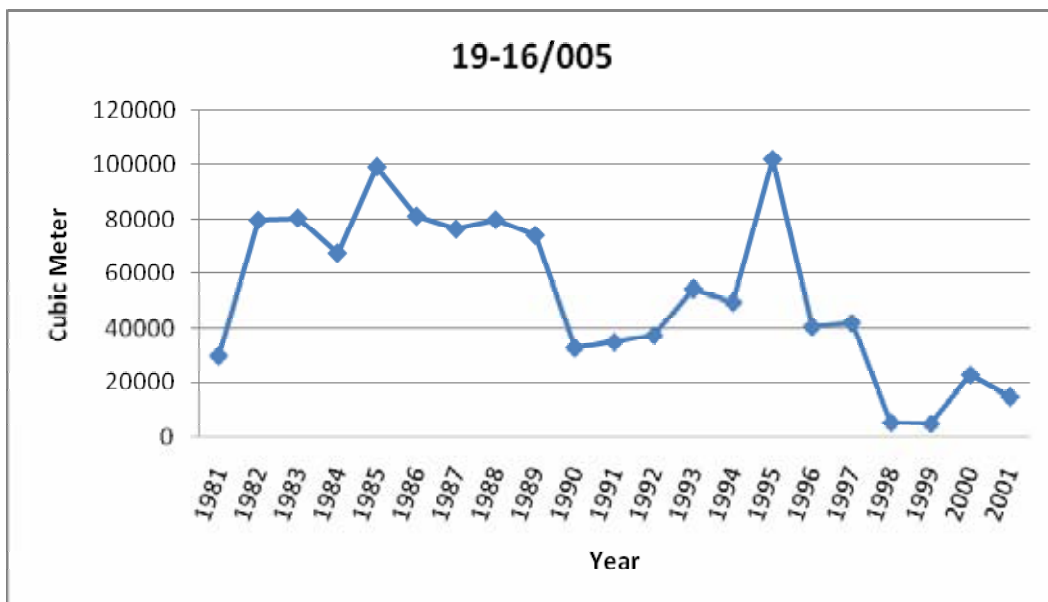
(The information is according to the survey carried out on 04/06/2007)

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	6 meters below ground level (measured)
<b>Average Pumping Duration</b>	7 hrs/day - 4 days/week - 10 months/yr.
<b>Estimated Discharge Rate</b>	70 m <sup>3</sup> /hr
<b>Dynamic Water Level</b>	16.40 meters below ground level (measured)
<b>Specific Capacity</b>	6.5 m <sup>3</sup> /hr/m
<b>Current needs to maintain</b>	No needs

#### Well Abstraction

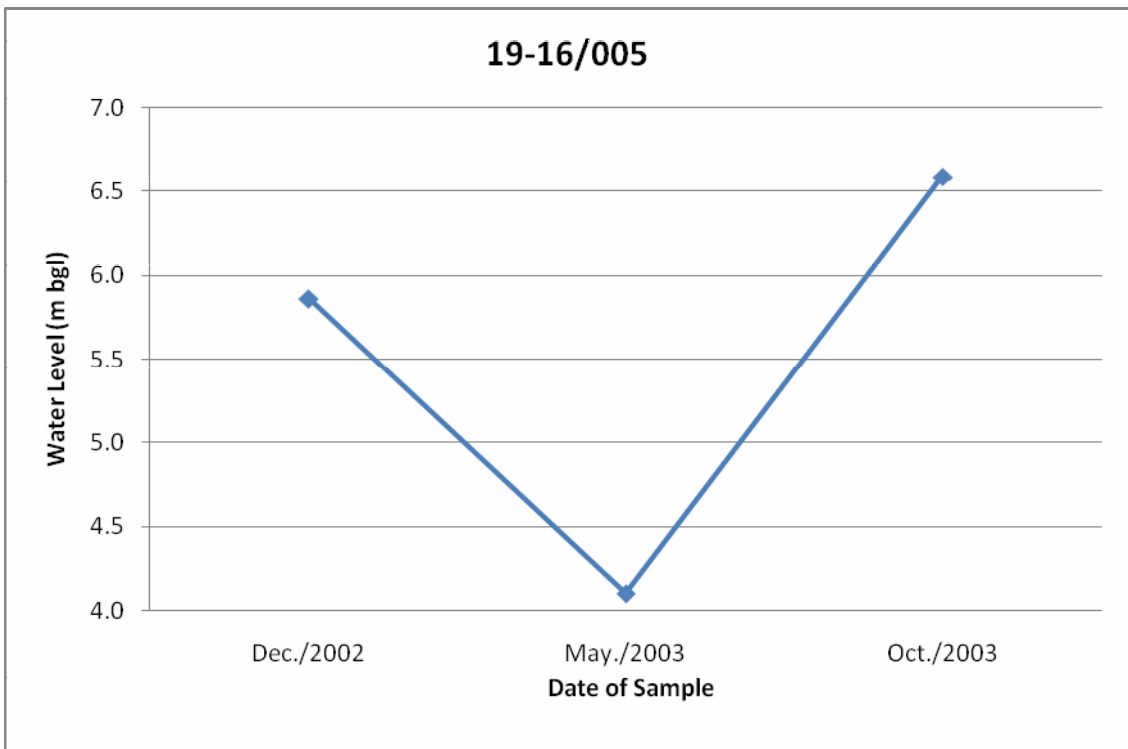


Average Monthly Abstraction (1981 -2001), (PWA Database)

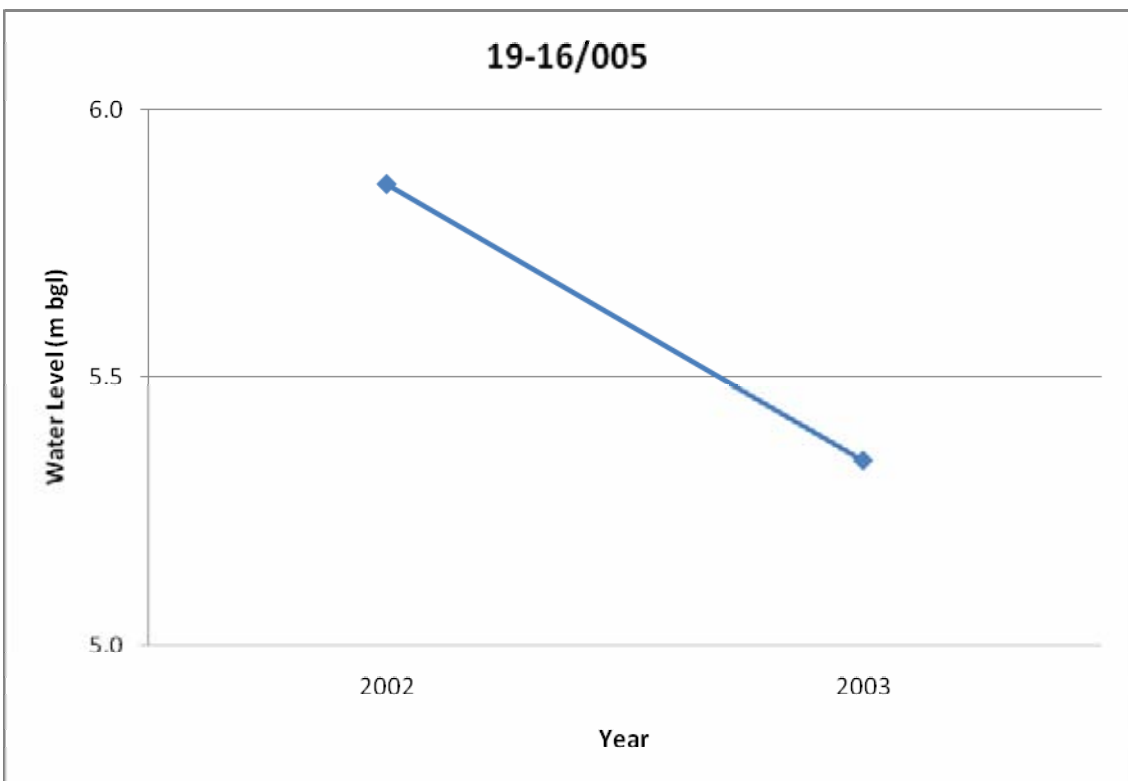


Yearly Abstraction, (PWA Database)

### Water Level Fluctuation



**Average Monthly Water Level Fluctuation, (PWA Database)**



**Yearly Water Level Fluctuation, (PWA Database)**

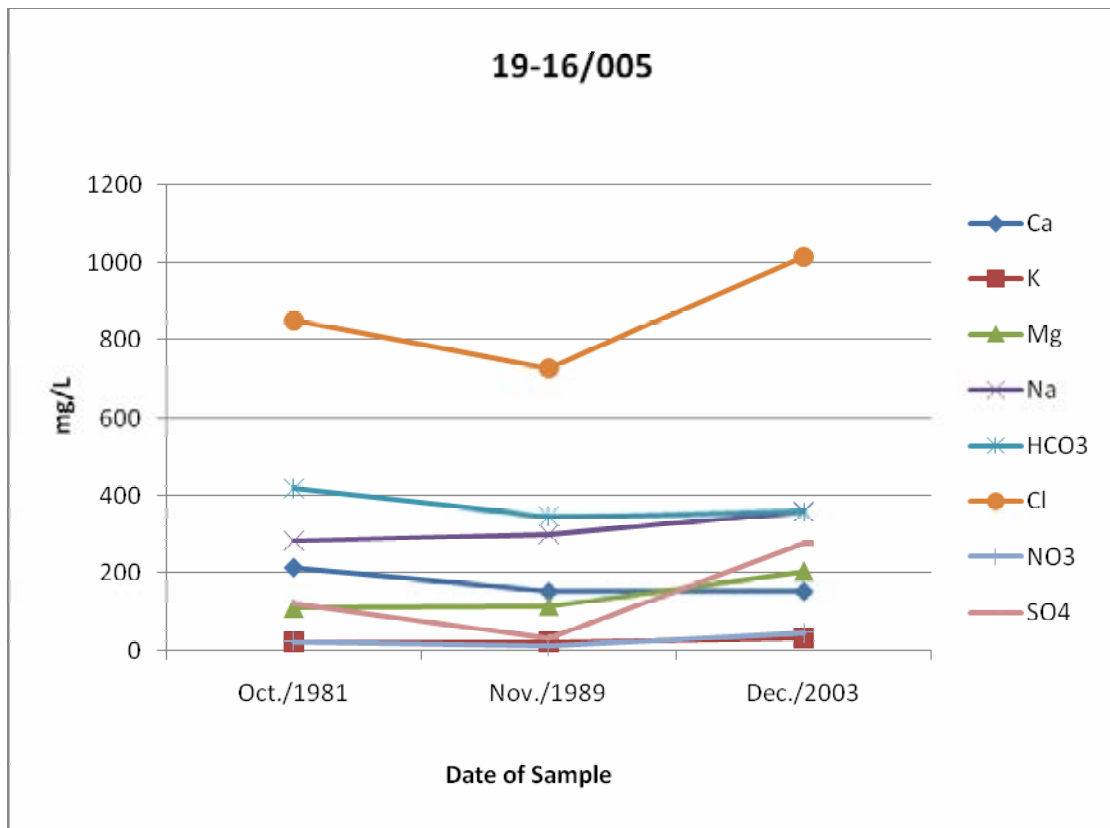
EC: 4470  $\mu\text{S}/\text{cm}$

### Water Quality

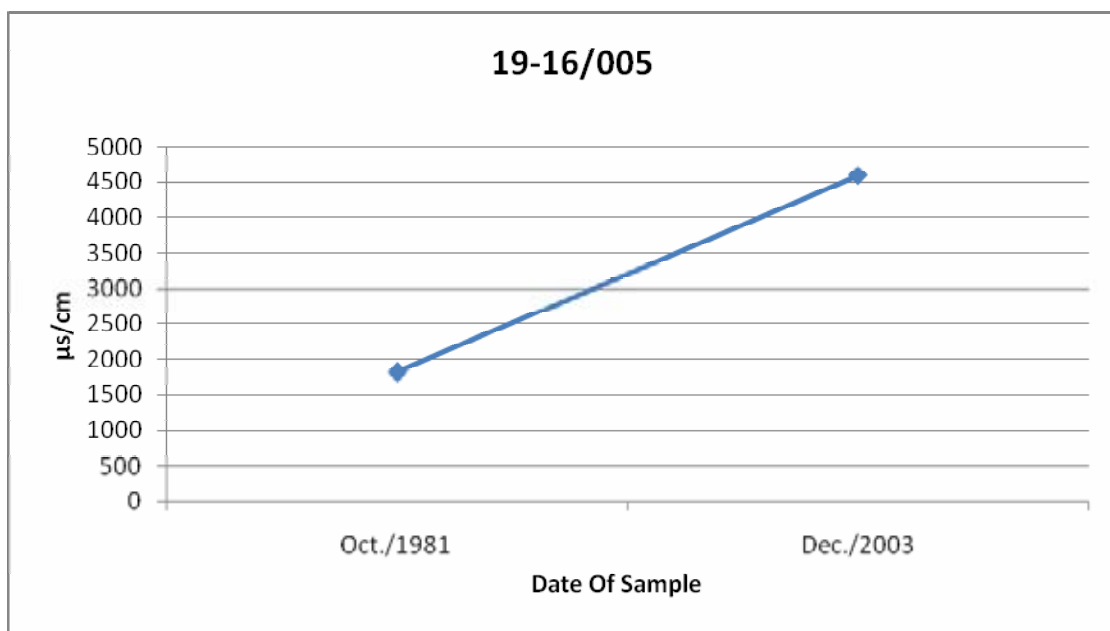
pH: 7.67

Temperature: 24.7  $^{\circ}\text{C}$

The measurements were taken on 04/06/2007



Major Cations and Anions, (PWA Database)



Electric Conductivity (EC) -  $\mu\text{S}/\text{cm}$ , (PWA Database)

#### 4 Pumping Unit

(The information is according to the survey carried out on 04/06/2007)

<b>Pump</b>	
<b>Pump type</b>	Mechanical Pump (Vertical Pump)
<b>Date of Installation</b>	1980's
<b>Manufacturer</b>	NA
<b>Capacity</b>	70 m <sup>3</sup> /hr
<b>Engine</b>	
<b>Method of Driving Engine</b>	Diesel
<b>Condition</b>	Bad
<b>Horse Power</b>	40 hp
<b>Volt</b>	NA
<b>Speed Rotations</b>	1800 rpm
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	Bad
<b>Speed Rotations</b>	1800 rpm
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	Water
<b>Dimension of Shaft</b>	Ø 25 mm/ 40 m long
<b>Dimension of Rising Pipes</b>	Ø 6" / 40 m long
<b>Dimension of Discharge Head</b>	Ø 8"
<b>Maintenance Record</b>	NO
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	Bad
<b>Pump and Engine House</b>	NA

#### 5 Piping

<b>Pipe Connection</b>	Agricultural Bonds
<b>Leakage</b>	Yes
<b>Pipe Condition</b>	Bad
<b>Type</b>	Steel
<b>Diameter</b>	NA

<b>Well Profile</b>	<b>19-17/009</b>
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**1 General Information**  
(The information is according to the survey carried out on 06/06/2007)

<b>Well Name</b>	Raffeq Qamhawi
<b>Locality Name</b>	Al Jiftlik
<b>Well Number</b>	19-17/009
<b>Coordinates</b>	PGE 197470 / PGN 170230 / Z : -263.85 m asl
<b>Date of Survey</b>	06/06/2007
<b>Status</b>	Pumping
<b>Extraction License</b>	138,000 m <sup>3</sup> /year, PWA
<b>Abstraction</b>	111,282 m <sup>3</sup> /year (average from year 1974 to 2002), PWA 180,000 m <sup>3</sup> /year (according to the survey)
<b>Water Usage</b>	Agricultural Use Only (150 donums)
<b>Availability of Electric Grid</b>	YES
<b>Rehabilitation since Drilling</b>	YES, in 2006, changing the pump

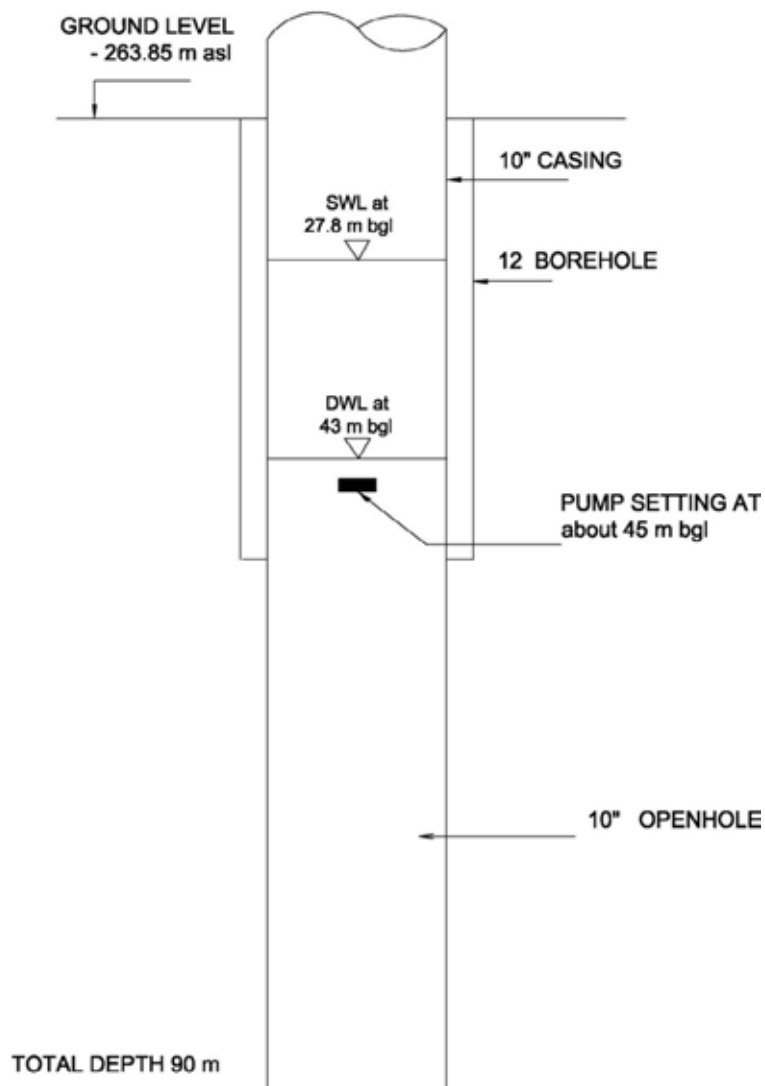




## 2 Well Structure

(The information is according to the survey carried out on 06/06/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1962
<b>Total Well Depth</b>	90 m
<b>Drilling Diameter/Length</b>	12"
<b>Upper Casing (Blank)</b>	10" - steel / threaded/ blank
<b>Lower Casing (Screen)</b>	It is an open hole section
<b>Current needs to maintain</b>	The pump with its cables and riser pipes (35m) fell in the well, this closes some supplying area. Hence, they should be taken out from the well.



# 19-17/009

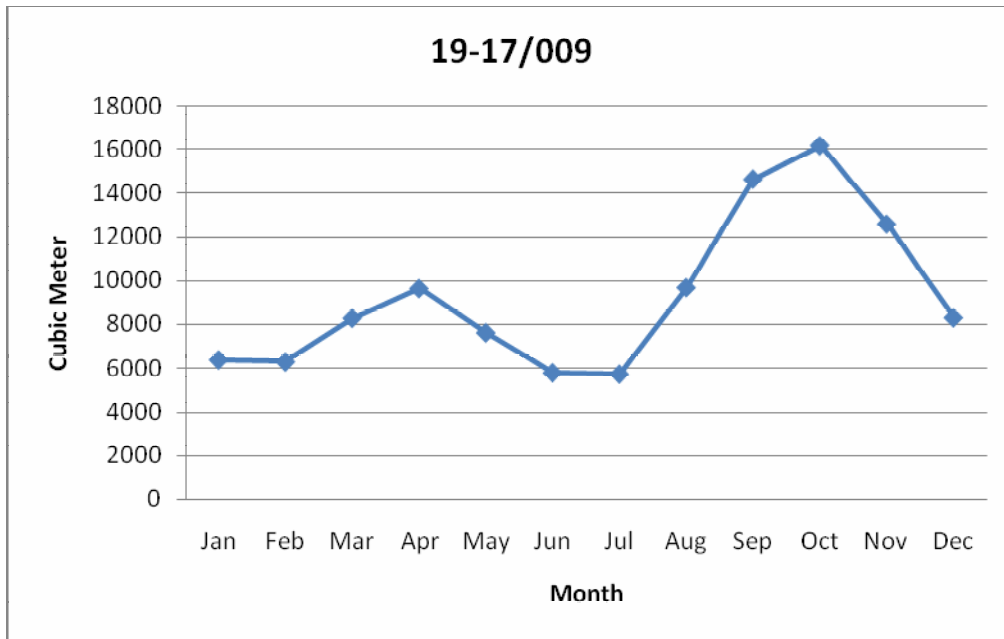
- N.B.**
- (1) Drawing is not to scale,
  - (2) The length of upper and lower casing is unknown,
  - (3) Information about cementing/grouting and other construction data are not available,
  - (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

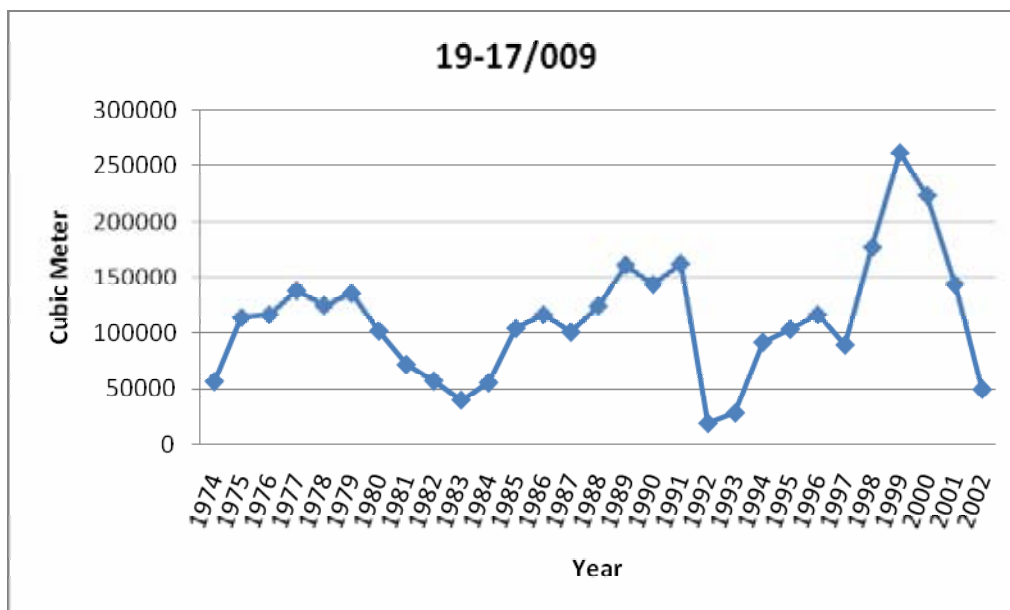
(The information is according to the survey carried out on 06/06/2007)

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	27.8 meters below ground level (measured)
<b>Average Pumping Duration</b>	10 hrs/day - 7 days/week - 10 months/yr.
<b>Estimated Discharge Rate</b>	60 m <sup>3</sup> /hr
<b>Dynamic Water Level</b>	Around 45 meters below ground level (measured)
<b>Specific Capacity</b>	4 m <sup>3</sup> /hr/m
<b>Current needs to maintain</b>	No needs

#### Well Abstraction

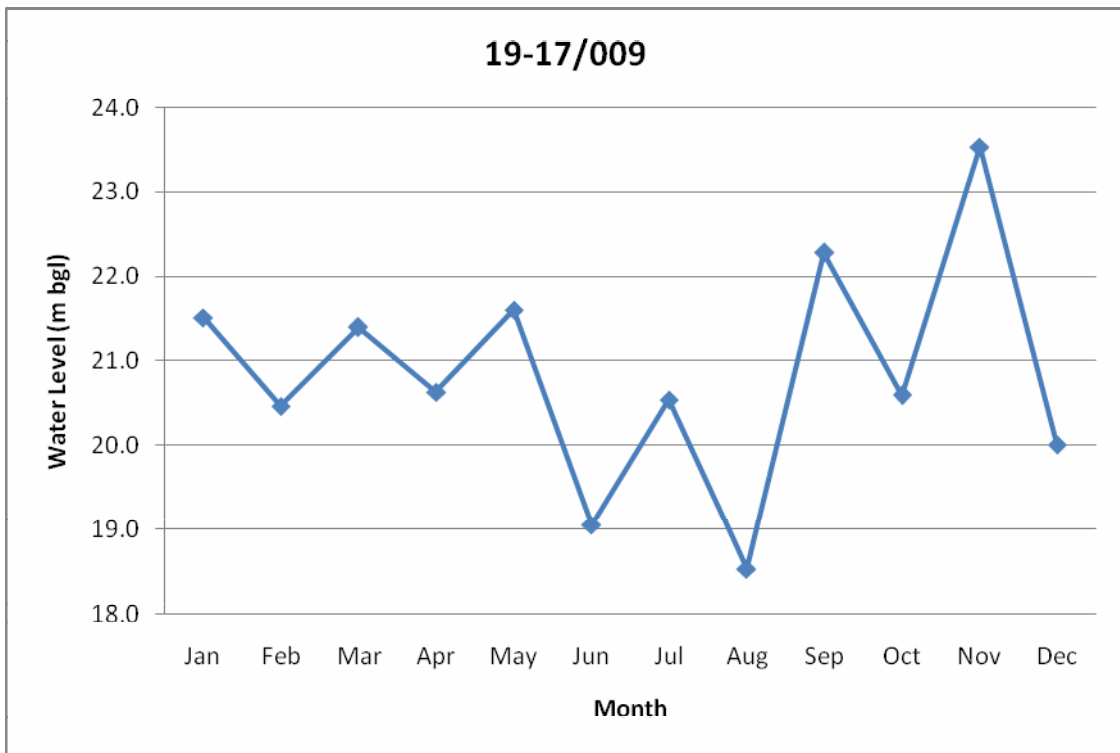


Average Monthly Abstraction, (PWA Database)

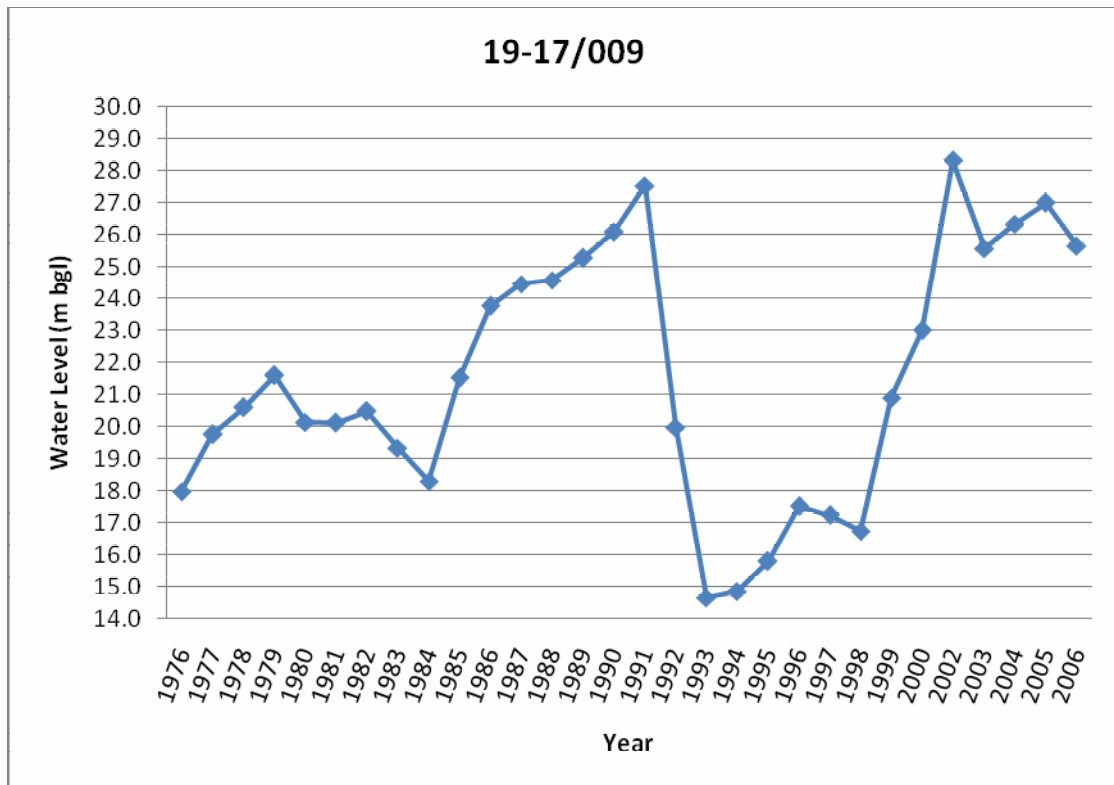


Yearly Abstraction, (PWA Database)

**Water Level Fluctuation**



**Average Monthly Water Level Fluctuation, (PWA Database)**



**Yearly Water Level Fluctuation, (PWA Database)**

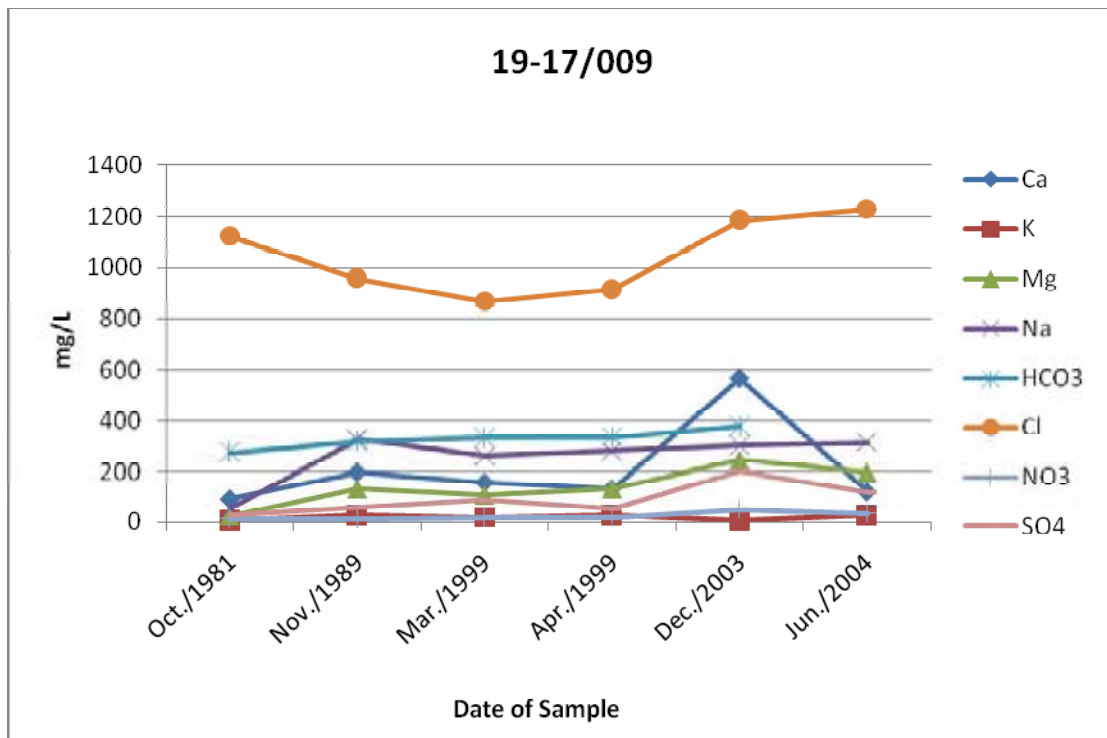
EC: 3790  $\mu\text{S}/\text{cm}$

### Water Quality

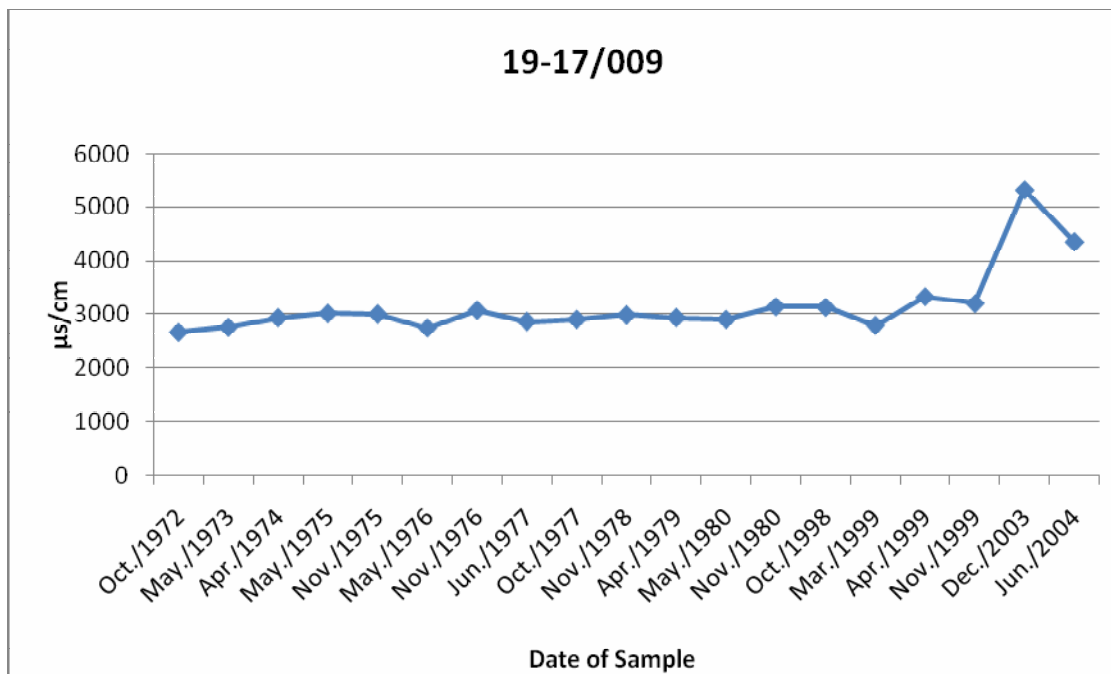
pH: 7.20

Temperature: 38 °C

The measurements were taken on 06/06/2007



Major Cations and Anions, (PWA Database)



Electric Conductivity (EC) -  $\mu\text{S}/\text{cm}$ , (PWA Database)

#### 4 Pumping Unit

(The information is according to the survey carried out on 06/06/2007)

<b>Pump</b>	
<b>Pump type</b>	Submersible
<b>Date of Installation</b>	4/10/2005
<b>Manufacturer</b>	Bloyger
<b>Capacity</b>	60 m <sup>3</sup> /hr
<b>Engine</b>	
<b>Method of Driving Engine</b>	Electrical
<b>Condition</b>	Good
<b>Horse Power</b>	30 hp
<b>Volt</b>	400 Volts
<b>Speed Rotations</b>	3000 rpm (fixed speed)
<b>Turbine</b>	
<b>Number of Stages</b>	4 stages
<b>Type of Stages</b>	Ø 6" / Closed
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	Water
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	4" / □ 45 m long
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NO
<b>Control Unit Condition</b>	Good
<b>Water Meter Condition</b>	Bad
<b>Pump and Engine House</b>	NA

#### 5 Piping

<b>Pipe Connection</b>	Agricultural bonds with one reservoir
<b>Leakage</b>	NO
<b>Pipe Condition</b>	Fair
<b>Type</b>	Steel
<b>Diameter</b>	Ø 6"

<b>Well Profile</b>	<b>19-17/010</b>
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**1 General Information**  
(The information is according to the survey carried out on 06/06/2007)

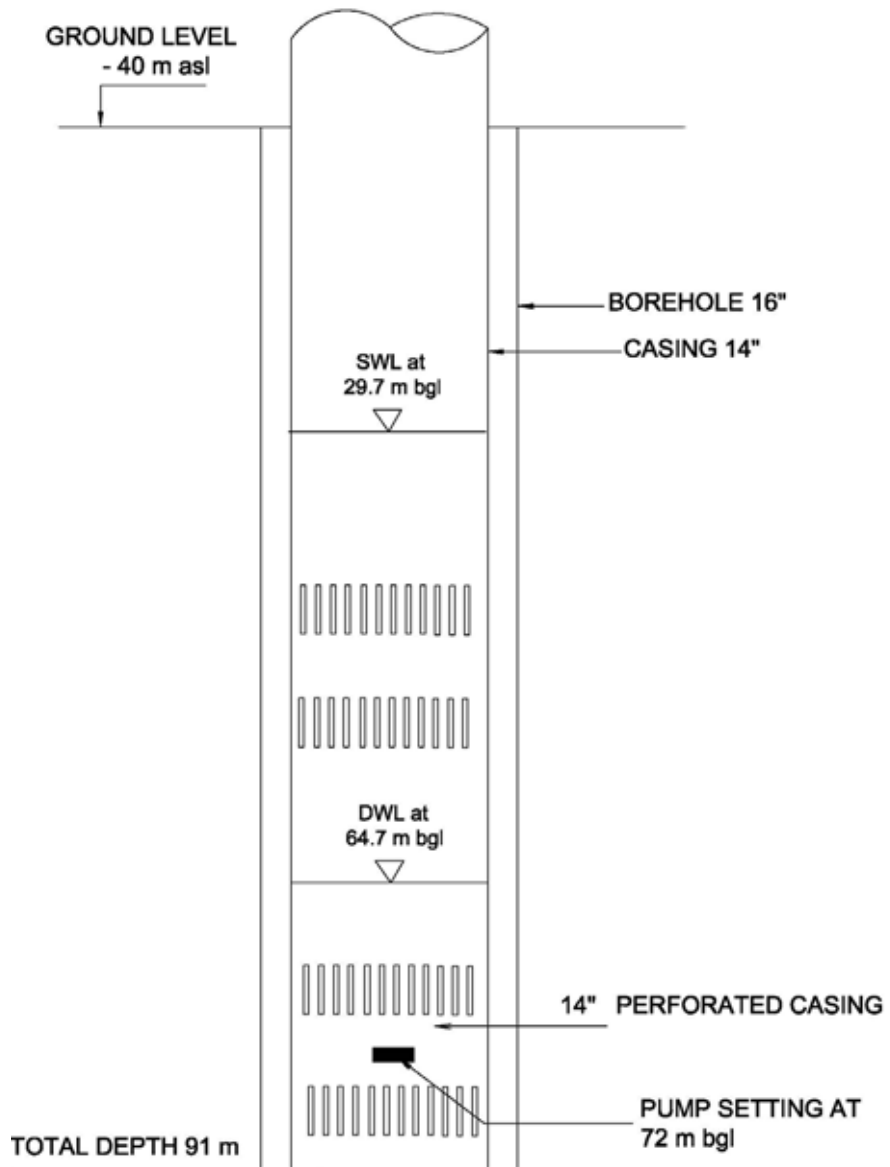
<b>Well Name</b>	Husain Drai'i
<b>Locality Name</b>	Al Jiftlik
<b>Well Number</b>	19-17/010
<b>Coordinates</b>	PGE 197060 / PGN 170150 / Z : -262.42 m asl
<b>Date of Survey</b>	06/06/2007
<b>Status</b>	Pumping
<b>Extraction License</b>	83,000 m <sup>3</sup> /year (PWA)
<b>Average Abstraction</b>	50,964 m <sup>3</sup> /year (average from 1974 to 2003) (PWA)
<b>Water Usage</b>	Agricultural Use Only
<b>Availability of Electric Grid</b>	YES
<b>Rehabilitation since Drilling</b>	YES, in Feb. 2007, maintenance for the pump



## 2 Well Structure

(The information is according to the survey carried out on 06/06/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1962
<b>Total Well Depth</b>	91 m
<b>Drilling Diameter/Length</b>	12" / 91 m
<b>Upper Casing (Blank)</b>	10" - steel / welded/ blank
<b>Lower Casing (Screen)</b>	10" - steel / welded/ perforated
<b>Current needs to maintain</b>	No needs



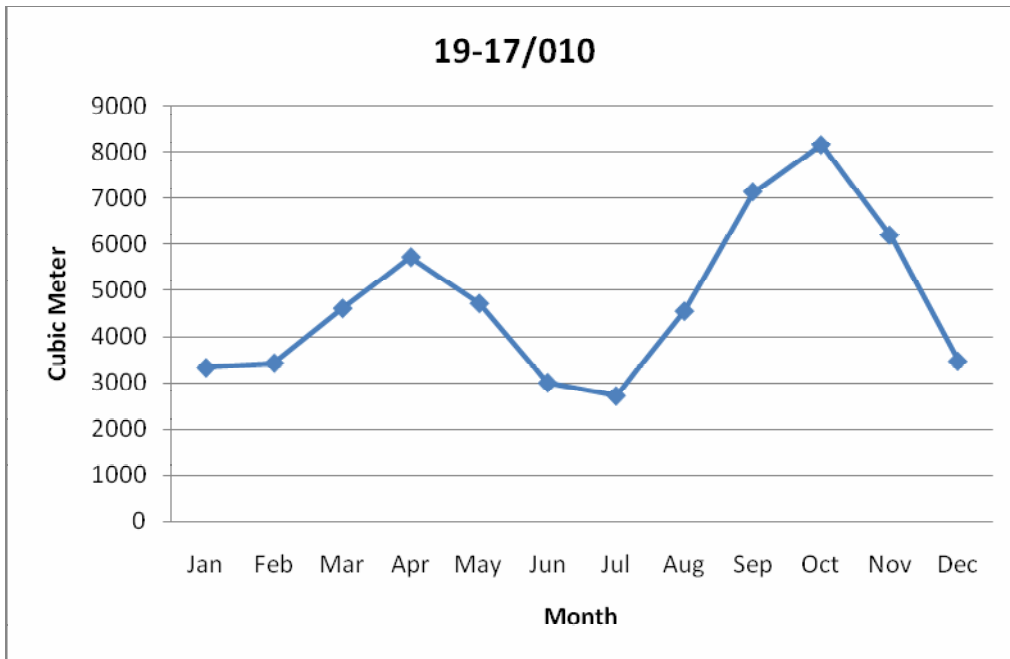
- N.B.** (1) Drawing is not to scale,  
 (2) The length of upper and lower casing is unknown,  
 (3) Information about cementing/grouting and other construction data are not available,  
 (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

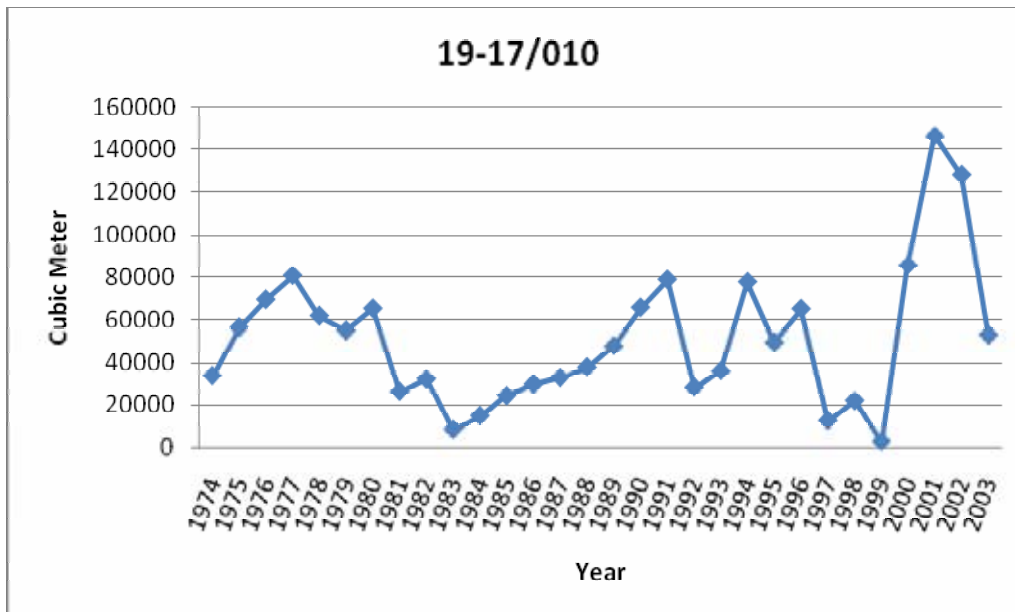
(The information is according to the survey carried out on 06/06/2007)

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	29.7 meters below ground level (measured)
<b>Average Pumping Duration</b>	10 hrs/day - 7 days/week - 10 months/yr
<b>Estimated Discharge Rate</b>	60 m <sup>3</sup> /hr
<b>Dynamic Water Level</b>	64.7 meters below ground level (measured)
<b>Specific Capacity</b>	1.7 m <sup>3</sup> /hr/m
<b>Current needs to maintain</b>	No needs

#### Well Abstraction



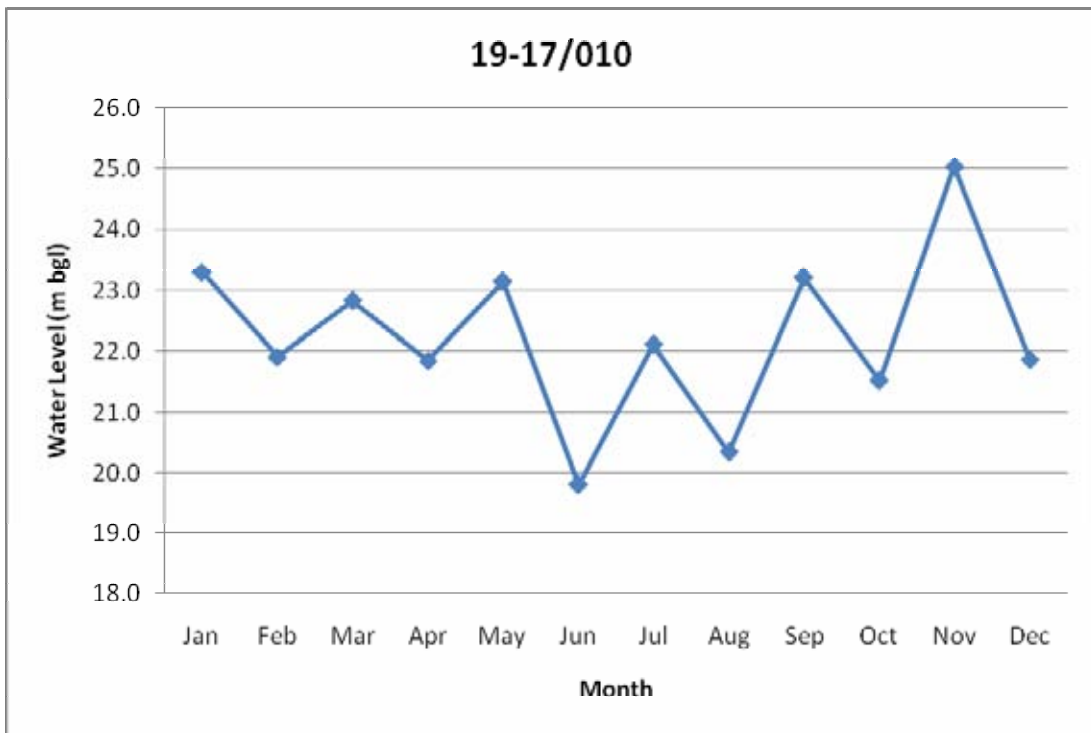
**Average Monthly Abstraction, (PWA Database)**



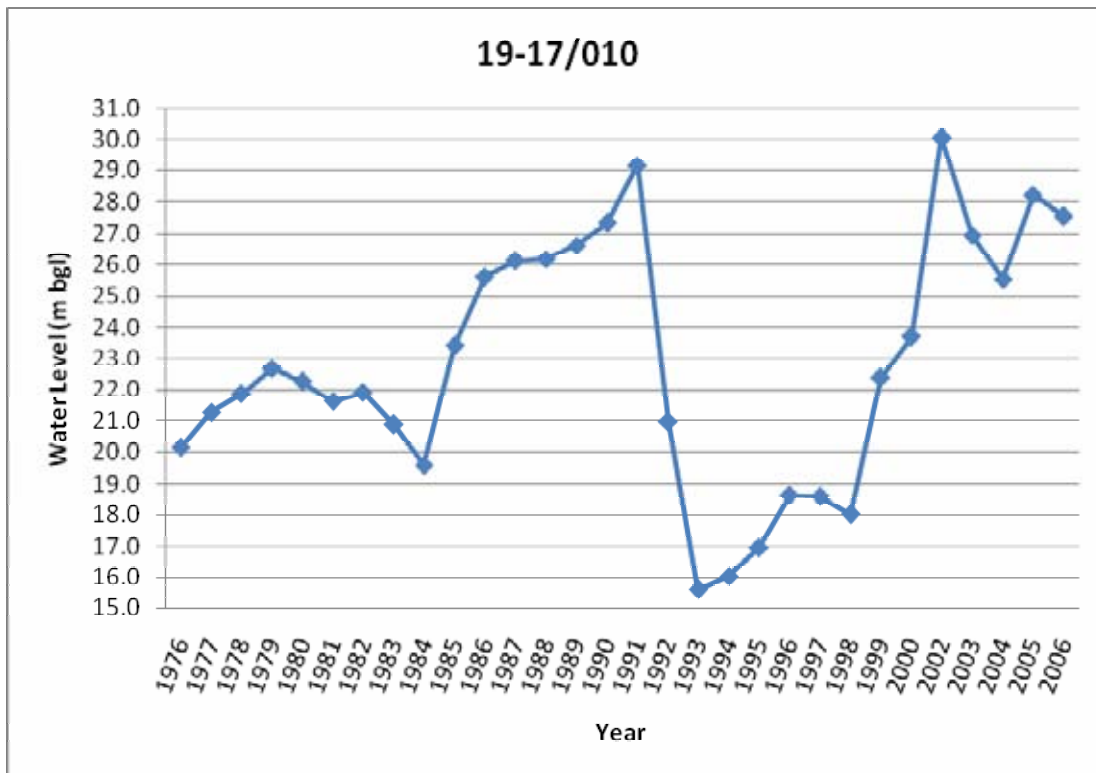
**Yearly Abstraction, (PWA database)**



**Water Level Fluctuation**



**Average Monthly Water Level Fluctuation (1974 – 2003), (PWA Database)**



**Yearly Water Level Fluctuation, (PWA, Database)**

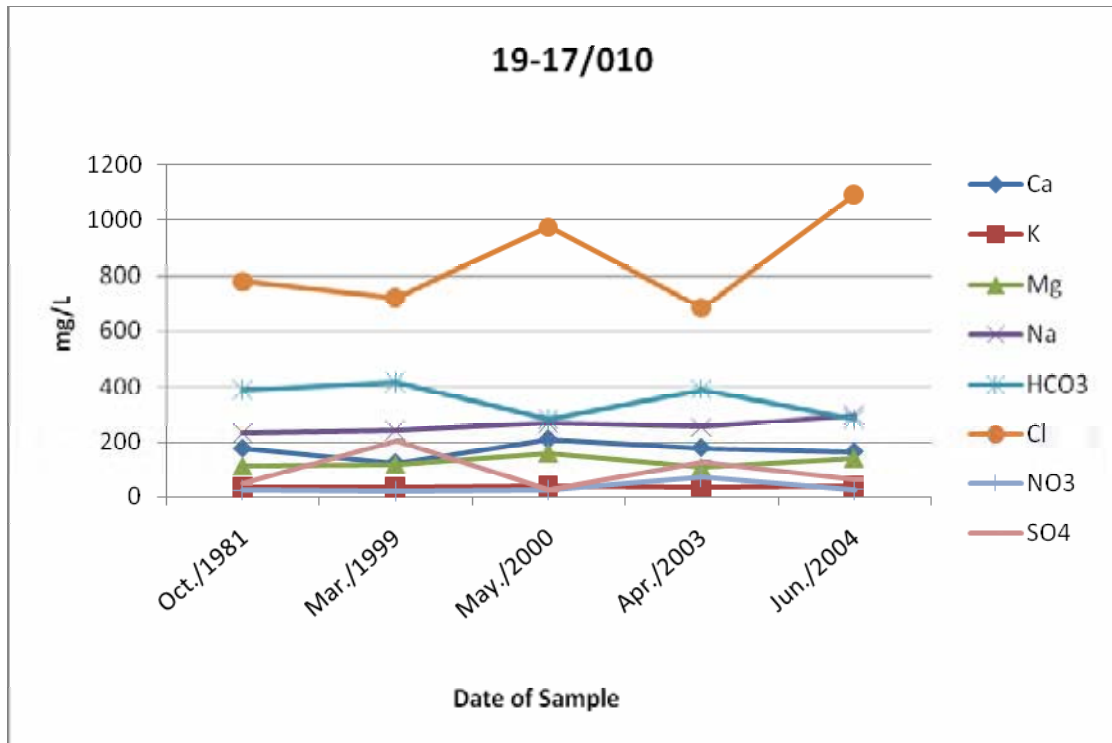
EC: 3210  $\mu\text{S}/\text{cm}$

**Water Quality**

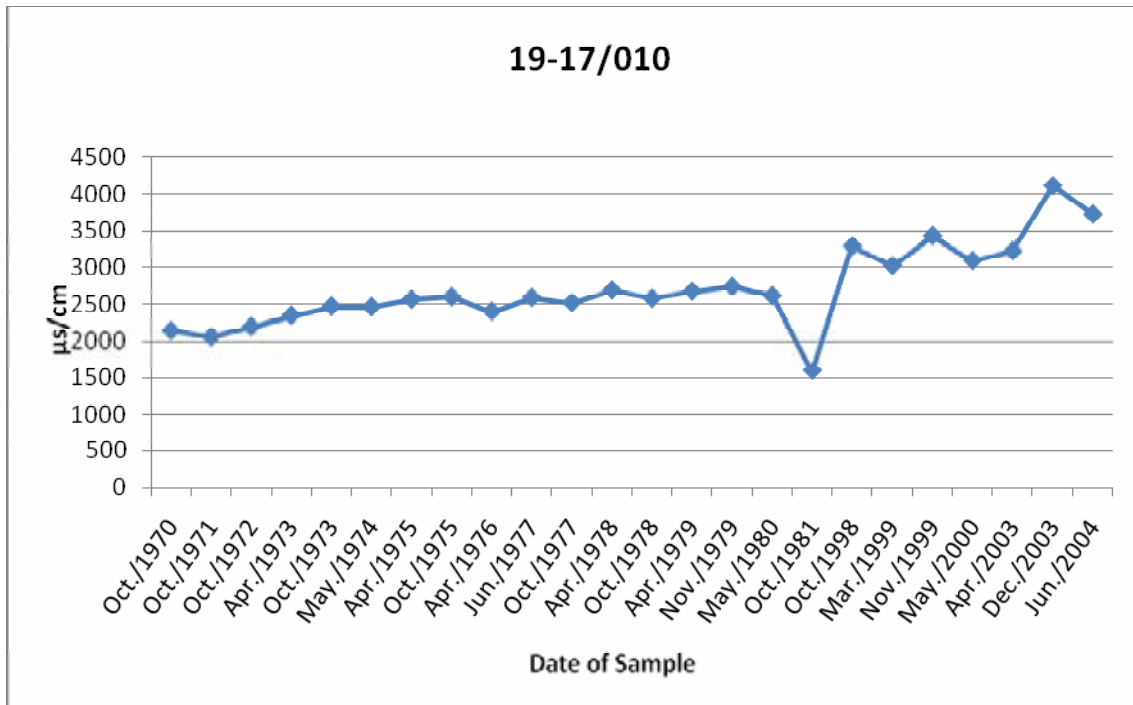
pH: 7.69

Temperature: 25.1  $^{\circ}\text{C}$

The measurements were taken in 06/06/2007



**Major Cations and Anions, (PWA Database)**



**Electric Conductivity (EC) -  $\mu\text{S}/\text{cm}$ , (PWA Database)**

#### 4 Pumping Unit

(The information is according to the survey carried out on 06/06/2007)

<b>Pump</b>	
<b>Pump type</b>	Submersible
<b>Date of Installation</b>	Jan. 2005
<b>Manufacturer</b>	Rovatii
<b>Capacity</b>	40 m <sup>3</sup> /hr
<b>Engine</b>	
<b>Method of Driving Engine</b>	Electrical
<b>Condition</b>	Good
<b>Horse Power</b>	20 hp
<b>Volt</b>	400 Volts
<b>Speed Rotations</b>	3000 rpm (fixed speed)
<b>Turbine</b>	
<b>Number of Stages</b>	8 stages
<b>Type of Stages</b>	Closed
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	Water
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	Ø 4" / □ 72 m long
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NO
<b>Control Unit Condition</b>	Good
<b>Water Meter Condition</b>	Water meter was looked, but is seems good.
<b>Pump and Engine House</b>	Fair

#### 5 Piping

<b>Pipe Connection</b>	Agricultural network with one reservoir , there are two booster pumps to pump water from reservoir to the network
<b>Leakage</b>	YES
<b>Pipe Condition</b>	Fair
<b>Type</b>	Steel and PVC
<b>Diameter</b>	Ø 4"

<b>Well Profile</b>	<b>19-17/012</b>
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### 1 General Information

(The information is according to the survey carried out on 10/06/2007)

<b>Well Name</b>	Marj Na'ja C5
<b>Locality Name</b>	Marj Na'ja
<b>Well Number</b>	19-17/012
<b>Coordinates</b>	PGE 199700 / PGN 174675 / Z : -265.56 m asl
<b>Date of Survey</b>	10/06/2007
<b>Status</b>	Abandoned
<b>Extraction License</b>	NA
<b>Abstraction</b>	NA
<b>Water Usage</b>	Agricultural Use Only
<b>Availability of Electric Grid</b>	NO
<b>Rehabilitation since Drilling</b>	NO



### 2 Well Structure

(The information is according to the survey carried out on 10/06/2007)

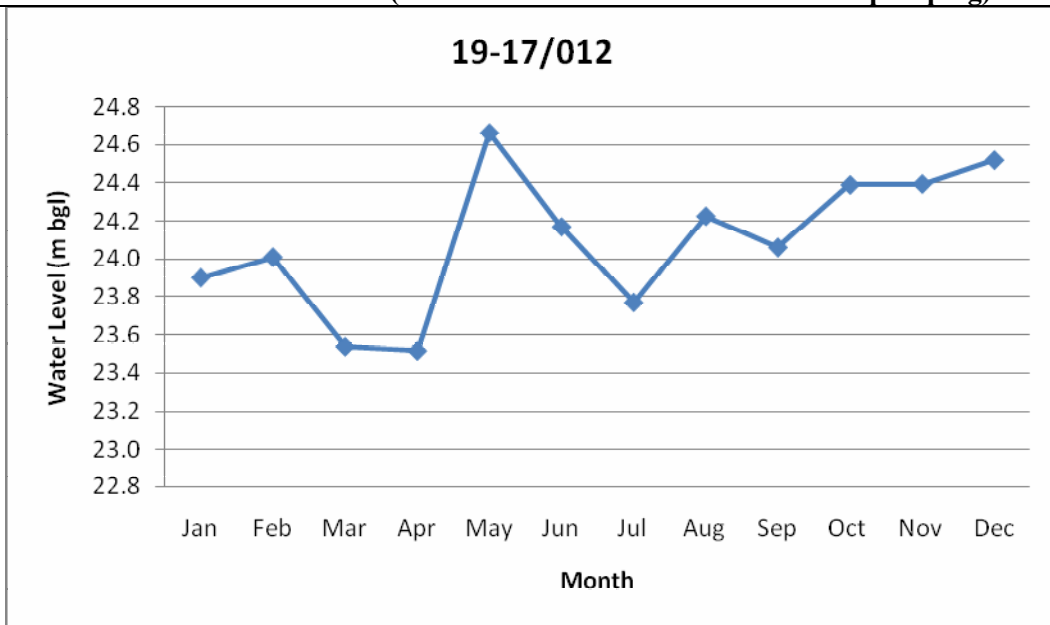
<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1956
<b>Total Well Depth</b>	NA
<b>Drilling Diameter/Length</b>	NA

Upper Casing (Blank)	NA
Lower Casing (Screen)	NA
Current needs to maintain	No needs

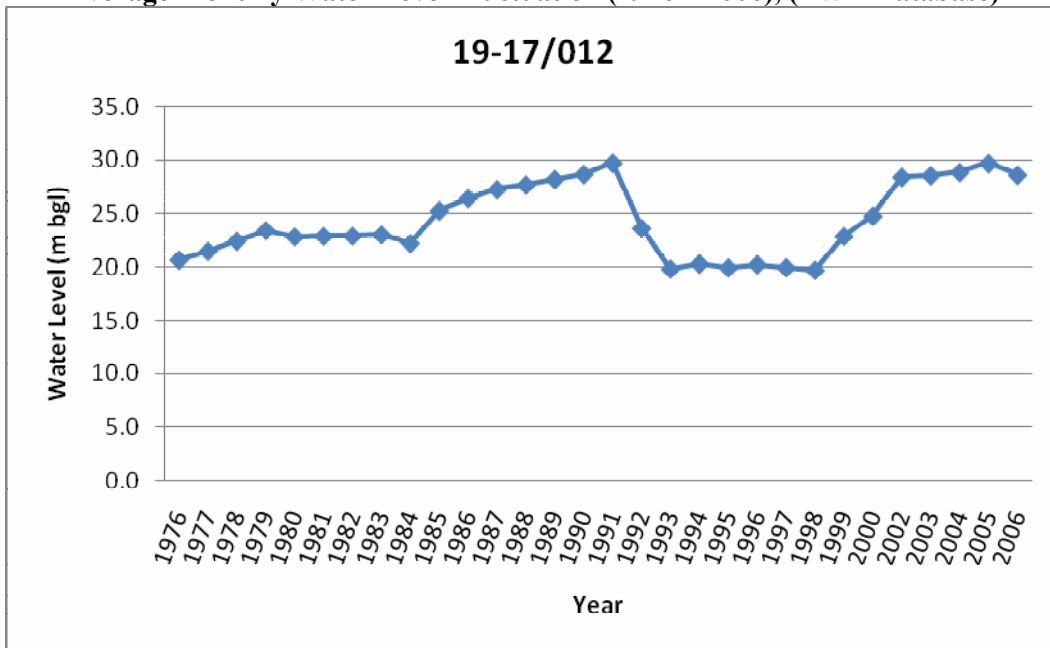
### 3 Hydro-geological Condition

Tapped Aquifer	Eocene (Eastern Basin)
Static Water Level	NA
Average Pumping Duration	NA
Estimated Discharge Rate	NA
Dynamic Water Level	NA
Specific Capacity	NA
Current needs to maintain	No needs

**Water Level Fluctuation (The data are for the well when it was pumping)**



**Average Monthly Water Level Fluctuation (1976 – 2006), (PWA Database)**



**Yearly Water Level Fluctuation, (PWA Database)**

#### 4 Pumping Unit

(The information is according to the survey carried out on 10/06/2007)

<b>Pump</b>	
<b>Pump type</b>	NA
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	NA
<b>Engine</b>	
<b>Method of Driving Engine</b>	NA
<b>Condition</b>	NA
<b>Horse Power</b>	NA
<b>Volt</b>	NA
<b>Speed Rotations</b>	NA
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	NA
<b>Gear Head</b>	
<b>Condition</b>	NA
<b>Speed Rotations</b>	NA
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	NA
<b>Dimension of Shaft</b>	NA
<b>Dimension of Rising Pipes</b>	NA
<b>Dimension of Discharge Head</b>	NA
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	NA
<b>Pump and Engine House</b>	NA

#### 5 Piping

<b>Pipe Connection</b>	NA
<b>Leakage</b>	NA
<b>Pipe Condition</b>	NA
<b>Type</b>	NA
<b>Diameter</b>	NA

<b>Well Profile</b>	<b>19-17/023</b>
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### 1 General Information

(The information is according to the survey carried out on 17/06/2007)

<b>Well Name</b>	Burhan Al Damen
<b>Locality Name</b>	Al Jiftlik
<b>Well Number</b>	19-17/023
<b>Coordinates</b>	PGE 194200 / PGN 175230 / Z : -195.94 m asl
<b>Date of Survey</b>	17/06/2007
<b>Status</b>	Pumping
<b>Extraction License</b>	450,000 m <sup>3</sup> /year (PWA)
<b>Average Abstraction</b>	70,227 m <sup>3</sup> /year (average from 1973 – 2003), (PWA) 432,000 m <sup>3</sup> /year (according to the survey)
<b>Water Usage</b>	Domestic and Agricultural Uses
<b>Availability of Electric Grid</b>	NO
<b>Rehabilitation since Drilling</b>	YES, in Apr. 2007, The shaft and some damaged pipes were replaced

### 2 Well Structure

(The information is according to the survey carried out on 17/06/2007)

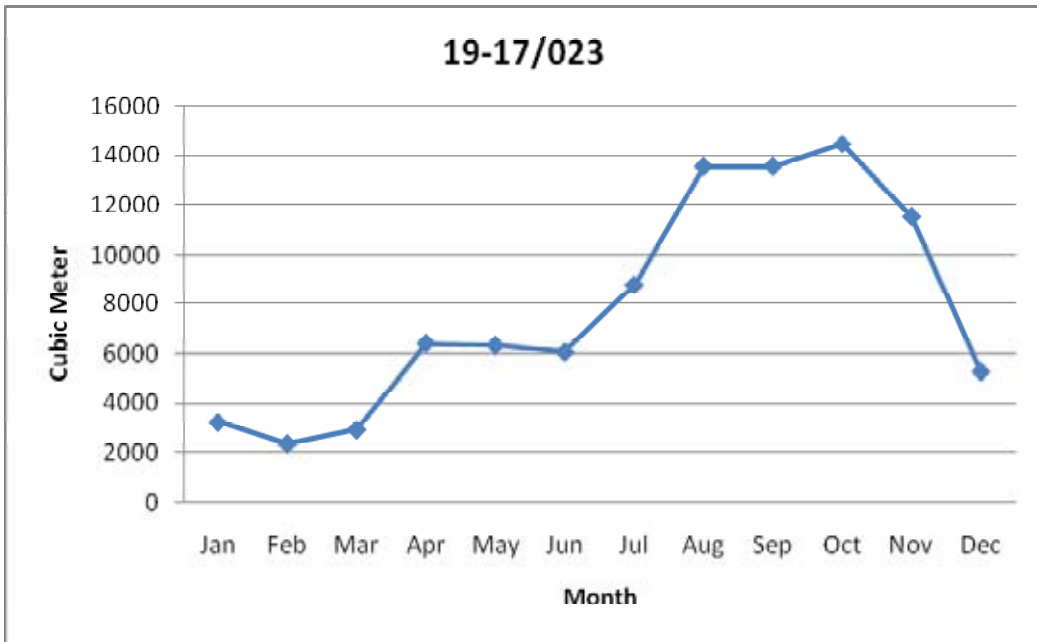
<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1958
<b>Total Well Depth</b>	150 m
<b>Drilling Diameter/Length</b>	Ø 16"/ 150 m
<b>Upper Casing (Blank)</b>	Ø 14" (0 – 80) m - steel / blank
<b>Lower Casing (Screen)</b>	Ø 14" (80 – 150)m - steel / perforated
<b>Current needs to maintain</b>	No needs

### 3 Hydro-geological Condition

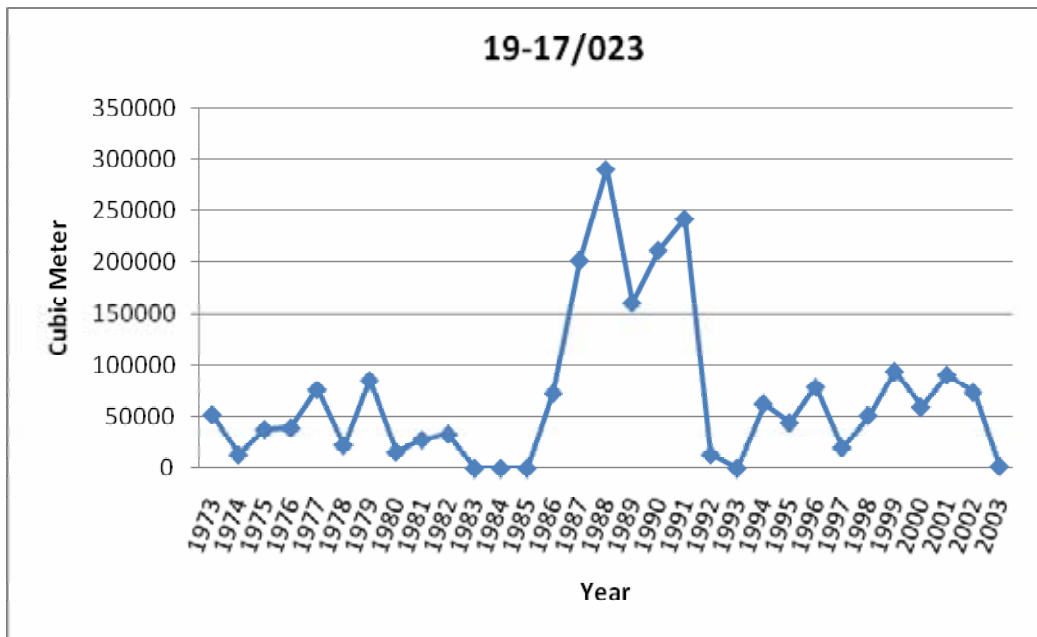
(The information is according to the survey carried out on 17/06/2007)

<b>Tapped Aquifer</b>	Eocene (Eastern Basin)
<b>Static Water Level</b>	94.64 meters below ground level (measured)
<b>Average Pumping Duration</b>	12 hrs/day - 7 days/week - 10 months/yr.
<b>Estimated Discharge Rate</b>	120 m <sup>3</sup> /hr
<b>Dynamic Water Level</b>	101 meters below ground level (measured)
<b>Specific Capacity</b>	20 m <sup>3</sup> /hr/m
<b>Current needs to maintain</b>	No needs

**Well Abstraction**

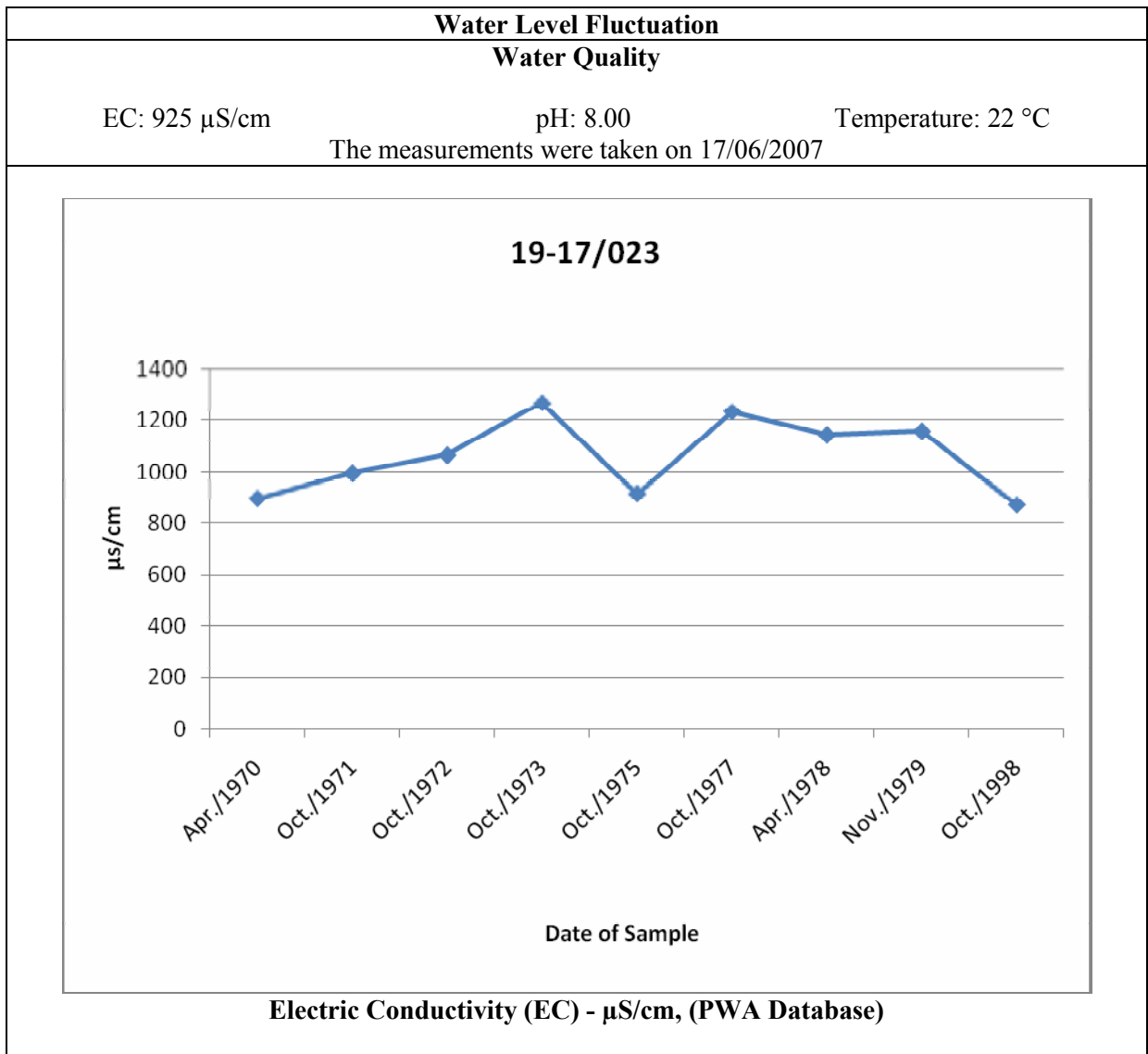


**Average Monthly Abstraction (1973-2003), (PWA Database)**



**Yearly Abstraction, (PWA Database)**





#### 4 Pumping Unit

(The information is according to the survey carried out on 17/06/2007)

<b>Pump</b>	
<b>Pump type</b>	Mechanical
<b>Date of Installation</b>	1960
<b>Manufacturer</b>	Jonson (The United States of America)
<b>Capacity</b>	120 m <sup>3</sup> /hr
<b>Engine</b>	
<b>Method of Driving Engine</b>	Diesel
<b>Condition</b>	Fair
<b>Horse Power</b>	90 hp
<b>Volt</b>	NA
<b>Speed Rotations</b>	2000 rpm (fixed speed)
<b>Turbine</b>	
<b>Number of Stages</b>	12 stages
<b>Type of Stages</b>	Ø 9" (Open)
<b>Gear Head</b>	
<b>Condition</b>	Fair

<b>Speed Rotations</b>	2000 rpm
<b>Horse Power</b>	150 hp
<b>Others</b>	
<b>Type of Lubrication</b>	Water
<b>Dimension of Shaft</b>	Ø 35 mm / 102 m long
<b>Dimension of Rising Pipes</b>	Ø 6" / 102 m long
<b>Dimension of Discharge Head</b>	Ø 6"
<b>Maintenance Record</b>	NA
<b>Control Unit Condition</b>	Bad
<b>Water Meter Condition</b>	Bad
<b>Pump and Engine House</b>	Fair

## 5 Piping

<b>Pipe Connection</b>	Agricultural bonds with one reservoir
<b>Leakage</b>	YES
<b>Pipe Condition</b>	Bad
<b>Type</b>	Steel
<b>Diameter</b>	Ø 6" – 1500 m long

**Well Profile      19-17/027**

**1      General Information**

(The information is according to the survey carried out on 07/06/2007)

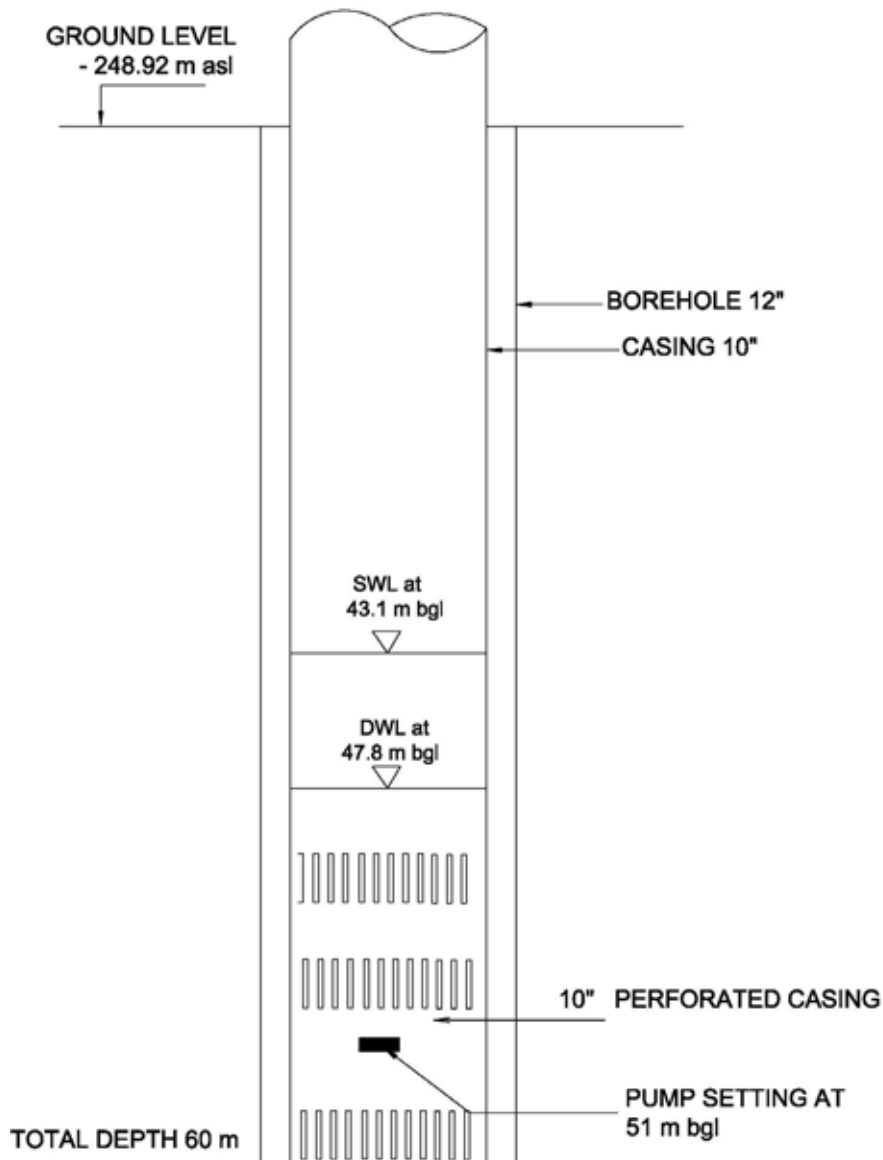
<b>Well Name</b>	Hassan Smadi
<b>Locality Name</b>	Al Jiftlik
<b>Well Number</b>	19-17/027
<b>Coordinates</b>	PGE 196250 / PGN 171470 / Z : -248.92 m asl
<b>Date of Survey</b>	07/06/2007
<b>Status</b>	Pumping
<b>Extraction License</b>	274,000 m <sup>3</sup> /yr, PWA
<b>Average Abstraction</b>	188,251 m <sup>3</sup> /yr (average from 1973 to 2004), PWA 432,000 m <sup>3</sup> /yr (according to the survey)
<b>Water Usage</b>	Agricultural Use Only (500 dunums)
<b>Availability of Electric Grid</b>	NO
<b>Rehabilitation since Drilling</b>	YES, in March 2007, the drive shaft was changed



## 2 Well Structure

(The information is according to the survey carried out on 07/06/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1962
<b>Total Well Depth</b>	60 m
<b>Drilling Diameter/Length</b>	Ø 12" / 60 m
<b>Upper Casing (Blank)</b>	Ø 10" - Steel / threaded / blank
<b>Lower Casing (Screen)</b>	Ø 10" - Steel / threaded / perforated
<b>Current needs to maintain</b>	No needs



# 19-17/027

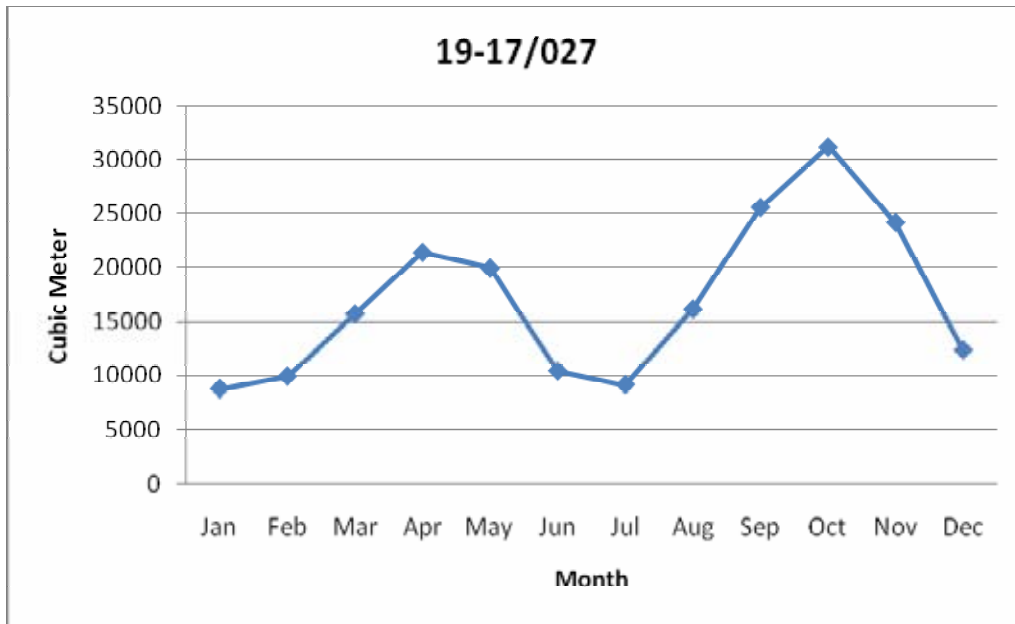
- N.B.**
- (1) Drawing is not to scale,
  - (2) The length of upper and lower casing is unknown,
  - (3) Information about cementing/grouting and other construction data are not available,
  - (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

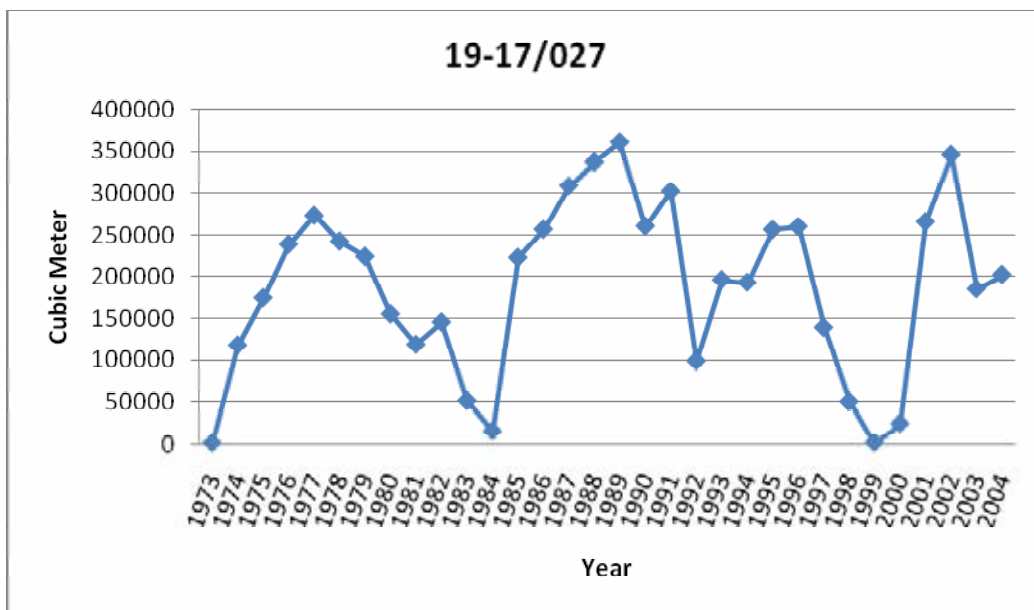
(The information is according to the survey carried out on 07/06/2007)

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	43.1 meters below ground level (measured)
<b>Average Pumping Duration</b>	24 hrs/day - 7 days/week - 8 months/yr.
<b>Estimated Discharge Rate</b>	75 m <sup>3</sup> /hr
<b>Dynamic Water Level</b>	47.8 meters below ground level (measured)
<b>Specific Capacity</b>	16 m <sup>3</sup> /hr/m
<b>Current needs to maintain</b>	No needs

#### Water Abstraction

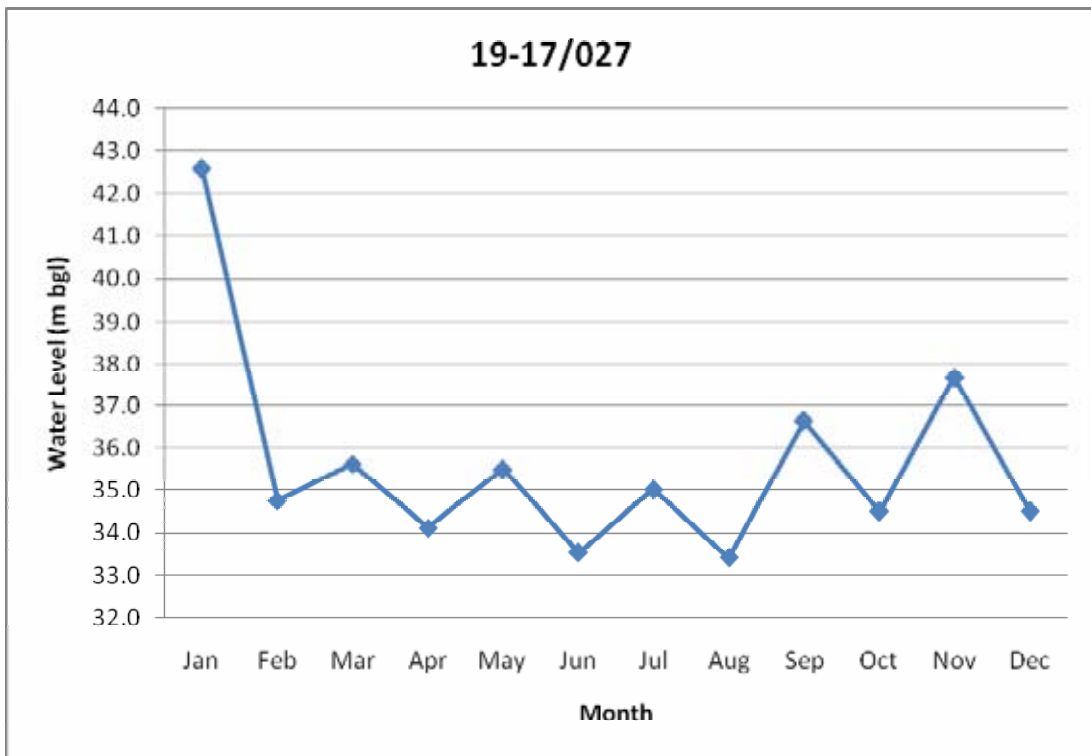


Average Monthly Abstraction (1973-2004), (PWA Database)

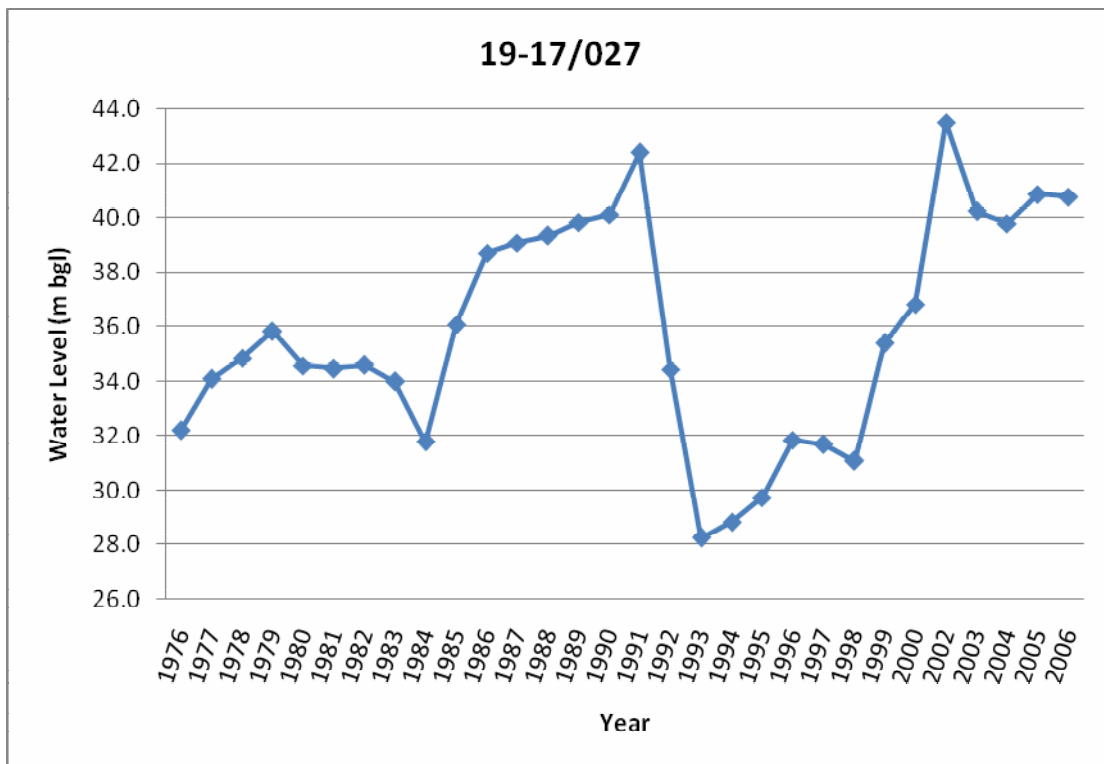


Yearly Abstraction, (PWA Database)

**Water Level Fluctuation**



**Average Monthly Water Level Fluctuation (1976 – 2006), (PWA Database)**



**Yearly Water Level Fluctuation, (PWA Database)**

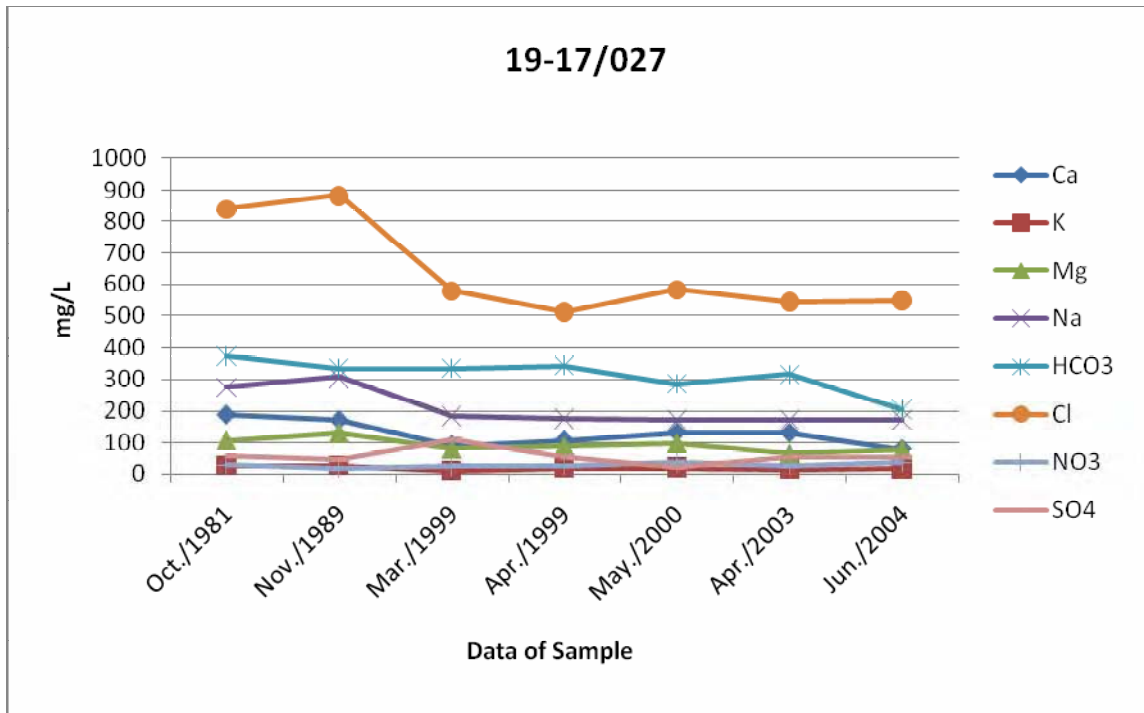
EC: 2630  $\mu\text{S}/\text{cm}$

### Water Quality

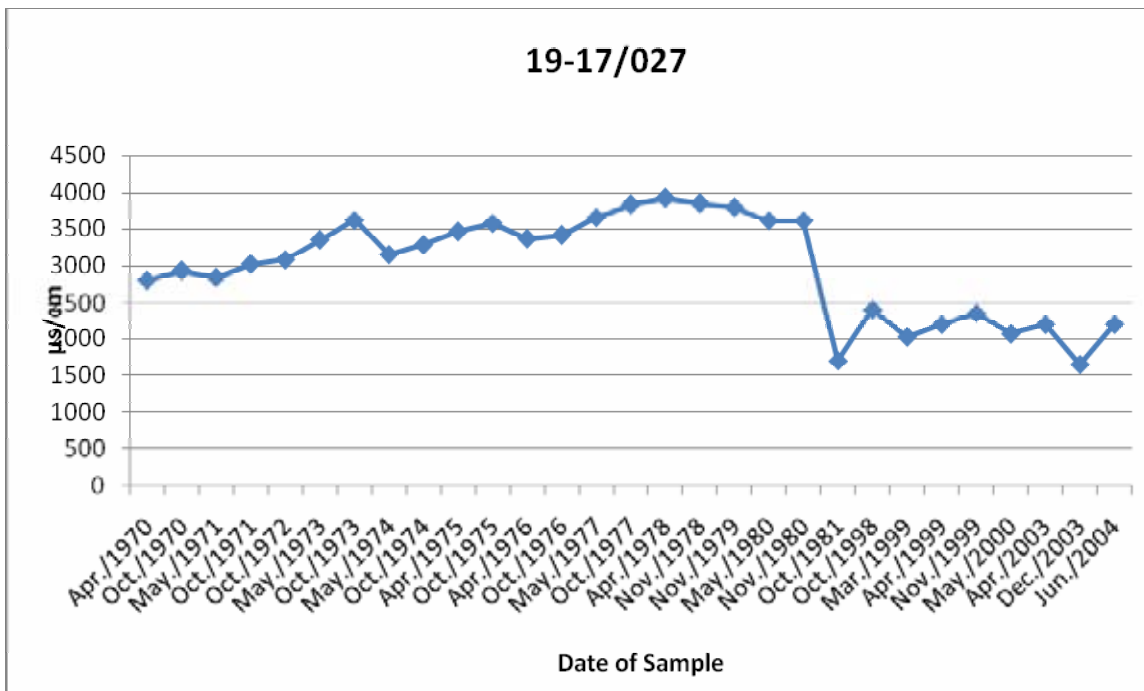
pH: 7.96

Temperature: 26.5 °C

The measurements were taken on 07/06/2007



Major Cations and Anions, (PWA Database)



Electric Conductivity (EC) -  $\mu\text{S}/\text{cm}$ , (PWA Database)

#### 4 Pumping Unit

(The information is according to the survey carried out on 07/06/2007)

<b>Pump</b>	
<b>Pump type</b>	Mechanical
<b>Date of Installation</b>	NA
<b>Manufacturer</b>	NA
<b>Capacity</b>	75 m <sup>3</sup> /hr
<b>Engine</b>	
<b>Method of Driving Engine</b>	Diesel
<b>Condition</b>	Fair
<b>Horse Power</b>	NA
<b>Volt</b>	NA
<b>Speed Rotations</b>	1560 rpm
<b>Turbine</b>	
<b>Number of Stages</b>	NA
<b>Type of Stages</b>	Closed
<b>Gear Head</b>	
<b>Condition</b>	Bad
<b>Speed Rotations</b>	1560
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	Water
<b>Dimension of Shaft</b>	Ø 32 mm / 51 m long
<b>Dimension of Rising Pipes</b>	Ø 6" / 51 m long
<b>Dimension of Discharge Head</b>	Ø 6" (it is in bad condition)
<b>Maintenance Record</b>	NO
<b>Control Unit Condition</b>	NA
<b>Water Meter Condition</b>	Fair
<b>Pump and Engine House</b>	NA

#### 5 Piping

<b>Pipe Connection</b>	Agricultural network with one reservoir (5000 m <sup>3</sup> )
<b>Leakage</b>	YES
<b>Pipe Condition</b>	Bad
<b>Type</b>	Steel
<b>Diameter</b>	Ø 6"



**Well Profile      19-17/033**

**1      General Information**

(The information is according to the survey carried out on 06/06/2007)

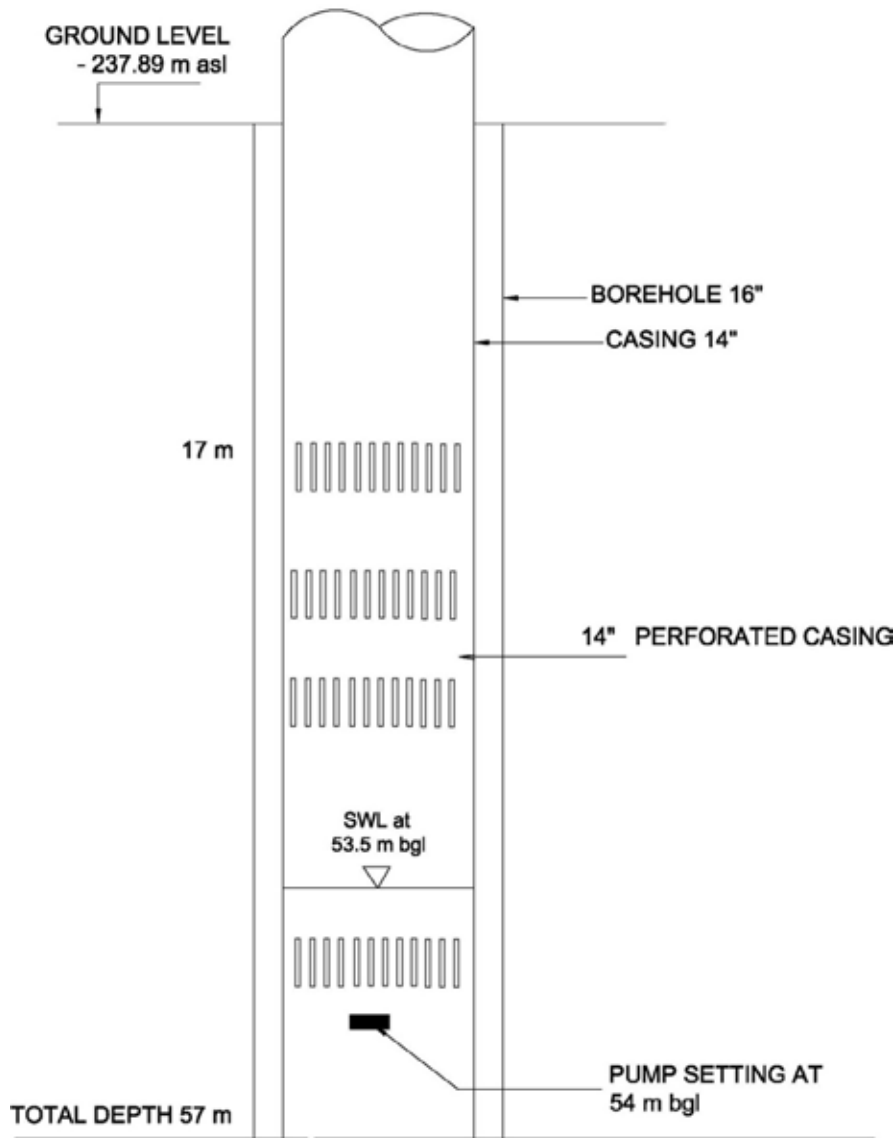
<b>Well Name</b>	Deya' Saleh 'Abdu
<b>Locality Name</b>	Al Jiftlik
<b>Well Number</b>	19-17/033
<b>Coordinates</b>	PGE 196510 / PGN 172910 / Z : -237.89 m asl
<b>Date of Survey</b>	06/06/2007
<b>Status</b>	Not Pumping
<b>Extraction License</b>	50,400 m <sup>3</sup> /year, (PWA)
<b>Abstraction</b>	30,377 m <sup>3</sup> /year (average from 1973 to 2001), (PWA)
<b>Water Usage</b>	Agricultural Use Only (55 dunums)
<b>Availability of Electric Grid</b>	YES
<b>Rehabilitation since Drilling</b>	YES, in 2000, the rising pipes were changed



## 2 Well Structure

(The information is according to the survey carried out on 06/06/2007)

<b>Drilling Method</b>	Cable Tool (Percussion)
<b>Drilling Year</b>	1958
<b>Total Well Depth</b>	57 m
<b>Drilling Diameter/Length</b>	16"
<b>Upper Casing (Blank)</b>	14" (0-17) m - steel / threaded/ blank
<b>Lower Casing (Screen)</b>	14" (17 – 57)m - steel / threaded/ perforated
<b>Current needs to maintain</b>	No needs



# 19-17/033

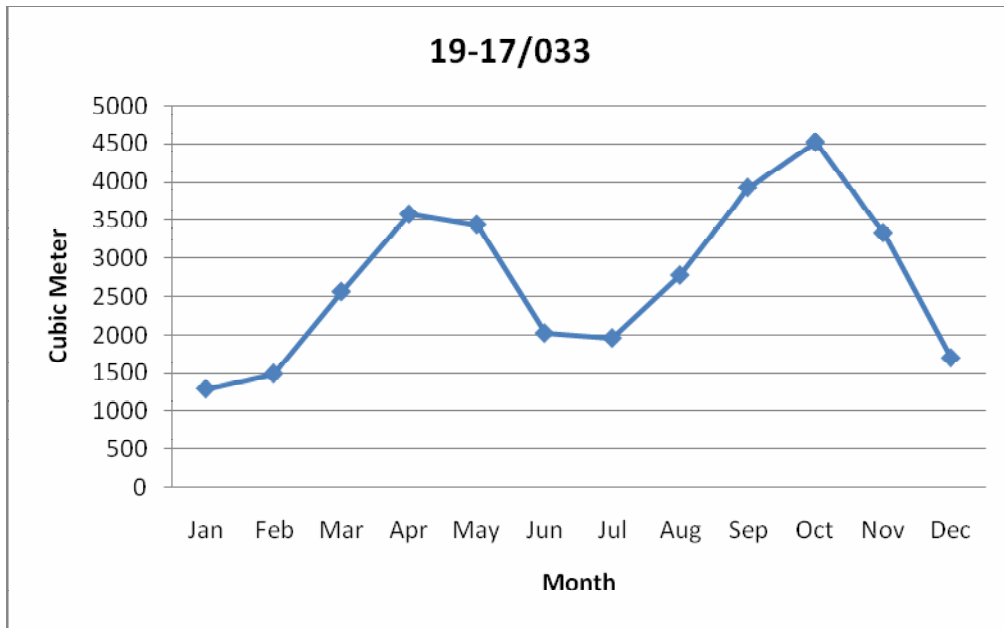
- N.B.**
- (1) Drawing is not to scale,
  - (2) The length of upper and lower casing is unknown,
  - (3) Information about cementing/grouting and other construction data are not available,
  - (4) Information about well structure is based on the personal contact with the well owner

### 3 Hydro-geological Condition

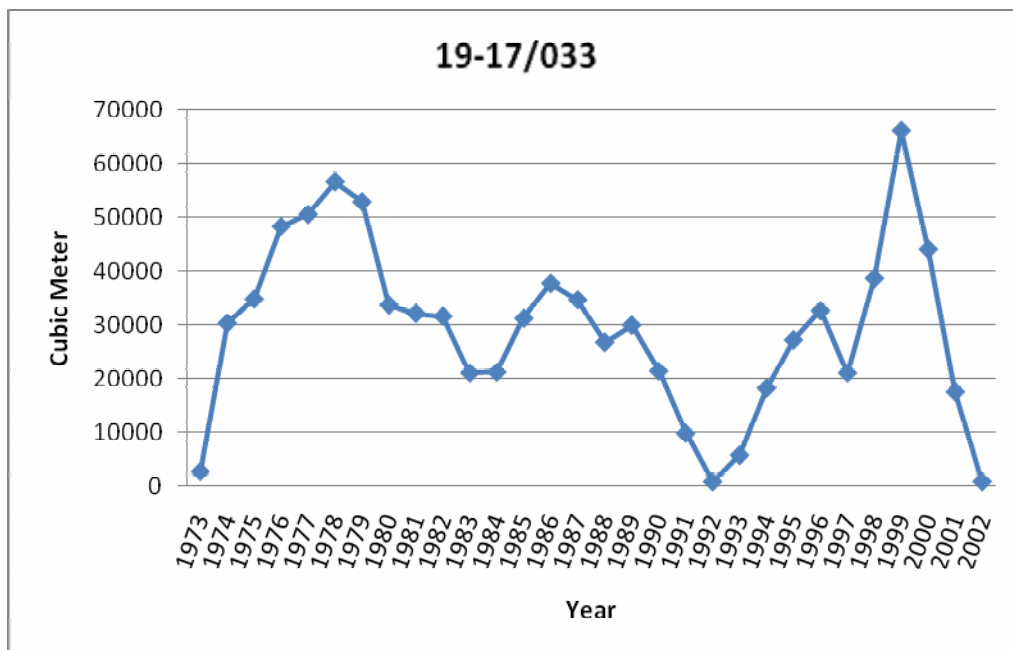
(The information is according to the survey carried out on 06/06/2007)

<b>Tapped Aquifer</b>	Alluvium (Eastern Basin)
<b>Static Water Level</b>	53.5 meters below ground level (recorded)
<b>Average Pumping Duration</b>	7 hrs/day - 3 days/week - 9 months/yr.
<b>Estimated Discharge Rate</b>	NA
<b>Dynamic Water Level</b>	NA
<b>Specific Capacity</b>	NA
<b>Current needs to maintain</b>	Deepening more than 50 meters

#### Well Abstraction (the data are for the well when it was working)

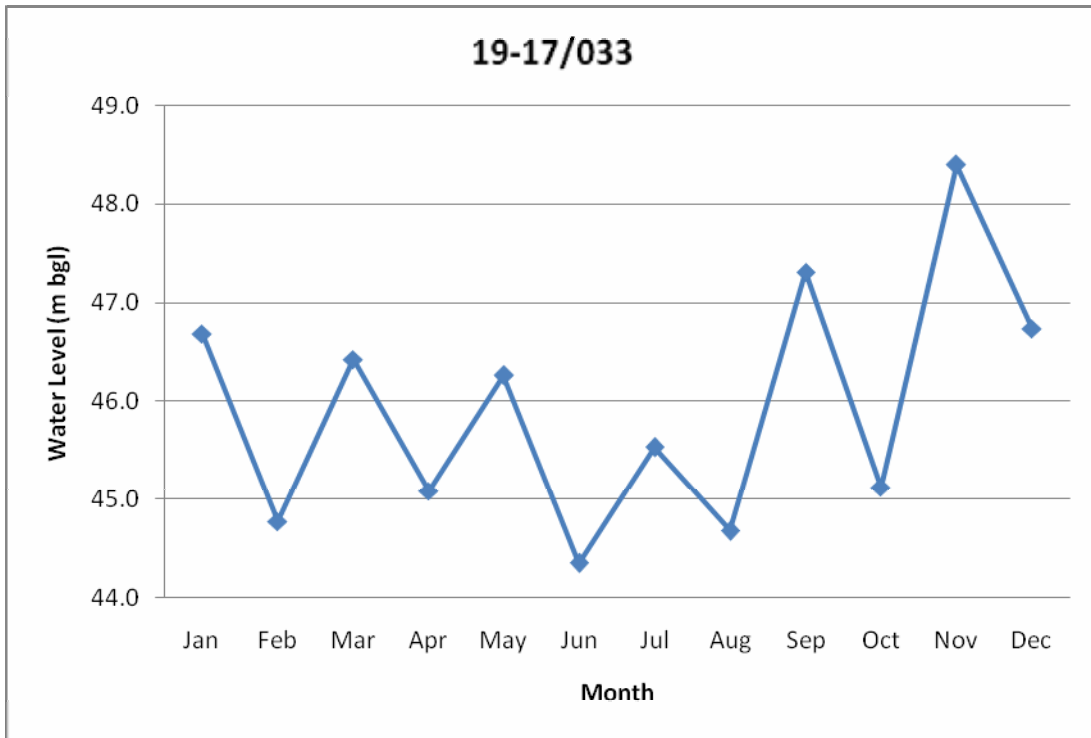


Average Monthly Abstraction (1973 – 2002), (PWA Database)

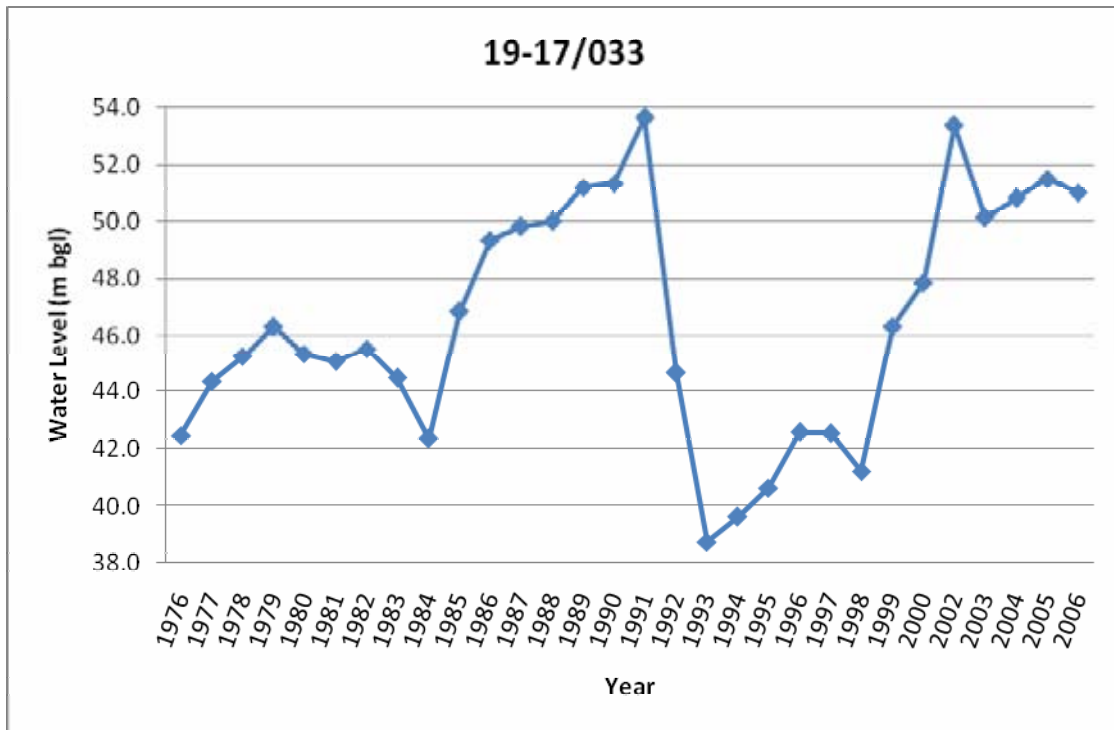


Yearly Abstraction, (PWA Database)

**Water Level Fluctuation (the data are for the well when it was working)**

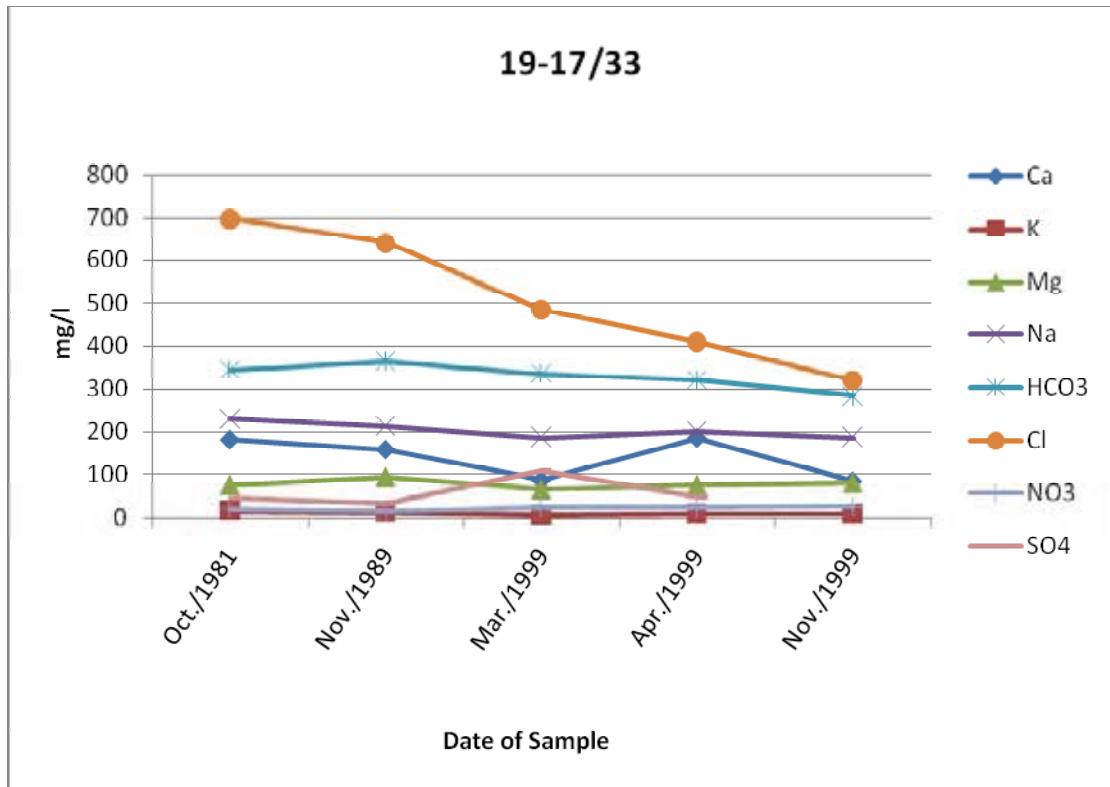


**Average Monthly Water Level Fluctuation, (PWA Database)**

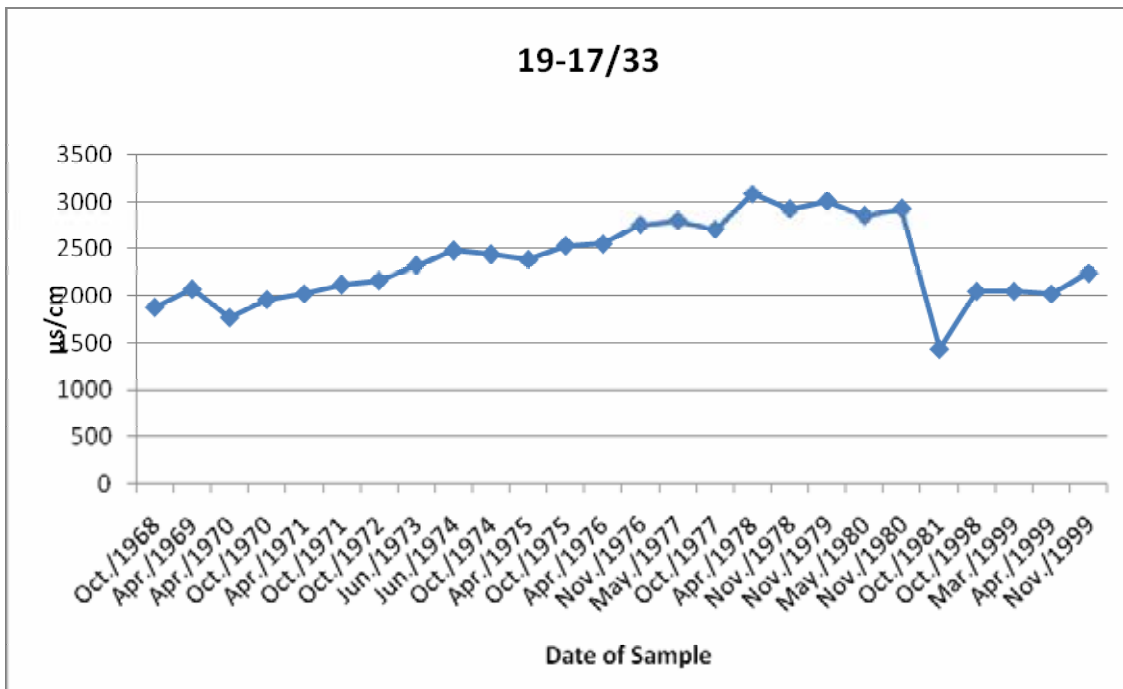


**Yearly Water Level Fluctuation, (PWA Database)**

EC: 925  $\mu\text{S}/\text{cm}$       **Water Quality**      pH: 8.00      Temperature: 22 °C  
 The measurements were taken on 06/06/2007



Major Cations and Anions, (PWA Database)



Electric Conductivity (EC) -  $\mu\text{S}/\text{cm}$ , (PWA Database)

#### 4 Pumping Unit

(The information is according to the survey carried out on 06/06/2007)

<b>Pump</b>	
<b>Pump type</b>	Mechanical
<b>Date of Installation</b>	1958
<b>Manufacturer</b>	Johnson (The United States of America)
<b>Capacity</b>	120 m <sup>3</sup> /hr
<b>Engine</b>	
<b>Method of Driving Engine</b>	Diesel
<b>Condition</b>	Good
<b>Horse Power</b>	60 hp
<b>Volt</b>	NA
<b>Speed Rotations</b>	1500 rpm (fixed speed)
<b>Turbine</b>	
<b>Number of Stages</b>	7 stages
<b>Type of Stages</b>	Closed
<b>Gear Head</b>	
<b>Condition</b>	Fair
<b>Speed Rotations</b>	1500 rpm
<b>Horse Power</b>	NA
<b>Others</b>	
<b>Type of Lubrication</b>	Water
<b>Dimension of Shaft</b>	Ø 32 mm / 54 m long
<b>Dimension of Rising Pipes</b>	Ø 6" / 54 m long
<b>Dimension of Discharge Head</b>	Ø 6"
<b>Maintenance Record</b>	NO
<b>Control Unit Condition</b>	Bad
<b>Water Meter Condition</b>	Bad
<b>Pump and Engine House</b>	Fair

#### 5 Piping

<b>Pipe Connection</b>	Agricultural bonds with one reservoir
<b>Leakage</b>	YES
<b>Pipe Condition</b>	Bad
<b>Type</b>	Steel
<b>Diameter</b>	Ø 6" – 1500 m long