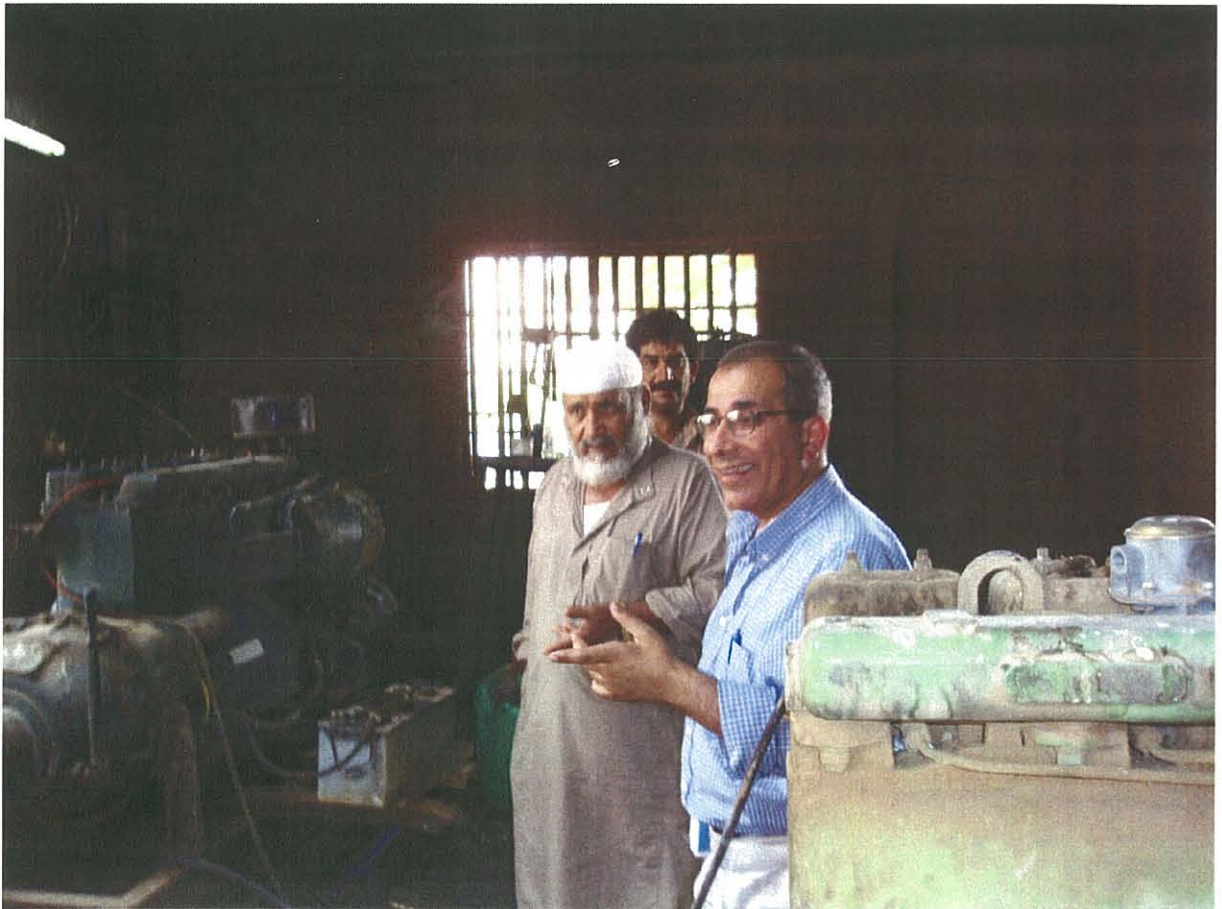


ANNEX 5

AGRICULTURAL WELLS



ANNEX 5 AGRICULTURAL WELLS

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Annex 5.1

Inventory Survey for Rehabilitation of Wells

Well Profile	18-18/016
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1 General Information
(The information is according to the survey carried out on 14/06/2007)

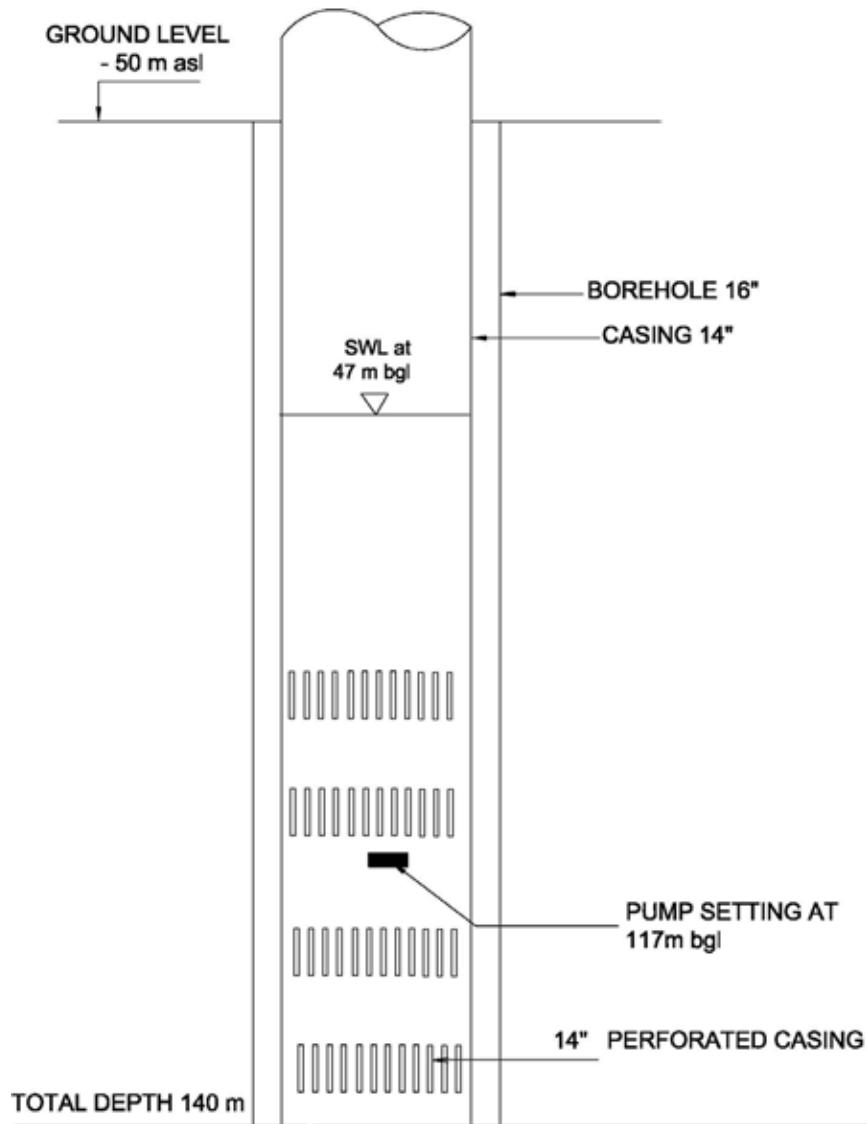
Well Name	Mustafa Abu Khayzaran
Locality Name	Ras Wadi Al Far'a
Well Number	18-18/016
Coordinates	PGE 182370 / PGN 188890 / Z: 175 m asl
Date of Survey	14/6/2007
Status	Pumping
Extraction License	420,000 m ³ /year, (PWA)
Average Abstraction	280,282 m ³ /year (average from 1973 – 2004), (PWA) 216,000 m ³ /year, (according to the survey)
Water Usage	Agricultural Use Only
Availability of Electric Grid	YES
Rehabilitation since Drilling	YES, changing the pump from vertical to submersible pump.



2 Well Structure

(The information is according to the survey carried out on 14/06/2007)

Drilling Method	Cable Tool (Percussion)
Drilling Year	1963
Total Well Depth	140 m
Drilling Diameter/Length	16" / 140 m
Upper Casing (Blank)	14" steel / welded/ blank
Lower Casing (Screen)	14" steel/ welded /perforated
Current needs to maintain	No needs



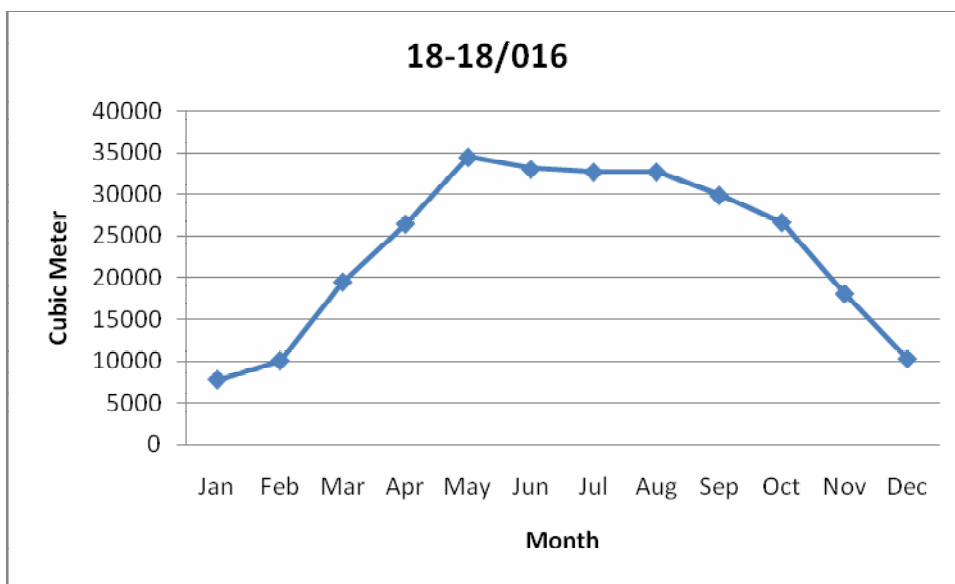
- N.B.** (1) Drawing is not to scale,
 (2) The length of upper and lower casing is unknown,
 (3) Information about cementing/grouting and other construction data are not available,
 (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

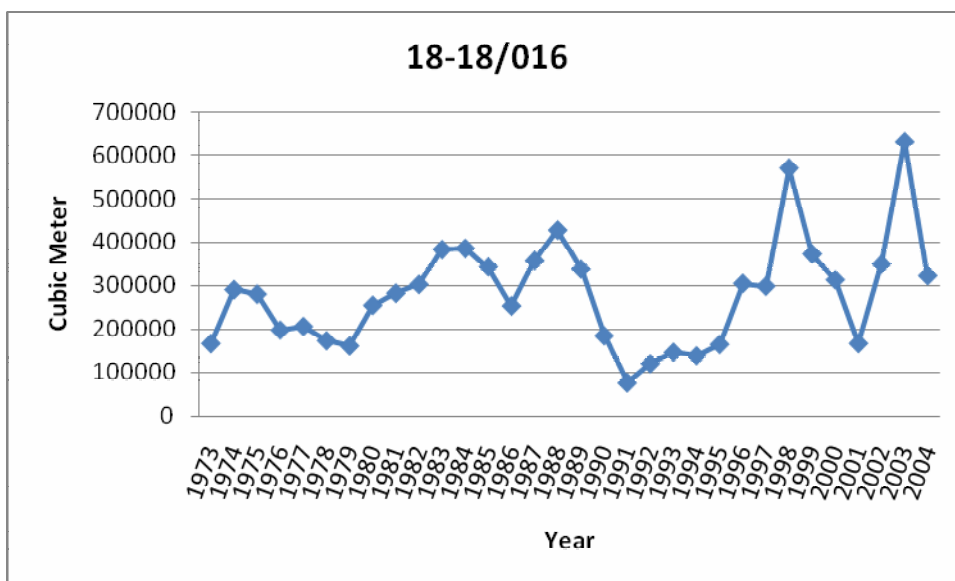
(The information is according to the survey carried out on 14/06/2007)

Tapped Aquifer	Eocene (Eastern Basin)
Static Water Level	47 meters below ground level (measured), it was measured from a well 7 m far from this well.
Average Pumping Duration	10 hrs/day - 7 days/week - 10 months/yr
Estimated Discharge Rate	72 m ³ /hr (tested in the site)
Dynamic Water Level	NA, as the diesel engine is in a very bad condition and the team was unable to perform the pumping test. Moreover, there was much water leaking from the gear head which prevents measuring DWL.
Specific Capacity	NA
Current needs to maintain	No needs

Well Abstraction

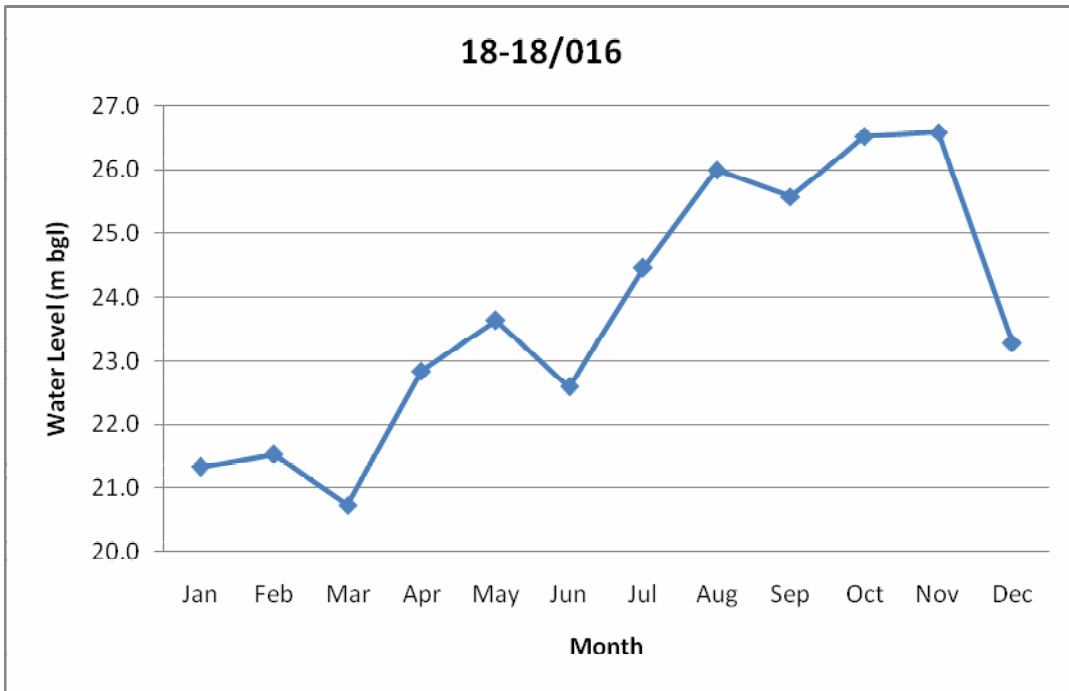


Average Monthly Abstraction (1973 – 2004), (PWA Database)

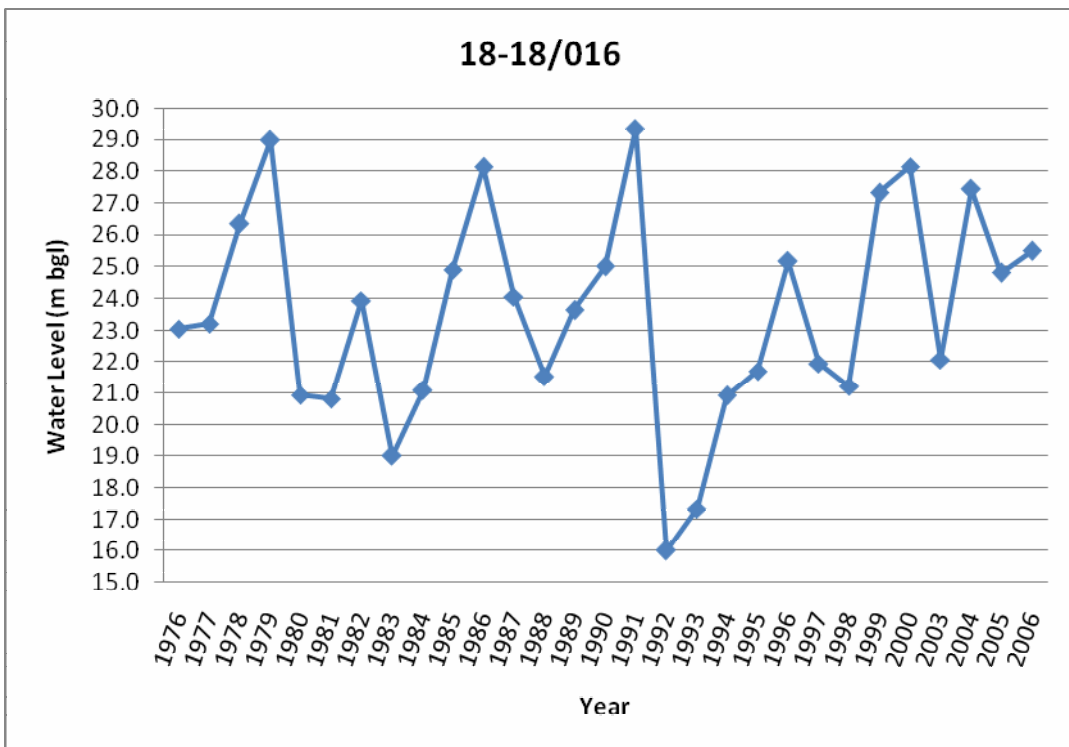


Yearly Abstraction, (PWA Database)

Water Level Fluctuation

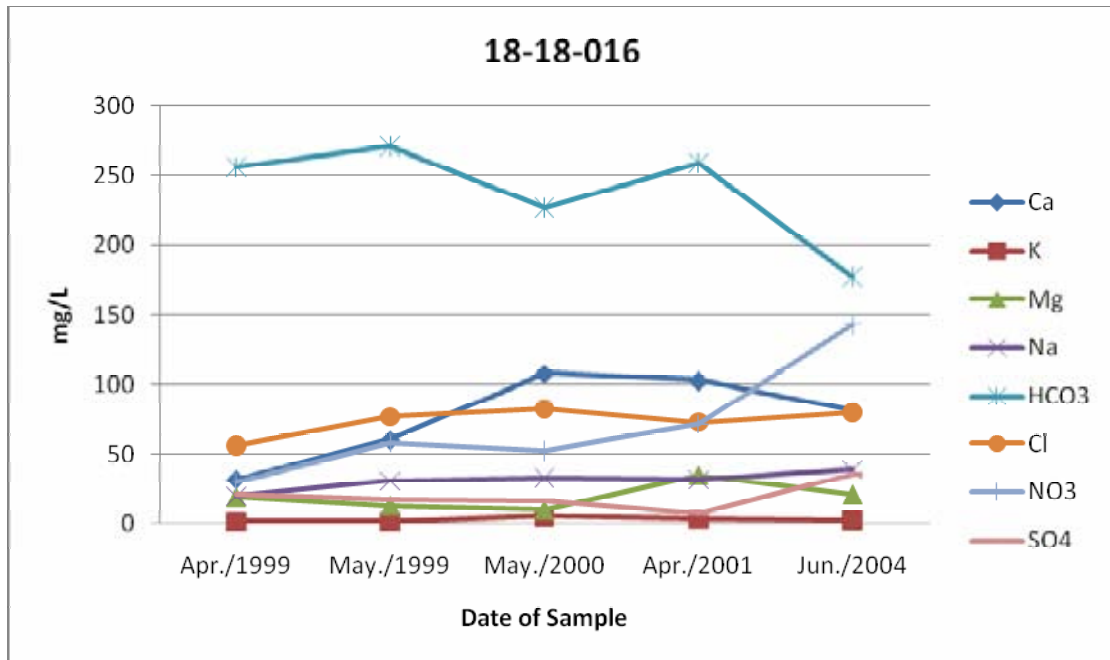


Average Monthly Water Level Fluctuation, (1976 – 2006) (PWA Database)

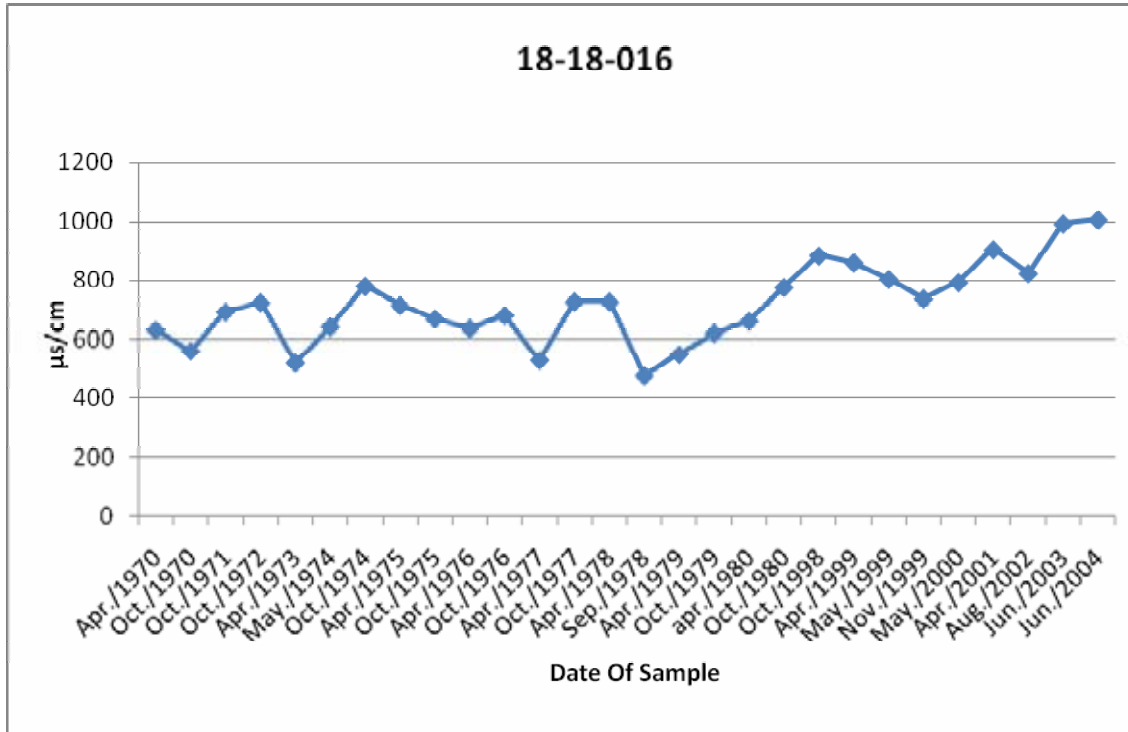


Yearly Water Level Fluctuation, (PWA Database)

EC: 511 $\mu\text{S/cm}$ **Water Quality** Temperature: 22 $^{\circ}\text{C}$
 pH: 7.67
 (The measurements were taken on 14/06/2007)



Major Cations and Anions, (PWA Database)



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

4 Pumping Unit

(The information is according to the survey carried out on 14/06/2007)

Pump	
Pump type	Submersible
Date of Installation	2006
Manufacturer	NA
Capacity	40 m ³ /hr
Engine	
Method of Driving Engine	Electrical
Condition	Fair
Horse Power	40 hp
Volt	400 volts
Speed Rotations	3000 rpm
Turbine	
Number of Stages	6 stages
Type of Stages	Ø 6" – Closed
Gear Head	
Condition	NA
Speed Rotations	NA
Horse Power	NA
Others	
Type of Lubrication	Water
Dimension of Shaft	Ø 6" / 117 m long
Dimension of Rising Pipes	NA
Dimension of Discharge Head	NA
Maintenance Record	NA
Control Unit Condition	Bad
Water Meter Condition	NA
Pump and Engine House	NA

5 Piping

Pipe Connection	Agricultural Network
Leakage	YES
Pipe Condition	Fair
Type	Steel (8000 meters)
Diameter	Ø 8"

Well Profile	18-18/019
---------------------	------------------

1 General Information
(The information is according to the survey carried out on 14/06/2007)

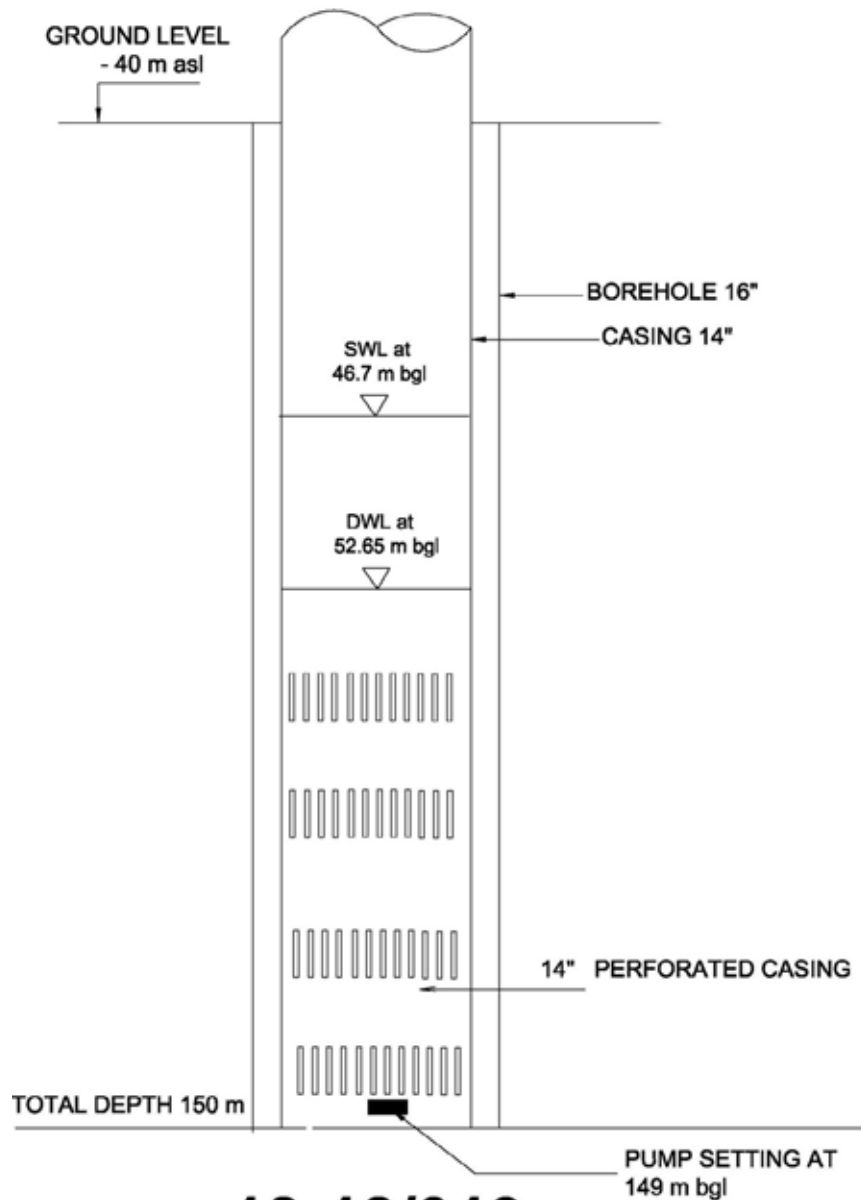
Well Name	'Abed Al Kareem Salem
Locality Name	Wadi Al Far'a
Well Number	18-18/019
Coordinates	PGE 188730 / PGN 181150 / Z: - 40 m asl
Date of Survey	14/06/2007
Status	Pumping
Extraction License	117,900 m ³ /year, (PWA)
Average Abstraction	131,782 m ³ /year (average from year 1973 – 2004), (PWA) 200,000 m ³ /year, (according to the survey)
Water Usage	Domestic and Agricultural Uses
Availability of Electric Grid	No
Rehabilitation since Drilling	YES, in 1998, a turbine and pipelines were changed



2 Well Structure

(The information is according to the survey carried out on 14/06/2007)

Drilling Method	Cable Tool (Percussion)
Drilling Year	1962
Total Well Depth	150 m
Drilling Diameter/Length	16" / 150 m
Upper Casing (Blank)	14" - steel / welded
Lower Casing (Screen)	14" - steel/ welded /perforated
Current needs to maintain	No needs



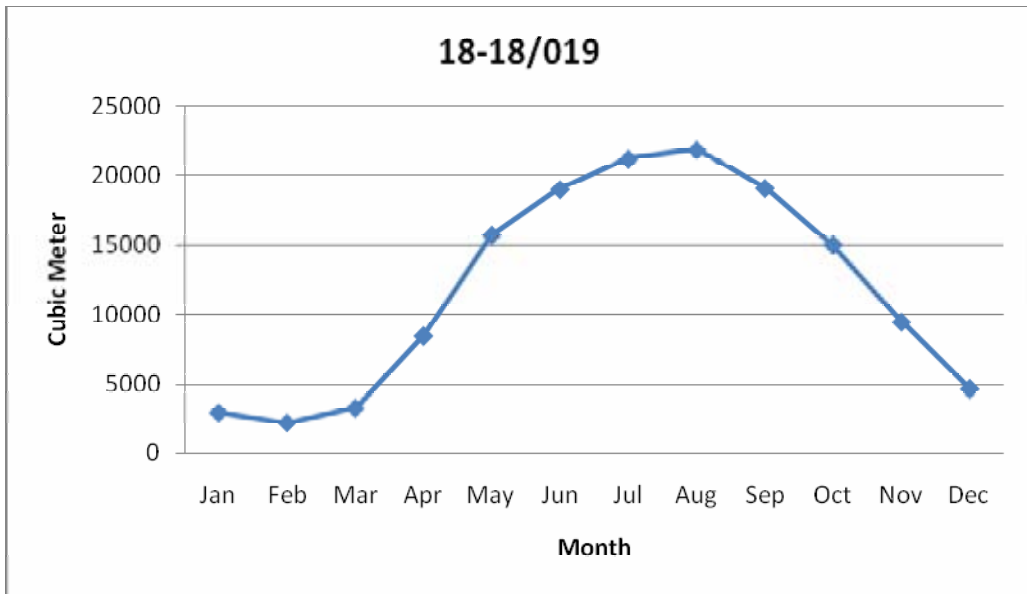
- N.B.** (1) Drawing is not to scale,
 (2) The length of upper and lower casing is unknown,
 (3) Information about cementing/grouting and other construction data are not available,
 (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

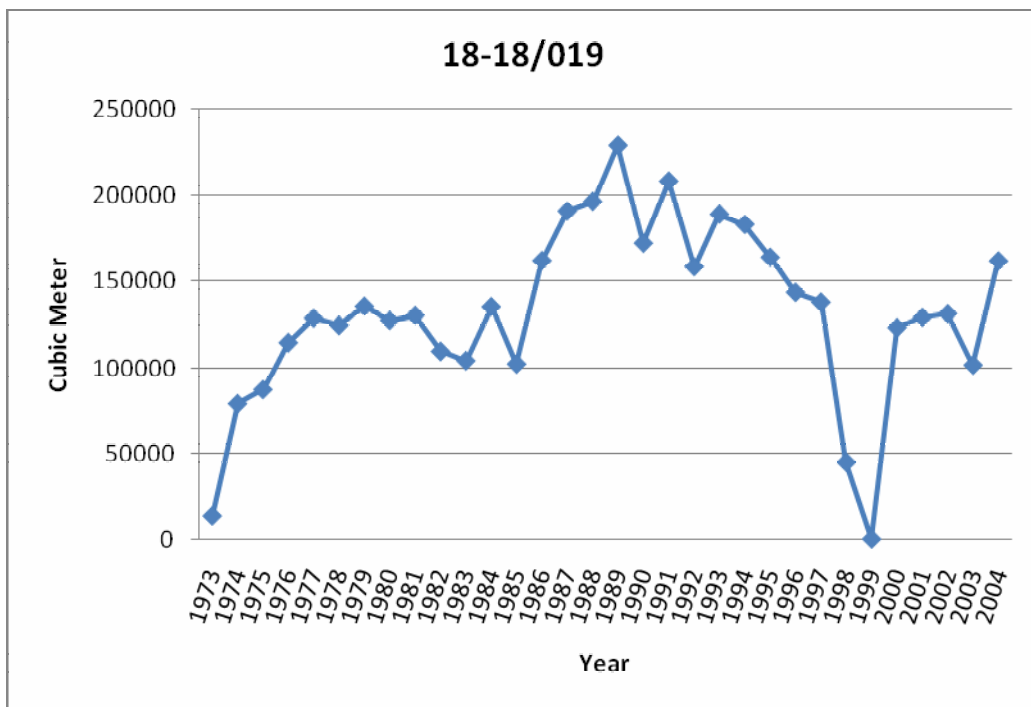
(The information is according to the survey carried out on 14/06/2007)

Tapped Aquifer	Upper Cenomanian (Eastern Basin)
Static Water Level	46.70 meters below ground level.
Average Pumping Duration	13 hrs/day - 6 days/week - 8 months/yr.
Estimated Discharge Rate	80 m ³ /hr
Dynamic Water Level	52.65 meters below ground level
Specific Capacity	13.4 m ³ /hr/m
Current needs to maintain	No needs

Well Abstraction

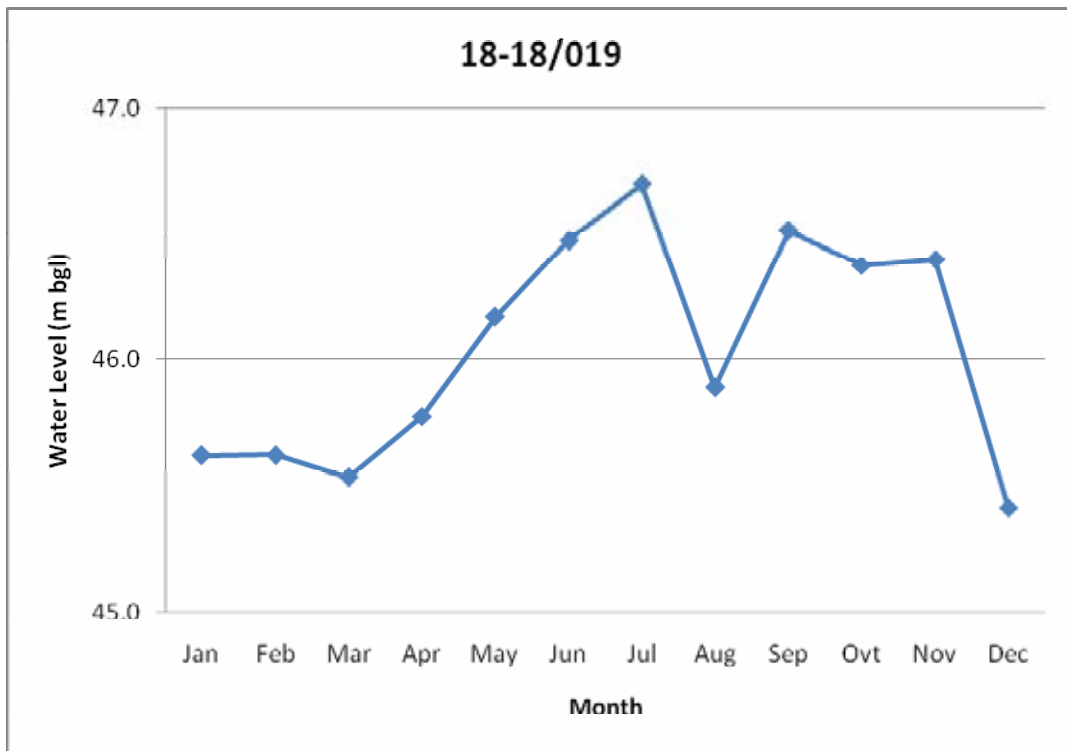


Average Monthly Abstraction (1973 – 2004), (PWA Database)

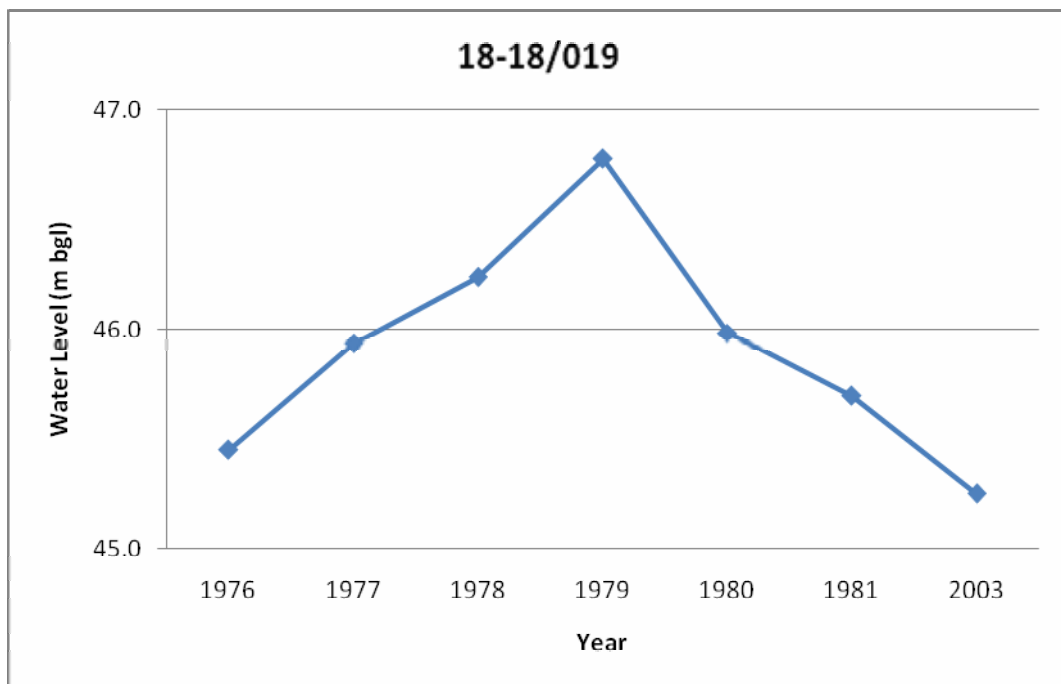


Yearly Abstraction, (PWA Database)

Water Level Fluctuation



Average Monthly Water Level Fluctuation (1976 – 1981 and in 2003), (PWA Database)



Yearly Water Level Fluctuation, (PWA Database)

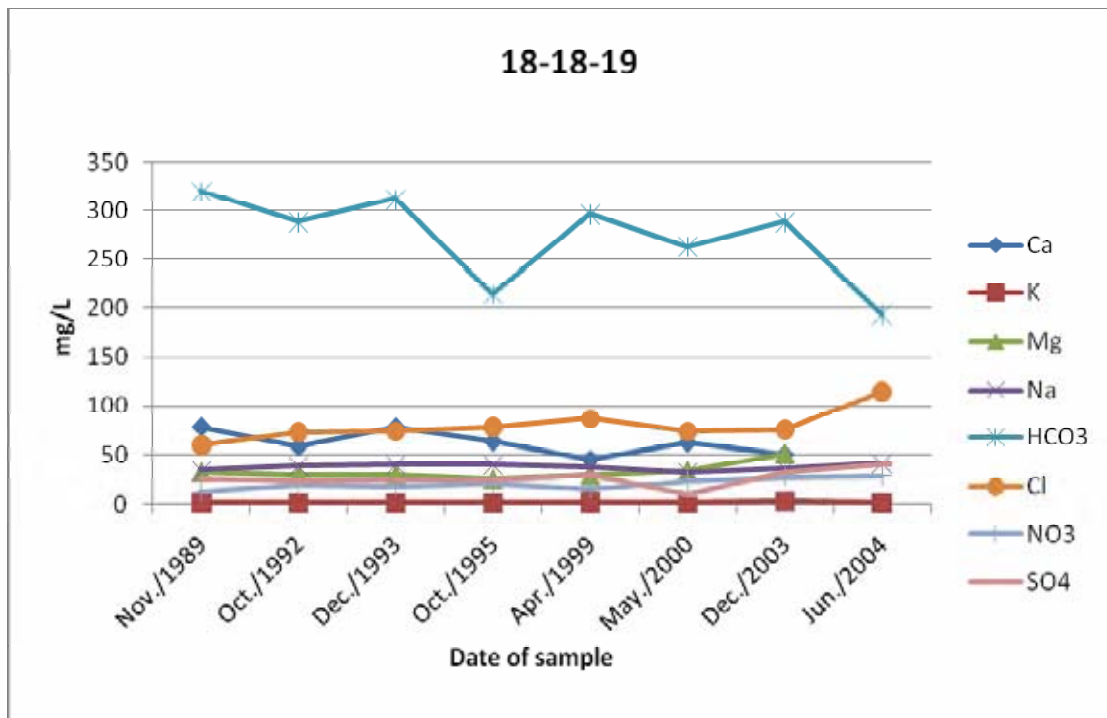
EC: 759 $\mu\text{S}/\text{cm}$

Water Quality

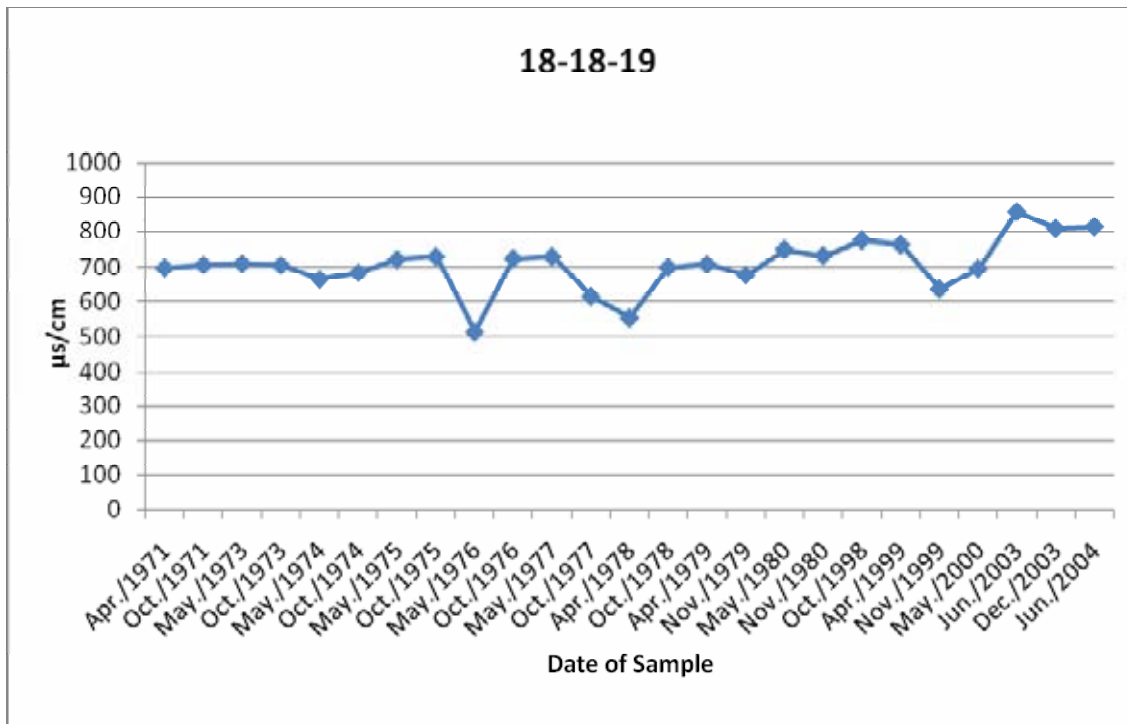
pH: 8.3

Temperature: 22 °C

(The measurements were taken on 14/06/2007)



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 14/06/2007)

Pump	
Pump type	Mechanical Pump
Date of Installation	1998
Manufacturer	Local
Capacity	80 m ³ /hr
Engine	
Method of Driving Engine	Diesel
Condition	Fair
Horse Power	110 hp
Volt	24 Volts
Speed Rotations	1500 rpm
Turbine	
Number of Stages	13 stages
Type of Stages	Closed
Gear Head	
Condition	Fair
Speed Rotations	NA
Horse Power	75 hp
Others	
Type of Lubrication	Water
Dimension of Shaft	Ø 32 mm / 149 m long
Dimension of Rising Pipes	Ø 6" / 149 m long
Dimension of Discharge Head	Ø 6"
Maintenance Record	Yes
Control Unit Condition	Fair
Water Meter Condition	There is no water meter
Pump and Engine House	Bad

5 Piping

Pipe Connection	Agricultural Network
Leakage	Yes
Pipe Condition	Bad
Type	Steel
Diameter	4"

Well Profile	18-18/025A
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1 General Information
(The information is according to the survey carried out on 14/06/2007)

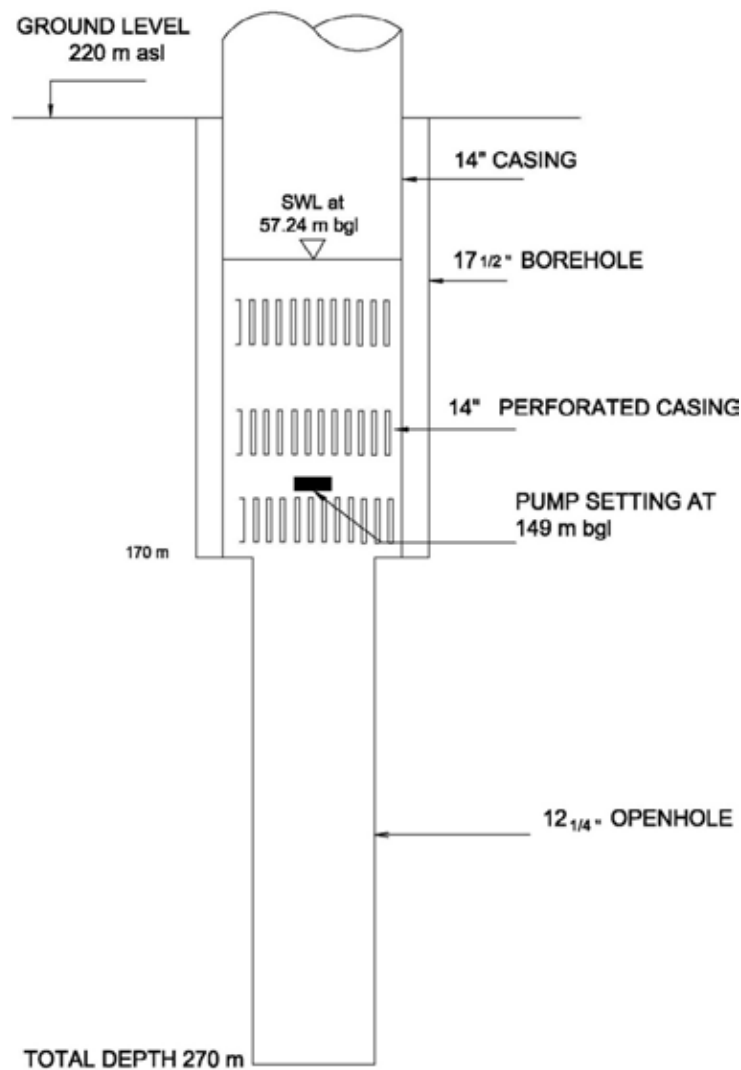
Well Name	Muhammad Ali Abdullah
Locality Name	Ras Wadi Al Far'a
Well Number	18-18/025A
Coordinates	PGE 181650 / PGN 189540 / Z: 220 m asl
Date of Survey	14/06/2007
Status	Pumping
Extraction License	190,800 m ³ /year
Average Abstraction	288,868 m ³ /year (average from 1973 – 2004), (PWA) 1,504,800 m ³ /year, (according to the survey)
Water Usage	Domestic Uses (5%) and Agricultural Uses (95%)
Availability of Electric Grid	YES
Rehabilitation since Drilling	NO, the well was drilled in 1999



2 Well Structure

(The information is according to the survey carried out on 14/06/2007)

Drilling Method	Air Rotary	
Drilling Year	1999	
Total Well Depth	270 m	
Drilling Diameter/Length	Ø 17.5" / (0-170) m Ø 12.25" / (170-270) m	
Upper Casing (Blank)	Ø 14" / (0-50)m	- steel / welded/ blank
Lower Casing (Screen)	Ø 14" / (50-170)m Ø 12.25" / (170 – 270) m	- steel/ welded /perforated - open hole
Current needs to maintain	No needs	



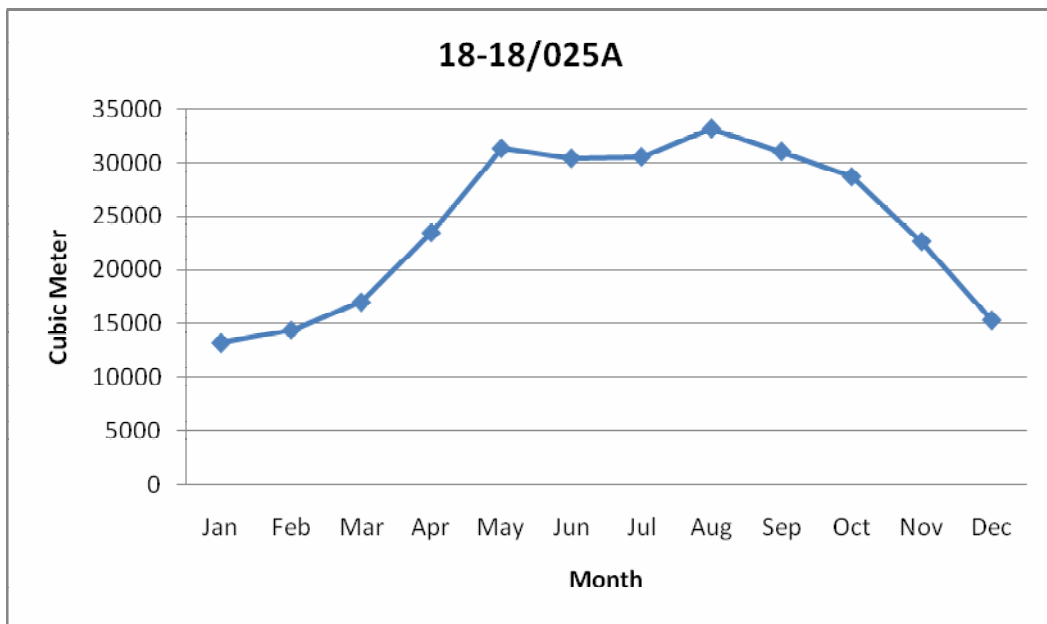
- N.B.** (1) Drawing is not to scale,
 (2) The length of upper and lower casing is unknown,
 (3) Information about cementing/grouting and other construction data are not available,
 (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

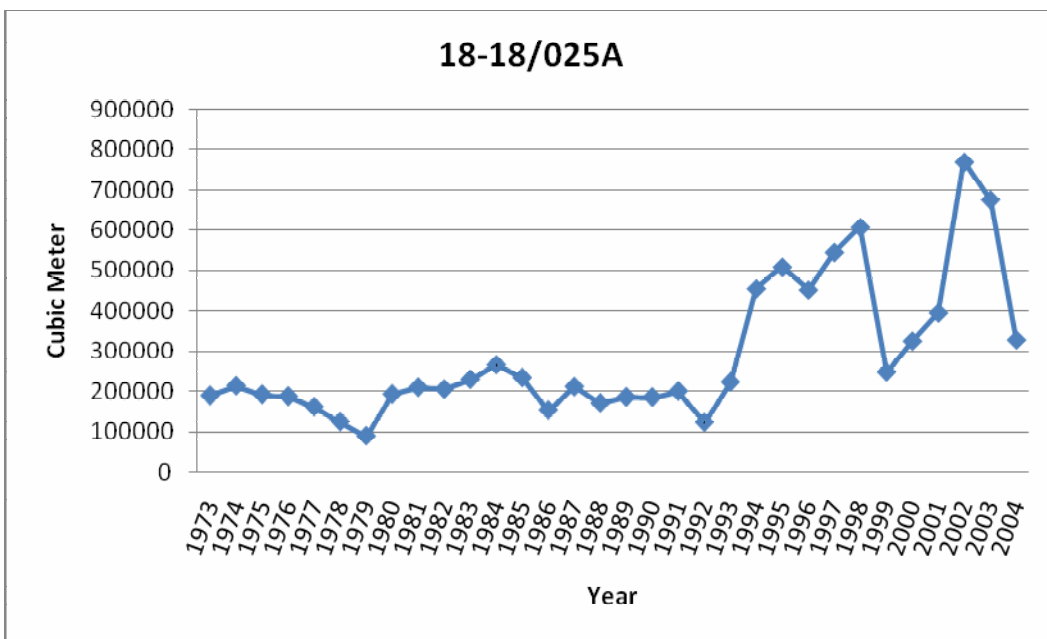
(The information is according to the survey carried out on 14/06/2007)

Tapped Aquifer	Eocene (North Eastern Basin)
Static Water Level	57.24 meters below ground level (measured)
Average Pumping Duration	22 hrs/day - 7 days/week - 10 months/yr.
Estimated Discharge Rate	228 m ³ /hr
Dynamic Water Level	The M-scope tape was stuck during measurements at the depth of 56 m.
Specific Capacity	Couldn't be measured
Current needs to maintain	No needs

Well Abstraction

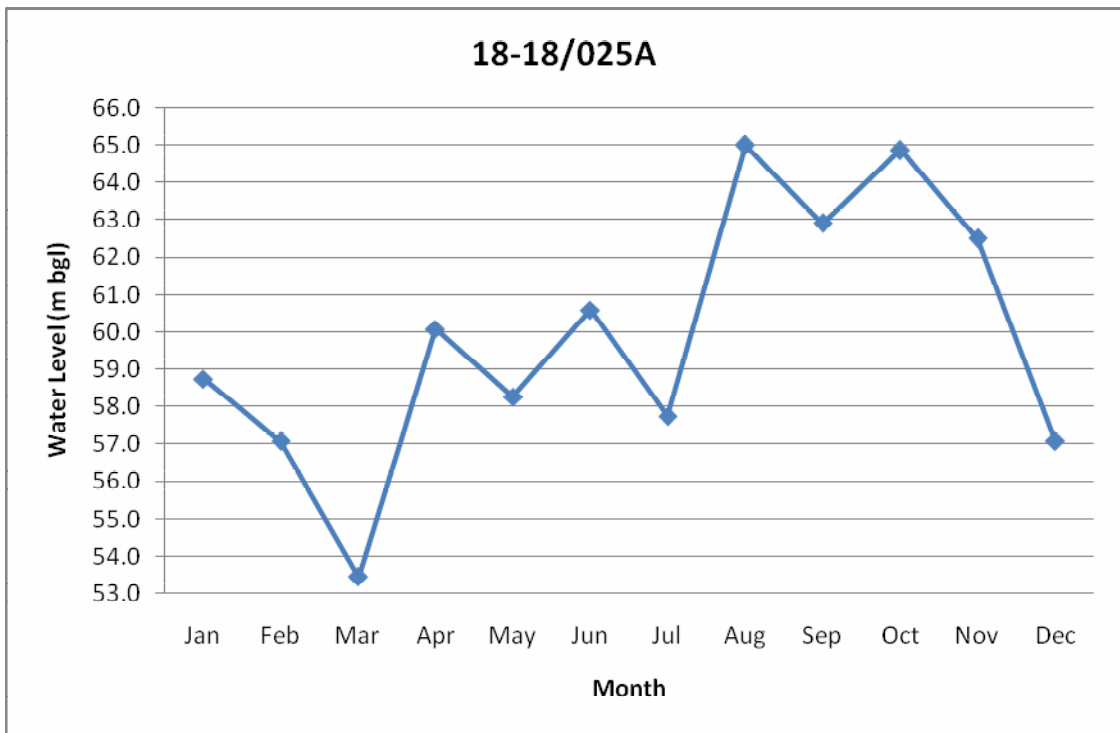


Average Monthly Abstraction (1973 – 2004), (PWA Database)

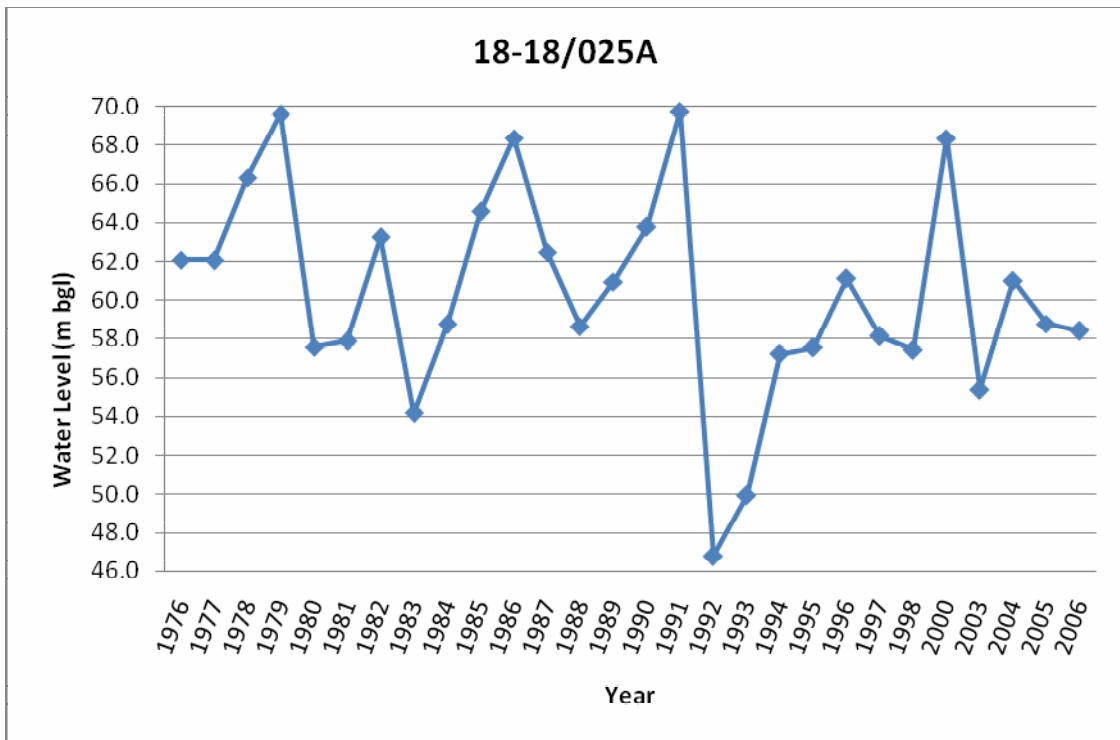


Yearly Abstraction, (PWA Database)

Water Level Fluctuation



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



Yearly Water Level Fluctuation, (PWA Database)

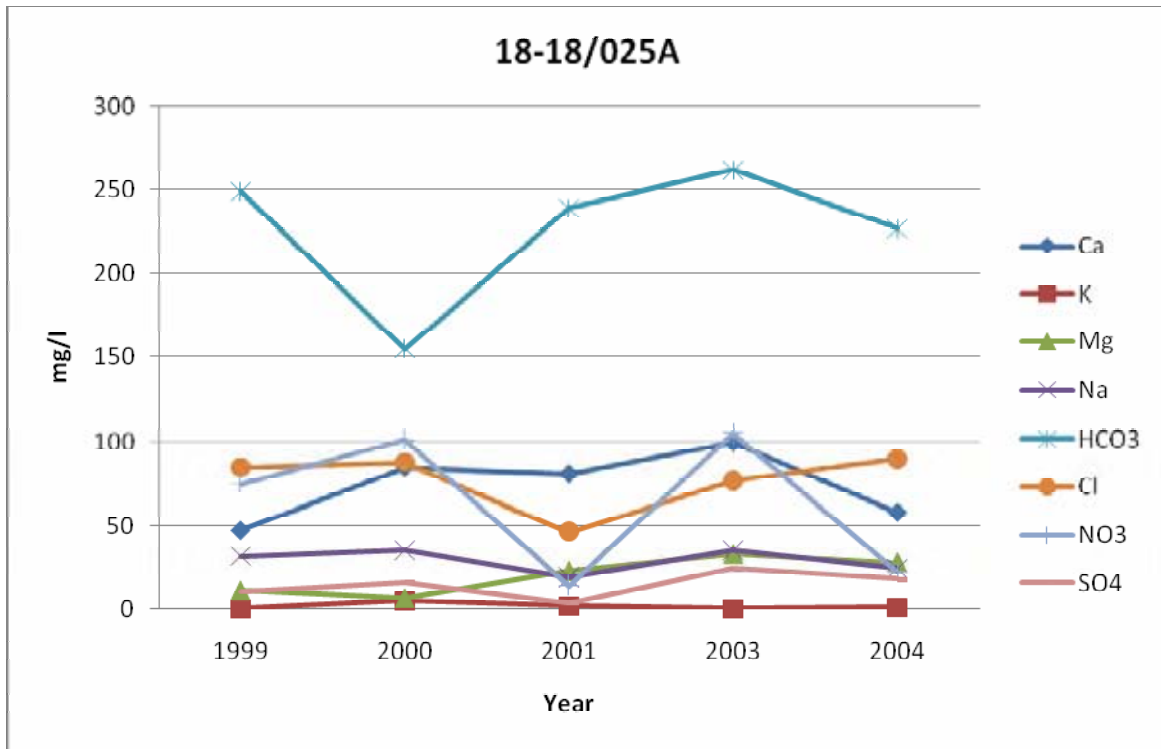
EC: 612 $\mu\text{S}/\text{cm}$

Water Quality

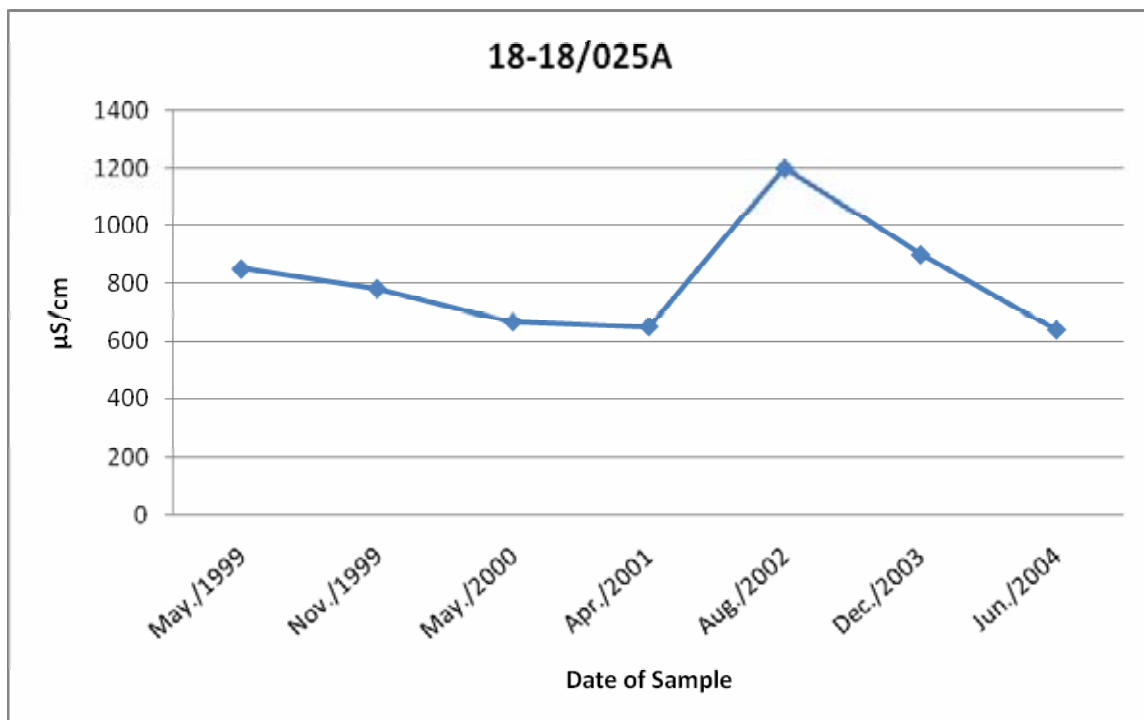
pH: 7.94

Temperature: 22.6 $^{\circ}\text{C}$

(The measurements were taken on 14/06/2007)



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 14/06/2007)

Pump	
Pump type	Mechanical Pump (Vertical Pump)
Date of Installation	1999
Manufacturer	F.B.M
Capacity	150 m ³ /hr
Engine	
Method of Driving Engine	Electrical
Condition	Good
Horse Power	180 hp
Volt	400 Volts
Speed Rotations	1500 rpm
Turbine	
Number of Stages	13 stages
Type of Stages	Ø 10" (Closed)
Gear Head	
Condition	Good
Speed Rotations	1800 rpm
Horse Power	170 hp
Others	
Type of Lubrication	Water
Dimension of Shaft	Ø 38 mm / 149 m long
Dimension of Rising Pipes	Ø 8" / 149 m long
Dimension of Discharge Head	Ø 6"
Maintenance Record	NO
Control Unit Condition	Good
Water Meter Condition	Good
Pump and Engine House	Good

5 Piping

Pipe Connection	Agricultural Network
Leakage	Yes
Pipe Condition	Bad
Type	Steel
Diameter	Ø 6"

Well Profile 18-18/027A

1 General Information

(The information is according to the survey carried out on 14/06/2007)

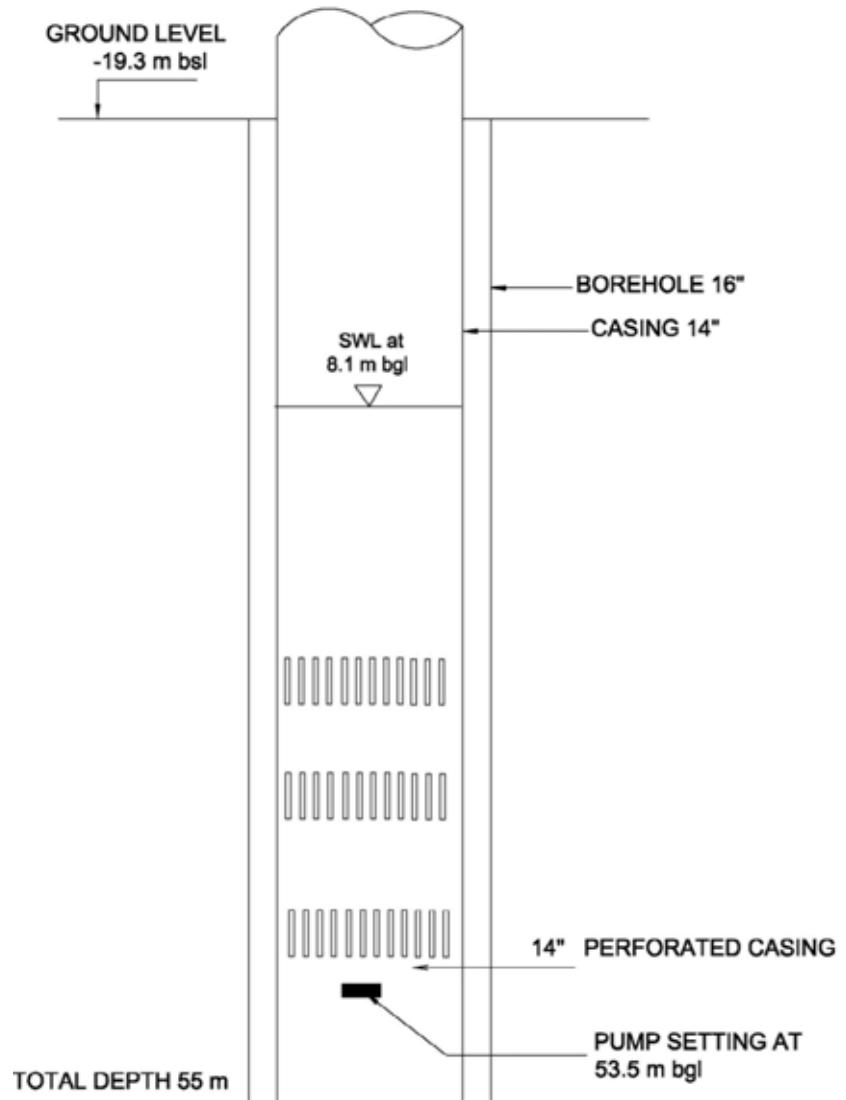
Well Name	Ibraheem Ali Dyab
Locality Name	Wadi Al Far'a
Well Number	18-18/027A
Coordinates	PGE 186090 / PGN 183540 / Z: -19.3 m asl
Date of Survey	14/06/2007
Status	Not Pumping
Extraction License	26,100 m ³ /year, (PWA)
Average Abstraction	12,203 m ³ /year (average from year 1973 – 2001), (PWA)
Water Usage	Unknown
Availability of Electric Grid	NO
Rehabilitation since Drilling	YES, the well was deepened in 2001



2 Well Structure

(The information is according to the survey carried out on 14/06/2007)

Drilling Method	Cable Tool (Percussion)
Drilling Year	1962
Total Well Depth	55 m
Drilling Diameter/Length	16"
Upper Casing (Blank)	14" - steel / welded/ blank
Lower Casing (Screen)	14" - steel/ welded /perforated
Current needs to maintain	Deepening up to 100 meters.



18-18/027A

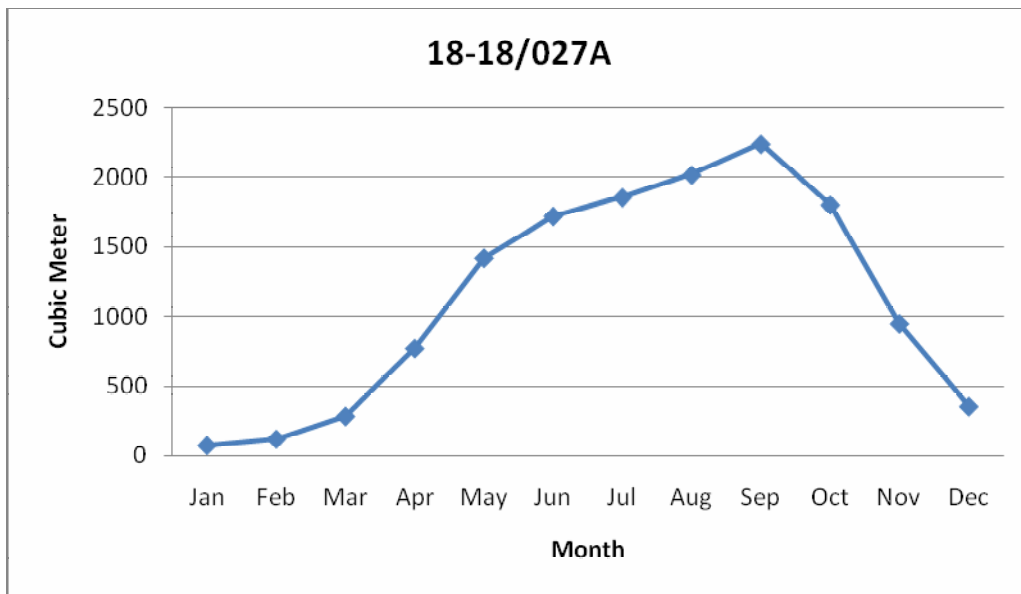
- N.B.** (1) Drawing is not to scale,
 (2) The length of upper and lower casing is unknown,
 (3) Information about cementing/grouting and other construction data are not available,
 (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

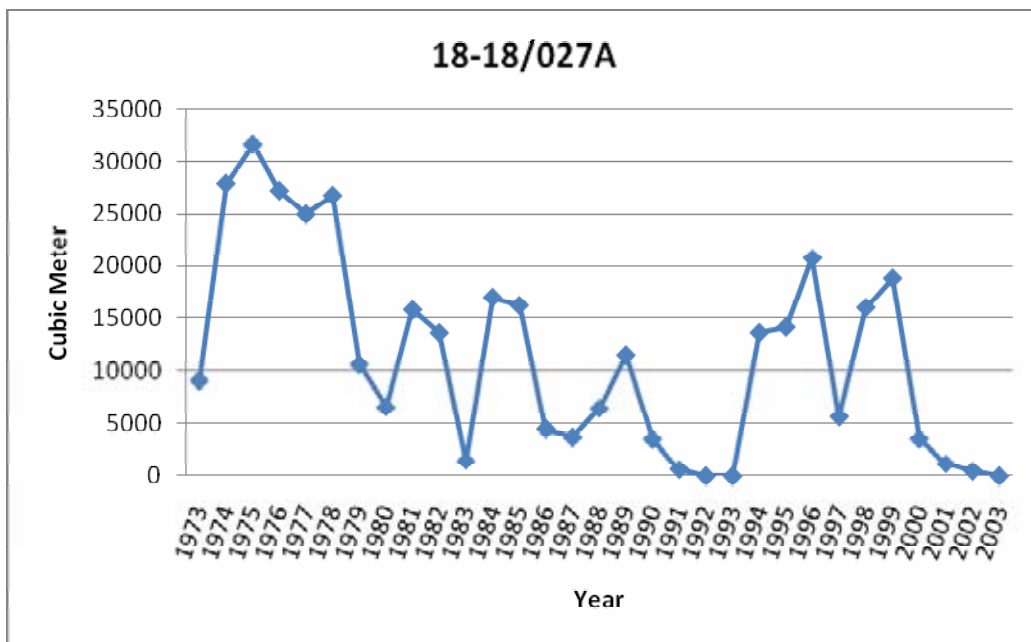
(The information is according to the survey carried out on 14/06/2007)

Tapped Aquifer	Neogene (Eastern Basin)
Static Water Level	8.10 meters below ground level (measured)
Average Pumping Duration	Unknown
Estimated Discharge Rate	Unknown
Dynamic Water Level	Unknown
Specific Capacity	Unknown
Current needs to maintain	As mentioned before deepening up to 100 meters

Well Abstraction (The data are for the period before the well stops pumping)

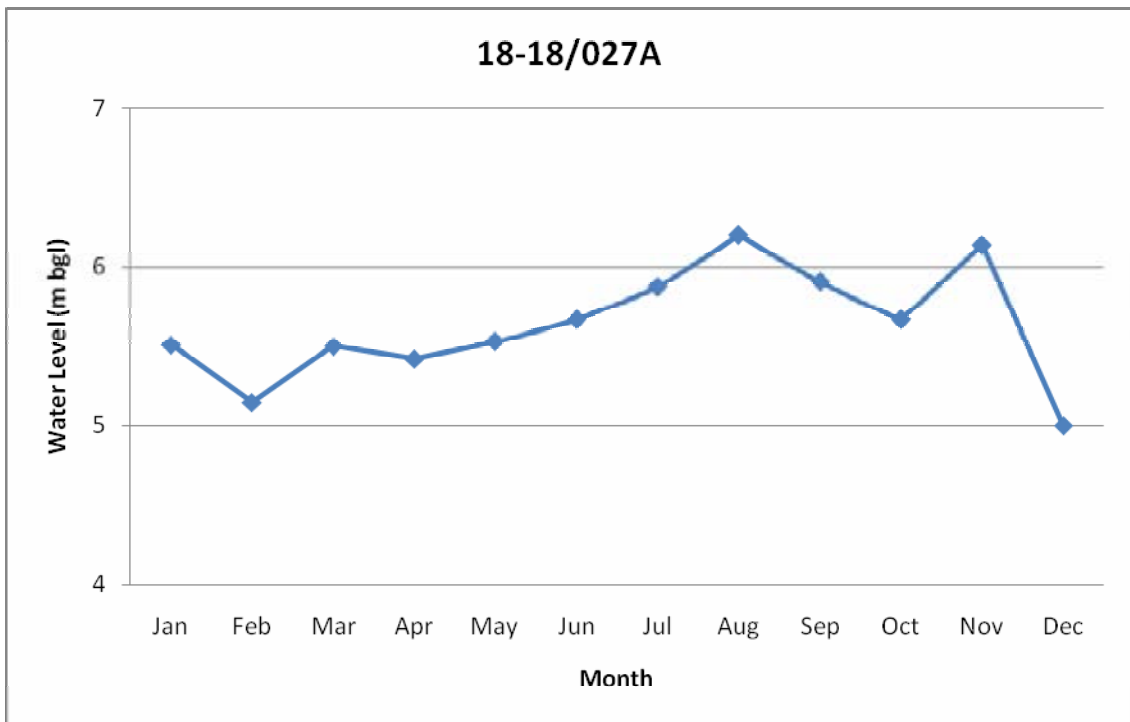


Average Monthly Abstraction (1973 – 2003), (PWA Database)

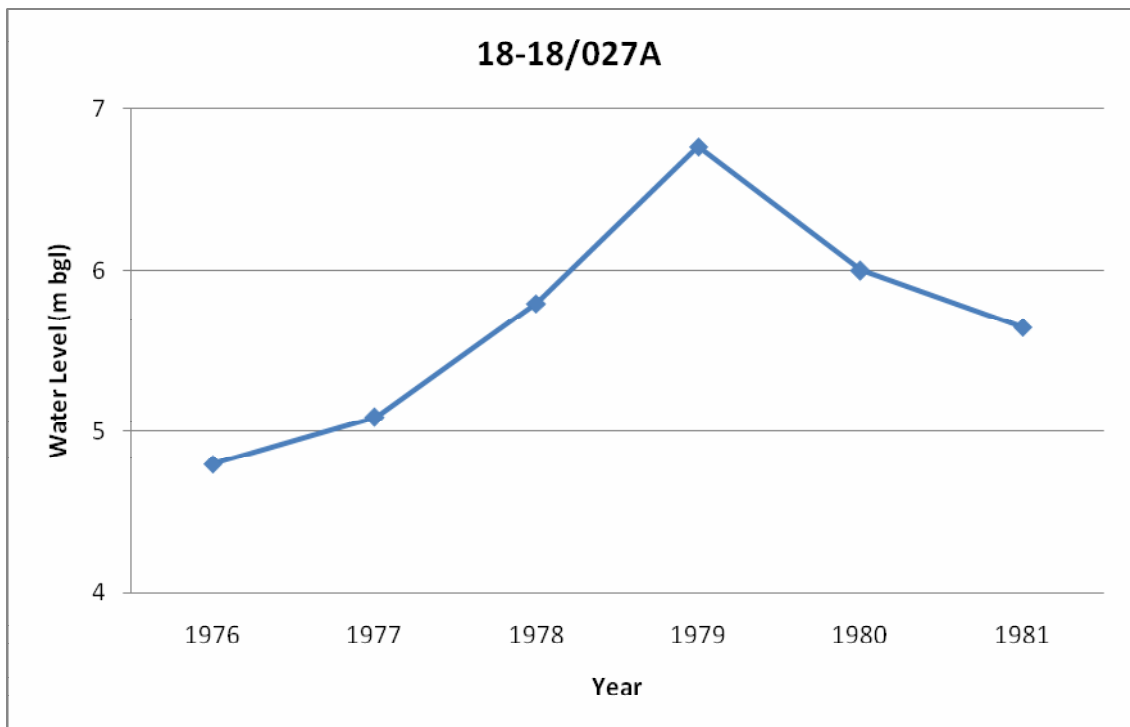


Yearly Abstraction, (PWA Database)

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

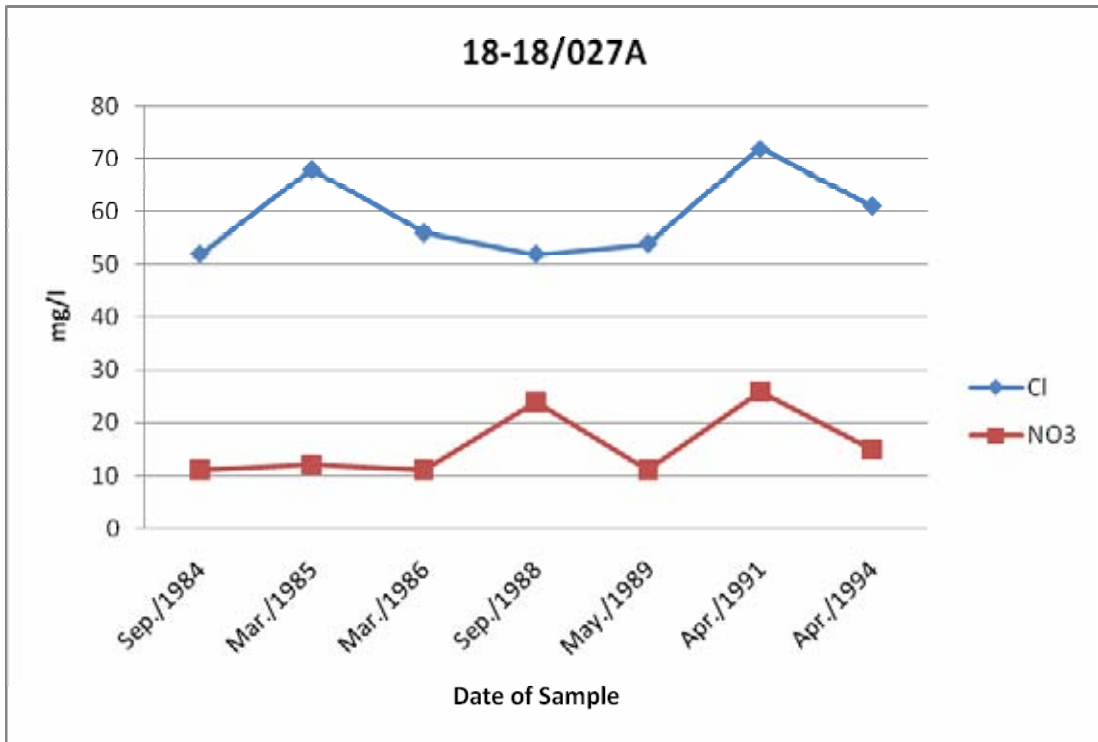


Average Monthly Water Level Fluctuation (1976 – 1981), (PWA Database)

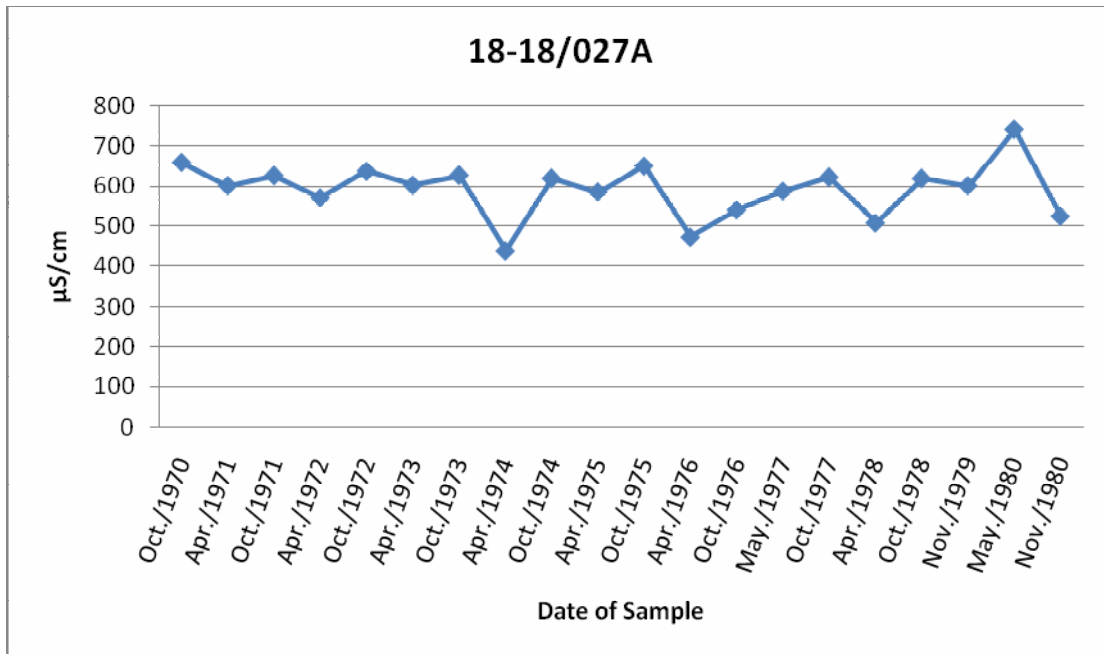


Yearly Water Level Fluctuation, (PWA Database)

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



Cl and NO₃ Concentration, (PWA Database)



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

4 Pumping Unit

(The information is according to the survey carried out on 14/06/2007)

Pump	
Pump type	Mechanical Pump (Vertical Pump)- Jonson
Date of Installation	2001
Manufacturer	The United States of America
Capacity	80 m ³ /hr
Engine	
Method of Driving Engine	Diesel
Condition	Bad
Horse Power	90 hp
Volt	NA
Speed Rotations	1500 rpm
Turbine	
Number of Stages	12 stages
Type of Stages	Closed
Gear Head	
Condition	Good
Speed Rotations	213 rpm
Horse Power	110 hp
Others	
Type of Lubrication	Water
Dimension of Shaft	Ø 32 m/ 53.5 m long
Dimension of Rising Pipes	Ø 6" / 53.5 m long
Dimension of Discharge Head	Ø 6"
Maintenance Record	NO
Control Unit Condition	There is no control unit
Water Meter Condition	There is no water meter
Pump and Engine House	There is no pump and engine house

5 Piping

Pipe Connection	Agricultural Network
Leakage	Yes
Pipe Condition	Bad
Type	Steel
Diameter	Ø 6"

Well Profile	18-18/036
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1 General Information

(The information is according to the survey carried out on 14/06/2007)

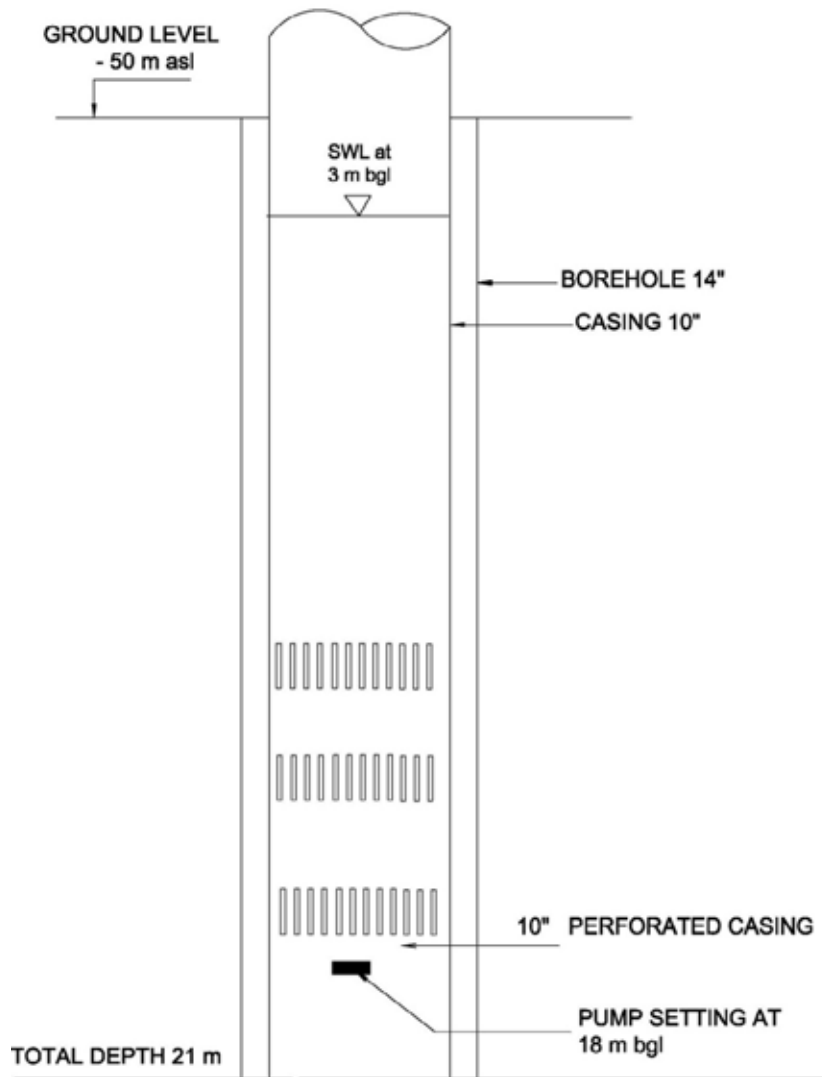
Well Name	Khaleel 'Abed Al Hadi
Locality Name	Wadi Al Far'a
Well Number	18-18/036
Coordinates	PGE 187600 / PGN 182550 / Z : - 50 m asl
Date of Survey	14/06/2007
Status	Pumping
Extraction License	117,000 m ³ /year, (PWA)
Average Abstraction	182,634 m ³ /year (Average from year 1975 – 2003), (PWA) 288,000 m ³ /year (according to the survey)
Water Usage	Agricultural Use Only
Availability of Electric Grid	NO
Rehabilitation since Drilling	YES, in 2005, the pump was changed



2 Well Structure

(The information is according to the survey carried out on 14/06/2007)

Drilling Method	Cable Tool (Percussion)
Drilling Year	1954
Total Well Depth	21 m
Drilling Diameter/Length	14"
Upper Casing (Blank)	10" - steel / welded/ blank
Lower Casing (Screen)	10" - steel/ welded /perforated
Current needs to maintain	No needs



18-18/036

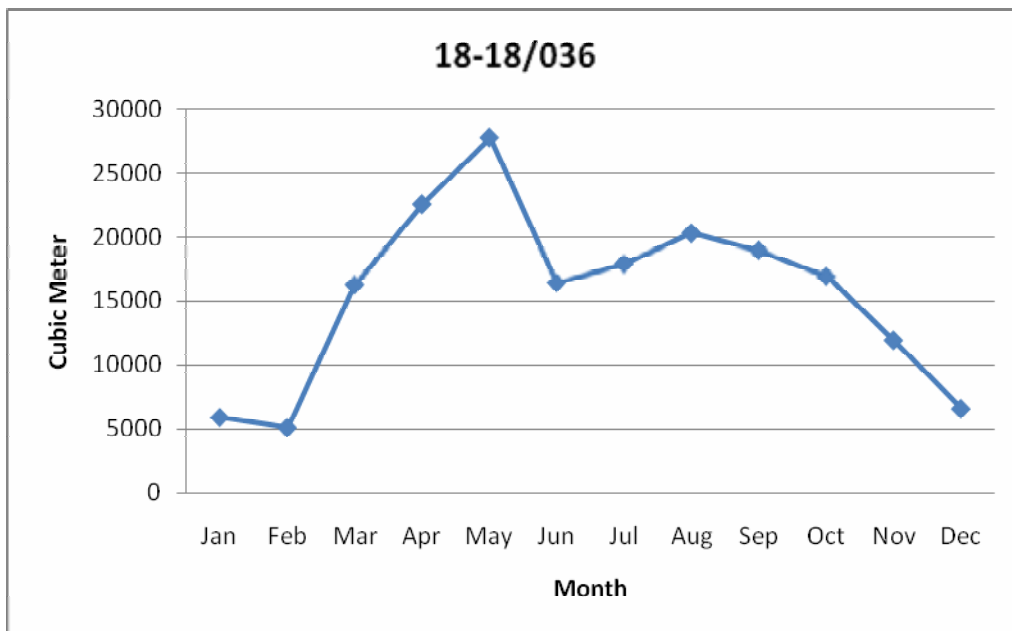
- N.B.**
- (1) Drawing is not to scale,
 - (2) The length of upper and lower casing is unknown,
 - (3) Information about cementing/grouting and other construction data are not available,
 - (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

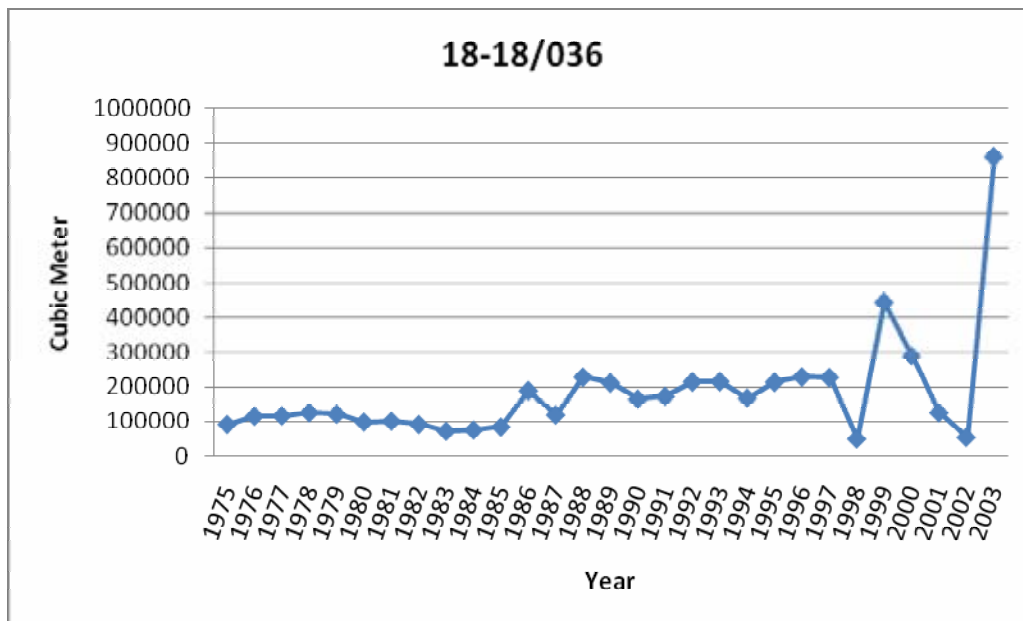
(The information is according to the survey carried out on 14/06/2007)

Tapped Aquifer	Neogene (North Eastern Basin)
Static Water Level	3 meters below ground level (measured)
Average Pumping Duration	80 m ³ /hr
Estimated Discharge Rate	10 hrs/day 7 days/week 12 months/year
Dynamic Water Level	It couldn't be measured because there was no place to drop the M-Scope tape
Specific Capacity	Unknown
Current needs to maintain	No needs

Well Abstraction



Average Monthly Abstraction (1975 – 2003), (PWA Database)



Yearly Abstraction, (PWA, Database)

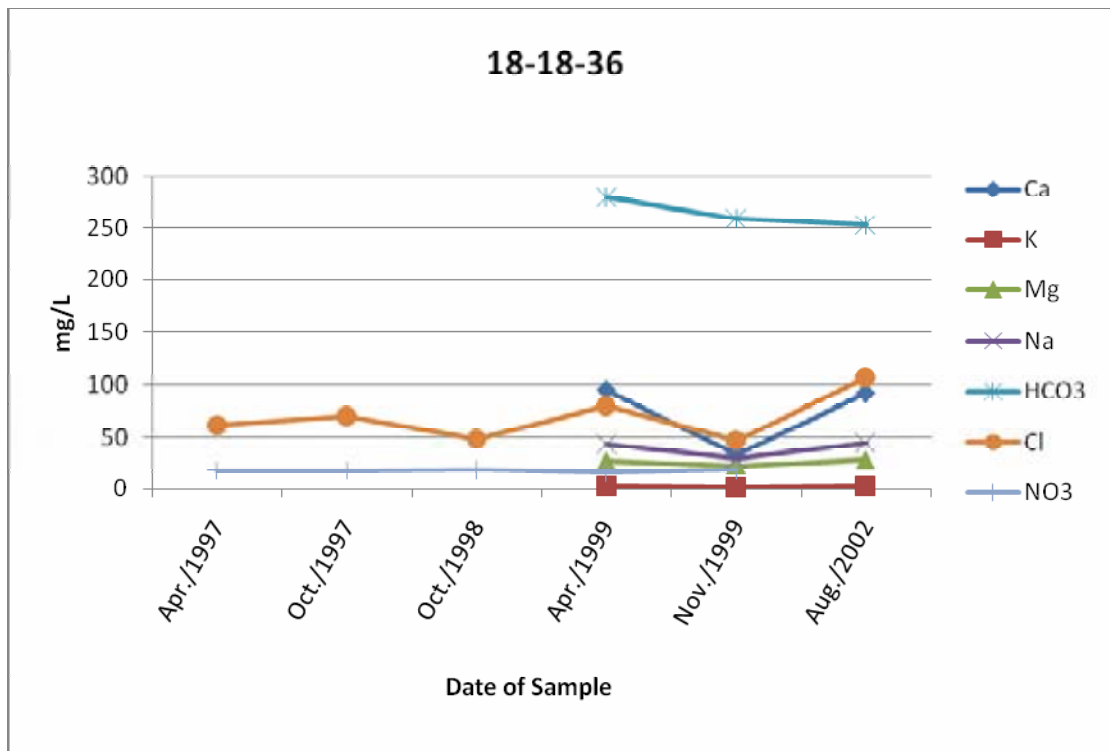
EC: 680 $\mu\text{S/cm}$

Water Quality

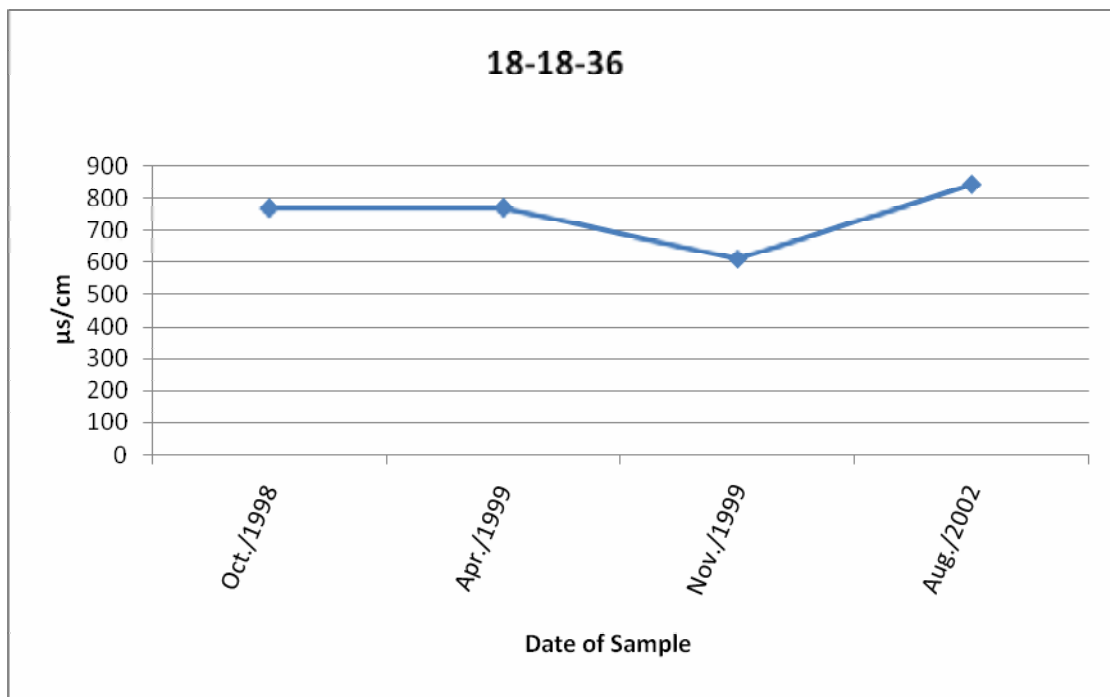
pH: 7.42

Temperature: 22 °C

(The measurements were taken on 14/06/2007)



Major Cations and Anions, (PWA Database)



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

4 Pumping Unit

(The information is according to the survey carried out on 14/06/2007)

Pump	
Pump type	Mechanical Pump (Vertical Pump)
Date of Installation	2005
Manufacturer	Local
Capacity	80 m ³ /hr
Engine	
Method of Driving Engine	Diesel (Mercedes)
Condition	Bad
Horse Power	150 hp
Volt	NA
Speed Rotations	1500 rpm
Turbine	
Number of Stages	13 stages
Type of Stages	Closed
Gear Head	
Condition	Good
Speed Rotations	2000 rpm
Horse Power	110 hp
Others	
Type of Lubrication	Water
Dimension of Shaft	Ø32 mm / 53.5 m long
Dimension of Rising Pipes	Ø 6" / 53.5 m long
Dimension of Discharge Head	Ø 6"
Maintenance Record	NO
Control Unit Condition	There is no control unit
Water Meter Condition	There is no water meter
Pump and Engine House	Bad

5 Piping

Pipe Connection	Agricultural Network
Leakage	Yes
Pipe Condition	Bad
Type	Steel
Diameter	Ø 6" and Ø4" / 5000 m long

Well Profile	19-14/058B
---------------------	-------------------

1 General Information
(The information is according to the survey carried out on 02/06/2007)

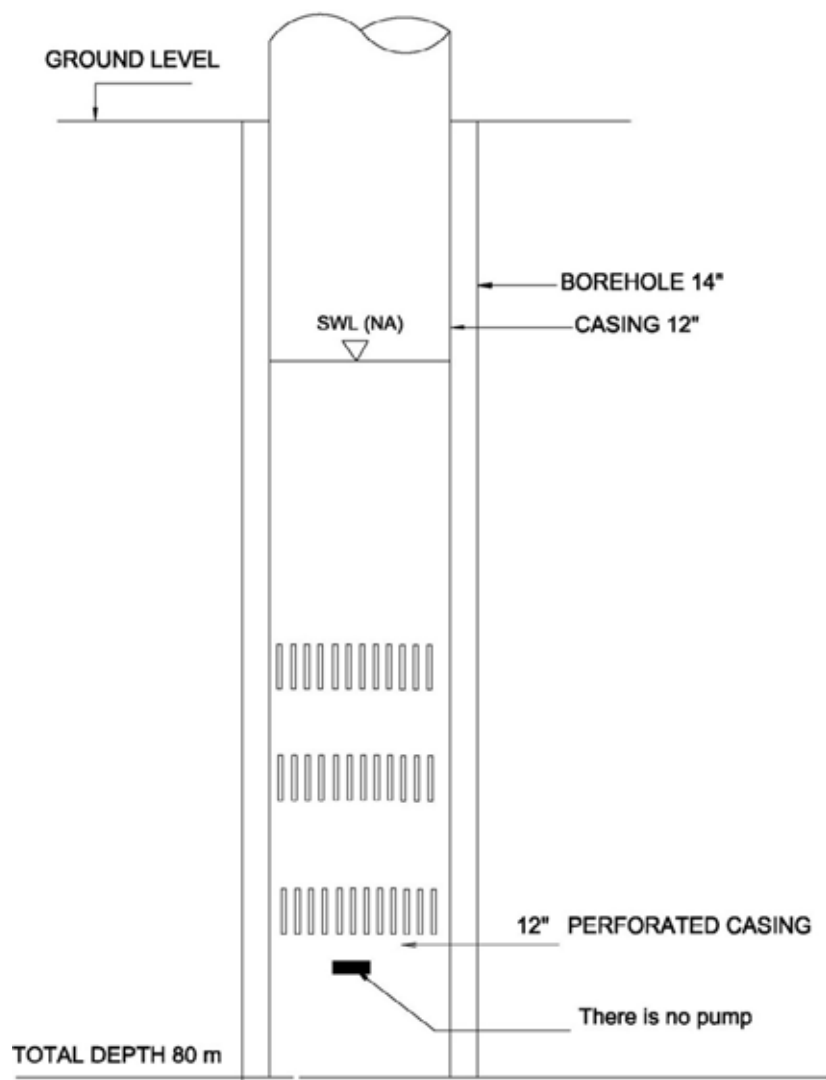
Well Name	Yunes 'Abdu
Locality Name	Jericho (Ariha)
Well Number	19-14/058B
Coordinates	PGE 194880 / PGN 141170
Date of Survey	02/06/2007
Status	Not Pumping
Extraction License	53,100 m ³ /year, PWA
Average Abstraction	68,301 m ³ / year (average from year 1992 – 1997), PWA
Water Usage	Agricultural Use Only (120 dunums)
Availability of Electric Grid	YES
Rehabilitation since Drilling	NO



2 Well Structure

(The information is according to the survey carried out on 02/06/2007)

Drilling Method	Cable Tool (Percussion)
Drilling Year	1955
Total Well Depth	80 m
Drilling Diameter/Length	14"
Upper Casing (Blank)	12" - steel / welded/ blank
Lower Casing (Screen)	12" - steel/ welded /perforated
Current needs to maintain	Deepening up to 120 m below ground level



19-14/058B

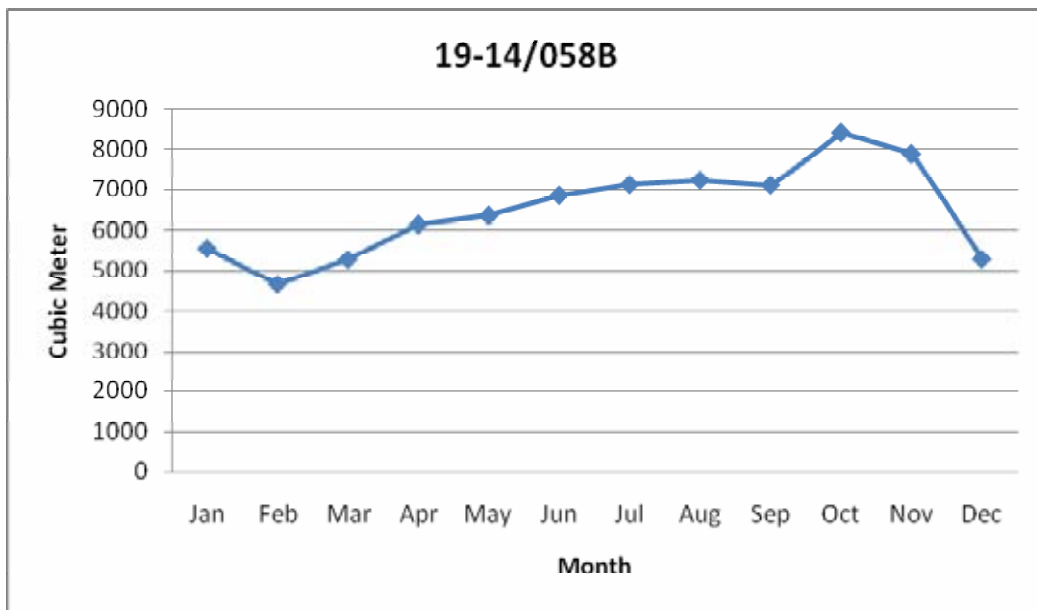
- N.B.**
- (1) Drawing is not to scale,
 - (2) The length of upper and lower casing is unknown,
 - (3) Information about cementing/grouting and other construction data are not available,
 - (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

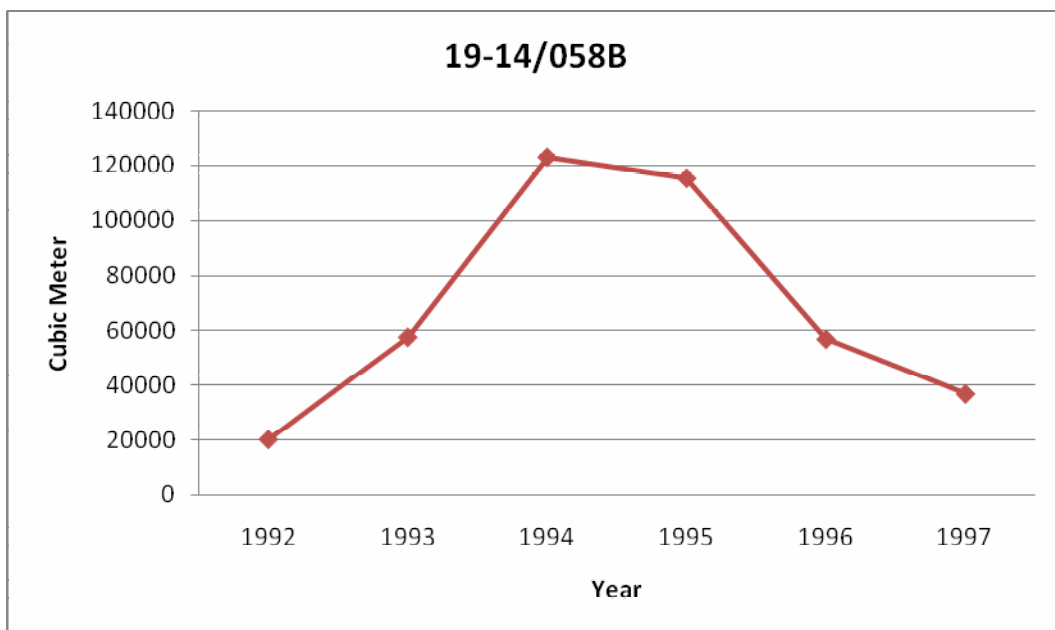
(The information is according to the survey carried out on 02/06/2007)

Tapped Aquifer	Alluvium (Eastern Basin)
Static Water Level	Unknown
Average Pumping Duration	Unknown
Estimated Discharge Rate	Unknown
Dynamic Water Level	Unknown
Specific Capacity	Unknown
Current needs to maintain	As mentioned before, deepening up to 120 m below ground level, because the well is dry at survey date

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



Average Monthly Abstraction (1992 – 1997), (PWA Database)



Yearly Abstraction, (PWA Database)

4 Pumping Unit

(The information is according to the survey carried out on 02/06/2007)

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

5 Piping

Pipe Connection	NA
Leakage	NA
Pipe Condition	NA
Type	NA
Diameter	NA

Well Profile	19-14/062
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1 General Information
(The information is according to the survey carried out on 02/06/2007)

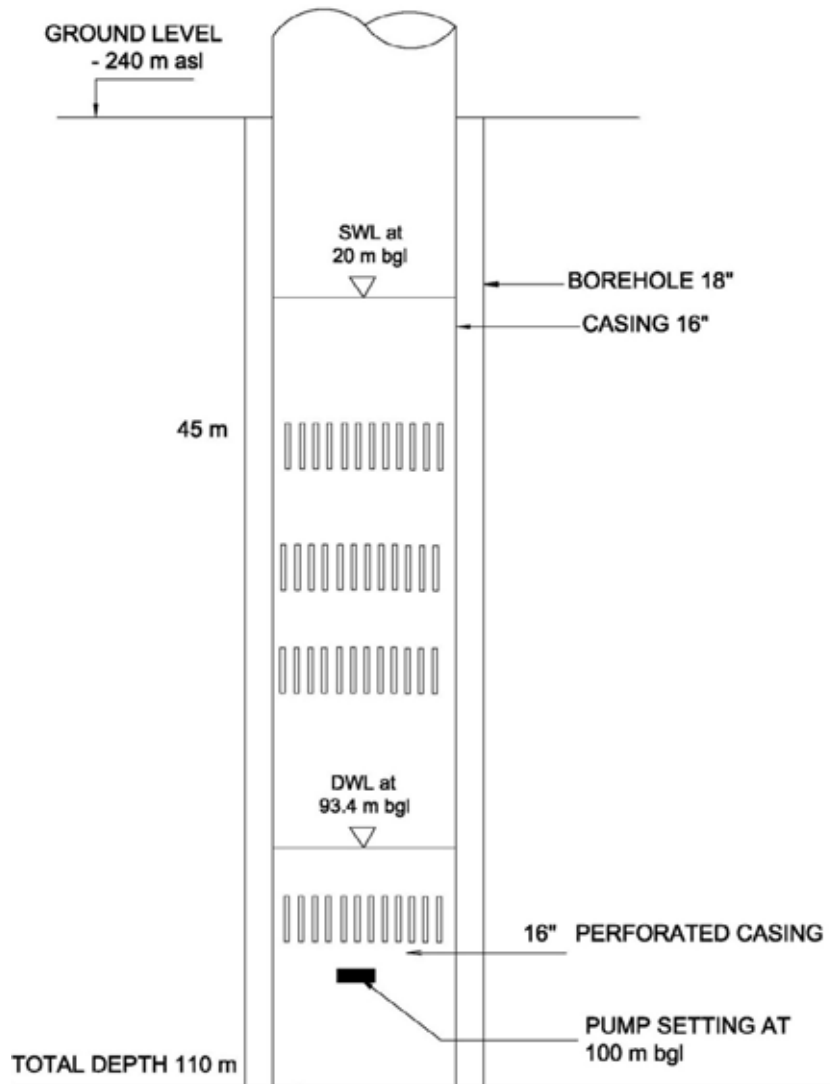
Well Name	Sa'eed 'Ala' Al Deen
Locality Name	Jericho (Ariha)
Well Number	19-14/062
Coordinates	PGE 193380 / PGN 142630 / Z: - 240 m asl
Date of Survey	02/06/2007
Status	Pumping
Extraction License	147,000 m ³ /year, PWA
Average Abstraction	445,224 m ³ /year (average from year 1979 – 2004), PWA 405,000 m ³ /year (according to the survey)
Water Usage	Agricultural Use Only
Availability of Electric Grid	YES
Rehabilitation since Drilling	YES, in 2004, fixing the turbine and changing rising pipes



2 Well Structure

(The information is according to the survey carried out on 02/06/2007)

Drilling Method	Cable Tool (Percussion)
Drilling Year	1950
Total Well Depth	110 m
Drilling Diameter/Length	18"
Upper Casing (Blank)	16" (0 - 45) m - steel / threaded/ blank
Lower Casing (Screen)	16" (45 - 110) m - steel/ threaded/perforated
Current needs to maintain	No needs



19-14/062

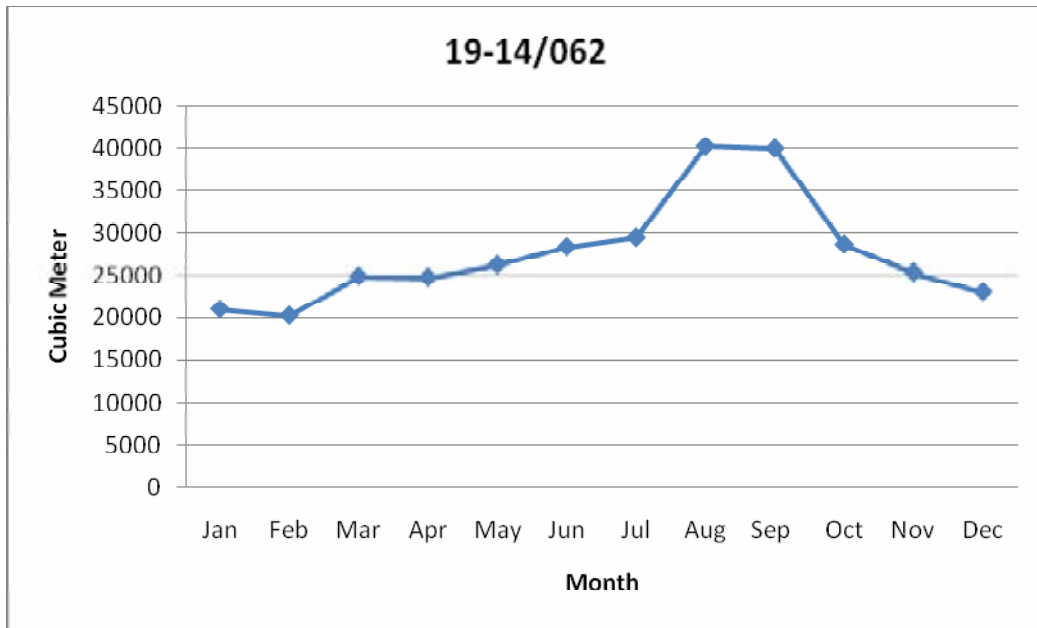
- N.B.** (1) Drawing is not to scale,
 (2) The length of upper and lower casing is unknown,
 (3) Information about cementing/grouting and other construction data are not available,
 (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

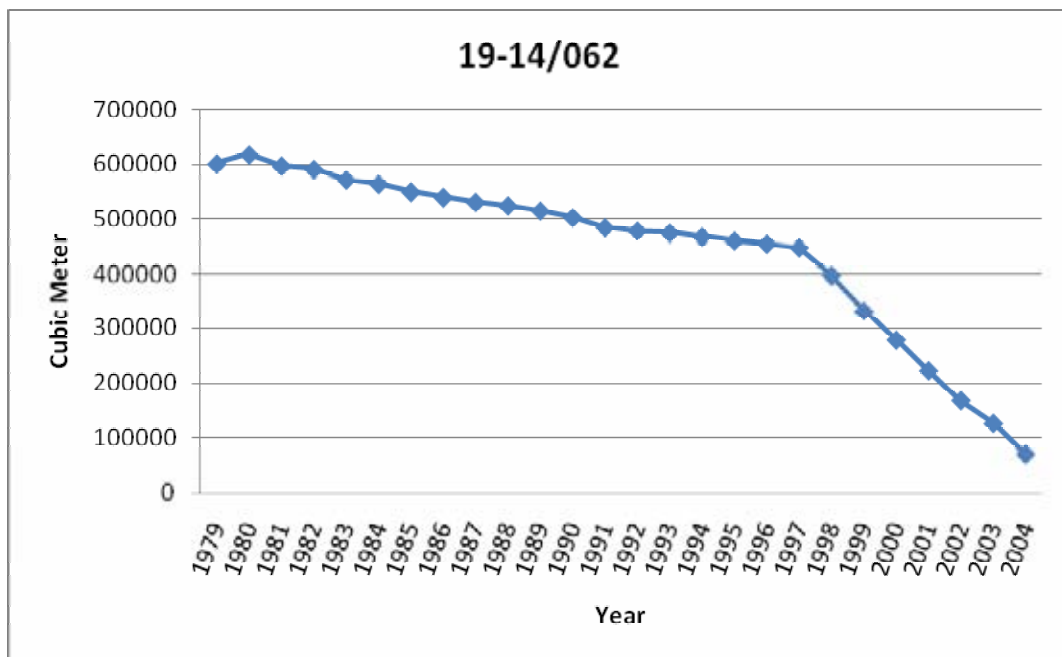
(The information is according to the survey carried out on 02/06/2007)

Tapped Aquifer	Alluvium (Eastern Basin)
Static Water Level	35 meters below ground level (recorded)
Average Pumping Duration	75 m ³ /hr
Estimated Discharge Rate	20 hrs/day 7 days/week 9 months/year
Dynamic Water Level	93.40 meters below ground level (measured)
Specific Capacity	1.3 m ³ /hr/m
Current needs to maintain	No needs

Well Abstraction



Average Monthly Abstraction (1979 – 2004), (PWA Database)



Yearly Abstraction, (PWA Database)

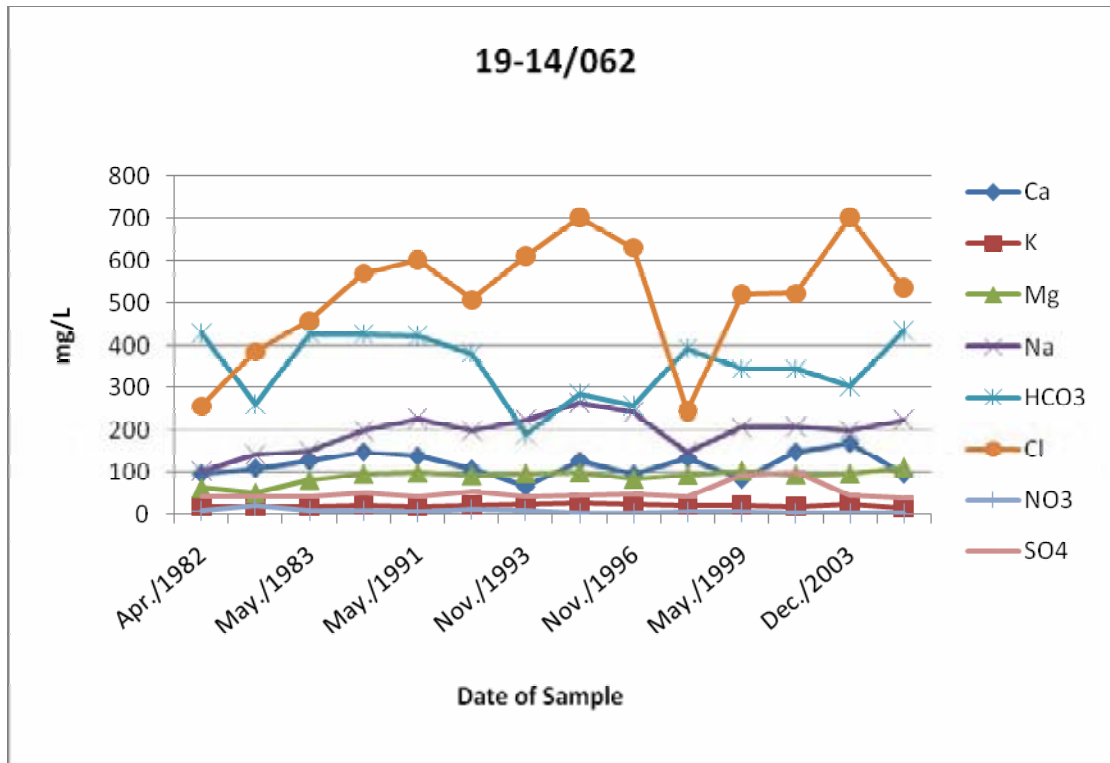
EC: 1400 $\mu\text{S}/\text{cm}$

Water Quality

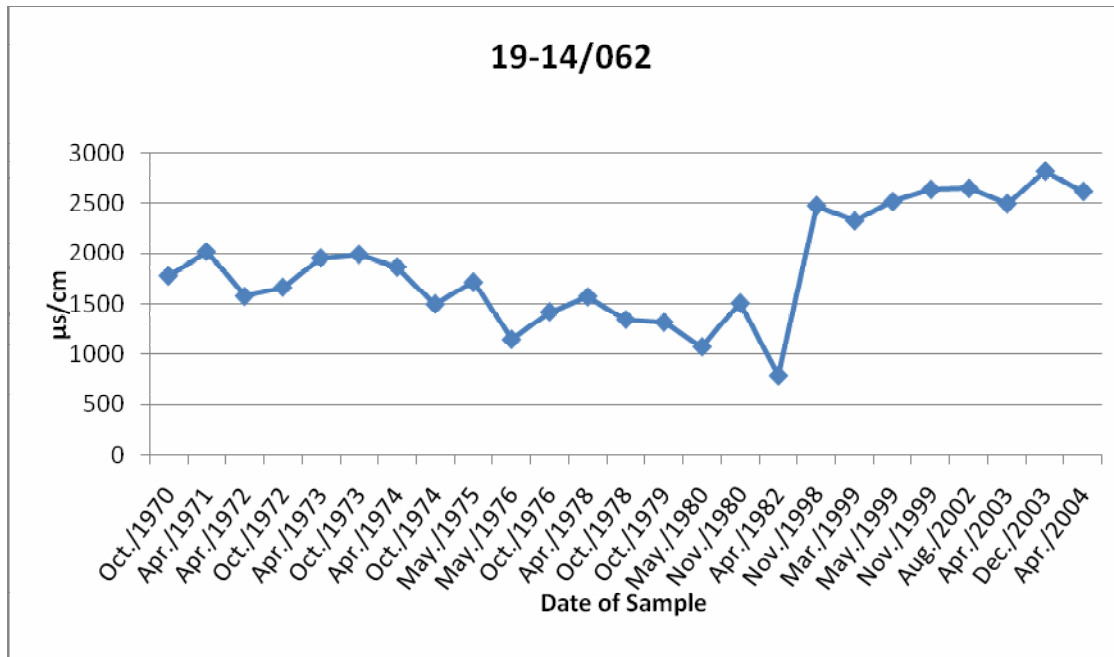
pH: 7.5

Temperature: 27.2 $^{\circ}\text{C}$

The measurements were taken on 14/06/2007



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 02/06/2007)

Pump	
Pump type	Electrical (Abaneeman)
Date of Installation	1970's
Manufacturer	Germany
Capacity	100 m ³ /hr
Engine	
Method of Driving Engine	Electrical
Condition	Fair
Horse Power	60 hp
Volt	400 Volts
Speed Rotations	1500 rpm (fixed)
Turbine	
Number of Stages	10 stages
Type of Stages	Ø 10" (Closed)
Gear Head	
Condition	There is no gear head
Speed Rotations	
Horse Power	
Others	
Type of Lubrication	Water
Dimension of Shaft	Ø 35 mm / 100 m length
Dimension of Rising Pipes	Ø 6" / 100 m length
Dimension of Discharge Head	Ø 8"
Maintenance Record	YES
Control Unit Condition	Fair
Water Meter Condition	Not working
Pump and Engine House	No house-outdoor

5 Piping

Pipe Connection	Agricultural network with reservoir
Leakage	NO
Pipe Condition	Fair
Type	Steel
Diameter	Ø 6"

Well Profile	19-14/064
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1 General Information
(The information is according to the survey carried out on 31/05/2007)

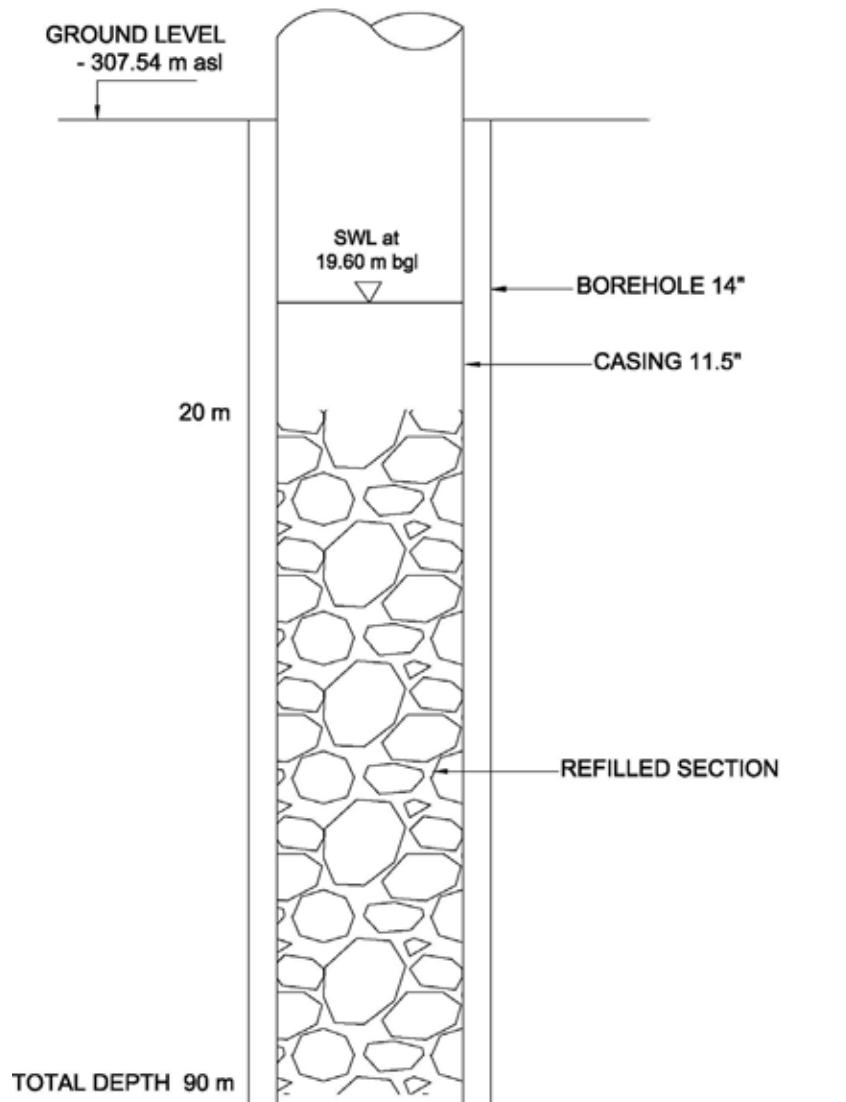
Well Name	Arab Project No.1
Locality Name	Jericho (Ariha)
Well Number	19-14/064
Coordinates	PGE 197230 / PGN 141140 / Z : -307.54 m asl
Date of Survey	31/05/2007
Status	Abandoned
Extraction License	NA
Abstraction	Unknown
Water Usage	Agricultural Use Only
Availability of Electric Grid	YES
Rehabilitation since Drilling	NO



2 Well Structure

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

Drilling Method	NA
Drilling Year	1962
Total Well Depth	90 m, but it is refilled to a depth of 20 m below ground level
Drilling Diameter/Length	14"
Upper Casing (Blank)	11.5" - steel / threaded/ blank
Lower Casing (Screen)	11.5" - steel/ threaded /perforated
Current needs to maintain	Cleaning the well up to 90 meters.



19-14/064

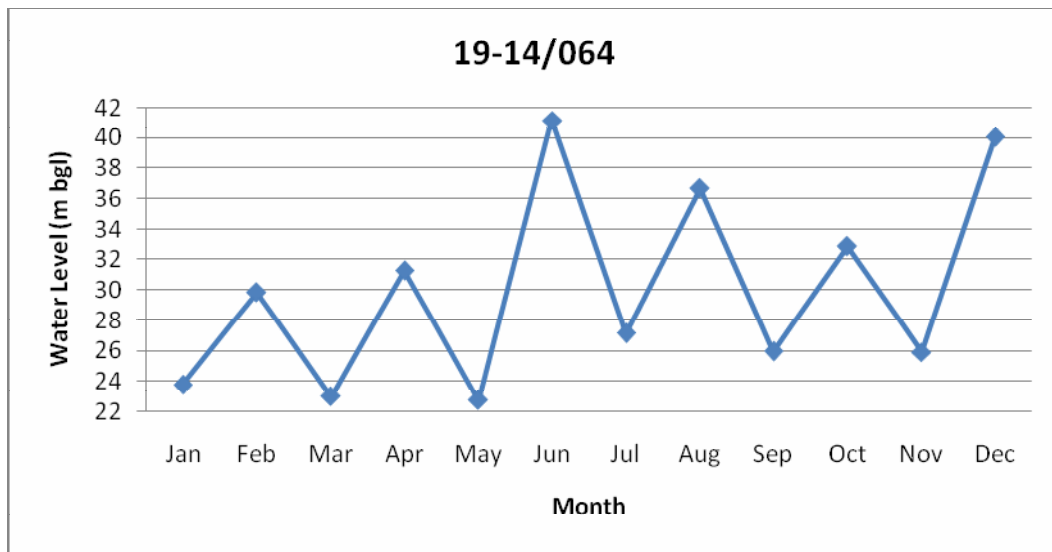
- N.B.**
- (1) Drawing is not to scale,
 - (2) The length of upper and lower casing is unknown,
 - (3) Information about cementing/grouting and other construction data are not available,
 - (4) Information about well structure is based on the personal contact with the well owner

3 Hydro-geological Condition

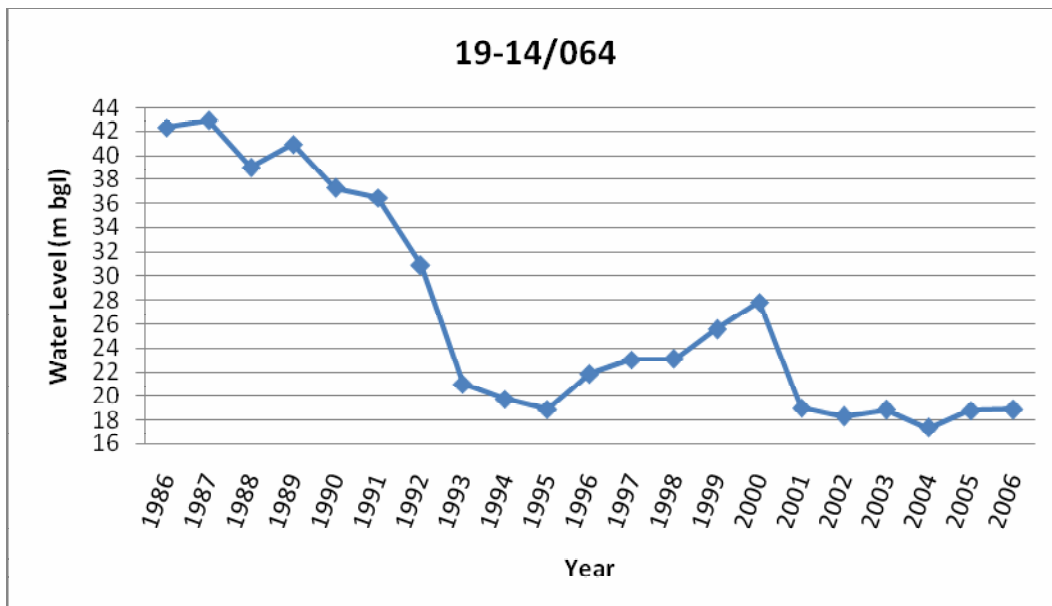
(The information is according to the survey carried out on 31/05/2007)

Tapped Aquifer	Alluvium (Eastern Basin)
Static Water Level	19.60 meters below ground level (measured)
Average Pumping Duration	NA
Estimated Discharge Rate	NA
Dynamic Water Level	NA
Specific Capacity	NA
Current needs to maintain	As mentioned before cleaning up to 90 meters

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

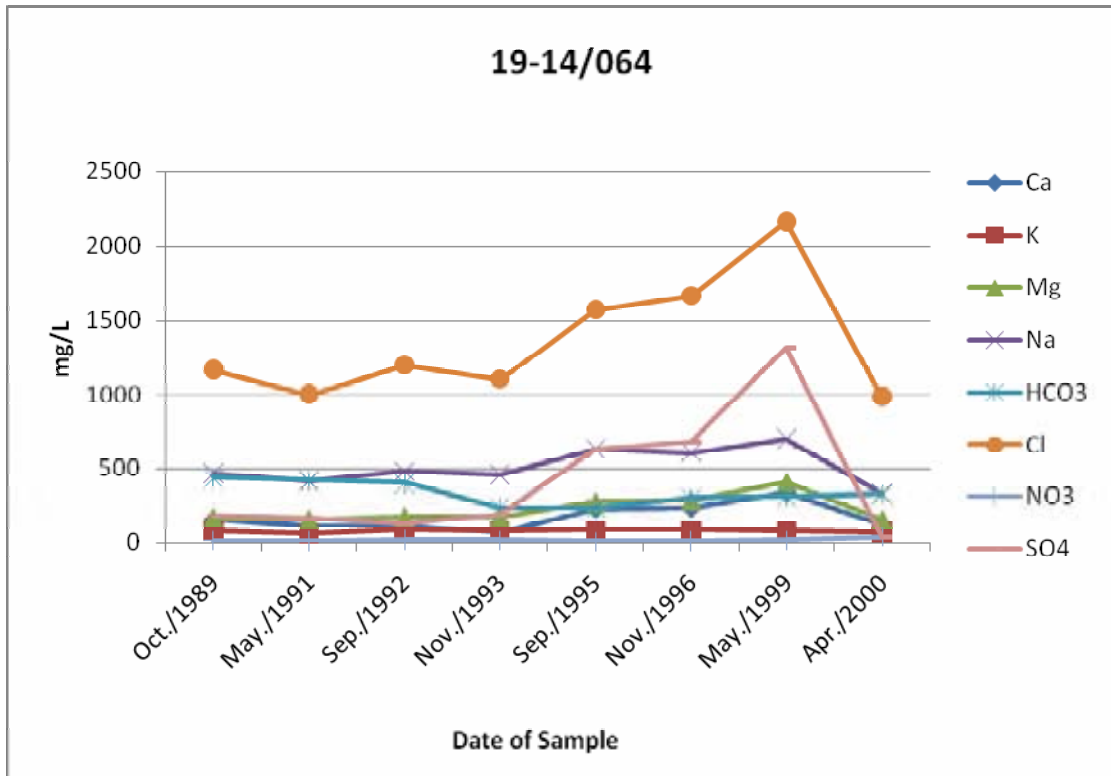


Average Monthly Water Level Fluctuation (1986 – 2006), (PWA Database)

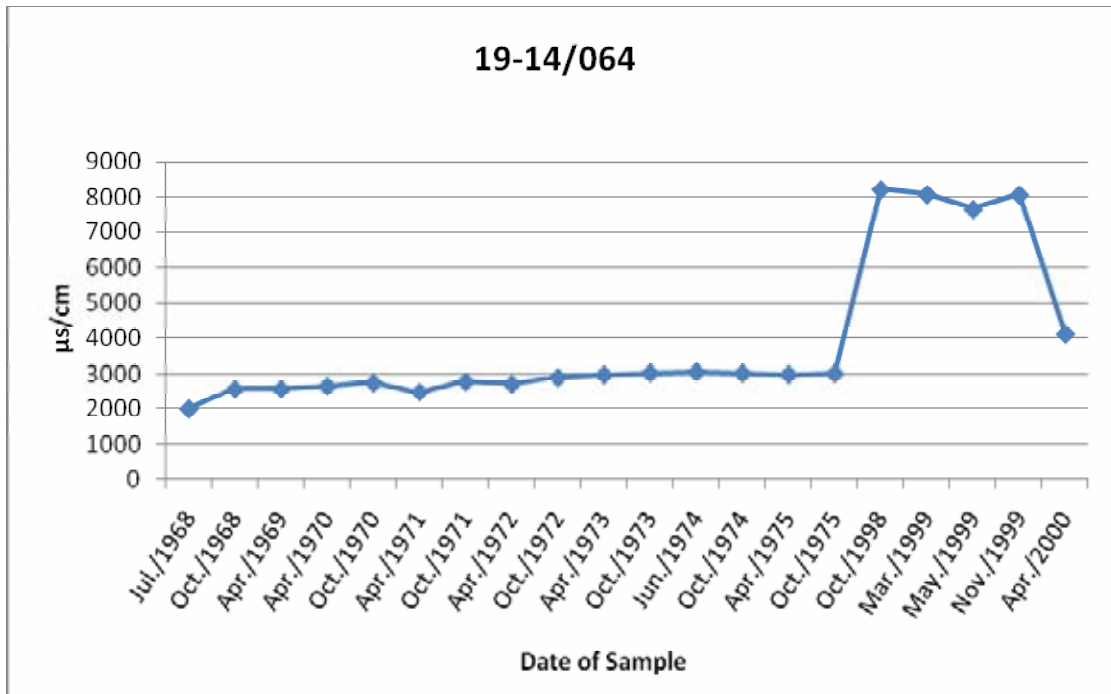


Yearly Water Level Fluctuation, (PWA Database)

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



Major Cations and Anions, (PWA Database)



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

4 Pumping Unit

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

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

5 Piping

Pipe Connection	NA
Leakage	NA
Pipe Condition	NA
Type	Na
Diameter	NA