

An Appraisal of Groundwater Contamination : A Case Study of Shallow Wells In Agbowo Community, Southwestern Nigeria

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ABSTRACT

Abundant as it may seem in Nigeria, access to clean and potable water is a great challenge. Hence the reason for determination of the physico-chemical properties of the groundwater in Agbowo community in Ibadan, Oyo state Southwestern Nigeria for domestic uses. Water samples collected from thirty-four (34) shallow wells with varying depths were subjected to chemical analysis. The water quality parameters were analyzed in accordance to standard methods. The groundwater analysis reviewed includes pH, electrical conductivity, total dissolved solids (TDS), others include Ca2+, Mg2+, K+ Na+, Fe2+, NO3, Cl- SO42- and HCO3- The results indicated that the parameters analyzed have some falling within the limits and some above the maximum permissible limits in accordance to Nigeria Industrial Standard (NIS) and World Health Organization (WHO) guidelines for drinking water. In general, the data revealed that maxima and minima concentrations of the priority physico-chemical water quality parameters examined in the thirty-four (34) water points were mostly within the Target Water Quality Range (TWQR) for domestic use with little exceptions at some points. However, high nitrate concentrations and Total Dissolved Solids (TDS) above the permissible limits in some of the well water sampled are causes for serious concern. Poor construction, lack of maintenance, proximity to sewage tank and stream, as well as indiscriminate dumping of refuse are suggested as the major causes of this development. The overall implication of this observation call for sustenance and improved water resource management strategy for the area in order to prevent the deterioration of the water sources quality, which may pose associated health risks and environmental hazards.

Keywords : Physico-chemical properties, Target Water Quality Range, Health risks, Environmental hazards.

I. INTRODUCTION

Access to clean water is a human right and a basic requirement for economic development. The safest kind of water supply is the use of groundwater, since it normally has a natural protection against pollution by the covering layers of the earth. Thus, only minor water treatment is required (Reinhard Kirsch 2006).

Groundwater occurrence in a Precambrian Basement terrain is hosted within zone of weathering and

fracturing which often are not continuous in vertical and lateral extent (Jeff, 2006). The aquifers of the Basement Complex rocks are the regolith and the fractures in the fresh bedrock which are known to be interconnected at depth (Mohammed, 1984; Alagbe, 1987; Adanu, 1987; Uma and Kehinde, 1994). Water can be an instrument for poverty alleviation, lifting people out of the degradation of having to live without access to safe water and sanitation while at the same time bringing prosperity to all (UN-WATER FOR AFRICA, 2004). Oyebade, 1977, noted that the priority accorded domestic water supply by the colonial administration had not been sustained by the post independence governments of the country. Although there was a steady increase in the percentage of the total government expenditure spent on water between 1975 and 1992, however there was a 50% decrease in the total budgetary allocation for water supply between 1992 and 1996 (Areola and Akintola, 1997; Falusi and Gbadegesin, 1998).

After almost sixty years of water supply development in Nigeria, it is regrettable that only 60% of the population has access to safe drinking water, and in rural areas less than 50% of the households have access to good potable water (Nigeria Millennium Development Goal Report, 2005). According to Orebiyi et al., 2010, 52% of Nigerians do not have access to improved drinking water supply. Adequate water resources for future generations are not only regional issue but also a global concern. Just recently, the Federal government of Nigeria declared a state of emergency on Nigeria's water supply, sanitation and hygiene sector while inaugurating the National Action Plan for Revitalization of water supply, Sanitation and Hygiene (WASH). The state of emergency declared has become imperative to reduce the high prevalence of water-borne disease in different parts of the country as Nigeria could not meet the MDG targets for water supply and sanitation that ended in 2015. Besides, the Sustainable Development Goal (SDG) targets for WASH are even more demanding as they require provision of adequate quantity and quality of water at affordable prizes.

In Nigeria, hand-dug wells constitute the largest source of groundwater (Tekwa *et al.*, 2006). Since most of the wells in Ibadan tap their waters from shallow aquifers within the weathered regolith, the examination and determination of their chemical components becomes very important in order to avoid health hazards that may result from the use or consumption of highly polluted water. Ibadan suffers serious water supply problems: cases of dry taps are common in virtually every part of the city. A sight of children/women searching for water is a common experience (Ifabiyi, 2008). Potable water is the water fit for human consumption, it does not contain chemical substances or microorganisms in amount that can cause hazards to health (Alonge, 2005). Water must be substantially free of dissolved salt, plants, animal waste and bacterial contamination to be suitable for human consumption.

This study is necessitated due to incessant water supply and by the fact that the study area is largely occupied by students and staff of the University of Ibadan and The Polytechnic, Ibadan as well as other local occupants, and thus complement the effort of the Federal Government of Nigeria to achieve the SDG targets for WASH by 2030. The area is one of communities the largest in Ibadan North, southwestern Nigeria (Fig 1). Ibadan North has a population of 306,795 (NPC, 2006) making it densely populated area. Adetunji and Odetokun (2011), while assessing Groundwater conta- mination in Agbowo community, Ibadan Nigeria, observed that Total Aerobic Bacteria Counts (TABC) and Total Coliform Counts (TCC) exceeded the international standard of 0 per 100 mL of potable water and concluded that there is a need to set standards for the siting of wells from septic tanks while considering all possible sources of well contamination.

The present work presents a physico-chemical approach as means of providing additional information on the hydrological investigations and thus assessing the purity variation of the groundwater in the study area, thus ascertaining the source of pollution. The study area is located between latitude 7^0 26' .446¹ N and 7^0 26' .879¹, and longitude 3^0 54' 453^1 E and 3^0 55' 069¹.

Geologic and Hydrogeologic Settings

The study area, Agbowo and its environs, is within the basement complex rock of Ibadan, Nigeria. According to Rahaman (1976), basement complex rocks of Ibadan can be classified into major and minor type. The major rock in the study area is banded gneiss with local schist and quartzite (fig. 2). These rocks in most places are covered by weathered regolith. The banded gneiss covers most places in the study area. The Gneisses are strongly foliated, thus the description 'banded', with a general strike of NE, NW-SE direction. The alternating light and dark coloured bands often splits into two or more bands with quartzo-feldspathic minerals alternating with ferromagnesian minerals. Banded gneiss in the study area is predominantly medium grained. It is made up of minerals like quartz, biotite, plagioclase, chlorite and opaque minerals. These rocks are considered unsuitable for accumulation of groundwater unless they are fractured or jointed.

Weathering, especially in the tropic is the dominant process in the development of superficial rocks. The rate of weathering depends on the groundwater flow, which is very effective in the saturated lower part of the weathering profile. The fracture also exposed fresh crystalline surfaces to weathering activities of the basement rocks. Water levels, in the wells fluctuate according to the season. The recharge to the water table is directly from precipitation in the surface and from stream flowing in the area. The non-occurrence of inhomogeneous rock type such as pegmatite and quartz veins in the study area have been observed to be the major reason for low water yield. This is due to fineness of the grain, and the low susceptibility to weathering of some of the components minerals in gneisses.



Fig. 1: Location map of the study area. The *insert* shows Southwestern Nigeria



Fig. 2: Geological Map of Ibadan showing the study area (Adapted from NGSA, 2006)

II. METHODS AND MATERIAL

The field sampling was carried out during the wet season. Water samples were collected from thirty-

four water points, all from shallow hand dug wells. The temperature, total depth of wells, and depths to water level were taken and recorded. The water column thickness was obtained as the difference between the total depth of wells and depth to water level. In order to avoid contamination from the use of reactive or metallic containers, a clean rubber container was used in drawing water from the wells. Samples were stored in clean sterilized plastic water bottles and labeled for easy identification. The raw water samples and control were taken to the International Institute of Tropical Agriculture (IITA), Ibadan laboratory and analyzed for the following components: K⁺, Na²⁺, Mg²⁺, Ca²⁺, Fe²⁺, NO₃, HCO₃, SO_{4²⁻}, Cl, P^H, TDS, conductivity and Temperature. The anions and the cations in the sample were determined using Atomic Absorption Spectrometer, while the physical parameters measured include pH, TDS, EC and Temperature were determined using Mi 806 MARTINI Combined meter.

Results and Discussion

The average concentrations of analyzed physicochemical parameters compared to quality standards for drinking water are presented in table 1. The results of the physical parameters conducted in-situ and chemical analysis are presented in table 2, and 3 respectively.

Physical Investigations

The physical parameters examined include temperature (°C), pH, total dissolves solids (mg/l), conductivity (Us/cm), total depth (m), depth to water level (m) and the thickness of water column (m) elevation (ft) and coordinates. There is wide range of values recorded for various physical parameters measured. The total depth of each well represents the level to which. it was dug. The shallowest well was Agbowo 022 with total depth of 1.90m, and the deepest well encountered at Agbowo 033 with total depth of 8.82m. The average water well depth in the area is 4.49m. The water level represents the level of water in the wells and this is equivalent to the water table of the environment. The depth to water level ranges from 0.19m (Agbowo 19) to 7.15m at (Agbowo 033) with average of 1.79m. Water column thickness range from 0.35m (Agbowo 30) to 6.04m (Agbowo 003) with average of 2.69m. The appreciable water column thickness obtained is an indication of good recharge rate.

The temperature of the water samples collected in the studied area is fairly constant. It ranges from 26.500C to 28.20C (Agbowo 25 to Agbowo13) with an average of 27.60C. The low temperature value experienced at Agbowo 25 could be related to its shallow depth, since the law of hydrothermal gradient states that temperature increases with depth. Thus the relative high temperature value experienced at Agbowo 13 could also be related to it is relatively deeper depth. The graphical correlation of well depth against temperature is shown in figure 3.



Fig. 3: Well depth against temperature

The pH of water sample collected ranges from 7.6 (Agbowo 30) to 8.8 (Agbowo 13, 15, 20, 28, and 29) with an average of 8.5. The pH value of most groundwater is controlled by the amount of dissolved CO2 gas and the dissolved carbonates and

bicarbonates in the mineral salt. The CO2bicarbonate relation is the principal control of pH in most groundwater (Bollenbach, 1975). Drinking water with pH 6.5 and 8.5 is generally considered satisfactory by WHO 2011; NIS, 2007.

Conductivity gives an indication of amount of ions in the water. The conductivity value ranges from 590us/cm (Agbowo 005) to 1831 us/cm. (Agbowo 27) with an average of 1126.90us/cm. This value is higher when compare to 1000us/cm, the maximum value recommended by WHO, 2011; and NIS 2007 for drinking water. In solution as dilute as most groundwater, the specific conductance varies directly with the amount of dissolved minerals in the water (Bollenbach, 1975). Waters with relatively high specific conductance can cause corrosion of iron and steel (Hem, 1959; Hem and Cropper 1959).

The Total Dissolve Solids (TDS) concentration in water is a general indication of the overall suitability of water for many uses. The value of TDS ranging from 286mg/l (Agbowo 005) to 908mg/l (Agbowo 027) with an average of 563.21mg/l. This is contrary to 500mg/l maximum value recommended by WHO 2011 and NIS 2007, and this may result in adverse taste effects. It is recommended that water containing more than 500mg/l of dissolved solids not be used if other less mineralized supplies are available. The graphical correlation of TDS against EC, and Calcium concentration against TDS is shown in figure 4 and 5 respectively.

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Chemical Investigations

In order to determine the portability of shallow well water in Agbowo and its environs, major constituents in water such as bicarbonate, sulphate, chloride, calcium, sodium and magnesium are chemically analyzed. The minor constituents also determined include nitrate, potassium and iron. These constituents are analyzed, average concentration were determined and then compared with World Health Organization (WHO) and Nigeria Industrial standards.

Table 1: Showing average concentrations of analyzed physico-chemical parameters compared to quality standards for drinking water.

Chemical Parameters Analysed	NAFDAC 2007	WHO 2007	Mean Conc. obtained
Ph	6.5 - 8.5		8.5
Temp. ^o C			
Cond. (us/cm)	1000	1000	1126.9
TDS (Mg/I)	500	500	562.9
Na ⁺ (Mg/I)		200	113
Mg ⁺ (Mg/I)		20	0.66
K ⁺ (Mg/I)	10	12	2.13
Ca ⁺ (Mg/I)	75	100	113
Fe ²⁺ (Mg/I)	0.3	0.3	0.1
CI (Mg/I)	100	200	38.1
N032- (Mg/I)	10	50	40.19
S042- (Mg/I)	100	100	20.3
C03 (Mg/I)			34.23





Bicarbonate is the most abundant anion in the study area, having concentration ranging from 53.4mg/l to184.6mg/l with an average of 110.59mg/l. The bicarbonate (HCO3-) is the principal alkaline constituent in almost all water supplies. Bicarbonate alkalinity is introduced into the water by CO2 (carbon dioxide) dissolving carbonate containing minerals. Bicarbonate stability in water however, depends on the pH of the water, usually for values between 5 and 7 (Taylor, 1958).

Sulphate occurs in almost all natural water. The concentration of sulphate (SO42) in the samples ranges from 11.9mg/l to 40.0mg/l with the average of 20.34mg/l. This value is within the NIS allowable limits. High concentration of sulphate in drinking water causes laxative effect when combined with calcium and magnesium, the two most common

component of hardness. The major source of the sulphate ions in the water is believed to be sulphate ions recycled from the atmosphere through rain percolation (Davies and Dewiest, 1966). Sulphates in groundwater may also be derived from dissolution of anhydrite or gypsum, it may also come from the oxidation of pyrite (Bollenbach, 1975)

The chloride concentration in the water sample range from 17.7mg/l to 69.2mg/l with an average of 38.07mg/l. The result of the analysis shows that the average concentration of chloride ions falls within the recommended limits of NIS 2007 which is 250mg/l. Sources of chloride in water often include fertilizer human magmatic rocks, excrement (especially in the area where the wells are very close to the toilets). (Freeze and Cherry, 1979). It is also believed that igneous rocks are generally low in chloride. Water with greater than 250ppm chloride concentration is generally objectionable for municipal purposes. However, chloride content of greater than 350ppm is said to be objectionable for most irrigation or industrial uses by some authors. Water with greater than or equal to 500ppm chloride is found to have disagreeable taste (Bollenbach, 1975). Calcium concentration in the water samples collected ranges from 55.90mg/l to 189.57mg/l with an average of 113.12mg//l. About 79.3% of the sampled water has concentration below the standard of 150mg/l (NIS 2007) which is the maximum allowable limits. About six locations representing 20.7% however contain calcium concentration above the maximum allowable limit. Calcium concentration is found to be higher than other cations analyzed. Calcium and magnesium cause almost all the hardness of water. The metallic calcium and magnesium ions and the corresponding bicarbonate, sulfate, chloride and nitrate from these dissolved compounds will be found bicarbonate ions solution. The exist in in groundwater as the result of dissolved carbon-dioxide. The CO2 helps the water to dissolve carbonate minerals with which it comes in contact (Bollenbach, 1975).

Sodium does not contribute to hardness of water. It is however stressed that groundwater containing considerable sodium carbonate or sodium bicarbonate are alkaline and may have pH values of 9 or more. Its concentrations in the samples ranges from 9.98mg/l to 170.33mg/l with average of 112.88mg/l. Its value is within the acceptable limit of the NIS 2007. The possible source of Na+ in the water are weathered plagioclase feldspars, atmospheric dust washed down by rain, especially wet season, and exchangeable sodium ions from clays.

The concentration of magnesium in the water sample collected ranges from 0.31mg/l to 1.14mg/l with an average value of 0.66mg/l. All the sampled locations have magnesium concentration higher than the allowable limits of 0.20mg/l (NIS, 2007). The probable source of magnesium in water is weathering of feldspar and mica, and other related mineral hosted by the basement rocks in the area. Besides, the role of percolating water especially in the wet season as a participant in the chemical reaction or alteration usually results in the leaching of cations in the silicate minerals (Malomo, 1990). There is no health complication for magnesium except consumer's acceptability.

The safe nitrate limit for domestic water is set at 50mg/l by NIS (2007). The nitrate concentration in the samples collected ranges from 19.21mg/L to 61.98mg/l with the average of 40.19mg. Nitrate in many groundwater appear to be unrelated to any geologic formation. Nitrate is one of the most common groundwater contaminants. However, some authorities believe that Nitrate occurs naturally in soil and water as a result of decaying plant and

animal residue. Other common sources of nitrate include human sewage and livestock manure. Nitrate is also a common constituent of chemical fertilizer. The graphical correlation of Nitrate concentration against well depth is shown in figure 6. Nitrate concentration higher than 45ppm is undesirable and toxic on young infants. Nitrate in drinking water causes cyanosis, and asphyxia (blue-baby "syndrome") in infants under 3 months (WHO, 1984; 1997).



Figure 6: Nitrate concentration (mg/l) against Well Depth (m)

The behaviour of Potassium and Sodium is similar. Nearly all their compounds are soluble so that Sodium leached from rocks or soils remain in solution (Bollenbach, 1975). The water samples analyzed has potassium range from 0.35mg/l to 4.89mg/l with an average of 2.13mg/l. Although excessive intake may have a laxative effect, public health authorities have not established a maximum limits. The major source of Potassium in water is weathered Orthoclase and Microcline feldspar.

Potassium migration is not stable in groundwater due to it is ready exchange with sodium in clays (freeze and cherry 1979). This is an important contributor to water hardness. When water is heated, it breakdown and precipitate out of solution, forming scale. Iron is common in many igneous rocks and it is found in trace amounts in practically all sediments and sedimentary rocks. The specific form of iron intake in water depends on the amounts of oxygen concentration in the water, and the pH. Iron has concentration ranging from 0.04mg/l to 0.12mg/l with the average 0.1mg/l. The source of iron may be related to the production of iron oxides alongside with clay minerals. Iron in concentration greater than 0.3mg/l which is the maximum value permitted by NIS 2007, may cause brown and black stains in laundry, plumbing fixtures and sinks. USPHS suggests that the iron content in groundwater should not be greater than 0.3ppm. Water standing in a well that has been idle will have higher iron content than the natural water in the aquifer (Bollenbach, 1975).



Figure 7: Histogram depicting mean concentration of cations compared to WHO standards



Figure 8: Histogram depicting mean concentrations of anions compared to WHO standards

IV. CONCLUSION

There primary purpose of a water analysis is to determine the suitability of water for a purposed use. The three main classes of use are domestic (household), agriculture and industrial. Agbowo and its environs in the Ibadan north local government is dominated by staff and students of both university of Ibadan and the Polytechnic, Ibadan as well as other community members. Thus, the use of water in this area is strictly domestic. Since there is no public water system, a system for the provision of the public of piped water for human consumptions, people living in the area depend on groundwater through construction of shallow wells and occasionally deep water boreholes.

The physico-chemical investigation of shallow well water in the area shows that some shallow wells in the environs are unkempt and wrongly positioned and this has resulted in concentrations of some major parameters above the allowable limits and thus rendered the well water not suitable for drinking and household use. Only few locations met up with the

Agw 34 Sum

Minimun Maximur Mean Standard

0.2591

280.49 146.6 39 0.19 1.08 40.3 0 10.44

standards. High concentration of nitrate, magnesium, as well as total dissolved solids and electrical conductivity in many of the sampled locations are major cause for concern.

Poor construction, lack of maintenance, proximity to sewage tank and stream are some of the major causes of this development. In conclusion, government intervention in collaboration with the inhabitants of the area is highly necessary to provide clean and safe water for household use. Proper dissemination of information on construction of shallow wells and water treatment should be given a priority to prevent outbreaks of epidemic in the area.

V. RECOMMENDATION

The following recommendation could be useful to proffer a long-lasting solution to the common lack of potable water in the area if given a cognizance:

- Infiltration of surface water should be prevented while constructing water wells. The last 3ft to the surface should be cased off with concrete plugs.
- Water wells should always be properly covered with wells lids. This will prevent settling of dust and other contaminants in well water.
- The inhabitants of the Ibadan North Local Government should be sensitized on the possible side effects of unhygienic condition of living.
- People should also be educated on the merits of regular water treatments, and hence the prescription of necessary treatment measure.
- There is a need to set standards for the siting of wells from septic tanks while considering all possible sources of well contamination.

Table 2: Field Measurements

Sample	G . P . 4	Elev.	DWL	DW	WCT	Temp.	Sampl	le	P. 4	Ð	ev. DWI	DW	WCT	Temp.
No	Coordinates	(ft)	(bgl)m	(bgl)m	(m)	(°C)	No	0	ordinate	es (f	t) (bgl)r	n (bgl)n	n (m)	(°C)
Agb 001	Not Taken	742	0.85	4.38	3.53	27.80	Agb 01	N 07 8 E 00	7°26.852')3°54.83() ¹ 7(09 1.24	5.11	3.87	28.00
Agb 002	N 07 ⁰ 26.546 ¹ F 003 ⁰ 54 453 ¹	765	2.03	4.58	2.55	28.00	Agb 01	9 N 07	7°26.844 ¹)3°54.819	0 ¹ 66	57 0.19	2.70	2.51	27.20
Agb 003	N 07 ⁰ 26.546 ¹ E 003 ⁰ 54.453 ¹	767	0.98	7.02	6.04	27.80	Agb 02	0 N 07	7°26.824 ¹	1 68	32 0.87	2.41	1.54	26.80
Agb 004	N 07 ⁰ 26.678 ¹	749	0.88	4.70	3.82	27.80	Agb 02	1 N 07	7°26.868	1 70)3 1.55	5.45	3.90	28.00
Agb 005	N 07°26.7581	724	1.40	4.62	3.22	28.00	Agb 02	2 N 07	7°26.879 ¹	71	16 0.75	1.90	1.15	27.50
Agb 006	N 07°26.787 ¹	708	2.70	7.50	4.80	28.20	Agb 02	3 N 07	7°26.469 ¹	71	12 1.48	5.95	4.47	27.00
Agb 007	N 07°26.7951	686	2.50	6.15	3.65	27.20	Agb 02	4 N 07	7°26.516 ¹	1 69	0 1.30	3.70	2.40	28.00
Agb 008	N 07°26.794 ¹	693	0.85	5.70	4.85	26.80	Agb 02	5 N 07	7°26.544	68	38 0.55	2.46	1.91	26.50
Agb 009	N 07°26.8201	693	1.29	3.35	2.06	28.00	Agb 02	6 N 07	7°26.537 ¹	68	36 0.25	2.35	2.10	27.20
Agb 010	N 07 ⁰ 26.728 ¹	727	0.90	2.89	1.99	27.60	Agb 02	7 N 07	7°26.546	71	16 1.87	2.67	0.80	27.00
Agb 011	E 003"54.614 N 07"26.590"	720	0.87	2.95	2.08	27.80	Agb 02	8 N 01	7°26.546 ¹	1 72	27 0.53	3.24	2.71	27.00
Agb 012	N 07°26.6051	742	1.58	4.33	2.75	28.00	Agb 02	9 N 07	7°26.584 ¹	1 67	76 1.86	2.87	1.01	27.50
Agb 013	N 07 ⁰ 26.695 ¹	705	5.60	6.00	0.40	28.20	Agb 03	0 N 07	7°26.6591	+ 1 7e	51 2.12	2.47	0.35	27.20
Agb 014	N 07°26.745 ¹	678	5.20	6.82	1.62	28.00	Agb 03	1 N 07	7°26.703 ¹	. 64	4 0.55	4.25	3.70	28.00
Agb 015	N 07 ⁰ 26.791 ¹	678	1.27	4.48	3.21	27.80	Agb 03	2 N 07	7°26.528	. 75	58 3.10	6.48	3.38	27.80
Agb 016	N 07 ⁰ 26.823 ¹	661	0.92	2.90	1.98	27.50	Agb 03	3 N 07	7°26.476	76	54 7.15	8.82	1.67	28.00
Agb 017	E 003"54.828" N 07"26.842"	666	0.35	4.35	4.00	27.70	Agb 03	4 N 01	7°26.4461	. 7:	50 5.20	7.08	1.88	28.20
	E 003"54.824"						č	E OU	3-54.62)	/				
Table 2	: Results	of Ch	emica	l Anal	ysis	of the	Wate	r San	ples					
									<u> </u>					
Sample	PH		ect. C	on T	DS	Ca	Mg	K	Na	Fe	NO ₃ -N	Cl.	SO4	HCO
Sample No	PH 8.2		ect. C (uS/ci 843	on T m) p	DS om 25	Ca mg/l	Mg mg/l 0.42	K mg/l	Na mg/l 83.7	Fe mg/l	NO 3-N mg/l	Cl [·] mg/l	SO₄ ⁺ mg/l	HCO mg/l
Sample No Agw 01 Agw 02	8.2 ND		ect. C (uS/cr 843 ND	on T m) p 3	DS pm 25	Ca mg/l 98.9 ND	Mg mg/l 0.42 ND	K mg/l 2.28 ND	Na mg/l 83.7	Fe mg/l 0.1	NO 3-N mg/l 55.58 ND	CI' mg/l 56.4	SO₄ ⁺ mg/l 40	HCO mg/l 120.9
Sample No Agw 01 Agw 02 Agw 03	PH 8.2 ND 8.6		ect. C (uS/ci 843 ND	on T m) p 3 N 9 4	DS pm 25 JD 90	Ca mg/l 98.9 ND 138	Mg mg/l 0.42 ND 0.83	K mg/l 2.28 ND 2.78	Na mg/l 83.7 ND 78.1	Fe mg/l 0.1 ND 0.1	NO ₃ -N mg/l 55.58 ND 61.98	Cl [*] mg/l 56.4 ND 41.2	SO₄ ⁺ mg/l 40 ND 15.1	HCO mg/l 120.9 ND 98.4
Sample No Agw 01 Agw 02 Agw 03 Agw 04	PH 8.2 ND 8.6 8.6		ect. C (uS/cr 843 ND 1009 823	on T m) p 3 N 9 4 4	DS pm 25 JD 90 04	Ca mg/l 98.9 ND 138 89.3	Mg mg/l 0.42 ND 0.83 0.73	K mg/l 2.28 ND 2.78 0.96	Na mg/l 83.7 ND 78.1 84.1	Fe mg/l 0.1 ND 0.1 0.1	NO ₃ -N mg/l 55.58 ND 61.98 33.31	Cl [*] mg/l 56.4 ND 41.2 20.7	SO ₄ ' mg/l 40 ND 15.1 12.6	HCO mg/l 120.9 ND 98.4 100.2
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05	PH 8.2 ND 8.6 8.6 8.6 8.5		ect. C (uS/ci 843 ND 1009 823 590	on T m) p 3 9 4 4 2	DS pm 25 1D 90 04 86	Ca mg/l 98.9 ND 138 89.3 71.5	Mg mg/l 0.42 ND 0.83 0.73 0.31	K mg/l 2.28 ND 2.78 0.96 1.76	Na mg/l 83.7 ND 78.1 84.1 64.1	Fe mg/l 0.1 0.1 0.1 0.1	NO ₃ -N mg/l 55.58 ND 61.98 33.31 29.23	Cl [*] mg/l 56.4 ND 41.2 20.7 35.1	SO₄ ⁺ mg/l 40 ND 15.1 12.6 14.1	HCO mg/l 120.9 ND 98.4 100.2 70.4
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06	PH 8.2 ND 8.6 8.6 8.5 ND		ect. C (uS/c 843 ND 1009 823 590 ND	on T m) pj 3 9 4 4 2 N	DS pm 25 ID 90 04 86 ID	Ca mg/l 98.9 ND 138 89.3 71.5 ND	Mg mg/l 0.42 0.83 0.73 0.31 ND	K mg/l 2.28 ND 2.78 0.96 1.76 ND	Na mg/l 83.7 ND 78.1 84.1 64.1 ND	Fe mg/l 0.1 0.1 0.1 0.1 ND	NO 3-N mg/l 55.58 ND 61.98 33.31 29.23 ND	Cl [•] mg/l 56.4 ND 41.2 20.7 35.1 ND	SO₄ ⁺ mg/l 40 ND 15.1 12.6 14.1 ND	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07	PH 8.2 ND 8.6 8.6 8.5 ND ND		ect. C (uS/ci 843 ND 1009 823 590 ND ND	on T m) p 3 9 4 4 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DS pm 25 1D 90 04 86 1D 1D 1D	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND	Mg mg/l 0.42 0.83 0.73 0.31 ND ND	K mg/l 2.28 ND 2.78 0.96 1.76 ND ND	Na mg/l 83.7 ND 78.1 84.1 64.1 ND ND	Fe mg/l 0.1 0.1 0.1 0.1 ND ND	NO 3-N mg/l 55.58 ND 61.98 33.31 29.23 ND ND	Cl [•] mg/l 56.4 ND 41.2 20.7 35.1 ND ND	SO₄ ⁺ mg/l 40 ND 15.1 12.6 14.1 ND ND	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND ND
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 07 Agw 08	PH 8.2 ND 8.6 8.6 8.5 ND ND 8.6		ect. C (uS/cr 843 ND 1009 823 590 ND ND 118	on T m) pp 3 N 9 4 4 2 N 5 5	DS pm 25 1D 90 04 86 1D 1D 1D 73	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND ND 0.69	K mg/l 2.28 ND 2.78 0.96 1.76 ND ND 1.63	Na mg/l 83.7 ND 78.1 84.1 64.1 ND ND 130	Fe mg/l 0.1 0.1 0.1 0.1 ND ND 0.1	NO ₃ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81	Cl [·] mg/l 56.4 ND 41.2 20.7 35.1 ND ND 31.2	SO ⁴ mg/l 40 15.1 12.6 14.1 ND ND 27.9	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND ND 75.8
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09	PH 8.2 ND 8.6 8.6 8.5 ND ND 8.6 ND		ect. C (uS/cr 843 ND 1009 823 590 ND 1180 ND	on T m) p 3 9 4 4 2 8 5 5 5 5	DS pm 25 1D 90 04 86 1D 1D 73 1D 53 10 10 10 10 10 10 10 10 10 10	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND ND 0.69 ND	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND	Na mg/l 83.7 ND 78.1 84.1 64.1 ND ND 130 ND	Fe mg/l 0.1 0.1 0.1 0.1 0.1 ND 0.1 ND 0.1	NO ₃ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND ND 31.2 ND	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND ND 27.9 ND	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND ND 75.8 ND
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10	PH 8.2 ND 8.6 8.6 8.6 8.5 ND ND 8.6 ND 8.6 8.6		ect. C (uS/cr 843 ND 1009 823 590 ND ND 1180 ND 1177	on T m) p 3 9 4 4 2 1 2 N 5 5 5 8 5	DS pm 25 ID 90 04 86 ID ID 73 ID 80 80	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 117	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND ND 0.69 ND 0.58	K mg/l 2.28 ND 2.78 0.96 1.76 ND ND 1.63 ND 2.37	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 134	Fe mg/l 0.1 0.1 0.1 0.1 0.1 ND 0.1 ND 0.1 ND	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 48.81 ND	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND ND 75.8 ND 180.2
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11	PH 8.2 ND 8.6 8.6 8.6 8.6 ND 8.6 8.6 8.6 ND 8.6 8.6 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6		ect. C (uS/c 843 ND 1000 823 590 ND 1180 ND 1173 121	on T m) p 3 N 9 4 4 2 N N 5 5 N N 8 5 1 5	DS pm 25 1D 90 04 86 1D 1D 73 1D 80 90 1D 80 90	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 117 ND 119 87.4	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.58 0.39 ND	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 134	Fe mg/l 0.1 0.1 0.1 0.1 0.1 ND 0.1 0.1 0.1	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 49.08 39.25	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 04 Agw 04 Agw 05 Agw 00 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11 Agw 12 Agw 12	PH 8.2 ND 8.6 8.6 8.5 ND ND 8.6 8.6 8.6 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6		ect. C (uS/ci 843 ND 1009 823 590 ND 1186 ND 1173 121 ND	on T m) pp 3 N 9 4 0 2 N N 5 5 N N 6 5 1 5 1 5	DS pm 25 1D 90 04 86 1D 1D 73 1D 80 90 1D 1D 80 90 1D 90 90 10 10 10 10 10 10 10 10 10 1	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 117 ND 119 87.4 ND	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.58 0.39 ND	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42 ND 2.37	Na mg/l 83.7 ND 78.1 84.1 64.1 ND ND 130 ND 134 144 ND	Fe mg/l 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 49.08 39.25 ND	CI mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4 ND	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 24.6	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 ND
Sample No Agw 01 Agw 02 Agw 02 Agw 04 Agw 04 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 00 Agw 10 Agw 11 Agw 12 Agw 13 Agw 13	PH 8.2 ND 8.6 8.6 8.6 ND ND 8.6 8.6 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6		ect. C (uS/cc 843 ND 1009 823 590 ND ND 1188 ND 1173 121 ND 1439 975	on T m) pp 3 N 9 4 4 2 N N 5 5 N 8 51 5 1 7	DS pm 25 ID 90 04 86 ID ID 1D 80 90 ID 09 84	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 117 87.4 ND 119 87.4 ND 81.8 84.6	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.58 0.39 ND 0.92	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42 ND 1.28 1.28	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 144 ND 136 85 2	Fe mg/l 0.1 0.1 0.1 0.1 0.1 ND 0.1 0.1 0.1 0.1 0.1	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND 29.23 ND 48.81 ND 49.08 39.25 ND 32.66 25.25	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 7	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 ND 53.4 72.5
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 03 Agw 03 Agw 06 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11 Agw 12 Agw 13 Agw 14 Agw 14 Agw 14	PH 8.2 ND 8.6 8.5 ND ND 8.6 8.6 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6		ect. C (uS/cc 843 ND 1009 823 590 ND 1188 ND 1173 121 ND 143 975	on T m) pp 3 N 9 4 4 2 N N 5 55 N N 8 5 1 5 1 7 4 2	DS DM 25 1D 90 04 86 1D 1D 1D 73 1D 80 90 1D 09 84 39	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 119 87.4 ND 81.4 81.6 84.6 190	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.58 0.39 ND 1.14 0.92 1.03	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42 ND 1.28 1.28 1.28	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 144 ND 156 85.2 113	Fe mg/l 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 49.08 39.25 ND 32.66 35.35 35.08	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 56.7 40.3	BO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 ND 53.4 72.5 154
Sample No Agw 01 Agw 02 Agw 03 Agw 03 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 15 Agw 16	PH 8.2 ND 8.6 8.6 8.5 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6		ect. C (uS/cc 843 ND 1000 823 5900 ND 1186 ND 1173 121 ND 143 975 1288 1011	on T m) pp 3 N 9 4 4 2 N N 5 5 1 5 4 9 6 5 5 1 5 5 1 7 4 9 6 5	DS pm 25 4D 90 04 886 4D 4D 73 4D 4D 73 4D 80 90 4D 80 90 80 90 84 39 04	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 119 87.4 ND 81.8 84.6 190 107	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.58 0.39 ND 1.14 0.92 1.03 0.47	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42 ND 1.28 1.28 1.28 1.77 2.32	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 144 ND 156 85.2 112	Fe mg/l 0.1 0.1 0.1 0.1 0.1 ND 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 48.81 ND 49.08 39.25 ND 32.66 35.35 35.08 41.57	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3	BO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 ND 53.4 72.5 154 130
Sample No Agw 01 Agw 02 Agw 03 Agw 03 Agw 04 Agw 05 Agw 05 Agw 06 Agw 07 Agw 08 Agw 08 Agw 09 Agw 10 Agw 10 Agw 12 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 16	PH 8.2 ND 8.6 8.6 8.5 ND 8.6 8.6 ND 8.6 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6		ect. C (uS/cc 843 ND 1000 823 5900 ND 1186 ND 1173 121 ND 1433 975 1286 1011 1255	on T m) pj 3 N 9 4 4 2 N N 5 5 1 5 5 5 5 5 5 5	DS pm 25 ID 90 04 886 ID ID 73 ID 80 90 ID 90 90 10 90 90 10 10 10 10 10 10 10 10 10 1	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 119 87.4 ND 81.8 84.6 190 107 123	Mg mg/l 0.42 ND 0.83 0.73 ND 0.69 ND 0.58 0.39 ND 1.14 0.922 1.03 0.471	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 1.63 ND 2.37 3.42 ND 1.28 1.28 1.77 2.32 3.02	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 144 ND 156 85.2 112 10.4	Fe mg/l 0.1	NO ₁ -N mg/l 55.58 ND 33.31 29.23 ND 49.08 39.25 ND 32.66 35.35 35.08 41.57 32.85	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 32.3 69.2	BO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 24.6	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND ND 75.8 ND 180.2 110.1 ND 53.4 72.5 154 130 166.1
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 06 Agw 06 Agw 00 Agw 00 Agw 10 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 16 Agw 17 Agw 17	PH 8.2 ND 8.6 8.5 ND ND 8.6 8.6 8.6 8.6 8.6 8.6 8.8		ect. C (uS/cr 843 ND 1009 823 5900 ND 1188 ND 1173 1211 ND 143 9755 1288 1013 1253 1125	on T m) pj 3 N 9 4 4 2 N N 5 5 1 5 5 5 5 5 5 5 5 5 5 5 6 5	DS pm 25 ID 90 04 886 ID ID 73 ID 80 90 ID 90 880 90 ID 90 90 10 10 10 10 10 10 10 10 10 1	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 119 87.4 ND 81.8 84.6 190 107 123 117	Mg mg/l 0.42 ND 0.83 0.73 ND 0.69 ND 0.69 ND 0.31 ND 0.69 ND 0.39 ND 1.14 0.92 1.03 0.41 0.61 0.63	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42 1.28 1.28 1.28 1.27 2.32 2.302 1.18	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 130 ND 130 ND 131	Fe mg/l 0.1 ND 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0 0 0 0 0 0 0	NO ₁ -N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 49.08 39.25 ND 48.81 ND 49.08 39.25 S.508 41.57 32.85 55.4.47	Cl' mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9	НСО mg/l 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 ND 53.4 72.5 154 130.1 166.1 149.2
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 09 Agw 09 Agw 09 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 17 Agw 18	PH 8.2 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.8 8.4 8.8 8.5 8 8.5 8 8.5 8 8.5		ect. C (uS/cr 843 ND 1009 823 5900 ND 1188 ND 1173 121 ND 143 975 1288 1011 1253 1128 11129	on Ti m) p 3 N 9 4 0 2 N 0 4 0 0 4 0 2 N 5 5 5 5 6 5 5 5 6 5 6 5 6 5 6 5 6 5 6	DS pm 225 4D 990 004 86 4D 1D 1D 73 4D 900 900 900 900 900 900 900 90	Ca mg/l 98.9 ND 138 89.3 71.5 ND 117 ND 117 ND 87.4 ND 87.4 ND 81.8 84.6 190 107 123 117 121	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.58 0.39 ND 1.14 0.92 1.03 0.47 0.61 0.638	K mg/l 2.28 ND 2.78 0.966 ND 1.63 ND 1.63 ND 1.63 ND 1.28 1.28 1.28 1.27 3.02 2.32 3.02 1.18 2.76	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 ND 156 85.2 113 112 10.4 131 135	Fe mg/1 0.1	NO1-N mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 49.08 39.25 ND 32.66 35.35 35.08 41.57 32.85 54.47 53.07	Cl' mg/l 56.4 ND 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9 21.6	НСО <u>mg/l</u> 120.9 ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 ND 53.4 72.5 154 130 166.1 149.2 130.6
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 09 Agw 09 Agw 09 Agw 09 Agw 10 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 17 Agw 18 Agw 18 Agw 18 Agw 18 Agw 19	PH 8.2 ND 8.6 8.5 ND ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.8 8.6 8.7 8.8 8.6 8.5 8 8.5 8.8		ect. C (uS/cc 843 ND 1000 823 590 ND 118 ND 1173 121 ND 1173 121 143 9755 1283 1011 1255 1128 1011 1255 1128 1012 1188 1494	on T m) pj 3 N 9 4 4 2 N N 5 5 5 5 1 5 5 5 1 7 4 4 9 6 6 5 5 5 5 5 5 5 6 5 9 6 4 7	DS pm 225 4D 900 04 86 1D 1D 1D 1D 1D 80 900 900 900 900 900 900 900	Ca mg/l 98.9 ND 138 89.3 71.5 ND 117 ND 117 ND 87.4 ND 81.8 84.6 190 107 123 117 121 141	Mg mg/l 0.42 ND 0.31 ND 0.31 ND 0.58 0.39 ND 1.14 0.92 1.03 0.47 0.61 0.58 0.58	K mg/l 2.28 ND 2.78 0.966 ND 1.63 ND 1.63 ND 1.63 ND 1.28 1.28 1.28 1.27 3.02 1.18 2.30 2.30 2.32 3.02 1.18 2.76 3.83	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 134 144 ND 135 154	Fe mg/l 0.1 ND 0.1 <	NO1-N mg/l 55.58 ND 61.98 33.31 29.23 ND 48.81 ND 49.08 39.25 ND 32.66 35.08 41.57 53.07	Cl' mg/l 56.4 ND 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6 23.4	SO ₄ mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9 12.4 19.3 18.7 19.4 24.6 23.9 12.4 18.7 19.4 21.6 18.1	HCO mg/l 120.9 ND 98.4 100.2 70.4 ND ND 180.2 110.1 ND 180.2 110.1 ND 53.4 72.5 154 130 166.1 149.2 130.6 98.1
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 17 Agw 18 Agw 19 Agw 21	PH 8.2 ND 8.6 8.5 ND ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.8 8.4 8.8 8.5 8 8.5 8 8.5 8.8 8.5 8.8 8.5 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.3		ect. CC (uS/cfustor) 1000 823 5900 ND 1184 ND 1175 1211 ND 1433 9755 128* 1012 1255 1120 1184 1439 1439 1439 1499 1400	on T 9 4 4 4 4 2 N N 9 4 4 2 N N 5 5 N N 7 N 8 5 5 5 6 5 5 5 6 5 5 5 6 5 9 6 6 5 5 5 6 5 7 9 6 4 7 1 6 4	DS pm 225 ID 900 44 86 40 10 73 40 80 900 10 900 84 39 04 55 55 55 889	Ca mg/l 98.9 ND 138 89.3 71.5 ND 117 ND 117 117 ND 81.8 84.6 190 107 123 117 121 141 141	Mg mg/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.69 ND 0.31 ND 0.69 ND 0.39 ND 0.47 0.61 0.63 0.65 0.61	K mg/l 2.28 ND 2.78 ND 1.76 ND 1.63 ND 2.37 3.42 1.28 1.28 1.28 1.28 1.28 1.28 1.28 1.2	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 134 144 ND 156 85.2 112 10.4 131 1354 147	Fe mg/l 0.1	NO.1-N mg/l 55.58 ND 61.98 33.31 29.23 ND ND ND 48.81 ND 49.08 39.25 ND 32.66 35.35 35.08 41.57 32.85 54.47 53.07 41.76 32.43	CI mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6 23.4 32.8	SO.: mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 19.4 24.6 23.9 21.6 18.1 20.4	HCO mg/l 120.9, ND 98.44 ND 100.2 70.4 ND ND 180.2 110.1 ND 180.2 110.1 180.2 110.1 153.4 130 166.1 154 130.6 6.98.1 1112.2
Sample No Agw 011 Agw 02 Agw 03 Agw 04 Agw 05 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 16 Agw 17 Agw 18 Agw 19 Agw 20	PH 8.2 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.8 8.8 8.8 8.5 8.5 8.5 8.5 8.5 8.5 8.8 8.3 8.3		ect. CC (uS/cfustor) 8433 NDD 8235900 NDD 1188 NDD 143 9755 1287 1297 1297 1297 1297 1297 1297 1297 129	on T 3 3 99 4 4 4 2 2 NN N N 4 4 4 5 5 NN N 8 5 11 7 4 4 99 4 4 4 9 4 9 5 11 7 6 5 9 6 9 6 9 6 1 6 3 5	DS pm 225 ID 900 44 86 40 10 10 10 10 10 10 10 10 10 1	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 81.4 ND 81.8 84.6 190 107 123 117 121 141 116 86.9	Mg mg/l ng/l 0.42 ND 0.83 0.73 0.31 ND 0.69 ND 0.69 ND 1.14 0.92 1.03 0.47 0.61 0.63 0.65 0.61 0.54	K mg/l 2.28 ND 2.78 ND 2.78 ND 1.63 ND 1.63 ND 2.37 3.42 1.28 1.28 1.28 1.28 1.28 2.302 3.83 2.02 3.2	Na mg/l 83.7 ND 78.1 84.1 64.1 ND 130 ND 130 ND 130 ND 134 144 ND 156 85.2 113 112 10.4 131 135 154	Fe mg/l 0.1 ND 0.1 0.1 0.1 0.1 0.1 ND 0.1 0 0 0 0 0 0 0 0 0 0 0 0	NON mg/l 55.58 ND 61.98 33.31 29.23 ND MD 49.08 39.25 ND 35.35 ND 35.35 35.08 41.57 32.85 54.47 53.07 41.76 32.43 48.71	CI mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 23.4 32.8 69.2 31.4 23.4 32.8 17.7	SO. mg/l mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9 20.4 18.1 20.4 15.6	HCO mgΛ ND 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1 180.2 110.1 110.1 130.6 6.1 149.2 130.6 6.9 8.1 112.2 93.3
Sample No Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 04 Agw 05 Agw 04 Agw 05 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 11 Agw 12 Agw 14 Agw 15 Agw 16 Agw 17 Agw 18 Agw 19 Agw 20 Agw 21 Agw 22 Agw 23	PH 8.2 ND 8.6 8.6 8.5 ND ND ND ND 8.6 8.6 8.6 8.6 8.6 8.8 8.8 8.8 8.8 8.8 8.3 8.3 8.3		ect. CC (uS/c/uS/c/uS/c/uS/c) 1000/01/01/01/01/01/01/01/01/01/01/01/01	on T 3 N 99 4 44 2 N N 65 5 N N 88 5 11 7 44 4 99 4 44 12 11 7 11 7 12 4 14 7 15 5 16 5 16 6 33 5	DS DM 225 ID 90 90 90 90 40 86 ID 10 80 90 10 90 84 80 90 84 839 04 55 55 89 66 11 15 55 89 80 80 80 80 80 80 80 80 80 80	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 117 ND 81.4 81.8 84.6 190 107 123 117 121 141 16 86.9 58.8	Mg mg/l mg/l 0.42 ND 0.63 0.73 0.31 ND 0.69 ND 0.58 0.39 ND 1.14 0.92 1.03 0.63 0.63 0.63 0.63 0.63 0.63 0.63 0.63 0.58 0.64 0.65 0.64 0.54	K mg/l 2.28 ND 2.78 0.96 1.76 ND ND 1.63 ND 2.37 3.42 ND 1.28 1.28 1.28 1.28 1.28 2.36 3.02 1.173	Na mg/l 83.7 ND 78.1 84.1 64.1 64.1 ND ND ND 130 ND 131 135 154 131 135 154 10.4 102 103 104 103 131 135 154 103 104 103 104 103 131 135 154 104 108	Fe mg/l 0.1 ND 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0	NON mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 39.25 ND 32.66 35.08 41.57 35.08 54.47 53.07 41.76 32.43 48.71 36.19 36.19	CI mg/l 56.4 ND 41.2 20.7 35.1 ND ND 31.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6 23.4 32.8 31.4 29.6 17.7 56.1	SO.1 mg/l 40 ND 15.1 12.6 14.1 ND ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 23.9 21.6 18.1 20.4 15.6 14.8	HCO mgΛ 120.9 98.4 100.2 70.4 ND 88.4 ND 180.2 53.4 75.8 ND 180.2 53.4 72.5 154 130.6 66.1 149.2 130.6 98.1 112.2 93.3 92.7
Sample <u>No</u> Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 10 Agw 10 Agw 11 Agw 12 Agw 12 Agw 14 Agw 14 Agw 14 Agw 14 Agw 14 Agw 14 Agw 14 Agw 14 Agw 16 Agw 16 Agw 10 Agw 11 Agw 12 Agw 22 Agw 22 Agw 24 Agw 24	PH 8.2 ND 8.6.6 8.5 ND ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.8 8.8 8.8 8.5 8.8 8.5 8.8 8.3 8.3 8.4		ect. CC (uS/classical) 1000/08232 5900 ND ND ND ND 1188 ND ND 1188 ND 1177 1211 ND 1433 1177 1287 11277 11287 11287 11297 11287 11287 11297 11277 11287 11297 11277 11287 11277 11287 11287 112777 112777 112777 112777 112777 112777 1127777 11277777 11277777777	on T 3 3 9 4 1 2 8 5 5 5 1 5 5 5 5 5 5 5 5 5 6 5 9 6 6 5 9 6 6 5 9 6 6 5 9 6 6 5 9 6 6 5 9 6 6 3 5 4 1 6 3 5	DS DM 225 ID 90 90 90 48 86 ID 10 80 90 10 90 84 39 04 55 55 89 66 14 86 22 25 80 80 80 80 80 80 80 80 80 80	Ca mg/l 98.9 ND 138 89.3 71.5 ND 117 ND 117 ND 87.4 ND 87.4 ND 81.8 84.6 190 107 123 117 121 141 141 141 141 158.8 86.9 55.8 8	Mg mg/n 0.42 ND 0.83 0.73 0.73 ND 0.70 0.69 0.71 ND 0.69 ND 0.58 0.39 ND 0.58 0.31 1.03 1.03 0.47 0.61 0.65 0.61 0.58 0.65 0.61 0.64 0.6 0.82 0.61	K mg/l 2.28 ND 2.78 0.966 1.766 ND ND 1.63 ND 1.28 1.28 1.28 1.28 1.27 3.42 3.02 1.18 2.36 3.83 2.02 2.32 1.73 0.35	Na mg/l 83.7 ND 78.1 84.1 64.1 64.1 ND 130 ND 131 134 113 131 134 108 76.9	Fe mg/l 0.1 ND 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0<	NON mg/l 55.58 ND 61.98 33.31 29.23 ND ND 48.81 ND 49.08 39.25 35.08 41.57 35.08 41.57 32.85 54.47 53.07 41.76 32.43 48.71 32.43 48.71 36.19 44.91 26	CI mg/l 56.4 ND 41.2 20.7 35.1 ND 31.2 ND 31.2 47.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6 23.4 32.8 17.7 56.1 28.3 29.6	SO.1 mg/l 40 ND 12.6 14.1 12.6 14.1 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 23.9 21.6 18.1 20.4 15.6 14.8 11.9 44.8	HCO mgΛ 120.9 98.4 100.2 70.4 ND 75.8 ND 180.2 110.1.1 80.2 154 130. 166.1.1 149.2 93.3 93.3 92.7 60.6 60.2 0 20.7
Sample <u>No</u> Agw 01 Agw 02 Agw 03 Agw 04 Agw 05 Agw 06 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 10 Agw 11 Agw 12 Agw 12 Agw 12 Agw 14 Agw 15 Agw 16 Agw 17 Agw 17 Agw 17 Agw 18 Agw 19 Agw 19 Agw 19 Agw 19 Agw 10 Agw 20 Agw 20	PH 8.2 ND 8.6 8.5 ND 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.7 8.8 8.8 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.4 8.6 8.5 8.5 8.5 8.5 8.5 8.8 8.3 8.4 8.6 8.5 8.5 8.4 8.6 8.6 8.5 8.4 8.6 8.6		ect. CC (uS/cd3 843) 10000 110000 110000 110000 110000 110000 110000 110000 110000 110000 110000 11000000	on T 3 3 99 4 4 2 1 2 1 2 1 5 5 5 1 1 5 5 5 5 6 5 5 5 6 5 5 5 6 5 5 5 6 5 9 6 3 3 3 3	DS pm 25 ID 90 04 86 ID 10 10 10 10 90 90 10 90 90 10 90 90 10 90 90 10 90 90 10 10 90 90 10 10 10 10 90 90 10 10 10 10 10 10 10 10 10 1	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 81.8 84.6 107 123 117 121 141 141 141 141 16 86.9 58.8 59.2 64.2 2 42	Mg mg/l mg/l 0.42 ND 0.83 0.73 1 ND 0.83 0.31 ND ND 0.58 0.39 ND 0.58 0.39 ND 0.58 0.47 1.14 0.92 1.03 0.461 0.663 0.651 0.651 0.652 0.661 0.54 0.62 0.555 6.61	K mg/l 2.28 ND 2.278 0.96 1.76 ND 1.63 ND 2.37 3.42 ND 1.28 1.28 1.28 1.28 2.302 3.02 3.2 1.73 0.35 1.91	Na mg/l 83.7 ND 78.1 84.1 ND 130 130 134 144 ND 134 144 156 85.2 113 112 154 16.4 131 135 154 16.4 131 135 154	Fe mg/l 0.1 ND 0.1 0.1 0.1 ND 0.1 ND 0.1 ND 0.1 <tr< td=""><td>NON mg/ 55.58 ND 61.98 33.31 29.23 ND 48.81 ND 48.81 ND 49.08 39.25 ND 32.66 35.35 35.08 41.57 32.85 54.47 53.07 41.76 32.43 48.71 32.45 54.47 135.48 45.91 41.76 32.43 48.71 35.26</td><td>Cl mg/l 56.4 ND 41.2 20.7 35.1 ND ND 47.2 61.4 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6 (9.2 31.4 29.6 (1.4) 29.6 (1.4) 29.6 (1.4) 20.7 5 (1.1) ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 81.3 ND 47.2 61.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 81.4 81.4 81.4 81.4 81.4 81.4 81.4</td><td>SO.i mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9 21.6 23.9 18.1 20.4 15.6 14.8 11.9 19.4 21.6 14.8 19.4 19.4 20.4 19.4 15.6 14.8 19.9 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4</td><td>HCO mgΩ.9 ND 98.4 ND 98.4 ND ND 180.2 110.1.1 ND 180.2 110.1.1 53.4 72.5 154 130.6 6.1 149.2 98.1 1112.2 98.3 98.7 130.6 60.6 74.1 12.2 97.7</td></tr<>	NON mg/ 55.58 ND 61.98 33.31 29.23 ND 48.81 ND 48.81 ND 49.08 39.25 ND 32.66 35.35 35.08 41.57 32.85 54.47 53.07 41.76 32.43 48.71 32.45 54.47 135.48 45.91 41.76 32.43 48.71 35.26	Cl mg/l 56.4 ND 41.2 20.7 35.1 ND ND 47.2 61.4 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 69.2 31.4 29.6 (9.2 31.4 29.6 (1.4) 29.6 (1.4) 29.6 (1.4) 20.7 5 (1.1) ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 61.4 ND 47.2 81.3 ND 47.2 61.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 47.2 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 ND 20.6 81.4 81.4 81.4 81.4 81.4 81.4 81.4 81.4	SO.i mg/l 40 ND 15.1 12.6 14.1 ND 27.9 ND 24.6 28.9 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9 21.6 23.9 18.1 20.4 15.6 14.8 11.9 19.4 21.6 14.8 19.4 19.4 20.4 19.4 15.6 14.8 19.9 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4 19.4	HCO mgΩ.9 ND 98.4 ND 98.4 ND ND 180.2 110.1.1 ND 180.2 110.1.1 53.4 72.5 154 130.6 6.1 149.2 98.1 1112.2 98.3 98.7 130.6 60.6 74.1 12.2 97.7
Sample No Agw 01 Agw 02 Agw 02 Agw 04 Agw 05 Agw 06 Agw 06 Agw 07 Agw 08 Agw 09 Agw 09 Agw 09 Agw 01 Agw 02 Agw 02 Agw 04 Agw 02 Agw 04 Agw 05 Agw 04 Agw 10 Agw 11 Agw 12 Agw 12 Agw 13 Agw 14 Agw 15 Agw 16 Agw 16 Agw 16 Agw 17 Agw 12 Agw 20 Agw 20 Agw 20 Agw 20 Agw 22 Agw 23 Agw 24 Agw 24 Agw 26 Agw 26 Ag	PH 8.2 ND 8.6 8.5 ND ND ND ND ND 8.6 8.6 8.6 8.6 8.8 8.6 8.7 8.7 8.7		ect. CC (uS/cd 8433 5900 NDD NDD NDD NDD NDD 1188 NDD 1177 121 1433 9755 1288 1017 1125 1126 1125 1125 1125 1125 1125 1125	on T 3 3 4 1 2 1 2 1 5 5 5 5 6 5 7 1 7 4 9 4 9 4 9 6 5 5 5 5 6 5 5 5 6 5 7 1 6 3 3 5 3 5	DS DM 25 4D 90 04 86 1D 4D 4D 4D 4D 4D 4D 4D 4D 4D 4	Ca mg/l 98.9 ND 138 89.3 ND ND 117 ND ND 117 ND 87.4 ND 119 87.4 ND 107 123 117 121 123 117 123 117 123 117 123 117 123 117 123 117 123 124 116 86.9 55.2 64.2 162.2 57.2 162.2 57.2 162.2 57.2 162.2 57.2 162.2 17.5 17.5 17.5 17.5 17.5 17.5 17.5 17.5	Mg mg/n mg/l 0.42 ND 0.83 0.73 1 ND 0.31 ND 0.69 ND 0.69 ND 0.69 ND 1.14 0.93 0.63 0.47 0.61 0.63 0.65 0.61 0.63 0.54 0.54 0.56 0.56 0.56 0.56	K mg/l 2.28 ND 2.78 0.966 ND 1.766 ND 2.37 3.42 ND 1.288 1.77 3.42 1.78 1.28 1.73 3.02 1.18 2.76 3.83 2.02 1.73 0.35 1.91 1.89	Na mg/L 30 Mg/L 30 78.1 84.1 ND 78.1 84.1 ND ND 130 ND 130 ND 130 ND 134 144 144 156 85.2 113 112 10.4 113 135 154 147 134 135 154 147 134 135 154 147 136 137 137 137 137 137 137 137 137	Fe mg/l 0.1 ND 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0<	N0,-N mg/l 55,58 ND 61,98 33,31 29,23 30,31 29,23 ND 48,81 ND 48,81 ND 48,81 ND 48,81 39,25 35,08 35,26 35,35 35,08 41,57 32,45 35,07 41,76 32,43 35,61 9 44,91 36,19 44,91 35,26 35,52 84,77 44,71 36,19 44,91 35,26 35,26 35,26 35,26 35,27 32	Cl mg/l 56.4 ND 41.2 20.7 35.1 ND ND 35.1 ND 47.2 61.4 ND 26.6 56.7 40.3 32.3 32.3 32.3 32.4 23.4 23.4 23.4 23	SO.1 mg/l mg/l ND 15.1 12.6 14.1 ND ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 19.4 24.6 23.9 21.6 18.1 20.4 15.6 14.1 15.6 14.9 19.1 15.4 19.2	HCO mgΛ 120.9 ND 98.4 100.2.7 0.4 ND ND ND 110.1 180.2 110.1 180.2 110.1 180.2 110.1 180.2 110.1 180.2 110.1 180.2 110.1 180.2 110.1 180.2 10.0 198.4 110.1 198.4 100.2 100.0
Sample No Agw 01 Agw 02 Agw 02 Agw 04 Agw 04 Agw 06 Agw 04 Agw 06 Agw 07 Agw 08 Agw 09 Agw 10 Agw 10 Agw 11 Agw 12 Agw 12 Agw 13 Agw 14 Agw 14 Agw 12 Agw 14 Agw 12 Agw 14 Agw 12 Agw 12 Agw 14 Agw 12 Agw 12 Agw 12 Agw 14 Agw 12 Agw 12 Agw 12 Agw 14 Agw 12 Agw 22 Agw 22 Ag	PH 8.2 ND 8.6.6 8.5 ND ND 8.6 8.6 ND 8.6 8.6 8.6 8.6 8.6 8.8 8.8 8.8 8.8 8.8 8.8 8.5 8.8 8.3 8.5 8.4 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.6 8.7		ect. C(uS/cital) 8433 NDD 10000 NDD 1188 NDD 1177 1211 1188 1188 1011 1255 1122 1125 1122 1125 1122 1128 1188 1155 1128 1188 1155 1128 1188 1155 1122 1222 12	on T m) p 3 3 99 4 4 4 4 4 4 4 4 2 N N 99 4 4 2 N N N N N N N N N N N N N N N N N N N N N N N N 9 6 5 5 5 5 6 5 9 6 9 6 9 6 9 6 9 6 9 3 10 3 11 1 12 3<	DS DM 25 4D 90 04 86 4D 4D 4D 4D 4D 4D 4D 4D 4D 4D	Ca mg/l 98.9 ND 138 89.3 71.5 ND ND 117 ND 81.4 84.6 190 107 123 117 121 141 141 141 141 141 141 141 141 141	Mg mg/l 0.42 ND 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.61 0.62 0.63 0.61 0.62 0.63 0.61 0.62 0.63 0.64 0.65 0.61 0.62 0.63 0.64 0.65 0.61 0.62 0.63 0.64 0.65 0.61 0.62 0.63 0.64 0.67 0.69 0.62	K mg/l 2.28 ND 2.78 0.96 1.76 ND 1.63 ND 2.37 3.42 1.28 1.28 1.28 1.28 1.28 1.28 1.28 2.37 3.42 3.02 1.18 2.36 3.82 2.02 3.2 1.73 0.35 0.35 0.35 1.91 1.91 1.91 1.91 1.91 1.91 1.91 1.9	Na mg/J ND 78.1 84.1 ND 78.1 84.1 ND 130 ND 134 144 131 135 154 135 154 135 154 140 76.9 145 140 700 92	Fe mg/l 0.1	NON mg/l 55.58 ND 61.98 33.31 29.23 ND ND 49.08 30.25 48.81 ND ND 49.08 30.25 53.55 ND ND 49.08 35.35 54.47 53.07 41.76 30.243 48.71 41.76 35.447 44.91 44.91 44.91 44.91 45.266 44.91 44.91 45.243 45.24 45.25 45.245	Cl mg/l 56.4 ND 41.2 20.7 ND 31.2 61.4 ND 26.6 56.7 32.3 69.2 31.4 40.3 32.3 69.2 31.4 29.6 23.4 32.8 32.6 17.7 56.1 28.3 32.6 26.1	SO.f mg/l 40 ND 15.1 12.6 12.5.1 12.7.9 ND 27.9 ND 24.6 28.9 ND 12.4 19.3 18.7 119.4 24.6 23.9 21.6 18.1 15.6.1 14.8 11.9 19.1 15.4 24.6 14.9 19.1	HCO mg/l ND 98.4 100.2 98.4 100.2 70.4 ND ND ND 180.2 100.1 100.1 100.1 100.2
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