

Hedrogeological Studies on Wadi El-Farigh Area, West Nile Delta, Egypt

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ABSTRACT

The present study deals will deal with the evaluation of groundwater potentiality by using Hydrogeological and Hydrochemical investigation tools. The area of study is located south of Wadi El-Natron depression, southwest of the Nile Delta and left the Cairo – Alexandria Desert Road. It extends in a WNW-ESE direction for about 90 km with an average width of about 10 km. As calculated by the present author Wadi El-Farigh depression has a catchment area of 1112.5 km2 enclosed between the contours of 120 m above sea level in the south and west and 4 m below sea level in north center part. It lies between latitudes 30° 00' 00" and 30° 30' 00" N and Longitudes 30° 00' 00" to 30° 50' 00", E. The area includes lands belonging to the two governorates of Behira and Giza. The low area of wadi El-Farigh depression is dominated by sand accumulation and rock fragment. The aquifer system is belonging to Moghra (Lower Miocene) and the analyzed water samples of the investigated area show fresh to brackish water. The T.D.S. for the analyzed water samples ranges from 252 ppm to 2572 ppm. The depth to water in Miocene aquifer varies from 49 m at the area close to El Rayah El Naseri to 176.88 m at high topographic areas towards the west. The total salinity of the Miocene aquifer (Moghra aquifer) varies from fresh to slightly brackish water. **Keywords:** Groundwater-Aquifer- Nile Delta.

I. INTRODUCTION

The areas under investigation occupy a portion of the Western Nile Delta region (Fig. 1). It lies between latitudes 30° 00' 00" and 30° 30' 00" N and Longitudes 30° 00' 00" to 30° 50' 00", E. It is considered as a depression of low relief (El-Tahrir gravel plan, Wadi El-Natron depression and Wadi El-Farigh Depression).

The available studies are dealt with the geomorphology, geology, hydrogeology, hydrology and hydrogeochemistry. Shata (1947), (1953), and (1962), El Fayoumy (1967), Attia (1975) (1982), Picard (1955), Said (1962), Seanad (1973) & Omara and Sanad (1975), El Shazly et al., (1975), General Petroleum Company "GPC" (1977, El Ghazawi and Atwa, 1994), El-Abd (2005), Shafeek (2015).



Figure 1. Location of the study area

The study of climatic conditions is of paramount importance for the study of geomorphological elements due to the impact of climate on the composition of the external factors. The current study is based on weather station wadi El-Natrun as the nearest weather station for the wadi El-Farigh depression.

- The average annual temperature of 21.5 ° C and the average ranges between 17.3 °C for the winter months and 25 °C for the summer months, suggesting that depression moderate climate in winter and hot in summer.
- Average annual wind speed (17.7 km / h), and this rate ranges between (16.3 km / h), and winter (19.1 km / h) for the summer and recorded the highest speed of the wind during the year in the month of April (21.1 km / h), while the lowest speed of the wind in the month of January and December (15 km / h)
- The annual average relative humidity in the wadi El-Farigh depression 55%, ranging from 58% for the winter months and 52% for the summer months.
- The monthly rate of evaporation ranges between 5.2 mm / day (average month of January), and 14.1 mm /day (average month of June), and up the annual rate of evaporation of 9.4 mm day.
- The annual average for the Rainfall that falls on the depression 3.5 mm. this quantity is of great significance to the emergence of depression and wadi El- Farigh, and suggest that the depression has arisen under moist conditions in ancient times was more rainfall than it is now, and maybe it happened in the Middle Miocene.
- These aridity index results indicate typical desert conditions for the study area. Form all the main Hydrometeorology finding we can conclude that the study area is characterized by a hyper- arid climate.

II. Regional Geomorphology

The area under consideration is of Depression and low relief (El-Tahrir gravel plan, Wadi El- Natrun depression and Wadi El-Farigh Depression). The general land surface slopes gently to the northern and eastern directions. Landforms are classified into 3 geomorphic units (Fig. 1.2). These geomorphic units from north to south are:

The alluvial plains: The alluvial plains constitute one of the most striking land features in the study area. These plains extend between Rosetta branch and the eastern fringes of MaryuIt tableland. They are classified into young and old alluvial plains.

The structural plains: The structural plains occupy a wide area to the south and west of the old alluvial plain. It consists of a number of alternating structural ridges and structural depressions, reflecting the impacts of both the Lithologic and structural factors. Old gravel surface stretch for a long distance on the gentle slopes of the structural plain as well as the escarpment bounding Wadi El Farigh on the northern side. They are classified into structural ridges and structural depressions.

The shifting sand: Drift sands and sand sheets cover wide portions of the old alluvial plains and the lowest parts of the large depressions. Also there are a series of long, narrow parallel elongate sand dunes known as El Heneishat sand dune chains. These chains extend southwards till the northern periphery of El Faiyum depression.

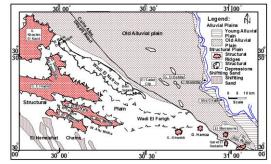


Figure 2. Geomorphologic map of west Nile Delta, Egypt, (Compiled after different authors).

III. Stratigraphy

The study area is covered by extensive sedimentary exposures ranging in age from Late Cretaceous to Quaternary. In subsurface the sedimentary section has a thickness of about 4000 m resting on the basement rocks. The Late Cretaceous sediments have a localized occurrence on the crest of the complicated folded structure to the west of El Giza (Abu Rawoash anticline). Eocene and Oligocene sediments are of limited distribution in the environs of Cairo (Fig. 3) and (Fig.4).

Miocene sediment: Miocene sediment is represented by El Moghra Formation, which covers the south and west of Wadi El Natrun and the area from Wadi El Farigh in the east to El Qattara depression in the west. In Wadi El Farigh the thickness of Miocene sediments is about 150 m, which is rapidly increases to about 900 m in the northwest direction, and the facies of Miocene become more marine in that direction. Moghra Formation is mainly composed of coarse sands, sandstone and clay interbeds with vertebrate remains and silicified wood, which becomes gravelly at base. The concerned formation rests unconformable on basalt sheets in several localities at surface as well as in the subsurface. Basalt sheets are located at levels ranges from -767 m below mean sea level at the southwest of Wadi El Natrun to 158 above mean sea level at Qaret El Haddadin. It located at depths ranges from ground surface to 839 m. They are located at different levels due to the effect of many faults in the form of horst-like and graben-like structures. Miocene lithfacies are Sandy gravel, gravelly sand, slightly gravelly sand and sand. Environments of deposition are different all over the Miocene aquifer from turbidity currents, fluvial and beach. The fluvial environments are the dominant environments.

The heavy minerals assemblage of El Moghra sediments have been recycled from older sediments which supplies the highly stable detritus (ZTR) and high metamorphic and acid igneous rocks of the basement rocks of the Eastern Desert mountains through the Eonile river tributaries which drained the Red Sea mountains during the Miocene period

Pliocene sediments: Pliocene sediments have a wide distribution in Wadi El Natrun depression and its vicinities; it is divided from base to top into Wadi El Natron Formation and El Hagif Formation. Wadi El Natrun Formation is classified into Muluk and El Solimaniya Members.

Muluk Member is composed of dark grey clays with sand beds intercalation and restricted to the inner portion of Wadi El Natrun with exposed thickness of about 25 m at Quart El Muluk (type locality). However, the subsurface succession is composed of pyretic dark grey clays alternating with sand beds.

El Solymanya Member is composed of light green sand and sandstone alternating with shelly limestone and it is restricted to the periphery of Wadi El Natrun. It has 30 thick at Ras El Solymanya (type locality).

El Hagif Formation is mainly composed of thick white limestone beds intercalated with argillaceous sequence and it is restricted to the west of Wadi El Natrun depression. The thickness of El Hagif Formation ranges between 30 m and 40 m. **Quaternary deposits:** Quaternary deposits cover wide stretches of the study area and it distinguished into different types as deltaic deposits and crust, alluvial deposits, lagoonal deposits, salt marshes and sabkha and Aeolian deposits. The thickness of the Quaternary sediments varies from 350 m to 25 m, it increases in the areas close to delta and decreases in the area close to Wadi El Natrun. Lithfacies of the Quaternary sediments are Sandy gravel, gravelly sand, slightly gravelly sand and sand. The lithofacies of the Quaternary sediments varies laterally and vertically and it has a direct impact on its hydraulic parameters. The environments of deposition are different all over the Quaternary sediments from turbidity currents, fluvial and beach. The fluvial environment is the dominant.

Structure: Folds, faults, unconformities and basaltic intrusions mainly affect the area of study. These types of structural elements are the most important factors controlling the groundwater conditions.

Folds: The area of study is mainly affected by two fold systems.

-The NE-SW folds' system (Syrian Arcs); the most conspicuous fold is Abu Roash domal structure.

-The NW-SE (clysmic) folds system; the most conspicuous folds are Wadi El Farigh and Wadi El Natrun anticlinal structure.

Faults systems: The study area is mainly affected by three normal faults systems. These systems in decreasing order of abundance are as follows:

- NW-SE (Clysmic) system

- NE-SW (Aqaba) system.

-E-W (Tethys) system.

The investigated area is separated from the Delta basin by one or more step faults having an eastern downthrown. Such faults are responsible for the facing of highly permeable Quaternary deposits of the Nile Delta with older sediments due west, and consequently, a westward flow of the Nile water to the western old sediments. Also, an important principle fault trending in a NW-SE, running approximately parallel to Rosetta branch is strongly expected to separate the Delta basin from the area to the west.

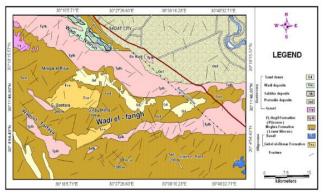


Figure 3. Geologic map of west Nile Delta, Egypt, (Conoco, 1987).

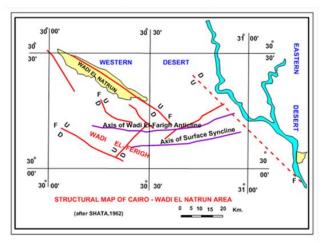


Figure 4. Structural map of Cairo-wadi El-Natrun area after (Shata, 1962).

IV. The Hydrogeological Setting

From the hydrogeological point of view, special emphasis is given to the following topics:

Surface water system: The surface water system is mainly Rosetta branch, El Rayah El Beheri, El Rayah El Nasseri and smaller canals. Such water system is subjected to infiltration to the groundwater aquifers. The canals are cutting the Nile silt and sandy clay deposits, discharging their water into the cultivated land.

Groundwater aquifers: The groundwater in the study area is mainly controlled by the geological conditions including lithology and geological structures. The main water bearing formations in the study area are:

- The Quaternary aquifer
- The Pliocene aquifer
- The Lower Miocene aquifer (Moghra), and
- The Oligocene aquifer

Miocene aquifer covers a wide area south and southwest of Wadi El Natrun and it is mainly composed of coarse sands and clay lenses intercalation (Fig. 5). The saturated thickness of the Lower Miocene aquifer varies from 741 m in the western portion, 179 at K52 east Cairo-Alex. Desert Road and 16 m at Gebel Khashm El Kalb. Miocene aquifer has been deposited on the basaltic sheet at different levels; in the form of horst and graben-like structures. The amount of groundwater stored in Miocene aquifer is about 25.9×10^9 m³ and the amount of withdrawal which equals the drawdown in groundwater is about 0.036×10^9 m³/year. This aquifer is under artesian conditions in the east and changes to water table aquifer towards the west. In Wadi El Natrun depression, where this aquifer is overlain by impervious Pliocene clay, the groundwater exists under confined condition. The ground water level in the Miocene aquifer varies between +8 m at the border with the Nile delta Quaternary aquifer to about -22.1 at the west. The high groundwater extraction allows the formation of the depression cones of pizometric levels. Isotopes indicate that the main recharging sources for the Miocene aquifer are old Nile water (before the construction of the High Dam) and small contribution of the recent Nile water in the area beside El Rayah El Nasseri. The estimated C¹⁴ age is 16737 YBP. The old age confirms presence of ancient recharge the component accompanying the recent one.

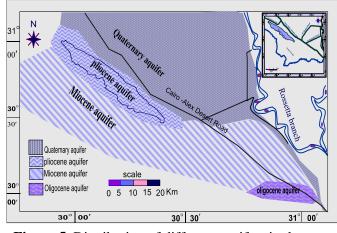


Figure 5. Distribution of different aquifers in the west Nile Delta area.

The total thickness of the Miocene sediments is varying from 75 m in the northeastern portion to about 250 m at Wadi - El Natron, Regionally this thickness increases in northwest direction (El Ghazawi and Attwa, 1994). The saturated thickness of the Miocene aquifer (fig 6) is controlled by the prevailing structural conditions in the area. The maximum saturated thickness attains about 169m, and thins out in the northeastern direction to reach about 27 m at the Khasm El Kalb area.

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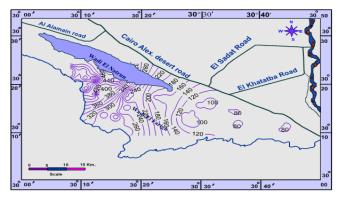


Figure 6. Saturated thickness contour map of the Miocene aquifer after Shafeek (2015).

The southeastern boundaries of the lower Miocene aquifer are delimited by a set of faults with downthrows to the north where the Oligocene basaltic sheet is highly elevated (from + 150 m to + 30 m) above the regional potentiometric surface of the Lower Miocene aquifer (+2 m) (Fig. 7) accordingly, this aquifer is hydraulically connected with the underlying Oligocene aquifer. The northern boundary of Lower Miocene aquifer is bounded by many faults. South Wadi El Natron, this aquifer is bounded by NW- SE faults with their down throwing sides to the east where the Lower Miocene is uplifted in the front of the Pliocene aquifer.

The depth to water in Miocene aquifer varies from 49 m at the area close to El Rayah El Naseri to 176.88 m at high topographic areas towards the west (Fig. 8). The groundwater level in the Miocene aquifer varies between +6 m at the border with the Nile delta Quaternary aquifer to about -33.8 at the west. The ground water level at El Qattara depression is about -60 m below sea level accordingly, the groundwater flows to the west (El Qattara depression) with hydraulic gradient of about 20 cm/km (Hefny, et al, 1991). The groundwater in the Miocene aquifer flows westward. through Wadi El Farigh (Fig. 9). This movement is mainly controlled by an old burried Nile channels which divert groundwater flow towards Wadi El Natrun depression. There are two other groundwater flow directions one from the northeast (from Quaternary to Lower Miocene) and the second from southeast. High extraction rate along Cairo-Alexandria desert road and Wadi El Farigh allow the formation of the cones of depressions with high hydraulic gradient.

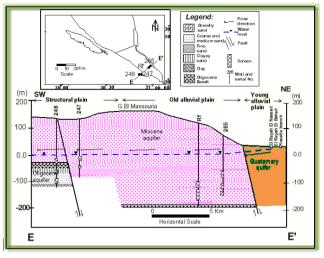


Figure 7. Hydrogeological Cross Section E-E' after Al Abd (2005).

The total amount of groundwater recharge from the Nile Delta aquifer is estimated to be in the rang of 50 to 100x10⁶ m³/year (RIGW/IWACO, 1990b). The amount of recharge was estimated using groundwater model as 84×10^6 m³/year (Diab, et al. 1992). The discharge of this aquifer is mainly through the extraction from wells and is relatively discharged into the Pliocene aquifer at the southern part of Wadi El Natrun (Gomaa, 1995). High extraction rate (20-30x10⁶ m³/year/Km²) was found along Cairo-Alexandria desert road (El Fakharany, 1998). The extraction of large volumes of groundwater allow the formation of cones of the depressions of pizometric levels. Since the extraction rate are still increasing the lowering of water level and will continue in the future (RIGW/IWACO. 1990b). The environmental isotopes indicate that the main recharging source for the Miocene aquifer is the old Nile water before the construction of the High Dam with few contribution from recent Nile water in the area beside El Rayah El Naseri. The estimated age using C^{14} is 16737 YBP (Dahab et al., 1998) confirming the dominance of ancient recharge component.

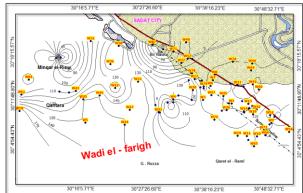


Figure 4. Depth to Water Contour Map of the Miocene Aquifer (2015).

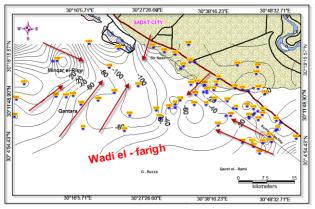


Figure 9. flow net map of the Miocene Aquifer

V. Hydrochemical

The chemical composition of groundwater also reflects the ecosystem function, so that it is important to detect any changes resulting from natural systems and or caused by development processes. For the assessment of the chemical composition of the groundwater in the study areas 46 water samples from 46 water points were collected from wadi El-Farigh as showing as Fig. (10).

The total salinity of the Miocene aquifer (Moghra aquifer) varies from fresh to slightly brackish water. Local anomalies in water salinity are detected at the area East Cairo-Alex desert road, west El Rayiah El Nasseri and southwest Wadi El Natrun due to the over pumping rates, the presence of shallow clay lenses within the water bearing layers especially west El Rayiah El Nasseri and the low groundwater recharge. The total salinity ranges between 252 ppm and 2572 ppm. In Wadi El-Farigh the pH values vary from 7.11 to 8.5. All PH values of the selected water samples lie in the range of alkalinity.

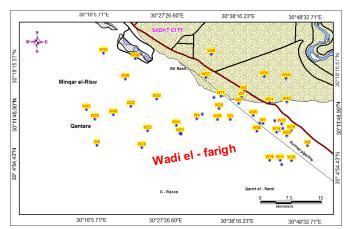


Figure 10. Groundwater samples location map.

The hypothetical salt combinations of selected water samples are distinguished into six main assemblages as shown in Figures (11). Palmar (1911) as follows: • **Group 1**: (Na+K) Cl, MgCl2, CaCl2, CaSO4, Ca (HCO3)2. (Samples No. w1 and w9).

• **Group 2**: (Na+K) Cl, (Na+K) SO4, MgSO4, Mg (HCO3)2, Ca (HCO3)2. (Samples No. w2, w6, w8, w13, w32, w34 and w46).

•Group3:(Na+K)Cl,(Na+K)SO4,(Na+K)HCO3,Mg(HC O3)2,Ca(HCO3)2.(SamplesNo.w3,w4,w7,w14,w15,w1 6,w17,w18,w19,w26,w27,w28,w29,w30,w31,w33,w36, w37,w38,w39,w40,w42,w43,w44,and w45).

•Group4: (Na+K) Cl, MgCl2, MgSO4, CaSO4, Ca (HCO3)2. (Samples No. w5, w10, w11, w21, w22, w24 and w35).

•Group5:(Na+K)Cl,(Na+K)SO4,MgSO4,CaSO4,Ca(H CO3)2.(SamplesNo.w12and w41).

•Group6:(Na+K)Cl,MgCl2,MgSO4,Mg(HCO3)2,Ca(H CO3)2.(SamplesNo.w20,w23and w25). w23and w25).



Figure 11. Palmer diagram showing the hypothetical salt combination of the analyzed samples no. (1-46).

Hydrochemical Classification Using Sunil's Diagram (1946show that four water types represent the water samples of Moghra Aquifer as shown in Figure (12). These are discussed hereinafter.

A – The **Na2SO4** water type is a mixed water of meteoric genesis it is represented by samples nos. (2, 6, 8,12,13,29,32,35,41 and 46) where (rNa/rCl) > 1 and $(rNa/rK) - rCl/ rSo_4 < 1$, which reflect the hydrochemical composition if water samples and the hypothetical salt combination of this water are (Na+K) Cl, (Na+K) SO4, MgSO4, Mg (HCO3)2, Ca (HCO3)2. These hypothetical salt combinations represent a chemical formation of infiltrating water of meteoric genesis.

B – The **NaHCO3** water type water of meteoric water is represented by samples nos. (3,4,7,14,15,16,17,18,19,20,26,27,28,30,31,33,34,36,

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37,38,39,40,42,43,44 and 45). These samples are characterized by (rNa/rCl) > 1 and (rNa/rK) - rCl/ rSo₄ >1 which reflect a meteoric origin.

C - The CaCl2 water type is represented by two water samples nos. (1, 9) where (rNa/rCl) < 1 and rCl - (rNa/rK) / rMg > .1This reflects an old marine origin. That is confirmed by the higher salinity of the two samples of about 1895 ppm.

D - The MgCl₂ water type is represented by rest of the water samples which are characterized by the ratio of (rNa/rCl) < 1 and rCl - (rNa/rK) / rMg < 1. These water reflect a marine water origin. Their hypothetical salt combinations are (Na+K) Cl, MgCl₂, MgSO₄, Mg (HCO3)₂ and Ca (HCO3)₂. These salts represent the chemical formation of normal composition of sea water.

According to the U.S. Laboratory Salinity diagram (1954), the groundwater samples of Moghra aquifer system are of low sodium hazard and fall in the fields C_2 - S_1 and C_3 - S_1 , where S_1 is low sodium water, C_2 is moderate salinity water which is good for soils of medium permeability for most plants, and other sample lies in the C_3 - S_2 , C_4 - S_2 , C_3 - S_3 , C_4 - S_3 and C_4 - S_4 field. From Classified as groundwater in terms of sodium absorption ratio method U.S. Laboratory Salinity diagram (1954), it clear that the samples lie near the medium salinity water, which is satisfactory for plants having moderate salt tolerance on soils of moderate permeability with leaching. The samples fall in fields C_3 - S_3 , C4- S_3 and C4- S_4 high to vary high sodium hazard and salinity water. Figures (13),

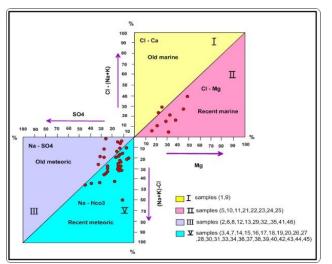
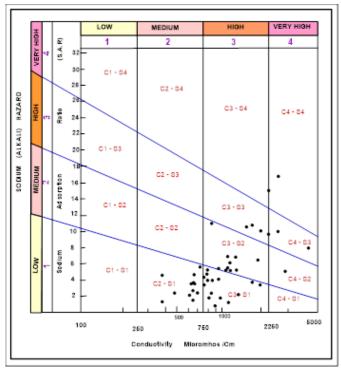
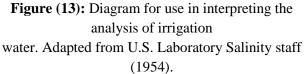
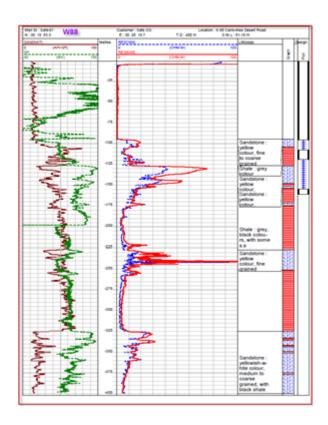
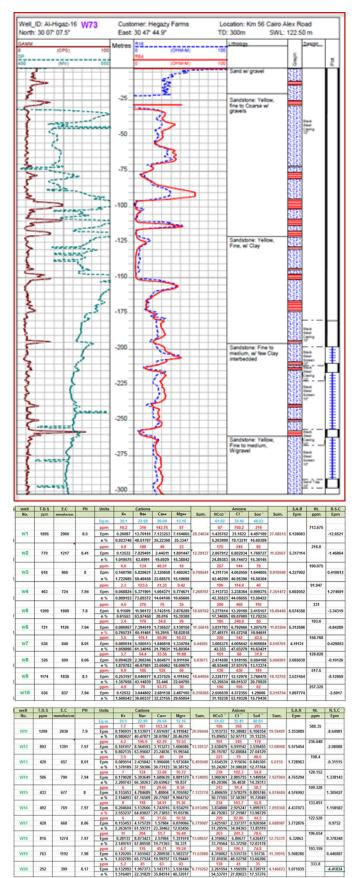


Figure 12. Sulin's graph for genetic classification of the groundwater samples of the Moghra aquifer.









	T.D.S	E.C	P	H	Inits	1	Cations	in the second	and the second	Normal V	Second as	Anions	- Contractor	1 Contractor	5.A.R	HL.	R.S.C
No.	ppm	Micromoha	lam		231	K+	Nav	Ca++	Mg++	Sum.	HCo3	CI"	504	Sum.	tpm	ppm	Epm
-				1	q.w.	39.1	1. 22.93	20.04	12.16		61.02	35.45	48.03			1460012	-
and some					ppm	11,73	114.490	00.7604	53.6256		242.8596	287.854	76.848		Constanting of	420.766	
W21 876.8	876.8	1370	7.7	75	tpm	0.3	4.98	4.01	4.41	13.7	3.98	8.12	1.6	13.7	2.427103	6169.000	-4.44
	1000	1.1.200			e %.	2.18978					29.05109	59.27007	11.6788	3	10000000		1.12
			1000		ppm -	7.82	75.867	45.2924			183.6702	\$47,9\$75	83.5722	1	10000000	244.858	110.00
W72 569.6	569.6	890	7.1		(pm	0.2	3.3	2.31	2.59	8.4	3.01	4.15	1.74	8.9	2.108293	1322320	-1.81
	0.000	100000			0 %	2.38095		27.5	30.8333	1	33.82022	46.62921	19.55054	5	100000		12.122
		in and			ppm	7.429	54.2564		59.9488	1.000	245.3004	194.975	71.0844		AN YORK	422.1421	
W23 704	704	1100	7.5		Epm	0.19	2.36	3.52	4.93	11	4.02	5.5	1.48	11	1.14815	- 3023-0152	-4.43
	11.24	90.62	20		0%	1.72727	21.4545		44.8181	1	36.54545	50	13.4545	5	22222		
			-		ppm	6.211	35.4045	59.7192	64.3552	-	183.05	188.2395	42.7467			372.1643	
W24	W24 588.8	920	7.1		Epm	0.21	1.54	2.98	4.47	9.2	3	5.31	0.89	9.2	0.797917	100.000	-4.45
					e %	2.28260				8	32,6087		9.673913	3			
					ppitt	13.685	74,7175	60.12	47.424		236.1474	188.594	62.9193			344.7384	
WZS 672	672	1050	7.8		(pm	0.35	3.25	3	3.9	10.5	3.07	5.32	1.31	10.5	1.749741		-3.03
					0 %	3.33333	30.9523	28.5714		5	36.85714	50.66667	12.4761				
					ppm	6.5	100	40	14.6		252	92	56			159.86	
W28 490 G.5 W27 500 Tpw3	490	650	7.5	6	Epm	0.14066							1,16593		3.440546		0.9331
					0.54	1.82989	56.5850	25.9658	5 15.6192	1	62.33591	32,88842	14.7756	5			
					ppm	1	110	38	16		270	\$5	50			160.6	
	500	665	1.1	4	Epm	0.17902	4.78468	1.89620	1.31578	8.17571	4.424779	2.679831	1.04101	8,14562	6 3.775558		1.2127
					e %	2.18975	58.5231	23.1931	7 16.0938	1	54.32092	32.89902	12,7800	5			
			_		ppm	7	90	46	25		340	83	20			217.5	
	630	700	7.7		tpm	0.17902	3.95474	2 29540	2.05592	0.44510	5.571944	2.341326	0.41540	8.32967	2.65404		1.22061
Parent					e %	2.11950	46 3552	27 1803	5 24.3445		66.09268	28 10825	4.99907				Process of
	-		-		ppm	5.9	113.6	32.86	27	_	239	133	66.4	-	-	192.85	
W29 600	600	760	7.3	7	Epm				1 2.22039	8.94794	3.916740		1.38246	9.05098	1 3.553626		0.0566
Purts			1 10		e %				24.8145				15.2742				1
						2.1	4.30	34 3	214	-	294	124.1	607	4	-	181.69	-
Marchine .	634	800	7		ppm		5 56743		1 6 6 34	To serve			1.18051	9.49931	4.129323	101.09	1,1821
W30 620	010	000	1.		Epm	0.05370	0.00763	1./115/	7 1.92434						4.120323	-	1.1021
TPW2			-		e %	0.55017	60.1434	15.4590	1 20.7873	-	50.72045	10.35221	12.4273	-	+	11.405	-
WOI					ppm	1	194.7	4	19.63	9.61027	218.3	190	81.2			54.403	
	650	850	7.5		tpm	0.05115	8.4639	0.19960	1 0.89062	9,61027		4.400564	1.69061	9.66865	11.47054	-	2.4572
Wk3	-			_	e %	0.53225	1 00.1233	15.01605	9.26742		37.00104	40.01300	17.4854	-	-		
well	T.D.S	E.C	PH	Unit	5	1000	ations					Anions	and the second	111-1-1	SAR	HL	R.S.C
No.	ppm	mmohs/cm		10000	100	K-	Na-	Ca++	Mg	Sum,	HCo3	CI	504	Sum.	Epm	ppm	Epm
			-	Eav	_	29.1	22.66	20.04	12.16		61.02	25.45	45.01				-
W32 1394							141				244	440	040			264.8	
			7.78	ppm		4	382	00	2.302632		3.507047 1	1.81946	288			254.8	-1.7896
	1394	2010		Epm										21.32276			
			-	e %			5.47591 1	3.59996 1					28.12137				-1.192
	-		-		0,4											146.9	-1.792
W22	1055	1590	7.9	ppm	0.4	64634 7	300	3.59996 1	9		275	265	28.12137		10.77054		
W33	1058	1590	7.9	Epm	0.1	464694 7 6 153453 1	5.47591 1 300 3.04915 2	3.59996 1 44 .195609 (9 0.740132	6.13834	16.44743 275 4.506719 3	265 .475317	28.12137 190 3.955861	15.9379	10.77056		
W33	1058	1590	7.9	ppm	0.1	464694 7 6 153453 1	300	3.59996 1 44 .195609 (9 0.740132	6.13834	275	265 .475317	28.12137 190 3.955861		10.77056		
_				ppm Epm e %	0.1	464694 7 6 153453 1 950858 8 7	5.47591 1 300 3.04915 2 0.85806 1 66	3.59996 1 44 195609 0 3.60492 4 28	10.45944 9 0.740132 1.586168 22	16.12834	16.44743 275 4.506719 28.27675 4 195	55.4312 265 475317 6.90278 89	28.12137 190 3.955861 24.82047 24	15.9379			1.57097
W33	1058 431	1590 610	7.9	Epm e % ppm Epm	0.1	464694 7 6 153453 1 950858 8 7 179028 2	5.47591 1 300 3.04915 2 0.85806 1 66 .870813 1	3.59996 1 44 195609 0 3.60492 4 28 .397206 1	10.45944 9 0.740132 1.586168 22 1.809211	6.13834	16.44743 275 4.506719 28.27675 4 195 3.195674 2	55.4312 265 .475317 6.90278 89 .510578	28.12137 190 3.955861 24.82047 24 0.499688		10.77056		1.57097
_				e %	0.1	464694 7 6 153453 1 950858 8 7	5.47591 1 300 3.04915 2 0.85806 1 66 .870813 1	3.59996 1 44 195609 0 3.60492 4 28 .397206 1 2.33293 1	10.45944 9 0.740132 1.586168 22 1.809211	6.13834	16.44743 275 4.506719 28.27675 4 195 3.195674 2	55.4312 265 475317 6.90278 89	28.12137 190 3.955861 24.82047 24 0.499688	15.9379		160.2	1.57097
VV24	431	610	7,5	ppm Epm e % Epm e %	0.1	464634 7 6 153453 1 950858 8 7 179028 2 861585 4 6	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 588	3.59996 1 44 195609 0 3.60492 4 28 397206 1 2.33293 2 184	10.45944 9 0.740132 1.586168 22 1.809211 28.91841 77	6.13834	16.44743 275 4.506719 28.27675 4 195 3.195674 51.49378 4 202	55.4312 265 475317 6.90278 88 510578 0.45444 923	28.12137 190 3.955861 24.82047 24 0.499688 8.051765 552	15.9379 6.20594	2.267305		1.57097
_				e %	0.1	464634 7 6 153453 1 950858 8 7 179028 2 861585 4 6	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 588	3.59996 1 44 195609 0 3.60492 4 28 397206 1 2.33293 2 184	10.45944 9 0.740132 1.586168 22 1.809211	6.13834	16.44743 275 4.506719 28.27675 4 195 3.195674 2	55.4312 265 475317 6.90278 88 510578 0.45444 923	28.12137 190 3.955861 24.82047 24 0.499688 8.051765 552	15.9379 6.20594	2.267305	160.2	1.57097
VV24	431	610	7,5	ppm Epm e% ppm Epm e% ppm Epm	0.1	464634 7 6 153453 1 153658 8 7 179028 2 861585 4 6 153453 2	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 588 6.01131 5	3.59996 1 44 195609 0 3.60492 4 28 397206 1 2.33293 2 184 .101637 6	10.45944 9 0.740132 1.506168 22 1.609211 18.91841 77 1.332237	16.13834 1.256258 11.67864	16.44743 275 4.506719 28.27675 4 195 3.195674 51.49379 4 232 3.802032 2	55.4312 265 475317 8.90278 89 510578 0.45444 923 6.03667	28.12137 190 3.955861 24.82047 24 0.499688 8.051765 552 11.49282	15.9379 6.20594	2.267305	160.2	1.57097
VV24	431	610	7,5	ppm Epm e % ppm Epm Epm e %	0.1	464634 7 6 153453 1 153658 8 7 179028 2 861585 4 6 153453 2	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 588	3.59996 1 44 195609 0 3.60492 4 28 397206 1 2.33293 2 184 .101637 6	10.45944 9 0.740132 1.586168 22 1.809211 28.91841 77	16.13834 1.256258 11.67864	16.44743 275 4.506719 3 28.27675 4 195 3.195674 2 51.49379 4 202 3.802032 2 9.198568 6	55.4312 265 475317 6.90278 89 510578 0.45444 923 6.03667	28.12137 190 3.955861 24.82047 24 0.499688 8.051765 552 11.49282	15.9379 6.20594	2.267305	160.2	1.57097
W34 W35	431 2572	610 4000	7.9 7.53	ppm Epm e % ppm Epm e % ppm	0.1	464634 7 6 150450 1 950858 8 7 179028 2 861585 4 6 150450 2 268181 6 9	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 598 6.01131 5 2.40922 515	3.59996 1 44 1955609 (3.60492 4 28 397206 1 2.33293 2 184 .181637 6 22.0296 16	0.45944 9 0.740132 1.506168 22 1.609211 18.91841 77 15.193 20	16.13834 1.256258 11.67864	16.44743 275 4.506719 28.27675 4.506719 28.27675 4.50674 205 2.195674 202 3.802032 2.198668 214	55.4312 265 475317 6.90278 89 510578 0.45444 923 6.03667 2.99471 213	28.12137 190 2.955861 24.82047 24 0.499688 8.051765 552 11.49282 27.80642 581	15.9379 6.20594 41.33152	2.267305 9.339359	160.2 775.7 163	1.57097 -0.0107 -11.711
VV24	431	610	7,5	ppm Epm Epm Epm Epm Epm e % Ppm Epm Epm	0.1 0.1 0.1 0.1 0.1 0.1	464634 7 6 152452 1 152452 1 1526558 8 7 179028 2 861585 4 6 152453 2 268181 6 9 220179 1	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 588 6.01131 5 2.40922 315 3.70161 6	3.59996 1 44 1955609 (3.60492 4 28 397206 1 2.33293 2 184 .181637 6 22.0296 16 .798403 2	10.45944 9 0.740132 1.506168 22 1.609211 77 15.193 30 2.467105	16.13834 256258 11.67864 17.1973	16.44743 275 4.506719 28.27675 195 2.195674 202 3.602032 3.602032 2.195858 6 214 3.507047 6	55.4312 265 475317 6.90278 89 510578 0.45444 923 6.03667 2.99471 213 008463	28.12137 190 2.955861 24.82047 24 0.499688 8.051765 552 11.49282 27.80642 581 7.516126	15.9379 6.20594	2.267305	160.2 775.7 163	1.57097 -0.0107 -11.711
W34 W35	431 2572	610 4000	7.9 7.53	ppm Epm e % ppm Epm e % ppm	0.1 0.1 0.1 0.1 0.1 0.1	464634 7 6 152452 1 152452 1 1526558 8 7 179028 2 861585 4 6 152453 2 268181 6 9 220179 1	5.47591 1 300 3.04915 2 0.85806 1 66 870813 1 5.88707 2 598 6.01131 5 2.40922 515	3.59996 1 44 1955609 (3.60492 4 28 397206 1 2.33293 2 184 .181637 6 22.0296 16 .798403 2	10.45944 9 0.740132 1.506168 22 1.609211 77 15.193 30 2.467105	16.13834 256258 11.67864 17.1973	16.44743 275 4.506719 28.27675 4.506719 28.27675 4.50674 205 2.195674 202 3.802032 2.198668 214	55.4312 265 475317 6.90278 89 510578 0.45444 923 6.03667 2.99471 213 008463	28.12137 190 2.955861 24.82047 24 0.499688 8.051765 552 11.49282 27.80642 581 7.516126	15.9379 6.20594 41.33152	2.267305 9.339359	160.2 775.7 163	1.57097 -0.0107 -11.711
W34 W35 W36	431 2572 1158	610 4000 1700	7.9 7.53 7.81	ppm Epm e % ppm Epm e % ppm Epm e %	0.1	464684 7 6 153453 1 950858 8 7 179028 2 861585 4 6 153453 2 268181 6 9 220179 1 338461 7 3	5.47591 1 300 3.04915 2 0.85806 1 56 670013 1 5.88707 2 598 6.01131 5 2.40922 315 3.70161 0 9.67304 4 138	2.59996 1 44 195609 0 2.60492 4 28 3.97206 1 2.33293 2 184 191637 6 22.0296 1 16 738403 2 642609 1 46	10.45944 9 7.740132 1.566165 22 1.569211 18.91841 77 15.193 30 2.467105 15	16.13834 1.256258 11.67864 17.1973	16.44742 275 4.506719 28.27675 4.506719 28.27675 4 195 195 195 195 195 195 195 195	55.4312 265 475317 8.90278 89 510578 0.45444 923 6.05667 2.39471 213 0.008453 5.27822 42	28.12137 190 2.955861 24.82047 24 0.499689 8.051765 552 11.49282 27.80642 581 7.516136 44.13042 89	15.9379 6.20594 41.33152 17.03165	2.267305 9.339359 10.72287	160.2 775.7 163	1.57097 -0.0107 -11.711 0.24153
W34 W35	431 2572	610 4000	7.9 7.53	ppm Epm Epm Epm Epm Epm e % Ppm Epm Epm	0.1	464634 7 6 153453 1 950858 8 7 7 179028 2 851585 4 6 153453 2 268181 6 9 230179 1 338461 7 3 076726 (5.47591 1 200 3.04915 2 0.85006 1 66 9.870013 1 5.88707 2 588 6.01131 5 2.45922 315 3.70161 0 9.67304 4 158 8.00261 2	2.59996 1 44 195609 (3.60492 4 28 397206 1 23297 2 584 181637 6 22.0296 16 736403 2 642609 1 66 235409 1	10.45944 9 7.740132 1.586168 22 1.809211 1.809211 77 1.5193 30 2.467105 14.34599 15 1.233553	16. 13834 1. 256258 11. 67864 17. 1973	16.44742 275 4.506719 3 28.27475 4 195 3.195674 2 51.49379 4 202 3.602002 3 9.198688 6 214 3.507047 6 20.59136 3 183 2.5939017 1	55.4312 265 475517 6.90278 88 5510578 6.02687 5510578 0.45444 823 6.03687 2.99471 213 008463 5.27823 42 184767	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.82047 352 11.459868 352 11.45282 27.50642 361 7.5161364 44.13042 89 1.853009	15.9379 6.20594 41.33152 17.03165	2.267305 9.339359 10.72287	160.2 775.7 163	1.57097 -0.0107 -11.711 0.24153
W34 W35 W36	431 2572 1158	610 4000 1700	7.9 7.53 7.81	ppm Epm e % ppm e % ppm e % ppm e % ppm Epm Epm Epm	0.1	464634 7 6 153453 1 950858 8 7 7 179028 2 851585 4 6 153453 2 268181 6 9 230179 1 338461 7 3 076726 (5.47591 1 200 3.04915 2 0.85006 1 66 970013 1 5.88707 2 588 6.01131 5 2.49922 315 3.70161 0 9.67304 4 158 8.00261 2	2.59996 1 44 195609 (3.60492 4 28 397206 1 232972 2 584 181637 6 22.0296 16 736403 2 642609 1 66 235409 1	10.45944 9 7.740132 1.586168 22 1.809211 1.809211 77 1.5193 30 2.467105 14.34599 15 1.233553	16. 13834 1. 256258 11. 67864 17. 1973	16.44742 275 4.506719 28.27675 4.506719 28.27675 4 195 195 195 195 195 195 195 195	55.4312 265 475517 6.90278 88 5510578 6.02687 5510578 0.45444 823 6.03687 2.99471 213 008463 5.27823 42 184767	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.82047 352 11.459868 352 11.45282 27.50642 361 7.5161364 44.13042 89 1.853009	15.9379 6.20594 41.33152 17.03165	2.267305 9.339359 10.72287	160.2 775.7 163	1.57097 -0.0107 -11.711 0.24153
W34 W35 W36	431 2572 1158	610 4000 1700	7.9 7.53 7.81	ppm Epm e % ppm Epm e % ppm Epm e %	0.1	464634 7 6 153453 1 950858 8 7 7 179028 2 851585 4 6 153453 2 268181 6 9 230179 1 338461 7 3 076726 (5.47591 1 300 3.04915 2 0.85806 1 56 670013 1 5.88707 2 598 6.01131 5 2.40922 315 3.70161 0 9.67304 4 138	2.59996 1 44 195609 (3.60492 4 28 397206 1 232972 2 584 181637 6 22.0296 16 736403 2 642609 1 66 235409 1	10.45944 9 7.740132 1.586168 22 1.809211 1.809211 77 1.5193 30 2.467105 14.34599 15 1.233553	16. 13834 1. 256258 11. 67864 17. 1973	16.44742 275 4.506719 3 28.27475 4 195 3.195674 2 51.49379 4 202 3.602002 3 9.198688 6 214 3.507047 6 20.59136 3 183 2.5939017 1	55.4312 265 475517 6.90278 88 5510578 6.02687 5510578 0.45444 823 6.03687 2.99471 213 008463 5.27823 42 184767	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.82047 352 11.459868 352 11.45282 27.50642 361 7.5161364 44.13042 89 1.853009	15.9379 6.20594 41.33152 17.03165	2.267305 9.339359 10.72287	160.2 775.7 163 178.5	1.57097 -0.0107 -11.711 0.24153
W24 W35 W26 W27	431 2572 1158 515	610 4000 1700 430	7.9 7.53 7.81 8.15	ppm Epm e % ppm Epm e % ppm e % ppm e % ppm e % ppm e % ppm e %	0.1 0.1 0.1 0.1 0.1 1.1 0.1	444684 7 6 153453 1 950858 8 7 179028 2 861585 4 6 153453 2 268181 6 9 230179 1 338461 7 3 076726 (798542 6 9	5.47591 1 200 3.04915 2 0.85006 1 66 470013 1 5.88707 2 588 6.01131 5 2.40922 315 3.70161 0 9.67304 4 138 1.00261 2 2.47319 2 442	2.59996 1 44 195609 0 3.60492 2 3.60492 2 3.97206 1 2.337206 1 2.33293 2 184 181637 6 22.0296 1 5 795403 2 5 46 235409 1 3.80396 1 20 20	10.45944 9 1.740132 1.556168 22 1.809211 1.809211 1.809211 1.809211 1.809211 1.332237 15.193 30 2.467105 1.245355 12.83941 12.83941 27 27	16.13834 1.256258 11.67864 17.1973 1.608238	16.44743 275 4.506719 28.27875 195 3.195574 51.45079 4.50779 4.506779 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.00200000 3.002000000000000000000000000000000	55.4312 265 475317 8.90278 8.90278 8.90278 8.90278 8.90278 8.90278 8.03647 2.99471 2.99471 2.13 008463 5.27823 42 1847657 9.42577 9.42577 3.00	28,12137 190 3,955861 24,92047 24 0,499688 8,051765 552 11,49282 27,50642 581 7,516136 44,13042 89 1,855085 360	15.3379 6.20584 41.33152 17.03165 6.036793	2.267305 9.339359 10.72287 4.518889	160.2 775.7 163 176.5 160.7	1.57097 -0.0107 -11.711 0.24153 -0.5299
W34 W35 W36	431 2572 1158	610 4000 1700	7.9 7.53 7.81	Epr Epr e % ppr Epr e % Epr e % Epr Epr Epr Epr Epr	0.1 0.1 2.1 0.1 0.1 1.1 0.1 1.1 0.1 0.1 1.1 0.1 0	464694 7 6 153453 1 153653 8 7 179028 2 861585 4 6 153453 2 268181 6 9 230179 1 338461 7 9 076726 0 798542 6 9 220179 1	5.47591 1 200 3.04915 2 0.85906 1 66 870813 1 5.88707 2 509 5.01131 5 2.40922 315 3.70961 0 8.67304 4 120 6.0261 2 2.47319 2 442 9.22575 0	2.59996 44 195609 (3.60492 / 28 397206 184 2.3293 / 184 184637 (2.3293 / 184 184637 (2.3295 / 184 184637 (2.3296 / 184637 (2.3296 / 2.3296 / 184637 (2.3296 / 2.3296 /	10.45944 9 1.740132 1.586168 22 1.809211 1.809211 77 1.332237 15.193 50 2.467105 1.23353 1.23353 1.233553 2.2 2.20335 1.22035 1.22055 1.22055 1.22055 1.22055 1.22055 1.22055 1.22055 1.22055 1.22055 1.22055 1.22055 1.220555 1.220555 1.220555 1.220555 1.220555 1.22055555 1	16. 13834 3 2 256258 3 11. 67864 3 17. 1973 3 9. 608238 3 12. 67433 3	16.44743 275 4.506719 2227875 4.506719 22278754 195 3.195674 195 3.095674 232 3.802052 2.9 19858 5.145279 2.142 3.802052 2.14 2.15 2.55 2.15 2.15 2.55 2.15 2.55	55.4312 265 475317 6.90278 89 510578 0.45444 923 8.03667 2.99471 213 008453 5.27823 42 184767 9.42577 308885	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.99683 8.051785 552 11.49282 27.90642 581 7.516136 44.13042 89 1.853009 30.69525 360 7.485315	15.3379 6.20584 41.33152 17.03165 6.036793	2.267305 9.339359 10.72287 4.518889	160.2 775.7 163 176.5 160.7	1.57097 -0.0107 -11.711 0.24153 -0.5299
W24 W35 W26 W27	431 2572 1158 515	610 4000 1700 430	7.9 7.53 7.81 8.15	ppm Epm e % ppm Epm e % ppm e % ppm e % ppm e % ppm e % ppm e %	0.1 0.1 2.1 0.1 0.1 1.1 0.1 1.1 0.1 0.1 1.1 0.1 0	464694 7 6 153453 1 153653 8 7 179028 2 861585 4 6 153453 2 268181 6 9 230179 1 338461 7 9 076726 0 798542 6 9 220179 1	5.47591 1 300 3.04915 2 0.53006 7 66 4.70013 1 5.88707 2 508 6.01131 5 2.40922 3 315 3.70161 0 9.67304 4 539 8.00261 2 2.47319 2 442 2.47319 2	2.59996 44 195609 (3.60492 / 28 397206 184 2.3293 / 184 184637 (2.3293 / 184 184637 (2.3295 / 184 184637 (2.3296 / 184637 (2.3296 / 2.3296 / 184637 (2.3296 / 2.3296 /	10.45944 9 1.740132 1.586168 22 1.809211 1.809211 77 1.332237 15.193 50 2.467105 1.23353 1.233533 1.233553 2.2 2.20335 1.22035 1.2205 1.2	16. 13834 3 2 256258 3 11. 67864 3 17. 1973 3 9. 608238 3 12. 67433 3	16.44743 275 4.506719 28.27875 195 3.195574 51.45079 4.50779 4.506779 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.002002 202 3.00200000 3.002000000000000000000000000000000	55.4312 265 475317 8.90278 89 510578 0.45444 923 0.45444 923 0.45444 184767 5.27823 42 184767 5.42577 230 2308856 1.54098	28.12137 190 3.95561 24.82047 24.82047 24.82047 24.82047 24.82047 24.82047 24.82047 552 552 27.80642 561 7.516136 44.13042 89 1.853009 360 360 360 360 363751 33.64751 33.44751	15.3379 6.20584 41.33152 17.03165 6.036793	2.267305 9.339359 10.72287 4.518889	160.2 775.7 163 176.5 160.7	1.57097 -0.0107 -11.711 0.24153 -0.5299
W24 W35 W26 W27 W28	431 2572 1158 515 1530	610 4000 1700 430 2250	7.5 7.53 7.81 8.15 8.07	Barrier Strand S	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	464694 7 6 153453 1 153453 1 153053 8 7 179028 2 851585 4 6 153453 2 6 153453 2 6 153453 2 068151 6 9 9 200179 1 338461 7 3 076726 6 9 220179 1 015153 8 5	5.47591 1 300 3.04915 2 0.65906 1 66 470013 1 5.88707 2 588 6.01131 5 5.88707 2 5.88707 2 5.89707 2 5.80707 2 5.00261 2 2.47319 2 4.422 5.247516 2 4.47593 4 5.247516 2 5.247516 2 5	2.59996 44 195609 (28 397206 2.337206 184 181637 (2.33293 184 181637 (2.33293 184 181637 (2.3296 184 181637 (2.3296 184 195609 (2.3296 184 181637 (2.3296 184 181637 (2.3296 184 181637 (2.3296 1816 181637 (2.3296 184 181637 (2.35986 18 2.35986 18 2.36986 (2.36986 18 2.00 184 2.00 184 180 2.88986 (2.00 184 2.00 184 2.89986 (2.00 184 2.89986 1.20 1.	10.45944 9 7.40132 1.566168 22 1.609211 8.91841 77 15.193 30 2.457105 1.233553 1.233555 1.2355555 1.2355555 1.2355555 1.2355555 1.23555555 1.23555555 1.235555555 1.23555555555555555555555555555555555555	16. 13834 1. 256258 11. 57864 17. 1973 9. 608298 12. 67433	16.44743 275 4.506719 22 27675 4 195 22.27675 4 195 3.195674 1 5.145379 4 202 3.802002 1 8.195658 4 214 3.507047 6 2.195658 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595151 1 2.595111 1 4.567472 1 2.501111 1	55.4312 265 475317 89 89 510578 923 6.03647 2.99471 213 6.03647 2.99471 213 6.03647 2.99471 213 5.27823 42 184767 320 308463 5.42577 320 308866 1.54098 195	28.12137 190 2.955847 2.4.52047 2.4.52047 2.4 0.459648 8.051785 552 11.45282 27.80642 3.61 3.51 3.64 3.51 5.51	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092	2 247305 9 339359 10.72287 4.518889 15.15578	160.2 775.7 163 176.5 160.7	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632
W24 W35 W26 W27	431 2572 1158 515	610 4000 1700 430	7.9 7.53 7.81 8.15	ppm Epm Epm Epm Epm Epm Epm Epm Epm Epm		464694 7 6 153453 1 153653 1 153653 1 179028 2 851585 4 6 153453 2 0681881 6 9 220179 1 338461 7 3 3076726 7 785542 6 9 220179 1 015153 8 5 5 220179 7 9	5.47591 1 300 0.63061 2 66 470013 1 5.88707 2 5300 6.01131 5 2.40922 315 3.70161 0 6.67131 3 5.88707 2 530 6.01131 5 2.40922 315 3.70161 0 8.67304 4 538 6.00261 2 2.47305 2 4.73083 4 22275 0 4.75083 4 6.56372 1	2.59996 44 195609 (195609 (28 397206 (23)97206 (23)97206 (23)97206 (23)97206 (23)97206 (23)97206 (23)97206 (184 184637 (22,0296 (184 185637 (22,0296 (184 185637 (22,0296 (184 185637 (22,0296 (184 185637 (22,0296 (185737 (18573	10.45944 9 7,740132 1,506168 22 1,806211 77 15.193 20 2,467105 15 12833641 27 2,220365 1,792549 28 28 28 28 28 28 28 28 28 28 28 28 28	16. 13834 1. 256258 11. 67864 17. 1973 1. 608298 12. 67433 13. 93319	16.44742 275 28.27475 28.27475 28.27475 28.27475 28.27475 28.27475 29.195874 20.195874 20.195874 20.195874 20.195874 20.195858 21.4 20.195874 20.195747 20.1957	55.4312 265 475317 89 510578 923 5.0578 923 4.05667 2.99471 2.99470 2.99550 2.99470 2.99550 2.99550 2.99550 2.99550 2.9977 2.99550 2.99550 2.9975 2.9975 2.9977 2.99550 2.9977 2.99550 2.99778 2.99778 2.99	28.12137 190 3.955861 2.42047 2.4 0.459640 8.0517655 552 11.42222 27.50642 381 7.515126 1.853009 0.65525 350 1.853009 360 7.455315 33.457315 3.352072	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092	2.267305 9.339359 10.72287 4.518889	160.2 775.7 163 176.5 160.7	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632
W24 W35 W26 W27 W28	431 2572 1158 515 1530	610 4000 1700 430 2250	7.5 7.53 7.81 8.15 8.07	Barrier Strand S		464694 7 6 153453 1 153653 1 153653 1 179028 2 851585 4 6 153453 2 0681881 6 9 220179 1 338461 7 3 3076726 7 785542 6 9 220179 1 015153 8 5 5 220179 7 9	5.47591 1 300 3.04915 2 0.65906 1 66 470013 1 5.88707 2 588 6.01131 5 5.88707 2 5.88707 2 5.89707 2 5.89707 2 5.00261 5 2.47319 2 4.422 5.247319 2 2.47319 2 3.0261 2	2.59996 44 195609 (195609 (28 397206 (237206 (237206 (237206 (237206 (237206 (237206 (237206 (235409 (38366 (23540 (235409 (38366 (235409 (38366 (235409 (38366 (235409 (38366 (235409 (3836 (23540 (3836 (23540 (3836 (23540 (3836 (23540 (3836 (23540 (3836 (23540 (3836 (23576	10.45944 9 7,740132 1,506168 22 1,806211 77 15.193 20 2,467105 15 12833641 27 2,220365 1,792549 28 28 28 28 28 28 28 28 28 28 28 28 28	16. 13834 1. 256258 11. 67864 17. 1973 1. 608298 12. 67433 13. 93319	16.44743 275 4.506719 22 27675 4 195 22.27675 4 195 3.195674 1 5.145379 4 202 3.802002 1 8.195658 4 214 3.507047 6 2.195658 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595155 1 2.595151 1 2.595111 1 4.567472 1 2.501111 1	55.4312 265 475317 89 510578 923 5.0578 923 4.05667 2.99471 2.99470 2.99550 2.99470 2.99550 2.99550 2.99550 2.99550 2.9977 2.99550 2.99550 2.9975 2.9975 2.9977 2.99550 2.9977 2.99550 2.99778 2.99778 2.99	28.12137 190 3.955861 2.42047 2.4 0.459640 8.0517655 552 11.42222 27.50642 381 7.515126 1.853009 0.65525 350 1.853009 360 7.455315 33.457315 3.352072	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092	2 247305 9 339359 10.72287 4.518889 15.15578	160.2 775.7 163 178.5 160.7 207.3	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632
W24 W35 W26 W27 W28	431 2572 1158 515 1530	610 4000 1700 430 2250	7.5 7.53 7.81 8.15 8.07	ppm Epm Epm Epm Epm Epm Epm Epm Epm Epm		464694 7 6 153453 1 1530453 8 7 179028 2 861585 4 6 9 220179 1 153453 2 66 9 220179 1 133461 7 20179 1 33464 7 20179 1 33464 7 20179 1 133464 7 193542 6 9 7 127877 9 17795 6 7	5.47591 1 300 300 304915 2 0.85006 1 66 870013 1 5.88707 2 508 6.01131 9 2.40922 315 3.70161 0 8.67304 4 138 6.0264 2 2.47319 2 442 9.22575 0 4.75003 4 222 4.556372 1 9.30482 1 138	2.59996 44 195609 0 3.60492 4 20 3.97206 184 181637 6 2.3293 2 184 181637 6 2.0296 15 2.20216 15 15 15 15 15 15 15 15 15 15	10.45944 9 7.40132 1.506168 22 1.506211 1.509211 77 1.532227 1.532227 1.5327 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.532777 1.532777 1.532777 1.5327777 1.53277777 1.532777777777777777777777777777777777777	16. 13834 1. 256258 11. 57864 11. 57	16.44742 275 275 28.27475 4.506719 28.27475 4.506747 28.27475 4.507474 20.2 5.145273 4.507047 20.59136 2.544 5.50747 45.67380 1.52 5.50472 5.50472 5.50472 5.50472 5.504745 5.014745 5.014745 5.014745 5.014745 5.514745 1.75 1.	55.4312 265 475317 8.90278 8.90278 5.510578 9.045444 923 6.03667 2.99471 213 0.06463 5.27623 42 184767 9.42577 184767 9.42577 1.54098 154098 154098 178	28.12137 190 2.855641 24.82047 24 0.459642 11.45222 27.80642 381 7.5161342 44.13042 89 1.853009 20.65525 350 7.455315 33.44791 161 3.355072 24.1721 29	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092	2 247305 9 339359 10.72287 4.518889 15.15578	160.2 775.7 163 176.5 160.7	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632
W34 W35 W26 W37 W38 W38	431 2572 1158 515 1530	610 4000 1700 430 2250	7.9 7.53 7.81 8.15 8.07 8.1	ppm Epm Epm Epm e% ppm Epm e% ppm Epm Epm e% ppm e% ppm e%		464694 7 6 153453 1 1530453 8 7 179028 2 861585 4 6 9 220179 1 153453 2 66 9 220179 1 133461 7 20179 1 33464 7 20179 1 33464 7 20179 1 133464 7 193542 6 9 7 127877 9 17795 6 7	5.47591 1 300 300 304915 2 0.85006 1 66 870013 1 5.88707 2 508 6.01131 9 2.40922 315 3.70161 0 8.67304 4 138 6.0264 2 2.47319 2 442 9.22575 0 4.75003 4 222 4.556372 1 9.30482 1 138	2.59996 44 195609 0 3.60492 4 20 3.97206 184 181637 6 2.3293 2 184 181637 6 2.0296 15 2.20216 15 15 15 15 15 15 15 15 15 15	10.45944 9 7.40132 1.506168 22 1.506211 1.509211 77 1.532227 1.532227 1.5327 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.53277 1.532777 1.532777 1.5327777 1.53277777 1.532777777777777777777777777777777777777	16. 13834 1. 256258 11. 57864 11. 57	16.44742 275 275 28.27475 4.506719 28.27475 4.506747 28.27475 4.507474 20.2 5.145273 4.507047 20.59136 2.544 5.50747 45.67380 1.52 5.50472 5.50472 5.50472 5.50472 5.504745 5.014745 5.014745 5.014745 5.014745 5.514745 1.75 1.	55.4312 265 475317 8.90278 8.90278 5.510578 9.045444 923 6.03667 2.99471 213 0.06463 5.27623 42 184767 9.42577 184767 9.42577 1.54098 154098 154098 178	28.12137 190 2.855641 24.82047 24 0.459642 11.45222 27.80642 381 7.5161342 44.13042 89 1.853009 20.65525 350 7.455315 33.44791 161 3.355072 24.1721 29	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092	2.267305 8.339358 90.72287 4.518889 15.15578 6.704409	160.2 775.7 163 178.5 160.7 207.3	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632 0.8658
W24 W35 W26 W27 W28	431 2572 1158 515 1530 854	610 4000 1700 430 2250 1320	7.5 7.53 7.81 8.15 8.07	Eper Eper Eper Eper Eper e % Eper Eper Eper Eper Eper Eper Eper Eper		464694 7 6 153453 1 153053 8 7 179028 2 851585 4 6 9 153453 2 153453 2 153453 2 153453 2 153453 2 153453 2 153454 2 8 1230179 1 338461 7 3 075726 (738542 6 8 220179 1 338461 7 3 1075726 (738542 6 8 127877 9 947783 6 779028 (779028	5.47591 200 200 200 200 5.8506 46 66 670013 5.83707 2.870013 5.83707 2.870013 5.83707 2.870013 5.83707 2.40922 2.45922 2.45922 2.45922 2.45922 2.45922 2.47309 2.40922 2.47309 2.47309 2.22575 0.475083 4.22575 0.22575 1.2656372 1.9 2.20483 1.26 2.2275 1.502481 1	3.59996 44 135609 0 3.60492 4 28 3.7206 1 2.337206 1 2.337206 1 2.3373 2 184 2.3373 2 184537 6 2.0296 1 181637 6 2.0296 1 181637 6 2.325409 1 3.80306 20 2.355409 1 3.80306 20 2.355409 1 3.80306 20 2.355409 1 3.80306 20 3.80306 20 3.25115 30 3.25115 30 3.55500 40 3.55500 40 3.555000 40 3.555000 40 3.555000 40 3.5550000 40 3.555000 40 3.5550000	10.45944 9 7.40132 1.586168 22 1.586168 22 1.586168 22 1.586168 22 1.586168 22 1.586168 22 1.586168 22 23 20 24 2457105 12.83841 27 23 2457105 12.83841 27 22 23555 12.83841 27 22 23555 12.83841 27 22 23555 12.83841 27 20 25 25 25 25 25 25 25 25 25 25	16. 13834 1. 256258 1. 57864 1. 57864	16.44742 275 275 28.27875 28.27875 29.282 29.2935 3.955474 20.395674 20.395674 202 3.802002 3.902002 214 3.507047 2.39507047 2.39507047 2.39507047 3.42 3.64072 3.642 3.604723 3.504745 3.504747 2.504161 3.6042 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504774 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747 3.504747	55.4312 265 475317 8.90278 89 0.45444 923 0.45444 923 8.03647 2.39471 213 0.08445 5.27823 42 2.39471 213 0.08445 5.27823 42 2.39471 184767 9.42577 3.00845 184767 9.42577 3.00845 5.27823 42 5.00845 5.27823 42 5.00845 5.0085 5.00855 5.00855 5.0005 5.0005 5.0075	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.82047 8.051785 552 27.50542 27.50542 27.50542 27.50542 27.515126 44.13042 89 30.65525 300 5527 305 557 507 207 207 207 207 207 207 207 2	15. 3379 6.20594 41. 33152 17. 03165 6. 036793 22. 40092 13. 86753	2.267305 8.339358 90.72287 4.518889 15.15578 6.704409	160.2 775.7 163 178.5 160.7 207.3	1.57097
W34 W35 W26 W37 W38 W38	431 2572 1158 515 1530 854	610 4000 1700 430 2250 1320	7.9 7.53 7.81 8.15 8.07 8.1	ppm Epm Epm Epm Epm e % Ppm e % Ppm Epm Epm Epm Epm Epm e %	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	464694 7 6 153453 1 153053 8 7 179028 2 851585 4 6 9 153453 2 153453 2 153453 2 153453 2 153453 2 153453 2 153454 2 8 1230179 1 338461 7 3 075726 (738542 6 8 220179 1 338461 7 3 1075726 (738542 6 8 127877 9 947783 6 779028 (779028	5.47591 300 300 304915 66 670013 15.88707 3.870013 15.88707 3.87014 15.88707 3.70151 6.01131 5.88707 3.70151 6.01131 5.88707 3.70151 6.01131 5.88707 3.70151 6.02251 2.473092 3.70151 5.00251 1.33 5.00251 5	3.59996 44 135609 0 3.60492 4 28 3.7206 1 2.337206 1 2.337206 1 2.3373 2 184 181637 6 22.0296 1 181637 6 22.0296 1 181637 6 22.0296 1 181637 6 22.0296 1 181637 6 235409 1 3.80306 2 25165 7 3.25115 3 3.25115 3 3.55600 6	10.45944 3 7.40132 1.566148 22 1.609211 1.566148 22 1.609211 1.586148 22 1.609211 1.586148 22 77 77 1.5182 30 2.467105 1.23553 1.23553 1.235553 1.235553 1.2355555 1.235555 1.2355555 1.2355555 1.2355555555 1.2	16. 13834 1. 256258 1. 57864 1. 57864	16.44742 275 28.27475 4.506719 28.27475 195 195 195 195 195 202 3.02012 3.095474 202 3.02012 3.02002 3.02004 2.14 3.507047 103 2.899047 45.67300 342 5.04474 2.504514 3.06 5.04472 2.01511 125 974 2.802017 3.42 5.04472 2.01511 105 5.044749 2.802501 171 2.802022	55.4312 265 475317 8.90278 89 0.45444 923 0.45444 923 8.03647 2.39471 213 0.08445 5.27823 42 2.39471 213 0.08445 5.27823 42 2.39471 184767 9.42577 3.00845 184767 9.42577 3.00845 5.27823 42 5.00845 5.27823 42 5.00845 5.0085 5.00855 5.00855 5.0005 5.0005 5.0075	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.82047 8.051785 552 27.50542 27.50542 27.50542 27.50542 27.515126 44.13042 89 30.65525 300 5527 305 557 507 207 207 207 207 207 207 207 2	15. 3379 6.20594 41. 33152 17. 03165 6. 036793 22. 40092 13. 86753	2.267305 8.339358 90.72287 4.518889 15.15578 6.704409	160.2 775.7 163 176.5 160.7 207.3 133.3	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632 0.8658
W24 W25 W26 W27 W28 W29	431 2572 1158 515 1530 954 567	610 4000 1700 430 2259 1320 800	7.9 7.53 7.81 8.15 8.07 8.1 7.91	ppm Epm Epm Epm Epm Epm Epm Epm Epm Epm	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	464694 7 6 53453 1 350858 8 7 153453 1 350858 8 7 153453 2 8 53453 2 281553 4 6 5 20179 1 338461 7 338461 7 333461 7 333461 7 333461 7 333461 7 333461 7 3 127877 9 9 127877 9 9 127878 6 7 1 179028 1 9 127878 8 1 1 1 1 1 1 1 1 1 1 1 1 1	5.47591 200 200 200 200 5.4915 20.85806 66 66 66 66 66 66 66 66 66	3.59996 44 135609 0 3.60492 4 28 3.97206 1 3.20492 4 28 3.97206 1 3.20296 1 18 755403 2 4.01471 5 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255406 1 3.2	10.45944 9 1.740132 1.556168 22 1.809241	14. 13834 3 1. 256258 3 11. 67864 3 17. 1973 3 1. 608298 3 12. 67433 3 13. 93319 3 1. 847523 3	16.44742 275 275 34.506719 4.506719 328.27875 195 3.195674 27.3 202 3.40719 202 3.802002 3.9195688 2.14 3.507047 3.507047 2.3020017 45.673901 3.42 3.50472 25.01111 306 5.014728 371 2.80226 32.25333 214	55.4312 285 4475317 8.90278 89 923 0.45444 923 923 0.06467 2.99471 213 008463 5.27223 42 184767 9.42577 230 2008463 5.27723 42 184767 9.42577 2008463 5.27723 3.505865 1.54098 195 5.00705 5.560905 5.560905 5.56091 178 0.21157 1.5 5.03795 5.50175	28.12137 190 3.955861 24.82047 24.82047 24.82047 24.82047 3.955861 3.0459618 8.051785 3.55 3.55 3.516136 7.516136 7.516136 3.6042 3.81 3.516136 3.516156 3.51	15.9379 6.20594 41.33152 17.03165 6.036790 22.40092 13.86753 8.427306	2.267305 8.339359 10.72287 4.518889 15.15578 6.704409 5.199174	160.2 775.7 163 178.5 160.7 207.3	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632 0.8655 0.13647
W34 W35 W26 W37 W38 W38	431 2572 1158 515 1530 854	610 4000 1700 430 2250 1320	7.9 7.53 7.81 8.15 8.07 8.1	ppm Epom Fppm Fppm Fppm Fppm Fppm Fppm Fppm F	0.1 0.1 0.1 0.1 0.1 0.1 0.1 1. 0.1 0.1 1. 0.1 0.1	4646934 7 6 1 950858 8 7 179026 950858 8 7 179026 9 155453 9 155453 9 155453 9 155453 9 153454 9 200179 9 1338461 7 7 9 778542 9 1778354 7 1179028 1779028 1779028 022487 9 9 17789 9 17789 9 220179 9 220179 9 220179 9 220179	5.47591 300 304915 2 8.504915 2 8.5006 1 66 470013 1 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 6.0204 1 5.00261 2 4.07305 2 4.07305 2 4.07305 2 4.07305 2 4.07305 2 4.07305 2 5.55272 5 5.30482 1 7.84509 1 7.84509 1 4.07515 2 0.31318	3.5996 44 135609 (135609 (3.60492 (28 297206 1 23293 (184 181637 (2.32295 (184 181637 (2.3295 (184 181637 (2.3296 (184 181637 (2.3296 (184 2.32836 (2.338366 (2.38386 (2.38386 (2.38836 (2.38536 (2.3956 (10.45944 9 7.40/132 1.566/168 22 1.609211 1.566/168 22 1.609211 1.566/168 22 1.509211 1.569211 1.562521 1.52553 2.202652 2.202652 1.502545 1.502545 1.502545 1.573554 1.573554	14. 13834 3 1. 256258 3 11. 67864 3 17. 1973 3 14. 67864 3 17. 1973 3 19. 608298 3 10. 67829 3 10. 93319 3 10. 93319 3 10. 447523 3 17. 50766 3	16 447.42) 275 45.06719 28 27475 43.06719 28 192 27475 1930 195 3.195674 2 3.602012 3 3.602002 2 3.602002 2 3.602002 2 3.602002 2 3.602002 2 3.602002 2 3.602002 2 3.602002 2 3.602002 2 3.602001 2 3.602001 1 3.602001 1 3.602001 1 3.050047 1 3.050047 1 3.050047 1 3.050047 2 214 3 3.507047 1	55.4312 265 2475317 4775317 8.90278 89 510578 0.45444 923 6.03667 2.13 006453 5.27823 42 5.0520155 5.0520155 5.03526	28.12137 190 3.955841 24.92047 24 0.459685 8.051785 552 11.45282 27.80642 381 7.516126 44.13042 89 1.853009 30.69525 360 7.485315 33.44791 161 3.352072 24.1721 29 .355072 24.1721 29 .355072 24.1721 29 .255485 2848 8 .2554857 .2554777 .2554777 .2554777 .2554777 .2554777 .2554777 .2554777 .25547777 .255477777777777777777777777777777777777	15. 3379 6.20594 41. 33152 17. 03165 6. 036793 22. 40092 13. 86753	2.267305 8.339358 90.72287 4.518889 15.15578 6.704409	160.2 775.7 163 176.5 160.7 207.3 133.3	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632 0.8658 0.13647
W24 W25 W26 W27 W28 W29	431 2572 1158 515 1530 954 567	610 4000 1700 430 2259 1320 800	7.9 7.53 7.81 8.15 8.07 8.1 7.91	ppm Epm Epm Epm Epm Epm Epm Epm Epm Epm	0.1 0.1 0.1 0.1 0.1 0.1 0.1 1. 0.1 0.1 1. 0.1 0.1	4646934 7 6 1 950858 8 7 179026 950858 8 7 179026 9 155453 9 155453 9 155453 9 155453 9 153454 9 200179 9 1338461 7 7 9 778542 9 1778354 7 1179028 1779028 1779028 022487 9 9 17789 9 17789 9 220179 9 220179 9 220179 9 220179	5.47591 200 200 200 200 200 200 200 20	3.5996 44 135609 (135609 (3.60492 (28 297206 1 23293 (184 181637 (2.32295 (184 181637 (2.3295 (184 181637 (2.3296 (184 181637 (2.3296 (184 2.32836 (2.338366 (2.38386 (2.38386 (2.38836 (2.38536 (2.3956 (10.45944 9 7.40/132 1.566/168 22 1.609211 1.566/168 22 1.609211 1.566/168 22 1.509211 1.569211 1.562521 1.52553 2.202652 2.202652 1.502545 1.502545 1.502545 1.573554 1.573554	14. 13834 3 1. 256258 3 11. 67864 3 17. 1973 3 14. 67864 3 17. 1973 3 19. 608298 3 10. 67829 3 10. 93319 3 10. 93319 3 10. 447523 3 17. 50766 3	16.44742 275 275 34.506719 4.506719 328.27875 195 3.195674 27.3 202 3.40719 202 3.802002 3.9195688 2.14 3.507047 3.507047 2.3020017 45.673901 3.42 3.50472 25.01111 306 5.014728 371 2.80226 32.25333 214	55.4312 265 2475317 4775317 8.90278 89 510578 0.45444 923 6.03667 2.13 006453 5.27823 42 5.0520155 5.0520155 5.03526	28.12137 190 3.955841 24.92047 24 0.459685 8.051785 552 11.45282 27.80642 381 7.516126 44.13042 89 1.853009 30.69525 360 7.485315 33.44791 161 3.352072 24.1721 29 .355072 24.1721 29 .355072 24.1721 29 .255485 2848 8 .2554857 .2554777 .2554777 .2554777 .2554777 .2554777 .2554777 .2554777 .25547777 .255477777777777777777777777777777777777	15.9379 6.20594 41.33152 17.03165 6.036790 22.40092 13.86753 8.427306	2.267305 8.339359 10.72287 4.518889 15.15578 6.704409 5.199174	160.2 775.7 163 178.5 160.7 207.3 133.3 248.4	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632 0.8655 0.13647
W24 W25 W26 W27 W28 W29	431 2572 1158 515 1530 954 567	610 4000 1700 430 2250 1320 800	7.9 7.53 7.81 8.15 8.07 8.1 7.91	ppm Epom Fppm Fppm Fppm Fppm Fppm Fppm Fppm F	0.1 0.1 0.1 0.1 0.1 0.1 0.1 1. 0.1 0.1 1. 0.1 0.1	4646934 7 6 1 950858 8 7 179026 950858 8 7 179026 9 155453 9 155453 9 155453 9 155453 9 153454 9 200179 9 1338461 7 7 9 778542 9 1778354 7 1179028 1779028 1779028 022487 9 9 17789 9 17789 9 220179 9 220179 9 220179 9 220179	5.47591 300 304915 2 8.504915 2 8.5006 1 66 470013 1 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 5.88707 2 6.0204 1 2.40922 3 315 3.70561 0 9.67204 4 138 4.0204 1 9.22575 0 4.73083 4 7.84509 1 7.84509 1 7.84509 1 7.84509 1 0.31318	3.5996 44 135609 (135609 (3.60492 (28 297206 1 23293 (184 181637 (2.32295 (184 181637 (2.3295 (184 181637 (2.3296 (184 181637 (2.3296 (184 2.32836 (2.338366 (2.38386 (2.38386 (2.38836 (2.38536 (2.3956 (10.45944 9 7.40/132 1.566/168 22 1.609211 1.566/168 22 1.609211 1.566/168 22 1.509211 1.569211 1.562521 1.52553 2.202652 2.202652 1.502545 1.502545 1.502545 1.573554 1.573554	44. 13834 3 1. 254258 3 11. 57864 3 14. 67864 3 14. 67863 3 14. 608298 3 14. 608298 3 14. 608298 3 14. 608298 3 14. 67823 3 14. 647523 3 15. 56756 3	16 447.42 275 275 4 5067.19 2 278.75 4 5 195 195 1 5 3.195674 2 5 4 3.0202 3 8 2 3.02021 3 8 3 3.02022 2 163 3 3.02021 2 3 3 3.02022 2 3 3 3.02021 2 3 3 3.02022 2 3 3 3.02021 2 3 3 3.02021 2 3 3 3.02021 2 3 3 3.04111 3 3 3 3.02021 2 111 3 3 3.02021 11 3 3 2 3.02021 11 3 3 3 3.0202333 2 44	55.4312 265 2455 4475317 8.90278 89 510578 0.45444 923 8.00467 2.39471 213 008463 5.27823 42 184767 308886 193 500705 3.6609 178 173 5.0325 6.04151 138	28.12137 190 3.955841 24.52047 24 0.459610 8.051785 552 11.459610 8.051785 552 11.459610 8.051785 351 1.459610 361 1.550009 0.645232 360 7.4553155 360 7.4553155 350 350 7.4553155 3.55072 24.1721 29 3.550729 1.6607199 7.164678 398 8.268455 0.88554 106	15.9379 6.20594 41.33152 17.03165 6.036790 22.40092 13.86753 8.427306	2.267305 8.339359 10.72287 4.518889 15.15578 6.704409 5.199174	160.2 775.7 163 176.5 160.7 207.3 133.3	1.57097 -0.0107 -11.711 0.24153 -0.5299 2.38632 0.8655 0.13647
W34 W35 W26 W37 W38 W38 W38 W49	431 2572 1158 515 1530 954 567 1744	610 4000 1700 430 2250 1320 800 2630	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.11	ppm Epom Epom Epom Epom Epom Epom Epom E	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	464694 7 6 53453 1 53453 1 53453 1 53453 1 53453 2 7 179028 2 851583 4 6 153453 2 9 153453 2 153453 2 9 153453 2 153453 2 153454 2 153453 2 153454 2 15354 2 153554 2 1535544 2 1535554 2 1535544 2 1535544 2 153555454 2 153555544 2	5.47591 300 300 0.4915 2 0.85006 1 66 870813 1 5.88707 2 588 0.0131 5 5.88707 2 588 0.0131 5 5.88707 2 588 0.0131 5 5.88707 2 5.88707 2 5.80261 1 5.84707 2 5.84707 2 5.94707 2	3.59996 44 135609 (3.60492 (3.60492 (3.97206 (2.32293 (154 131537 (2.32293 (154 131537 (2.32295 (154 154 154 20.236 (154 20.236 (154 20.256 (154 20.236 (154 20.256	10.45944 9 740132 1.556168 22 1.506168 22 1.509211 1.509211 1.509211 1.509211 1.509211 1.509211 1.509211 1.509211 1.509211 1.509211 1.2203553 1.2203553 1.2203553 1.2203553 1.2203553 1.2203553 1.2203553 1.2203553 1.2203553 1.2203553 1.2203555 1.22055555 1.22055555 1.2205555 1.2205555 1.2205555 1.22055555 1.22055555 1.22055555 1.22055555 1.220555555 1.220555555 1.220555555 1.2205555555555555 1.2205555555555555555555555555555555555	44. 13834 3 1. 254258 3 11. 57864 3 14. 67864 3 14. 67863 3 14. 608298 3 14. 608298 3 14. 608298 3 14. 608298 3 14. 67823 3 14. 647523 3 15. 56756 3	16 447.42 275 275 4 5067.19 2 278.75 4 5 195 195 1 5 3.195674 2 5 4 3.0202 3 8 2 3.02021 3 8 3 3.02022 2 163 3 3.02021 2 3 3 3.02022 2 3 3 3.02021 2 3 3 3.02022 2 3 3 3.02021 2 3 3 3.02021 2 3 3 3.02021 2 3 3 3.04111 3 3 3 3.02021 2 111 3 3 3.02021 11 3 3 2 3.02021 11 3 3 3 3.0202333 2 44	55.4312 265 2455 4475317 8.90278 89 510578 0.45444 923 8.00467 2.39471 213 008463 5.27823 42 184767 308886 193 500705 3.6609 178 173 5.0325 6.04151 138	28.12137 190 3.955841 24.52047 24 0.459610 8.051785 552 11.459610 8.051785 552 11.459610 8.051785 351 1.459610 361 1.550009 0.645232 360 7.4553155 360 7.4553155 350 350 7.4553155 3.55072 24.1721 29 3.550729 1.6607199 7.164678 398 8.268455 0.88554 106	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092 13.86753 8.427306 26.0285	2.247305 8.339335 90.72287 4.518885 15.15578 6.704409 5.199174 10.88611	160.2 775.7 163 178.5 160.7 207.3 133.3 348.4 144.2	1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.8556 0.13647 -3.4566
W24 W25 W26 W27 W28 W29	431 2572 1158 515 1530 954 567	610 4000 1700 430 2250 1320 800	7.9 7.53 7.81 8.15 8.07 8.1 7.91	Ppr Epom Epom Epom Epom Epom Epom Epom Epom		464634 7 6 6 7 175028 2 853453 1 950858 8 7 175028 2 861585 4 6 5 155453 2 861585 4 6 9 155453 2 200179 1 338461 7 3 320479 1 9 230179 1 778526 2 9 230179 1 778526 2 9 1779029 1 025483 6 9 9 1779029 1 022483 6 9 1779029 1 2306179 2 1 8 9 9 1779029 1 2306179 2 1 8 9 9 1779029 1 8 9 1779029 1 179029 1 179020 1 179020 1 179020 1 179020 1 17900000000000000000000000	5.47591 300 300 300 304915 2.85306 66 870013 15.88707 2.338 6.01131 5.88707 2.338 6.01131 5.88707 2.40922 315 3.70161 6.0261 2.473083 4.70803 4.70803 4.22275 0.31218 3.602641 3.784509 3.602641 3.602641 3.784509 3.602641 3.784509 3.602641 3.784509 3.602641 3.784509 3.847141 3.84714	3.59996 44 44 135609 (3.60492 4 28 397206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 4.64500 1 3.84500 1 3.64500 1 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255450 1 3.255	10.45944 9 7.40132 1.586168 22 1.586168 22 1.509211 1.509211 1.509211 1.5193 30 2.467105 1.235553 1.235553 1.235553 2.20335 1.72249 2.2 2.20335 1.72249 2.2 2.20335 1.722549 2.2 2.20335 1.725541 1.973554 1.9735554 1.9735554 1.97555555555555555555555555555555555555	46. 1383.4 256259 11. 67864 11. 67864 11. 1973 4. 608298 12. 67433 13. 93319 1. 847523 17. 58736 4. 873212	16 447423 275 275 275 275 4 506719 193 1935 30 195474 5 1955 5 19572 9 198585 2212 198585 233 5.007047 20 5.93756 3.007047 6 23.007047 6 24.8 6.73804 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 3.007047 10 1.007195 214 <t< td=""><td>55.4312 265 285 427317 4.90317 6.90278 89 510578 0.45444 923 4.006473 2.99471 212 006453 5.27823 42 184767 9.42277 300 3006885 5.00705 9.6609 135 5.00705 9.6609 178 6.02157 103 5.03256 6.04131 138 8:2007</td><td>28.12137 190 355851 24.52047 24 0.459643 8.051785 352 11.42222 381 0.51755 352 11.42222 381 1.42222 381 1.43222 381 1.516126 44.13042 89 0.65525 30 0.65525 30 0.65525 30 0.605525 30 0.607159 7.164578 30 0.607159 7.164578 30 0.68654 2.266354</td><td>15.9379 6.20594 41.33152 17.03165 6.036790 22.40092 13.86753 8.427306</td><td>2.247305 8.339335 90.72287 4.518885 15.15578 6.704409 5.199174 10.88611</td><td>160.2 775.7 163 178.5 160.7 207.3 133.3 348.4 144.2</td><td>1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.8556 0.13647 -3.4566</td></t<>	55.4312 265 285 427317 4.90317 6.90278 89 510578 0.45444 923 4.006473 2.99471 212 006453 5.27823 42 184767 9.42277 300 3006885 5.00705 9.6609 135 5.00705 9.6609 178 6.02157 103 5.03256 6.04131 138 8:2007	28.12137 190 355851 24.52047 24 0.459643 8.051785 352 11.42222 381 0.51755 352 11.42222 381 1.42222 381 1.43222 381 1.516126 44.13042 89 0.65525 30 0.65525 30 0.65525 30 0.605525 30 0.607159 7.164578 30 0.607159 7.164578 30 0.68654 2.266354	15.9379 6.20594 41.33152 17.03165 6.036790 22.40092 13.86753 8.427306	2.247305 8.339335 90.72287 4.518885 15.15578 6.704409 5.199174 10.88611	160.2 775.7 163 178.5 160.7 207.3 133.3 348.4 144.2	1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.8556 0.13647 -3.4566
W34 W35 W26 W37 W38 W38 W38 W49	431 2572 1158 515 1530 954 567 1744	610 4000 1700 430 2250 1320 800 2630	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.11	ppm Epom Epom Epom Epom Epom Epom Epom E		464634 7 6 6 7 175028 2 853453 1 950858 8 7 175028 2 861585 4 6 5 155453 2 861585 4 6 9 155453 2 200179 1 338461 7 3 338461 7 3 300179 1 785542 6 9 230179 1 785542 6 9 230179 1 5 5 127877 9 9 177802 (22483 6 9 1779020 (22483 6 9 1779020 (22483 6 9 9 1779020 (22483 6 9 9 1720617 (1 179020 (22483 6 9 9 179020 (1 179020 (1 179000) (1 179020 (1 179000) (1 1790000) (1 1790000) (1 17900000000000	5.47591 300 300 0.4915 2 0.85006 1 66 870813 1 5.88707 2 588 0.0131 5 5.88707 2 588 0.0131 5 5.88707 2 588 0.0131 5 5.88707 2 5.88707 2 5.80261 1 5.84707 2 5.84707 2 5.94707 2	3.59996 44 44 135609 (3.60492 4 28 397206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 2.327206 1 4.64500 1 3.84500 1 3.64500 1 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255409 1 3.255450 1 3.255	10.45944 9 7.40132 1.586168 22 1.586168 22 1.509211 1.509211 1.509211 1.5193 30 2.467105 1.235553 1.235553 1.235553 2.20335 1.72249 2.2 2.20335 1.72249 2.2 2.20335 1.722549 2.2 2.20335 1.725541 1.973554 1.9735554 1.9735554 1.97555555555555555555555555555555555555	46. 1383.4 256259 11. 67864 11. 67864 11. 1973 4. 608298 12. 67433 13. 93319 1. 847523 17. 58736 4. 873212	16 447.42 275 275 4 5067.19 2 278.75 4 5 195 195 1 5 3.195674 2 5 4 3.0202 3 8 2 3.02021 3 8 3 3.02022 2 163 3 3.02021 2 3 3 3.02022 2 3 3 3.02021 2 3 3 3.02022 2 3 3 3.02021 2 3 3 3.02021 2 3 3 3.02021 2 3 3 3.04111 3 3 3 3.02021 2 111 3 3 3.02021 11 3 3 2 3.02021 11 3 3 3 3.0202333 2 44	55.4312 265 285 427317 4.90317 6.90278 89 510578 0.45444 923 4.006473 2.99471 212 006453 5.27823 42 184767 9.42277 300 3006885 5.00705 9.6609 173 0.024157 9.85336 6.04131 138 8.53199 50328 6.04131 138	28.12137 190 355851 24.52047 24 0.459643 8.051785 352 11.42222 381 0.51755 352 11.42222 381 1.42222 381 1.43222 381 1.516126 44.13042 89 0.65525 30 0.65525 30 0.65525 30 0.605525 30 0.607159 7.164578 30 0.607159 7.164578 30 0.68654 2.266354	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092 13.86753 8.427306 26.0285	2.247305 8.339335 90.72287 4.518885 15.15578 6.704409 5.199174 10.88611	160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 144.2	1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.8556 0.13647 -3.4566
VV24 VV35 VV36 VV27 VV28 VV28 VV44 VV44	431 2572 1158 515 1530 354 567 1744 648	610 4000 1700 430 2250 1320 800 2830 2830	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.91 7.11 8.14	Ppr Epor Epor Epor Epor Epor Epor Epor Ep		444454 444454 7 5152453 1 1 5152453 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.47391 200 3.0415 200 3.0415 200 3.0415 200 5.0001 5.0001 3.0415 2.0001 3.0415 2.0001 3.00001 3.00001 3.00001 3.00001 3.0000000000	3.39996 1 44 195609 0 45 195609 0 3.66492 4 28 28 28 29 184 29 184 29 184 29 29 20 20 20 18 40 18 20 20 20 40 40 40 40 40 40 40 40 40 40 40 40 40	10.459441 9 7.840132 1.586168 22 1.586168 22 1.58891841 77 1.5193 30 2.467105 1.532237 1.5193 30 2.467105 1.233553 1.233553 1.233555 1.223555 1.23555 1.235555 1.23555 1.23555 1.235555 1.235555 1.	6. 13834 3 i. 256258 3 i. 57864 3 i. 67864 3 i. 67864 3 i. 67864 3 i. 67864 3 i. 678293 3 i. 6873212 3 i.	16 44743 275 275 275 4.506719 28 76775 185 1955 3.195674 25 5.145279 202 3.195674 25 5.185279 202 3.195674 25 5.195858 214 3.007047 6 28.59017 148 3.607047 5 5.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.714749 5 30.225335 3 31.207345 2 1.307455 2 1.307455 2 30.312914 2	55,412 265 447,517 4	28, 12137 1980 1980 29, 355661 24, 82047 24, 82047 24, 82047 24, 82047 24, 82047 24, 82047 25, 14, 82522 361 14, 82522 361 31, 42522 361 30, 655785 31, 44752 31, 44752 31, 455045 31, 455045 30, 4550455 30, 455045 30, 455045 30, 455045 30, 455045	15.3379 6.20594 41.33152 17.03165 6.036793 22.40092 13.86753 8.427306 24.5288 8.229882	2 287305 9 339359 90.72287 4 515889 15.15578 6.704409 5.199174 10.88611 5.651641	160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 144.2 161.3	1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.8658 0.13647 -3.4566 0.24707
W34 W35 W26 W27 W28 W28 W28 W28 W28 W28	431 2572 1158 515 1530 954 567 1744	610 4000 1700 430 2250 1320 800 2630	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.11	Ppr Epom Epom Epom Epom Epom Epom Epom Epom		4446493 (1) 5 5 5 5 5 5 5 5 5 5 5 5 5	5.4.7351 3.64915 3.64915 4.64015 4.640 4.720813 5.8807 5.8877 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.97777 5.9777777 5.977777 5.9777777777777777777777777777777	2.3.29996 (1) 195609 (0) 195609 (0) 2.3.2020 (2) 2.3.2020 (2) 1942 (2) 2.2.2024 (2) 1952 (2) 2.2.2024 (2) 1952 (2) 2.2.2024 (2) 1952 (2) 2.2.2024 (2) 1952 (2) 2.2.2024 (2) 1952 (2) 2.2.2024 (2) 2	0.45944 9 7,740152 1,568466 2,2 1,809211 77 1,51222 1,809211 77 1,51222 1,5153 1,5153 1,5153 1,5153 1,5153 1,5153 1,222237 1,5155 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,2255555 1,225555 1,2255555 1,225555 1,225555 1,225555 1,2255555 1,22555555 1,22555555 1,2255555555 1,2255555555 1,22555555	46, 13334 (4) 5, 256296 (5) 51, 256296 (5) 51, 457064 (4) 51, 457064 (5) 51, 457064 (5) 51, 567076 (5)	94. 44742) 275. 275. 4. 506719 192 1930 3. 195647 3. 195647 3. 195647 3. 195647 3. 195647 3. 195647 3. 195647 3. 195647 3. 195647 3. 195647 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 195047 3. 200333 3. 20047 3. 20047 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 1. 200475 </td <td>55.412 55.412 55.412 51.475517 8.4.90278 51.510578 922 2.510578 0.45444 922 2.50578 5.27123</td> <td>28, 12137 196 2, 355861 24, 42964 24, 439640 24, 439640 24, 439640 24, 439640 255 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 20, 105421 20, 105421</td> <td>15.9379 6.20594 41.33152 17.03165 6.036793 22.40092 13.86753 8.427306 26.0285</td> <td>2.247305 8.339335 90.72287 4.518885 15.15578 6.704409 5.199174 10.88611</td> <td>160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 144.2 161.3</td> <td>1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.3655 0.13647 -3.4566 0.24707</td>	55.412 55.412 55.412 51.475517 8.4.90278 51.510578 922 2.510578 0.45444 922 2.50578 5.27123	28, 12137 196 2, 355861 24, 42964 24, 439640 24, 439640 24, 439640 24, 439640 255 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 20, 105421 20, 105421	15.9379 6.20594 41.33152 17.03165 6.036793 22.40092 13.86753 8.427306 26.0285	2.247305 8.339335 90.72287 4.518885 15.15578 6.704409 5.199174 10.88611	160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 144.2 161.3	1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.3655 0.13647 -3.4566 0.24707
VV24 VV35 VV36 VV27 VV28 VV28 VV44 VV44	431 2572 1158 515 1530 354 567 1744 648	610 4000 1700 430 2250 1320 800 2850 2850	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.91 7.11 8.14	Ppr Epor Epor Epor Epor Epor Epor Epor Ep		444454 444454 7 5152453 1 1 5152453 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.4.7351 3.64915 3.64915 4.64015 4.640 4.720813 5.8807 5.8877 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.89777 5.97777 5.9777777 5.977777 5.9777777777777777777777777777777	3.39996 1 44 195609 0 45 195609 0 3.66492 4 28 28 28 29 184 29 184 29 184 29 29 20 20 20 18 40 18 20 20 20 40 40 40 40 40 40 40 40 40 40 40 40 40	0.45944 9 7,740152 1,568466 2,2 1,809211 77 1,51222 1,809211 77 1,51222 1,5153 1,5153 1,5153 1,5153 1,5153 1,5153 1,222237 1,5155 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,222537 1,2255555 1,225555 1,2255555 1,225555 1,225555 1,225555 1,2255555 1,22555555 1,22555555 1,2255555555 1,2255555555 1,22555555	46, 13334 (4) 5, 256296 (5) 51, 256296 (5) 51, 457064 (4) 51, 457064 (5) 51, 457064 (5) 51, 567064 (5)	16 44743 275 275 275 4.506719 28 76775 185 1955 3.195674 25 5.145279 202 3.195674 25 5.185279 202 3.195674 25 5.195858 214 3.007047 6 28.59017 148 3.607047 5 5.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.60472 5 56.714749 5 30.225335 3 31.207345 2 1.307455 2 1.307455 2 30.312914 2	55.412 55.412 55.412 51.475517 8.4.90278 51.510578 922 2.510578 0.45444 922 2.50578 5.27123	28, 12137 196 2, 355861 24, 42964 24, 439640 24, 439640 24, 439640 24, 439640 255 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 27, 106421 20, 105421 20, 105421	15.3379 6.20594 41.33152 17.03165 6.036793 22.40092 13.86753 8.427306 24.5288 8.229682	2 287305 9 339359 90.72287 4 515889 15.15578 6.704409 5.199174 10.88611 5.651641	160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 144.2 161.3	1.57097 4.0107 -11.711 0.24153 4.5299 2.38632 0.3655 0.13647 -3.4566 0.24707
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VV24 VV25 VV26 VV27 VV28 VV29 VV29 VV40 VV40 VV41 VV42 VV42	431 2572 1158 515 1530 554 567 1744 648 1636	610 4000 1700 430 2250 1320 800 2650 2650 350 2430	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.11 8.14 8.01	Den Epm Epm Epm Epm Epm Epm Epm Epm Epm Epm		4446454 1 5 5 5 5 5 5 5 5 5 5 5 5 5	5.47351 300 300 300 300 300 300 300 300 300 30	23.39996 4 46 47155600 5 36.6432 4 38.6432 4 38.6432 4 38.6432 4 38.6432 5 38.6432 4 38.6432 5 38.6432 5 38.6445 5 3	0. 45944 9. 74 40732 1.5054563 2.6054563 2.6054561 2.815441 77 75 1.505 2.815441 77 1.5155 2.815441 77 1.5155 2.220355 2.220355 2.220355 2.220355 2.220355 2.220355 2.220355 2.203557 2.203577 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.203557 2.2035777 2.203577 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.2035777 2.20357777 2.20357777 2.203577777 2.2035777777777777777777777777777777777777	4. 1334 (1. 256258 (1. 57664 (1. 57764 (1. 577	96.44742) 275 275 275 4.506719 282 278752 935 1.155674 232 3.602002 </td <td>55.412 55.412 55.412 51.412517 4.40278 18.9 920 0.45444 920 0.45444 920 0.45444 920 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 3.27120 3.26026 3.527120 3.260265 5.50250 5.5</td> <td>28.12137 196 2.3555851 24.224 24.439640 24.439640 2552 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 20.605555 20.</td> <td>15.3379 6.20594 41.33152 17.03165 6.036753 22.40892 13.86753 8.427206 9.228828 9.228828 24.24665</td> <td>2.267305 9.339339 10.72287 4.518889 15.13578 6.704409 5.199174 10.88611 5.651641 16.35107</td> <td>160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 161.3 162.4</td> <td>1.57093 -0.0103 -11.711 0.24153 -0.5291 2.38633 0.3656 0.13643 -3.4566 0.24703 2.09933</td>	55.412 55.412 55.412 51.412517 4.40278 18.9 920 0.45444 920 0.45444 920 0.45444 920 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 2.98471 3.27120 3.26026 3.527120 3.260265 5.50250 5.5	28.12137 196 2.3555851 24.224 24.439640 24.439640 2552 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 27.50642 20.605555 20.	15.3379 6.20594 41.33152 17.03165 6.036753 22.40892 13.86753 8.427206 9.228828 9.228828 24.24665	2.267305 9.339339 10.72287 4.518889 15.13578 6.704409 5.199174 10.88611 5.651641 16.35107	160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 161.3 162.4	1.57093 -0.0103 -11.711 0.24153 -0.5291 2.38633 0.3656 0.13643 -3.4566 0.24703 2.09933
VV24 VV35 VV36 VV27 VV28 VV28 VV44 VV44	431 2572 1158 515 1530 354 567 1744 648	610 4000 1700 430 2250 1320 800 2850 2850	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.91 7.11 8.14	Denn Epm Fyr Span Fyr Span Fyr Span Epm Fyr Span Fyr Fyr Span Fyr Span Fyr Span Fyr		4446494 1 552452 6 6 5 552452 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.47391 5.47391 5.47391 5.47391 5.47391 5.47391 5.47391 5.475901 5.47590000000	2.3.9996 (1) 1.5.60492 (2) 2.3.60482 (2) 2.3.728 2.3.728 1.5.40492 (2) 2.3.728 1.5.40492 (2) 2.3.728 1.5.40492 (2) 1.5.40492 (2) 1.5.4049 (2) 1.5.40	0. 4594 4 9. 740122 12. 594768 22. 594768 22. 594768 23. 9147 1. 352227 1. 35227 1. 352 1. 35257 1.	46, 13034 6 5, 256256 7 11, 57864 7 17, 1973 7 10, 408258 7 10, 408259 7 10, 408559 7 10, 408559 7 10, 408559 7 10, 408	16, 4472, 17, 17, 17, 17, 17, 17, 17, 17, 17, 17	55.412 55.417 57.510376 8.90278 8.90278 8.90278 8.90278 8.90278 8.90278 9.90 9.9	28.12137 196 3.355847 24.45047 24.45047 24.45047 24.45047 25.05775 552 27.50542 27.50542 354 355 27.50545 354 356 354 356 354 354 355 354 354 355 354 354 355 354 354	15.3379 6.20594 41.33152 17.03165 6.036753 22.40892 13.86753 8.427206 9.228828 9.228828 24.24665	2.267305 9.339339 10.72287 4.518889 15.13578 6.704409 5.199174 10.88611 5.651641 16.35107	160.2 775.7 163 176.5 160.7 207.3 133.3 348.4 161.3 162.4	1.57093 -0.0103 -11.711 0.24153 -0.5291 2.38633 0.3656 0.13643 -3.4566 0.24703 2.09933
VV24 VV25 VV26 VV27 VV28 VV29 VV29 VV40 VV40 VV41 VV42 VV42	431 2572 1158 515 1530 554 567 1744 648 1636	610 4000 1700 430 2250 1320 800 2650 2650 350 2430	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.11 8.14 8.01	Denne Eper Former Eper Former Eper Former Eper Former Eper Former		4446494 1 552452 6 6 5 552452 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.47351 300 300 300 300 300 300 300 300 300 30	2.3.9996 (1) 1.5.60492 (2) 2.3.60482 (2) 2.3.73726 (2) 3.4.7572 (2) 3.5.7572 (2)	0. 4594 4 9. 740122 12. 594768 22. 594768 22. 594768 23. 9147 1. 352227 1. 35227 1. 352 1. 35257 1.	46, 13034 4 5, 256254 7 11, 57864 2 17, 1973 7 1, 67864 2 17, 1973 7 1, 67864 2 1, 1, 57864 2 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	96.44742) 275 275 275 4.506719 282 278752 935 1.155674 232 3.602002 </td <td>55.412 55.417 57.510376 8.90278 8.90278 8.90278 8.90278 8.90278 8.90278 9.90 9.9</td> <td>28.12137 196 3.355847 24.45047 24.45047 24.45047 24.45047 25.05775 552 27.50542 27.50542 354 355 27.50545 354 356 354 356 354 354 355 354 354 355 354 354 355 354 354</td> <td>15.3379 6.20594 41.33152 17.03165 6.036753 22.40892 13.86753 8.427206 9.228828 9.228828 24.24665</td> <td>2.267305 9.339339 10.72287 4.518889 15.13578 6.704409 5.199174 10.88611 5.651641 16.35107</td> <td>160.2 160.2 175.7 163 176.3 166.7 207.3 133.3 246.4 144.2 161.3 162.4</td> <td>1.57093 -0.0103 -11.711 0.24153 -0.5291 2.38633 0.3656 0.13643 -3.4566 0.24703 2.09933</td>	55.412 55.417 57.510376 8.90278 8.90278 8.90278 8.90278 8.90278 8.90278 9.90 9.9	28.12137 196 3.355847 24.45047 24.45047 24.45047 24.45047 25.05775 552 27.50542 27.50542 354 355 27.50545 354 356 354 356 354 354 355 354 354 355 354 354 355 354 354	15.3379 6.20594 41.33152 17.03165 6.036753 22.40892 13.86753 8.427206 9.228828 9.228828 24.24665	2.267305 9.339339 10.72287 4.518889 15.13578 6.704409 5.199174 10.88611 5.651641 16.35107	160.2 160.2 175.7 163 176.3 166.7 207.3 133.3 246.4 144.2 161.3 162.4	1.57093 -0.0103 -11.711 0.24153 -0.5291 2.38633 0.3656 0.13643 -3.4566 0.24703 2.09933
VV24 VV25 VV26 VV27 VV28 VV29 VV29 VV40 VV40 VV41 VV42 VV42	431 2572 1158 515 1530 554 567 1744 648 1636	610 4000 1700 430 2250 1320 800 2650 2650 350 2430	7.9 7.53 7.81 8.15 8.07 8.1 7.91 7.11 8.14 8.01	Denn Epm & W Ppm & W & W Ppm & W W Ppm & W W Ppm & W W Ppm & W W W W W W W W W W W W W W W W W W W		444454 1 552452 6 4 552452 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.47351 1.57555 2.64752 1.55566 5.55066 1.55506 1.5 5.58070 1.55506 1.5 5.58070 1.55506 1.5 5.58070 1.55704 4.5 5.48070 1.5315 1.5 5.48070 1.57504 4.5 5.315 1.57504 4.5028 1.2 5.315 1.55754 4.5028 1.2 5.3555 1.5555 1.5 5.354774 1.5556 1.5 5.354774 1.55555 1.555555 1.55555 1.555555 1.555555 1.5555555 1.55555555	23.33996 (1) 44 45 45 46 46 47 29 20 20 20 20 20 20 20 20 20 20 20 20 20	0.4594 9.740122 12.954768 22. 13.954768 12.954768 22. 13.954768 13.954768 13.9532227 7. 7. 7. 7. 7. 7. 7. 7. 7. 7	14. 1303 (2. 26236) (11. 47944) (11. 47944) (2. 60236) (2. 67236) (3. 80236) (2. 67232) (3. 807372) (3. 807372) (3. 802706) (3. 888706) (3. 888706) (16. 4473. 273 275 275 275 275 275 275 275 275	55.412 55.412 57.475377 89 97 97 97 97 97 97 97 97 97 9	28, 12137 196 196 2, 355584 8, 057785 552 552 553 553 553 553 553 55	15.3379 6.20594 41.33152 17.03165 6.036753 22.40892 13.86753 8.427206 9.228828 9.228828 24.24665	2.267305 9.339339 10.72287 4.518889 15.13578 6.704409 5.199174 10.88611 5.651641 16.35107	160.2 160.2 175.7 163 176.5 160.7 207.3 133.3 348.4 144.2 161.3 162.4 153.1	1.57097 .0.0107 .11.711 0.24153 0.24153 0.36555 0.36555 0.36555 0.36555 0.24707 2.09935 0.54522
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VI. Conclusion

The ground water in wadi El- Farigh is available from an aquifer system belonging to Lower Miocene times (Moghra aquifer.). The total thickness of the Miocene sediments is varying from 75 m in the northeastern portion to about 250 m at Wadi - El Natron, Regionally this thickness increases in northwest direction The depth to water in Miocene aquifer varies from 49 m at the area close to El Rayah El Naseri to 176.88 m at high topographic areas towards the west The groundwater in the Miocene aquifer flows westward. through Wadi El Farigh. This movement is mainly controlled by an old buried Nile channels which divert groundwater flow towards Wadi El Natron depression.

The total salinity of the Miocene aquifer (Moghra aquifer) varies from fresh to slightly brackish water. The total salinity ranges between 252 ppm and 2572 ppm. In Wadi El-Farigh the pH values varies from 7.11 to 8.5. All PH values of the selected water samples lie in the range of alkalinity.

According to the U.S. Laboratory Salinity diagram, the groundwater samples of Moghra aquifer system are of low sodium hazard and fall in the fields C_2 - S_1 and C_3 - S_1 , where S_1 is low sodium water, C_2 is moderate salinity

water which is good for soils of medium permeability for most plants, and other sample lies in the C_3 - S_2 , C_4 - S_2 , C_3 - S_3 , C_4 - S_3 and C_4 - S_4 field. From Classified as groundwater in terms of sodium absorption ratio U.S. Laboratory Salinity diagram clear that the samples lie near the medium salinity water, which is satisfactory for plants having moderate salt tolerance on soils of moderate permeability with leaching. The samples fall in fields C_3 - S_3 , C4- S_3 and C4- S_4 high to vary high sodium hazard and salinity water.

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