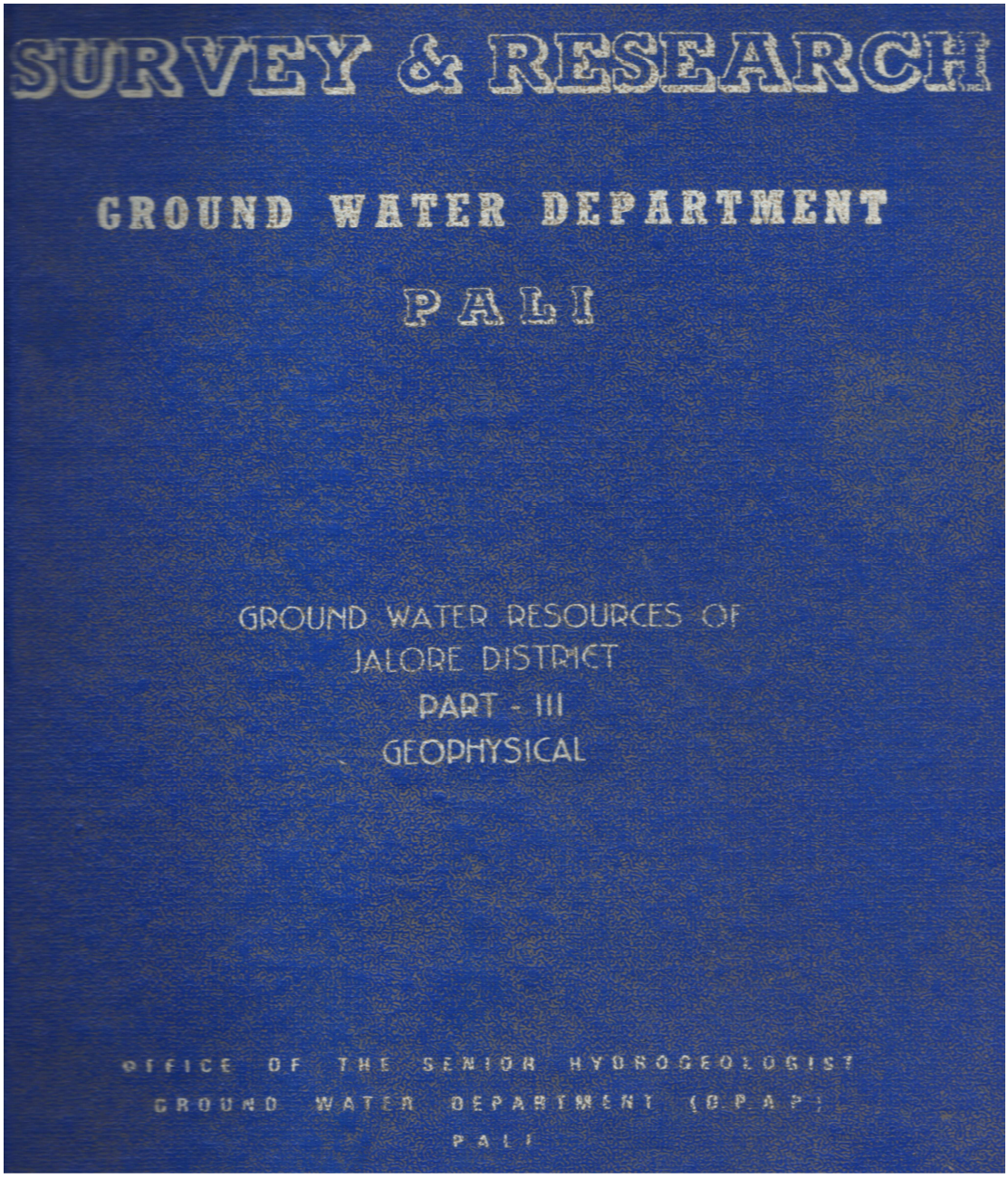
SURVEY & RESEARCH
GROUND WATER DEPARTMENT
PALI
GROUND WATER RESOURCES OF
JALORE DISTRICT
PART - III
GEOPHYSICAL
OFFICE OF THE SENIOR HYDROGEOLOGIST
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GOVERNMENT OF RAJASTHAN

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PART III - GEOPHYSICAL SURVEY

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C O N T E N T

GROUP 'B'

12. Bhagli - Bakra
13. Bakra - Rewatra
14. Rewatra - Sanphara
15. Keshwana - Tarwa
16. Gol - Kuaber
17. Otwala - Mandavla
18. Mandavla - Odwra
19. Saila - Jiwana
20. Babatra - Otwala
21. Sirana - Mengalwa
22. Mengalwa - Harmu
23. Bagora - Rauta
24. Bagora - Nandiya
25. Morsim - Chajjala

GROUP 'C'

28. Bhinmal - Sewari
29. Kaomta - Dhanani

APPENDIX

SHOWING THE INTEPRETTED VALUES OF THE THICKNESS OF THE GEO-ELECTRIC LAYERS (h_n in mts.) AND CORRESPONDING VALUES OF RESISTIVITY (r_n in Ohm-meter) OF DISTRICT JALORE

A B S T R A C T

During detailed hydrogeological investigations of Jalore district, geophysical survey was taken up to provide additional data regarding the quality of ground water, saline to fresh water interface and bedrock configuration.

Jalore District, covers an area of 10,640 Sq. Kms. and falls in semiarid to arid zone of Rajasthan with extremes of climate. Average annual precipitation recorded at Jalore station is 379.86 m.m. The area is drained by tributaries of Luni river, which flow in direct response to precei-pitation. Ground water occurs under unconfined to confined condition and depth to water varies from 1 to 45 metres.

The results of geophysical investigations show wide variations in chemical quality of ground water, i.e., highly saline to potable. Basement in the area is undulating and becomes deeper towards west and north-west. Younger alluvium have usually fresh quality of ground water while major part covered by older alluvium contains saline or water of mixed characters. Crystallines are having sline to potable water.

Quality of water is potable, with varying saturated thickness, in north-eastern part while in central and north-western part quality of water is saline to mixed having saturated thickness of 55 to 60 metres due to presence of dissected clay

lenses. However, quality of water is usually fresh, along river courses, saturated thickness varying from 50 to 70 metres.

Major part toward west and south-west of the district, has ground water which is generally saline and presence of thick clay lenses are commonly observed.

INTRODUCTION

A number of minor irrigation schemes and other development project for the exploitation of ground water have been implemented on the findings of Semi detailed Hydrogeological Investigation of the Jalor district conducted by the Ground Water Department. Detailed investigations were also carried out in parts of the district by E.T.O. and C.G.W.B. under U.N. assistance programme. As a consequence of these programmes certain fresh water areas have been over exploited while vast tracts have remained untapped mainly because of non-availability of detailed information regarding hydrogeological and hydrochemical information about various aquifers.

Geophysical surveys were carried out as a part of detailed hydrogeological investigation under Drought Prone Area Programme (D.P.A.P.)from the year 1976-77. Electrical resistivity survey is considered to be most useful among the various geophysical methods used in ground water exploration. These investigations were taken up to know the quality of ground water, to demarcate saline to fresh water interface and to find the depth to basement in the area. The main aim of geophysical survey was to supplement the hydrogeological data and to provide additional information for basement configuration.

Vertical electrical soundings (VES) have been conducted along various prelaid sections and on selected spots. 41 sections and 162 spots were

chosen on the basis of hydrogeological reconnaissance and available data. In total, 698 VES along sections and 178 VES on spots were conducted. Geophysical sections covered during different years have been grouped as A, B, C, & D on the basis of similarity in hydrogeological settings in different areas. The data so obtained was processed, analysed and results have been given in the appendix. The geo-electric sections have been grouped as follows:-

GROUP-A:

1. Kulthana - Goindla
2. Rama - Bhonrda
3. Kalson ki dhani - Kunwarda
4. Kalson ki dhani - Nimbla
5. Godan - Mithri - Nosra
6. Umedpur - Chandrai - Jaitpura
7. Bhainswara - Chippawara
8. Budtara - Thanwala
9. Thanwala - Harji
10. Rajanwari - Pandgoran
11. Narsana - Bishangarh - Jalore.

GROUP - B:

12. Bhagli - Rewat - Kolapur - Dakatra - Balera - Bakra
13. Bakra - Rewatra
14. Rewatra - Alasan - Keshwana - Sanphara
15. Keshwana - Tarwa
16. Gol - Kuber
17. Otwala - Khural - Gol - Elana - Dangra - Ratunja - Mandavla
18. Mandavla - Anvlaj - Balwara - Odwara
19. Saila - Charau - Babatra - Taliyana - Jiwana
20. [illegible] - [illegible] - Saila - Otwala

20. Babatra - Mokhikhera - Saila - Otwala
21. Sirana - Sangana - Alwara - Dudwa - Bhandwa - Mengalwa
22. Mengalwa - Punawas - Surana - Harmu
23. Bagora - Rauta
24. Bagora - Nandiya
25. Morsin - Nandiya - Chajiala

GROUP - C:

26. Jalore - Bhinmal
27. Bhinmal - Jiwana
28. Bhinmal - Junjani - Sewari
29. Komta - Kora - Pantheri - Tharwara - Dhanani
30. Dhanani - Tura

GROUP- D:

31. Birol - Paladar - Sanchor
32. Paladar - Menol - Dugdawa
33. Dugdawa - Tenlop - Sankad
34. Sankad - Hirpura
35. Sankad- Gundav - Khara
36. Khara - Kotra
37. Khara - Digaon- Karara
38. Khara - Arnai - Hariyali
39. Hariyali - Jhab
40. Meda - Jhanvi
41. Jaitpura - Dhanol - Bhanwariya

PHYSIOGRAPHY

Jalore district has an areal extent of 10,640 Sq.Kms. between latitude $24^{\circ}31'$ to $25^{\circ}45'$ and longitude $71^{\circ}7'$ to $73^{\circ}6'$. The physigraphy of the area plays an important role in deciding the traverses to be followed for the electrical resistivity survey. Elevation of the area ranges from 76.20 metres above M.S.L. in the west at the confluence of the Luni & Jawai - Sukri rivers to 609.60 metres above M.S.L. in the east. Generally the terrain slopes westward. The hill tops are normally shaped by weathering phenomena which have given rise to tors and boulders of various shapes and sizes in the eastern part while sand dunes are common topographic features in the mid-eastern and western part.

The area is drained by tributaries of Luni River, fiz., Jawai, Sukri, Khari, Bandi, Sagi River Bargaon flows along southern portion of the district. All rivers are ephemeral with braided meandering courses and wide flood plains. Additionally, there are innumerable old channels. buried under wind blown sand.

The area lies in the arid to semiarid zone of Rajasthan with extreme of climate and diurnal variations in temperature. Average precipitation recorded is 379.86 m.m. (period 1909 - 1981).

HYDROGEOLOGY

Geological formations encountered in the area range in age from Post Delhi intrusive (crystalline) to the Quarternary comprising of

loosely consolidated to unconsolidated alluvial deposits and blown sand.

Younger alluvium forms the major promising aquifer in the area having generally fresh water. It consists of loosely consolidated to unconsolidated stream laid deposits of gravel and sand. Ground water is usually under unconfined condition and depth to water varies from 1 metre to 15 metres.

Older alluvium generally contain saline water or water of mixed character and is composed of unconsolidated to semi consolidated clay, kankar, sand and gravel with minor silt. Ground water generally occurs under confined conditions in deeper horizons while at shallow depth it is found under unconfined condition and depth to water ranges from 1 metre to 45.0 meters.

Tertiary formations comprise of thick consolidated clays and silts, gravel, medium to coarse sand with shale fragments are encountered in exploratory bore holes drilled at Balera, Paladar, Degaon, Chajjaha, Johdawas, Binjrol ka Golia and Daluwa towards western part of the [illegible]. In deeper horizons clays are comparatively less. Ground water is found under confined to unconfined condition. These formations generally yield moderately saline water.

Malani volcanics mainly consist of Rhyolites associated with felsites, intercalated acid tuff and pyroclastic materials. These rocks are having well developed joint system which are capable of giving moderate discharge and usually contain fresh water.

Jalore granites form poor aquifers giving moderate yield through weathered portion, joints and fractures. Ground water occurs generally under unconfined condition. Quality of water is saline to potable.

Erinpura granites are weathered fractured & well jointed, occupying southern part of Bhinmal and Jaswantpura blocks. These rocks are also poor aquifer but some times yield fair quality of water depending on extent of weathered portion and topography of the area. Quality of water is saline to potable.

METHODOLOGY

While prospecting an area, it is useful that some reference be devised to describe the field data collected. The reference most commonly used in electrical prospecting is called " Apparent Resistivity" it is a function of the region in which measurements are made and geometry of electrod configuration used.

In order to illustrate the concept of apparent resistivity, it is necessary to consider a generalised configuration of electrodes. It is assumed that the ground is homogeneous isotropic with true resistivity of 'P' Ohm-meter. We consider a system of four electrodes driven into the ground depending on the configuration of the electrodes. The potential difference of 'V' volts exists between the potential electrodes 'M' and 'N' when I amperes of current flow between the current electrodes 'A' and 'B' as shown in Figure-B. The multilayer earth is shown in Figure- A, showing various geoelectrical layers having thickness $h_1, h_2, h_3, \ldots\ldots h_n$ and corresponding resistivity $P_1, P_2, P_3, \ldots\ldots P_n$ respectively over which possible measurements are made. To derive generalised equation to compute the apparent resistivity from field data, technique is to calculate the potentials at M due to both current electrodes A and B. The potential at M due to A and B is then added to get the total potential at M. The process repeated to calculate the total potential at potential electrode N due to both current electrodes A and B.

Derived potential difference is then obtained by substracting the total potential at N from the total potential at M due to both current electrodes A and B respectively.

$$\text{Therefore, } V = \frac{IP}{2\pi} F(R)$$

Where, F(R) is function of the inter electrode distances. Apparent resistivity

$$(Pa) = \frac{2}{F(R)} \frac{V}{I} \quad ..(1)$$

Therefore, 2 · F(R) is defined by a constant 'K'.

The equation (1) is generalised equation for various electrode configurations. In the present investigations, the Schulmberger configuration was used as shown in Figure-B. It consists of two current electrodes A and B and two potential electrodes M and N placed symmetrically along a straight line about mid point of current electrodes. The separation between potential electrodes M and N is always kept less than 1/5th the separation between the current electrodes A and B. The factor 'K' is computed for various combinations of inter-electrode distances as follows:-

$$K = 2 \;/\; \left(\frac{1}{AM} - \frac{1}{AN}\right) - \left(\frac{1}{AM} - \frac{1}{AN}\right)$$

Now, for practical purposes, the equation for apparent resistivity is -

P = 'K' multiplied by field data for various AB/2

$$\text{i.e. } Pa = K \frac{\Delta V}{I} \quad \ldots\ldots (II)$$

The equation (II) is used for computation of apparent resistivity from field data.

INSTRUMENTATION

The instrument " AQUAMETER" was used for the field work. Aquameter is compact, self contained tropicalised instrument based on the principle of electrical resistivity. It consists of two water tight, damp and dust proof units housed in metal cases. One unit - The Generator - generates the necessary low frequency square wave current. The second unit - The amplifier - contains the necessary circuits to measure the resistivity of the ground. For precise measurements low frequency square wave current is applied between two electrodes driven into the ground and potential difference between two other electrodes in the measurement zone is measured. A set of readings is obtained to determine the average electric resistivity of that section.

The generator, generates low frequency (about 4 HZ) square wave electric pulses with the help of one transistorised oscillator. The Generator has its own built-in power source consisting of twelve 1.5 volts dry cells. The actual voltage used is 9 volts D.C. which is obtained by using two sets of six batteries in parallel. This increases the battery life considerably. The generated voltage, through a selection switch is fed to the ground through binding posts C_1 and C_2. The selection switch is used for selecting the desired voltage in three steps i.e. 100, 200 and 400 volts. An Ammeter connected in series with the output voltage indicates drain current. A battery indicator is provided to assess the battery

condition at any time.

The Amplifier unit consists of a filter and an amplifier. The filter is used to filter out unwanted signals and allow only the signals generated by the generator to pass through. The amplifier, like generator has its built-in power source i.e. four 1.5 volts dry cells.

The amplifier is provided with minimum controls which enable in getting quick readings. The external, internal switch is used to record the voltage developed between the points V_1, V_2 and to compare it by using the ten turn helical potentiometer. Depending upon the positions of the range selector, the reading of potentiometer is recorded by using appropriate multiplying factor. A battery indicator is provided to assess the battery condition at any time.

The instrument may be checked occasionally using the Test Resistance Box.

DATA PROCESSING

The field data so obtained was computed to obtain apparent resistivity for further interpretation. The computed apparent resistivity usually falls within the range of the true resistivities of the aquifer materials below ground over which measurements are made. The processing of the data in this case involves the procedure of transfering the computed apparent resistivity values on double log transparent graph paper of modulas 62.5 mm representing apparent resistivity curves.

The interpretation of the sounding curves have been done by using the technique of partial curve matching. The field curves are superimposed on the standard curves for resistivity prospecting prepared by " RIJKSWATERSTAAT, THE NETHERLANDS." to determine thickness and corresponding resistivity values of various geoelectric layers. The apparent resistivity calculated for a certain value of (AB/2) is nearly equal to the value of true resistivity of the layer at an approximate depth of (AB/2).

DISCUSSION OF RESULTS

On the basis of similar hydrogeological conditions the various sections covered during different years are grouped together as A,B,C & D and discussed as below:-

GROUP-A:

Geoelectrical survey was carried out along the section (1) Kulthana - Goindla, (2) Rama - Bhonrda, (3) Kalson ki dhani - Kunwarda (4) Kalson ki dhani - Nimbla, (5) Godan - Mithri - Nosra (6) Umedpura - Chandrai - Jaitpura, (7)Bhainswara - Chippawara (8) Budtara_ Thanwala, (9) Thanwala - Harji, (10) Rajanwari - Pandgoran and (11)Narsana - Bishangarh - Jalore.

These sections covered over 150 Kms. length (approximately) in the north-eastern part of district. The main hydrogeological formation encountered in the area is older alluvium, directly overlying hard and compact granites which forms the basement. The older alluvium is composed of clay and kankar with sand and a little silt. The depth to water varies in the area from 5 metres to 15 metres below land surface.

The results of 132 geoelectric soundings conducted in the area show that the resistivity of the first layer ranging from 20 ohm-meter to 80 ohm-meters indicate the presence of surface soil and sand. The resistivity of the second layer varying from 2.8 ohm-meters to 20 oh-meters indicates that the quality of formation water is generally saline to slightly saline and occasionally potable. The interpretated results of the third layer having

resistivity from 55 ohm-meters to more than 150 ohm-meters corresponds to hard and compact formation which forms the basement in the area. The basement configuration in the area is irregular and its depth range from 20 meters to 80 metres.

After studying the nature of curves, it is observed that quality of water is saline as indicated by low resistivity values of the second layer of the aquifer. Curves of vertical electrical sounding taken along Godan - Nosra and Umedpur-Jaitpura sections are of irregular nature, which suggests the presence of clay lenses. However, medium resistivity value observed near village Umedpura, Rama, Godan & Goindla i.e. about 24 ohm-meters reveals that quality of water is potable, while resistivity value of 17 ohm-meters around village Jaitpur indicate slightly saline water. This interpretation is further confirmed by the tubewells constructed in the village Umedpura, Rama, Goindla and Jaitpura. Quality of water is potable in Umedpura, Rama and Goindla but slightly saline at Jaitpura respectively.

Out of 10 sections grouped in 'A' only four geoelectric sections have been projected to show the correlation of hydrogeological formation with apparent resistivity values. Remaining sections are not projected mainly because of irregular nature of the curves and insufficient number of vertical electrical soundings due to small sections.

KULTHANA - GOINDLA (Section-1)

16 vertical electrical soundings were carried out along this section covering a length of

about 12 Kms. Part of this section also covered area of Pali district (village Kulthana). The nature of curves of soundings taken around village Kulthana and Goindla show that quality of water is potable around Goindla and slightly saline around village Kulthana. Other curves are of irregular which indicates the presence of clay lenses. The resistivity of the first layer varying from 24 to 60 ohm-meters indicating surface soil. At most of the places, the nature of curves are irregular and hence, not interpretable probably due to large contrast in the resistivity value of surface soil and aquifer material which may be composed of clay and kankar.

RAMA - BHONRDA (Section-2)

13 geoelectric soundings were carried out along this section covering a length of about 14 Kms. The results of geoelectric sounding reveals that quality of water is generally saline along this traverse. The interpetated results of the first layer having resistivity value ranging from 30 ohm-meters to 70 ohm-meters, indicate the surface soil. The resistivity of second layer varying from 4 ohm-meters shows quality of water to be saline. The resistivity value of third layer is about 100 ohm-meters, which reveals the hard and compact formation forming the basement in the area. The depth to basement varying from 15 meters to 54 metres indicates that the thickness of aquifer gradually decreases towards Bhonrda.

UMEDPUR - JAITPURA (Section-6)

30 vertical electrical soundings were carried out along this section covering a length of about 35 kms. The interpreted geoelectric sounding data

reveals that quality of water is generally saline except around village Umedpur where resistivity value is about 20 ohm-meters indicating quality of water is potable which was further confirmed by the exploratory tubewells constructed in this village.

The nature of the apparent resistivity curves at most of the places approaching to zero value of resistivity show the quality of water is highly saline in the village along this section. It is also inferred that due to presence of thick conductive horizon, there is no penitration of current to greater depth. Therefore, the bedrock configuration is not properly defined.

NARSANA - BISHANGARH - JALORE (Section - 11)

The results of the 15 geoelectric soundings taken in this section covering a length of about 18 Kms. show that quality of water is saline. The interpreted results of first layer having resistivity value varying from 30 ohm-meters to 50 ohm-meters, indicate the surface soil. The resistivity value of the second layer which constitutes the main aquifer of the area ranging from 6 ohm-meters to 12 ohm-meters reveals the quality of water is generally saline. The resistivity value of the third layer varying from 60 ohm-meters to ___ indicates the hard and compact formation which constitute the basement in the area. The depth to basement varying from 45 meters to more than 60 meters confirms the undulating nature of the basement.

GROUP - B:-

The electrical resistivity survey was conducted along

following sections (12) Bhagli - Bakra (13) Bakra - Rewatra (14) Rewatra - Sanphara (15) Keshwana - Tarwa (16) Gol-kuber (17) Otwala - Mandavla (18) Mandavla - Odwara (19) Saila - Jiwana (20) Babatra - Otwala (21) Sirana - Mengalwa (22) Mengalwa-Harmu (23) Bagora - Rauta (24) Bagora - Nandiya (25) Marsim - Chajjala.

The area covers the central and north-western part of district. The hydrogeological units of the area are mainly younger and older alluvium. The depth to water varies from 8 meters to 18 metres below the land surface.

About 228 vertical electrical soundings were carried out in the area covering a length of approx. 300 Kms. The interpreted results of first layer having resistivity value ranging from 30 ohm-meters to 50 ohm-meters indicate the surface soil and river sand. The resistivity value of the second layer varying from 5 ohm-meters to 25 ohm-meters indicate quality of water is saline to potable. Third layer having resistivity value of 60 ohm-meters to 150 ohm-meters reveals the compact formation which may constitute the basement in the area. The basement configuration in most of the sections could not be determined due to presence of thick conductive horizons at depth where penetration of current is very low. In a few cases, where current penetrated, it varies from 40 to 150 meters depth. The nature of field curves and geoelectric sections suggest that generally quality of ground water is saline to potable in the major part of the area which corresponds to resistivity values ranging from 5 to 36 ohm-metres. But, at places, low resistivity value

and downward trend of curve approaching toward zero value reveal that the quality of water is highly saline (viz. sounding No. 150, 160, 228, 254 and 281).

The geoelectric sections covered in this area have been prepared and correlated with hydro-geological formation and apparent resistivity values.

BHAGLI - BAKRA (Section -12)

Geoelectric resistivity survey was carried out along 21 Kms. long traverse. The results of 19 vertical electrical soundings taken along the section indicate that quality of water is generally saline. The resistivity of the first layer varying from 30 ohm-meters to 70 ohm-meters corresponds to surface soil. The resistivity of the second layer varies from 20 ohm-meters to 50 ohm-meters. The resistivity of the third layer varying from 3.5 ohm-meters to 15 ohm-meters. The resistivity value of second and third layer indicate that quality of water is saline. The depth to basement could not be determined due to high salinity at shallow depth and presence of clay lenses. The trend of apparent resistivity curves prepared from field data generally approaches to zero as shown in representative field curve of vertical electrical soundings 113. At a few places the curves are not interpretable probably because of large contrast between the resistivities of surface soil and highly saline aquifer.

BAKRA - REWATRA (Section-13)

9 vertical electrical soundings were conducted along this traverse. The resistivity of the first layer varying from 10 ohm-meters to 60

ohm-meters indicate the surface soil. The resistivity of the second and third layer ranging from 20 ohm-meters to 40 ohm-meters and 2.4 ohm-meters to 13.2 ohm-meters respectively showing presence of saline formation of water. The later part of apparent resistivity curves approaches to zero value of resistivity hence, depth to basement could not be determined.

REWATRA - SANPHARA (Section -14)

17 vertical electrical soundings were carried out along this section. It is observed from the value of second and third layer that the quality of water is generally saline. The quality of water is potable near Government School in village Keshwana and on the bank of river Jawai near village Sanphara.

The depth to basement is 46 metres on the bank of river Jawai near Sanphara and 70 metres on way to Alasan from Rewatra. The depth to basement could not be determined at other sites due to high salinity.

KESHWANA - TARWA (Section -15)

4 vertical electrical soundings were taken along this section. The resistivity of the first layer varying from 20 ohm-metres to 80 ohm-meters confirm to surface soil. The resistivity of water bearing formation near Keshwana ranging from 6.4 ohm-meters to 15 ohm-meters reveals that quality of water is saline. However, the quality of water becomes potable towards village Tarwa. The depth to basement determined about 2 Kms.away from

Kêshwana is about 107 metres.

GOL - KUABER (Section-16)

The section begins from north-west of village Gol (Umedabad) and extend upto Kuaber. It was difficult to approach village Kuaber due to sand dunes beyond Dhura-ki-dhani, on way to Kuaber. Therefore, only 5 vertical electrical soundings were conducted along the 6 Kms. traverse.

The quality of water is generally saline to potable as observed from the resistivity of the third layer, varying from 12.5 ohm-meters to 35 ohm-meters it is further confirmed by the exploratory tubewell constructed at Kuaber. The depth to basement could not be determined a properly because of low penetration of current, may be due to thick sand dune in the area. The basement appears to be more than 70 meters deep near village Kuaber.

OTWALA - MANDAVLA (Section -17)

21 vertical electrical soundings were carried out along this section. This traverse was taken along the road leading to Jalore. This traverse is about 19 Kms. long. The resistivity of the water bearing formation varying from 5 ohm-meters to 25 ohm-meters indicate the quality of water to be saline to potable. The quality of water is potable on way to Khural and slightly saline near village Gol. In most cases the depth to basement could not be determined due to shallow depth of current penetration possibly due to presence of thick clay lenses and saline formation water. At places, the depth to basement is more than 80 Meters as determined by the nature of the sounding curve No. 201.

MANDAVLA - ODWARA (Section - 18)

12 geoelectric soundings were conducted along this section. The interpreted value of the resistivity of the second and third layer varying from 15 ohm-meters to 25 ohm-meters and 5 ohm-meters to 15 ohm-meters reveals that quality of water is saline which is further confirmed by results of exploratory tubewell constructed at Balwara. The depth to basement near Odwara and Balwara is about 58 metres and 87 metres respectively corresponding undulating configuration.

SAILA - JIWANA (Section - 19)

28 vertical electrical soundings were carried out along this section. The resistivity value of the water bearing formation varying from 5 ohm-metres to 20 ohm-meters indicates quality of water is saline to slightly saline. However, at a few places the quality of water is potable at shallow depth as indicated by the resistivity value of 25 ohm-meters but it deteriorates with depth as confirmed by exploratory drilling at Saila and Babatra. The basement, as determinedfrom interpretation of field curves varies from 80 to 150 metres (VES No. 244). It is also observed thatthickness of water bearing formation increases from Saila to village Babatra beyond which it decreases towards Jiwana.

BABATRA - OTWALA (Section - 20)

29 geoelectrical soundings were conducted along this section. The interpreted apparent resistivity curves show that the resistivity of the first layer varies from 40 ohm-meters to 80 ohm-meters

indicating surface soil and sand. The resistivity of the second layer ranging from 20 ohm-meters to 40 ohm-meters and that of third layer from 4 ohm-meters to 17 ohm-meters respectively reveals that quality of water is saline. However, the quality of water may be potable near sounding No. 256, 260 & 266, where, average resistivity value observed as 17 ohm-meters. Quality may be fresh about 1/2 km. away from village Balara upto depth of 35 meters.

SIRANA - MENGALWA (Section -21)

The results of 29 vertical electrical soundings taken along this traverse show that the quality of water is generally saline to potable which is revealed by the resistivity value of second and third layer. The resistivity of the first layer varies from 28 ohm-meters to 60 ohm-meters, the second layer 25 ohm-meters to 40 ohm-meters, and that of third layer from 8 ohm-meters to 20 ohm-meters. The thickness of water bearing formations gradually increases from Sirana (80 metres) to Sangana (150 metres) and more than150 metres towards Alwara. The interpreted results were confirmed from the exploratory drilling at village Alwara.

MENGALWA - HARMU (Section-22)

26 geoelectric soundings were conducted along this section. The resistivity value of the first layer varying from 40 ohm-meters to 80 ohm-meters indicate the surface soil. The resistivity of the second layer varying from 10 ohm-meters to 40 ohm-meters indicate the quality of water is saline to potable.

A few sites were resurveyed taking the sounding line across the previous soundings line, due to erratic data obtained. No remarkable differences were observed. The apparent resistivity curves are generally irregular in nature at such sites. Basement could not be determined.

BAGORA - RAUTA (Section - 23)

7 vertical electrical soundings were carried out along this section. The resistivity of the first layer varies from 20 ohm-meters to 80 ohm-meters indicating surface soil. The interpreted results of the second layer ranging from 3.8 ohm-meters to 8 ohm-meters and that of third layer from 2 ohm-meters to 10 ohm-meters reveals quality of water to be saline. The depth to basement is undetermined.

BAGORA - NANDIYA (Section - 24)

The interpreted results of the 7 vertical electrical soundings curves show that the resistivity of the first layer varies from 30 ohm-meters to 85 ohm-meters indicating surface soil. The resistivity of the second and third layers ranging from 25 ohm-meters to 40 ohm-meters and 8 ohm-meters to 20 ohm-meters respectively reveals that quality of water is generally saline. The depth to basement is undetermined.

MORSIM - CHAJJALA (Section - 25)

18 vertical electrical soundings were carrried out along this traverse of about 22 Kms. from village Morsim to Chajjala. The quality of water

the interpreted results of the apparent resistivity curves. The value of resistivity as low as 0.8 to 8 ohm-meters at places, indicates that quality of water is highly saline. The value of resistivity of the first layer ranging from 30 ohm-meters to 90 ohm-meters indicates the presence of dry sand. The resistivity of the water bearing formation ranging from 4 ohm-meters to 7 ohm-meters reveals that generally the quality of water is highly saline. However, near Bichawara the quality of water is potable upto depth of 15 meters. Similarly ' dry beri ' in the village Chajjala the water may be potable at shalloww depth. The depth to basement is undetermined due to low penetration of current because of saline formation water.

GROUP - C:-

Geoelectrical resistivity survey was carried out along the sections grouped near 'C' which are (26) Jalore - Bhinmal, (27)Bhinmal - Jiwana, (28) Bhinmal- Sewari (29) Komta-Dhanani, and (30) Dhanani - Tura.

Approximately, 170 Kms. length was covered in the area falling in the central and western part of the district. The main hydrogeological formation of the area consists of younger and older alluvium which deposited on hard and compact granites. The depth to water varies from 12 metres to 27 metres below land surface. In all 156 vertical electrical soundings were conducted and out of which 56 vertical electrical soundings were carried out by the team of Luni Basin. The interpreted results of the geoelectric soundings show that the resistivity

of the first layer varying from 40 ohm-meters to 85 ohm-meters corresponds to surface soil generally sand. The resistivity of the second layer ranges from 15 ohm-meters to 36 ohm-meters. The interpreted resistivity value of the third layer varies from 5 ohm-meters to 20 ohm-meters. Generally the quality of water is saline, but in a few localities resistivity values ranging from 22 ohm-meters to 40 ohm-meters indicates the presence of potable water upto the depth of 15 metres viz., near village Bhagali, Dakalora, Nimbawas, Daspan, Barala, Punawal, Komta, Koralа Panthesi as indicated by the interpreted results of vertical electrical soundings No. 368, 389, 398, 416, 439, 456, 490, 488and 492.

Out of 5 sections grouped under 'C' only to geoelectric sections have been projected to show the correlation of the hydrogeological formation and apparent resistivity values. Other sections were not prepared as the thickness of different geoelectric layers could not be determined due to presence of saline formations water and insufficient number of geoelectric sounding.

BHINMAL - SEWARI (Section -2B)

The electrical resistivity survey was carried out along this section covering total length of about 18 Kms. The results of 19 vertical electrical soundings show that the resistivity of first layer varies from 40 ohm-meters to 90 ohm-meters corresponding to surface soil. The resistivity value of second layer ranges from 10 ohm-meters to 30 ohm-

meters and that of the third layer from 3 ohm-meters to 12 ohm-meters respectively reveals that quality of water along the section is generally saline. The depth to basement is undetermined.

KOMTA - DHANANI (Section -29)

30 vertical electrical soundings were carried out along this section covering a traverse of about 22 Kms. The interpreted resistivity value of the second and third layer range from 20 ohm-meters to 36 ohm-meters and 5 ohm-meters to 25 ohm-meters respectively. It reveals that quality of water is generally saline to potable. However, the quality of water is potable between villages Kora to Komta as revealed by apparent resistivity value. The depth to basement is undetermined.

GROUP - D :

The area covered under these sections in Group-D lies in the south western part of the district. Younger and older alluvium are the main water bearing formations in the area. Electrical resistivity survey was carried out along the section (31) Birol - Sanchore (32) Paladar - Dudwa (33) Dudwa - Sankad (34) Sankad - Hirpura (35) Sankad - Khara (36) Khara - Kotra (37)Khara - Karara (38) Khara - Hariyali (39) Hariyali - Jhab (40) Meda - Jhanvi, and (41) Jaitpura - Bhanwariya.

182 vertical electrical soundings were conducted in the area and out of that 163 were conducted by the Luni Basin team. The results of the geoelectric soundings reveal that quality of water

is generally saline in the area which is confirmed by low resistivity values ranging between 5 ohm-meters to 10 ohm-meters.

At many places, the nature of geoelectric sounding curves are irregular probably due to large contrast between the resistivity value of the surface soil and highly saline formation water. The depth to basement could not be determined because later part of the field curves approaches to zero value.

The thickness of different geoelectric layers are not possible to be determined because of low penetration of current in the saline zone and hence, geoelectric sections are not prepared.

However, the results of vertical electrical soundings 544, 552, 557, & 589 around village Dugdona, Hirpura Kura and Khera respectively indicate the presence of potable water at shallow depth having the resistivity value ranging from 22 ohm-meters to 29 ohm-meters.

CONCLUSION

Geophysical investigation using electrical resistivity techniques was taken up to know the quality of ground water, demarcate saline to fresh water interface and to find the bedrock configuration in the area to provide additional data for detail hydrogeological investigation. Different water bearing formations encountered in the area are younger and older alluvium, and Granite, Younger alluvium, generally occurs along river courses and usually yield fresh water. Older alluvium occupies major part of the district, it contains saline water or water of mixed characters while granites are having saline to fresh ground water. It has been concluded from the results of geophysical survey that in the north-eastern part of the district the quality of water is potable with sufficient saturated thickness. In the central and north-western part of district the quality of water is potable along the river course with saturated thickness upto 70 meters while in the major part, the quality of water is saline to mixed character with saturated thickness varying from 55 to 60 meters. However, at places quality is potable as at Kauber, Alwara etc. Basement gradually becomes deeper towards west and north western part.

The ground water towards west and south-west is generally saline and presence of thick clay lenses is also inferred. But at places, localised pockets of fresh to slightly saline water with sufficient saturated thickness can be demarcated after correlation with hydrogeological data.

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APPENDIX-1

Appendix showing the interpreted value of thickness of the geoelectric layers (h_n in metres) and corresponding values of Resistivities (r_n in ohm-metres) of District JALORE

VES No.	Location	h_1	h_2	h_3	h_4	h_5	r_1	r_2	r_3	r_4	r_5	Quality of water	Depth to basement (in mtrs.)	Remark
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	GROUP-A													
	KULTHANA - GOINDLA SECTION:													
1.	About 1/2 km. away from tubewell of Kulthana	2	4	62			24	18	26	22		Potable	68	
2.	About 3/4 km. away from VES No.1	1	2	6	36		60	90	20	4.8	22	Potable	45	
3.	About 3/4 km. away from VES No.2	-	-	-	Irregular curve		-	-	-	-	-			
4.	About 3/4 km. away from VES No.3	-	-	--	Irregular curve		-	-	-	-	-			
5.	About 3/4 km. away from VES No.4	-	-	-	Irregular curve		-	-	-	-	-			
6.	About 1 km. away from VES No.5	-	-	-	Irregular curve		-	-	-	-	-			
7.	About 1 km. away from VES No.6	-	-	-	Irregular curve		-	-	-	-	-			
8.	Perpendicular VES to VES No. 7	-	-	-	Irregular curve		-	-	-	-	-			
9.	About 1 km. away from VES No.8	-	-	-	Irregular curve		-	-	-	-	-			
10.	About 1 km. away from VES No. 9	-	-	--	Irregular curve		-	-	-	-	-			

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11.	Perpendicular VES to VES No.10	-	-	Irregular curve			-	-	-					
12.	About 1 km. away from VES No.11	-	-	Irregular curve			-	-	-					
13.	About 1 km.away from VES No.12	-	-	Irregular curve			-	-	-					
14.	Perpendicular VES to VES No.13	-	-	Irregular curve			-	-	-					
15.	About 1|2 km.away from VES No.14	-	-	Irregular curve			-	-	-					
16	Near Tubewell of Village Goindla	2	8	80				130	41	24	150	Potable	82	
RAMA - BHONRDA SECTION:														
17.	Near Tubewell of village Rama.	2	6	42			90	45	20	50		"	54	
18.	About 1 km.away from VES No.17	2	4	33			60	39.6	4.5	45		Saline	35	
19.	About 1/2km.away from VES No.18	2	32				40	4	40			"	34	
20.	About 1|2 km.away from VES No.w 19	-	-	Irregular curve			-	-	-					
21.	Perpendicular VES to VES No.20	-	-	Irregular curve			-	-	-					
22.	About 1 km.away from VES No. 21	2	24				50	5	25			Saline	26	
23.	Perpendicular VES to VES No. 22	2	24				50	5	25			"	26	
24.	About 1 km.away from VES No.23	-	-	Irregular curve			-	-	-					
25.	About 1 km. away from VES No. 24	-	-	Irregular curve			-	-	-					
26.	About 1 km.away from VES No.25	1	3		1.6	-	70	46.2	5.2	52		Saline	26	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
27.	About 1½km.away from VES No. 26	-	-	-Irregular curve			-	-	-					
28.	About 1 km.away from VES No. 27	-	-	Irregular curve			[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	
29.	On approach to village Bhonrda	2	12				11	5.5	55			Saline	15	
KALSON KI DHANI - KUNWARDA SECTION:														
30.	About 1 km.away from vill. Kalson ki dhani	5	3				48	4.8	0			Saline	-	
31.	About 1 km.away from VES No.30	-	-	Irregular curve			-	-	-					
32.	About 1km. away from village Kunwarda	1.4	8.6	24			160	105.6	22	4.4		Saline	-	
KALSON - KI DHANI - NIMBLA SECTION:														
33.	Near village Kalson ki dhani	1.7	6.8	7			8	4	1.4	8		Saline	-	
34.	About ½ km.away from VES No. 33	1.3	15.6				20	2	4			Saline	-	
35.	Near village Nimbla	-	-	Irregular curve			-	-	-					
GODAN -MITHRI -NOSRA SECTION:														
36.	About 1km.away from Godan	-	-	Irregular curve			-	-	-					
37.	About 1½ km.away from VES No. 36	-	-	Irregular curve			-	-	-					
38.	Perpendicular VES to VES No.37	-	-	Irregular curve			-	-	-					
39.	About 1 km.away from VES No. 38	-	-	Irregular curve			-	-	-					
40.	About ½ km.before tubewell of Mithri	1	12				34	51	17			Potable		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
41.	Near tubewell of Mithri			Irregular curve			-							
42.	About 1km. away from VES No. 41	2	6	64			60	120	18	270		Potable	62	-
43.	About 1km. away from VES No. 42	-	-	Irregular curve			-	-	-					
44.	About 1 km. away from VES No. 43	-	-	Irregular curve			-	-	-					
45.	Perpendicular VES to VES No. 44	-	-	Irregular curve			-	-	-					
46.	About 1 km. away from VES No. 45	2	12	56			20	40	7	70		Saline	70	-
47.	About 1km. away from VES No. 46	-	-	Irregular curve			-	-	-					
48.	Perpendicular VES to VES No. 47	-	-	Irregular curve			-	-	-					
49.	About 1 km. away from VES No. 48	-	-	Irregular curve			-	-	-					
50.	About 1 km. away from VES No. 49	-	-	Irregular curve			-	-	-					
51.	About 1 km. away from VES No. 50	-	-	Irregular curve			-	-	-					
52.	About 3/4km. away from VES No. 51	-	-	Irregular curve			-	-	-					
53.	About 1km. away from VES No. 52													
54.	About 1 km. away from VES No. 53	1	2	18			60	90	23.6			Potable	22	
55.	On approach to village Wedia	-	-	Irregular curve			-	-	-					
56.	Perpendicular VES to VES No. 55	-	-	Irregular curve			-	-	-					
57.	About 1 km. away from VES No. 56 after crossing river	-	-	Irregular curve			-	-	-					

1	2	3	4	5 6 7	8	9	10	11	12	13	14	15
58.	About 1/2 km.away from VES No. 57	-	-	Irregular curve	-	-	-					
59.	On the out skirt of village Aipura	-	-	Irregular curve	-	-	-					
60.	About 1½km.away from VES No. 59	-	-	Irregular curve	-	-	-					
61.	Perpendicular VES to VES No. 60	-	-	Irregular curve	-	-	-					
62.	On the out skirt of village Baori	-	-	Irregular curve	-	-	-					
63.	About 1½ km.away from VES No.62	1.3	2.6	32	90	135	12	[illegible]		Saline	36	
64.	Perpendicular VES to VES No. 63	1.3	2.6	32	90	135	12	[illegible]		Saline	36	
65.	About ½ km.away from VES No. 64	-	-	Irregular curve	-	-	-					
66.	Perpendicular VES to VES No. 65	-	-	Irregular curve	-	-	-					
67.	About ½ km.away from VES No.66	-	-	Irregular curve	-	-	-					
68.	Perpendicular VES to VES No. 67	-	-	Irregular curve	-	-	-					
69.	About 1km.away from VES No. 68	-	-	Irregular curve	-	-	-					
70.	About 1½ km.away from VES No. 69	-	-	Irregular curve	-	-	-					
UMEDPUR - CHANDRAI -JAITPURA SECTION:												
71.	Near tubewell of village Umedpur	3	12	64	70	105	20	195		Potable	81	
72.	About ½ km.away from VES No. 71	-	-	Irregular curve	-	-	-					
73.	About 3/4 km.away from VES No. 72	-	-	Irregular curve	-	-	-					
74.	About 1 km.away from VES No. 73	1	4	20	80	120	33	66		Potable	-	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
75.	About 3/4 km.away from VES No.74(Near Nahar)	-	-	Irregular curve			-	-	-					
76.	About 3/4 km.away from VES No. 75	-	-	Irregular curve			-	-	-					
77.	About 1 km.away from VES No. 76	-	-	Irregular curve			-	-	-					
78.	About 3/4 km.away from VES No. 77	-	-	Irregular curve			-	-	-					
79.	About 3/4 km.away from VES No. 78	-	-	Irregular curve			-	-	-					
80.	About 1 km.away from VES No.79(out skirt of Nowa Khera)	-	-	Irregular curve			-	-	-					
81.	About 1 km. away from VES No. 80	-	-	Irregular curve			-	-	-					
82.	About 1 km.away from VES No. 81	-	-	Irregular curve			-	-	-					
83.	About 1km. away from VES No. 82	-	-	Irregular curve			-	-	-					
84.	Near water tank of village Padarli	-	-	Irregular curve			-	-	-					
85.	About 1 km.away from VES No. 84	1	2	19.2			-	65.7	67.7	50	10	Saline	-	
86.	About 3/4 km.away from VES No. 85	-	-	Irregular curve			-	-	-					
87.	About 3/4 km.away from VES No. 86	2	6	24			-	35	52.5	16	2	"		
88.	About 1½ km.away from VES No.87	-	-	Irregular curve			-	-	-					
89.	About 1 km.away from VES No.88(on approach to Chandrai)	1.2	3.6	10	52		58	87	39	13.9	252	"	66	
90.	About 1 km.away from VES No. 89	-	-	Irregular curve			-	-	-					
91.	About 1 km.away from VES No. 90	3	18	72			92	70	35	7.4	37	Saline	93	
92.	About 1½ km.away from VES No. 91	2	8					90	29.9	7.2		"	-	

1	2	3	4	5	6	7	8	9	10	11	12	13	14
93.	About 2km. away from VES No. 92	-	-	Irregular curve			-	-	-				
94.	About 1 km away from VES No. 93	2	16				22	33	6			Saline	-
95.	About 1 km away from VES No.94(near Akora-padar)	2.3	18.4				15	22.5	7.5			"	
96.	About 1 km away from VES No. 95	1.4	16.8				20	30	10			"	
97.	About 1½ km.away from VES No.96(near Sankawali)	-	-	Irregular curve			-	-	-			"	
98.	About $\frac{3}{4}$ km away from VES No. 97	1.2	9.6				10	20	5			Saline	
99.	About 1 km.away from VES No. 98	2	8				30	60	4.8			"	
100.	About 1 km.away from VES No. 99	2	6	39			170	34	4.4	33		"	
101.	Near tubewell of village Jaitpura	-	-	Irregular curve			-	-	-	-			
102.	Perpendicular VES to VES No. 101	-	-	Irregular curve			-	-	-	-			
103.	About 1km.away from VES No.102 on way to Ahore	-	-	Irregular curve			-	-	-	-			
	BHAINSWARA - CHIPPAWARA SECTION:												
104.	Near tubewell of Bhainswara	-	-	Irregular curve			-	-	-	-			
105.	About 1km.away from VES No.104	2.8	14.4	32			90	45	11	4.2	350	Saline	45
106.	Near village Chippawara	-	-	Irregular curve			-	-	-				

± 2	3	4	5.	6.	7.	8	9.	10.	11	12	13	14
BUDTARA -THANWALA SECTION:												
107. Near temple of village Budtara	1.6	9.6				140	5.6	0			Highly saline	
108. About 1½ km. away from VES No. 107	1	6				14	7	24	12	-	"	
109. Near tubewell of village Thanwala	-	-	Irregular curve		-	-	-	-	-	-		
THANWALA -HARJI SECTION:												
110. About ½ km. away from village Thanwala	-	-	Irregular curve		-	-	-	-	-	-		
111. About 1km. away from VES No. 110	1.1	2.2	7			70	210	36.3	11	-	Saline	
112. About 1½ km. away from VES No. 111	1.1	2.2	12		-	270	1620	60	6	-	"	
113. Near tubewell of village Harji	1	3	11.1			50	25	45	15		"	
RAJANWARI - PANDGORAN SECTION:												
114. Near tubewell of village Rajanwari	1.4	4.2	15			96	48	12	120	-	Saline	
115. About ½ km. away from VES No. 114	-	-	Irregular curve		-	-	-	-	-	-		
116. About 1 km. away from VES No. 115	-	-	Irregular curve		-	-	-	-	-	-		
117. Perpendicular VES to VES No. 116	-	-	Irregular curve		-	-	-	-	-	-		
118. About 1km. away from VES No. 117	-	-	Irregular curve		-	-	-	-	-	-		
119. Near village Pandgoran towards hill section	-	-	Irregular curve		-	-	-	-	-	-		

					7	8	9	10	11	12	13	14
NARSANA - BISHANGARH - JALORE SECTION:												
120. Near water tank of Narsana	0.9	5.5	27.5	∞		145	48	3.5	53		Saline	34
121. About 100 mtrs.away from temple	-	-	Irregular curve			-	-	-				
122. About 1km.away from village Narsana	1.5	12	14	9		100	200	170			Fresh	40
123. Perpendicular VES to VES No. 140	2	16	42			115	172.5	19	∞		Potable	60
124. About ½km.away from VES No.123	1.1	4.4	50	∞		88	440	4.8	∞		Saline	56
125. Just after crossing Rly. station	1	4	9	40		42	126	17.2	2.8	∞	"	54
126. Near village Bishangarh	1.1	6.6				140	420	12			"	-
127. Near Km.stone Bishangarh 1 km.	3	6	24	45		25	75	15	6.3	475	"	78
128. About 1km.away from VES No.127	1.4	8.4	39			39	78	14	∞		"	49
129. Near Km.stone Jalore 11 km.	1.4	8.4	33			300	900	90	∞		Fresh	43
130. About 1km.away from VES No. 129	2	6	28	∞		140	70	3.2	∞		Saline	36
131. Near Km.stone Jalore 9 km.	1.8	5.4	10	40		2100	525	40	1.4	∞	"	57
132. About 1 km.away from VES No. 131	1.7	5.1	52			6	18	6	∞		"	59
133. Near Km.stone Jalore 7 Km.	-	-	Irregular curve			-	-	-				
134. Near Km.stone Jalore 6 km.	1	3	16	∞		40	60	8.5	∞		" "	20
135. Near Km.stone Jalore 5 km.	1.3	3.9	16	∞		56	28	7.6	∞		"	21

..10

1	2	3	4	5	6	7.	8	9	10	11	12	13	.. 10. 14	15
136.	Near km.stone Jalore 4 km.	1.2	3.6	43.2			145	29	2.6	650		Saline	48	
137.	Near Km.stone Jalore 3 km.	1	20				96	2.4	∞			"	21	
138.	Near Jalore Police Line	1.1	6.6	12			36	7.2	3	∞		"	20	
139.	Inside Jain temple of Jalore	1.4	5.6	28			200	66.6	5.3	400		"	35	
	GROUP - B													
	BHAGLI - REWAT - KALAPURA - DEKATRA - BAKRA SECTION:													
140.	Near Bhagli in the farm of Bhursingh	1.5	9	27			100	150	44	7		Saline	-	
141.	About 1 km.away from VES No. 140	1.3	10.4	60			100	67	14	2.7		"	-	
142.	About 1km.away from VES No. 141	4	16	34			70	47	5	24		"	-	
143.	About 1½ km.away from VES No. 142	1.5	6	24			44	66	35.9	5.3		"	-	
144.	Near temple of Nathji of village Rewat	1.1	13.2	40			110	55	21	5.2		"	-	
145.	About 1km. awayfrom VES No. 144	3	9	33			170	34	6.9	15		"	-	
146.	About 1km.away from VES No. 145	1	3	24			120	180	16	4.1		"	-	
147.	On approach to village Kalapura	1.5	9	24			70	35	3.5	17		"	-	
148.	About 1 km.away from VES No. 147	1.5	9	48			60	30	6.4	1.3		"	-	
149.	About ½ km.away from VES No. 148	1.2	7.2	20.4			100	50	5.5	110		"	-	
150.	About 3/4 km. away from VES No. 149	1.4	5.6	48			70	105	9.5	0		"	-	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
151.	About 1½ km.away from VES No. 150	6	48				55	5.5	11			Saline	-	
152.	About 1 km.away from VES No. 151	2	4	48			42	63	6.3	0		"	-	
153.	About 1 km.away from VES No. 152	1.5	6	42			100	200	10.6			"	-	
154.	About 1 km.away from VES No.153 and on the outskirt of village Bakra	1.5	6	24			100	233	11	5.2	-	"	-	
155.	About ½ km.away from VES No. 154	1.4	4.2	19.4			130	195	34	6.4	-	"	-	
156.	Near PHED tubewell	-	-	Irregular curve			-	-	-					
157.	Towards river bed Sukri	-	-	Irregular curve			-	-	-					
	BAKRA - REWATRA SECTION:													
158.	About 1km.away from school of Bakra	1.5	4.5				50	300	7			Saline	-	
159.	Near temple on way to Rewatra	1	4				40	240	2.4			saline	-	
160.	About 1 km.away from VES No. 159	1.7	3.5	32			9.2	36.8	6.8	0		"	-	
161.	About 1km.away from VES No. 160	1	6	8			120	240	12	6		"	-	
162.	About 1 km.away from VES No. 161	1	6	55			70	140	3	0		"	-	
163.	About 1 km away from VES No. 162	1.5	4.5	44			130	195	8	3.2		"	-	
164.	About 1km.away from VES No. 163	2.3	4.6	5.5	27		66	26.4	6.8	4.4	11	"	-	
165.	About 1 km.away from VES No. 164	1	4	00			80	53.2	2.4			"	-	
166.	On the out skirt of village Rewatra	1	6	18			150	225	13.2	0		"	-	

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1	2	3	4	5.	6	7	8	9	10	11	12	13	14	15
REWATRA - ALSAN - KESHWANA-SANPHARA SECTION:														
167.	About 1 km.away from Rewatra	1.7	10.2	40			60	6	9	3		Saline	-	
168.	About 1 km.away from VES No. 167	1	3	14	52		100	66.7	7.3	7.3	275	"	-	
169.	About 3/4 km.away from VES No. 168	1	3	21			84	16.8	2.4	7.9		"	-	
170.	About 3/4 km.away from VES No.169 (Near temple)	1.5	1.5	16.8			80	26.6	4.4	22		"	-	
171.	About 1/2 km.awayfrom village Alasan	1.1	4.4	35			70	47	13	130	-	"	-	
172.	About 1 km.awayfrom VES No. 171	1.4	9.6	28			150	300	15	7.5	-	"	-	
173.	About 1 km.away from VES No. 172	1.4	5.6	56			23	46	12	3.6	-	"	-	
174.	About 1km. awayfrom VES No. 173	1	4	8.6	80		30	19.8	40	15	2	"	-	
175.	About 1 km.awayfrom VES No. 174	1	4	18.4	22		24	36	19.8	7.6	2.5	"	-	
176.	Near Govt. school of village Sanphara	1	3	40			110	73.4	20	66		"	-	
177.	About 3/4 km.away from VES No. 176	1	6	72			130	86.7	16	48	-	Potable	-	
178.	About 1½km.away from vill.Kehswana	2	32				14	7	14			Saline	-	
179.	About 1½km.away from VES No.178	1	2	56			60	40	8.8	26.4		"	-	
180.	About 3/4km.away from VES No.179	3	18	32			45	9	5	15		"	-	
181.	About 1km.away from VES No. 180	1	4	24			250	166	11.9	36		"	-	
182.	About 1 km.awayfrom VES No. 181	1.1	4.4	13.5	28		240	160	13.8	8	6	"	-	
183.	Near river bank of	1	5	40			1000	1500	20.4	60		Potable	-	

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1	2	3	4.	5.	6.	7.	8.	9.	10.	11.	12	13	14	15
	KESHWANA - TARWA SECTION:													
184.	About 1/2km awayfrom village Keshwana	1	6	24	50		82	118.6	28	6.4	15	Saline	-	
185.	About 1½km.awayfrom VES No. 184	1.4	8.4	108			210	48.3	80	240		Potable	117	
186.	About 1½ km.away from VES No.185	1.5	12	48			260	390	72	36		"	60	
187.	On approach to village Tarwa	1.6	9.6				230	92	960			"	60	
	GOL - KUABER SECTION:													
188.	Near village Gol.	1.4	8.4	49.2			10	30	12.5	2.5		Saline		
189.	Near Dhura ki Dhani	-	-	Irregular curve			-	-						
190.	About 3/4 km.away VES No. 189	1	4	2.7			200	300	125	12.5		Potable		
191.	On the outskirt of village Kuaber	10	60				700	35	∞			Fresh	80	
192.	Near temple of Mataji	1	12	33			150	100	36.6	5		Saline		
	OTWALA - KHURD - GOLØ -ELNA DANGRA -RATUNJA- MANDAVLA SEC.													
193.	About ½km.away from village Otwala	3	9				50	250	1250			Potable		
194.	About 1km.away from VES No. 193	0.5	1.5	8			250	62.5	4.3	∞		Saline		
195.	About 1/2 km.away from VES No.194	0.2	0.6	19.2			200	100	42.9	780		Potable		
196.	About 3/4 km.awayfrom VES No. 195	4	4				170	255	21			"		
197.	About ½ km.awayfrom VES No. 196	1.8	7.2	60			16	29	17.3	26		""		
198.	About 3/4 km.awayfrom VES No. 197	1	4	8	72		180	270	24	18	4.5	Saline		

..14

.. 14

1.	2	3	4.	5.	6.	7.	8.	9.	10	11	12	13	14	15
199.	Near temple of Mataji	3	36				12.5	18.8	75			Potable	39	
200.	Near Km.stone GoI 1km	4	24	48			30	45	14.7	29.3		"	-	
201.	About 3/4 km.away from VES No.200	1.6	32				15	22.5	3.8			Saline	-	
202.	Near temple of Ramdeo ji of Elana	1.2	4.8	15	54		400	600	100	28	140	Potable		
203.	About 1/2km.awayfrom village Elana	1.1	13.2	30			120	80	16	5.4		Saline		
204.	Near junction of road leading to Jalore and Dangra	1	3	7	38		40	20	50	10	5.7	"	-	
205.	About 1/2km.away from VES No. 204	1.9	57				1.9	9.5	4			"		
206.	About 1/2 km.awayfrom VES No. 205	1.2	4.8	30			56	18.5	6.9	14	-	"		
207.	Near school of village Dangra	1.1	33	14			44	264	19.6	3.9	-	"	-	
208.	Near temple of Ramdeoji of Dangra	1	6	72			120	180	20	50	-	" "	79	
209.	About 1/2 km.awayfrom Dangra	1	12.4	48			9.4	14.1	6.5	2.6		"		
210.	About 3/4km away from VES No. 209	1	3	18			68	22	3	15		"		
211.	Near temple of Hanumanji of village Rathunja	1	8				190	285	25			"		
212.	About 1km.away from VES No. 211	1.1	17.6				64	6.4	6.4			"		
213.	About 1/2 km.awayfrom VES No. 212	1	4	10.5			50	25	56	7		"		
MANDAVLA- AVLOI- BALWARA-ODWARA SEC.														
214.	About 1/2 km.awayfrom VES No. 213	1.5	12				78	224	7.8			Saline		

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1	2	3	4	5	6	7	8	9	10	11	12	13
215.	About 1km.away from VES No. 214	2	4	15	30		80	53.3	15	33	6.6	Saline
216.	Near temple of Mahadeoji of vill.Awloj	1	4	32			30	60	49.5	9		"
217.	Near vill. Awloj	1	7	42			60	138	5	∞		"
218.	About 3/4km.awayfrom VES No. 217	1	6	24			6.6	2.2	7.5	15		"
219.	About 3/4km.awayfrom VES No. 218	-	-	Irregular curve			-	-				
220.	Near temple of Nathji of Balwara	1	8	13	72		5	7.5	3.8	12		Saline
221.	On the outskirt of Balwara	1.1	6.6	36			74	111	11	20		"
222.	About 1/2 km.away VES No. 221	1.6	25.6	60			80	40	8.5	85		"
223.	Near Rly.station Balwara	1	6	12	34		32	5.4	14	3.3	6.6	"
224.	About 1½ km.away from VES No. 223	1	4	4.5	48		120	180	17	5	50	"
225.	On the out skirt of village Otwala	2.1	6.3	10.5			140	14	9	∞		"
SAILA - CHARAU - BABATRA -TALIYANA-JIWANA SECTION												
226.	About 2½ km.away from Saila	1	8	34.4			100	200	20	5		Saline
227.	About 1km.away from VES No. 226	1.2	7.2	32	44		200	400	24.1	8	2.40	"
228.	About 1km.away from VES No. 227	1.2	9.6	38.4			64	96	18.4	2.1		"
229.	About 1km.away from VES No. 228	0.8	4.8	6	120		42	63	19.3	13	3.3	"
230.	About 1km.away from VES No. 229	1.6	4.8	36			90	135	28	14		"
231.	About 1km.away from VES No. 230	3	12	104			90	60	14.5	2.3		"

1	2	3	4	5	6	7	8	9.	10.	11	12	13	14	15
232.	About 1km.away from VES No. 231	1.6	12.8	39			160	480	20	7		Saline	200	
233.	About 1½km.awayfrom VES No. 232	1.5	9	23	72		100	300	27	8	1000	"	106	
234.	About 1/2km.awayfrom VES No. 233	0.8	6.4	16	51		160	480	82	8	24	"	80	
235.	About 1 km.awayfrom VES No. 234	1.3	10.4	14.5	75		120	720	166.5	21	105	Potable	107	
236.	About 1¾km.awayfrom VES No. 235	2.9	17.4	80			90	135	13	65		Saline	100	
237.	About 1/2 km.awayfrom VES No. 236	1.4	16.8	36			130	390	33	3.3	-	"	100	
238.	About ½km.awayfrom VES No. 237	1.8	6.5	21	72		90	180	75	16.8	3.4	"	200	
239.	About 1km.away from VES No. 238	1.1	13.2	24			64	128	24	5.6		"	160	
240.	About 1km.away from VES No. 239	1.5	16.5	90			96	144	5.6	28		"	108	
241.	About 1km.away from VES No. 240	1.3	20.8	40			70	140	29	5	8	"	160	
242.	About 1/2km.awayfrom VES No. 241	1.2	9.6	36			160	480	40	4		"	150	
243.	About 1 km.away from VES No. 242	1.3	4.8	36			210	630	50	5		"	200	
244.	About 1½ km.awayfrom VES No. 243	1	6	24			130	260	73.3	12.8	-	"	200	
245.	About 1 km.away from VES No. 244	1	8	15	42		110	330	93	23	4.6	"	140	
246.	About 1km.away from VES No. 245	1	6	48			120	360	27	6.8		"	200	
247.	About 1 km.awayfrom VES No. 246	1	12	6	96		135	270	130	18	4.5	"	180	
248.	About 1 km.away from VES No. 247	1.3	5.2	3.3	80		200	400	165	18.8	1.3	"	200	
249.	About 1km. away from VES No. 248	1.2	4.8	11			95	142.5	24	12		"	-	

2	3	4	5	6	7	8	9.	10	11	12	13	14	15
bout 1 km.away from ES No. 249	1.3	5.2				88	264	23					
bout 1 km away from ES No. 250	0.6	7.2				180	59.9	273					
bout 1 km.away from iwana on way to ewara	1.2	4.8	16.5			86	129	55	5.5		Saline		
A - MOKHI KHERA - SAILA- OTWALA SEC.													
ear temple of illage Babatra	-	-	Irregular curve			-	-	-					
bout 1/2km. away from ES No.253 (near /W)	1.2	4.8		7	7	180	540	277.2	60	6	Saline		
bout 1/2 km.away from ES No. 254	2.1	84				110	4.4	0			"		
bout 1/2 km.away from ES No. 255	2.5	20				95	142.5	14.2			"		
bout 1/2 km.away from ES No. 256	12	24				130	39	5.2			"		
bout 1/2 km.away from ES No. 257	-	-	Irregular curve			-	-	-	-	-			
bout 1/2 km.away from ES No. 258	-	-	Irregular curve			-	-	-	-	-			
About 1/2 km.away from ES No. 259	1.8	14.4				140	280	14			Saline		
Near public well of village Mokhikera	-	-	Irregular curve			-	-	-	-	-			
About 1km.away from VES No. 261	1.2	4.8	24			120	180	80	8	-	"		
About 1 km.away from VES No. 262	1	4	13.5			160	80	150	16	-	"		
About 1/2 km.away from VES No. 263	10.6	31.8				120	12	1.2			"		
About 1/2 km.away from VES No. 264	4	16				160	80	8					

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
266.	About 1/2 km. away from VES No. 265	6	18				190	63	3.8			Saline		
267.	About 1/2 km. away from VES No. 266	1.7	10.2				110	220	17			"		
268.	About 1/2 km. away from VES No. 267	1	3	11.6			160	96	240	6		"	-	
269.	About 1/2 km. away from VES No.268 (near kilometer stone Sayala 5 km.)	1.1	4.4	18			160	320	82.5	10		"	-	
270.	Near public well of village Balera	1.1	17.6				130	42.9	5.2			"	-	
271.	About 1/2 km. away from VES No. 270	1.8	5.4				100	150	50			Likely to be fresh	-	
272.	About 3/4 km. away from VES No. 271	-	-	Irregular		curve	-	-						
273.	About 1/4 km. away from VES No. 272	5	10				170	56.1	5.6			Saline	-	
274.	Near R.S.E.B. office of Sayla	1	3	16			140	220	18	3.6	-	"	-	
275.	About 1 1/2 km. away from VES No. 274	2.7	10.8				160	80	40		-	"	-	
276.	About 3/4 km. away from VES No. 275	1.1	6.6	14			190	85	33	10	-	"		
277.	About 1km. away from VES No. 276	3	9	40			180	90	18	3.6	-	"		
278.	About 1km. away from VES No. 277	3.6	7.2				160	80	8.8		"	"	-	
279.	About 3/4 km. away from VES No. 278	1.5	1.5				43	21.5	8.6		-	"	-	
280.	On the out skirt of village Otwala	1	3	3.7	28		170	142.2	39.6	10	3	"	-	
	SIRANA - SANGANA - ALWARA- DUDWA - BHANDWA - MENGALWA SEC.													
281.	Near T/W of Sirana	1	4	12			160	80	18	0		Saline	-	

1	2	3	4	5	6	7	8	9	10	11	12	13	14
282.	About 1/2 km.away from VES No. 281	1.1	3.3	8.4	36		430	258	35.2	20	2.5	Saline	-
283.	About 1/2 km.away from VES No. 282	1.1	4.4	14.4	60		190	285	83.2	22	66	Potable	79
284.	About 3/4 km.away from VES No. 283	6	36				260	65	10.4			Saline	-
285.	About 3/4 km.away from VES No. 284	12	48				240	33.6	2400			Potable	60
286.	About 3/4km.away from VES No.285(near Teja ki dhani)	1.3	7.8	7.4	52		170	255	110	30	00	"	68
287.	About 3/4 km.away from VES No. 286	1.1	2.2	8.1	38.4	40	220	146	240	42	40	"	90
288.	About 1/2 km.away from VES No. 287	1.1	2.2	6	36	70	260	130	300	78	50	"	115
289.	About 3/4 km.away from VES No. 288	1.5	6	60	100		200	100	36.3	21	42	"	168
290.	About 1 km.away from VES No. 289	1.2	14.4	40	26		180	118.8	40	25	15	"	-
291.	About 3/4 km.away from VES No. 290	1.3	7.8	14	72		200	100	36.3	13.5	45	Saline	95
292.	Near temple of village Sangana	1.2	7.2	19.5	50		190	85	10	38	1.4	"	
293.	Near schoolof Sangana	6	18	44			230	76.6	14.2	20		Potable	
294.	About 3/4 km.away from VES No. 293	1	2	10.8	90		70	42	84	14.4	140	"	120
295.	About 1/2 km.away from VES No. 294	9	108				130	17.5	1300			"	117
296.	About 1/2 km.awayfrom VES No. 295	7	56				16	32	10.7			Saline	
297.	About 3/4km.away from VES No. 296	1.5	6	18			90	45	5.5	50		"	26
298.	On approach to village Alwara	1.5	6	24			180	118.8	13.2	60		"	32
299.	Near PHED water tank of Alwara	1	4	48			150	70	9	820		"	53
300.	About 1/2 km.away from VES No. 299	1	6	54			250	116	23.8	1700		Potable	61

1	2	3	4	5	6	7	8	9	10	11	12	13	14
301.	About 1/2 km.away from VES No. 300	1.1	6.6,	38.4			250	160	18.2	1800		Potable	46
302	About 1/2 km.away from VES No. 301	1.5	12	66			250	165	36	7.2		Saline	-
303.	Near PHED water tank of village Dudwa	1.1	4.4	9.6	52		230	345	84	26	8.7	"	-
304.	About 1/2 km.away from VES No. 303	1.1	6.6	64			220	330	28	92.4		Potable	72
305.	Inside vill. Bhandwa	1.6	4.8	40			320	160	9.6	1800		Saline	46
306.	Near temple and about 1 km. away from VES No. 305	1.2	7.2	28			170	255	32.7	46		Potable	-
307.	About 1km. away from VES No. 306	1.5	6	33			160	96	6.6	50		Saline	41
308.	About 1/2 km.away from VES No. 307	-	-	Irregular		curve	-	-					
309.	About 1/2 km.away from VES No. 308	1	12	20	54	-	400	267	50	7.4	∞	Saline	87
N													
MEGALWA - PUNAWAS -SURANA- HARMI SEC.													
310.	About 1/2km.away from water tank of Mengalwa	1	12	60			230	115	26	5.2		Saline	-
311.	About 1/2km. away from VES No. 310	1.1	13.2	88			350	525	33.5	100		Potable	103
312.	About 1/2 km.away from VES No. 311	1.1	6.6	45.6			210	420	16	133	-	"	
313.	About 3/4 km.away from VES No. 312	1	3	42.6			250	150	12	36	-	Saline	-
314.	Near Jagdambaji temple of Punawas	1.2	4.8	20	56		180	90	12.8	18	1	"	-
315.	About 1/2 km.away from VES No. 314	1.1	4.4	66			130	195	18	4.5	-	"	-
316.	Near crossing of road leading to Punawas&Jalore	11	44				110	10	33.3	-	-	"	-

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
317.	About 1/2 km.away from VES No. 316	1.1	17.6	52			190	285	39	9.8		Saline	-	
318.	About 3/4 km.away from VES No. 317	1	3				180	121	270	Later part of curve is irregu				
319.	About 3/4km.away from VES No. 318	1.1	3.3				180	120	260					
320.	About ½ km.away from VES No. 319	1.5	4.5	20			200	133.4	100	50	"	Saline	-	
321.	Perpendicular VES to VES No. 320	1.3	5.2				200	133.4				"		
322.	About 1 km.away from VES No. 321	-	-	Irregular curve			-	-						
323.	Perpendicular VES to VES No. 322	-	-	Irregular curve			-	-						
324.	Near approach to village Sirana	1	16				120	180	3000			Potable		
325.	Perpendicular VES to VES No. 324	1.1	4.4	8.8			115	230	126	1900	-	"		
326.	About 1km.away from VES No. 325	1	4	16			150	75	30	90	-	"		
327.	Perpendicular VES to VES No. 326	1	4	12.6			150	75	29	112		"		
328.	Near village Sirana	3	12	36			330	109	7	0		Saline		
329.	About ½ km.away from village Sirana	1.2	9.6	18			190	285	86	9.6		"		
330.	About 1/2 km.away from VES No. 329	-	-	Irregular curve			-	-						
331.	Near Km.stone Tilara 2 Km.	-	-	Irregular curve			-	-						
332.	Perpendicular VES to VES No. 331	-	-	Irregular curve			-	-						
333.	About 3/4 km.away from VES No. 332	-	-	Irregular curve			-	-						
334.	About ½ km.away from VES No. 333	1	12	38.4			160	240	76	8.5		Saline		
335.	Near hand pump of village Harma	-	-	Irregular durve			-	-						

	3	4	5	6	7	8	9	10	11	12	13	14	15
BAGORA - RAUTA SECTION:													
336. About 1 km.away from village Bagora	1.5	8.4	24			180	106	11	1.1		Saline		
337. About 1 km.awayfrom VES No. 336	7.5	7.5				270	2.7	5.4			"		
338. Near village Sonpura	1.2	4.8	15			200	132	7.9	2.4		"		
339.About 1km.away from VES No. 338	1	2	5.2	16.8	-	15	5	6.3	1.9	90	"		
340.About 1km. away from VES No. 339	1.1	4.4	2.4			33	6.6	2.5	75	-	"		
341. About 1 km.awayfrom VES No. 340	1.5	6	12			95	11	1.1	275	-	"		
342.About 1/2 km.away from village Rauta	1.2	7.2	14			18	3.6	1.9	19	-	"		
BAGORA - NANDIYA SECTION:													
343.About 1km.away from village Bagora	2.4	4.8	18.6	42		220	72.6	8.3	3.5	100	Saline		
344.About 1km.away from VES No. 343	2.2	3.2	8	6		280	28	2.4	2	20	"		
345.About 1km.away from VES No. 344	3.2	6.4	7.8	25		250	25	3.4	2.1	13.2	"		
346. About 1km.away from VES No. 345	1.2	9.6				300	450	0	-	-	"		
347.About 1km. away from VES No. 346	2	6	8.5			270	810	50	5		"		
348.About 1km away from VES No. 347	5.8	11.6	26			350	21	2.2	800		"		
349.On approach to village Nandiya	1.5	9				120	7.2				"		
MORSIM - NANDIYA-CHAJJALA SEC.													
350. Near village Morsim	6	12				240	48	0			Saline		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
351.	About 1km.away from VES No. 350	1.2	3.6	80	-		160	80	8	40	-	Saline		
352.	Near Pathon ki dhani	1.2	7.2	12	26		66	33	7.8	8	0.8	"	-	
353.	About 1½ km.away from VES No. 352	1.3	5.2	14.4			70	35	6.2	?		"		
354.	About ½ km.awayfrom village Rauta	1	4	40			50	5	3.4	?		"	-	
355.	About 1km.away from VES No. 354	1	4	64			230	115	3.8	?		"	-	
356.	About 1km.away from VES No. 355	1.5	12	18	26		200	400	3.8	?		"	-	
357.	About 1km.away from VES No. 356	1	2	8	10	120	280	56	180	45	6	"	114	
358.	About 1½ km.awayfrom VES No. 357	1.1	4.4	15	64		190	95	11	5.4	00	"	85	
359.	About 1km.away from VES No. 358	1	4	12	68		420	210	10	3.7	00	"	85	
360.	Near public well of village Nandiya						300	12	2			"		
361.	About 1½ km.away from VES No. 360	-	-	Irregular curve			-	-						
362.	About 1km.away from VES No. 361	1.4	8.4	18.4			200	300	11.2	2				
363.	Near village Sobrawas	1	4	16			170	85	4	8		"		
364.	About 1½ km.away from VES No. 363	4	8	48			250	50	3.2	6.4	-	"		
365.	About 1km.away from VES No. 364	1	6	21			900	219	155	?		Potable		
366.	Near village Chajjala	1	4	32	6.4		340	227	375	40	4	"		
367.	About 1½ km.awayfrom Chajjala	-	-	Irregular curve			-	-						
	G R O U P - C :													
	JALORE - BHINMAL SECTION:													
368.	About 4km.away from Bhinmal on way to Bhagli	1.1	0.3	28.5	?		220	110	74			Potable		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
369.	About 5km.away from Jalore on way to Bhagli	4.2	47.4	?			230	92	6.4			Saline		
370.	About 1 km.away from VES No. 369	10	12.5				120	24	3.5			"		
371.	About 1km.away from VES No. 370	12	2.4	?			72	3.6				"		
372.	About 1km.away from VES No. 371	2	4.2	?			90	27	2.7			"		
373.	About 1km.away from VES No. 372	2.7	13.5	?			190	76	3.8			"		
374.	About 1km.away from VES No. 373	7	3.5	?			105	42	2.9			"		
375.	About 1km. awayfrom VES No. 374	9.6	7.2	?			128	38.4	3.8			"		
376.	About 1km.away from VES No. 375	-	-	Irregularcurve			-	-						
377.	About 1km.away from VES No. 376	1.2	15.6				100	200	10			Saline		
378.	About 1km.away from VES No. 377	9.4	14.1				90	27	5.4			"		
379.	About 1km.away from VES No. 378	-	-	Irregular curve			-	-	-					
380.	Just before village Rewat	5.5	27.5				70	35	5.2			"		
381.	About 2km.away from Village Rewat	1.5	3.6				85	55	11			"		
382.	About 1 km.away from VESNo.381 and after village Kelapura	1.3	3.5				120	180	18			"		
383.	Just before village Dakarta	1.2	5.6				75	93.7	6.5			"		
384.	On the out skirt of village Dakarta	4	6				120	48	6			"		
385.	About 1.5 km.away VES No. 384	6.5	11.4				100	20	8			"		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
386.	About 1.25 km.away from VES No. 385	2.6	7.8				105	157.5	15.7			Saline		
387.	About 1.5 km.away from VES No. 386	1.2	8.4				52	130	9.1			"		
388.	About 2 km.away from VES No. 387	1.1	8				95	47.5	19			"		
389.	About 1.5 km.away from VES No. 387	1.3	2.7				59	147.5	29.5			Potable		
390.	About 1.5 km.awayfrom VES No.389 near Made Railway Station	1.4	5.8				62	23	27.9			"		
391.	About 1km.away from VES No. 390	1.3	5.2				52	2.6	?			Saline		
392.	About 1.5 km.away from VES No.391	28	?				60	3.5	?			"		
393.	About 1km.away from VES No. 392	1	1	11			120	48	160	?		"		
394.	About 1.5 km.awayfrom VES No. 393	1.5	10.5				74	259	12.9			Saline		
395.	Near Bhimpura Rly.Stn.	1.5	12				90	180	9			"		
396.	About 1km.away from VES No. 395	1.5	6.2				88	176	12.3			"		
397.	Before village Borta	2.5	0.7	11.1			145	68	42	10.5	-	"		
398.	On the outskirt of village Borta	7.8					60	9				"		
399.	About 1.5km.away from VES No. 398	-	-	Irregular curve			-	-						
400.	About 7.5kms. from Narta	3.7	4.6				170	11.9	1.9			Saline		
401.	About 6kms.from Narta	0.6	4	15			9.8	3.9	10.8	4.3		"		
402.	On the out skirt of village Nasauli	1	3				90	18	5.4			"		
403.	About 2.5kms. from Narta Tank	0.6	1.2	7			1600	640	70	17.5		"		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
404.	Just before village Narta	1.5	8				100	200	20			Potable		
405.	About 2km.away from VES No. 404	1.5	7.5				60	120	12			Saline		
406.	About 1km.away from VES No. 405	1.2	18				85	170	5.2			"		
407.	About 1.5km.away from VES No.406	1.2	31.2				60	90	0			"		
408.	About 1km. away from VES No. 407	2	16				70	105	5.2			"		
409.	Just before village Mirpura	1	15.7				100	250	6.2			"		
410.	On the out skirt of Mirpura	1.1	23.4				68	132	0			"		
411.	Just before village Junjani	16					100	7				"		
412.	About 2km.away from VES No. 411	2.1	14.7				55	137.5	9.6			"		
413.	About 1.5 km.away from VES No. 412	1.5	18				54	81	8.1			"		
414.	About 2.5km.away from VES No. 413	1.2	10.8				100	150	15			"		
415.	Inside village Nimbawas	12.5					90	18				"		
416.	In the river bed after crossing Nimbawas	1.2	4.2				800	320	22.7			Potable		
417.	About 3km.from Kirwara village	1.2	12				130	325	27.4			Saline		
418.	About 1 km.away from VES No. 417	1.6	16				104	200	10.5			"		
419.	About 2km. away from village Samrani	1.8	27.2				70	140	0			"		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	BHINMAL - JIWANA SECTION:													
420.	About 1km.away from Bhinmal on way toDeta	1.4	5.6	26.8			47	31	3.4	340		Saline		
421	About 3km.away from Bhinmal	1.2	4.8	36			140	45.2	5.8	174		"		
422	About 4 km.away from Bhinmal	1.9	11				110	165	11.6			"		
423	About 5.5kms. away from Bhinmal	0.6	0.6	9			80	16	340	8.5		"		
424	About 6 kms.away from Bhinmal	1	0.8	8			79.2	17	172	7.3		"		
425	About 7kms. away from Bhinmal	1.2	0.7	0.8			73	15	169	8.3		"		
426	About 8 kms.away from Bhinmal	-	-	Irregular curve			-	-						
427	About 9 kms.away from Bhinmal	1	0.5	10.5			68	13.6	156	15.5		Saline		
428	About 10kms.away from Bhinmal	1	0.7	11			63	19.1	149	9.2		"		
429	About 11kms. away from Bhinmal	1	1	12			64	27.7	105	8.7		"		
430	Near village Kawatra	-	-	Irregular curuve			-	-						
431.	About 11 kms.away from VES No. 430	9	2.7	30			280	28	57	2.5		"		
432	About 1 km. away from VES No. 432	1	3	25			51	76.5	35	3.5		"		
433	About 1 km.away from VES No. 432	1.2	2.8	28.4			60	79.2	39	4.2		"		
434	About 1km. away from VES No. 433	0.8	1.6	14			50	16.5	42	7		"		
435	About 1.5km.away from VES No. 434	-	-	Irregular curve			-	-						
436.	About 1 km.away from VES No. 435	1.4	9.1				59	73.7	11.1			Potable		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
437.	About 1km.away from VES No. 436	1.3	10.4				72	144	21.6			Potable		
438.	After crossing village Daspa	1	4	12.7	30		3400	340	115	12.5	60	"		
439.	About 1km. away from VES No. 438	1.	.15	6	10.5		90	30	132	47	9.5	Saline		
440.	About 1km.away from VES No. 439	1.9	9.5				26	76	23.4			Potable		
441.	About 1km. away from VES No. 440	1	6.3	15.6			82	164	30	15		"		
442.	About 1km.away from VES No. 441	1.5	15				78	156	9.3			Saline		
443.	Near village Kora	1.2	1.2	17.5			25	5	75	9.7		"		
444.	About 1 km.away from VES No. 443	0.9	0.9	13.2			150	30	120	0		"		
445	About 1 km.away from VES No. 444	1.1	0.5	7.5			110	33	180	9		"		
446.	About 1km. away from VES No. 445	-	-	Irregular curve			-	-						
447.	About 1 km.away from VES No. 446	1	0.5	6			50	10	132	5.5		"		
448.	Just before village Basla	1.2	2.4	12.4			10	60	10.5	5.2		"		
449.	About 1km.away from VES No. 448	1.1	4.4	7			140	420	138	27.6		Potable		
450.	About 1 km.away from VES No. 449	1	4	2.7			19	38	11.2	5.6		Saline		
451.	About 1km.away from VES No. 450	1.2	4.8	3			25	37.5	17.5	8.7		"		
452	About 1km. away from VES No. 451	0.8	1.6	1.4	6.8		50	150	40	5.1	16.8	"		
453.	Just after vill. Deta	1.2	1.5	2	5.3		38.4	174	35.3	4.7	14.2	"		
454.	After crossing river on way to Punawas	1.3	1.7	2.6	6.2		39	165	41	3.7	16.2	"		
455	About 1km.away from VES No. 454	1.2	4.8	6.2			130	260	77	14		potable to saline		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
456.	Just near village Punawas	1.6	6.4	6	4.5		200	400	165	56	5.1	Potable to saline		
457.	About 1 km.away from VES No. 456	2.3	4.6	3			120	60	36	9		"		
458.	About 1km. away from VES No. 457	-	-	Irregular curve			-	-						
459.	About 2kms.away from VES No. 458	1.1	2.2	11.4			240	480	132	4		Saline		
460.	On the outskirt of village Bhandwa	1.5	3.2	10.4			196	430	105.4	4.6		"		
461.	About 1km.away from VES No. 460	1.1	6.6	3.3			230	75.9	48.8	12.3		"		
462.	About 1km. away from VES No. 461	1.7	8.5	60			190	95	10	?		"		
463.	Before Vill. Taliana	1.1	0.4	8.2			150	750	105	10.5		"		
464.	On the outskirt of village Taliana	-	-	Irregular curve			-	-						
465	About 1km.away from VES No. 464	0.6	4.8	7.2			320	96	52	26		"		
466.	About 1km. away from VES No. 465	1.9	7.6	4.9			200	300	2.8	6		"		
467.	About 1½ km. away before village Jiwana	1.3	1.9	9.6			120	180	75	15		"		
468.	Just before village Jiwana	1.4	2.8	2.1			200	300	52	20.84		"		
469.	About 1km. away from Jiwana	1.7	1.7	18.6			165	825	52	20.8		"		
BHINMAL - JUNJANI-SEWARI SEC.														
470.	About 1km.away from Bhinmal	1.3	5.2	43.2			85	56.1	12	120	-	Potable		
471.	About 1km. away from VES No. 470	2.9	5.8	9	38		65	130	29.7	13.2	120	"		
472.	About 1km. away from VES No. 471	1.5	18				170	52	5.2			Saline		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
473.	About 1½ km.away from VES No.472	1.3	15.6				56	112	5.6			Saline		
474	About 1km away from VES No. 473	1.5	6	16			170	240	48	0		"		
475.	About 3/4 km.away from VES No. 474	2.1	3.3	4	3.6		70	105	15	3.4	2.2	"		
476.	About 1/2 km.away from VES No. 475	2	8	20			170	25	23	2.3	-	"		
477.	On the out skirt of village Junjani	1.3	5.2	16.8			110	72.6	4.5	0	-	"		
478	About 1km.away from VES No. 477	1	2	15			150	75	26	13	-	"		
479	About 1km. away from VES No. 478	1.5	9	18			110	72	120	8		"		
480	About 1½ km.away from VES No. 479	2	12	20			150	99	22	4.4		"		
481	About 1 km.away from VES No. 480 and near Jeran	1.4	11.2				64	128	6.4		"	"		
482	About 1km. away from VES No. 481	10	30				90	9	1.8		"	"		
483.	About 1km. away from VES No. 482	2	8	10			40	60	16.5	4.4	-	"		
484	About ½ km.away from VES No. 483	1	8	16			36	54	10	2		"		
485	About ½ km.away from VES No. 484	2	16	[illegible]			52	34.3	5.2		"	"		
486	About 3/4 km.away from VES No. 485	-	-	Irregular curve			-	-						
487	About 1/2 km.away from VES No. 486	2.4	9.6	11			65	42.9	14.5	2.6	-	"		
488	Near school of village Sewari	5	1	9.2			70	35	67.5	2.7	-	"		
KOMTA - KORA - PANTHERI - THAWAR - DHANANI SEC.														
489	Near village Komta	-	-	Irregular curve			-	-	-	-	-	-		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
490.	About 1km.away from VES No. 489	1	2	6	36		150	60	186	40	00	Potable	45	
491.	About 1km.away from VES No. 490	-	-	Irregular curve			-	-						
492.	After crossing river Bandi	-	-	Irregular curve			-	-						
493.	About 1km. away from VES No. 492	1.6	6.4	22.8			430	86	253	00		Potble	31	
494	About 1km.away from VES No. 493	1.5	12	56			105	315	15	15		"		
495	Near school of Kora	1.1	6.6	36			80	240	20	60		"	43	
496	About1½ km.away from VES No. 495	1	6	15			110	36.3	92	400		"	22	
497	About 3/4 km.away from VES No. 496	1.5	9	40			55	126.5	33	5		Saline		
498	About 1km.away from VES No. 497	1.3	10.4	30			110	550	63	6.3		"		
499	About 1km.away from VES No. 498	1	4	10.5			200	95.6	43	25		Potable		
500	About ½km.away from Village Pantheri	1.3	7.8	11			31	155	12.1	0		Saline		
501	About 1km. away from VES no. 500	1	12	22			370	550	55	11		Potable		
502	About 1km. away from VES No. 501	-	-	Irregular curve			-	-						
503	About 1km. away from VES No. 502	1	4	20			68	81.6	13.6	39		Saline		
504	About 1½ km.awayfrom VES No. 503	-	-	Irregular curve			-	-						
505	About 1km. away from VES No. 504	-	-	Irregular curve			-	-						
506	About 1 km.away from VES No. 505	1.2	14.4				150	300	150	-		Saline		
507	About ½ km.away from VES No. 506	1	4	6			50	150	22	1.3		Saline		
508	About 3/4 km.away from VES No. 507	1.1	6.6	28			50	100	5.4	3.9	0.3	"		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
509.	Near Piao of village of Thawar	-	-	Irregular curve			-	-						
510.	About 1km. away from VES No. 509	2	12	44			80	48	18	9.6		Slightly saline		
511.	About 3/4 km.awayfrom VES No. 510	1.1	6.6	18	75		80	52.8	32	6	3.6	"		
512.	About 1 km.away from VES No. 511	1.3	5.2	26			38	76	19.8	4.8	-	"		
513	About 1/2 km.away from VES No. 512	1.5	6	21	100		38	57	16.5	18.5	5.6	"		
514	About 1/2 km.awayfrom VES No.513	0.5	1	6	48		80	26.4	54	10.	6	"		
515	About 1½ km.awayfrom VES No. 514	1	2	13.5	40	XX	40	20	80	11.2	2	"		
516	About 1/2 km.away from VES No. 515	1	4	30	57		35	140	40	25	25	Potable		
517	About 1 km.away from VES No. 516	1.4	8.4	20			25	75	28	14		"		
518	On the bank of river Sukri	1.1	6.6	13			150	225	50	20		"		
DHANANI - TURA SECTION:														
519	Near village Dhanani	1	6	24	50		55	825	30	9.5	22.8	Saline		
520	About 1 km.away from VES No. 519	1	12	60			110	165	9	9		"		
521	About 1 km away from VES No.520	1	6				90	60						
522	Near village Tura	1.1	6.6	14			160	320	130	260		Potable		
523	About 3/4 km. away from VES No. 522	1.8	3.6	11			180	290	72.6	23		"		
GROUP -D														
BIROL - PALADAR -SANCHORE SECTION:														
524	Near village Birat	1.2	14.2				30.5	61	3			Saline		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
525.	About 1 km.awayfrom VES No. 524	1.1	13.2				55	82.5	9.4			Saline		
526	About 1 km.away from VES No. 525	1	3	12.9			56	28	6.6	8.2		"		
527	About 1.3 km.away from VES No.526	1	15				96	110	9.3			"		
528	About 1 km away from VES No. 527	1	15				200	100	10			"		
529	About 1.5 km.away from VES No.528	1	1	27			15	75	220	5.3		"		
530	About 1.5 km.away from VES No.529	1.6	28.8				80	160	7.2			"		
531	About 1 km.awayfrom VES No. 530	1.2	33.6				130	260	6.5			"		
532	Near villageMakupura	1.2	24				110	72	7.2			"		
533	About 1.5 km.away from Sanchore on way to Paladar	1	10				1200	71.2	6.2			"		
PALADAR I NENOL - DUGDAWA SEC.														
534	About 1 km.away from Paladar	1.1	1.1	13.2			23.5	35.2	174	7.2		"		
535	About 1.5 km.away from VES No.534	1.1	22				185	225.7	11.9			"		
536	About 1km.awayfrom VES No. 538	1	2	16.5			88	29	228	3.8		"		
537	About 1 km.away from VES No. 536	1	2	24			175	57.8	228	3.8		"		
538	About 1.75 km.away from VES No. 537	1.4	18.2				220	440	22			"		
539	About 1 km.away fromVES No. 538	1	1	26			54	17.8	87	2.9		"		
540	On the out skirt of village Nainol	1	2	12			140	70	240	12		"		
541	About 1 km.away from VES No.540	1.2	9.6	17.5			180	360	108.9	12.2		"		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
542.	About 1.5 kms.away from VES No.541 on way to Dugdawa	1.7	10.2	11			140	280	86.6	13		Saline		
	DUGDAWA - TENLOP - SANKAD SECTION:													
543	About 1 km.away from Dugdawa	1.2	1.2	20			940	310	35	8		Saline		
544	About 2 km.away from VES No.543	1	1.5	23.3			220	330	58	29		Potable		
545	About 1 km.away from VES No. 544	1	6	25			125	187	90	18		"		
546	About 1 km.away from VES No. 545	1.3	16.5				140	210	14			Saline		
547	On the out skirt of village Tenlon	1	11				140	420	17			"		
548	About 1.5 kms.away from VES No.547	1	13				94	141	10			"		
549	About 1 km.away from VES No. 548	1	12				250	500	10.8			"		
550	About 1 km.away from VES No. 549	1	11	24			110	220	40	14		"		
551	About 1 km. away from VES No. 550	1	1.1	6	28.2		130	390	85	165	11	"		
	SANKAD - HIRPUR SECTION:													
552	Near corssing of Dhanera & Hirpura	3	12	63			66	99	20	200		Potable		
553	About 1 km.away from VES No. 552	1	8	31.5	48.9		70	105	6.7	48	13.4	Saline		
554	About 1 km.away from VES No. 553	1	4	9	30		120	60	105	45	11.3	"		
555	About 1 km.away from VES No.554	1	2	3.2	36	36	170	85	192	60	7	"		
556	About 1 km.away from VES No. 555	1	1	7.2	27.2	39	140	93.4	195	85	50	Fresh		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
557.	About 1 km.away from VES No.556 & after village Kura	1.4	5.6	18			120	180	53.3	17.8		Potable		
558	About 1 km.away from VES No. 557	1	3	4	16		110	73.4	120	48	16.7	"		
559	About 1 km.away from VES No. 558	1.2	7.2	15.2			145	48.3	81	9		Saline		
560	About 1 km.away from VES No. 559	1.2	19.2				60	90	15			"		
561	About 1 km.before village Sankad	2.3	4.6	19.5	42.5		160	240	105	10.5		"		
562	Near village Sankad	1	16	32			115	76.7	26.6	4.0		"		
563	About 1 km.away from VES No. 562	3.6	7.2	26			85	127.5	27	11.5		"		
564	Near km.stone Sarnav 4km.	1.5	6	18			96	142	67.5	6.8		"		
565	About 1 km.away from VES No. 564	3.5	14	8			132	88	50	10		"		
566	About 1 km.away from VES No. 565	1.6	1.6	14	18		110	73.4	127.5	40	6	"		
567	About 1 km.away from VES No. 566	2	16				165	330	8.3			"		
568	About 1/2 km.away from Village Sankad	1	1	16.2			170	113.4	280	7		"		
569	About 1 km.away from VES No. 568	1	2	22.8			52	17.3	50	3		"		
570	About 1 km.away from VES No. 569	1.5	3	8	7		150	75	180	90	4.5	"		
SANKAD - GUNDAV - KHARA SEC.:-														
571	About 1 km.away from School of village Khara	1.5	9	20			120	240	40	4		Saline		
572	About 1 km. away from VES No. 571	1.5	12	18			250	83.3	30	6		"		
573	About 1 km. away from VES No. 572	1.5	3	5	20		430	278	244	90	13	"		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
574.	About 1 km. away from VES No. 573	1.1	2.2	13.8			76	38	135	4.5		Saline		
575	About 1 km.away from VES No. 574	1.1	6.6	24.1			110	330	93.2	10.4		"		
576	About 1 km. away from VES No. 575	1.6	1.6	16			180	90	187.5	8.4		"		
577	On the out skirt of village Gundav	1.3	5.2	17.3			150	450	66	13.2		"		
578	About 1 km.away from VES No. 577	2	6	7.2			330	165	380	9.5		"		
579	About 1 km. away from VES No. 578	1.2	3.6	12.2	20		110	55	97.3	5.0	12.5	"		
KHARA - KOTRA SECTION:														
580	Near village Khara	1.2	1.2	3.3	16.5		250	167	38	172	8.6	Saline		
581	About 1/2 km.away from VES No. 580	2	22				200	350	8.7			"		
582	About 2 kms.away from VES No. 581	1.5	9	16			180	270	95.8	9.6		"		
583	About 2 kms. away from VES No. 582	-	-	Irregular curve			-	-						
584	About 1 km. away from VES No. 583	-	-	Irregular curve			-	-						
584	Near village Kotra	1	8	18			105.5	157.5	30	10.1		Saline		
KHARA - DIGAON-KARARA SEC.:														
585	Near school of village Khara	1.2	0.6				105	630	10.5			Saline		
586	About 1 km. away from VES No. 586	1	0.5	4	4.5		96	288	36	82	9.4	"		
587	About 1 km. away from VES No. 587	1.3	2.6	9			94	282	80	8		"		
588	About 1 km.away from VES No. 588	1.4	5.6	10			180	54	110	21		Potable		
589	About 1 km. away from VES No. 589	2.5	15	5.5			65	97.5	26.5	5.4		Saline		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
591.	About 1 km. away from VES No. 590	1	2	8			120	360	154	23		Potable		
592	About 1 km. away from VES No. 591	2.2	13.2	16			130	86.7	63	9.5		Saline		
593	About 1 km. away from VES No. 592	4	6	7.5			280	840	80	16		"		
594	About 1 km. away from VES No. 593	1.5	3	12			150	75	285	8.5		"		
595	About 1 km. away from VES No. 594	1	2	4.4	23.4		180	120	280	90	9	"		
596	About 1 km. away from VES No. 595	1	6	12.4			180	60	90	15		"		
597	Near village Khara	1	12	13			140	280	83	12.5		"		
598	Near school of village Khara	1	5	9.2			200	66.5	156	13		"		
	HARIYALI - ARNAY - KHARA SEC.													
599	Near village Hariyali	1	1	9			80	26.4	135	11.3		Saline		
600	About 1 km. away from VES No. 599	1	18				250	322.5	9.7			"		
601	About 1 km. away from VES No. 600	1.6	16				90	180	10.8		"	"		
602	About 1 km. away from VES No. 601	1.2	9.6	15.7			135	202.5	62.7	7.1		"		
603	About 1 km. away from VES No. 602	1.6	16	4			230	149.5	49.5	10.1		"		
604	About 1 km. away from VES No. 603	1.1	4.4	8			94	31	55.5	3.7		"		
605	About 1 km. away from VES No. 604	1.1	8	22.6			155	232.5	72.6	8.1		"		
606	About 1 km. away from VES No. 605	1.6	24				250	162.5	6.5			"		
607	About 1 km. away from VES No. 606	1	21				210	126	6.3			"		
608	About 1 km. away from VES No. 607	1.1	20.9				105	115.5	3			"		

1	2	3	4	5	6	7	8	9	10	11	12	13	14
626.	About 1 km. away from VES No. 625	-	-	Irregular curve			-	-					
627	About 1 km.away from VES No. 626	1	12				200	300	13.4			Saline	
628	About 1.5 km.away from VES No. 627	2.7	8.1				90	135	9.0			"	
629	About 1 km.away from VES No. 628	1.3	1.3	6			120	80.4	157	10.5		"	
630	About 1 km. away from VES No. 629	1	3	4	24		2500	375	20	8.1	16.2	"	
631	About 1.5 kms.away from VES No. 630	13	13				85	17	6			"	
632	About 1 km. away from VES No. 631	-	-	Irregular curve			-	-					
633	About 1 km. away from ... Village Hariyali	6	9				170	255	1.1			"	
	MEDA - JANWI SECTION:												
634	About 2.5 kms. south of Meda	1.6	11.2				70	87.5	6.2			Saline	
635	About 1 km. away from Meda	1.1	8.8				105	210	8.4			"	
636	Near village Meda	-	-	Irregular curve			-	-					
637	About 1 km. away from VES No. 636	1.4	9.3				102	183	9.1			"	
638	About 1 km. away from VES No. 637	1.5	10				95.7	179	8.5			"	
639	About 2kms.from Sanchore	-	-	Irregular curve			-	-					
640	About 4kms. from Sanchore	1.8	14.4				84	168	9.6			"	
641	About 1 km. away from VES No. 640	1	13				80.5	173.4	9.1			"	
642	About 1 km. away from VES No. 641	1.7	15				90.8	185	8.9			"	
643	About 1 km. before village Dabal	-	-	Irregular curve			-	-					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
644.	Just before village Dabal	1	5				68	102	3.8			Saline		
645	About 1 km. away from VES No. 644	1	3				64	129	3.8			"		
646	About 1 km. away from VES No. 645	1	9				52	78	4.8			"		
647	About 1 km. awayfrom VES No. 646	-	-	Irregular curve			-	-						
648	About 1 km. away from VES No. 647	1.1	6.6	14.8			82	123	39.6	1.2		"		
649	About 1 km. away from VES No. 648	1.1	6.6	7			78	117	39.6	0		"		
650	About 1 km.away from VES No.649 on way to Jhanvi	1	3	2			145	217.5	66	2		"		
651	About 1 km.away from VES No. 650	1.4	4.2	2.9			110	165	32	0				
652	About 1 km. awayfrom VES No. 651	1	2	1.7	6.1		92	138	25	1		"		
653	About 1 km.awayfrom VES No. 652	1	5	3.2			140	420	118.8	3.6		"		
654	About 1 km away from VES No. 653	1.1	1.1	3			98	64.7	15	0		"		
655	About 1 km.away from VES No. 654	1.1	7.7				160	560	0			"		
656	About 1 km.away from VES No. 655	1.1	2.2	1.1			110	34.3	8.6	1.7		"		
657	About 1 km. away from VES No. 656	1	3	0.7			82	27.1	10.2	1.6		"		
658	About 1 km. away from VES No. 657	1.1	3.3	2.5			80	160	13.5	1.3		"		
659	About 1 km. away from BES No. 658	-	-	Irregular curve			-	-						
660	Just after village Bichawali	1	1	3.5			190	285	23.5	0		Saline		
661	About 1 km. away from VES No.660	1	0.7	1.9			145	217.5	17	1.7		"		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
662.	About 1 km.away from VES No. 661	1	2	4.5			105	157.5	13.5	0		Saline		
663	About 1 km. away from VES No. 662	-	-	Irregular curve			-	-						
664	About 1 km. away from VES No. 663	1	3	2.5			105	210	18	1.8		"		
665	About 1 km.away from VES No. 664	1	3.5	2.2			190	205	26	2.6		"		
666	About 1 km.away from VES No. 665	1	6	3.4			105	157.5	16	1.6		"		
667	About 1 km. away from VES No. 666	1.1	3.3	6.7			160	24.0	22	0		"		
668	About 1 km. awayfrom VES No. 667	1	2.5	3.5			115	172.5	15.5	1.5		"		
669	About 1 km.away from VES No. 668	1.6	1.7				150	165	1.5			"		
670	About 1 km.away from VES No. 669	1.5	1.5				200	60	0			"		
671	About 1 km.away from VES No. 670	2.5	3.7				225	33.7	0			"		
672	About 1/2 km. before village Jhanvi	-	-	Irregular curve			-	-						
673	On the outskirt of village Jhanvi	1	5				170	187	0			"		
674	About 1 km.away from VES No. 673	1.5	2.5				120	24	1			"		
675	About 1 km.away from VES No.674 on way to Sarwana	1.1	3				92	73.5	0			"		
676	About 1 km.away from VES No. 675	1	3				105	105	0			"		
677	About 1 km.away from VES No.676	1	5				100	125	1.2			"		
678	About 1 km. awayfrom VES No. 677	1.3	1.4				72	14.4	0.5			"		

	3	4	5	6	7	8	9	10	11	12	13	14	15
679. Before village Sarwana	1.1	1.1				100	200	1.2			Saline		
680. Onthe outskirt of Village Sarwana on way to Vank	-	-	Irregular curve			-	-						
681 About 1 km. away from VES No. 680	1	2.5				92	115	1.1			Saline		
682 Just before vill. Vank	1	2.7				130	169	1.2			"		
683 On the out skirt of village Vank	1	1				100	200	1.1			"		
684 About 1 km.away from VES No. 683	1	2.5				115	143	3.2			"		
685 About 1 km.away from VES No. 684	1	13				115	69	4			"		
686 Just before Sanchore Market	-	-	Irregular curve			-	-						
687 On the out skirt of Sanchore market	2.7	13.5				90	135	1.3			Saline		
688 About 1 km.away from Sanchore on way toBawarla	1	4.5				150	225	7.5			"		
JAITPURA - DHANOL -BHANWARIA SECTION:													
689 About 1 km.away from village Jaitpura	-	-	Irregular curve			-	-						
690 About 1/2 km.away from VES No. 689	-	-	Irregular curve			-	-						
691 About 1/2 km.away from VES No. 690	-	-	Irregular curve			-	-						
692 About 1 km.away from VES No. 691	-	-	Irregular curve			-	-						
693 About 1 km. away from VES No. 692	-	-	Irregular curve			-	-						
694 About 1 km. away from VES No. 693	-	-	Irregular curve			-	-						
695 About 1 km. away from VES No. 694	1	2				160	105	?					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
696.	Perpendicular VES to VES No. 695	-	-	Irregular curve			-	-	-					
697.	About 1 km. away from VES No. 696	-	-	Irregular curve			-	-						
698	Perpendicular VES to VES No. 697	-	--	Irregular curve			-	-						
699	About 1½ km.away from VES No.698	-	-	Irregular curve			-	-						
700	Perpendicular VES to VES No. 699	-	-	Irregular curve			-	-						
701	Near public well of village Dhanol	-	-	Irregular curve			-	-						
702	About 1 km.away from VES No. 701	-	-	Irregular curve			-	-						
703	Perpendicular VES to VES No. 702	-	-	Irregular curve			-	-						
704	About 1 km.away from VES No. 703	1.4	5.6				85	18.1	85					
705	Near village Bhanwaria	-	-	Irregular curve			-	-						
706	Perpendicular VES to VES No. 705	-	-	Irregular curve			-	-						

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