

**GOVERNMENT OF TELANGANA
GROUND WATER DEPARTMENT**

From:-

Dr.Pandith Madhnure,
M.Sc.,PhD

DIRECTOR,
Ground Water Department,
Chintal Basthi, Khairathabad
Hyderabad – 500 004.
Office Phone: 040-23314978
Fax No.040-23314950
Email ID:director.tgsgwd@gmail.com

To

The Commissioner of Industries,
Chirag Ali Lane,
Abids,
Hyderabad.

Letter No.3010/GP/TSiPASS/Medchal/2021,

Dated:22.05.2021.

Sir,

Sub:- Telangana State Ground Water Department – M/s G.V.Discovery Centres Private Limited - Permission accorded for withdrawal of ground water – submitted – Reg.

Ref:- 1. CAF of M/s G.V. Discovery Centres Private Limited, Turkapally Village, Shamirpet Mandal, Medchal District.
Unique ID No.SML020000925661.
Pre-Scrutiny completed dated:04.05.2021.

2. LR.No.87/GWD/TSiPASS/2016-17, dt:19.05.2021 of the District Ground Water Officer, Ground Water Department, Medchal.

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With reference to the subject and reference cited, it is to submit that, the District Ground Water Officer, Ground Water Department, Medchal has conducted groundwater investigations in the extent of 9105.13 Sq.mts of survey no.1A, of M/s.G.V.Discovery Centres Private Limited, Turkapally Village, Shamirpet Mandal, Medchal District to study the feasibility for extraction of 20 KLD of ground water and submitted the report to the undersigned vide reference 2nd cited.

After scrutiny of the report, the permission is hereby accorded for withdrawal of 3.6 KLD Ground water from one recommended borewell for **drinking purpose only** against the requirement of 30 KLD for the firm subject to the following terms & conditions and NGT Guidelines.

- The firm is permitted to draw the 10 KLD of groundwater from one recommended borewell for **drinking purpose only**, not for industrial purpose.
- The industry should fully treat, recycle and reuse the waste water generated. The industry shall minimize the usage of ground water by adopting proper treatment and reuse practices.
- The industry shall construct two (2) Recharge Pits each with dimensions of 5*5*6 m at proposed area to recharge and improve the groundwater resources and Augmentation of proposed Bore Well in the premises.

- The firm must install digital flow meter (confirming to BIS/IS standards) on pumping well to record the quantity of Ground water extraction daily and data should be submitted to concern District Ground Water Office, Ground Water Department, Medchal regularly without fail.
- The firm must construct Piezometer well/Observation well with a minimum distance of 15m from recommended borewell of same depth of pumping well from which Ground water is extracted and permanent display board should be installed at site giving all details.
- Industry must monitor the water levels and water quality regularly from its established monitoring wells and data should be submitted to Ground Water Department, Government of Telangana and Telangana State Pollution Control Board.
- No excess withdrawal of groundwater from the recommended borewell, any violation in pumping of hours other than the recommended is noticed the borewell shall be seized and closed.
- Officers of Ground Water Department must be allowed to inspect the wells, plant area, and data whenever found necessary by the Department.
- The Government of Telangana or Groundwater Department reserves the right to stop from using of Ground water during emergencies or whenever the plant deviates the terms & conditions

The investigation report is herewith uploaded in to the TSiPASS web portal for necessary further action. As per TSiPASS web portal payment of Rs.14500/- is paid by online, but not yet received to this office. Please arrange to send the investigation charges to the undersigned.

Yours faithfully,


DIRECTOR

Copy to District Ground Water Officer, Ground Water Department, Medchal.

**REPORT ON GROUND WATER INVESTIGATIONS CARRIED OUT IN AND
AROUND AREA OF M/s. G.V.DISCOVERY CENTERS PVT. LTD SITUATED AT
TURKAPALLY (V) & SHAMIRPET (M), MEDCHAL-MALKAJGIRI DISTRICT
UNDER TS-iPASS.**

1. INTRODUCTION:

A common Application No. SML 020000925661 of TS -iPASS Portal has been received from Head Office, Ground Water Department, Hyderabad on 04.05.2021. The proposed Ground Water requirement is 30 KLD. Ground Water Surveys have been carried out in and around the area of M/s. G.V.Discovery Centers pvt. Ltd, Turkapally (V) Shamirpet (M). The firm is having an area of 9105.13 Sq. Mts, in Sy.No.1A, of Turkapally Village of Shamirpet Mandal, Medchal-Malkajgiri District. The Ground water investigations have been carried out on 13.05.2021, by Smt.S.Premalatha, Asst. Hydrogeologist of this office.

2. LOCATION :

The area is located at about 1.5Km East of Turkapally village centre point. The geographical co-ordinates are North Latitude 17°39'50.52" and East Longitude 78° 36'25.64" and area falls in Survey of India Toposheet No.56 K/10/NW. The total extent of the area referred for Groundwater surveys is 9105.13Sq.m and bearing survey number 1A.

3. PHYSIOGRAPHY AND DRAINAGE :

The investigated area exhibits with gentle slope topography towards South-East direction. The elevation is about 572 meters above mean sea level which has been read by GPS. The drainage pattern of the area is dendritic type. It drains from a part of the major basin of Krishna River. It is observed that it falls under non command area.

The area falls in Semi- arid region and the climate in the area is generally medium to light hot. The maximum rain fall is received from South–West monsoon and the annual normal rain fall of Shamirpet Mandal is 552 mm. The actual rain fall received for a period from the year 2010- 11 to 2020-21 (Shamirpet Mandal Rain Gauge station) is as shown below in table-I.

TABLE - I

Year	Normal rain fall (mm)	Actual rain fall received (mm)	% Deviation from the normal
2010-11	552	584.00	5.80
2011-12		331.80	-39.89
2012-13		581.60	5.36
2013-14		608.60	10.25
2014-15		460.60	-16.56
2015-16		314.40	-43.04
2016-17		685.7	24.22
2017-18		887.7	60.82
2018-19		532.3	-3.57
2019-20		647.60	17.32
2020-21		1069.7	93.79
Average		609.45	10.41

It is observed from the above rainfall data the mandal has received excess rainfall for 3 years during the years 2016-17, 2017-18 and 2020-21 normal rain fall for 6 years 2010-11, 2012-13, 2013-14, 2014-15, 2018-19, 2019-20, the deficit rainfall for 2 years 2011-12 & 2015-16.

4. SOIL TYPE :

The area under investigation is covered by red sandy soils with thickness ranging from 0.5 to 1.00m. The percolation and infiltration factor considered to the referred area is 11% which is applicable to the Granitic formation in general.

5. HYDROGEOLOGY :

The area under investigation is underlain by gray granites of Archean age. The area is generally covered with red soils to brown soils followed by weathered and semi weathered rocks with minor fractures. The texture of the formation is medium to Coarse grained in nature. The ground water occurs under water table conditions and as well as semi confined conditions in jointed and fractured zones.

The assessed depth range of the bore wells is 106 to 196 m. The particulars of the wells inventoried around the investigated area are shown in Table-II.

(TABLE-II):

(Existing Bore Wells in & around premises)

Sl. No	Bore well No.	Location of the well	Assessed Depth (m)	Dia (mm)	Assessed Yield (LPH)	Submersed Pump Set Installed	Remarks
1	Bore Well -1	ISSAR Pharmaceuticals pvt.Ltd	180	165	600	3HP	Seasonal Function
2	Bore well-2	ISSAR Pharmaceuticals pvt.Ltd	196	165	700	3HP	Seasonal Function
3	Bore well-3	Hylasco-Biotechnology India Ltd	106	165	3000	3HP	

6. DTW Level Analysis:

Depth to water levels of Thurkapally piezometer has been monitoring every month. The month wise water level data are shown in Table-III.

Table-III:

Sl. No.	Year	Depth to Ground Water Level in meters bgl											
		June	July	August	September	October	November	December	January	February	March	April	May
1	2010-11	11.64	8.39	3.31	0.79	0.80	1.20	1.45	2.30	3.12	4.00	4.80	9.35
2	2011-12	5.80	5.75	7.40	8.50	9.40	10.20	11.70	12.10	13.85	18.55	17.20	18.45
3	2012-13	19.85	20.25	20.15	18.85	11.90	13.35	13.90	14.10	14.75	16.15	17.45	19.25

4	2013-14	20.15	15.95	17.05	17.45	15.70	11.10	11.90	12.45	12.70	12.35	12.95	13.28
5	2014-15	15.85	17.05	18.10	15.65	16.70	16.95	17.65	18.62	19.65	7.00	21.00	21.75
6	2015-16	21.10	20.15	20.02	19.35	18.50	18.88	19.31	20.50	21.15	21.60	22.10	21.61
7	2016-17	22.31	21.35	21.10	14.47	7.18	7.80	8.32	9.47	11.07	12.70	12.96	13.83
8	2017-18	13.20	12.35	13.70	12.35	9.05	8.66	11.05	11.02	14.30	15.40	16.60	16.94
9	2018-19	17.97	15.63	14.18	13.20	13.40	13.89	14.01	14.54	14.97	16.48	16.74	17.13
10	2019-20	17.62	16.39	12.90	12.55	4.65	5.02	4.15	5.30	6.95	7.45	7.81	8.53
11	2020-21	8.13	7.78	6.59	2.15	0.95	1.35	1.76	1.95	2.21	2.31	3.85	

By analysing the Ground Water level data, it is found that the Ground Water level is in rising trend.

7. Ground Water Resource Status:

Ground water resource status has been presented **GEC -12-13** basin wise and village wise.

Name of the Village	Resource in Ha.m	Draft in Ha.m	Balance in Ha.m	% of development	Category
Turkapally	156	37	+119	24	Safe

Name of the basin	Resource in Ha.m	Draft in Ha.m	Balance in Ha.m	% of development	Category
Mdcl_D_47_ Shamirpet-(N) PartMdk	1262.4	876.4	385.6	69.4%	Safe

Basin is in Safe and village is also Safe in GEC 2012-2013.

Ground water resource status has been presented **GEC -16-17** basin wise and village wise.

Name of the Village	Resource in Ha.m	Draft in Ha.m	Balance in Ha.m	% of development	Category
Turkapally	119	55	+64	46	Safe

Name of the basin	Resource in Ha.m	Draft in Ha.m	Balance in Ha.m	% of development	Category
Mdcl_D_47_ Shamirpet-(N) PartMdk	1074	856	218	80%	Semi-Critical

Basin is in Semi-Critical and village is Safe in GEC 2016-17.

8. QUALITY :

For the purpose of quality of groundwater of the area, the quality analysed parameters for nearest piezometer is (located at Thurkapally) are considered. The chemical analysis data of water sample collected from Thurkapally Piezometer is shown below in table –IV & V.

Table –IV Pre-monsoon (May, 2020)

Sl. No.	Parameter	Value
1	pH at 25 °C	7.75
2	Sp cond at 25°C	1273mic.Sie / cm.
3	TDS Calculated	815mg/lit.
4	Co ₃ as CaCo ₃	0 mg/ lit.
5	HCO ₃ as CaCo ₃ is.	320mg/lit
6	CL	200mg/lit.
7	F	1.46 mg/lit
8	NO ₃ as N	18mg/lit
9	So ₄	20mg/lit
10	Na	85mg/lit.
11	K	2mg/lit.
12	Ca	120 mg/lit.
13	mg	44mg/lit.
14	T.H. as CaCo ₃ is	480mg/lit.
15	SAR is.	1.68

The sample is classified as portable.

Table –V Post monsoon (November, 2019)

Sl. No	Parameter	Value
1	pH at 30 °C	7.89
2	Sp cond at 25°C	905mic.Sie / cm.
3	TDS Calculated	579 mg/lit.
4	Co ₃ as CaCo ₃	0 mg/ lit.
5	HCO ₃ as CaCo ₃ is.	290 mg/lit
6	CL	80mg/lit.
7	F	1.41mg/lit
8	NO ₃ as N	36mg/lit
9	So ₄	15mg/lit
10	Na	68 mg/lit.
11	K	3 mg/lit.
12	Ca	64 mg/lit.
13	mg	34mg/lit.
14	T.H. as CaCo ₃ is	300 mg/lit.
15	SAR is.	1.71

The sample is classified as portable.

9.RECOMMENDATIONS :

The area investigated is feasible for ground water development. Hence one Bore Well site is recommended for drilling, details as shown in table VIII & location map enclosed. The assessed yield of proposed bore well is 12 LPM. with 5 hours of pumping 3.6KLD of water is available. Due to field conditions recommended and permit to draw 3.6 KLD of Ground water for drinking water purpose only.

The firm is suggested to construct rain water harvesting pits (03) at North-East, South-East and south-West corners of the site to augment ground water regime for sustained functioning of bore well. The proposed rain water harvesting pit of the size is 4m x 4m x 8m to augment the rain water of 384 Cu.m.

Details of Recommended Borewell Table-VI

S. No	Type of well Recommended with Location	Depth (m)	Dia (m)	Expected Yield in LPM
1	Proposed Borewell / N 17°39' 50.52" E 78°36'25.64"	120	165	12

10.TERMS AND CONDITIONS:

- The Firm is permitted to draw 3.6 KLD of water from recommended Bore well at the rate of 5 hour pumping in a day.
- Rainwater Harvesting Structures must be constructed at suggested location in the premises to augment the rainwater.
- The Govt. of Telangana reserves the right to stop from using of ground water during emergencies or wherever the plant deviates the terms and conditions.
- The party must conduct pump test once in every half-year and preserve the data and also they should not exceed the recommended pumping hours i.e. 1 hours per day to sustain the yield of the wells.
- The party must establish observation wells and they should monitor the water levels once in a month (last week of a month) and quality twice a year (Pre and Post monsoon periods) and record the data for further technical use.
- The party must send half yearly reports on the above studies regularly to the District Ground Water Officer, Ground Water Department, Medchal-Malkajgiri district.
- Officers of the Ground Water Department must be allowed to inspect the wells, plant area, and data whenever found necessary by the Department.
- TSWALTA Authority / Government reserve the right to take over the wells during emergency.
- As per TS WALTA norms the recommended bore well may be registered in the concerned Mandal authority.

ENCLOSURES:

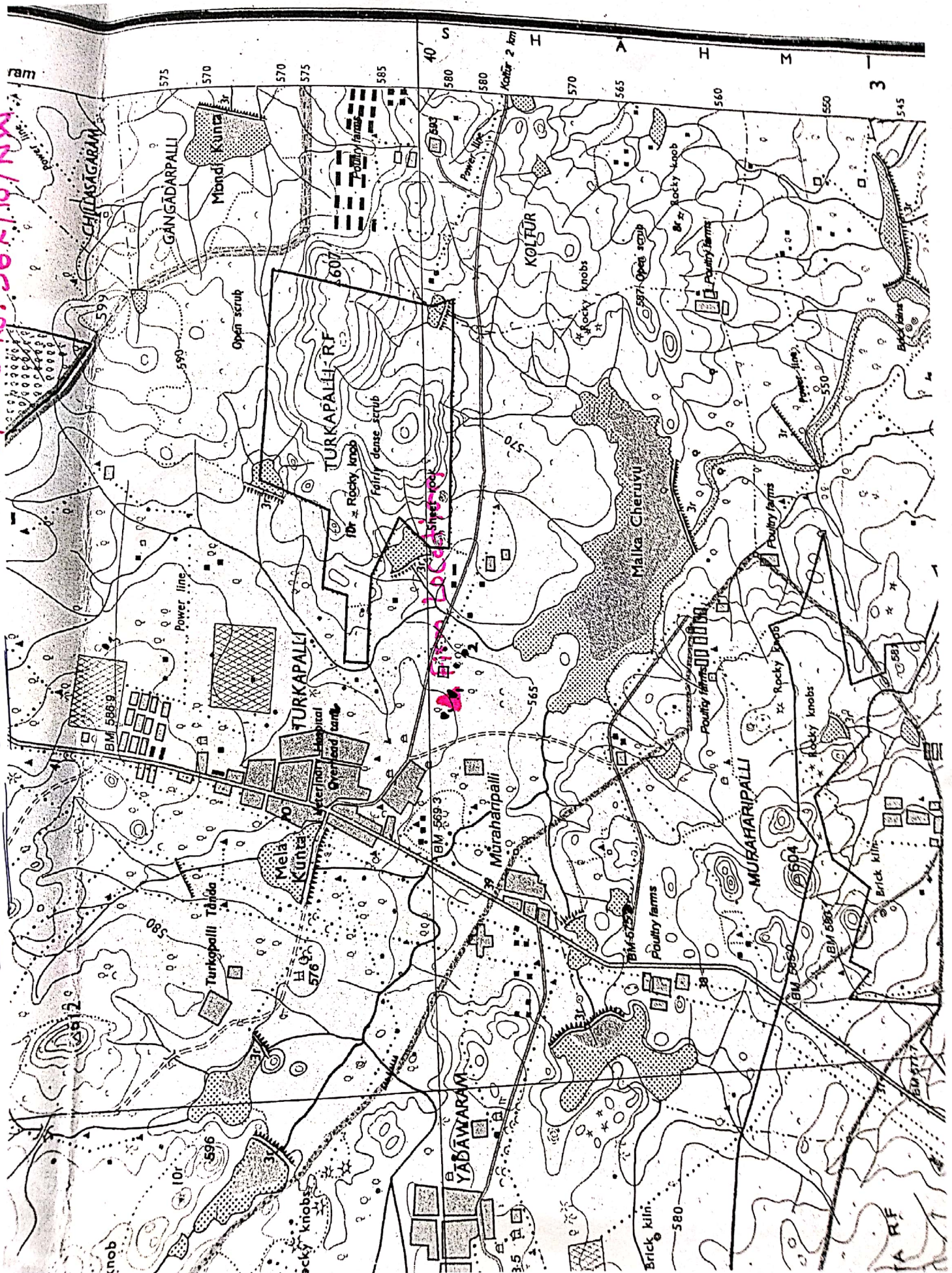
- I. Topo Sheet Extract
- II. Site plan
- III. Hydrograph

C. S. S.
19/05/21
Assistant Hydrogeologist

K. Revathi 19/05/2021
District Ground Water Officer
Ground Water Department
Medchal – Malkajgiri District.

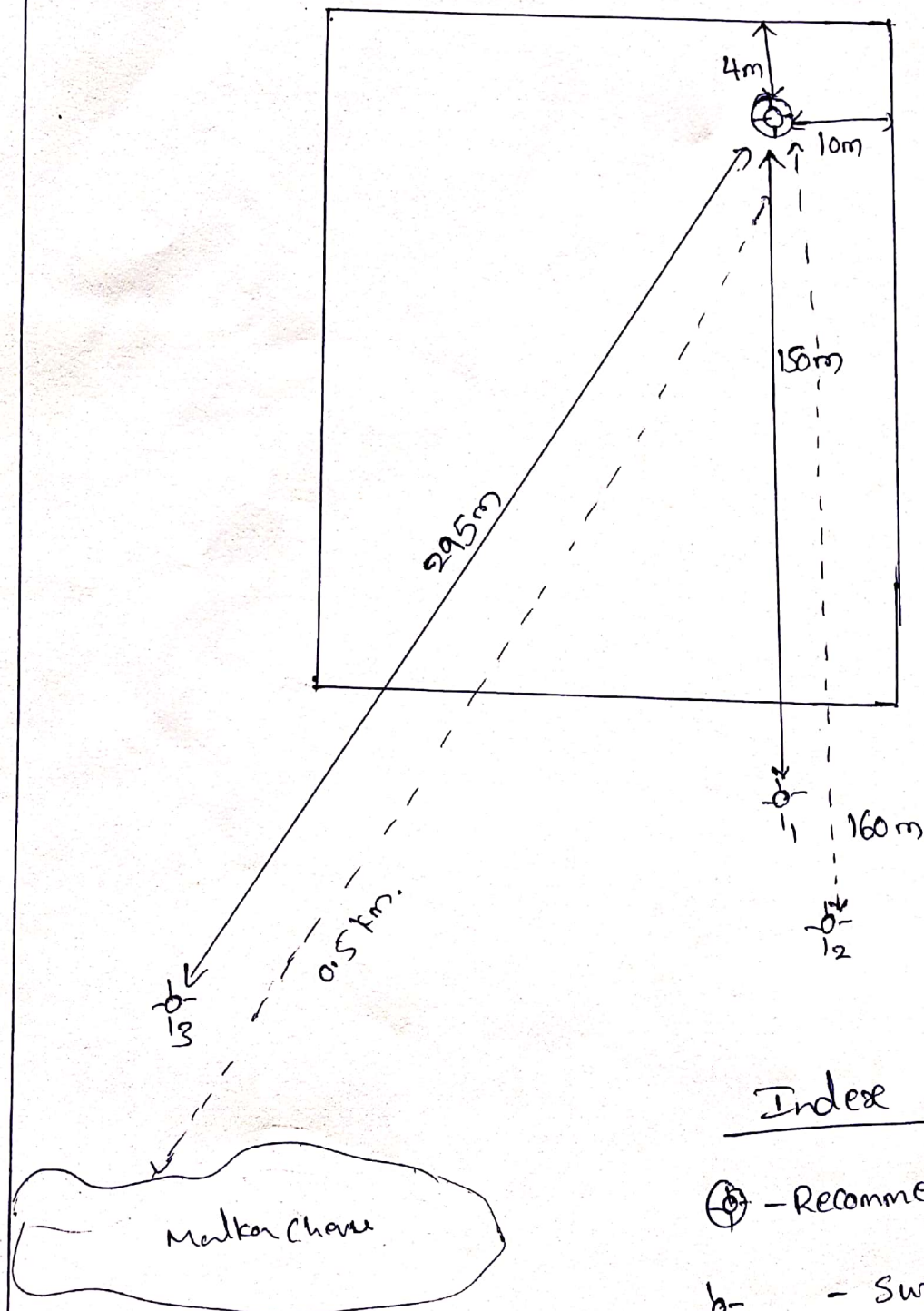
I. Toposheet Extract.

Toposheet No: 56 K/10/NW



II. Site Plan

M/s. C.V. Discovery Centers Private Limited.



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⊗ - Recommended Borewell

b-_{1,2,3} - Surrounding Existing wells inventoried.

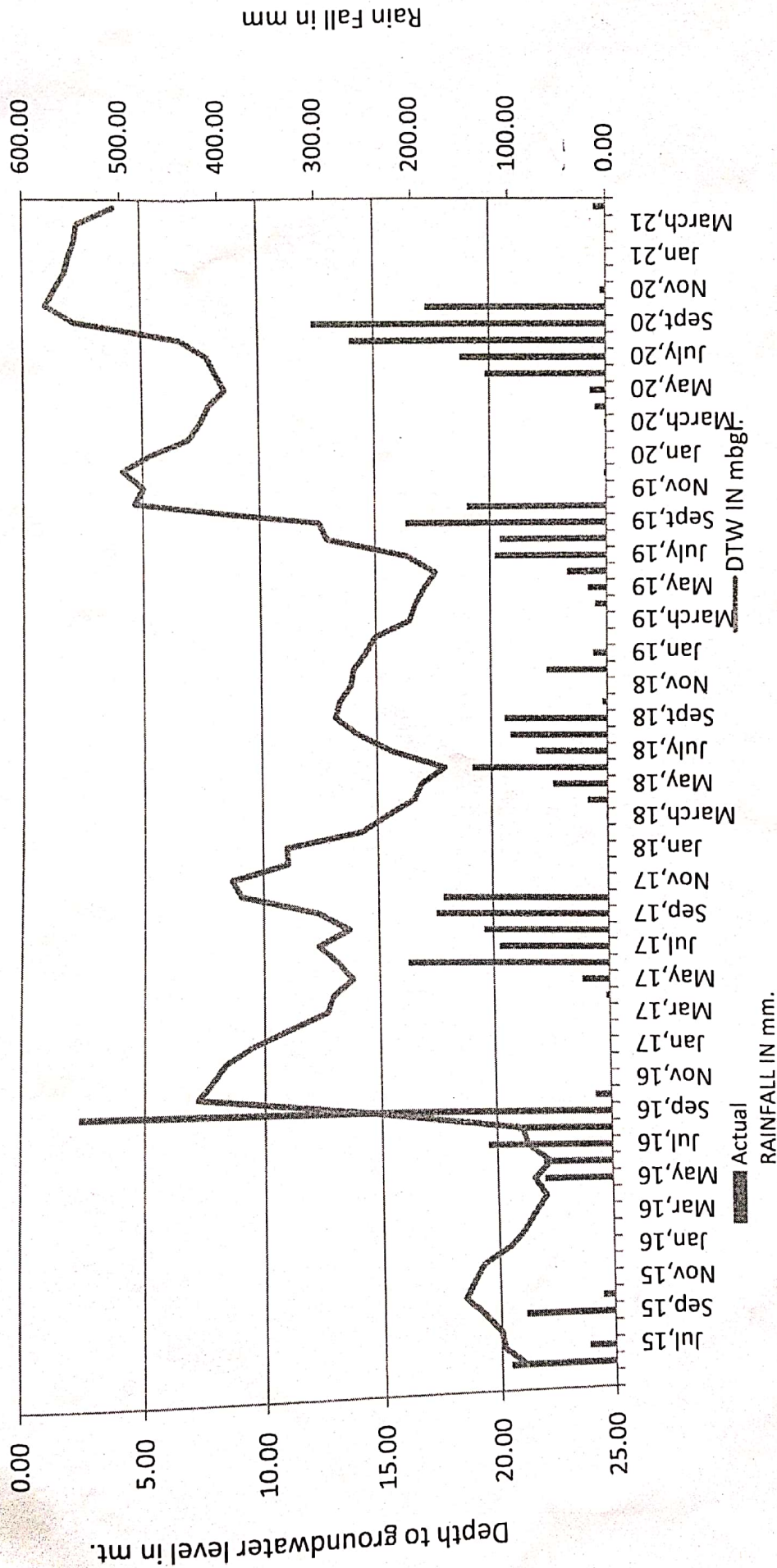
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Assistant Hydrogeologist
Ground Water Department
Medchal District

K. Revathi
7/10/21
District Ground Water Officer,
Ground Water Department,
Medchal District

III. Hydrograph

COMPOSITE HYDROGRAPH OF SHAMIRPET MANDAL
AVERAGE DATA FROM JUNE 2015 TO APRIL 2021



Assistant Hydrogeologist
Ground Water Department
Medchal District

K. Revathi 19/05/2021
District Ground Water Officer,
Ground Water Department,
Medchal District

K. Revathi 19/05/2021
District Ground Water Officer