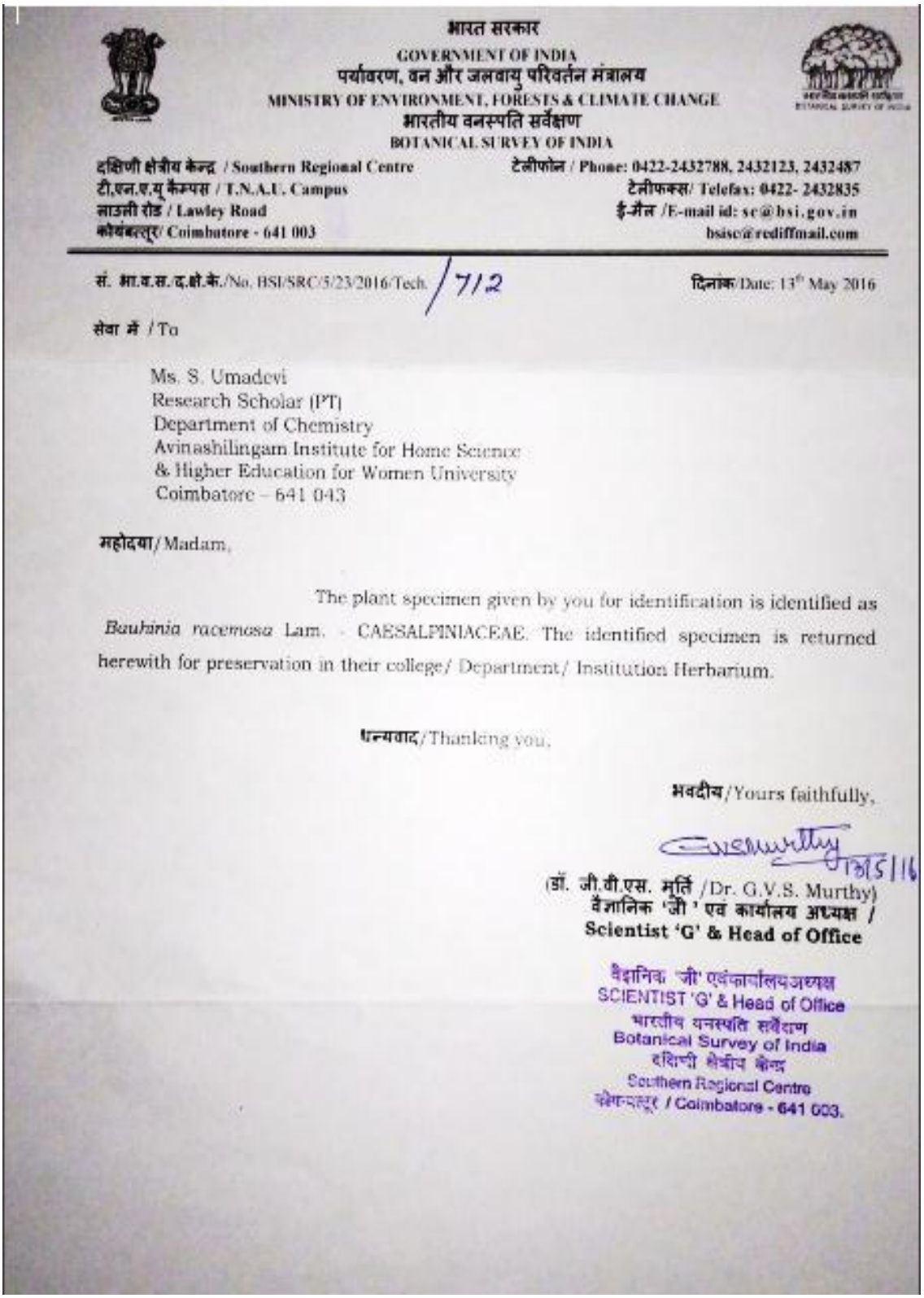
Appendix I



भारत सरकार
GOVERNMENT OF INDIA
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE
भारतीय वनस्पति सर्वेक्षण
BOTANICAL SURVEY OF INDIA

दक्षिणी क्षेत्रीय केन्द्र / Southern Regional Centre
टी.एन.ए.यू कैम्पस / T.N.A.U. Campus
लाउली रोड / Lawley Road
कोयंबत्तूर/ Coimbatore - 641 003

टेलीफोन / Phone: 0422-2432788, 2432123, 2432487
टेलीफक्स/ Telefax: 0422- 2432835
ई-मैल /E-mail id: sc@bsi.gov.in
bsisc@rediffmail.com

सं. भा.व.स.द.क्षे.के./No. BSI/SRC/5/23/2016/Tech. /712

दिनांक/Date: 13th May 2016

सेवा में / To

Ms. S. Umadevi
Research Scholar (PT)
Department of Chemistry
Avinashilingam Institute for Home Science
& Higher Education for Women University
Coimbatore – 641 043

महोदया/Madam,

The plant specimen given by you for identification is identified as *Bauhinia racemosa* Lam. - CAESALPINIACEAE. The identified specimen is returned herewith for preservation in their college/ Department/ Institution Herbarium.

धन्यवाद/Thanking you,

भवदीय/Yours faithfully,

13/5/16

(डॉ. जी.वी.एस. मूर्ति /Dr. G.V.S. Murthy)
वैज्ञानिक 'जी' एवं कार्यालय अध्यक्ष /
Scientist 'G' & Head of Office

वैज्ञानिक 'जी' एवंकार्यालयअध्यक्ष
SCIENTIST 'G' & Head of Office
भारतीय वनस्पति सर्वेक्षण
Botanical Survey of India
दक्षिणी क्षेत्रीय केन्द्र
Southern Regional Centre
कोयम्बत्तूर / Coimbatore - 641 003.

Appendix II

Quantachrome® ASiQwin™- Automated Gas Sorption Data
Acquisition and Reduction
© 1994-2012, Quantachrome Instruments
version 3.0

Analysis			Report		
Operator:	02	Date:2016/12/30	Operator: venkatesha		Date:2017-01-03
Sample ID:	02	Filename:	S3.DAT		
Sample Desc:		Comment:			
Sample weight:	0.037 g	Sample Volume:	0.0722656 cc	Sample Density:	0.512 g/cc
Outgas Time:	1.0 hrs	OutgasTemp:	100.0 C		
Analysis gas:	N2	Bath Temp:	77.4 K		
Press. Tolerance:	0.100/0.100 (ads/des)	Equil time:	0/0 sec (ads/des)	Equil timeout:	0/0 sec (ads/des)
Analysis Time:	76.3 min	End of run:	2016/12/30 16:39:57	Instrument:	Nova Station 0
Cell ID:	1				

Data Reduction Parameters

Adsorbate	Nitrogen	Temperature	77.350K		
	Molec. Wt.: 28.013	Cross Section:	16.200 Å²	Liquid Density:	0.808 g/cc

Relative Pressure P/Po	Volume @ STP cc/g	1 / [W((Po/P) - 1)]
3.22988e-02	75.6792	3.5287e-01
4.82896e-02	78.5684	5.1671e-01
7.11424e-02	81.4470	7.5241e-01
9.63393e-02	83.8312	1.0175e+00
1.22055e-01	85.7948	1.2965e+00
1.47514e-01	87.4701	1.5828e+00
1.72348e-01	88.9144	1.8739e+00
1.97955e-01	90.3429	2.1859e+00
2.22130e-01	91.6235	2.4937e+00
2.47118e-01	92.8882	2.8273e+00
2.72633e-01	94.1594	3.1850e+00
2.97241e-01	95.3262	3.5501e+00
3.20953e-01	96.4738	3.9200e+00

BET summary

Slope =	12.208
Intercept =	-1.453e-01
Correlation coefficient, r =	0.997808
C constant=	-82.998
Surface Area =	288.700 m²/g

Appendix III

Quantachrome® ASiQwin™- Automated Gas Sorption Data
Acquisition and Reduction
© 1994-2012, Quantachrome Instruments
version 3.0

Analysis			Report		
Operator:	Venkatesha	Date:2017/02/25	Operator: venkatesha		Date:2017-02-25
Sample ID:	PAC	Filename:	PAC.DAT		
Sample Desc:		Comment:	Deagssed @ 200 C for 12 hours		
Sample weight:	0.018 g	Sample Volume:	0.102273 cc	Sample Density:	0.176 g/cc
Outgas Time:	1.0 hrs	OutgasTemp:	100.0 C		
Analysis gas:	Nitrogen	Bath Temp:	77.4 K		
Press. Tolerance:	0.100/0.100 (ads/des)	Equil time:	0/0 sec (ads/des)	Equil timeout:	0/0 sec (ads/des)
Analysis Time:	100.3 min	End of run:	2017/02/25 15:45:06	Instrument:	Nova Station 0
Cell ID:	1				

Data Reduction Parameters

Adsorbate	Nitrogen	Temperature	77.350K		
	Molec. Wt.: 28.013	Cross Section:	16.200 Å²	Liquid Density:	0.808 g/cc

Relative Pressure P/Po	Volume @ STP cc/g	1 / [W((Po/P) - 1)]
2.16769e-02	305.6248	5.8007e-02
4.44524e-02	335.0340	1.1110e-01
7.22487e-02	360.4587	1.7286e-01
1.00873e-01	382.2283	2.3484e-01
1.17328e-01	393.0650	2.7057e-01
1.50307e-01	413.0936	3.4263e-01
1.67838e-01	422.6788	3.8179e-01
2.01335e-01	440.0453	4.5836e-01
2.18556e-01	447.9517	4.9956e-01
2.40504e-01	457.2600	5.5409e-01
2.77328e-01	472.2688	6.5015e-01
2.94387e-01	478.3570	6.9783e-01
3.16791e-01	485.7877	7.6370e-01

BET summary

Slope =	2.350
Intercept =	-2.290e-03
Correlation coefficient, r =	0.998964
C constant=	-1024.949
Surface Area =	1083.440 m²/g

Appendix IV

Quantachrome® ASiQwin™- Automated Gas Sorption Data
Acquisition and Reduction
© 1994-2012, Quantachrome Instruments
version 3.0

Analysis Report
Operator: Venkatesha Date:2017/02/25 Operator: venkatesha Date:2017-02-25
Sample ID: CAC Filename: CAC.DAT
Sample Desc: Comment: Deagssed @ 200 C for 12 hours
Sample weight: 0.012 g Sample Volume: 0.099174 cc Sample Density:0.121 g/cc
Outgas Time: 1.0 hrs OutgasTemp: 100.0 C
Analysis gas: Nitrogen Bath Temp: 77.4 K
Press. Tolerance:0.100/0.100 (ads/des)Equil time: 0/0 sec (ads/des) Equil timeout: 0/0 sec (ads/des)
Analysis Time: 76.2 min End of run: 2017/02/25 13:49:16 Instrument: Nova Station 0
Cell ID: 1

Data Reduction Parameters
Adsorbate Nitrogen Temperature 77.350K

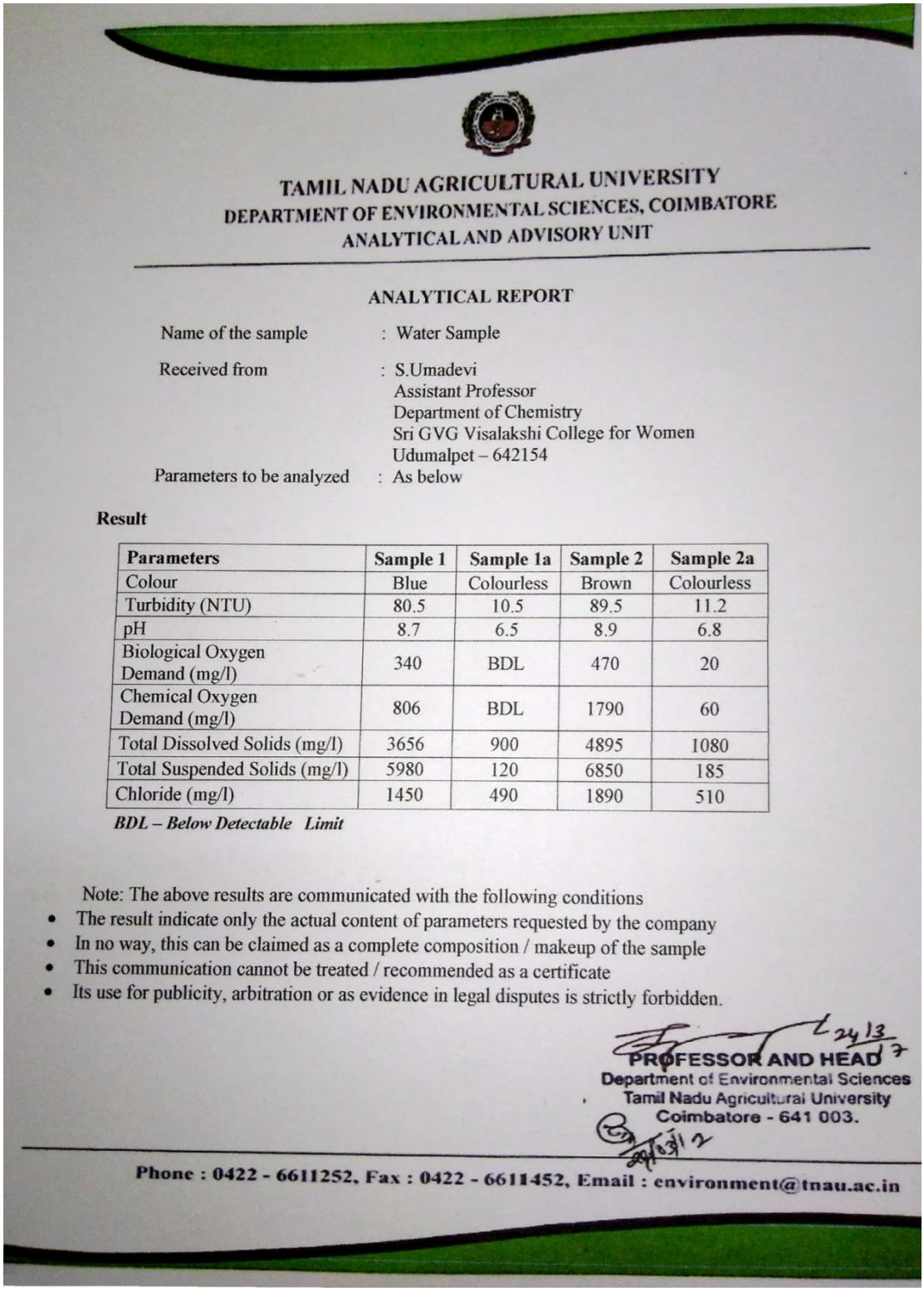
Molec. Wt.: 28.013 Cross Section: 16.200 Å² Liquid Density: 0.808 g/cc

Relative Pressure P/Po	Volume @ STP cc/g	1 / [W((Po/P) - 1)]
3.45655e-02	231.6378	1.2367e-01
5.00844e-02	238.7419	1.7670e-01
7.25736e-02	246.0277	2.5449e-01
9.77937e-02	252.0799	3.4405e-01
1.23192e-01	256.8600	4.3765e-01
1.48907e-01	260.8894	5.3658e-01
1.73841e-01	264.3542	6.3687e-01
1.98759e-01	267.5965	7.4171e-01
2.24119e-01	270.6259	8.5401e-01
2.48689e-01	273.3610	9.6884e-01
2.74110e-01	276.1226	1.0942e+00
2.98665e-01	278.6969	1.2226e+00
3.22817e-01	281.1699	1.3565e+00

BET summary
Slope = 4.219
Intercept = -6.320e-02
Correlation coefficient, r = 0.997172
C constant= -65.759

Surface Area = 1137.962 m²/g

Appendix V



TAMIL NADU AGRICULTURAL UNIVERSITY
DEPARTMENT OF ENVIRONMENTAL SCIENCES, COIMBATORE
ANALYTICAL AND ADVISORY UNIT

ANALYTICAL REPORT

Name of the sample : Water Sample

Received from : S.Umadevi
Assistant Professor
Department of Chemistry
Sri GVG Visalakshi College for Women
Udumalpet – 642154

Parameters to be analyzed : As below

Result

Parameters	Sample 1	Sample 1a	Sample 2	Sample 2a
Colour	Blue	Colourless	Brown	Colourless
Turbidity (NTU)	80.5	10.5	89.5	11.2
pH	8.7	6.5	8.9	6.8
Biological Oxygen Demand (mg/l)	340	BDL	470	20
Chemical Oxygen Demand (mg/l)	806	BDL	1790	60
Total Dissolved Solids (mg/l)	3656	900	4895	1080
Total Suspended Solids (mg/l)	5980	120	6850	185
Chloride (mg/l)	1450	490	1890	510

BDL – Below Detectable Limit

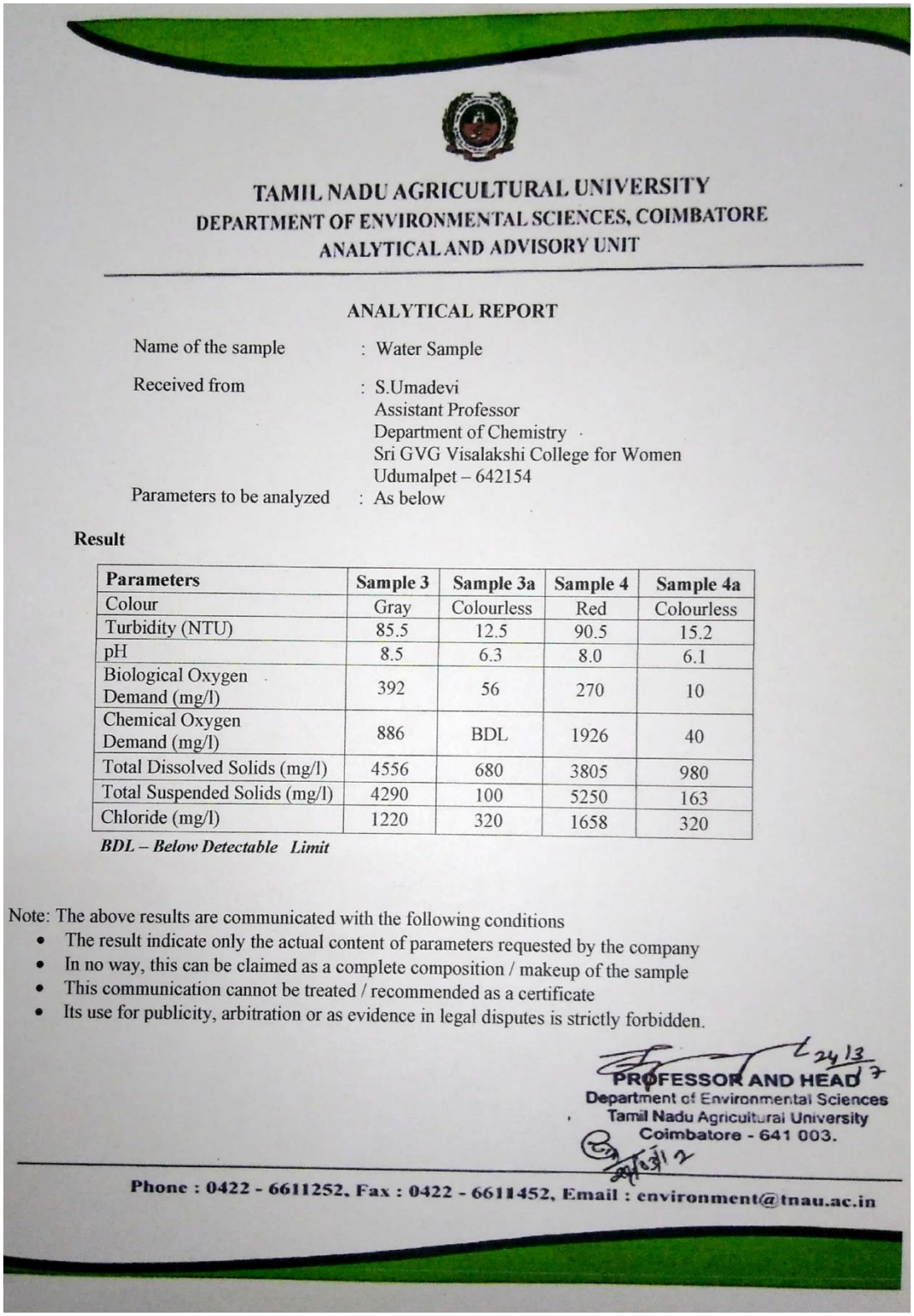
Note: The above results are communicated with the following conditions

- The result indicate only the actual content of parameters requested by the company
- In no way, this can be claimed as a complete composition / makeup of the sample
- This communication cannot be treated / recommended as a certificate
- Its use for publicity, arbitration or as evidence in legal disputes is strictly forbidden.

PROFESSOR AND HEAD
Department of Environmental Sciences
Tamil Nadu Agricultural University
Coimbatore - 641 003.

Phone : 0422 - 6611252, Fax : 0422 - 6611452, Email : environment@tnau.ac.in

Appendix VI



TAMIL NADU AGRICULTURAL UNIVERSITY
DEPARTMENT OF ENVIRONMENTAL SCIENCES, COIMBATORE
ANALYTICAL AND ADVISORY UNIT

ANALYTICAL REPORT

Name of the sample : Water Sample

Received from : S.Umadevi
Assistant Professor
Department of Chemistry
Sri GVG Visalakshi College for Women
Udumalpet – 642154

Parameters to be analyzed : As below

Result

Parameters	Sample 3	Sample 3a	Sample 4	Sample 4a
Colour	Gray	Colourless	Red	Colourless
Turbidity (NTU)	85.5	12.5	90.5	15.2
pH	8.5	6.3	8.0	6.1
Biological Oxygen Demand (mg/l)	392	56	270	10
Chemical Oxygen Demand (mg/l)	886	BDL	1926	40
Total Dissolved Solids (mg/l)	4556	680	3805	980
Total Suspended Solids (mg/l)	4290	100	5250	163
Chloride (mg/l)	1220	320	1658	320

BDL – Below Detectable Limit

Note: The above results are communicated with the following conditions

- The result indicate only the actual content of parameters requested by the company
- In no way, this can be claimed as a complete composition / makeup of the sample
- This communication cannot be treated / recommended as a certificate
- Its use for publicity, arbitration or as evidence in legal disputes is strictly forbidden.

24/3

PROFESSOR AND HEAD
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Tamil Nadu Agricultural University
Coimbatore - 641 003.

Phone : 0422 - 6611252, Fax : 0422 - 6611452, Email : environment@tnau.ac.in

Papers Published in International Journals

1. Umadevi, S. and Renugadevi,N., **2015**, ' Removal of Crystal Violet dye from aqueous solution using *Bauhinia racemosa* seed pod carbon, **Pollution Research**, **34**(4): 693 - 699
2. Renugadevi, N. and Umadevi, S., **2015**, Kinetic and Thermodynamic studies of adsorption of Crystal Violet dye using a low cost activated carbon prepared from *Bauhinia racemosa* seed , **Indian Journal of Environmental Protection**, **35**(10):840 – 846
3. Umadevi, S. and Renugadevi,N., **2016**, ' Kinetic studies of Acid Blue 110 dye removal using activated carbon prepared from ripened *Bauhinia racemosa* seed pods, **Journal of Ultra Chemistry**, **12**(1):1-8
4. Umadevi, S. and Renugadevi,N., **2016**, ' Kinetic modeling of adsorption of Reactive Blue 5 dye using a low cost activated carbon obtained from *Bauhinia racemosa* seed pods**, International journal of innovative research and development, 5**(7): 126 – 130
5. Umadevi, S. and Renugadevi,N., **2017**, 'Adsorptive removal of anionic dye from aqueous solution by *Bauhinia racemosa* seed pod carbon' **Pollution research**, **36**(1):111 – 115
6. Umadevi, S. and Renugadevi,N., **2018**, Kinetics of Remazol Black B adsorption using a low cost activated carbon prepared from Fruit pods of *Bauhinia Racemosa*, **Asian Journal of Biochemical and Pharmaceutical Research,** 8(3), 2231-2560