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NOTIFICATION

No. B. 19011/51/94- IND, the 28th September, 2016. In supercession of this Department's Notification of even No. dt.3.8.2000, the Governor of Mizoram is pleased to fix the following schedule of charges for work done by Directorate of Geology & Mineral Resources as per enclosures. The charges are as per prevailing rate of Geological Survey of India(GSI).

Any Department or private party intending to avail the service of Geology & Mineral Resources for works specified in the enclosures may approach the Director, Geology & Mineral Resources.

This issues with the approval of Finance Department vide their I.D.No.FIN(EC)461/2016-IND dt.7.9.16.

Zothan Khuma,
Commissioner & Secretary to the Govt. of Mizoram,
Commerce & Industries Department.

SUMMARISED COMPUTATION SHEET OF SCHEDULE OF CHARGES - 2014 OF VARIOUS SERVICES IN GSI

Serial No.	Nature of work/activity	Basic cost (in Rs.)	Overhead cost at SU/Opn. level (in Rs.)	Overhead cost at Regional level (in Rs.)	Overhead cost at CHQ level (in Rs.)	Total cost (in Rs.)	To be rounded off
1	2	3	4	5	6	7	8
1.	MAPPING						
A.	SYSTEMATIC GEOLOGICAL MAPPING ON 1:50,000 SCALE (EXCLUDING ANDAMAN & NICOBAR ISLANDS)						
i)	Hard rock area Peninsular area) - Unit 50 sq. km.	160819	86758	27888	27521	302986	303000
ii)	Deccan Trap/ Quaternary area - Unit 50 sq.km.	113061	60994	19606	19348	213009	213000
iii)	Himalayan and other difficult terrain - Unit 50 sq. km.	373100	201279	64699	63848	702926	702900

B. GEOLOGICAL MAPPING ON 1:25,000 SCALE (EXCLUDING ANDAMAN & NICOBAR ISLANDS)						
i) In Peninsular India (Unit 50 sq. km.)	321638	173516	55775	55041	605970	606000
ii) In Himalayan and other difficult terrain - Unit 50 sq. km.	504189	271999	87431	86281	949900	949900
C. GEOLOGICAL MAPPING ON 1:25,000 SCALE IN ANDAMAN & NICOBAR ISLANDS:						
i) With inter island transport charges - Unit 50 sq. km	973067	268372	86265	85131	1412835	1412800
ii) Without inter island transport charges - Unit 50 sq. km.	873067	268372	86265	85131	1312835	1312800
D. GEOLOGICAL MAPPING WITH THE AID OF PG & RS METHODS *						
a. Aerial photo interpretation with limited field check - on 1:50,000/1:25,000 scale:						
i) Peninsular India/ Hard rock area - 100 sq. km.	47803	---	15099	14896	77798	77800
ii) Himalayan and other difficult terrain-100 sq. km.	74244	---	21570	21280	117094	117100
iii) River basin areas/semi-arid plains/coastal belts-100 sq. km.	47803	---	15099	14896	77798	77800
b. Imagery interpretation study:						
i) on 1:1 mile/1:250,000 scale (Hard prints, full scene/ quadrangle scene) - 100 sq. km.	44829	---	12942	12768	70539	70500
ii) on 1:50,000 scale (Hard prints, Geocoded; one toposheet) - 100 sq. km.	49003	---	15099	14896	78998	79000
c. PAN (Full scene/subscene/G.Point scene)	52623	---	15099	14896	82618	82600
d. (i) Digital data products (full scene/subscene/quadrangle scene/G.Point scene)- 100 sq. km.	48043	---	15099	14896	78038	78000
(ii) PAN digital data products (Full scene/subscene/G .Point scene) - 100 sq. km.	55803	---	15099	14896	85798	85800
N.B. The travelling expenses of survey team from headquarters to working spot and back to be charged extra. * Classification, nature and category of area is sole discretion of GSI (the HOD of the Region concerned)						
E. Geochemical Mapping; (excluding Andaman & Nicobar Islands):						
Geochemical Mapping on 1:50000 Scale (excluding Andaman & Nicobar Islands) Unit-50 sq km.	138196	75669	24323	24003	262191	262200
N.B.: Actual fare for the geological/geophysical & survey party by the entitled class from the main station, to the work spot and back to be provided by indenting party for all the investigations						
F. Geophysical Mapping (excluding Andaman & Nicobar Islands):						
Geophysical Mapping (in 1:50,000) (Gravity & Magnetic surveys). Charges for 100 sq. km. area with 40 stations, depending upon the condition of terrain.	872115	171000	64699	63848	1171662	1171700

N.B.: Actual fare for the geological/geophysical & survey party by the entitled class from the main station, to the work spot and back to be provided for all the investigations

II. SURVEY WORK

Serial No.	Nature of work/activity	Basic cost (in Rs.)	Overhead cost at SU/Opn. level (in Rs.)	Overhead cost at Regional level (in Rs.)	Overhead cost at CHQ level (in Rs.)	Total cost (in Rs.)	To be rounded off
1	2	3	4	5	6	7	8
	Survey work (charges per day) per Survey party	9914	6709	2157	2128	20908	20900

N.B.: Actual fare for the survey party by the entitled class to the survey spot and back and camping arrangements as necessary are to be provided

III MINERAL SEARCH AND EVALUATIONS

A. MINERAL INVESTIGATION IN ALL TERRAIN (EXCLUDING ANDAMAN & NICOBAR ISLANDS)

(Charges per day) -per party consisting of two geologists

Detailed geological studies for the evaluation of economic mineral/rock deposit (detailed geochemical studies related to mineral survey will be charged separately as per Schedule No. VII-J)	16826	6709	2157	2128	27820	27800
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B. MINERAL INVESTIGATION IN ANDAMAN & NICOBAR ISLANDS (CHARGES PER DAY):

In A & N Islands (without transport charges from Mainland to Port Blair)	20210	6709	2157	2128	31204	31200
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C. GEOLOGICAL LOGGING OF BOREHOLES

Charges per metre	267	224	72	71	634	600
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(Actual fare for the geological party by the entitled class from the main station to the work spot and back are to be provided by the sponsoring party for the investigation).

IV. GEOPHYSICAL SURVEYS

GEOPHYSICAL SURVEYS (COST OF DEPLOYMENT PER MONTH) PER GEOPHYSICS PARTY CONSISTING OF A MINIMUM OF TWO GEOPHYSICISTS

Serial No.	Nature of work/activity	Basic cost (in Rs.)	Overhead cost at SU/Opn. level (in Rs.)	Overhead cost at Regional level (in Rs.)	Overhead cost at CHQ level (in Rs.)	Total cost (in Rs.)	To be rounded off
1.	Deep Resistivity method (Four soundings with AB/2 = 3-10 km)	854059 (4 soundings)	171000	64699	63848	1153606	1153600
2.	Gravity method (0.5 -200 sq. km. area depending on the objective)	855726 (200-250 station)	171000	64699	63848	1155273	1155300
3.	Microgravity Surveys (10 lkm with 20m station interval & 5 km with 10 m interval)	841559 (5-10 lkm)	171000	64699	63848	1141106	1141100
4.	I.P.-cum-resistivity, S.P., magnetic (8 -10 line km.)	863781 (8-10 Lkm)	171000	64699	63848	1163328	1163300
5.	Magnetic (10-30 line km.)	382223	171000	64699	63848	681770	681800

6. Micro earthquake Survey (8 seismic station network)	872029 (8 Stations network)	171000	64699	63848	1171576	1171600
7. Misa-La-Masse (8 - 25 line km.)	701112 (8-25 Lkm)	171000	64699	63848	1000659	1000700
8. Shallow Refraction (Hammer seismic) surveys (10-12 line Km both direct and reverse method)	940170 (10-12 L km)	171000	64699	63848	1239717	1239700
9. Electrical resistivity (20 - 50 soundings)	766559 (20-50 soundings)	171000	64699	63848	1066106	1066100
10. Self Potential & magnetic (8 -20 line km.)	751891 (8-20 L km)	171000	64699	63848	1051438	1051400
11. Self Potential (8 - 20 line km.)	750502 (8-20 L km)	171000	64699	63848	1050049	1050000
12. S.P. & shallow electrical resistivity (10-20 line km.)	758002 (10-20 L km)	171000	64699	63848	1057549	1057500
13. LP. (Dipole-Dipole) (10 -20 line km.)	775919 (10-20 Lkm)	171000	64699	63848	1075466	1075500
14. Shallow Hole Temperature (50 holes)	374833	171000	64699	63848	674380	674400
15. Bore hole geophysical Logging (Five boreholes of 350m each)	606815	171000	64699	63848	906362	906400
16. Magneto-Telluric Surveys (6 stations per month)	679224	171000	64699	63848	978771	978800
17. Seismic site response survey (Target : 150 stations)	829752	171000	64699	63848	1129299	1129300
18. DGPS Survey for crustal deformation (160 km traverse/8stations)	859946	171000	64699	63848	1159493	1159500

V. DRILLING

A. DIAMOND CORE DRILLING (CHARGES PER METRE)

Type of strata	Depth range (in metre)	Basic cost (in Rs.)	Overhead cost at Op/Directorate (in Rs.)	Overhead cost at CHQ (in Rs.)	(Total cost chargeable (in Rs.))	To be rounded off
I.a	Soft 0-300	4982	420	107	5509	5500
I.b	Soft 301-600	7027	573	146	7746	7700
I.c	Soft 601-900	10576	788	200	11564	11600
2.a	Medium Hard 0-300	6340	525	134	6999	7000
2.b	MediumHard 301-600	10047	788	200	11035	11000
2.c	Medium Hard 601-900	14444	1050	267	15761	15800
3.a	Hard 0-300	9962	788	200	10950	11000
3.b	Hard 301-600	13563	1050	267	14880	14900
4.a	Very Hard 0-300	16598	1260	321	18179	18200
4.b	Very Hard 301-600	21637	1575	401	23613	23600

B. AUGER DRILLING (CHARGES PER METRE)

4.c	AUGER DRILLING (Soft Strata) 0-150	2926	350	89	3365	3400
4. d	SPT DRILLING (Soft Strata) 0-50	5274	700	178	6152	6200

N. B. Transport charges for transporting drilling equipment from HQ to the work spot @ Rs. 28.00 per km in Peninsular terrain and Rs.40.00 per km. in Himalayan terrain are to be charged extra.

VI. GEOTECHNICAL STUDIES

Nature of work/activity	Charges per day of Geologist man day for Geotechnical Investigation (without transport and without surveyor)/Basic cost (in Rs.)	Overhead cost at Regional level (in Rs.)	Total cost (in Rs.)	To be off to nearest (in Rs.)
Detailed geo-technical investigation without transport and without Surveyor	4,839	2,157	6,996	7,000
Survey work without geological input (charges per day) per one Surveyor	2,840	2157	4,997	5,000

- Note:
- i) Actual fare for the geological survey party by the entitled class from the office to the work spot and back will be charged extra
 - ii) Project authorities need to provide logistic support to carry out field studies
 - iii) The charges include for study, assessment and preparation of map, submission of report in soft copy plus one hard copy
 - iv) Exclusive collection of rock/soil sample from field for testing in lab, if needed, to be charged separately
 - v) The required number of survey helpers is also to be provided in addition to survey work charges.

VII. LABORATORY STUDIES

Nature of work/activity		Basic Cost (in Rs.)	Overhead cost (in Rs.)	Total cost chargeable (in Rs.)	To be rounded off to nearest 100/1000
1	2	3	4	5	6
A.	PALAEONTOLOGY LABORATORY CHARGES FOR ANALYSES BY SEM WITH EDX MICRO ANALYSER Charge for SEM-EDX per hour (with 6 hours per day target)	1761	355	2116	2100
B.	PETROLOGY LABORATORY CHARGES FOR PETROLOGICAL STUDIES (per sample):				
1.	Preparation of standard thin section of rock	582	45	627	600
2.	Preparation of polished thin section of rock/wafer	750	45	795	800
3.	Preparation of unmounted polished section (8cmx5cm) of rock	584	45	629	600
4.	Complete petrographic/mineragraphic report of rock sample	2325	45	2370	2400
5.	Separation of mineral constituents of rocks by isodynamic separator	2583	45	2628	2600
6.	Heavy mineral separation by liquid	1700	45	1745	1700
7.	Digital photomicrograph of thin polished section	164	45	209	200
8.	Modal analysis of thin section	2660	45	2705	2700
9.	Fluid inclusion studies/analysis	8932	45	8977	9000
10.	Glass sample preparation	8909	45	8954	9000
11.	Platinum Capsule preparation (1 no.)	638	45	683	700
12.	Hydrothermal experiment in hydrothermal apparatus (extra cost per additional day Rs. 2583/-)	15866	45	15911	15900
13.	Rock powdering (~100gm)	1736	45	1781	1800
C.	Geostandards of Rocks & Sediments (Certified reference materials/standard reference materials)- Cost of one Geostandards	5614	1277	6891	6900
D.	E.P.M.A. LABORATORY EPMA studies per hour	5728	355	6083	6100
E.	GEM TESTING & IDENTIFICATION (GEMOLOGY)				
(i)	Complete testing and identification of a loose gemstone	480	128	608	600
(ii)	Complete testing of diamond (above 28 cents), precious stones like natural ruby, sapphire, emerald & others	600	128	728	700

(iii) Cost per OTS testing and identification of loose gem stone :	960	128	1088	1100
(iv) Cost per OTS testing and identification of costly gems like diamond, emerald, natural ruby, sapphire etc :	1200	128	1328	1300
F. RAMAN SPECTROSCOPE STUDIES : Cost per hour (considering 6 hours per day as running time of the instrument)	1712	355	2067	2100
G. MINERAL PHYSICS LABORATORY CHARGES FOR MINERALOGICAL STUDIES :				
1. X-ray Diffraction studies :				
a. Identification of common minerals in random method	2155	240	2395	2400
b. Identification of complex minerals/complex clay minerals/ unknown mineral assemblage/uranium minerals	3233	240	3473	3500
c. Samples (Clay) analyzed in oriented method	10346	240	10586	10600
2. TG-DTA Studies :				
TG-DTA Studies (Thermal Gravimetric Differential Thermal Analysis)	3083	240	3323	3300
H. GEOCHRONOLOGY LABORATORY CHARGES FOR GEOCHRONOLOGICAL STUDIES : Samples to be collected as per specific requirement and supplied at the Geochronology Laboratory by the indenting agency.				
1. Strontium-isotopic analysis per sample	19376	373	19749	19700
2. Sulphur/carbon isotopic analysis by Mass Spectrometer per sample	17693	373	18066	18100
3. Carbon and Oxygen isotopic analysis by Mass Spectrometer per sample	17068	373	17441	17400
4. Whole rock analysis by XRF	3112	373	3485	3500
5. C14 Isotope by LSC	19308	373	19681	19700
6. Dating of samples by Optically stimulated Luminescence (OSL) using quartz	44017	5804	49821	49800
7. Isotopic analysis of one sample by LA-MC-ICPMS	6000	128	6128	6100
I. GEOTECHNICAL LABORATORY CHARGES FOR GEOTECHNICAL TESTS				
i. SOIL TESTING (per sample) :				
1. Particle size analysis (determination of sand, silt and clay percentage) :	1340	319	1659	1700
2. Routine sieve analysis by Mechanical Method	1340	319	1659	1700
3. Cost of hydrometer test for determinations of particle size distribution	1331	319	1650	1700
4. Liquid limit and Plastic limit of soil samples : (Atterberg Limit test)	522	319	841	800
5. Shrinkage Limit of soil	1040	319	1359	1400
6. Determination of specific gravity, moisture content, unit weight and void ratio & degree of saturation	532	319	851	900
7. Compaction test of soil sample (Standard proctor/modified proctor)	2605	319	2924	2900
8. Determination of coefficient of Permeability (by constant head method or by Falling head method):	2611	319	2930	2900
9. Laboratory consolidation test	10678	319	10997	11000
10. Determination of unconfined compressive strength	1311	319	1630	1600
11. Determination of total soluble salts of soil sample;	1353	319	1672	1700
12. Determination of Calcium, Carbonate and/or soluble sulphate for each soil sample	773	319	1092	1100
13. Determination of organic content for each sample	1082	319	1401	1400
14. Determination of base exchange capacity for each sample	773	319	1092	1100
15. Determination of pH value	501	319	820	800
16. Triaxial shear Test	1311	319	1630	1600
17. Direct Shear Test	2628	319	2947	2900
18. Swell Pressure Test	2504	319	2823	2800

19.	Laboratory Vane Shear Test	1484	319	1803	1800
20.	California Bearing Ratio (CBR) Test	10420	319	10739	10700
ii. ROCK TESTING:					
21.	Preparation of rock cube/core from rock block	862	319	1181	1200
22.	Cutting of rock cube from rock	431	319	750	800
23.	Uniaxial compressive strength for a set of three samples including cutting and polishing as per standard	4047	319	4366	4400
24.	Uniaxial compressive strength for only one core	1349	319	1668	1700
25.	Tensile strength computation charges	1303	319	1622	1600
26.	Point load test for a set of three samples	1011	319	1330	1300
27.	Point load test for one sample	337	319	656	700
28.	Determination of density, void ratio, water absorption percentage of each sample (including cutting and polishing)	1747	319	2066	2100
29.	Specific gravity of one rock sample	1747	319	2066	2100
30.	Slake Durability Test	1737	319	2056	2100
iii. AGGREGATE TESTING :					
31.	Aggregate impact value	3195	319	3514	3500
32.	Los Angeles Abrasion test	3195	319	3514	3500
33.	Crushing strength	2022	319	2341	2300
34.	Soundness loss test	3855	319	4174	4200
iv. BUILDING STONE TESTING					
35.	Compressive strength on a set of five bricks	5076	319	5395	5400
36.	Water absorption on a set of five bricks	1118	319	1437	1400
37.	Weathering on a set of three cubes:	4637	319	4956	5000
38.	Determination of resistance to water by abrasion of natural building stones	1118	319	1437	1400
39.	Determination of shear strength of natural building stone (average of three tests)	5075	319	5394	5400
40.	Deval attrition test	2527	319	2846	2800
41.	Specific gravity, density void index, absorption and bulk density tests	1490	319	1809	1800
v. FINE AGGREGATE TESTS :					
42.	Sieve analysis and determination of fineness Modulus	1434	319	1753	1800
43.	Specific gravity of particles	1434	319	1753	1800
44.	Organic impurities test	1434	319	1753	1800
45.	Combined silt and clay content	1490	319	1809	1800
46.	Flakiness index test	1456	319	1775	1800
vi. FIELD TESTING :					
47.	Field Vane Shear test	9734	319	10053	10100
48.	Determination of bearing capacity of soil by Vicksberg Cone-penetrometer	2226	319	2545	2500
49.	Flat jack test by two pin method	55336	319	55655	55700
50.	Flat jack test by four pin method	95340	319	95659	95700
51.	Mortar strength by Concrete Test Hammer for each set of 10 readings: (a) Without sample preparation.	2167	319	2486	2500
52.	Mortar strength by Concrete Test Hammer for each set of 10 readings: (b) With sample preparation	2202	319	2521	2500
• The charges for deployment of a Geologist in the field for collection of rock/soil sample will be charged separately. Samples are to be collected as per specific requirement and supplied at Geotech Lab. by indenting agency.					

J. CHEMICAL LABORATORY

CHARGES FOR CHEMICAL ANALYSES		Basic Cost (in Rs.)	Overhead cost (in Rs.)	Total cost chargeable (in Rs.)	To be rounded off to nearest 100/1000
1.	a. Quantitative chemical analysis of rock by conventional wet chemical method for 12 determinations (other than alumino-silicate and phosphate rock)	7000	22	7022	7000
	b. Analysis of one Alumino -silicate rock (Sillimanite /Kyanite)	8650	22	8672	8700
	c. Analysis of phosphate rock	10300	22	10322	10300
2.	Analysis of chrome-ore sample by wet chemical method(12 determinations)	4250	22	4272	4300
3.	Analysis for precious metals by Fire assay technique				
	(i) Gold	2000	22	2022	2000
	(ii) Platinum	2300	22	2322	2300
	(iii) Palladium	2300	22	2322	2300
	(iv) Charge for analysis of one sample for gold, platinum and palladium estimation only	2400	22	2422	2400
4.	Gold analysis by AAS method (MIBK METHOD)	1150	22	1172	1200
5.	Rapid geochemical analysis by AAS method :				
	a. First 5 radicals	1100	22	1122	1100
	b. Each subsequent radical	100	—	100	100
6.	Water analysis :				
	a. Partial analysis for seven determinations (pH, conductivity, total hardness, alkalinity, chloride, sodium & potassium)	1300	22	1322	1300
	b. Complete analysis for 14 determinations (pH, conductivity, total hardness, alkalinity, T.D.S., sulphides, nitrate, chloride, iron, silica, phosphorus, manganese, sodium & potassium)	2300	22	2322	2300
	c. Analysis for boron	1050	22	1072	1100
	d. Analysis for mercury	1050	22	1072	1100
	e. Analysis for arsenic by Spectro-photometry	1050	22	1072	1100
	f. Analysis for fluoride	800	22	822	800
7.	Partial analysis of limestone/dolomite sample (Acid insoluble, R ₂ O ₃ , Ca, Mg & LOI)	1175	22	1197	1200
8.	Complete analysis of dolomite/limestone/gypsum/ clay /manganese ore /bauxite /iron ore samples	2000	22	2022	2000
9.	Determination of mercury in rock or soil samples (by cold vapour technique)	800	22	822	800
10.	Determination of arsenic in rock or soil samples by Vapour Generation Assembly (VGA)	1300	22	1322	1300
11.	Determination of fluoride in rock or soil samples	1050	22	1072	1100
12.	Cost for analysis of one rock/soil sample for quantitative REE analysis (14 REE elements/radicals) by ICP-MS (sequential Technique)	3300	22	3322	3300
13.	Cost for analysis of one rock/soil sample for determination of a packages of 34 elements by ICP-AES (sequential technique)	1550	22	1572	1600
14.	Estimation of major oxides by XRF technique				
	(i) Major oxides	3300	22	3322	3300
	(ii) For each additional trace elements	250	—	250	250
15.	Proximate analysis of coal	1290	22	1312	1300

16. Analysis of sediment sample for determination of Hydrocarbons (C ₁ - C ₁₀) by Gas Chromatograph	1550	22	1572	1600
17. NGCM Package Analysis				
Package A Major-Minor Oxides: (SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , MnO, Na ₂ O, K ₂ O, MgO, CaO, TiO ₂ , P ₂ O ₅)	3497	22	3519	3500
Trace Elements: (Ba, Ga, Rb, Cr, Ni, Co, Nb, Cu, Pb, Zr, Zn, V, Sc, Th, Sr, Y)	1112	22	1134	1100
Package B (Au)	1067	22	1089	1100
Package C (Li, Cs)	1020	22	1042	1000
Package D (As, Sb, Bi, Se)	1605	22	1627	1600
Package E (F)	790	22	812	800
Package F (Ag, Cd)	1368	22	1390	1400
Package G(Hg)	525	22	547	500
Package H (La, Ce, Pr, Nd, Dy, Eu, Sm, Gd, Tb, Ho, Yb, Tm, Er, Lu, Hf, Sn, W, Mo, U, Ta, Be, Ge)	3300	22	3322	3300
Package I (Pt, Pd)	2345	22	2367	2400