

Research Lab Sheet

Lab Name	Rocks and Minerals
Academic Year	2021-2022

Basic Information	
Department	Geology
Location	Building No. 3
Total area (m²)	35²

Lab Members				
No. of Prof.	No. of Ass. Prof.	No. of Lect.	No. of Ass. Lect. & Demonst.	No. of technicians
2	1	2	3	1

Staff members					
#	Name	Scientific degree	e-mail	Specializations	C.V
1	Prof. Dr. Ramadan Bakir	Professor	ramadan.bekir@yahoo.com		http://staffsites.sohag-univ.edu.eg/bekirramadan
2	Prof. Dr. Asran M. Asran	Professor	Asran_58@yahoo.com	Crystalline rocks	http://staffsites.sohag-univ.edu.eg/asran58
3	Dr. Khaled Abdelfadil	Associated Professor	Khaled.abdelfadeel@science.sohag.edu.eg	Geochemistry and mineralogy	http://staffsites.sohag-univ.edu.eg/khaled.abdelfadeel
4	Dr. Ahmed Abdelrasheed	Lecturer	alschaikh@yahoo.com	Economic geology and Mineralogy	http://staffsites.sohag-univ.edu.eg/ahmed_abdelrashid
5	Dr. Sayed Saber	Lecturer	new_sayed@yahoo.com	Economic geology and Mineralogy	http://staffsites.sohag-univ.edu.eg/elsayedahmed
Ass. Lecturers & Demonstrators					
#	Name	Scientific degree	e-mail	Specializations	C.V
1	Ahmed Abdelhameed	Ass. Lecturer	aabdelhamuid@science.sohag.edu.eg	Crystalline rocks	http://staffsites.sohag-univ.edu.eg/aabdelhamuid
2	Omar Rashad Ahmed	Demonstrator	omarshalaby95@yahoo.com	Economic geology and Mineralogy	http://staffsites.sohag-univ.edu.eg/omarshalaby?p=home
3	Yasmeen Abdelhameed	Demonstrator	yasmin.mohammeed@gmail.com	Geochemistry	

Theses produced by the Lab			
M Sc Thesis			
#	Degree	Title	Approval date
1	M Sc	Geology and Structural control in Gabal Igla El Ahmar area, Central Eastern Desert, Egypt	3-2021
2	M Sc	Geology and mineralization of Banded Iron Formation in Wadi Fatira area, Central Eastern Desert, Egypt. Omar Rashad Ahmed	Enrolled 2018
3	M Sc	Geology of Wadi EL-Atrash Area, Northeastern Desert, Egypt	2009
4	M Sc	Geology and Geochemistry of Abu Farayed granitoids and its environ, South Eastern desert, Egypt.	2006
5	M Sc	Geological and mineralogical studies on Abu Marawat area, Central Eastern Desert, Egypt.	2001
6	M Sc	Geological, Mineralogical and Geochemical Studies on the Iron ore Deposits West and Southwest Aswan area, Egypt.	2008
Ph.D. Thesis			
1	Ph. D	GEOLOGICAL AND MINERALOGICAL STUDIES ON SOME GOLD DEPOSITS CENTRAL EASTERN DESERT, EGYPT	2010
2	Ph. D	Mineralogical charaters and conditions of formation of gold-sulphide mineralization in South Sinai	2014
3	Ph. D	Geochemistry of Variscan lamprophyre magmatism in the Saxo-Thuringian, Zone,	2013
7	Ph. D	Geological and engineering studies on the Farafra limestone, along Farafra-Baharia district, with emphasis of economic utilization, Western Desert, Egypt.	2006

Articles produced by the Lab

#	Title	Journal information
1	Asran, A.M. (1992): Arc metagabbros at Wadi Sharm El-Bahari, Central Eastern Deseret, Egypt.	Bull. Fac. Sci., Assiut Univ., 21 (2-F), p.49-63.
1	Asran, A.M. (1992): Arc metagabbros at Wadi Sharm El-Bahari, Central Eastern Deseret, Egypt.	Bull. Fac. Sci., Assiut Univ., 21 (2-F), p.49-63.
2	Asran, A.M. (1992): Petrographic and geochemical studies on amphibolites occurrence in the Eastern Desert, Egypt.	Fac. Sci., Assiut Univ., 21 (2-F), p.139- 157.
3	-Asran, A.M. (1993): Contributions to the petrography, petrochemistry and petrogenesis of Hamret Ghannam and Um Naggat granitoids, Eastern Desert, Egypt.	Egypt. Mineral. Vol. 5, p.57-79.
4	Asran, A.M. (1995): Petrographical and geochemical characters of the selected pebbles from some occurrence of the basal Hammamat conglomerates, Central Eastern Desert, Egypt.	Sohag Pure & App. Sci. Bull. Fac. Sci., Egypt 11, p.153-180.
5	-Asran, A.M. (1995): Petrographical, geochemical and metamorphic aspects of allochthonous Hammamat sediments at Wadi Mubarak, Central Eastern Desert, Egypt	Sohag Pure & App. Sci. Bull. Fac. Sci., Egypt 11, p.181-210
6	-Asran A.M.H (2001): Petrological and geochemical characters of the Sikait gneissose granite complex, Eastern Desert, Egypt.	Egypt. J. Geol., v. 45/2, p.883-902.
7	Asran A.M.H (2003): Geochemistry and petrogenesis of Neoproterozoic Nuqara Dokhan volcanics, Central Eastern Desert, Egypt.	Bull. Fac. Sci., Assiut Univ. 32, p.69-88.
8	-Asran A.M.H (2003): Back-Arc ophiolitic rocks at Wadi El-Markh, Central Eastern Desert, Egypt.	Bull. Fac. Sci., Assiut Univ. 32, p.89-101

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9	Asran A.M. and Kamal El-Din, G.M. (1997): Petrochemistry of the Pan-African basement rocks from Humr Waggat area, Central Eastern Desert, Egypt.	Bull. Fac. Sci., Assiut Univ. 26(1-F), p.1-29.
10	-Asran, A.M. and Kamal El-Din, G.M. (1998): Abu Furad subduction-related magmatic suite, Eastern Desert, Egypt.	Egypt. Mineral. 10, p.159-194
11	Asran, A.M.H., Kamal El-Din, G.M. and Akawy, A. (2000): Petrochemistry and tectonic significance of gneiss-amphibolite-migmatite association of Khuda metamorphic core complex, Southeastern Desert, Egypt	5th intern. Conf. of the Arab World, Cario Univ., p.15-34
12	-Asran, A.M, Ibrahim, M.E., El-Mansi, M.M., and Abdel Ghani, I.M.M. (2001): Geochemistry, petrogenesis and radioactivity of Pan-African granitoids, Fatirah area, Eastern Desert, Egypt	5th intern. Conf. Geochemistry, Alex. Univ., Egypt. P.599-626.
13	Asran, A.M.H. and Kabesh, M.L. (2003): Petrology, geochemistry, and opaques of mélange rocks along Wadi Abu Haramiya, Central Eastern Desert, Egypt	. 5th intern. Conf. Geol. Middle East, Cario, Egypt. P.155-173.
14	Asran, A.M.H. and Mohamed, M.A. (2003): Geochemistry, petrogenesis and fluid inclusion studies of the Kadabora granite pluton and associated enclaves, Central Eastern Desert, Egypt.	. 5th intern. Conf. Geol. Middle East, Cario, Egypt. P.139-154.
15	Asran, A.M.H. and Aboazom, A.S. (2004): Continental Rift Zone (CRZ) Al-Haruj Tertiary basalts, Libya: Petrological and geochemical approach.	Proc. 7th intern. Conf. of the Arab World, Cario Univ., 145-150.
16	-Asran, A.M.H., Azer, M.K and Aboazom, A.S. (2005): Petrological and geochemical investigations of Dokhan volcanics in Wadi Sodmein area, Central Eastern desert, Egypt.	Egypt. J. Geol. V.49, p.1-20

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17	-Khudeir, A.A. and Asran, A.M. (1992): BACK-ARC Wizr ophiolites at Wadi Um Gheig district, Eastern desert, Egypt.	Bull. Fac. Sci., Assiut Univ. 21(2-F), p.1-22.
18	-Kamal El-Din, G.M. and Asran, A.M. (1994): Highlight on the petrology, geochemistry, and structural evolution of the amphibolite facies terrain at Wadi Um Taghir along Qena-Safaga road, Central Eastern Desert, Egypt.	2nd intern. Conf. of the Arab World, Cario Univ., p.91-108.
19	Kamal El-Din, G.M. and Asran, A.M. (1995): Structural elements and metamorphism controlling the late Pan-African Hammamat sediments at the Up-stream of Wadi El-Miyah, Central Eastern Desert, Egypt.	Proc. Intern. Conf. 30 Years cooper, Cario, Egypt, p.213-228
20	-El-Habaak, G.H. and Asran, A.M. (2001): Subduction-related Wadi Dabr metagabbro-diorite complex, intrusive gabbros and the enclosed opaques, Central Eastern Desert, Egypt	2nd intern. Conf. on the Geology of Africa, vol.1, p.205-2.
21	-Kamal El-Din, G.M., Asran, A.M. and Akawy, A. (2002): El Marafawy swells, Southeastern Desert, Egypt: Geochemistry and structural analysis. Egypt.	J. Geol., v.46/1, p.259-282.
22	Aboazom, A.S., Asran, A.M.H., Abdel Ghani, M.S. and Farahat, E.S. (2006): Geologic and geochemical constraints on the origin of some Tertiary alkaline rift volcanics, Gharyan area, Northwestern Libya.	Bull. Fac. Sci., Assiut Univ. J. of Geology 35(1), p.25-47.
23	El-Gaby, S., Khudeir, A.A. and Asran, A.M. (1994): Geology and geochemistry of the Pan-African volcanosedimentary belt at Wadi Um Gheig, eastern desert, Egypt.	Bull. Fac. Sci., Assiut Univ., 23(1-F), p. 185-219.
24	-Khudeir, A.A., El-Gaby, S., Kamal El-Din, G.M., Asran, A.M.H., and Greiling, R.O. (1995): The Pre-Pan African deformed granite cycle of the Gabal El-Sibai swell, Eastern desert, Egypt.	J.Afr. Earth Sci., vol.21, No.3, 395-406.

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25	-Hegazy, H.A., El-Shazly, S.M. and Asran, A.M. (2001): acomparative study of geothermobarometers and petrogenesis of some amphibolite occurrences in the Eastern Desert, Egypt.	5th intern. Conf. Geochemistry, Alex. Univ., Egypt. P.201-226.
26	-Farahat, E.S., Abdel Ghani, M.S., Aboazom, A.S. and Asran, A.M.H (2006): Mineral chemistry of Al-Haruj low-volcanicity rift basalts, Libya: Implication for petrogenesis and geotectonic evolution.	J.Afr. Earth Sci.,45, p.198-212
27	-Noweir, A.M., Asran, A.M. and Abdelfadil, K. M. (2008): Contact aureole and geochemical characters of the Abu Farayed granitic pluton, Southeastern Desert, Egypt.	9th International Conference on the Geology of the Arab World (GAW-9) (in press).
28	Asran, A.M.H, Hassan, M.A., Ali, B.H. and Embaby, A.I. (2008): Geological and Geochemical investigations of the Pan- African rocks along Wadi El-Atrash area, Northeastern Desert, Egypt.	8th Conference on Geochemistry (Geochem8), Alex. Univ.
29	-Asran, A.M.H, Ibrahim, M.A., El Mansi, M.A. and Abdel Ghani, I.M. (2008): Backarc to active continental margin Pan- African volcanicity along Wadi Fatirah, Central Eastern Desert, Egypt	4th InternationalConference on the Geology of the Tethys, Cairo Univ.
30	Youssef, A.M., Asran, A.M. and Mohamed, M.A. (2009): Intergration of remote sensing data with the field and laboratory investigation for lithological mapping of granitic phases: Kadabora pluton, Eastern Desert, Egypt.	Arab J. Geosci 2: 69-82.
31	Asran, A.M., Bekir, R.Kh., Abdel Rahman, E. and Abdel Rashed, A. (2012): Petrology, geochemistry, and remote sensing data of island arc assemblage along Wadi Abu Marawat, Central Eastern Desert, Egypt.	Arab J Geosci, DOI10.1007/s12517-011-0516-z
32	Asran M. A. and. Abdel Rahman, E. M. (201 2): The Pan- African calc-alkaline granitoids and the associated mafic microgranular enclaves (MME) around Wadi Abu Zawal area, Northeastern Desert, Egypt: geology, geochemistry and petrogenesis.	. Journal of Biology and Earth Sciences Vol 2, Issue 1 , E1 -E1 6.

#	Title	Journal information
33	Asran A. M., and Mona Kabesh (2012): Evolution and geochemical studies on a stromatic migmatite-amphibolite association in Hafafit area, Central Eastern Desert, Egypt.	Journal of Biology and Earth Sciences, Vol 2, Issue 1, E17-E33.
34	Mona Kabesh, Asran M. A., and Abdel Rahman, E. (2013): Mineral chemistry of banded migmatites from Hafafit and Feiran areas, Egypt.	Arab J Geosci, 6:3669 –3681
35	Asran, A.M.H., El-Mansi, M.M., Ibrahim, M.E., and Abdel Ghani, I.M. HE (2013): Pegmatites of Gabal El Urf, central Eastern Desert, Egypt.	Seventh International Conference on the Geology of Africa. P-P V-1 - V-22, ASSIUT-EGYPT.
36	Asran, A.M., Emam, A. and El Fakharani, A. (2017): Geology, structure, geochemistry, and ASTER-based mapping of Neoproterozoic Gebel El-Delhimmi granites, Central Eastern Desert of Egypt.	. Lithos 282-283, 358-372.
37	- Ahmed, A.A., AbdelKareem, Asran, A.M. and Mahran, T.M. (2017): Geomorphic and lithologic characteristics of Wadi Feiran basin, southern Sinai, Egypt, using remote sensing and field investigations.	J.Earth Syst. Sci. DOI 10.1007/s12040- o17-0861-8
38	Abd-ElKareem, E., Asran, M. and El Shater, A. (2017): Damage blocks granite of Philip Arrhidaeus compartment and its source and treatment, Karank, Egypt.	Egyptian Journal of Archaeological and Restoration Studies "EJARS: Volume 7, Issue2, 111-121.
39	Abdelfadil, K.M. , Gharib, M., Putiš, M., Uher, P., 2022. Petrogenesis of post-orogenic Pan-African rare-element granitic pegmatites in the western Arabian-Nubian Shield, Aswan area, southern Egypt	Journal of Asian Earth Sciences 224, 105003.
40	Abdelfadil, K.M. , Mahdy, N.M., Ondrejka, Putiš, M., 2022. Mineral chemistry and monazite chemical Th–U–total Pb dating of the Wadi Muweilha muscovite pegmatite, Central Eastern Desert of Egypt: constraints on its origin and geodynamic evolution relative to the Arabian Nubian Shield.	International Journal of earth sciences (Geol Rundsch). DOI:10.1007/s00531-021-02152-3

#	Title	Journal information
41	Mogahed, M., Abdelfadil, K.M. , 2021. Constraints of Mantle and Crustal Sources Interaction During Orogenesis of Pre- and Post-Collision Granitoids from The Northern Arabian–Nubian Shield: A Case Study from Wadi El-Akhder Granitoids, Southern Sinai, Egypt.	Acta Geologica Sinica-English Edition 95(5), 1527–1550
42	Mahdy, N.M., Ntaflos, T., Pease, V., Sami, M., Slobodnik, M., Abu Steet, A.A., Abdelfadil, K.M. , Fathy, D. 2020. Combined zircon U-Pb dating and chemical Th–U–total Pb chronology of monazite and thorite, Abu Diab A-type granite, Central Eastern Desert of Egypt: Constraints on the timing and magmatic-hydrothermal evolution of rare metal granitic magmatism in the Arabian Nubian Shield.	Geochemistry 80, 125669.
43	Azer, M.K., Abdelfadil, K.M. , Asimow, P.D., Khalil, A.E. 2020. Tracking the transition from subduction-related to post-collisional magmatism in the north Arabian-Nubian Shield: A case study from the Homrit Waggat area of the Eastern Desert of Egypt.	Geological Journal 55, 4426-4452.
44	Sami, M., Ntaflos, T., Mohamed, H.A., Farahat, E.S., Hauzenberger, C., Mahdy, N.M., Abdelfadil, K.M. , Fathy, D., 2020. Origin and Petrogenetic Implications of Spessartine Garnet in Highly Fractionated Granite from the Central Eastern Desert of Egypt.	Acta Geologica Sinica - English Edition 94 (3), 763-776.
45	Azer, M.K., Abdelfadil, K.M. , Ramadan, A.A. 2019. Geochemistry and Petrogenesis of late Ediacaran rare-metal albite granite of the Nubian Shield: Case study of Nuweibi intrusion, Eastern Desert, Egypt.	The Journal of Geology 127, 665-690.
46	Abdelfadil, K. M. , Obeid, M.A., Azer, M.K., Asimow, P.D. 2018. Late Neoproterozoic adakitic lavas in the Arabian-Nubian shield, Sinai Peninsula, Egypt.	Journal of Asian Earth Sciences 158, 301-323.
47	Abdelfadil, K. M. , Asimow, P. D., Azer, M. K., Gahlan, H. 2016. Genesis and petrology of Late Neoproterozoic pegmatites and aplites associated with the Taba metamorphic complex in southern Sinai, Egypt.	GeologicaActa, 14-3, 219-235.
48	Abdelfadil, K. M. , Romer, R.L., Glodny, J. 2014. Mantle wedge metasomatism revealed by Li isotopes in orogenic lamprophyres.	Lithos 196-197, 14-26.

#	Title	Journal information
49	Abdelfadil, K. M. , Romer, R. L., Seifert, T., Lobst, R. 2013. Calc-alkaline lamprophyres from Lusatia (Germany)-Evidence for a repeatedly enriched mantle source.	Chemical Geology 353, 230-245.
50	Mabrouk Sami, Khaled M. Abdelfadil and Theodoros Ntaflosb. Chemistry and origin of Nb-Ta-Sn mineralization in the Abu Dabbab peraluminous granite from the Central Eastern Desert of Egypt.	International conference on the geology of Africa. 19-21 November 2019. Assiut, Egypt.
51	Mabrouk Sami, Theodoros Ntaflosb , Haroun A. Mohameda , Esam S. Farahat a , Christoph Hauzenbergerc , Nasser M. Mahdyd , Khaled M. Abdelfadil and Douaa Fathy. 2019. Origin and petrogenetic implications of spessartine garnet in highly fractionated granite from the central Eastern Desert of Egypt.	First Scientific Congress of Junior Geoscientists in Egypt, 3-4 February 2019. Sohag. Egypt
52	Maher A. El Amawy, Asran M. Asran , Khaled M. Abdelfadil and Ahmed M. A. Mahmoud, 2019. Balance of the Pan African dextral shear and magmatic emplacement in the formation of molasse basin and oblique convergence deformation in Gabal Igla Al Ahmar area, Central Eastern Desert, Egypt.	First Scientific Congress of Junior Geoscientists in Egypt, 3-4 February 2019. Sohag. Egypt.
53	Abdelfadil, M. Abdelfadil. , Gharib, M., Putiš, M., Uher, P., 2018. Evidence for rare-metal occurrences in the post-orogenic Pan-African Aswan pegmatite (southern Egypt): mineralogy, geochemistry and monazite dating.	5th Central-European Mineralogical Conference, June 26 – 30, Banská Štiavnica, Slovakia.
54	Abdelfadil, M. Abdelfadil , Putiš, M., Ondrejka., M., Saleh., G. 2018. Pan-African rare-earth bearing paragneiss, South-eastern desert, Egypt: geochemistry and monazite age dating.	5th Central-European Mineralogical Conference, June 26 – 30, Banská Štiavnica, Slovakia.
55	Abdelfadil, M. Abdelfadil , Romer, R.L., Seifert, Th., Lobst, R., 2011. Calc-alkaline Lamprophyre from Lusatia (Germany) Derived from a Multiply Enriched Mantle Source.	Goldschmidt 2011, August 14-19 in Prague, Czech Republic.

#	Title	Journal information
56	Abdelfadil, M. Abdelfadil , Romer, R.L., Seifert, Th., Lobst, R., 2010. Geochemistry and petrology of alkaline basalt and ultramafic lamprophyre dikes from Lusatia (Lausitz), Germany. Mineralogia. Spec. Pap. 37, 17-18.	17th meeting of the petrology group of the mineralogical society of Poland; Lamprophyres and the related mafic hypabyssal rocks, 14–17 October 2010, Kłodzko region of the Sudetes, Poland.
57	Mamedov E. A, El Sayed Ahmed, Chiragov M. I. Mineralogy, Types and Genesis of the Copper-Gold-Sulphide Ore Mineralization, of Um Zerriq Area, Metallodenic Kid Belt in Southeastern Sinai, Egypt	CJASR, 2012, 1(10) pp .42-53.
58	Mamedov E. A, El Sayed Ahmed, Chiragov M. I. Precambrian deposits of gold and gold-bearing conglomerates polychronic forecasting in southern Sinai (Egypt)	Известия НАНА, Науки о Земле, 2012, № 3, с. 17-22
59	Mamedov E. A, El Sayed Ahmed, Chiragov M. I. On the Precambrian Volcanic Ring Structures and their Link with Mineralization in the Southern Sinai, Egypt.	Sohag Bulletin of Pure and Applied Science, Sohag, Egypt. 2012, Vol. 15, N. 1, p. 1-14
60	Mamedov E. A, El Sayed Ahmed, Chiragov M. I. Mineralogy character and types of the copper-goldsulphide mineralization of El Samra are, Kid Belt, in Southeastern Sinai, Egypt	International journal of Advanced scientific and technical research. 2012, Issue 2, v. 6, December, p. 48-61.
61	Mamedov E. A, El Sayed Ahmed, Chiragov M. I. Geological characteristics of gold-sulphide deposits and prediction Precambrian volcanogenic gold-bearing conglomerate in south Sinai, Egypt.	Al-Azhar University Engineering Journal. 2012, V. 7, p. 1-16
62	El Sayed Ahmed, Mamedov Elkhana A., Shirinova F. Afet, Chiragov Mamed I. Atacamite - the first finding in the supergene zone in the south of the Sinai (Egypt) and its crystal-chemical features	Известия НАНА, Науки о Земле. 2013, № 2, с. 37-41
63	El Sayed Ahmed. Mamedov E. A, Faissal A. Ali, Chiragov Mamed I., Ramiz A, Porphyry-Epithermal Cu ± Au mineralization in El Samra area Southeastern Sinai, Egypt.	International journal of advanced scientific and technical research. 2013, Issue 3 volume 3, May-June, p. 47-59

#	Title	Journal information
64	El Sayed Ahmed, Mamedov E. A, Chiragov M. I. Copper-gold-sulphide mineralization associated with Late Precambrian volcanic Ring structures, southern Sinai, Egypt.	AJSE-D, 2013, v. 39, 1 p. 273-286.
65	El-Sayed Saber1 & Mohamed Ali1 & Ahmed El-Sheikh, Provenance studies of Kalabsha kaolin deposits, Egypt: a petrographical and geochemical approach,	Arabian Journal of Geosciences (2018) 11:339
66	El Sayed A. Saber; Gold resources from clastic Cambrian rocks and their link with underlying Precambrian rocks, southern Sinai, Egypt;	Arabian Journal of Geosciences (2020) 13:529
67	HISTORICAL BRICKS DETERIORATION AND RESTORATION FROM THE RED MONASTERY, SOHAG, EGYPT: A GEOCHEMICAL, PETROLOGICAL AND STATISTICAL APPROACHES.	Egyptian Journal of Archaeological and Restoration Studies "EJARS" An international peer-reviewed journal published bi-annually
68	Geochemistry and spatial distribution of selected heavy metals in surface soil of Sohag, Egypt: a multivariate statistical and GIS approach	Environ Earth Sci (2016) 75:1257 DOI 10.1007/s12665-016-6047-x

Lab instruments						
#	Device	Quantity	Quality			
			Good	Poor	Need maintenance	malfunction
1	Polarized microscope:	10	√			
2	Pulverization machine	1	√			
3	Thin Section Sample Preparation Manual Cutting Cum Grinding Machine	1	√			
4	Reflected and polarized microscope with attached Camera	1	√			

Instruments Description	
Device image	Description /use
	Polarized microscope: Is for petrographic studies Optical system: Plan achromatic optical system Trinocular Bright field, polarizing Objective: 2.5X,10X,40X,60X Stage: Round rotating stage Illumination: LED Transmission illumination Polarizing: Analyzer 0~360° Adjustable
	The Automatic Mortar Grinder Pulverisette 2 is ideal for universal grinding of medium-hard-brittle to soft-brittle materials (dry or in suspension) to analytical fineness, as well as for formulation and homogenisation of pastes and creams at laboratory scale.

Instruments Description	
Device image	Description /use
	Discoplan-TS is a precision cutting and grinding machine for mineralogical, petrographic, and ceramic thin sections. The left side of the machine has a table with a diamond cut-off wheel and holders for initial cutting and re sectioning of the specimen. The right side has a diamond cup wheel and a vacuum holder for simultaneously grinding up to three specimens almost to their final thickness with an accuracy of 2 m.
	Fully polarizing microscope type "Primotech" for transmitted and reflected light illumination light Built in IP camera for petrographic studies and making photomicrographs

Evaluate the fulfillment of lab to appropriateness of areas, building installations, facilities and human resources standards

Areas of assessment		Indicators	Yes	Somewhat	No
Floor area and capacity	1	Adequacy of the total capacity of the lab for the number of researcher (1).	√		
Windows and doors	2	Availability of windows for adequate ventilations.	√		
	3	Ease of use of windows.	√		
	4	There are two exits (doors) at least (2).			√
	5	There are signs to locate directions of emergency exits		√	
Equipment	6	Appropriate temperature during the lectures (3).	√		
	7	Availability of good ventilation (4).	√		
	8	The existence of adequate lighting (4).	√		
	9	Lab is connected to the Internet	√		
	10	The existence of directions inside the Lab showing entrances and emergency exits.		√	
Security and Safety	11	Existence of firefighting equipment near the hall (5).		√	
	12	Cleanliness of the room.		√	

1. Minimum area: 1m² for each person.
2. Door's characteristics: Consists of one movable piece - opening to the inside.
3. The appropriate temperature is 18-25 °C in winter and 28°C in summer due to air-condition use.
4. Providing adequate lighting and good ventilation: windows area 10-15% of the floor area
5. Security and safety requirements: evacuation plan / evacuation responsible person/ fire distinguishers / bucket of sand / water source / good condition extinguish hoses / alarm system against fire).