

American-Mongolian Deer Stone Project: Field Report 2008



William Fitzhugh and Bayarsaikhan, Editors
Barbara Betz, Producer

Arctic Studies Center
National Museum of Natural History
Smithsonian Institution
Washington, D.C.

National Museum of Mongolia
Ulaanbaatar,
Mongolia



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Table 1. Deer Stone Project Radiocarbon Dates from Deer Stone and Khirigsuur Sites in Khovsgol, Arkhangai, and Bayan Ulgii Aimags, through July 2008.

site / feature	location/year	sample no.	material	uncorrected	calib (2-sig)
Ulaan Tolgoi DS4 S-17	Erkhel / 2003	B-182958 AMS	charcoal	2170 ± 40 BP	BP 2320-2050
Ulaan Tolgoi DS4 S-7	Erkhel / 2003	B-182959 AMS	charcoal	2930 ± 40 BP	BP 3220-2950
Ulaan Tolgoi DS4 F1	Erkhel / 2004	B-193738 AMS	bone coll.	2530 ± 40 BP	BP 2750-2470
Ulaan Tolgoi DS4 F2	Erkhel / 2004	B-193739 AMS	bone coll.	2950 ± 40 BP	BP 3240-2970
Ulaan Tolgoi DS4 F3	Erkhel / 2004	B-193740 AMS	bone coll.	2810 ± 40 BP	BP 2990-2800
Ulaan Tolgoi DS4, F5	Erkhel / 2005	B-207205 RAD	bone coll.	2790 ± 70 BP	BP 3220-2800
Ulaan Tolgoi DS4, F6	Erkhel / 2005	B-207206 RAD	bone coll.	2740 ± 70 BP	BP 3150-2780
Ulaan Tolgoi DS5, T1	Erkhel / 2002	B-169296 AMS	charcoal	2090 ± 40 BP	BP 2150-1960
Ulaan Tolgoi DS5, F1	Erkhel / 2005	B-215694 AMS	tooth coll.	2800 ± 40 BP	BP 2980-2790
Ulaan Tolgoi DS5, F2	Erkhel / 2006	B-222535 AMS	tooth coll.	2830 ± 40 BP	BP 3050-2850
Ulaan Tolgoi M1, F1	Erkhel / 2005	B-207209 AMS	bone coll.	1880 ± 40 BP	BP 1900-1720
Ulaan Tolgoi M1, F2	Erkhel / 2005	B-215692 AMS	tooth coll.	2860 ± 40 BP	BP 3080-2870
Ulaan Tolgoi M1, F2	Erkhel / 2005	B-215644 AMS	charcoal	2980 ± 40 BP	BP 3310-3000
Ulaan Tolgoi M1, F3	Erkhel / 2005	B-215693 AMS	tooth coll.	2950 ± 60 BP	BP 3320-2940
Nukhtiin Am DS1/2, F1	Galt / 2006	B-222534 AMS	tooth coll.	2830 ± 40 BP	BP 3050-2850
Evd2 2 DS 2 Circ. feat.	Evd2 Valley	B-215643 AMS	charcoal	3030 ± 40 BP	BP 3350-3090
Tsatstain Kh DS1,F1	Tsaagan / 2005	B-207208 AMS	tooth coll.	2920 ± 40 BP	BP 3160-2920
Tsatstain Kh DS1,F2	Tsaagan / 2005	B-207207 AMS	tooth coll.	3000 ± 40 BP	BP 3330-3060
Urt Bulagyn KYR1-21	Khanuy / 2006	B-222532 AMS	tooth coll.	2780 ± 50 BP	BP 2980-2770
Urt Bulagyn KYR1-22	Khanuy / 2006	B-222533 AMS	tooth coll.	2790 ± 40 BP	BP 2970-2780
2006-2007 dates:					
Nukhtiin Am Md1,F1	Galt / 2006	B-240685 AMS	tooth coll.	2630 ± 40 BP	BP 2790-2730
Tsaagan Asga K1 F1	Sagsai / 2007	B-240686 AMS	bone coll.	130 ± 40 BP	BP 280-0*
Khogorgo-3, Md1	Shishged 2007	B-240687 AMS	tooth coll.	3450 ± 40 BP	BP 3830-3620
Khushuugiin Devs F1	Erkhel / 2006	B-222536 AMS	tooth coll.	2140 ± 40 BP	BP 2320-1990*
Khushuugiin Devs. F2	Erkhel / 2007	B-240688 AMS	tooth coll.	2450 ± 40 BP	BP 2720-2350
Khushuugiin Devs. F3	Erkhel / 2007	B-240689 AMS	tooth coll.	2680 ± 40 BP	BP 2860-2740
Khushuugiin Devs. F1	Erkhel / 2007	B-243716 AMS	tooth coll.	2410 ± 40 BP	BP 2700-2640%
Khyadag E. DS pav.7	Erkhel / 2007	B-240690 AMS	bone/tooth	2610 ± 40 BP	BP 2770-2720
Hort Uzuur DS3	Hort Azuur/ 2006	B-222537 AMS	charcoal	2230 ± 40 BP	BP 2340-2140*
Hort Uzuur DS2,L2, F1	Hort Azuur/ 2007	B-240691 AMS	charcoal	2710 ± 40 BP	BP 2870-2750
Tsaagan Gol K2 F1	Tsengel / 2007	B-240692 AMS	tooth coll.	2140 ± 40 BP	BP 2300-2240#
Tsaagan Gol K3 F9	Tsengel / 2007	B-240693 AMS	tooth coll.	1740 ± 40 BP	BP 1730-1550
Tsaagan Gol K4, F11	Tsengel / 2007	B-243717 AMS	char.mtl	130 ± 40 BP	BP 280-0
Avtiin Fea.5 Sample 6	Shishged / 2007	B-242730 AMS	charcoal	2670 ± 40 BP	BP 2850-2740
2008 dates:					
Khoton 333 F18	Bayan Ulgii/2008	B-246610 AMS	charcoal	2840 ± 40 BP	BP 3070-2860
Tsaagan Asga F3	Bayan Ulgii/2008	B-246611 AMS	charcoal	2850 ± 40 BP	BP 3070-2860
Tsaagan Asga F4	Bayan Ulgii/2008	B-246612 AMS	charcoal	3000 ± 40 BP	BP 3330-3070
On Khad Khushuu	Bayan Ulgii/2008	B-246613 AMS	tooth coll.	2930 ± 40 BP	BP 3220-2960
Bor Hujiriin A1, F2	Tsaagan/2008	B-246614 AMS	tooth coll.	2640 ± 40 BP	BP 2790-2730
Bor Hujiriin A1, F4	Tsaagan/2008	B-246615 AMS	bone coll.	680 ± 40 BP	BP 680-630†*
Bor Hujiriin A2, F1	Tsaagan/2008	B-246616 RAD	charcoal	2670 ± 50 BP	BP 2860-2740
Khush. Gol A2, F2	Tsaagan/2008	B-246617 AMS	tooth coll.	2750 ± 40 BP	BP 2940-2760
Khushuug. Gol A3, F3	Tsaagan/2008	B-246618 AMS	tooth coll.	2910 ± 40 BP	BP 3210-2940
Khushuug. Gol A1, F6	Tsaagan/2008	B-246619 AMS	charcoal	2850 ± 40 BP	BP 3070-2860
Khyadag E. A3 F32	Tsaagan/2008	B-246620 AMS	tooth coll.	2520 ± 40 BP	BP 2740-2470
Khyadag E. A2	Tsaagan/2008	B-246621 RAD	charcoal	2460 ± 50 BP	BP 2730-2350
Khyadag E. A2	Tsaagan/2008	B-246622 RAD	charcoal	2520 ± 50 BP	BP 2750-2440‡
Khyadag W. F1	Tsaagan/2008	B-246623 AMS	bone coll.	2610 ± 40 BP	BP 2870-2750

B-240692 Tsaagan Gol K2 F1 has a second intercept at BP 2180-2000

% B-243716 Khushuugiin Devseg F1 also has intercepts at BP 2610-2590 and 2540-2340

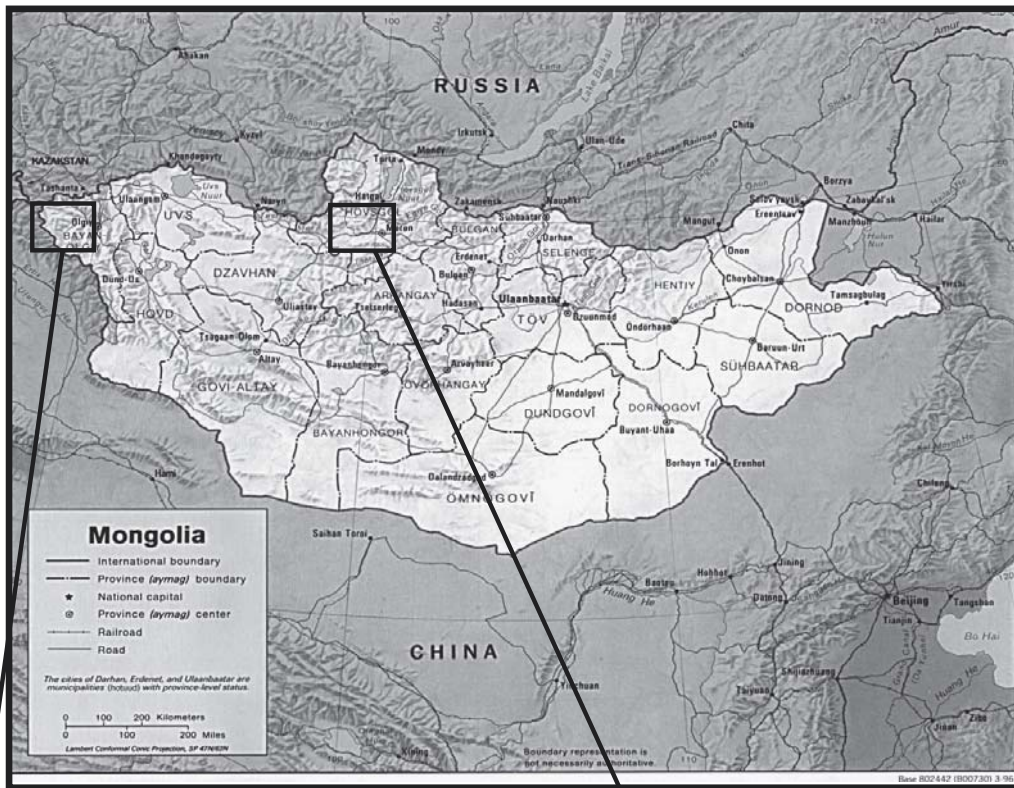
† B-246615 Bor Hujiriin A1, F4 has a second intercept at BP 600-560

‡ B-246622 Khyadag East A2 has a second intercept at BP 2410-2370

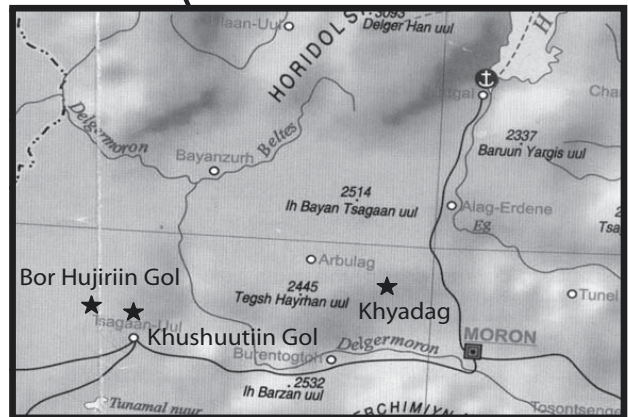
* Problematic dating result

Table of Contents

	Table 1. Radiocarbon Date List	i
Part I	Introduction and Overview <i>William W. Fitzhugh, Arctic Studies Center, Department of Anthropology, National Museum of Natural History, Smithsonian Institution</i>	1-4
Part II	Mongolia Field Journal 2008 <i>William W. Fitzhugh</i>	5-69
Part III	Field Notes and Maps <i>Field Notes and Maps Edited and Prepared by Kyle Strickland, J. Bayarsaikhan, W. Fitzhugh, and Nasanjargal</i>	70-102
Part IV	Report on the 2008 Deer Stone Project (in Mongolian) <i>Jamsranjav Bayarsaikhan, National Museum of Mongolia</i>	103-150
Part V	Notes on a Visit to the East Taiga Reindeer People <i>Ts. Ayush, Institute of History, Mongolian Academy of Sciences</i>	151-157
Part VI	Khuren Taiga: The Tsaatan's Lost Homeland in Sacred Reindeer Dewlap Embroidery <i>Paula T. DePriest, Museum Conservation Institute, Smithsonian Institution</i>	158-165
Part VII	An Initial Survey of Southern Bayan Ulgii Aimag, June 2-8, 2008 <i>Richard Kortum, East Tennessee State University</i>	166-193
	Appendix 1. J. Bayarsaikhan GPS data for Deer Stone Sites.	



Bayan Ulgii Aimag



Hovsgol Aimag

PART I

Introduction and Overview

William W. Fitzhugh and Jamsranjav Bayarsaikhan

The eighth year of the Smithsonian's Deer Stone Project was conducted from 21 May to 29 June, 2008. As in 2007 the season was split between field projects in the Altai Mountain area of Bayan Ulgii aimag (23 May – 2 June) and the Muren region of Khovsgol aimag (4-26 June). The Khovsgol portion of the project was designed to expand our deer stone coverage into the region southwest of Muren with excavations at two sites previously studied by Volkov and to undertake excavations at the Khyadag deer stone site between Muren and Lake Erkhel. The Altai project continued our initial survey of this region in 2007 and was undertaken in collaboration with Richard Kortum of East Tennessee University who had conducted previous work in the Lake Khoton region along the Chinese border. Permits for both projects were arranged by the National Museum of Mongolia (formerly named the National Museum of Mongolian History) directed by J. Saruulbuyan. As in previous years my Mongolian partner was Jamsranjav Bayarsaikhan.

Research Problem

The primary goal of the Bayan Ulgii project was to locate dating samples and site descriptions from Bronze Age deer stone and khirigsuur sites (the DSK Complex) needed to evaluate the relationship between the deer stone complexes of north-central Mongolia with those of far western Mongolia. Previous research in this area by Volkov, Savinov, Khubarev, and others had identified khirigsuurs and deer stones that were different from those in the Khovsgol region. Altai area khirigsuurs often have radial lines from the central mounds to the fence lines, and these radials and fence lines are made with construction methods that are different from those in central Mongolia sites. In addition, Bayan Ulgii deer stones are often made from different types of stone and have different styles and types of carvings than deer stones in central Mongolia. Western deer stones are less rigidly-structured in terms of content and style, departing from the 'classic Mongolian' type deer stone pattern that Volkov, Jacobson, and others have recognized.

The geographic and typological difference between the 'classic' central Mongolian and western 'Sayan-Altai' and Eurasian deer stones and khirigsuurs raise questions of chronology and relationship. Are these typological and geographical differences valid? And if so, what is their relative chronology? If the western khirigsuurs and simpler Sayan-Altai deer stones are earlier than the central Mongolian khirigsuurs and classic deer stones, perhaps the latter evolved out of an earlier mountainous complex and spread east into central Mongolia. If the Sayan-Altai complex was later than the Mongolian type it would suggest an historical reconstruction involving a westward movement of the DSK Complex, with diversification and break-up of the classic Mongolian pattern as it penetrated the mountainous Sayan and Altai regions. Such a movement could have been a response to the apparent east-to-west movement of 'square burial people' across eastern into Central Mongolia between ca. 3000-2600 B.P. This in turn could have provided deer stone involvement in the early formation of the Scythian cultural system which begins to take form about this time, roughly 500 years after the first appearance of deer stones and deer stone art in north-central Mongolia.

Bayan Ulgii

The Altai project produced excellent results even though we had barely more than one week in the field. Our first target area was the Lake Khoton region, a spectacularly beautiful field area on the north side of the Altai mountain chain separating Mongolia from China. Richard Kortum had previously discovered the Biluut 1, 2, and 3 rock art sites along the northwest shore of the lake. We found this area to have a rich cultural history. In addition to numerous khirigsuur sites we found Pazyryk burial complexes, rock art of many different periods, numerous standing stones that were not deer stones, and frequent Turkic burial complexes. Preliminary results of the Ulgii Project include the following:

Site Surveys Our work was conducted primarily along the Khoton Lake north shore and in the Tsagaan Asga (Tsagaan Chuulot in previous reports) region to the east. There is a great variety of burial forms in these regions, including Turkic grave complexes, an abundance of khirigsuurs and deer stones, and ‘Pazyryk’ mounds consisting of a linear arrangement of several closely-spaced small mounds. As in Khovsgol aimag, small khirigsuurs were found on the southeast- and south-facing hillsides, while large mounds were concentrated on the flatlands.

Khirigsuurs We found more circular than square shaped khirigsuurs, and khirigsuurs were found both with and without pavements. Many khirigsuurs had four radial lines connecting the central mound with the surrounding square or circular fence line. Many sites had been looted, but generally not recently. Only one khirigsuur was found to have horse mounds, and this site – On Khad – was constructed with unusually large, angular, blocks, rather than the usual rounded glacial or stream boulders. No khirigsuurs were found with east plaza pavements.

Deer stones Carved deer stones are quite rare in this region of western Bayan Ulgii except at Tsagaan Asga, where the deer images and more commonly, grooved circles, are found. No instances of belts with attached weapons were found; no sun discs or ‘floating’ weapons; no chevrons, and no moon and sun pairs. Only occasionally do earrings have pendants. There were no textured belts – only grooved forms (and not many of them), and no convincing necklace pits. All of these features are common in central Mongolia. Some deer images have straight legs. Several small deer stones with square cross-sections and angled tops were found associated with circular or round khirigsuurs, and at Tsagaan Asga we found a small deer stone had been removed from its original setting in the east side of the central mound. In one case at Lake Khoton we found another deer stone that appeared to be part of a khirigsuur, also unknown in Central Mongolia. Quite a few ‘classical’ Mongolian deer images were found as petroglyphs at the Biluut sites, often in multiple images on a single rock panel; and many deer images with some features similar to the iconic form (peaked withers, flowing antler form, bird-like head) as well as different features (legs extended as in standing, up-standing antlers, deer heads) are also found.

In terms of its north-south deer stone alignment, Tsagaan Asga is similar to the large deer stone sites of Central Mongolia. No Scythian type animal images were seen on any petroglyphs or in deer stone art. The Tsagaan Asga deer stone site may have been purposefully destroyed (many smashed and broken and fallen stones) in prehistory and has been heavily vandalized recently.

Dating (see Table 1, Page i) We excavated a horse head from On Khad and recovered charcoal and/or calcined bone from 2 hearth rings at Khoton Nuur Khirigsuur 333. The latter is a quadrant

radial round khirigsuur that has a belted deer stone (fallen) on the southeast side of the khirigsuur aligned with a radial line. We recovered charcoal samples also from two circular hearths on the east side of the Tsagaan Asga deer stone alignments, one from the northern side and one from the southern side (Feature 18) which dated cal. 3070-2860 B.P. The horse mound khirigsuur at On Khad was associated with several other large boulder and spoked khirigsuurs; its placement does not say much about relative dating but it is totally different in construction than the other khirigsuurs nearby – in construction materials, horse mounds, and the small number of hearth rings (2), making it appear intrusive in the common types of khirigsuurs in this region. A horse head feature at this site dated to cal. 3220-2960 B.P. Our most important finding was that careful excavation often rewards one with datable charcoal (and in some cases bone) from many of the khirigsuur and deer stone hearth rings, providing a way to date them even without the presence of horse heads, which seem to be extremely rare as burial features in the Bayan Ulgii aimag.

Khovsgol Aimag

Our work here was directed at three deer stone sites. Bor Hujiriin (Bogt Mountain), Khushuugiin Gol, and Khyadag. This site has two deer stone clusters, one with several stones in alignment, and a second cluster of two stones a few hundred meters to the west. We mapped, drew, and photographed the stones, one of which in the eastern group has a crooked top with a human face that appears to be a shaman ‘singing’ at a larger deer stone less than a meter away. Attempts to recover horse remains from several small circular pavements were only partially successful. Some ‘horse-looking’ features contained nothing, while others produced horse remains, including one at the western deer stone group.

At Khushuugiin Gol we found a very large deer stone complex that had been mapped (and several stones illustrated) by Volkov. The site is a linear arrangement of three deer stone complexes. The largest number of stones is found in Group 1, where after excavating several features we finally found one with horse remains. One of these deer stones has a rank of horses carved on one side of the stone, and some have polished panels at the top which may have been for painted, rather than carved, human faces. We also obtained horse remains from features in Groups 2 and 3, allowing us to test the chronological relationship of the three, which also have differences in deer stone carving styles.

At Khyadag, north of Muren, we excavated a 5-20m area around the deer stones at Khyadag East and a broad trench at western Khyadag West. The former contained a large number of small deer stones, most of which had fallen or had been purposefully broken, although their bases were still *in situ* in the ground. Among the deer stones and a number of circular and oval stone features, and a broad pavement of cobbles, we found quite a few animal bones. These seem to be the remains of ritual meals. Of great importance, however, was the presence of slag deposits mixed with charcoal and fired clay that suggested pyrotechnic activities, and particularly, metal-production, taking place in the deer stone area. Some of the slag recovered has been tested by Jeffrey Speakman at the Smithsonian Museum Conservation Institute and contains high content of iron, copper, and other metals. Radiocarbon dates of the bones associated with the deer stones date to ca. cal. 2800 BP while charcoal associated with the slag dates to ca. cal. 2750-2370 B.P. At present the relationship of the slag, bone, and deer stones, both large stelae and the small broken slabs (most of which have belts, rings, and other deer stone motifs) is unclear. The slag, dating later than the bones and pavements (and the large deer stones), is stratigraphically deeper than the bone and boulder pavement level. It is also difficult to know if the large and small deer stones are contemporary. It seems likely that the small

Mongolia Deer Stone Project: Field Report 2008

stones date to the period of the slag deposits. If this is the case, the small, simple deer stones, which are more like the Sayan-Altai deer stone type, are later than the larger classical Mongolian deer type stones at this site. Some of the small deer stones here had small bone deposits buried at the base of the stone.

At Khyadag West we excavated a trench from the edge of the boulder pavement to the central concentration of four deer stones. At the eastern end of the trench a circular stone feature produced partially calcined horse remains that dated cal. 2870-2750 B.P. Near the base of the large central deer stone we found a small bronze (?) knife blade, a bronze button, and animal skull parts that may constitute votive deposits.

Analyses of several dating samples from the Altai and Khovsgol sites suggest that the Altai khirigsuurs and deer stones date roughly to the same period as the central Mongolian sites, ca. cal. 2700-2900 BP. However, only a few dates are available from the Altai region. Until we are able to date samples directly associated with Sayan-Altai type deer stones, the question of Mongolian-Altai cultural and stylistic relationship remains unclear. If the dating pattern holds, differences between these regions may be regional and cultural rather than chronological. There is still much work to be done in deciphering the origins and relationships of the Mongolia deer stone horizon. The following report provides details of the 2008 season.



Sheep in Tsagaan Asga area. (Photo credit: K. Strickland)

PART II

Mongolia Field Journal 2008^{1,2}

William W. Fitzhugh
Arctic Studies Center
Smithsonian Institution

21 May, Wednesday – Arrive at Ulaanbaatar

Spent the night at Adiya's house, arriving from the airport about 10 P.M. Adiya's wife Tuul was home but their kids had moved over to their grandmother's to make room for me and Kyle coming two days later. Adiya said they were no longer in school this year because a bad virus has been spreading through the schools causing people to break out with sores on their palms and soles, very painful and disfiguring- so the schools have all been closed. The source of the disease seems to be China and has been carried to Mongolia by train passengers returning from Inner Mongolia. Adiya says the winter was one of very bad smog and air pollution and many people still have respiratory illnesses and are walking around with face masks.

22 May, Thursday – Ulaanbaatar

Came to the museum at 10:00 and found Bayaraa and Odbaatar in the main floor office with Bumaa – much better than their dirty basement office of earlier years. There have been many changes since my old friend Saruulbuyan was appointed director in the fall. Among them are painting the exterior an interesting brown color and installing a new museum logo as letterhead and on the museum façade, firing many older staff and hiring younger people, tightening up security systems (after last year's major theft), and installing many new procedures and a new international secretary named Dembereldorj. We had a nice meeting with him and I think we are off to a good start on our new 5-year work plan for the deer stone project. They have just opened a new temporary exhibit of German photography in Mongolia in 1926-1927 by Herman Konsten. They have also changed some of the archaeological exhibits and painted much of the interior. The rest of the day was spent working on my editing for the Genghis Khan book, dodging electrical blackouts that took out large parts of the city for hours. I also paid a call on Brian White at the American Center for Mongolian Studies. He, Tuya, and Enkhbaatar are doing very nicely and have re-organized their spaces in the university and are installing new computers provided through CAORC. Richard Kortum had arrived in UB a couple of days earlier and met us in the museum in the morning. He will be with us for the Altai project and will take us to several deer stone sites around Lake Khoton where he has been researching rock art at the Biluut 1, 2, and 3 sites near the lake – sites that have recently been nominated for world heritage status. We had supper in the restaurant in his hostel building, where we'll stay when we return from the Altai – “Zaya's B & B.” Richard has spent several years documenting rock art in western Bayan Ulgii. He teaches at East Tennessee State University and got engaged to his wife in Mongolia in 2002 when she was working as Public Affairs Officer at the US Embassy.”

23 May, Friday – Ulaanbaatar

I worked on Genghis Khan manuscripts at Adiya's office in the morning and continued in the afternoon – finishing my part of the editing and sent it off. Kyle Strickland arrived without any dif-

¹ This expedition log has been transcribed by Kyle Strickland during an internship at the Smithsonian's Arctic Studies Center, National Museum of Natural History (fall of 2007).

² Italicized portions of this text have been written by Dr. Richard Kortum, Dept. of Philosophy, East Tennessee University

facilities in the afternoon and was met at the airport by Adiya's assistant, Ugii, and brought to the museum. Excellent to have all of us together and ready to go – except for Bayaraa who has too much work unfinished (including the photography of the museum's loan to the Genghis Khan exhibit), but will go anyway.

Adiya has a new business plan – developing a cement mine in the southern Gobi with some Korean partners – and he's hoping to make enough money to build a house on the outskirts of Ulaanbaatar. Cement is in short supply in Mongolia due to all the construction in China. He will acquire all the machinery from China and has financing from Korea.

24 May, Saturday – Ulaanbaatar to Bayan Ulgi

We met at the museum and 'vanned' to the airport for our 11:00 flight - a new SAAB turbo jet that was very comfortable. Gorgeous flight, which stopped for gas at Muren, and flew over the Ushkin Uver site. West of Darkhad there were few roads for a long ways until passing the great salt lake, Achit Nuur with its many raised shorelines. This part of the country seems to be really wild and nearly uninhabited; I rarely even saw car tracks or ger camps. In Ulgi we were met by reps of Blue Wolf Travel, operated by Ch. Canat, a fantastic character who is involved in just about everything that moves in this part of the country. His base camp is simple but has all the amenities and we were set down immediately to a hot meal, followed by a swift bout of preps, including a trip to the black market to buy shovels and pails. We figured out the itinerary and I paid \$1134 which is supposed to cover all transport cost as well as the cook, food, and gas. Turns out Canat has even worked extensively with Sanjim and Chuluun, his wife, with Hamid Sardar who has made a movie with him that will be produced this year. He's also worked with our former photographer, Tom Kelly, and his wife on the NGS horse documentary being produced this summer. They wanted to film our horse ritual excavations but the schedule did not work out. We left in two vans about 5:30 for Tsengel, but only got 30 min. out of town when the van's cooling hose ruptured, sending an anti-freeze steam through-out the van. It took an hour to fix it temporarily by winding orange flagging tape around the rupture – and then on we went, after walking three turns around the ovoo at the pass. This did not help as we only got another 30 minutes before the repaired hose burst again, and at this point we had to abandon the van and all piled in the remaining one, reaching a small sum where one of the drivers had a friend who graciously agreed to take all of us in for the night. It was a typical Kazakh farm with a mud-brick walled enclosure and a 3-room mud-brick house. The mistress and our cook prepared a nice meal and we chatted awhile before turning in on their living room floor beneath a huge poster of ripe tropical fruit, set out as for breakfast – wishful thinking for local stores here. The wind rose and whistled about the crevices of the house while Richard did a bit of his own 'whistling' (snoring) as we all napped through our first night out. The drivers got back from fixing the van and had supper in the outer cooking room at 2 A.M. The farm had electricity from the sum center and lots of electronic devices, including a TV which was playing a Russian gangster movie: "Small Lamb"

25 May, Sunday – To Khurgan Lake

Clear and cold morning, and quite windy. We were up at 6:00 and had a nice breakfast, said good-byes to our hosts and were on our way by 6:30. On the way one of the hose repairs failed spectacularly, and we spent about two hours on the telephone with Adiya and Canat figuring out what to do - fix it somehow, or get a new vehicle out to us. In the end we put everything into the good van and headed up the Khovd River expecting the second van to eventually appear. That happened at lunch, at the same spot we lunched last year, and what a great lunch it was - a fruit salad and rich soup. Kites (birds) were plunging from overhead for our tossed morsels, and a family was making mud

bricks for a new house nearby, a very interesting process that produced strong and durable bricks the size of cinder blocks, using simple riverbank silty soil with no temper, mixed with water and rammed by stomping into a rectangular metal form, making a block about 12x8x6 inches. The wet brick slips out of the form and sits in the sun, being frequently rolled over until dry. They had started the foundation with several courses of slab rocks, covered with a leveling layer of mud, on which the blocks were to be laid. We passed the mine and Turkic graves on the upper terraces – huge high sand and gravel outwash deposits from glacial action in the mountains to the south – crossed a toll bridge over the Khovd River and arced to the south into the valley we had entered last year, where Canat’s guide said we would find many khirigsuurs. And



Making mud bricks on the banks of the Khovd River.

we did, but mostly the same ones we saw last year. We checked several standing slab sites and all seemed either Turkic (one with a nice statue) and the peculiar set of two stones that seemed shaped like deer stones but had associated stone rings on to the west side of the stones with fence stones made of slabs angled in toward the center, and off-center circular stone pavements 2-3 m. in diameter. We thought these might be transitional forms leading into the Turkic type graves. The stones were DS-like granite slabs but had no markings. There were none of the Turkic square/rectangle shaped slab box structures. After this we spent an hour checking several large khirigsuurs at the



On Khad (Mogoit) khirigsuur with horse mounds, view south.

Mogoit (Kazakh: Jeland) site to the northwest. Here there are 6-8 khirigsuurs, including some very large ones, two of which we sketched and took measurements. One was a complete and tremendous surprise – a heavily built khirigsuur of moderate size with a square fence with corner “mounds” (no upright post-rocks, just big rocks) and along the east fence wall had 10 large-stone horse mounds, with two more on the south fence side and four along the north fence side (see Fig. 1). This is exactly like the central Mongolian khirigsuur sites! Here for the first time we have a khirigsuur with recognizable horse sacrifice mounds that we can date

– at least this is my assumption. I did not notice any hearth rings, but they may be present. Next to this mound is a very large khirigsuur with four cardinal-direction spoke lines, a 17m diameter central mound with a 45m fence in diameter (see Fig. 2). The mound is low, with a depressed center, 1 m wide fence wall rocks large boulders with outer edge rocks standing upright; 16 hearth rings around the west side of the circular ring, 16 m from fence wall and spoke pavements 50cm wide made of small rocks. This khirigsuur is about 75m SW of the square one. We stopped at several other khirigsuurs including a huge one on the valley floor below that was circular and 100m across (fence-fence) and had a mound of many small cobbles and a very depressed center with a passage “out” to the SE that we could not determine if it had been part of the original construction or a stone looter’s operation (then why not take stones from the side and not the center of the mound). The upper part of the burial chamber was exposed. I have the impression these spoked khirigsuurs are later than those with horse burials; maybe the date on the human burial from Tsagaan Gol 2200 B.P last year actually dates that structure. But we need some way to date these types accurately.

By this time it was getting late and we needed to get to the Army camp at the narrows between Lake Khurgan and the Biluut sites on Lake Khoton as the army was going to provide us with a ger and assistance setting it up. We had to pass through some rough glacial outwash terrain to get to Lake Khurgan and along the way searched for a deer stone Richard had seen when he began working here in the summer of 2004. We failed to find it along the shore, but did visit a site with Turkic stones and mounds, and a single DS with large upright deer images (see description below). We had a warm reception at the base where they remembered Richard well, and since it was almost dark they arranged to have us stay with a family in their ger at the base. Irina made us a great dinner. The family (Devrein) had a small baby named Hondas who got swaddled into its bed and tied down. This is still a practice in the Mongolian countryside, but not in Ulaanbaatar. It was a cold night and I never really

warmed up even sleeping in the ger. Richard, Bayaraa and Kyle spent part of the evening with Captain Maam, who also had some libations available. He and Richard had become friends over the past two years.



Bill Fitzhugh at mirror-still and partially frozen Khoton Lake with Altai Mountains and China behind him.

26 May, Monday – Army Camp to Khoton Lake / Biluut Sites

Frost on the ground in the morning. After breakfast the Army packed up the ger and we drove to Biluut, about 30 minutes to the northwest. I washed down at the lake and found the water incredibly clear and cold, all glacier/snowmelt from the mountains surrounding the southwest side of the lake. There is wonderful fish-

ing here. The Altai rise up in a spectacular array of snow-clad peaks to the south, along the Chinese border, which is the reason the Army base is here, as there is a pass that leads to China, the destination of the road we traveled to Tsagaan Asga last year. This time of year the mountains are streaked with snow in the ravines and there are also many cirques and glacial features. The entire mountain

chain must have been glaciated in the Ice Ages, providing all that outwash we passed through; then the waters of the lake dammed up and when released created huge series of raised beaches and terraces that seem to go up the hills hundreds of feet. However, rock art and Bronze Age khirigsuurs are found down near the current lakeshore so the water level has been stable for at least 3000 years.

GPS 323 (2066m; N43°38.733'; E88°18.852'). Khoton Lake Biluut-1 Camp spit 2066 m. on sand gravel spit southwest of Biluut-1

GPS 324 (2081m; N48°39.116'; E88°19.669'). Biluut-2 survey. Turkic rectangular structure, 3.5x10m with long walls at 120° orientation on a sand and boulder ridge located above a small pond to the north; took photo toward the northwest; 1.4m high slab of green slate surrounded by a ring of rocks at its base is located east of the rectangular structure (see Fig. 5). Across the valley on the southwest side of Biluut-2 is an amazing rock art site displaying elegant horses and riders each nearly two meters wide and high.

GPS 325 (2076m; N48°38.339'; E88°19.503'). This is a Pazyryk-type burial site consisting of a closely-spaced 'chain' of six boulder features, each capped by 4m diameter circular pavements. Several of these burial sites have been excavated by Turbat in the Tsagaan Asga area.

In the flat valley north of the Biluut-2 hill is a set of Turkic graves oriented to 120° Mag. The southern stone has simple carved face and is 127cm high, and the other features have plain slab headstones. On the northeast side of Biluut-2 there is another set of Pazyryk graves and many other khirigsuurs and other structures, including a modern Kazakh cemetery.

The army guys helped transport the ger from their base to our campsite. Enroute one of our vans got stuck in a small river we had to cross and while they pulled it out Kyle and I checked out the west side of the stream mouth and found a recently-occupied (ethno-archaeological) herder's camp with ger sites and lots of stuff lying around, just as in the Nenets' camps Sven and I used to visit in Yamal. We also found a circular burial feature with a solid cobble rock pavement, 6m in diameter. I did not have my GPS at the time. It looked like the pavement burial we dug at Khogorgo (Shishged) last year, but this site has no flints or ceramics visible.

The soldiers erected the ger on an exposed sand spit south of Biluut-1 where Richard camped last year. Captain Maam, the commander of the base, was overseeing the operation. Richard, Kyle and I visited the Biluut-1 shore-side rock art area while the ger was going up. There are several groups of beautiful rock art here, including several simple but distinctive 'Mongolian deer' images identical to those on deer stones. It was difficult to photograph in the mid-day sun. A herder rode by and pointed out images to me; he knew them all! After lunch we set off to visit sites around Biluut-2 – mostly khirigsu-



Generous hospitality was received courtesy of Captain Maam at the Mongolian Army camp at the Khurgan-Khoton Narrows.

urs, but also lots of Turkic burials, and others. The khirigsuurs were sort of hybrids: the small square forms had fences with large rock clusters in their corners, but the sides were bowed out sometimes



Mongolian deer images at Biluut-1 shore site.

and almost rounded. Some external hearths were present, but no horse mounds, probably because these sites are small. (It later turned out that horse mounds are virtually absent from the Bayan Ulgii region's khirigsuur sites.) The orientation of the square khirigsuurs along the base of the south side of the Biluut-2 hill was 120°-130° generally. Burial chambers, when you could discern them in the central mounds, had the same orientation. As at Lake Erkhel (Ulaan Tolgoi) there were few round khirigsuurs. We saw several interesting Turkic burial complexes, two sites with "Pazyryk" type burials, one with six burials and another with four, whose individual burials are linked

together in a chain-like pattern 1-2m apart, with 4m diameter boulder pavements. Also in the low flat area northwest of the "pond" passage area between Biluut-1 and Biluut-2 hills was a line of cobbles, 1m apart, that extended for about 75-100 m that aligns with a notch in the hilltop of Biluut-2 which Richard thinks may link to some astronomical feature at the time of the fall equinox or some other important seasonal event – certainly an interesting but untested idea, since it has not been measured.

RK: This line of half-buried cobbles runs east-west. To the west it points to (and approaches close to) the middle of the six linked Pazyryk graves; to the east it runs in a fairly straight line directly toward a deep notch that lies between two conspicuous horns of rock near the southern end of the high ridgeline of Biluut-2. In late June

of 2007, two of my project members and I stood at the western extremity of this line of stones and watched the sun rise over the ridge of Biluut-2. The sun appeared to the north of the notch, maybe 30 degrees or so, which would indicate that in our day and age, it rises between the notch around mid-August. This directional stone line is of uncertain date. However, these cobbles are a kind of feldspathic granite; at other petroglyphic sites, this lithology is the preferred geologic medium for rock artists of the Bronze Age (see Kortum, et. al., "Boregtiin Gol: A



Rock art at far side of cove beneath the main Biluut-1 site.

new petroglyph site in Bayan Olgii Aimag, Mongolia,” in INORA No. 47, 8-15 (January 2007). Assuming this line to be of Bronze Age construction, then, naturally, in order to ascertain its relation to a rising sun, approximately 3000-4000 years’ of polar wobble has to be taken into account. One of my ETSU project team members will be making these calculations soon.

*There is one other, smaller, directional line at Bihuut. This one begins at a small (~ 1.5m diameter) irregular cluster of stones and runs due north for a short distance (~10m). Clearly, celestial as well as topographic orientations were important to these early peoples. Such features add an intriguing extra dimension to this rich petroglyph and burial complex, and strengthen, I believe, the hypothesis that these three prominent lakeside hills marked a ritual or ceremonial site of great importance. It is part of our overall site study-plan to map and analyze these features in order to make better sense of the interests and concerns, the beliefs and practices, of the various peoples who passed through this region on the eastern side of the Altai divide.**

Bayaraa has seen another such alignment to a mountain top related to the spring equinox sunrise, and we found a similar boulder alignment at one of the Tsagaan Asga sites later in the trip.

People have not been doing too well today. Richard has intestinal trouble and Bayaraa a sore throat; Kyle broke his only pair of glasses (fortunately only one lens lost); and I discovered my two spare Nikon camera batteries missing. Beautiful and sunny and windy all day. Saw lots of horses and a herd of camels and of course many sheep and goats.



A normal day’s work fording a Khoton Lake creek.

27 May, Tuesday – Khoton Lake (Richard’s Birthday)

Another beautiful morning, clear and still, and warmer than others. So far the khirigsuurs we’ve seen here around the lake are not classic forms from central Mongolia. Many of the square khirigsuurs have bowed sides, but they may have the circular hearth rings usually on the western side of the right fence. Quite a few are looted. This area seems to have a concentration of burial types and a long succession of peoples -- probably due to the excellent and abundant resources of lake, land, and mountain -- and also quite large horse herds. *Not only the variety of khirigsuurs, mounds, and standing stones, but also the variety of petroglyph images, supports this conjecture. In each of the 2004, 2005, and 2007 field seasons at Bihuut, members of the Rich Cradle Expedition documented a variety of distinct human-figure types in the rock art. Among those that can be clearly identified are Bronze Age archers, long tunic-wearing and cudgel-wielding men of the late Bronze or early Iron Age, distinct sets of horse-mounted warriors, and later Turkic horse riders. Further analysis is required to sort these out; we hope this will enable us to begin to paint a picture of the chronology of this site and its changing demographic patterns.* Left camp at 9 A.M. and got stuck in the river gravel for awhile, then started surveying along the base of the hills east of Bihuut-3. Some very nice khirigsuurs near a pond.

Mongolia Deer Stone Project: Field Report 2008

GPS 326 (2099m; N48°38.638'; E88°22.605'). Small square khirigsuur- undisturbed, many hearth rings; 90° E magnetic orientation of fence alignment.

GPS 327 (2097m; N48°38.707'; E88°22.307'). Structure #1: sandy pond terrace square khirigsuur, 75.4x18m (westwall) with corner posts. 100° orientation for North fence wall. ~ 10 ovals; burial chamber with large slabs has been looted; circular hearth rings on the west side of the structure.



View toward the south shore of Khoton Lake.

GPS 328 (2099m; N48°38.662'; E88°22.321'). Structure #2: square khirigsuur with 18 beautiful symmetrical ovals around W & N side (**19° oval SE of mound?**) Looted grave slabs. S wall 13.7m/E 14.3/N 12.5/W 13.9. 8m mound diameter.

GPS 329 (2097m; N48°38.663'; E88°22.373'). Structure #3: khirigsuur with a double wall boulder fence ring with cobble fill. Wall is 1.2m diam. Looks undisturbed; 22.3m diam. khirigsuur; 11.6m mound diam. 7 oval hearths on the W & N side, some 3-4 m in diameter. 10m south of the #3 fence is an 8m diameter boulder pavement. 21m south of #3 fence is another 8m boulder pavement 25m from

#3 fence to its center.

GPS 330 (2098m; N48°38.603'; E88°22.312'). Structures #4 to #8: 4x8m Turkic grave complexes with 4 square Turkic slab-outlined graves, ca 4x4m w/standing slab on S side outside the feature. Two more Turkic square burials lie to west of the southern complex with a Turkic statue with excellent carving.

GPS 331 (2102m; N48°38.479'; E88°22.485'). Structure #9: a round khirigsuur which seems undisturbed. Diameter is 21.6m; 9 hearth rings about 2m in diam. Center mound diam. 8.3m with internal features and an exposed cobble plaza pavement (see Fig. 4).

GPS 332 (2099m; N48°38.205'; E88°23.107'). Structure #10: **On a hilltop SE of the previous structures ___ w/6 areas Turkic burial complex and several stone slab alignments**

(No GPS). Structure #11: spoked khirigsuur with no inner pavement seen. 4 radial spokes 1.5m wide with rubble fill in between; axis 120/300 degrees with E-W spokes. 2m-wide outer fence line w/rubble, boulder, and slab fill; western spoke ends in a vertical slab. 1.75m mound height with indentation in the middle.

GPS 333 (2099m; N48°38.183'; E88°23.148'). Structure #12: 207-022 degree N-S axis of spoke; large boulders in indentation of mound with small cobbles outside of indentation. 2.5x5m burial chamber area, a greywacke deer stone was lying on the east side of mound where spoke enters mound, with a belt groove. The stone has a friable rough surface and is 135cm long, 37cm wide, and has a 13cm thick square base and an angled top (see Fig. 7).

GPS 334 (2094m; N48°38.070'; E88°24.135'). Structure #13: A spoked circular khirigsuur with 30cm wide spokes oriented 040/220°; a single cobble fence, not concentric w/mound; no N-S radials; 7 oval hearths scattered around the north and west sides; 10.4m mound diameter and 22.8 fence diameter.

GPS 335 (2102m; N48°38.173'; E88°24.286'). Structure #14: Circular stone mound 10m diam. No fence, but a few oval rings. 2nd mound 20m to north, looted with large cover slabs disarranged, probably

E/W burial orient. 3-4 oval hearths on N. side. The circular fence seems to coincide with the outer edge of mound.

(No GPS). Structure #15: Circular khirigsuur (Bayaraa recorded this in detail) with a depressed center mound and a single boulder fence line. N/S radials at 010/190°; E/W radials at 300/120°; 50cm wide radials of doubled rocks, and 2 external oval hearths.

GPS 336 (2093m; N48°36.044'; E88°24.323'). Structure #16: Circular khirigsuur with radials E/W 310/130° N/S 020°/200°; no obvious plaza pavement; 1m high mound w/depressed center; several ovals on the west side.

There also were Turkic graves. At a large khirigsuur (#12 GPS 333) we found a simple deer stone in the east side of the central mound, aligned with the east radial. Made of greywacke (?), it has a square cross-section, expanding in thickness toward its angled top. Near the base of the stone we found a belt groove, so this is a real deer stone that had fallen over from its position erected at the east side of the mound, where I found the intact hole in the boulder where it had been set.

GPS 337 (2145m; N48°35.170'; E88°28.362'). Structure #17: A standing square granite stone 60cm high with no observable marks.

GPS 338 (2127m; N48°34.498'; E88°29.477'). Structure #18: A granite slab with an angled top, rounded sides but roughly finished, and no markings. There is a square box of vertical slabs at its base measuring 1.25x1.00m. the stone is located at a herder's camp near his westernmost cabin.

GPS 339 (2127m; N48°34.380'; E88°29.829'). Structure #19: On the upper terrace at the base of a hill, a rectangular cross section granite slab had fallen from its setting. There is a possible belt groove, but no other marks. Located 10m east of a low square 5x4 cobble pavement and a second paved square platform measuring 3.5x3.5m.

GPS 340 (2124m; N48°34.362'; E88°29.941'). Structure #20: 8m diam. boulder burial with cover slab (looted?), 5m uphill from large boulder-walled ring enclosure (house #1) 9x6m oval with a recent boulder pile at west end of house #2 (western) 7x6m. A piece of flint-like stone, possibly worked, was found in a truck rut just below H-1.

GPS 341 (2135m; N48°34.314'; E88°30.132'). Structure #21: 6x6m cobble pavement burial with small cobble cluster 1 diam. to SE.

GPS 342 (2133m; N48°34.298'; E88°30.152'). Structure #22: This is a hilltop boulder mound about 2m high, and looted. A secondary burial circular mound lies near it to the NW. The main mound is 7m diameter and on the east side of the mound we found a piece of antler that had been thrown out of the center of the mound by the people looting the internal mound burial.

(No GPS). Structure #23: Small 3x3m rock mound on the terrace NW of #21.

GPS 343 (2108m; N48°36.600'; E88°26.118'). Structure #24: Large boulder mound with tipped-up mound edge rocks. No fence or ovals, possibly an Iron Age irregular mound with hummocky rock piles and pits (drawing). 2 smaller rock mounds to SW at edge of big mound. The big mound is 26.2m in diameter. A line of small Turkic slabs (balbals) extends 110° to a small hill to the SE. the big mound is 1.75m high and has had many stones robbed from it. Mound 2, 3m north of Mound 1, is 17m diameter, has an uneven surface, and is 75cm high. Mound 3 is 40m to N, has 10m mound diam. same type but no stone slabs aligned to the east.

GPS 344 (2109m; N48°36.683'; E88°26.060'). Structure #25: A Turkic 3-box grave complex with a standing man figure w/head, eyes, nose, mustache -- perhaps a 'papa, mamma & twins'? (see Fig. 8) Standing slabs aligned w/center of mound #24 to east. Chinese records say each standing slab (balbal) stands for



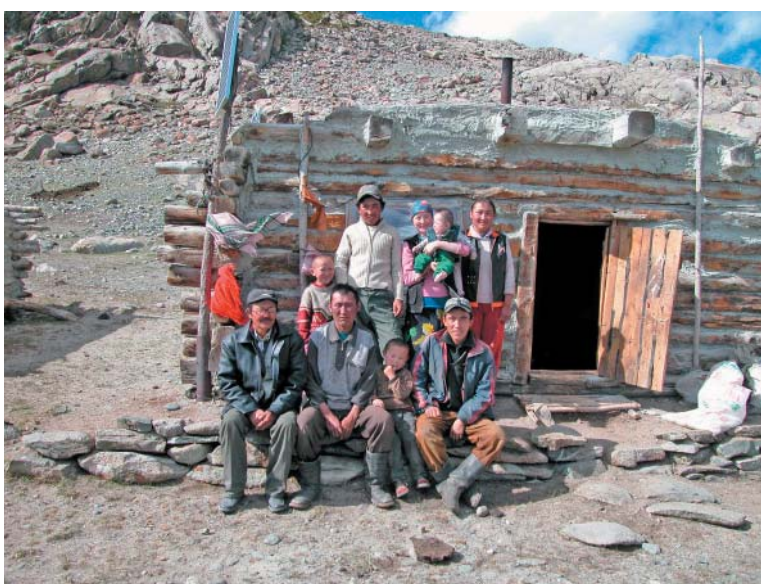
Turkic grave figure west of Biluut-3.

a warrior killed by the deceased.

(No GPS). Structure #26: Turkic grave complex with two square enclosures (looted); the northern box has a huge balbal alignment with more than 20 slabs. 30m to the north are three small slab boxes w/slab markers in a large 2-grave setting (see Fig. 8).

We worked our way east along the north side of the lake recording khirigsuurs until it was time for lunch (sardines and crackers), which we bought at the small shop near the bridge, realizing we never would be able to return to camp for the lunch Irina had waiting for us if we were to get back to work here again in the afternoon. After lunch we visited a herder's cabin to ask about the deer stone Ricard had seen here four years ago but didn't remember where exactly. There was a small unmarked granite slab here (GPS 337) that might be a deer stone but there was no way to be sure. The herders told us about another standing stone at the next herder's cabin to the east, and we soon found it, right next to their southern-most cabin – a meter (plus) rectangular granite slab – but, again, not marked. None of these matched Richard's description,

which was of a much taller stone, with deer images. We walked east from there and found 3 large circular structures with heavy boulder foundations and one possible piece of worked chert (GPS 340). This site might be an early site – pre-Bronze Age dwelling. We also found another unmarked granite slab fallen down (GPS 339) in the track that had a suggestion of belt groove, but we couldn't be sure. However, it fits a pattern of 3 such unmarked standings stones associated with house rings or enclosures in the area. There were other mounds on these upper slopes as we walked east, finally ending up at another herders' camp where we were invited in for milk tea by a family very proud of their small children. They have been living here high above the lake since their grandfather moved here from Kazakhstan perhaps following



A herder's family on south side of Lake Khoton.

the invitation from the Khan Bogd of this area of western Mongolia in 1911 for Kazakhs to settle in Western Mongolia.

From here we returned to camp and found our other driver waiting at the stream ford, thinking our failure to return for lunch might be from being stuck in the river! After a great dinner I took a walk west of camp finding a large Turkic burial with many eastward facing slabs – many men killed in this guy’s past! – and in the rocks above camp some nice rock carvings including one human figure wearing skirt-like apparel – perhaps a woman? Or an armored warrior? When I returned Irina had prepared khuushuur for a snack and Bayaraa was drinking pepper-laced vodka, thinking it would help keep his sore throat from becoming a nasal cold. Ayush had recommended this concoction, but it turned out to be painfully hot; Natska had to fetch him cold water after he had gone to bed! It was a clear warm night with a great sunset. Headlights could be seen flashing at the east end of the lake. No wind at all.



Kyle Strickland, a Notre Dame-Smithsonian intern, at mound site above Lake Khoton.

28 May, Wednesday – Khoton Lake camp

Clear, still and warm. The amazing weather still holds, and there is still a lot of floating ice at the west end of the lake.

GPS 345 (2174m; N48°39.030'; E88°19.529'). Biluut-2e rock art panels with Bronze Age carts, Mongolian deer and moose. *In summer 2007, ETSU geologist Mick Whitelaw and geology honors student Taylor Burnham joined our team at Biluut and made a thorough study of the geology and its impact on petroglyph production. For a detailed account, see Whitelaw, Kortum, et. al., "When Stones Speak: Geologic Influences on the Creation of Petroglyphs at the Biluut Complex in the Altai Mountains of Mongolia," in Proceedings of the 6th annual Hawaii International Conference on Arts & Humanities, January 11-14, 2008, Honolulu, HI. Rock varnish — its thickness, sheen, and color — was one of our controls in that study on Biluut 2. Besides content (e.g., the depiction of wheeled vehicles, weaponry, technology such as stirrups, identifiable headgear, extinct species, etc.), stylistic elements, and pecking techniques and profile (tools, depth and shape of gouges, etc.), the reappearance of varnish in the pecked grooves can serve as another indicator of age. Generally speaking, the whiter or lighter the color of the exposed rock in the grooves or gouges, the more recent the creation of the image. Conversely, the darker an image, the older it is. Though we do not yet know to what extent this might hold for petroglyph production at Biluut — and local (lakeside) conditions must surely impact this — Esther Jacobson has estimated that it takes 3,000 years for the original rock surface or varnish color to return to the pecked figures. In our 2007 study, we subjectively recorded the quality of rock varnish visually on a scale of A to E, 'A' being the heaviest, darkest, and most lustrous, and 'E' designating the virtual absence of varnish. The presence or lack of varnish was determined not only by (southern) exposure; such factors as dip and strike (vertical-horizontal slant and tilt) and rock-type were also found to be important. This and most of the other Biluut rock art sites, are found in south-facing locations, the only places where the rock 'varnish' seems to develop from a combination of weathering and microbial action.*

GPS 346 (2086m; N48°39.623'; E88°20.505'). Grave ring with inner upright slab ring and flat stone pavement (see Fig. 6). The interior and outer partial ring of boulders is not mounded. Inner inclined slab ring with slabs slanting in to center- There is a 2nd smaller ring feature 20m to the south at the terrace edge, and 3 'Pazyryk'-type burial features about 100m to NE of GPS #346. Another boulder circular feature 5m diameter is 50m NE of the Pazyryk burials.

GPS 347 (2090m; N48°39.853'; E88°20.515'). This is a 28x29m rectangular walled enclosure with central boulder feature and a slab-bordered rectangular feature a few meters to the south of the central feature. Richard discovered this feature in July 2005 and wanted us to investigate it. *This square earthen berm is a very peculiar and intriguing feature. Bayaraa says he has seen nothing like it elsewhere in Mongolia, and neither have I. At the SAA conference in Vancouver last April, Jean-Luc Houle told me that he had encountered something similar in Central Mongolia, I believe, though of much smaller dimensions. This feature at Biluut measures*



Biluut-3 rock art site.

nearly 30m square; Jean-Luc says that the one he's seen measures about 10-12m across. The rectangular interior feature with fallen slab appears to be Turkic. But the central small mound or pavement looks to be much older — Iron Age, Bronze Age, or possibly even earlier. I plan to pursue further excavations of this feature in future; among other things, I still want to test the perimeter for stratigraphy. ETSU

archaeologist Jay Franklin hopes to join me in summer 2010; this will be one of his top priorities. We surface-collected fragments of brick, glass, metal, shoe leather from the area but it may be contaminated by materials from a frequently-used camp area found in this area. We excavated two test pits, but nothing was found and the soil is sterile just below the surface. There is a fallen slab that may once have been standing which we found east of the rectangular slab feature. The central boulder feature is 2x2 m. We had no ideas about its age or function.



Biluut-1E (southern gully) rock art site: Bow hunter and cloaked or armored person with headdress; deer and ibex.

This site is not recorded in my **GPS: (2132m; N48°0599734; UTM E 5389498)**. Biluut-1 rock art deer images stags with peaked withers, but upright antlers. Some figures

like this, resembling Nenets seida idols and BA pendants (see Fig. 10). I found 4 or 5 of these images at one spot at Biluut-1, very lightly scratched into the rock varnish. *Indeed, there is a striking and beautiful variety of deer imagery on all the Biluut hills, dating from the pre-Bronze (and perhaps even Paleolithic) period. Testifying to their importance, the number of deer images is surpassed only by that of ibex and horses. Our summer 2007 laser-mapping of petroglyphs on the middle hill, Biluut 2, yielded the following:*

discounting what we call non-representational “marks,” as well as figures that we classify as “indistinguishable,” of those 1,110 distinct identifiable images that remain 377 (32 percent) are of ibex, while 152 (13.7 percent) and 59 (8 percent) are of horses and deer, respectively. If we count riders on horses (59) as among the horse images, then that percentage increases to 19. Similarly, if we count Mongolian deer (16) as belonging with the other forms of deer, then this figure likewise increases to 9.5 percent. In future seasons at Biluut our project members intend to complete a full count of all the images contained on Biluut 1 and Biluut 3, as well. Our most recent survey in 2005 documented in excess of 4,300 individual petroglyphs on Biluut 1, over 1,600 on Biluut 2, and more than 2,100 on Biluut 3. But I fully expect that the numbers on Biluut 1 and Biluut 3 will be added to, perhaps by as much as five to ten percent.

After first looking at the rock art at Biluut-2 we spent the morning in the Biluut-1E upper valley, on the south-facing slope of the gully above the herder’s winter camp. No doubt its residents are responsible for the serious graffiti that has damaged some of the best art panels, and most done since AD 2000.

There were some great figures here, including some Mongolian deer and a supposed shamanistic or ceremonial figure of some kind. Richard and his collaborators, including

Tserendagva at the Institute of Archaeology, have done a very detailed job of documenting these and other Biluut sites – Biluut-2 having more than 4,300 images and Biluut-3 more than 2,100. Then we crossed the stream between Biluut-2 and Biluut-3 and tested a 30x30m rectangular mounded-wall



Biluut-2, images of deer.



Lake Khoton site 333 with deer stone at east edge of the mound.

enclosure that Richard had found in 2005; it has a small boulder pavement burial (?) in its center and a few meters south of this, a rectangular vertical slab-lined enclosure about 3x2 m. A large slate slab, once vertical, lay on the ground to the east. This feature looks somewhat Turkish, but Bayaraa has never seen anything like it before. We dug two 50cm test pits in the east and south interior, finding nothing but sterile silty sand. A test in the wall also failed to reveal stratigraphy or signs of construction. The last visit of the morning was to Biluut-3 where we found many deer images, including some with the antlers of the ‘Mongolian deer’ and others with straight-up antlers and peaked

withers – perhaps “proto” or “post” Mongolian deer stone forms.

After a nice hot soup and potato salad lunch we forded “cold stream” again and went to the big spoked khirigsuur (GPS 333; #12) to map it and excavate some hearths, hoping for material to date the spoked-type khirigsuurs. Kyle and I excavated a small hearth on the east side of the khirigsuur and found a couple pin-head sized pieces of charcoal and a few pieces of calcined bone (see Fig. 9). The charcoal might be enough to date by AMS. Meanwhile Bayaraa mapped the khirigsuur; then we all pitched in to dig hearth ring #18, a large oval on the west side of the mound. Here we found lots of calcined bone and a small bit of charcoal from the top at the cultural level. The deposit was 10-12 cm thick but we found only charcoal stained soil at the lower levels. Maybe 2 C14 dates could be run on this material to date a spoked mound. (Result: 2840 ± 40 uncalibrated).

Thanks to Bill and Kyle, my project finally has its first C14 date from the site. Bill’s suggestion here (of running another C14 date) is an excellent idea. When I get Jay Franklin (or another dirt archaeologist) out to Khoton Lake with me, excavating more of this spoked khirigsuur will be another high priority. Indeed, we intend to sample a large number of the site’s associated khirigsuurs and other stone monuments. In addition to datable organic material, we hope to recover artifacts such as pottery, tools, equestrian paraphernalia (bits, bridles, etc.), and other implements that can shed light on patterns of settlement and use.

29 May, Thursday – Lake Khoton

This was our last morning at Bi-luut, and another beautiful one it is, possibly nicer than the other three, it’s so still and warm. Yesterday the crew bathed at the lake at lunch. But Bayaraa’s cold got the better of him none the less, as during the afternoon he developed a terrible headache just before leaving the site, and of course we ended up stuck for the fifth time in the cold brook and he had to hop out and join us in the water to push the van out. For once the aspirin I’ve been carrying in my knapsack for years came in handy

(and still worked). Irina has been making incredibly good meals for us – every one different, and colorful to boot. Yesterday’s breakfast was thin pancakes and fresh apples cut in a tooth-like pattern through the middle. The other night it was homemade khuushuur. The only meal we should have had here that I miss is a fish fry, since there are so many fish in the lakes. Good old Capt. Maam was supposed to bring in a load of fish, but we heard he had made a trip to Ulgii during these days. This morning we’ll have to leave the ger standing for the army to disassemble and bring back to the base as we cannot manage to carry it in our vans. Somehow the two spare batteries for my digital Nikon fell out of the case and have been lost so I’m on the last gasp of power for that camera and have been starting to shoot film. There are mighty fine reflections of the mountains here in the mornings when it is so still, almost until noon. We crossed to the Army camp and told them we had left the ger out in the field, and they agreed to fetch it. We had also hoped they would be able to sell us some diesel,



Khovd River ice in May with Bayaraa, Kyle, and Richard.

but they could not because Captain Maam was still away in Bayan Ulgii.

Two days ago we met a really obnoxious group of Russians at the bridge near the army camp. They waved us over to try and get our help extricating them from some difficulties created by traveling here without park or border permits. Apparently the army had fined them and told them to clear out. There were 10-12 of them looking like ruffians and I guess they thought Mongolia was still Russian! We also met two groups of very nice young German tourists, one couple on motorbike and the other in a van. The latter were put up by a local herder who seemed like he wanted to make a transition from herding to tourism. He offered us all cigarettes and had a casual off-hand attitude. There actually could be a good tourist business here - fantastic scenery, lots of hiking and climbing, traditional culture, and fishing, as well as a great treasure of archaeological resources and of course the petroglyphs. The only problem is the remoteness and the proximity to the Chinese border, which is still very sensitive. *In fact, tourism has already come to Khoton Lake. It is on the increase. A number of tourism and trekking agencies, headquartered both in UB and in Olgii, bring foreigners to the Altai Tavan Bogd National Park — and to the shores of this lake. In August of 2008 a large encampment of tourists from around the world congregated here to witness the total solar eclipse. Many foreign visitors camp at the lakeside. Unfortunately, whatever boon this may bring to a beleaguered economy, it spells serious trouble for the preservation of the Biluut petroglyph complex. This spectacular rock art complex is now on the map, figuratively and literally. The damage from goat hooves is quite bad enough; but now people come and tramp all over the rock art. Not only locals, but more recently, foreigners, have ruined sacred rock panels — and genuine masterpieces of petroglyph imagery — by carving names and initials, and imitation images, into the rock. Of course, this is entirely ineradicable; the damage is permanent. There is a movement in UB to designate this site and neighboring ones to the north as a United Nations World Heritage Site; but whether or not this effort ultimately proves successful, something needs to be done immediately to stop the vandalism and the looting of grave mounds. The danger is very real that invaluable information will be forever lost; desecration of this sacred and stunningly beautiful site is a terrible crime against both man and nature.* Capt. Maam says they catch 20-25 people trying to cross the border illegally each year.

We hunted above the road at several more locations as we left the Khurgan/Khoton valley, but had no success finding Richard's missing deer stone. His guide showed it to him the first time he came here but did not take a picture or a GPS then. It's supposed to be a tall and well-made stone. Finding it has been the leit-motif of this part of the trip and searching for it has led us to survey the entire north side of the Khurgan/Khoton Lake system except for its western- and easternmost areas. In the process we have found several likely stones and many other sites.



Bayaraa and Irina practicing English with an electronic dictionary.

On the road just after it left the Lake Khurgan shore we came across a Turkic and Deer Stone site

with a single deer stone at the east end of three standing stones, east of some khirigsuurs at the edge of the terrace, with the road running through middle of the site. The deer stone is 142cm high, 60 wide (top), 20 thick, upside down (see Fig. 3). The south side has two vertical deer, with ring and one dangling tassel at its upper left; there is one faintly-seen vertical deer, a horse, and a circle on the north side; three vertical horses on the narrow east side, facing east N-S 345/165°. No belt on exposed part of stone. No external features noticed. West of the deer stone were two Turkic slabs aligned to the west toward a mound (drawing).

We had to crawl along driving to Mogoit because our Mitsubishi van has a very low undercarriage and Janat, our driver, has to swerve to avoid tall rocks or places where the ruts are too deep. In addition, it and the other van stall when they go in the water. The second van (Russian) has lost its 4-wheel drive which makes it more or less helpless in the hills and water crossings. But still we have managed and the drivers are great. It was slow going over the moraines and glacial outwash areas between Lake Khurgan and Mogoit, but we finally arrived about 2 PM, had lunch and went to work on the site about 3 P.M.



Road side Deer Stone site leaving Lake Khoton area. For drawing, see Fig. 3.

The On Khad ('cleft rock') site at Mogoit (Jeland in Kazak; the name of the valley, not the site) is a square khirigsuur 75m to SW of a large khirigsuur and has 16 large, prominent horse mounds, a single-rock fence, no hearth rings and east side orients 125°; A nearby circular khirigsuur is 45m in diameter, and has a 17m diameter inner mound with a depressed center, 090° orientation, a 50cm wide pavement, a 1m wide boulder fence 14m from hearth rings, and 16 hearth rings with upright outer stones. At the square mound we excavated Feature 1, a horse mound located at the mid-point of the eastern fence, just outside the fence, and found a horse head oriented 115° magnetic; skull length is 54cm from the front teeth to end of the occiput (max. length); 45cm from surface of the ground to the base of the skull; 25cm ground to skull top; the atlas vertebra was at the NW corner of skull; the other 6 cervical vertebrae were along the south side, #2 to #7 in situ and in anatomical position from east to west. Four hoofs with one carpal were at east corner of the skull, whose tope had been crushed by the big cover rock; however, the rest of the bone was in excellent condition.

A young herder passing by told us the name of this area is On Khad, meaning cleft rock, from the unusual granite outcrop, which we made our campsite – full of crazy eroded rock forms with hollows and holes and some areas that reminded me of beached whales, or the last days of a shrinking inland sea that was drying up, with all its creatures on their last surviving gasping lunges to find some other

place to be! In a jiffy Irina made us a great mutton and noodle lunch. We're roughing it tonight with no ger refuge and only Richard and Kyle are using their small tents. I had left mine in UB in the interest of saving baggage cost and space in the vans.

Work at the site went spectacularly, and in 5 hours we successfully mapped the On Khad-1 square khirigsuur with all its horse mounds and excavated the one in the center of the first row east of the fence, the most prominent location. It was pretty easy work and a good break-in for Kyle and Richard, except that Kyle started feeling terrible, apparently coming down with Bayaraa's disease – headaches and nausea. He had to go back to camp and sleep just after we found the horse head right under a flat rock in the center of the mound. It was easy to excavate because it was very well preserved – the best I've ever seen, even though it was very shallow,



On Khad mound with horse head burial excavated in foreground.

with its crest only 25 cm below the surrounding ground surface. We finished about 8 PM and had a nice dinner out in the open, with our very civilized dining table and tablecloth – a meal of spaghetti and fresh tomatoes and beef. A bit of vodka after supper warmed the evening, together with



Lake Khoton: herders moving to the summer camp.

the Mongol music on the van's CD player, sundogs in the evening sky, and passing camels with their young herder boy. Most of the valley's winter people have abandoned it now for their summer places, mostly around the lake shores. We passed several heavily-loaded trucks with household goods and gers moving across the steppe to the south side of the lakes where Richard says 10-15 camps get set up across from our old campsite. There are great grass meadows there, and forest wood and fish. All together, a great place for a summer with the flocks because there is always lots of water cascading down from the snow-

covered mountains. *Not only that, but, there is an abundance of burial mounds, several arranged in long lines, on the southwestern side of Khoton Lake. I have every intention of widening our Biluut study area to encompass this side of the lake, too. I briefly visited this location once before, in 2005;*

I don't recall seeing any khirigsuurs, but the lines of unfenced burial mounds strike me as being of Pazyryk design probably.

30 May, Friday – On Khad/Mogoit

I slept on a granite slab on the top of the On Khad granite outcrop with bright stars and the smell of aromatic herbs. Fortunately I had discovered the thorn bushes just in time the evening before as I was laying out my air mattress. There had been sundogs showing in the evening and purple-fringed clouds, signs of high altitude moisture, but nothing materialized. During the night several vehicles passed, but otherwise it was quiet. Morning came bright and warm, and Irina made some French toast. Kyle emerged from his sick tent feeling fine, having slept nearly 18 hours. Perhaps the nausea and fatigue that struck him yesterday while we were digging was sun-stroke, if not Bayaraa's bug; at least he is well-recovered now. Hopefully that's the last we'll see of these symptoms. We left On Khad about 9:00 and stopped at the bridge over the Khovd River to buy some diesel (at 2000/liter) at the nearby mining camp, and 12,500 for park passes and then filled out the same tourist questionnaire as last year. I found a few minutes here for a bath in the river. Then we proceeded upriver through a tight gorge to a ford that turned out to be too deep now to cross with our vehicles. So now we're heading over an alternate route – over a mountain pass. However we did not get far before we



Richard, Irina, Natsagaa, Bayaraa, Janat, Kyle, and Togoo at Khar Nuur lunch site.

growing in the gravelly soil. Everything from near-microscopic spiders that dart around in small bursts, to small ants, and lots of kinds of beetles perching on flowers. The closer you get the more life you see, even when the landscape looks nearly devoid of vegetation. We're still waiting for Janat to fix the hose and the other van is perched higher up on the hill waiting for us. After the hose was patched we struggled up the mountain, zig-sagging back and forth to reduce the climb. More hoses burst and finally we had to ease the strain on the Russian van, which had no front wheel power, by helping it with a tow line from the Mitsubishi van until we crested the ridge overlooking Khar Nuur, which we made our lunch site. It was after three when we got on the road again and quickly dropped down into the Tsagaan Asga Valley.

After a brief visit to the deer stone site where we had worked last year, we looked over the huge burial features that extend up the valley on the north side, sites that include some Pazyryk burials Tur-

had another burst radiator hose. But it's a beautiful day. There are some very impoverished winter homesteads up here in these high hills. A few herds are grazing in the highest areas, and I can hear the young herders calling as they drive their animals in the high pastures, where there is still some grass, while the lower elevations are already too dry. There's been almost no rain recently, although we could see a few showers yesterday over the lake.

There's an incredible amount of small insect life on the ground where I'm sitting now, near a brilliant ruby-colored orchid-like plant

bat excavated that contained great organic finds, and also more Turkic and Bronze Age khirigsuurs. One of the latter is square and has radial line extending from the mound bisecting it into 8 even parts, including diagonals to the corners. I've never seen anything like that before. There is also a huge complex of cobble lined enclosures, including a cobble line that extends hundreds of meters to the top of the hill to the north. This line is connected at the bottom to a complex of small enclosures, many of which are inside a larger square enclosure. The line from the hilltop goes into this grave and ends up in a bottle-shaped enclosure. Very peculiar indeed! We'll have to check the alignment and bearing. The structures look vaguely 'Turkic' but I think are undated. Bayaraa says Turbat is planning to work in this area again beginning 20 June this summer.



Tsagaan Asga deer stone site (which we formerly called Tsagaan Chuu-lot), view north.

We've set up camp on the west side of the upper valley where the river coming down from the still snow-covered mountains spreads out into a large system of braided channels which have been further channeled by irrigation ditches to bring the water to many different locations along the valley sides downstream. The braided channels are also structured with stone walls for animal pens and most are filled with green grass even now, in this dry season. So this is one of the reasons why there is so much burial 'action' around here – a very good situation for animals, of which, there are large numbers grazing today and 4-5 herder camps around the edges of the valley. You don't get any sense of this richness of water in the lower valley. It's unlike any place I've seen in Central Mongolia, where some of the most fertile valleys are far larger. So you can have some very rich (stable) areas here in the mountain zone, where water stays available through the dry stretch between spring and when the summer thunderstorms begin, even though total populations and carry capacity are much lower than central Mongolia. There is also the fish resource of the mountain-edge lakes. *Nearby rock art, with myriad scenes of hunting and of wild animals such as ibex, deer, moose, bear and boar, also strongly suggests an environment rich in food sources, during the pre-Bronze and Bronze Ages especially.* After we set up camp a big thunderstorm threatened but never really struck. We hibernated in the vans watching the rest of the day slip away, following all the lost time waiting on car repairs in the hills. However we still have two days left before needing to be in Ulgii – so let's hope the weather clears again. Kyle and I used the evening time to wander up the valley, where we visited some of the herder camps.

31 May, Saturday – Tsagaan Asga

GPS 348 (2240m; N48°31.181'; E88°57.418'). Deer stone w/ 2 concentric rings with 1 tassel (The hole for its original setting is 150° from looter's hole in center of mound) Greenstone schist 100cm long, with

Mongolia Deer Stone Project: Field Report 2008

a 31cm wide cross-section. Modern graffiti on the side but no other marks.

GPS 349 (2215m; N48°30.368'; E 88°57.038'). This is the location of the Tsagaan Asga Deer Stone site, at Feature 3, the southern of the two features we excavated here this year. The NW corner of the F3 unit (see drawing) is 7 m to from the east corner of the greenstone (greywacke? slate?) deer stone with lots of deer and graffiti.



Tsagaan Asga deer stone site, view north.

At the Tsagaan Asga deer stone site we set up a 3x3.5m square around this large hearth ring east of the central area of the DS alignment, and soon began finding charcoal and small amounts of calcined bone. By 1:00 P.M. when we left for lunch we had already collected enough charcoal for dating, and I had a good small charcoal concentration in the southern area with enough charcoal for a date from that area 10 cm deep, associated with calcined bone also. So there is very good context for this charcoal. A sample from Feature 3 (B-246611) produced a calibrated date of BP 3070-2860, and one from Feature 4 (B-246612) produced a date of BP

3330-3070. Most of the deer stones nearby have rings and lots of deer images. A breeze and a few clouds kept the work bearable. While we dug, Richard drew some of the images on the northern deer stones and Bayaraa mapped the area around Feature 3. Irina surprised us at lunch with a big bowl of mashed potatoes – Kyle, of Irish ancestry, having mentioned his longing for potatoes the other day. And voila! Also mutton soup. Last night I slept out (having no tent) after the showers passed and had a fine night except for being a bit chilly early in the morning. When I woke up I discovered Richard had placed an east-facing pony skull just beyond my head, turning me into a Bronze Age burial.

Last night before supper Kyle and I walked up the valley and passed several circular grave pavements and three herder camps. The third erupted with about ten youngsters dressed in all manner of bright



Tsagaan Asga Feature 3.

clothes, a very excitable mother, and a man carrying a young lamb on his shoulders. I speculated it had gone to her for some curing or special care because he then carried it down and released it to the herd grazing in the stream bottom. We then stopped to watch a young girl weaving a woolen band about 25 cm wide of multicolored yarn on a simple loom suspended under a tripod of three small iron rods. They offered to sell us some felt mats and we were not able to get the price down from 5,000 per mat. We each bought 2. Later the mother and daughters came to camp to try and see if others would be equally gullible, offering us an old Kazakh spread for 90k, about 4 times the fair price. No takers. Some of the work was nice but it was heavily patched and worn.



A family of weavers near Tsagaan Asga.

After lunch we returned to finish the Feature 3 hearth ring, whose soil had turned hard as concrete in the mid-day so that we had to literally chop our way through it. After we had finished and back-filled I accidentally spilled most of the Sample 1 charcoal nuggets from Feature 3 when the wind puffed and the bag went flying. Fortunately sample 2 was the larger and better, all from one deeply-buried area in the SE corner of the square. We were able to open and complete another hearth feature (#4) in the NE sector of the site where many hearth rings are found 8-20 meters east of the northern-most large deer stones, only 23 m. east of the large granite D.S. with “pits” on its surface. Here we found nice samples of charcoal and burned bone, some of which was not calcined and might also be datable. So it was a very successful, tiring, hot day with much sunburn to show for it as well as the archeological success. I had a semi-bath after supper and wandered around a bit on the north side of the stream between the braided channels where the square khirigsuur is located. This is only about 1-2 m. above the current stream level, so there has not been much lowering of the valley floor in the past 3000 years. Some herders came by to chat, and we all hit the sack about 10 P.M., with another clear night in store. This time I borrowed the dining table for a windbreak.

1 June, Sunday – Tsagaan Asga

GPS 350 (2274m; N48°30.340'; E88°59.828'). Square khirigsuur across the river on the east side about 200m from the small bridge. Many circular satellite hearths, and inside the ring of hearths there is an inner ring of even smaller 75cm diameter hearth rings. An unmarked deer stone 130cm high blank with an angled top was lying on the west edge of the mound. Paved plaza; possible slab covers removed; 56 hearth rings; 30 mini-hearthings, north fence wall aligned to 130°.

GPS 351 (2380m; N48°33.664'; E88°52.050'). This is the largest of three pingos at Tsagaan Asga; the other is a few hundred meters to the SE. The big one is the largest I've seen in Mongolia and has deep crevices in its top lined with vertical ice crystals, with a cavern with a 2-3 meter diameter pool, surrounded by ice. It sits at the base of a hill on the north side of a stream in middle of lumpy permafrost earth. Standing pods of water all around it. Elevation is about 4 meters above the surrounding ground. The north side has collapsed. The diameter of the big pingo is about 30 meters.

Again another nice morning. We tried to find the square burial I thought I'd found up on the hillside, but it must have been my imagination and the dim-light. Then we spent a couple of hours mapping and testing the square khirigsuur across the stream with 30 mini-hearths inside the usual array of larger circular hearths. 56 hearths in all, and an angled-top but unmarked deer stone blank lying on its side at the edge of the west side of the mound. Bayaraa and Natsga mapped the structure while Richard, Kyle and I excavated a mini hearth ring, finding nothing (see Fig. 11). These hearths must



Huge ice-core pingo mound at Tsagaan Asga Valley.

have been used for very small fires or offerings on the surface, with no cooking involved. Three colorfully dressed Kazakh women stopped by for a chat. While we dug, the drivers broke camp and visited with the herder family with the Kazakh mats for sale. We departed in the vans at 11:00 and upon leaving the valley stopped to inspect the pingo we had noticed last year. Actually, I now discovered that there are two others. The largest seemed almost 4 m high and 30 m across, with a huge sunken northern half and a deep crack through the crest, revealing a large cavity inside lined with ice and with a big pool of cloudy blue water in the middle. Lots of permafrost ground all around it with standing pools of water between the hummocks. I wonder how many more of these permafrost features might be found this far south- perhaps in China or Tibet.



Irina, Janat and Togoo preparing lunch en route to Bayan Ulgii.

Just after this, climbing our first hill out of the valley, the radiator hose broke again. The drivers were able to fix it by winding it with tape and we continued through the high valleys we saw last year, and the big moraines, to the bridge where we paid our park fees and filled in a questionnaire last year. No one is here this year, and we made it our lunch stop. Quite a few people are passing by on this "road" now. Actually it has been much improved with gravel and bulldozing in places where it was terrible last year, like around the high ice-filled lake, Khar Us Nuur. There is a ribbon of green

grass on both sides of the stream here by the bridge and whenever there is flowing water in these mountain regions, flocks are gorging on the grass. The contrast with the nearly barren rocky hill

slopes is stark, and yet some flocks are still ranging there, until more grass becomes available with the summer showers and storms. There must be a complicated pecking order for access to the better places. I guess the people living on the rocky slopes without much water are in a tight spot generally and can't get their animals to the better pastures without paying to move their camps to better summer places. We had to all load into Togoo's Russian van halfway to Sagsai when Janat's van ran low on fuel; so he went on to Tsengel and our crew and gear went to Sagsai. Bayaraa was supposed to have our permit papers signed here, but the ranger was away in Ulgii. It is Mother and Children's Day here today and so many people are off visiting. Halfway up the hill north of Sagsai the fan belt broke on Togoo's van, so it appears that we are the jinx on vehicles. At least the temperature today is not scorching. We made the long descent to Ulgii safely and dodged the cows and people parading along the main street which was being prepared for paving; but the cows were wandering around on the graded surface without much concern shown by the construction people. At least they were working the roads here, which is more than can be said for much of northern Mongolia. Arriving at Canat's Blue Wolf Tourism headquarters, we found him away with his family fishing (it being family day) and not expected back until tomorrow, so we will have to leave it to Richard to negotiate our gripes about vehicle issues which cost us at least 1.5 days of work.

The town was quite alive, with everyone was out strolling on Mothers' Day. We made a beeline to the public bath and found it also doing a brisk business. There were about 20 stalls available, all in use, but Kyle and I got one to share quickly and 'steamed' ourselves, even after the showers since there is no ventilation. The custodian ladies don't let you stay long before they come snooping or banging the door. Togoo then brought us home to his house where he said we could spend the night since his children are all out in the countryside and he and his wife have another place to stay. So after a traditional welcoming meal – Kazakh style – of lamb and noodles and yogurt, they left us to become Ulgii residents, among the multitude of barking dogs and sounds of kids playing. Richard and I will be sleeping outside in the yard and with luck will not be attacked by dogs – one just found its way in and discovered Richard and let out a roar that ignited a city-wide response. Togoo's house is set up exactly like the one we were in near Tsengel, the same interior arrangement, with inner sleeping room, all-purpose room with hearth, and an outer cooking entryway, with textiles and colorful posters on the walls. The walls are stuccoed mudbrick; roofs are timbered with planks with ashes on top. Windows only on one wall, the south in this case. We leave tomorrow at 10:02 A.M.

2 June, Monday – Ulgii to Ulaanbaatar

It was a dog-howling night from one end to the other, and each time some incident occurred a wave of new howls surged across the town's sea of single-story mud-brick houses. But I managed to get some sleep and monitored the return of our Mongolian colleagues who spent the evening drinking beer in the Blue Wolf restaurant. Richard and I both slept outside in the gravelly yard occasionally visited by a neighbor dog which prowled the adobe wall-top like a grim specter in the night. In the morning we stumbled about packing and had a brief breakfast at the Blue Wolf prepared by Irina. Halfway through, Bayaraa had a call from Oogi saying our plane's departure had been advanced and was "waiting for us," so we never had a chance to talk to Canat about the vehicle troubles. Richard will have to do that. At the airport we found the plane nowhere in sight and, fortunately, not 'gone'; it had not even arrived. So we checked in our horse head and paid 89,000 excess baggage, and now we're sitting in the "sterile area" with 25 others. The plane is due in at 8:30. Richard will spend a day in Bayan Ulgii before taking a day trip to a new rock art site with Canat and then a week with his assistant exploring in southern Bayan Ulgii aimag. He returns to UB on 8 June. He hopes to organize a large interdisciplinary project in the Biluut area over the next few years, in collaboration with

the National Museum and the National Historic Museum in Ulgii. We left Ulgii at 9:00 A.M.

Major results of Ulgii Project.

1. *Khirigsuur Surveys* – especially in Khoton Lake north shore, square, round and some spoked mounds. Few corner post mounds, smaller structures on SE/S facing hillsides; large ones on the flatlands. There is a greater variety of burial forms in Bayan Ulgii aimag with Turkic grave complexes outnumbering khirigsuurs (but few well-made 3-D stone men. *Though we did not encounter them on this trip, in fact several wonderfully well-executed stone men are located on the western side of Khurgan Lake. We did not travel that way to Tsagaan Asga because at this time of year the streams that spill down from the snowfields of the towering Altai Nuuru are surging with spring run-off. We received a report from locals that the largest of these streams was impassable*). Quite a lot of chain-like Pazyryk mounds in Khoton and Tsagaan Asga areas.
2. *Khirigsuur forms* – seems like more circular than square forms; khirigsuurs with and without pavements occur. Looting is fairly common, but not recent. Some unique khirigsuur forms include individual cases of radial division at a large square khirigsuur at Tsagaan Asga dividing each side into 4 equal parts with diagonals corner-to-corner. Another unusual type had mini-hearth rings in a square khirigsuur inside the larger hearths on the western half of khirigsuur. Only one horse mound khirigsuur was found, at On Khad, and this one was a very heavily-built khirigsuur made of angular uneroded blocks, not glacial boulders. No cases of khirigsuur east plaza pavements were found. Radial types with 4 radial “spokes” were found in about half of the round khirigsuurs. Very few multi-spoked radial khirigsuurs seen.
3. *Deer stones* – carved DS are quite rare except at Tsagaan Asga where the deer images and more commonly, grooved circles, are found. No instances of belts with attached weapons were found, no sun discs or ‘floating’ weapons, no chevrons and no moon and sun pairs. Only occasionally do earrings have pendants. No textured belts – only grooved forms, and not many of them, and no convincing necklace pits. Some deer images have straight legs. Several small deer stone with square cross-sections and angled tops were found associated with circular or round khirigsuurs, and in one at Tsagaan Asga we found it removed from its original setting in the east side of the central mound – others were seen associated with khirigsuurs, unlike Central Mongolia. Several questionable DS were found without khirigsuur association, but they were unmarked or too eroded to tell. Quite a few Mongolian deer were seen in the petroglyphs, often in multiple images on a given panel; and many deer and a few proto/post Mongolian deer also appear. *These graceful and highly stylized figures are often “stacked” and closely packed together in the same manner as can be found on many deer stones in north-central Mongolia. One of the most intriguing discoveries of this season is, to me, the conspicuous absence of deer imagery on the great majority of the Altai deer stones that we came across. This makes their appearance on the rock art all the more striking, and inviting. Pretty clearly, during this period of prehistory a close association existed between the petroglyph artists at Biluut and the deer stone carvers of Tsagaan Asga, which lies less than 50 km to the east-southeast. The relative absence of this legendary form from the stelae, coupled with the frequency and prominence of their appearance on the varnished bedrock panels on each of the three Biluut high hills, raises important questions about their function. Tsagaan Asga looks very similar to the large DS sites of Central Mongolia. No Scythian type animal images were seen on any petroglyph or DS art. The Tsagaan Asga DS site may have been purposefully destroyed in pre-history and heavily vandalized recently.*
4. *Dating* – We excavated a horse head from On Khad, recovered charcoal and/or calcined bone

from Khoton Nuur 333 from 2 hearth rings (and a soil sample). This is a quadrant radial round khirigsuur with a belted DS (fallen) on its SE side aligned with a radial. We recovered samples also from 2 circular hearths on the east side of the Tsagaan Asga DS alignments, one from the northern and one from the southern end of the alignment. The horse mound khirigsuur at On Khad is associated with several other large boulder and spoked khirigsuurs – its placement does not say much about relative dating but it is totally different than the others nearby in construction, materials, horse mounds, and few hearth rings (2). It thus appears intrusive in the common types of khirigsuurs in this region. The most important finding was that with careful excavation you can obtain datable charcoal and in some cases bone from many of the khirigsuurs and DS hearth rings, providing a way to date them even without the presence of horse heads. This will help determine the age and relative relationship of the Western Mongolia and Altai khirigsuurs and those of Central Mongolia with horse mounds.

Temperature was much cooler in Ulaanbaatar than Ulgii, thankfully. After reaching Zaya's Hostel about 2 P.M. we went down to the museum, where I was able to have a brief meeting with Saruul-buyan and reported on our Bayan Ulgii work. He seemed very pleased, but informed me about a very bad zud storm that struck the Eastern Mongolian provinces last week, with terrible wind, snow and rain that killed at least 200,000 animals and nearly 50 people some whose gers were blown away. Saruul is heading up a relief effort to assist because this is his home territory and he is traveling there to assess the situation tomorrow. Right now the museum is installing a new exhibition of deer stone and monumental art photos and rubbings by a Mongolian artist. Our Erkhel deer stone is featured prominently.

UB is as chaotic as ever, completely swamped by vehicles – all vying, pushing, honking; meanwhile building construction races forward and upward, most prominently a whale-fin shaped glass monster on the south side of Sukhbaatar Square. Zaya's Hostel is a delightful place and for \$25/night for a double is a bargain in UB. Hot showers (when the UB heating systems operate, but not in June as I now re-discovered), lounges with TV, breakfast, washing, and very interesting people to meet – a mixture of young tourists, scientists and others – most of whom are English-speaking, Zaya herself is a very interesting person with an interesting history, married with two children in the US and a husband in the foreign service now in Egypt, where Zaya spent some time this year. She has been building up her hostel business over the years after an earlier career in the airline ticketing trade. Now that her family is on their own she is searching for meaning in life, largely through Buddhism and environmental causes, and she is passionate about her concerns, mainly about maintaining Mongolian life and culture in the face of industrialization and Western and Chinese influences. She is pretty solidly booked in the summer. In the short time we were there we met a crusty old Englishman who made a special point of giving me two Tetley teabags, which he considered 'very fine' tea.

3 June, Tuesday – Ulaanbaatar

Bayaraa was busy getting our permit and I spent much of the day catching up on my email. In the afternoon we did our grocery shopping for stuff not available in Muren, and Adiya figured out our budget. We set up a small contract with Ayush for ethnographic work with the East Tsaatan for a couple of weeks. I also picked up enough cash for the Muren project. Bayaraa suggests we work at one of Volkov's big deer stone sites at Tsagaan Uul. We finished charging batteries and doing chores in the evening, and after revising my SHA paper for Anja I had a final hour on Zaya's easy-to-use wireless internet system. Kyle also made a call to his girlfriend successfully on the satellite phone. Packs of young kids were hanging around the state department store beating each other up and looking

for westerners to beg from or rob. Pick-pocketing is rife in this area of the city because of all the foreigners hanging out in the Peace Ave. area.

4 June, Wednesday – Ulaanbaatar to near Ulziit

Kyle and I got our stuff organized and Zaya gave us a ride to the museum at 11:00 finding Khadbaatar's and Tserenyam's vans being loaded up. This was the day predicted for a big earthquake in the UB area, so whatever the accuracy of the prediction we're glad to leave the city and its concrete slab high-rises behind. We had to stop to buy rice and a soccer ball at the western



Square burial at Salkhat deer stone site north of Ulziit.

black market – rice is now costing 1500 tugrik/kilo, much higher in price and causing big problems for the government which is being blamed for not doing something; they have already lowered import fees, but there is not much that can be done, and surely this will be a factor in the upcoming political elections later this summer. As usual, the ride was pretty boring at first, especially as the extension of the paved highway to the outskirts of UB kept everyone on the dirt side roads that were several inches deep in powdery dust. After we got on the “millennium” pavement travel was better for awhile, but it soon ended and we paralleled its western extension – basically the gravel road-bed for most of the afternoon until turning north toward Ulziit. We never got that far, however, and ended up camping in a dusty pasture at dark. A dung fire heated up some tea water but it was too late (10 P.M.) to cook, which was okay as we had had a late lunch. While we all were gathered near the fire eating sliced sausage and bread a huge explosion occurred in the fire. I first thought it was a rock exploding from the heat but when I saw canned beef all over Tserenyam's coat and my jacket and pants I realized someone had put an unopened can of meat to “warm up” at the edge of the fire. The metal can was torn open, but stayed intact and only the meat was the ‘missile’. We had it all over us and stank through the next day. One nice thing about that campsite was the chorus of frogs that came from the grimy muddy rivulet that a herder had told us would be a nice “spring” for us to get water from – not quite!

5 June, Thursday – near Ulziit to Muren

Bayaraa had suggested 8 A.M. for getting up last night, and I countered it with 7. But at 5:30 I heard the van engine start and everyone was soon up and rolling, and at 6:45 we arrived in Ulziit where we miraculously found one of the small restaurants open – a 24-hour style place. I discovered the breakfast menu is the same in the Mongolian countryside as the lunch and dinner menu, and I got the greasiest scrambled egg on top of mutton slivers and rice I've ever seen. Nevertheless I ate it and decided in the future to be minimalist in those roadside taverns in the future. What most people eat there is a huge plate of flour noodles mixed with lamb slivers, onion and potato (called tsuivan). Bayaraa sets aside the potatoes and other vegetables from China – which is where most Mongolian food comes from – because of concern about pollution and pesticides. This seems to be a prevalent fear in Mongolia. We stopped briefly at the DS/square burial site near Mustache Hill and noted the

huge number of horse burial mounds, arranged in N-S rows like the DS site near Urt Bulagiin. There are several large khirigsuurs nearby to the west which we did not have time to visit. There were several other groups traveling on the road to Muren with us – including three jeeps of officials going to Muren to help with the Prime Minister’s visit there tomorrow. Bayaraa suspects this is an electioneering venture for the August national elections. We made brief stops at Khairkhan and Rashaant where we had lunch by a stream full of cows – all this area from Ulziit to just north of the Selenge River was very green and seemed to have few animals grazing this time of year. The area around Muren is very dry and brown by contrast. The Selenge bridge was alive with vans of students returning home from school in UB, and several gers have been put up. It looks like someone is building a carnival atmosphere here for tourists. We arrived in Muren about 4:30 and went right to the Governor’s building to register our archaeological permit, discovering that Tsagaan Nuur was not listed. Bayaraa is trying to arrange its addition tomorrow morning by calling the UB Ministry of Culture. We are staying tonight at the ger camp as usual – and ‘as usual’ discovered its showers cold (all except Bayaraa’s!) and things as uncoordinated as before. However they have made upgrades and are very courteous and helpful. Ayush has arranged to go up by taxi-van to Tsagaan Uul tonight for two weeks of work with the East Taiga Tsaatan. We’ll see how things went we get back to UB. The vans made it all the way successfully to Muren, without any ‘Bayan Ulzii’ experiences. Bayaraa’s sister and brother-in-law drove up to Muren to see him, arriving on Chinese motorbike, a distance of 200 kilometers over hard roads. They are full of sparkle, like Bayaraa. I had met his brother-in-law two years ago when we visited Jargalant and had such an interesting time. The dogs howled and barked all night as usual, and new arrivals kept coming to the ger camp, some being very noisy. Day after tomorrow is the Prime Minister’s visit – not tomorrow, so we’ll miss it.



Salkhat deer stone.

6 June, Friday – Muren to Tsagaan Uul

We breakfasted on cream of wheat at the ger restaurant and then went to town for chores, getting the archaeological permit changed to include Tsagaan Uul sum, and lots more groceries from the black market. Amraa showed up after breakfast as smiley and delightful as usual, and she took charge of the shopping. Tserenam appeared with his head shaved and looking unusual to say the least.

GPS 352 (1380m; N49°37.160'; E99°35.249'). Burentogtokh (sum center) deer stone site. Short square x-section stone moved from side of mountain to its present location in the town Naadam sports arena around 1902, according to Sasha. (see Fig. 12)

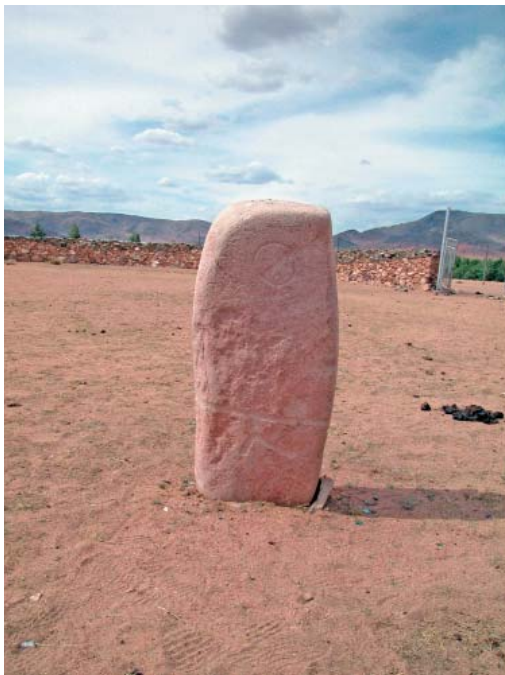
After everything was set we had lunch in the small Muren restaurant but somehow lost Sasha who had wandered off from his meeting place. Searching for him got complicated when the police started shutting down roads in anticipation of the Prime Minister’s arrival. Eventually we found him and



Ovoo south of Delger Muren en route to Tsagaan Uul.

left town, heading up river on the south side past Ushkin Uver and through some very dry but beautiful country with the river lined with cottonwoods and other trees. Then we climbed a huge hill to a very large ovoo, where we took pictures of the Delger Muren River and headed inland toward the southwest. The country became still drier, with very few families or animals until we passed over a 2000 meter crest and dropped down into Tsagaan Uul sum, where we found a large lake and a nicely laid out town with administrative offices upon a hill at the western edge of town. Along the route we passed some large khirigsuurs and could see they had horse mounds. We also visited a small deer

stone. It had no deer, but circles, belt, knife, axe, and shield. It was just short of a meter high. No one seems to know its exact original location. Along the way we passed through three sum centers before reaching Tsagaan Uul, where we spent an hour looking for the official who has to sign our permit. It turned out he was indisposed, having just purchased a new car and was celebrating somewhere. Eventually we got a surrogate to vouch for us and we headed off another 45 km further west until we found some herders to ask about deer stones; nevertheless we had to wander about in the hills almost until dark, when we met two men on a motorbike who directed us up into the head of a high grassy



Deer stone at Burentogtoth.



Bor Hujiriin Gol-1 deer stone site, view south.

valley where we first found two simple deer stones, quite eroded, and then the big site we were looking for with seven standing stones, described by Volkov, one of which has an angled top with a human face on the side of its angled bent part, seemingly ‘speaking’ to the nearby stone – very strange. We camped nearby in a fine grassy place and had a supper of ramen noodles fortified by beef. A motorbike herder hovered around the camp edge in the dark for awhile before coming in to say hello, then we went to bed. It was a clear, quiet night, but Sasha developed some chest pains and will have to take it easy.

GPS 354 (1966m; N49°48.443’; E98°18.021’). 2 granite DS Slash marks on the east side; belts (Agra is the river at west end of valley)

GPS 356 (2043m; N49°44.436’; E98°17.515’).

7 June, Saturday – Tsagaan Uul sum Bor Hujiriin Gol

A fine sunny morning with a cool breeze. We woke at 7:30 and got started at the large Tsagaan Uul Bogd Mountain site described by Volkov. Sasha had worked with him here in 1971 but says they did not excavate. Five standing stones, one lying on surface and one with its corner protruding from the ground. There seemed to be many ‘horse’ features and a few hearth circles.



Bor Hujiriin Gol-1, view north.

GPS 355 (2021m; N49°44.269’; E98° 17.826’).

We gridded some horse features out and Nasaa started mapping while Sasha laid out the art on the stones with chalk so they could be photographed and drawn more easily. By the end of morning we’d made good progress and had a herder visitor who gave Bayaraa some place-names and local lore. He said the winter and spring had been good here but the summer was turning out poorly for lack of rain, and they will have to move out of the upper valley to find more water. The two big hills to the south of us are Bogd – Big Bogd (Buddhist prince/king) to the east and Little Bogd to the west.

DS-1 126° (faces toward); 165cm height; 41cm wide; 28 thick

DS-2 115°; 133 h; 34 w; 32 t

DS-3 110°; 234 cm h; 50 w; 28 cm thick

DS-4 w/face 115°; 164.5 cm h; 27 w; 33 t

DS-5 115°; 165 cm h; 34 w; 30 t

DS-6 lying down NW of 4; 196 cm h; 34 w; 22 t

DS-6 buried between 4 & 5

Small charcoal sample (S-1) at -32cm below surface under SE big rock in Feature 1. This excavation

did not work out very well, which is really too bad after such high expectations, since it was a large oval boulder feature that we thought might possibly contain two horse heads or some other interesting materials, like the grindstone we found at the site near Galt. But when we lifted the two large slabs at the bottom of the stone pile there was nothing there except sterile gravel. In the end a marmot had the last laugh as my foot sunk into a marmot burrow in the subsoil. Feature 2 on the west side of DS-4 and 5 was a small stone pile with small cobble rocks, and here we did find a horse, not too well-preserved, but salvageable; meanwhile Nasaa continued his map



Bor Hujiriin Gol-1 deer stone alignment, view southwest.

and tomorrow will try his hand at drawing a deer stone. After a still morning, getting increasingly hotter about 3 P.M., a strong west wind blew up that I thought would flatten some tents. The drivers lifted the walls of the big tent and put a couple more lines on some of the flimsy tents, and everything held fast. However, my door was open to the wind and a lot of grass blew in. Amraa made a great stew for supper, and I washed it down with copious amounts of Hee Chang brand Black Lemon



Bor Hujiriin Gol-1 Feature 2, view east.

Tea, which is a terrible brand to be avoided in the future. Sasha has been having some angina pains that began while he was sleeping, and he had problems again in the afternoon, after spending much of the day tracing deer stone images, even lying on his side sometimes to see the images on the fallen stone. He is really incredibly good at figuring out the art. Today he found a leopard and a horse that we had not seen and some deer – one without antlers and one with antlers but no deer! We are going to see how he does tonight and if he does not get better we'll take him to the Ts. Uul medical center.

8 June, Sunday – Bor Hujiriin Gol

Last night during supper we saw sun-dogs again, and this time it started to rain about 5 A.M., sometimes quite heavily with strong wind from the southwest. ('boroo' is rain; "salkhi," wind). It showered through breakfast but only sporadically. Sasha seemed much better. I hope there was enough rain to get some grass growing – it has been such a bad summer so far in the Muren area. The boys

were digging away at Feature 2 yesterday not realizing they were staring at a horse head until they had exposed a fair bit of the upper skull – “Bone!” they finally yelled at me, at least something is working out! Deer Stone 7 has an axe or knife; no circles, pits... 93 cm tall (drawing)



Bor Hujiriin Gol-1, Feature 2 horse remains.

The rain stopped after breakfast, producing a generally cool day in which we got lots done at the site. Nasaa is a good mapper and has now completed a rock feature map for the whole site. Sasha has psyched out the carvings on the deer stones and Bayaraa has been trying his hand at measured drawings – with good effect. I’ve also sketched a few at large scale – producing key drawings really. We finished extracting a very poorly preserved young horse head (~1 year old) from Feature 2, only 15cm deep and under a flat slab. When I back-filled the feature I may have by accident buried Bayaraa’s north arrow/centimeter scale which we can’t find anywhere now! [We

found it in his port-folio later!] The horse head was oriented to the southeast at 135°. After lunch we opened a new “horse” feature on the east side of the deer stone line east of DS-1. So far no results, but a pit that Kyle, Sasha and I dug containing the top of a buried deer stone-looking rock turned out to be a fallen “baby” deer stone less than a meter in overall length whose only marks were a belt line and a small knife. We still have no idea what these small stones represent – children, lesser figures, or something else? It’s hard to see how they would be valiant warriors or leaders. We found a bit of charcoal but realized it as there were squirrel holes around the stone. In the mid-afternoon a caravan of eight camels passed on the other side of the valley, lead by a well-laden horse and a jeep with a wagon. Later a small herd of horses followed. They will camp at a spring between the Bogd Mountains and then proceed to the river to the south for their summer pasture. We bought our first sheep for 65,000 tugriks and the drivers helped Amraa cook up the usual sheep organ feast of liver and blood sausage wrapped in fat.



Bor Hujiriin Gol-1 Feature 3.

Wonderful! There followed a long soccer game in which I managed to play “respectably” until my feet gave out. Chimba made a useful water dispenser out of an old water bottle mounted on a small stick I found while wandering in the evening. Sasha’s feeling fine today. The squirrels and marmots here made a mess of this valley, creating great mounds and spoil holes and collapsed earth. These marmots have few predators now that there are no wolves, and foxes, which are also rare, cannot take them. On the way through Tsagaan Uul we saw poles with crossbars on their tops that have been placed throughout some pasture areas to attract birds of prey to reduce the squirrels, and mice that eat grassroots. The marmots are on the scale of a geological force in the country around here, making horse-riding dangerous in poor light.

9 June, Monday – Bor Hujiriin Gol

Cold night, like in the Altai, I spent much of the night turning and should have put on some more clothes. The morning was clear and breezy this time from the east. No grass has turned even a little green, and certainly nothing is growing. Bayaraa says it would take a full days rain to do that, not just like yesterday’s showers. During the morning we finished Feature 4 without finding a thing. We’re 1 for 3 so far at this site – not a good average. I finished some DS sketches and took a few photos of the south facing sides in the morning sun. Some general thoughts of Bor Hujiriin Gol: This is now one of the larger deer stone sites that has not been damaged much by earlier explorations. Volkov visited it but illustrated (I think) only the unusual face stone with its crooked neck, seemingly placed as if speaking to DS-3, only one meter to the east and the tallest of all the stones at this site. Many stones have complicated images, with multiple deer, a horse, and a spotted feline. The southern stones all have belts with pendant triangles with pits in the centers. Most stones have // face slashes and circle “ears” and two have ▲ triangles to the right of the circles, bow and arrow, many axes, a beautiful dagger and other implements appear. Some deer have antlers and no bodies and some bodies have no antlers. The ‘baby’ stone has only a belt groove and axe. All stones are in a line at 011°, and all have their faces to the east averaging between 110°-126°. There are many rocks around the stones that may be horse burials, but the “horse” features we dug east of the deer stones were empty and had only traces of charcoal that were not trustworthy. The one feature excavated to the west had a young (one year old) horse buried very shallow 15-35 cm top to base and its skull was badly crushed, orientation 135°. There was a lot of marmot and squirrel activity in the area. Overall the stones were slender, all of granite and did not, except for one, have an angled top. Magnetite crystals were embedded in the granite, in high enough concentration in DS-2 to impede a compass reading. We could pick up lots of magnetite crystals with the tip of our clippers. Many of the stones had major areas of spalling that made it impossible to trace carvings and the tallest stone, DS-3 is about to crumble and is riddled with cracks and chunks have



Bor Hujiriin Gol-2, view south.

fallen away from the edges. We only have one good horse dating sample (Feat. 2) and from Feat. 4 a chunk of charcoal and a piece of unburned food bone from about 8-10 cm below the surface.

Tsagaan Uul Bogd Mountain area – 2 DS west of Bor Hujiriin Gol-1. Two standing stones, one large (ca. 2 m) and one small (ca. 1m). Small stone 1m east of large stone, slanting towards it; both of square/rect. granite and well-finished. The large one has an angled top and 6 circle hearths and 5/6 horse features. (drawing).

Bor Hujiriin Gol-2 Feat. 1 produced a nice C14/calcined bone collected 8-15cm deep. As we finished lunch a green UNICEF jeep drove up and spent a while looking at the site.

They did not look like tourists and turned out – as suspected – to be Tsagaan Uul sum officials: a uniformed police fellow, the warden we looked for the other day, and a couple others. They'd come to check us out, asked for our permit papers (thank goodness we had been able to add this sum to our list). After some talk we invited them for some lunch and tea. We showed them the horse head, photos and last year's report



Tsagaan Uul officials visit our camp at Bor Hujiriin Gol.

and gradually we got around to discussing their interest in getting an inventory of sites and GPS positions. The Cultural Heritage Center has asked the sums to organize inventories but has given them no guidance and they of course have no archaeological knowledge at all. It does not seem they have done their homework, although they did get a big grant from the Japanese Ambassador for inventory work. Before leaving they came to Bor Hujiriin Gol-2 and saw us working, and had lots of questions. It was a good visit. The rest of the day went towards mapping BM-2 and excavating what seemed to be a horse feature but ended up being a hearth with some big central rocks – we got a nice small bag of charcoal and calcined bone from the northern part of the 2.5x2.5m square from the base of the sod to about 15cm and should give a good date for this small DS site. A couple of herders also showed up at lunch on a motorcycle with these bags of cashmere, on their way to sell it in Tsagaan Uul. This year cashmere sells at \$25.30 a kilo, down from previous years. They'd heard of us and came by to check us out, seeming very pleased with the result, and offered us all a sniff of snuff from their identical bottles inside their voluminous deels. Then they were off.

After supper – lamb soup with cabbage and noodles – we drove over to look at the large khirigsuur mound we could see across the valley. It seemed like the only one anywhere around the DS site, and I doubt it has any direct relationship to it. It turned out to be about 48m in diameter and about 2.5-3m high. No external features except a three rock about 50m off to the southeast aligned with the paved “causeway” about 4-5m wide running from the mound to the fence. Perhaps there is some alignment system here (drawing). There were quite a few features inside the fence that looked like hearths. A few hundred meters to the NE was a single pavement burial feature (no fence). Like the khirigsuur it was constructed with small “mountain” rock rather than rounded stream rocks, but all rather small

rocks for both. About the same distance to the NE was a square feature with heavy rectangular slab sides and an alignment of five balbal stones running 060°. This is certainly a Turkic burial feature and another 100m to the north was a second structure, smaller, but nearly identical to the “temple” structure on the Selenge River, with an entryway opening to the south square house with a divided foundation line of cobbles running east-west and a central axial passage in line with the entry making two small “rooms” of the lateral sides. It was a jumble of rocks however and these are just preliminary observations. At least there seems to be a limited Turkic phase in this area. Neither of these or the other mounds has been disturbed and the sum officials said there has been little archaeological looting in the sum, so far. Given the number of deer stone sites in this valley (3) but especially right near Bor Hujiriin Gol-1; there seems to be no khirigsuur connection with these DS sites. After returning I corrected my drawings of DS-6 after Sasha’s markings while another soccer game raged. Then from the east came a thunderstorm that seemed to threaten us, as well as ominous black clouds from the south, with much lightning; but both stalled somehow losing their fire and although we prepared for rain and wind and Chimba moved his tent inside the big tent, nothing came of it, and we had another quiet night.

10 June, Tuesday – Bor Hujiriin Gol to Khushuutiin Gol



Bor Hujiriin Gol-3.

It never did rain last night. We were up at 7:30 and had packed camp and rolled out by 9:30 stopping to return the tent poles at the winter camp up the hill under Little Bogd Uul. Before we got far we found a new DS site next to two Turkic burial structures.

GPS 357 (2017m; N49°46.078'; E98°17.469'). Bor Hujiriin Gol-3: 2 deer stones, granite DS-1 small, to east, standing 97, 28 w, 24t

DS-2 215 cm, 46 cm, lying down 2m to north

DS-1 with deer, necklace, ear circles on N,S, east side has no // but the necklace here changes from round pits to ‘Asian’ eye

(Drawings)

A circle of rock features (hearths?) around stones 6-10m radius

DS-2 actual side as originally set in ground. Chevron side was the west original side, south side exposed, orient of fall=090-270° fallen lying top to 090° when standing would have been N-S alignment. Chevron with 10-11 sets of grooves, north view buried in soil (Drawings)

2 Turkic square graves, the excavated one was 4 m SE of DS the other 20 m to SW, w/ balbal

GPS 354 (revisit). Bor Hujiriin Gol-4. West DS-1: 170cm tall; DS-2 east

DS-1 grooved belt

DS-2 poor pres. grooved belt and some kind of tool suspended.

DS-1,2 E-W not N-S alignment no associated rock features

GPS 358 (2037m; N49°48.638'; E98°18.693'). large khirigsuur group with huge khirigsuurs on south facing hillside Most (all?) square, some with huge corner structures. Some 30-40m along uphill (north wall). There must be ~20-30 khirigsuurs here, going right up the side of the hill, with some very large ones almost into the rocky slope.

After a brief stop at Bor Hujiriin Gol-4 (GPS 354) we found a hillside with a large number of khirigsuurs which had been missing in the Bogd area. We only recorded their location and went on, asking many herders for directions, stopping for pictures on a hilltop south of Tsagaan Uul and eventually finding Khuushootin Gol, the site studied by Volkov with some prominent horses on the deer stones of which there are 13 at this site.



Bor Hujiriin Gol-4.

GPS 359 (1868m; N49°42.261'; E98°35.708'). Khushuutiin Gol Deer Stone Site (13 deer stones). Volkov worked here with Sasha in the 1960's-70's. They unearthed

some fallen stones and drew most of those present. We set out a baseline at 305° magnitude through the crest of the hillock from the southern and largest group (Area 1) north to a small central group (A2) with three rock features but only two deer stones at the south side of A2, to the northern group A3. We photographed the two large fallen stones uncovered by Volkov, starting with DS-2, then DS-1. We also laid out an excavation 2m west of DS-5 standing one meter south of the baseline, a 2.5x2.5m unit including a probable horse head, which Kyle tried his hand at mapping. Looking at the southern deer stones I noticed none had the standard // face, and that the east-facing surfaces are finished far more smoothly than the other parts of the upper parts, and I began to wonder if these surfaces might actually have been painted with portraits (map/drawing). A3: 5 DS, one uncarved standing stone, all of bluestone. A2: 2 DS, both bluestone, w/#8 highly polished with silica sheen #9 looks like it's broken off base, broken just below the belt. A1: 7 DS, all made of white or pink granite and carefully and boldly cut with all surfaces evenly cut and some very

smoothed, looking machine cut and highly professionalized. A2, 3 images are barely cut into the stone and are almost just scratched in on the bluestone. Fea. 1 is at 0E, N21.5 (drawing). Fea. 2 is at N41/W0.5 → N44.5/W0.5 N44.5/E2.6 → N41/E2.6 (drawing). Fea. 3: 66N → 3.5, 5.5 W, 68.5N → 3.5, 5.5 W.



Khushuutiin Gol south deer stone area.

As we were leaving Bor Hujiriin Gol valley Tserenyam mentioned that the 'open air' camp sites we were passing with lots of debris scattered around were fall camps when people return to take advantage of the August and September rains that get the grass growing again. So here they have a three stage settlement pattern. Later they

cross the valley and take up in their winter places against the eastern side of the hills. By the end of the day it began to look like we would not find a horse head in feature 1, but we did get a hit of charcoal, and later, today a couple of large chunks down near the sterile gravel interface, 25cm from the surface. There were no large buried rocks, but no burial bone, so it does not look to be a hearth, being covered completely with stones, and some large ones. We may have to dig larger areas around the deer stones to find horses. I walked about a bit in the evening and noticed the intense rodent activity – mostly mice and squirrels. Mice holes and runs between them are everywhere; 1-2/square meters in some places and their runs in the grass under the snow make a maze of connections that reveal their complex social behavior as well as their damage to the pasture.



En route to Khushuutiin Gol.

11 June, Wednesday – Khushuutiin Gol

We started a new schedule of breakfasting at 7:30 in order to work in the cool mornings and having lunch at 12 and work again at 3:00 or so. We have still not come to the summer solstice and so it's light until after 10 P.M. and again at 4:30. We had a good morning digging. Bayaraa found two more deer stones south of our present site and we finished Feature 1 (nothing more found), cleaned



Khushuutiin Gol-1, Feature 1.

Feature 2 in A2 and laid out a square in A3, Feature 3. Cloudy at first, a strong SW wind came up in late morning, and sand and dust was flying. Hats and notes and maps as well. A couple of herders came by to see what we were up to. Water is a problem for us here again – as in Bogd – and has to be got from small springs near the base of the hills. For us it is a matter of hygiene and cooking and clothes-washing, but it is the life source for the herders. Fortunately, while there is no surface water here, there seems to be enough in the ground to keep some areas of grass growing and maybe 5-6 families are living in this area with hundreds of sheep, goats, cows and



Khushuutiin Gol-1 south view, Area 1.



Khushuutiin Gol-1 Area 2.



Khushuutiin Gol-1 north view, Area 3.

yaks. Lunch was “tom” (big) noodles in the tent while the wind whistled in the tent lines; even while it remains quite hot outside. Time now to wash a few clothes before I decompose. The KG site looks like it has been constructed in three parts and probably three time periods. I imagine the first to use it erected their DS at the southern point of the terrace and created the largest number of DS here, and other ritual activities represented by the many pavements and feasting hearths. This was a period of highly professional deer stone carvers, who used granite and had excellent equipment for cutting and polishing the surfaces. You don’t see lots of pecking marks on the figures, although you do in lesser-finished areas. Whether the A2 or A3 came next, is a question difficult to figure as either could have if A3 as the second chose a spot far enough to the NW to allow A2 space as the third group. The stones of both are the same material and the styles and technique, just scratching the image in, are very similar. Here the idea was not of artist perfection – as in a classic style sequence – but of utilizing the concept of deer stone albeit with lesser proficiency, investment, and perhaps even haste. The ritual activities in terms of numbers of features follows a sequence of A1, A3, A2 and that also might provide a clue to the chronology. We’ll see what the C14 results have to say, providing we can get good samples of charcoal if not horse teeth. One observation of interest is that the larger deer and tools (esp. A3/A2) are more like DS art in Western Mongolia than in this region, which also may be an indicator of chronology or geographic relationship. The horse deer stone is also interesting as it too is more a western element.



Khushuutiin Gol-1 Feature 3 (A3). Feature 2 (A2) under excavation in distance.

GPS 360 (1885m; N49°42.190'; E98°35.514'). Khushuugiin Gol-2 Deer Stone single granite stone, (like KG-1, A1 w/a few feature rocks, in a blown-out or excavated area, now with lots of garbage. Only top of DS showing protruding from ground and slant up to north. SE side has a ‘polished’ face with no marks, necklace beads, circles on S,N sides, multiple large deer carvings on all sides. Can’t see more – less than one meter is exposed – circular paved burial feature 4m diam. 10m to the east.

We went to work at 3 and the wind continued to build gusting to 25 mph, and carrying with it a strong smell of smoke – some forest area upwind must have caught fire; we could easily see the haze so it probably is not far way. At first when we realized it was fire not rain I thought we might have a prairie fire racing along the ground, but here there is not enough to burn, at least this time of year. A few old timers dropped by the site for explanations. By this time we actually had something to show them in F3, because I found the horse when we lifted the big central rock; and then an hour later we found a horse skull in Feature 3 and got most of that one uncovered by the time the wind got too strong and cold at 6:30. This skull is very strong and was placed in a kind of stone enclosure that it barely fit into. By the end of the day we had the vertebrae uncovered along the north side of the skull, and 2 hooves on either side of the nose, which was pointing SE (Feature 3, head orientation 115°) and the atlas vertebrae apart from the others to the south of the head. When it got too cold and windy we covered both horse heads under dirt and took the canine from the F. 3 horse to keep

local people from taking it overnight for a naadam charm on the theory that such old buried horses must have been special and very fast. So in one day we have gone from rags to riches in horse remains and now only need a horse from A1. (adoonii tolgoi=horse head). We quit in a rush as it started to rain a bit making the wind and flying sand all the more uncomfortable, especially as some of the crew were still dressed in t-shirts. We got Tsera to bring the van up so we could photograph the F. 3 horse head from the roof, and Bayaraa had to struggle just to keep from being blown off.



Khushuutiin Gol-1 Feature 3 (A3), southeast facing horse head and vertebrae, a large ca. 20 year old horse.

Back in camp we secured our tents and wrote notes and told stories while Amraa braved the elements to produce a rice/mutton soup dressed in her winter hat and fake fur coat looking like a true winterized Mongolian! We wondered how Richard Kortum got on with the Khovd explorations. He should be back in UB now. The wind died down a bit but then picked up again, and it looks like it will make a blustery night. Not much rain –only scattered drops and grey clouds racing from the northwest. The smell of fire has passed. I tried to call home from my tent, where I’ve retreated for the night, even though its just 9:30. But there is no reception. Tomorrow we get our horse heads – aduunii tolgoi – out of the ground so I hope the wind has died down by then. As we were walking back from the site a small “street” car zoomed up to Kyle and I and stopped, its driver making all manner of strange binocular gestures to us and then buzzed off. His daughter looked terrified – perhaps it was the caked-on dust and dirt that scared her – we certainly were a mess!

12 June, Thursday – Khushuutiin Gol

It was a furious night with strong wind from the NW and some rain until midnight. Then it calmed for an hour before starting again. By 3:00 A.M. it was blowing hard again when I went out for a rare midnight pit stop, and it kept up until noon the next day. No one stirred until 9:30 and then it was the cold that seemed to inspire the crew to pile into the vans. Breakfast was “in furs” as the wind whistled around, even though the sun was bright, the temp must have been around 40-45°. The mice were having a field day racing around for food. We were tossing stones at them for fun, but they did not seem to care much. Only when a Kite came wheeling by did they take cover. It should be Kite’s paradise here, but few are around – no doubt explaining the plague of small rodents. We got to digging about 10:00 A.M. and found no one had disturbed our sites. In three hours we had excavated F. 3 horse head and found it in great condition, but missing one hoof and the left side of the jaw. The right side was placed beneath the skull (oriented 115°) and smashed as though purposefully. Why these burials are so variable is an interesting question, perhaps relating to a longer period between death and burial and some other rituals that resulted in loss of hooves or parts of the head. As usual the vertebrae were tight up against the north side of the skull. Two hooves were at the front-left position and one at rear right. The burial had outer circle arrangements of stones and inclined slabs

Mongolia Deer Stone Project: Field Report 2008



1



2



3



4



5



6

Khushuutiin Gol-1 deer stone views (DS 2: 1-4), (DS 1: 5-6).

while the rest of the mound cover was made of small stones. The burial was in a box-like feature of large rocks that just fit the skull. While we worked on F. 3 the Mongolians uncovered F. 2, finding a mandible and no skull – just the opposite of F. 3. A bed of ash surrounding the burial on the N and W sides. The jaw had a weathered look but the bone was solid. A few herders came by as the wind dropped and said F. 3 horse was a large one, about 20 years old. We found a small piece of decayed wood south of F. 3 skull perhaps a remnant of some object left in the grave. Lunch today was at 3 P.M.! Mutton soup – but good! Sasha found my pen at KG-2 where I must have left it 2 days ago!

GPS 361 (1873m; N48°42.140'; E98°35.361'). Khushuutiin Gol-3 small 62cm deer stone, 27x18cm triangular x-sect. lying on surface with no features around (drawing) pits, no pendants, spall, unfinished 3rd side, green granite. This DS was lying on its side in the range on a quasi-terrace the same one as KG-1, 2, south of KG-2. How it came to be on the surface after 3000 years is a good question since its only 62cm, but has a broken base and may only recently have been broken from a standing position. The two crosses on its south side are unique, I think in DS marks.

Perhaps as an answer to our opening several horse features – in addition to the violent weather that broke loose – Sasha lost his beautiful gold ring with animal carvings on it. He has no idea how or where, and we're all keeping an eye open for it around the site.

13 June, Friday – Khushuutiin Gol

GPS 362 (1888m; N49°42.935'; E98°35.077'). Buyant Gol small DS site with 3 small damaged stones standing and one lying on the ground buried except for its top. DS-1 (southernmost) granite broken, with chevron on west side; DS-2 (middle) grey granite, one deer part on NE side, DS-3 (northern) 3 slashes /// in this direction w/5 pits on east side deer images; south side 4 pits, necklace top circle and belt ^^^. All 4 DS in N-S alignment - 6 horse features to south and east. Several hearths to N. one horse feature ringed by quartz stones.



Buyant Gol, small DS site 1 km. north of Khushuutiin Gol.

GPS 363 (1908m; N49°43.203'; E98°34.916'). Turkic site(?) with small square feature and several standing stones. No balbal.

Buyantzurkh mtn.= “rich heart”

Buyant Gol khirigsuurs from west to east

1. square, 12x12m, upper fence, (N/S) 130° pinnacles
2. square, pinnacles, 130°, 8x9 (W/E)
3. square, pinnacles, 130°, 9 N/S, 10 (E/W)
4. square, pinnacles, 125°, 11N/S, 12 (E/W)
5. base of ledges (photo) 125°, 9 N/S, 10 (E/W)

GPS 364 (1969m; N48°43.857'; E98°33.677'). many circular burial pavements, and a few circular khirigsuurs, but small ones

Mongolia Deer Stone Project: Field Report 2008

6. square, 125°, 7m (N/S), 8 (E/W) next to 3 circular khirigsuurs.
7. square, 115°, 14 (N/S), 13 (E/W)
8. square, 105°, base of slope, 6 (N/S), 8 (E/W)
9. square, 105°, base of slope, 6 (N/S), 8 (E/W)
10. square, 105°, base of slope, 6 (N/S), 8 (E/W)
11. many more square, pinnacled khirigsuurs in the next valley, upslope from #8.

From the area surveyed #1-10 square khirigsuurs outnumbered round khirigsuurs 2:1. There were also circular pavements with no fences. It appeared that square khirigsuur fences are aligned perpendicular to the slope and do not follow some astronomical alignment, as they trend from 130° to 110° as the sites move east around the base of the hill. The upper slope of this hill has khirigsuurs among the rocky slopes, and Bayaraa found a possible quarry for blue deer stones. This mountain must have special significance to have so many graves, but none in the valley floor only at the base of the hill and up its slopes, like Ulaan Tolgoi. Last evening Sogoo and I climbed our local Ulaan Tolgoi SW of camp. We found a couple khirigsuurs and some small rock art elements: box, horses, one with a rider, and a man figure. In general the rock surfaces were poor.



Khirigsuurs 1 km north of Khushuutiin Gol site.

On top of the hill I called Lynne and described the evening scene around me. I learned that young Portia had just today won the final 2 of 3 qualifying races and became, with her rowing partner, an Olympian and will compete in Beijing, which has a very powerful women's rowing team. I called Bug, my sister, to congratulate her and found her on "cloud 9" she was so ecstatic. Ken and Portia's husband had been able to be in Princeton for these last two races. I also called Abby and found her pretty relaxed, finishing the 2007 Quebec report. Univ. of Calif. has rejected our Genghis Khan book – which is fine with me given their attitude about design and opinion of Dana Levy and Tish, our editor/design team. Thames and Hudson is our target now, everything else is fine in the office. The night got very cold and I discovered I was colder in my sleeping bag wearing my down vest than without it!

This morning we finished clearing Feature 4 and found nothing at all – not even charcoal. So we began a new feature in the SE side of the outer rock features in A1, our last chance this year for a horse sample for this most intensive and distinctive set of deer stones. The crew backfilled F. 4, Nasaa continued his rock-by-rock mapping of this complex area, and Bayaraa and Kyle mapped A3. We turned DS-4 over and found great carvings that Sasha outlined in sugar. It turns out his lost ring is not an heirloom – he just purchased it this year; it had two horses on it and was quite striking. Bayaraa, Kyle, Sasha and I went with the drivers to check some deer stones and khirigsuurs they had found

while searching for water (notes above). Today has been cool and sunny. This is not normal weather for this time of year. During the afternoon the wind picked up from the east and gusted when rain clouds approached but the curtains of rain you could see in the sky never made it to the ground. They always evaporated in the dry air on the way down.

We finished F. 5 with a crew of Mongolian herders as audience, but could show them nothing at all. Another ‘empty hole!’ I decided to make one more last chance effort in a 1x1m test in the middle of a good looking ‘horse’ feature right between DS-5 and 6 without excavating the entire feature – just a stab to get a horse. The rock patterns looked good as we went down, but the result was the same – no horse. However we did find a small charcoal sample that is datable and in better context – all below the second level rocks and between 25-30cm deep. Perhaps the A1 residents of this place has better ideas about what to put in these carefully prepared features – organics of some sort? – or just did not have the horses to spare, but went through the motions just the same. At any rate that places a lot of faith (hope) in the 2 small charcoal samples to date some really beautiful and distinctive deer stones. Bayaraa and Kyle worked on the A3 map and Nasaa finally



Khushuutiin Gol-1, A2, F2.

finished A1, but after dinner they all went out again to finish A3, as we leave in the morning. Baths and washing clothes is taking a high priority in our thinking now. I drew sketches of most of the DS at this site and will be interested to see how they compare with Volkov’s illustrations. Sasha has been great interpreting the marks, maybe for the second time after his earlier visit here with him.



Sasha and Bayaraa transcribing images at Khushuutiin Gol A2 deer stone.

The burrow pits where they excavated the fallen deer stones are still big hollowed out areas today, so you can see where most of them were standing. Some parts are still missing and must be buried nearby.

The blue granite is really wonderful stone and seems to have been impervious to the Bronze Age tools of that period. Here the images are barely scratched onto the surface, removing the dark patina

and revealing a pale blue interior that is very attractive; even the necklace pits are hardly dug out. These stones are not only technologically and materially different—they have swords or daggers floating in the main part of the stones and often don't have belts with hanging tools. One stone (DS 9) has the three 'tigers' done in a very crude way compared to the beautiful work on the deer on this stone, making one wonder if they were later additions. The deer of these stones are also very large and run up and down more than across the stone. Fortunately we have a horse date to come for this chronology. Such stones are more like the Altai/West Mongolian type DS than the central style. However, we are finding horse graves with these, and do not find them in Altai Mongolia. [2 deer facing top of DS, DS-9 opposite the 'hook' side-drawing] no antlers.



Khushuutiin Gol A2, DS 9.

14 June, Saturday – Khushuutiin Gol to Muren



Khushuutiin Gol-1 south area horse image deer stone (A1, DS 7).

Today is Saturday and a cold lowering sky has come in from the Hovsgol region and pushed away the blue sky that lasted until about 7 A.M. Bayaraa and the boys went off after a quick breakfast to finish up mapping the last section of A3, and Kyle and I helped break camp, all the while looking like rain, it never fell – it just stayed cold and gloomy looking. The big mystery of the day is Kyle's missing sandals; they have disappeared from the big tent, and he's been looking all over for them. We got off about 10:00 and discovered we were only a short distance from Tsagaan Uul, where we found everyone out working on chores around their houses. The ranger was

available this time, in a different house where we were looking last time. He had visited us at Bogd and was very quick to help us get our "exit" papers stamped even though it was Saturday.

In town there was a loud-speaker blaring in a very "Soviet-style" method of mass communication.

With all the broken-down central facilities – the town heating plant looked like a heap of rubble – this sum center has an old feel of the former era. Though it seems quite busy and efficient, it is probably quite a poor district, lacking that fundamental ingredient for prosperity: water. There are very few trucks and jeeps at gers in the countryside, and camels seem to be still doing much of the transport for household seasonal moves. Turns out the loud-speaker is playing the ever-present Mongolian theme-song used by the PRI party this year and is coming from the party’s campaign office next to the gov’t building, haranguing the populace with its message. I went into the government building and found Bayaraa showing pictures from our digs to the ranger, who was so pleased he wanted copies of them all on his memory stick; meanwhile, a small portable generator outside his window was chugging away to power his computer, and his daughter and granddaughter were on hand to see the slides. He happily signed our papers, with a couple unspoken conditions: a liter of gasoline from our van’s tank and Bayaraa’s camera transfer wires. All fair game in the countryside. The real downside was the very bad computer virus that Bayaraa’s caught during this transfer.

The skies were still grey with some sunlight patches, and our trip to Muren was quick and interesting, passing through country where Sasha was born. He was very keen on photographing the big mountain we passed, named Darkhaad (= protected area). This mountain and nearby forest areas used to have Mongolian deer and even bear until a few decades ago – and may still have some deer. The big ovoo at the pass was a striking foreground for a great scene into the Delger Muren River below, and the road down has been fixed nicely. We stopped and made lunch at a small “inn” along the river, lined with strips of cottonwoods, and while we were eating a flag-decorated PRI SUV pulled up full of campaigners handing out literature and calendars. This will go on until August! The ‘inn’ was one of those one-room affairs with a small table and seat that extends to the wall as a bed, so you eat and lean back and sleep. In a winter storm these roadside rests must be quite interesting as travelers get stuck in storms! The river looked inviting after our waterless week and more and more I’m thinking we should camp at Bruno’s river place rather than in dry Khydag. Even Muren looked inviting as it appeared across the valley, over the green strip of river bottom grass, covered with sheep and other animals, and dotted with gers and a few log cabins – unfortunately I missed the chance for a great picture. Muren, like US southwestern towns, is a single-story sprawling town. We got settled at the ger camp quickly and I managed this time to get the hot shower with an electric heater that worked. We gave up our dirty clothes to the staff for an easy out on that score.



Inn on the road to Muren.

While unpacking I thought I heard Ayush’s voice, and sure enough there he was, returned from ten days with the East Tundra Tsaatan, where he had some interesting research, meeting with 17 fami-

lies. The new Tsaatan Center building in Tsagaan Nuur is finished and very nice. Wayne Paulsen and a student were working around Tsagaan Nuur but had no details, and no news of Marilyn Walker. Ayush rented a motorbike to go so far north of the ferry and then by horse to reach their village. Everything seems to have been well there this year. After a big dinner at one of the restaurants in town the kids went off to a bar and Ayush, Sasha and I returned to the ger camp and I worked on my photo files, which got mixed up somehow. This time the ger camp and nearby city were pretty quiet, without dogs howling all night.

[Note: variability of weapons and deer placement of standardized deer image. Icon as religious standard, but variable use socially. Asian eyes in place of beads in one Khushuutiin Gol DS; “blank” faced UG deer stones –absence of belts and necklaces in grey/blue granite stones.]

15 June, Sunday – Muren

Kyle came back to camp about 11 P.M. and Bayaraa about 3 A.M. after visiting with his friend in town. The morning was a bit slow as a result. After a small (but expensive!) breakfast at the Dul Juurchin restaurant we did some shopping for groceries. The market was as busy as ever even though it was Sunday. I paid Chimba for his nine days of very good work. He was an excellent digger who was always thinking about what he was seeing and was great at recognizing charcoal. However his dad needs him for some work now. So the crew is beginning to thin and after Bayaraa and Ayush leave Tuesday we’ll be down to six diggers, and Amraa, Khataa and Tsera.



Kyadag East deer stone site, view west.

We left Muren about 1 P.M. for Khyadag and ran into rain spells as we arrived. A family was camped near the site and offered us some shelter and hospitality while the weather cleared, if it will. Apparently it has been showering here since yesterday, and from the look of the clouds coming from the NE it might continue for awhile. Bayaraa showed me the proposal text the museum submitted for an ambassador’s grant last year. It is very well written, partly from assistance provided by Bryan Miller, who spent the fall in UB working in Bayaraa’s office – hence Bayaraa’s great improvement in English this year. The proposal is a good one, for

documentation and conservation at the large Khanuy Valley deer stone site, with some excavation and reconstruction, but should be planned as a pilot study as it will cost more than they think and needs more conservator supervision. They will hear the results this summer, and if not funded could be an excellent basis for another proposal with broader professional input. Conserving and protecting DS sites needs much attention today, but the answers to many of the difficult problems to be faced in balancing research, conservation, heritage, environmental values and public appreciation and tourism and economic development need careful thought – maybe a first step should be a special conference devoted to the subject with leaders from a variety of fields. Almost any proposal for DS site

protection would be controversial to some, but just to let them sit out in the countryside and deteriorate or be lost to theft is also unacceptable today. I've had conversations about this with Esther Jacobson and many of the same issues face rock art, except that there one does not have the opportunity to remove them or excavate, and in many instances rock art is more durable. In the DS case perhaps the solutions will have to be on a case by case basis, depending on the condition of the stones, their environmental setting, potential significance or tourism interest, research and other factors.



Khyadag East, view east.

After Amraa cooked a hot soup lunch in our neighbor's ger, feeding the mother and her two youngsters and baby, and a couple of men who stopped in, we set up our camp about 500m away, on the east side of the deer stone site. The rain was over but the wind was still strong, and we were barely able to get the tents up, especially the big tent. But we succeeded and all the small tents are huddled in its lee. While most of the crew napped Kyle and I walked around the country east of the site discovering quite a few more ger camps and old winter places. The eroded granite outcrops give a strong mysterious quality to the landscape, as usual. A couple other herders on a motorbike stopped to say hello, wearing warm deels and complaining about the cold weather and poor grass. The problem is not survival of their animals now, but if they're in a bad winter many won't make it through. Amraa prepared another great meal working at the iron stove in the whistling wind and everyone went in for an early night hoping for better weather tomorrow – Bayaraa's last day with us before leaving for UB with Ayush to prepare for his Khovd excavation with Bryan Miller.

16 June, Monday – Khyadag

Before retiring last night we had a round of vodka 'Mongolian style' with Nasaa, as the youngest, the official pourer and server. Tongues loosened and brought out some good stories; it also allowed us to explore the subject of Kyle's sandals, which disappeared towards the end of our stay in Khushuutiin Gol and has become something of a joke for the team. At first he and I thought it might have been a prank played by the Mongolian boys or Khataa because Kyle was not playing enough cards with them; but as time passed this seemed less likely and the customary explanation that they must be in some bag of archaeological gear etc. has not panned out. Now we're beginning to think one of the late night local visitors may have taken them, as unlikely as it seems. [Khyadag North drawing] As we finished off the vodka bottle a great red sunset burst out under the clouds which were all flat-bottomed and windswept. The rest of the night was uneventful and not too cold, but the wind came up from the north again in the morning with the same streaky clouds of the evening before, keeping everyone in their tents until 8:00.

When I got up at 7:30 I found Ayush hunkered over the stove with a flaming splinter of wood trying to light it in the gusty wind. Amraa also showed up and succeeded with a flaming newspaper hidden in a bucket. Gradually the crew awakened and warmed up with cups of MacCoffee – the coffee mix sold everywhere here. We started work at 9:00 and decided to open a series of large trenches northeast of the large deer stone at Khyadag North to see what we could learn about the small deer stones and their associated features rather than just search for horse head dating materials. We laid out a 30x8m area and started clearing a 5x8 block around the small stones.



Khyadag overview.

As soon as the sod came off we found two fallen deer stones, medium size and of the pretty crappy granite used at this site, so its uncertain when we get them out, whether they will have readable carvings. Some very nice boulder features also became clear. Nasaa mapped the site as we cleared and we soon began shedding clothes as the sun grew higher and the wind dropped.

I learned that Sasha had got very angry that the Dutchman, Eisma, had been visiting deer stone



Khyadag East.

sites and photographing them. We all found this a strange reaction, as though anyone should have a permit to photograph a monument. Sasha's attitude must come from his lifetime devotion to deer stones, such that he sees them as his children! He has not been that angry even seeing looted sites or damaged rock art. The drivers went off to buy a sheep and get water by van after we had finished a great lunch of khuushuur and cabbage soup. They still have not returned. The weather is very nice now – not too hot and with enough clouds for shade. Maybe we have turned the corner on the cold wind.

The afternoon went well, with the sun out part time, but getting windy and cold again in the evening. By nightfall there was a near full moon and clear skies. We excavated F-1 stone pile and found 4 poorly preserved small (horse, young?) teeth perhaps all that remained of a mandible. I don't think there could have been a skull

there, as there was little room under the rocks and not much of a stone chamber. Bayaraa supervised excavating the other two new deer stones and found they had fallen down or were broken down



Khyadag East, view northeast.

– next to their bases. Both were in poor condition and were hard to read. F3 had a belt with an axe, necklace pits and circles, and F4 pits and a belt. There may have been other carvings but too much of the surface had spalled. Dinner was the front end of a 70,000 tugrik sheep – a traditional Mongol circle around the pot of steaming organs and other delectables. We finished with another round of vodka in honor of Bayaraa’s and Ayush’s departure tomorrow. The sheep was medium sized and expensive “because we’re so close to Muren.” An interesting question about Khyadag East is why so many of the deer stones have been broken off, some just above the surface.

Feature 1: rock feat. 4 young (horse?) teeth 30cm below surface

Feature 2: lenticular rock pile

Feature 3: Buried deer stone with belt circles, N,S, two slashes, belt and axe, necklace pits

Feature 4 :Buried deer stone, 2 circles and belt, necklace pits

Both fit bases next to their broken places. F4 broken off 25cm below ground.

17 June, Tuesday – Khyadag

Bayaraa and Ayush left this morning about 7:30, after some breakfast and a crew shot at the site. Tsera also had to leave and return to his home in Galt where he had some family business that was urgent. So we’ll be down one van and for this day no one to translate, which is not a big issue because we manage OK with sign language and Nasaa understands quite a bit. I paid Bayaraa and Tsera, and gave Bayaraa and Ayush money for the taxi back to UB from Muren. Bayaraa is leaving his archaeological notes and gear here and we’ll bring it all to UB with Khataa.

The herder from the nearby ger came by the site soon after we started work and we showed him the new DS and our notes. He seemed quite interested and in return asked if we would like some yogurt – “of course!” – which arrived at noon on horseback. We gave two loaves of bread in exchange. Our digging at the Feature 2 stone cluster did not produce much of use, except for a small piece of charcoal and a few bone fragments. This is a big disappointment given the large size of the feature, which seemed like it might produce at least 2 horse burials. Nevertheless the samples are datable and were deeply buried. Weather was warm and a bit breezy so conditions for once were perfect. Sasha found another DS base that we thought had been just another rock. We backfilled the 2 features and started turfing the next block towards the big deer stone.

Amraa’s lunch was a rice soup with lots of sheep vitals, including chopped up blood sausage. Last night’s feast bowl was a veritable primer in sheep biology, which every part used – even the stomach

and intestines which were stuffed with organs and blood, and the heart skin became a container for a much-coveted chopped meat and spiced delicacy. The afternoon was uneventful, except that we found another deer stone in the new block, a fairly large and well-preserved one, with belt groove, a changing war shield with a concave disc, two slashes, pits, and circles. The stone fits on top of a base



Khyadag East, view west.

still in the ground, but is still missing its top above the necklace (so maybe the circles aren't there-yet!). It was lying on pieces that fit together for the top of another DS whose lower part is still missing.

Another interesting find was Sasha's discovery of a small deposit of burned bones lying at only a few centimeters from the base of one of the small broken DS bases (about 10cm from the stone, ~18cm below the surface) and possibly a ritual offering of some sort. We finished about 7:30 as a thunderstorm threatened and had just got into the middle of a great spaghetti dinner when a big storm wind from the south struck, nearly blowing the

tent down and filling our bowls and cups with dust and bits of dried grass and probably animal dung! We had to raise the walls to let the wind blow through to keep it up. Fortunately (for us, not the local herders) the rain fell to the east in the hills and kept raining there for two hours, not moving on. By the time I went to bed the sun was still shining on the top of the thunderhead, and the cloud's "skirts" reached down its slopes making a magnificent image that I was just a bit too late to photograph. The wind stayed strong from the east well into the night but the tent held up okay. All during the day two black dogs from neighboring gers hovered around the cook tent, shifting around so the changing wind directions always brought them the smell of the sheep carcass hanging from the tent pole. Amraa kept "chasing" them away in a growling voice, and they would retreat a bit before returning, usually closer. At night we put the sheep in Khataa's van for protection. A water-run to the small local stream was also needed in the gusty evening.



Supper served by Amaraa at Khyadag East camp.

18 June, Wednesday – Khyadag

The storm was gone by morning and it was bright, warm and relatively cool. We got working at 8:30 and after some overall photos of the 2nd block we began working on the new deer stone area. We found black earth and charcoal going down into a rocky base where we started finding metal-like broken pieces that seemed more like rock than metal, and would not affect the compass needle or scratch by steel – then some pottery started showing up, and a piece of rib bone, all around the base of the deer stones. This we have not seen around DS sites previously, except for pottery near Erkhel DS-4 and Khushuugiin devseg last year. This time there seems to be some kind of pyrotechnic operations going on, and this was finally confirmed by a piece of slag. We also began finding many more pieces of the shiny flat metal-like fragments that may be some kind of broken cast metal. We'll see what happens later today.



Iron-rich slag from Khyadag East.

Khataa brought back to camp our new translator Baigel (“Beth”) who has studied English in the tourist program at Hovsgol University in Muren. She has lived in a ger with her herding family until a bit more than a year ago when she started living in Muren. She applied for a translator’s job with Adiya last spring and has been studying English in high school in Muren for 8 years. Her fluency is quite good once she gets used to people. After lunch we exposed the slag/charcoal cultural level, that turned out to be about 2cm thick with slag at the bottom of the brown/gravelly soil and on top of a very fine humic silt/loess-like dusty soil, and then, deeper, the sterile gravelly sand. Slag was quite widespread throughout the deer stone area that we deepened from 12-15 south and 0-4 east. Sasha found a very large plate of material with a constant 3-4mm thickness and a curve like the wall of a vessel, but with melted areas. At first I thought it was part of a broken (sacrificed?) vessel related to DS ritual, but it was too hard to be scratched by my knife blade.

Today I broke some of these pieces and found the inner material granular and sometimes glass, and decided even though they seemed like metal plate they must be slag. Also present with these plate-like pieces was charcoal and true slag, some few pieces of pottery and clay with slaggy deposits on one side and orange-fired matrix on the other perhaps clay furnace lining material. These deposits ran throughout the area; but test pits showed they did not extend beyond the big stone pile to the east, or north. Its relation to the DS is uncertain, and its possible (though seems unlikely) that it’s an earlier occupation. So for the present I think we have a DS site associated with a bronze production site. Rain visited us occasionally during the afternoon, and it was cool. After dinner Kyle and I climbed the hill south of camp and got a good look at the surrounding country at sunset, with night hawks whizzing around us.

19 June, Thursday – Khyadag

The early morning sun lured us up early as it was quite warm, and I managed a kind of bath, given the full view situation of our camp, but I at least felt better about changing into clean clothes. Site work advanced to clearing the floor and removing all the rocks by lunchtime. Lots of charcoal turned up beneath the rock, so we will have more than enough good samples for C14 dating the slag level. Then of course we will need a horse to date the deer stones.

I'm now wondering if our smelting operation might be using the mineral deposits that miners had identified in this valley. This was the cause of the uproar when we worked here a couple days last year, as people were upset with any government-approved activity when they were fighting to stop the mine. They eventually succeeded; but I wonder if it was a metal mine.

We hardly finished lunch and had our 30 minute siesta and were back at work when a storm just struck us, making digging cold and dusty. Although it never rained we had an uncomfortable afternoon crouching around trying to find a place where someone else's dust was not flying in your face. To make it worse we were collecting charcoal from under the rocks we removed and we were seeing our perfect dating material flying away. We managed to clear that #2 block area, do some profiles



South end of Khyadag East, view northeast.

and begin turfing the third block with the two standing deer stones, but the wind stayed strong in the northeast, so it was less 'fun' than usual. So far no big finds or new deer stones. It will be interesting to see how far into this area the slag level extends. We have not decided about digging the big stone pile east of the slag area, but two test pits to the north and east showed no cultural material. It's still a mystery why there is such a slag midden with no obvious furnace structure nearby. The presence of lots of slag and charcoal directly under the lower level rocks suggests strongly they are related, but the deer stones are not so easily linked to either. And it still leaves open the link with the upper level rocks, which we have assumed were related to deer stone activity. The slag level comes on sterile gravelly sand 25-30cm below the surface, and we generally assume the DS level is 10-15cm below surface. What time is represented by 15-20cm of sterile humic soil? Again we don't have good answers now and will have to see what news the C14 dates will bring.

Another cool evening. The kids have gone off with the soccer ball to try out the basketball "hoop" on a pole at the winter cabin across the valley. In this strong wind it may be a challenge, and I don't think there is even a hoop – just a backboard! Grey skies and whistling wind in the big tent ropes and a bit of sun still on the upper clouds. Looks like more of the same weather tomorrow. Naadam horses are starting to be tied to the tether poles, causing them to fast and lose weight for the racing season, starting in a week in the local arenas. (well there was a hoop after all when I visited the spirited game

of 2 on 2! But the wind correction was extreme!).

20 June, Friday – Khyadag

A nice night with this time hardly any morning clouds, yet there is a light north wind that may keep the temperature down, if it holds. We seem to have a kind of on-shore/off-shore wind pattern, north until the southern forces take over in midday, and then north again in the evening. We only have at most four working days left, and we need two on the west Kyadag sites. The birds – mostly sparrows – are having a field day on top of my tent after sunrise; then there were ‘grrring’ sounds of a larger bird – I imagined a crane. Down at the waterhole we always see cranes and shell drakes. At noon yesterday two kites were double-timing the mice and squirrels, and a sparrow hawk was wreaking havoc with the small birds who like our campsite detritus.



West side of Khyadag East trench, view northeast.

Baigel and I did the remaining two profiles for Area 3 while the guys finished clearing Area 3, where they began to find food bone and bits of slag in the upper soil levels. Khataa went off visiting across the valley with some relatives, promising yogurt in return. About 11 A.M. a van came roaring up to the site, but it was not Khataa. It was Bruno and Tugsoo, who arrived from UB yesterday and are in the middle of setting up their camp in the same riverside location. They came up via Erdenet and had a good trip. They have a smaller team this year and will be working on mounds south of us and across the river near the sum center.

Bruno had never seen anything like the plate slag/metal we’ve been finding and suspects it’s some kind of by-product of metal production- but what metal. It makes a nice scratch in brass, but did not mark his hard steel knife. He and Tugsoo and their driver stayed for a khuushuur lunch and potato salad and then went off to select some khirigsuurs to dig. Some just SE of our camp have become wrapped up in a mining (phosphate) operation and they maybe contracted for with the Institute of Archaeology for big \$ and may be off-limits for research to others. Lots of mining deals are being made with the Institute these days, with probable special deals that never quite get made public.

During the afternoon we got into the upper layer of A3 and immediately started finding broken food bone of sheep/goat and larger animals, most of it broken up for cooking. Also a few pieces of slag and horse teeth, most looking like young animals. Nasaa made a nice map and we found more pieces of deer stones. The breeze was not too bad, from the north again, and we weathered a short cloud-burst of icy rain just before supper – one of the few rainstorms with the rain actually reaching the ground. Dinner was the remains of the sheep, leaving the question of meat for the next few days. It simply does not seem possible for Mongolians to live without meat for lunch and dinner, even though it is only cut into tiny pieces and used as garnish for soups and stew mixes. Bruno is talking

about getting a refrigerator into his camp to keep his meat fresh more than two days – maybe his conditions are different by the river than here, but ours lasts 5-6 days. I suspect it may be the beer that is the prime motivator in this case, even though the river is a good cold substitute. I'm starting to think Khyadag West may not get dug this year given the slower progress we are making having to dig so much deeper for the slag level in the site. We may also have to forgo the trip to Hovsgul – something I hoped we could do for Kyle especially, as most of the others have been there.

21 June, Saturday – Khyadag

We have three and a half days left here and time is running out for doing everything we hoped for. The day sort of began on that somber note, encouraged by a low cloudy sky and light north breeze. We figured out we are going to have to get a few more kilos of meat, and of course a bunch of beer for a final dinner at Bruno's river camp where we'll move to on the afternoon of the 24th, to celebrate with them and say goodbye to Nasaa, Songoo and Amraa and Baigel, who will be staying in Muren. At that point my dungarees will have been two weeks out of water and will be crying out desperately for some attention.

This morning's dig was cool and uneventful, other than a few bone and slag finds there is not much to say. The slag horizon appears weakly in the northern part of the block but really – at least so far hardly present. What we have been finding are quite a few broken horse teeth and bones of sheep/goats and a few larger animals that have been broken for stewing or just while extracting marrow. Some appear to have been chewed by dogs – the larger ones, which suggest they lay exposed on the



Khyadag West deer stone site, view north.

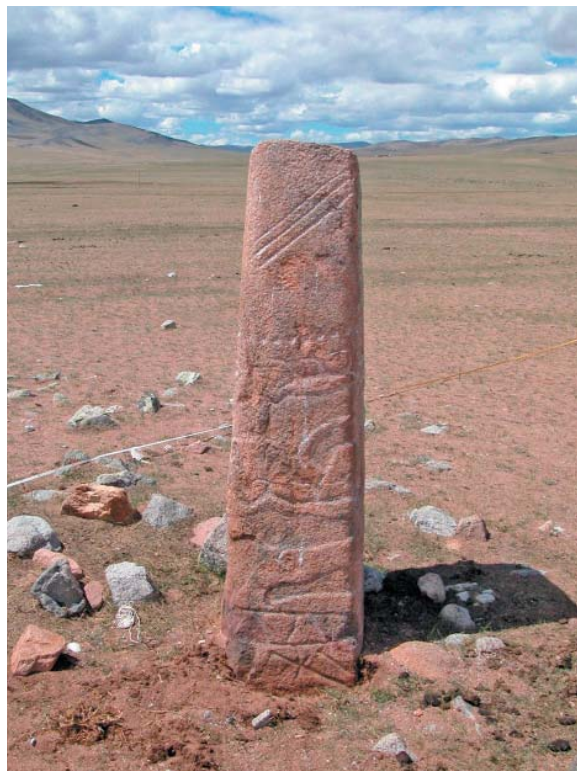
surface after discarded. There is no apparent pattern to their distribution – they are mostly clustered around the big deer stone, from just under the sod to 15-20cm deep on sterile gravel. They seem to be the remains of meals associated with the deer stones, and we found many last year in the area we excavated east of the deer stones. Their depths and preservation is all the same, suggesting a single deposition with the stones. There is a curious wall-like construction angling eastward to the east of the big DS, paralleling last year's dig. I wonder what that is all about?

This afternoon we will finish cleaning the second level and will map and photograph the rocks, then

check under the stones, and then maybe start some mapping of Khyadag West, just in time for a small trench or a couple feature digs to see if we can get a C14 date for that site, which has some parallels and differences with K. East: a similar ring of surrounding boulders, but different style DS art, no mini deer stones or broken DS, and an outer ring of hearth circles. Perhaps we can find a horse there, something that has eluded us at K. East. And I doubt there will be any slag deposits there!

Amraa made a good Italian version of the standard Mongolian pasta and lamb potpourri-more or less with the same ingredients but using spaghetti and tomato paste rather than flour (hand-made pie dough) cut noodles. It's surprising how much pickles add to these dishes. Everyone here gobbles up everything pickled! She also made a great potato salad yesterday. I'm getting pretty accustomed to eating the gristle and fat that comes with the bits of cut-up lamb but one thing I can still happily pass up is lamb-tail fat chunks. Even the marrow is fine, like melt-in-your-mouth butter. It's 2:20 P.M.: siesta time for the crew during the hottest part of the day, and light snores are coming from the tents. I took the sunlight and low wind spell for a tub bath and minimal clothes wash.

Some interesting folks visited us at the site in the afternoon, driving a fancy Japanese van with a driver named Byamba who speaks excellent English and works for Boojum Expeditions and its boss Kent Maiden, who Bruno and I roomed with in Telluride a couple years ago. Kent has a cabin upon the confluence of the Shishged and the Tengis River that I'd like to visit sometime. Linnsie and her newly-wed husband Eddie are touring on their honeymoon, driving all over Mongolia and are headed for Hovsgul tonight. She seems pretty tired of driving on these roads and seemed ready



khyadag West deer stone 2.



Bones associated with Khyadag East deer stone.

to move in with us for some archaeology, as that was her first special field at the University of Texas – in fact nautical archaeology – but now she is a cancer research specialist. We had a good talk with them and then got to work on finishing off our Area 3 excavation, which we mapped (Nasaa!) and photographed and then dug under the bottom level rocks. One surprise was finding quite a few slabs around some of the deer stones, and near some boulder features, as though there were small areas of pavement around the base of the deer stones. Digging below the slabs in several cases (DS-5,6,1) we found either small deposits of broken bones and splinters, or in DS-5 two snapped femurs of some



Khyadag East trench, view northeast.

small mammal we could not identify, and in DS-6 a piece of ceramic pot. Sasha had earlier found some small calcined bones at the south side of DS-12 (?#). So maybe we have some evidence of small ritual deposits at the bases of DS. Whatever it is is quite simple, but interesting and not known before. We also found more slag, but only along the A2/3 border, and little charcoal. But we kept finding broken animal bones, sometimes at the base of the deposit, so we should have plenty of dateable material. There were also two barrier-like linear constructions, one of large stacked rocks east of the large DS paralleling the 2007 excavation block, and the other consisting of only 2 vertically posi-

tioned rectangular rocks, just west of the DS-3. There is also a large stacked rock feature along the west side of the excavation that could be a horse feature. We'll uncover that tomorrow- hopefully our last digging day at K.E. By afternoon I'd like us to be at Khyadag West for mapping and exploration. Kyle wandered up to the forested hillside south of camp and explored the "taiga" forest a bit.

22 June, Sunday – Khyadag

Amraa and Khataa are going into Muren today to get supplies and take back some unused cooking gear, to lighten the load for our transfer to Bruno's camp on the 24th. She's deputized Baigel as cook-for-the-day. Let's hope the weather stays nice as we won't have a van or Khataa handy for emergencies. I had to get up at about 3 A.M. and found it dead calm with a full moon and scattered clouds – light enough to dig, almost and very eerie. Completely silent – this evening we should have built a bonfire on the hilltop as part of the worldwide celebrations of the summer solstice! Which we seem to have forgotten completely! Perhaps that is what the beer Kyle pulled out of his pack was about, unconsciously! Maybe now that it's officially summer the weather will change and north winds will cease.



Khyadag West trench, view north.

We got to work about 8:30, and Amraa and Khataa left an hour later with our unneeded cooking gear and stove; we've borrowed one from a neighbor for the next couple of days. Baigel will be our cook for lunch. The 'blue truck' ger people dropped by with their kids and had a look at our finds – saying “tumur” (iron) when they saw the slag plates and how hard they were. They also identified the two bones that I first thought were femurs as ribs! I guess of sheep, but I couldn't get clear with them on that score. We found a few more food bone pieces in cleaning under the rocks in A3, but nothing special. Then we shifted over to Khyadag West and set up a grid and trench to excavate today and tomorrow. Nasaa began the site map. I returned to KE to finish photographing and making notes on the deer stones. The weather was cool, cloudy and nearly windless. Almost perfect conditions. We survived Baigel's lunch (rice, “old” meat and leftovers thrown in), actually it was fine – as good as Amraa's fare. We're just teasing her about women's/men's work since she grew up in a ger and now is a city person and is not bound by all the old traditions.

23 June, Monday – Khyadag last full day!

This morning is the first with a completely cloudless sky and light wind, which bodes for a very hot day of final KW excavations and KE backfilling! Yesterday afternoon we started excavating KW and immediately started finding food bone in the trench we laid out from the big DS, across the circular pavement of rocks to a circular feature just outside the ring pavement that looked like a horse burial. Sasha found a portion of a robust jaw or maxillary fragment of a large carnivore – perhaps a bear – near the base of the big DS. Then Moogi found burned and unburned sheep remains near the bottom of the circular feature, but it got too dark to finish it and see if it is a horse head. Much of it is charred – a first time for that procedure, if so. We also started backfilling KE – what a chore that is, with flying dust, and a shortage of turf for surface treatment. The morning turned out bearable with clouds and a northern breeze. We finished digging the skull fragments in F. 1 about half of which were carbonized, and found very little that to us was identifiable – no horse teeth, that's for sure and the bones seem too fragile for horse. Perhaps it's the rest (skull) of the sheep/goat who was found in some other remains higher up in this feature. Other than the bones there was no sign of fire. There was a nice pattern to the preparation of the feature, with large flat rocks slanting down into bottom, like the features we dug in KE. We also finished clearing the soil from the 2nd level rocks and Nasaa mapped this and the feature and completed the map for the entire site. Two attempts to find charcoal in 2 oval hearths west of the boulder ring have so far failed. No calcined bone fragments either. While we were finishing these tasks the boys put in some back-filling time on the KE site, whose dirt mounds are still quite extensive.



Khyadag West Feature 1 horse burial.

Last night I sketched several of the KE deer stones and still have most of the small ones to do before

they get covered up. Yesterday a herder rode by with his flock of young sheep and goats, using his pole noose to keep them in order. It's rare to see this technique. We've seen several people herding horses with motorbikes. After lunch we photographed and tossed out the second-level rocks and spent most of the afternoon digging down to sterile gravel. In the process we found several really interesting things, more of the carnivore Sasha had found next to the deer stone – plus several deceased marmots – and just at the north side of the DS fragments of the mandible of a dog or wolf, both sides, quite fragmented. Here we also found a tiny metal blade – either bronze or iron,



Khyadag west at base of deer stone 1, bronze button and metal knife blade.

used to exhaustion – and on the other side of the stone (south) a bronze button with a bar attachment. Nasaa found the knife and Kyle the button. So once again the immediate vicinity of the DS seems to have had some special – and quite idiosyncratic – deposits. The trench yielded quite a few other bone fragments, most of which were splintered or broken for cooking. No other artifacts of any kind though. By 6:30 we had finished backfilling Khyadag West and the boys took on the task of finishing the still large piles of earth at KE while I made some sketches of the KW deer stones. We finished everything in time for dinner at 8:30 after which the guys went for water for the usual Mongolian upper body bath, bending over and having someone pour water over your head and shoulders.

To celebrate the conclusion of the project we sat around a candle guttering in the breeze, drinking beer and telling stories, mostly about how many kinds of beer were available in the US and the price of cars, the students' plans for the rest of the summer and their careers. Moogie is going on to work this summer with the Korean Monsoc Project. Sataa and Nasaa have no special plans and Amraa will return to her job in a clothing shop in Muren. Khataa hopes to be driving for Paula DePriest in a few weeks. Lkhagva Ochir, head of ger camp nearby and a relative of Khatbaatar's provided much help (and yogurt!) to us.

24 June, Tuesday – Khyadag to river camp

Our last night was overcast but warm and this lasted all day long. We packed up and by some miracle Khataa managed to pack everyone and everything into the van. We returned the tent poles and said goodbye to our local host, Ochir, and in only about 30 minutes were near Bruno's camp when we met him leaving on his way for supplies in Muren. We set up our camp and soon left for Muren leaving Kyle and Moogie holding the fort. I had not realized that Sodoo and Nasaa would be leaving today and was surprised to discover this in Muren when we arrived and I hardly had enough money to pay them; then I had trouble getting \$150 in US cash exchanged so we could buy bread and groceries – principally beer for the evening get-together. Khan Bank would not take any bills – even new ones that had a fold in them from a wallet. But a small exchange shop in town did and so we

were in business and had lunch at the usual restaurant, said goodbyes to Nasaa and Sodoo and were off bouncing our way to Burentogtoh, the sum center whose name had become a game over the past several days. Khataa was at his usual breakneck driving style which was a good reminder of what it will be like for the next two days on our way to UB – not the easy-flow Tserenam way. In Muren the entire town was bustling with activity of all sorts. A large political rally was taking place with many black cars, white shirt and dark slacks-wearing men, and political banners for the socialist-leaning PRI party flying. Everywhere in town slogans and the “milk tea” song were blaring on loud-speakers and pamphlets were being passed out.

The ride to Burentogtokh was no less ‘exciting’ with Khataa careening down the potholed track hunched over the wheel, spinning it back and forth, grinning and talking with Amraa, who had decided to come since it was her last day with us. The political tenor of Burentogtoh was quite different, but political nonetheless. We found the sum administration building dark and almost empty, but one office that was occupied was the governor’s, where we had a cordial reception with a twinkle-eyed man who is an amateur historian and culture buff and has traveled widely in Mongolia -- his name is Jamiyanris Purevjal. He welcomed our work and hoped for our success and return next year when he would have more time for chatting about our results than now when he was about to run off for



Khyadag west showing Feature 1 horse burial.



Crew at Khyadag East, L to R: Sodoo, Kyle, Amaraa, Sasha, Nasaa, Khadaa, Tseeree, Ayush, Bayaraa, and Mogi.

political interviews and events. He was good to spend as much time with us as he did. He wrote us a fine note for the record, stamped it and wishes us well. It probably helped that Sasha was born in his sum. On the way out of town we decided to try the river ford, and after I waded across finding it passable the van came across smartly, saving two hours of fuel and driving. No shades of Bayan Ulgii here – stalled engines and stranded vehicles in the streams! Hurray team Hovsgul!

Back at camp, Bruno and his field teams were back, Bruno complaining vehemently about the high



Baigel, our translator from Muren at Selenge River hill.

prices but now his cook tent looks like a market itself, with bags of potatoes, carrots, and some very good looking (and later with his cook's help-tasting) red and green peppers. We put two sacks of beer cans in the river to chill and started a long round-up with Kyle, Bruno, his son Thomas, Thomas' childhood friend Sam, and Michael, a student of Bruno's colleague Judith from the Univ. of Auckland, New Zealand – who of course had many Doug Sutton stories. Dinner went on into the rest of the evening, ending with a campfire gathering of both teams – Tugsoo and 3 other students – a bit of volleyball promoted by Amraa and Baigel who had bought a volleyball in Muren the other day.

Eventually Bruno gave in and postponed the morning's field team departure to 8:30 (from 6:30 or earlier) and the khirigsuur team threw themselves into a new round of stories, beer, and fire-coaxing. This after we had convinced Tugsoo to relax his no fire ban to conserve firewood, stop devastating the willows lining the river, etc. – so at the instigation of our feisty ladies we had a real nice evening and retired around 11:30 with Amraa and Baigel still chatting away in their tent. Fortunately no excess drinking this year!

25 June, Wednesday – River camp to Ulziit

We were up about 7 and pretty soon wide awake with Bruno's Starbucks coffee. Gradually his team assembled, had a bite to eat and at 8:30 left for work at some khirigsuurs about halfway between Khyadag and camp. We had to wait for Khataa's arrival from Muren, and so Amraa made up some beef and rice and a pot full of cooked rice for us to use at dinner on the road, with a couple of cans of stew meat. Khataa came about 9:30 and we left at 10:00, stopping in Muren to drop off Amraa, whom I paid for her 20 days work, checked at the ger camp for my missing wash cloth (gone) and checked in with the governor's office for our (probably unnecessary) permit sign-out clearance. All that duly done, we bought \$125 worth of gas and oil and got on the road at 12:30. It had been threatening rain all morning, and by the time we got to the Selenge we were dodging thunderheads and showers and continued to do so until evening. We managed to miss the big ones, but the road got more puddled as we proceeded, and it's supposed to get muddier as we get closer to UB, where big floods have been reported with the river 40 feet above normal – if that can be believed. All the way we were met by taxi vans full of people coming back to Muren from UB, perhaps to vote, or just 'returning' for summer. We must have seen 8-10 vans. The road down the hill on the south side of the Selenge was a bit muddy and some vans that were very full of people had them walk rather than ride down the hill. They have to do this most of the time in winter – I can't imagine how the vans get down that hill at all in winter. We found a Chinese grader covering the trench for the internet cable that is being laid across a huge stretch of country between Rashaant and Ulziit (and maybe farther) making an ugly stripe across the valleys and hills alongside the road.

We got to Ulziit about 8 and had dinner in one of the restaurants there (with the foulest latrines I've had the chance to visit) and camped in an old winter herder's camp a couple of miles out of town. I can hear the dogs in town and see its lights. The camp is right in the middle of several khirigsuurs and possibly square burials, and one khirigsuur seems to have a whole series of horse burials. The ground is covered with aromatic herbs. The very pungent ones with carrot-top like leaves, and vicious thistle thorn bushes. We were soon visited by the local herder on a pretty pinto (many-colored is the Mongolian name) who seemed like an interesting, crusty sort of fellow. I had to give up my plan of finding a high hilltop camp for our last night out in the country, faced with Khataa's more or less insistence that we stick to the road area and not lose time because of the problem we may face tomorrow. So we're to rise and go at 6 A.M. It seems like the storms have passed, at least for now.



Kyle says 'goodbye' to the Selenge River Valley.

26 June, Thursday – Ulziit to Ulaanbaatar

We had a quiet and very aromatic night with stars and a half moon, with the neighing of horses in the distance. Baigel could not light the dung she had collected for a breakfast cup of tea/coffee, so we struck out right away, around 5:40 into a very beautiful country of green (amazing?!) grass. It was mostly horse country at least this time of year. We followed a 'country road' that had led to our camp



Pumping gas at Khairkhan.

area, but it soon took us too far east and Khataa had to spend 30 minutes backtracking to the south before we found the right, heavily-traveled 'road,' whose weaving tracks were out into the green pasture like a loosely-braided strings of brown track slashes in a sea of green. Eventually we reached the east-west road, but it was not until 10 that we got to the first town and gas station, which had run out. This was the start of the paved road and the 35 kilometers to the next town was a bit uncertain as far as fuel was concerned. Following this stretch was the long and gritty section that just a few days ago had been hit by

torrents of rains.

All along the way we had been pulling up to taxi vans Khataa knew asking about the road ahead. The answer was variable, but the vans were getting through, all chock full with people returning to Muren or their towns to vote. We soon discovered the problem, within the first 100 yards of the “new road” spotting a truck whose tires has sunk to their centers in the soft shoulder. It seems that the road-builders had not used much if any crushed rock or its natural equivalent, in the road bed and the entire thing had turned to mush, draining away in rivulets as run-off from the roadbed, which had not yet been paved. So that was also pocked

with potholes and could not be driven on by anything but large heavy trucks. For the next 50 miles the road area was a wasteland of muddy tracks criss-crossing the land on both sides of the ‘highway’ full of small lakes and mud holes and stranded vehicles. One poignant scene we passed was a small town car mired to its floor with a young man trying – to no effect – to gain some traction but hopelessly stuck, with his aged father in a deel, standing by, greatly bow-legged, while the mother sat in the driver seat spinning the wheels as though in butter. Other cars and trucks were abandoned in the worst places. Somehow Khataa piloted us through the mud maze until we reached the outskirts of UB, where the glorious road – one of the centerpieces of modern Mongolia – was being prepared for its blacktop and inauguration, undoubtedly timed to be open at the election in a couple of days.



Amaraa and Khataa cooking last Khyadag supper.

This section of road seemed to be built properly, but as you got further from UB shoddy work took over. Of course natural forces have an impact, but storms and floods are part of Mongolian life and have to be dealt with – adequate culverts, not building roads in the bottom of flood basins, etc. are part of proper plans – all voided in the case of corrupt practices.

Once in town we found the “guest-house” near the government store easily, and its interesting mix of travelers, students, and an older California man who was an aspiring journalist without credentials yet



Khirigsuur damaged by road construction along the East-West highway.

who was exploring a new life here and in China. He once worked for Nick Hellmeth, a Mesoamerican archaeologist who had been in grad school with me and who seems to have since then found himself in trouble with ethics issues. This place is not classy like Zaya's but its fine, and you can wash clothes, have a hot shower and cook your own meals. The wireless internet has not worked for me – yet. We got the equipment back into storage in the caverns of the museum basement, which is a maze of double-padlocked doors after the thefts, and then paid Khataa, Moogi, and Baigel. Supper was at a garish place full of Mongolians eating western type food. I arranged to see Adiya tomorrow and to have lunch with Orgilmaa, who was surprised to get my call. Kyle and I did some email and hit the sack. Fortunately the electioneering has quieted down. Our guesthouse is part of a commercial complex including a night-club, travel agency and UB Deli restaurant – quite a mix of businesses; all probably fairly marginal financially. Our double room is \$32/night.

27 June, Friday – Ulaanbaatar

There was a crowd of Koreans outside the guesthouse this morning waiting to get in to the next building for medical care – it's an outpatient center for elderly Koreans. We had breakfast at the UB Deli restaurant affiliated with the guesthouse. It took us forty minutes to get served a couple of eggs with a salad and potato chips. We then rushed to the museum to meet Sasha, who showed up in a suit as he was also “called” to the Ministry of Culture for some business out of UB. With translation help from Dembereldorj, the foreign relations official at the museum, I paid him his salary and then worked with Kyle on the excavation collections, selecting radiocarbon samples – charcoal, bone, and tooth. Unfortunately Bayaraa had locked up the Altai materials, unless I have put them in some special place I have forgotten about! I had arranged to have lunch with Orgilmaa and she showed up in her usual flair – in a green outfit. She's doing very well with her language schools and related activities: textbook, student exchanges, and other projects. Her daughter is on her vacation from the States where she is in her last year at Strayer University in Virginia outside D.C., and her granddaughter. Her son is now finishing high school and has applied to Middlebury College where he is on the waiting list for the fall. We ate at the French Bistro where she had eaten last winter and was poisoned by salmonella in bad eggs. She says she almost died and lost many kilos. The eggs remaining in her fridge were tested and confirmed poisonous, and she was offered a free meal from the restaurant – some deal! So I understood her hesitation when I suggested the lunch place.

I spent the rest of the afternoon starting to photograph the collections and Xerox the many pages of field notes, with assistance from Tsogoo, the museum's education official and assistant to Director Saruulbuyan. We had supper with Ogie, Adiya, and Tuul-his wife in a nice small restaurant on Peace Avenue a few blocks from Zaya's. The best restaurant food I had yet in Mongolia. After dinner we dropped in to say hi to Zaya, who was still searching for the meaning of life and had a full house of guests.

28 June, Saturday – Ulaanbaatar

I spent nearly the entire day at the museum photographing our collections & getting the notes finished. Sasha came by for an hour to show me his DS drawings from Khyadag, because I had never finished my drawings before the boys started back-filling. We have a numbering and mapping problem with some of the DS in A2/3 at KE that Bayaraa will have to fix as I was digging features when they were moving and mapping stones. Kyle went walking around town, visiting the Gandan Monastery and shopping. Toward late afternoon some American college girls came by the museum to talk about their plans to ride horses and write articles about the Tsaatan in Hovsgul and/or Darkhad. They had heard about our work at a British Friday evening embassy party from Orgilmaa Dooloojin and

were searching for advice and story ideas – more people here as wanderers with literary aspirations! They had grown up on ranches and planned to buy horses and get a guide and travel through the country, writing and taking photos. Maybe they will bump into Paula somewhere. Ayush had invited us to dinner to a “deer emblem” restaurant and so we had another pleasant evening with him and Adiya before more e-mail and bed. Today was a holiday, the day before the parliamentary elections and there was little traffic or activity of any kind around town.

29 June, Sunday – Ulaanbaatar to USA

C14 Samples → USA

1. Tsagaan Asga Hearth F3(2) charcoal
2. Khoton khirig. 333 18 char.
3. Ts. Chuulot F4- bone and char.
4. Lake Khoton 333 small hearth char.
5. Lake Khoton 333 upper level H18 char.
6. On Khad sq. khir. horse canine-tooth
7. Bor Hujiriin Gol-1 F1 2 char. Samples
8. Bor Hujiriin Gol-1 F2? Horse tooth
9. Bor Hujiriin Gol-1 F4- bone, char.
10. Bor Hujiriin Gol-2 char. and calcined bone
11. Khushuutin Gol F1 char.
12. Khushuutin Gol F2 horse canine
13. Khushuutin Gol A3 F3 tooth
14. Khushuutin Gol F6 char.
15. Khyadag East A3 horse teeth #32
16. Khyadag East A3 rib #45 (DS-5)
17. Khyadag East A3 #39 bone
18. Khyadag East A3 F1 teeth (4)
19. Khyadag East A2 -12cm char.
20. Khyadag East S 13-14/E 0-1 slag char.
21. Khyadag East DS-12 burned bone
22. Khyadag East A2 char. Near #10,17
23. Khyadag East A2 general sample char. 12S/1-3E
24. Khyadag East A2 F5 bone
25. Khyadag East A2 50 north of #13 char.
26. Khyadag East A2 under rocks 12-15S/1-4E
27. Khyadag West F1 bone
28. Khyadag West #8 bone base level

Last day in UB and it's another cool and partially sunny day, with a quick thunderstorm at midday that caught Kyle returning from the art museum. We had our final breakfast at the UB Delicates-sen, part of our guesthouse complex and where we see most of the guests too. I also finished catching up on email and picked out charcoal from the soil samples from the Altai. We have enough for some good dates – all we need now is money, since I have 28 viable samples. There could be some really interesting surprises here. After the shower we walked down toward the river, getting mixed up in lots of new and renovated construction including several sports complexes and the Mongolian national headquarters for their Olympic Committee. There's lots of new residential construction here also. We got into a dead end and never made it to the river, so returned to town and had a lunch at

the overpriced Irish Pub, whose food is pretty good. Then to our quarters and a nap before finishing packing. Adiya arrived with a car and his family to drive us to the airport at 9:00. The goodbyes came too quickly, and we were into the maw of security – no problems getting the samples through, fortunately. The flight was in a big A330 Air-bus very comfortable and not too crowded. It's the first time I think I've seen a wide-body plane on this route, so maybe travel to Mongolia is picking up. We arrived in Seoul at 3:30 A.M.

Some questions:

1. Relation of slag deposits to deer stone component. They seem stratigraphically deeper but there is little to securely determine the stratigraphic level of DS horizon.
2. Compass orientation of DS – Bill Stewart hypothesis of winter solstice. I forgot to get this data on the Khuushootii Gol and Khyadag DS sites.
3. Votive deposits seem to appear at the base of most DS's. Are they contemporary with construction?
4. Why the deep burial of pavement rocks at Khyadag? – up to 30-40cm or more. These pavements seem to be 'pavements' for ritual meals and not a series of clustered features as they sometimes appear from the surface rock patterns. However features are sometimes present.
5. What is difference in pavement food rituals and circular hearths? – calcined bone in circular hearths and unburned bone food fragments on pavements.
6. To do:
 - a. Get bones identified
 - b. Get horse remains studied
 - c. C14 dates

PART III

Field Notes and Maps¹

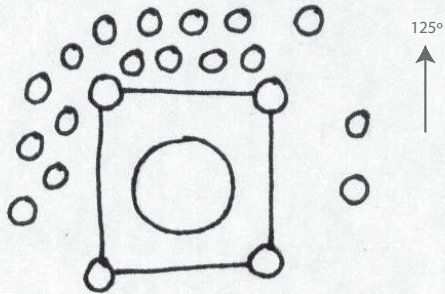
1. On Khad/Mogoit, Tsengel Sum, Bayan Ulgii
2. Biluut 1, 2, 3, Tsengel Sum, Bayan Ulgii
3. Tsagaan Asga, Sagsai Sum
4. Burentogtokh, Burentogtokh Sum
5. Bor Hujiriin Gol, Tsagaan Uul Sum
6. Khushuutiin Gol, Tsagaan Uul Sum
7. Khyadag East, Burentogtokh Sum
8. Khyadag West, Burentogtokh Sum



Bor Hujiriin Gol-4.+

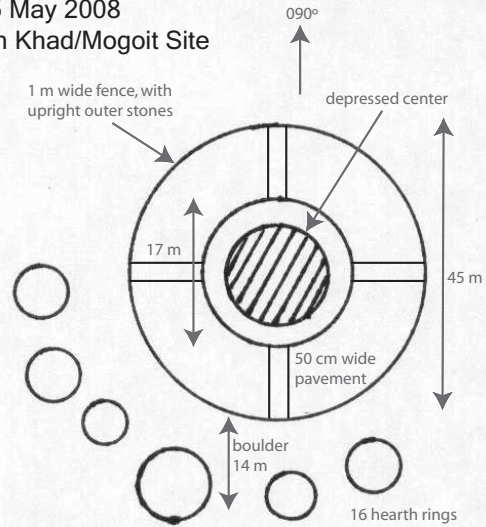
¹ These maps and figures have been transcribed from field notes by Kyle Strickland and Barbara Betz.

Figure 1
25 May 2008
On Khad/Mogoit Site
(Jeland in Kazakh)



16 horse mounds
Single rock fence
No hearths

Figure 2
25 May 2008
On Khad/Mogoit Site



75 m SW of khirigsuur
shown on the left

Figure 3
29 May 2008
Roadside D.S. leaving Lake

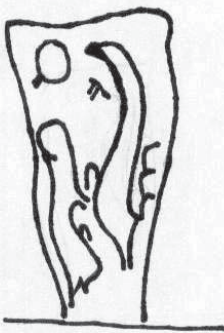
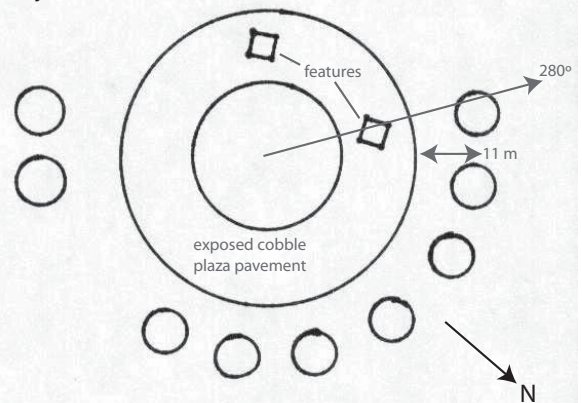
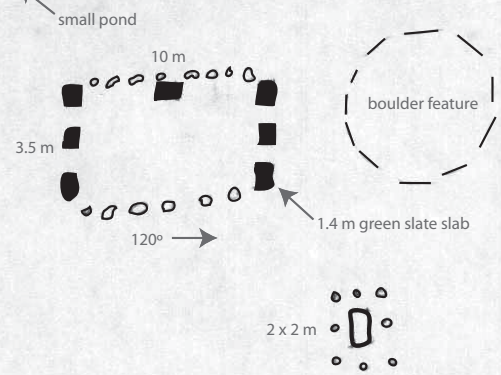


Figure 4
27 May 2008
Khoton Lake
Survey site near Biluut 1



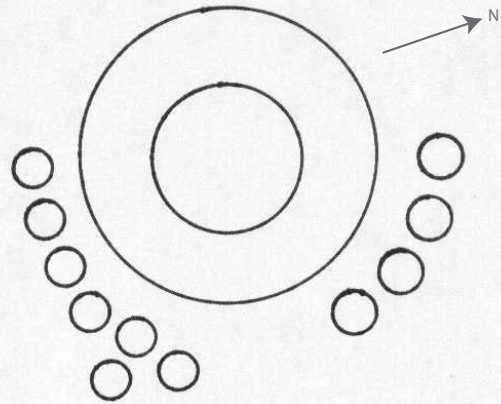
Structure #9
Round khirigsuur, undisturbed
GPS 331 2102 m N 48° 38.479/E 88°
22.485
Inner diameter: 8.3 m
Outer diameter: 21.6 m

Figure 5
26 May 2008
Biluut 2 Survey



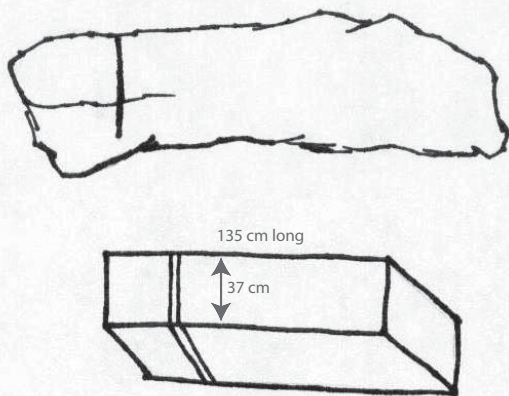
Turkic rectang. and large slab on sandy ridge
GPS 324 2081 m N 48° 39.116/E 88° 19.669

Figure 6
28 May 2008
Biluut 2E



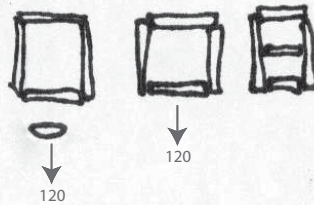
Grave ring with inner upright slab rock

Figure 7
27 May 2008
Lake Khoton

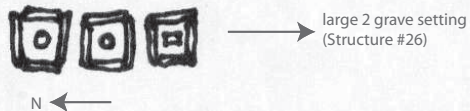


Possible deer stone on east side of Structure #12
Grey greywacke?
Friable surface, rough
Square base, angled top
GPS 333 2099 m N 48° 38.183/E 88° 23.148

Figure 8
27 May 2008
Lake Khoton

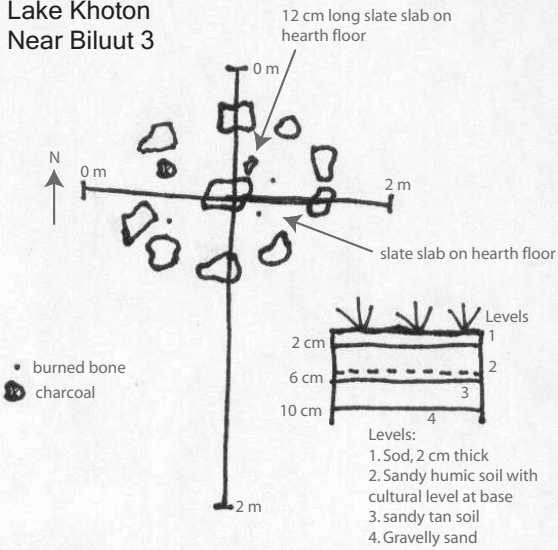


Turkic 3 box grave complex (Structure #25)
Standing slabs align with center of mound #24 to east
GPS 344 2109 m N 48° 36.683/E 88° 26.060



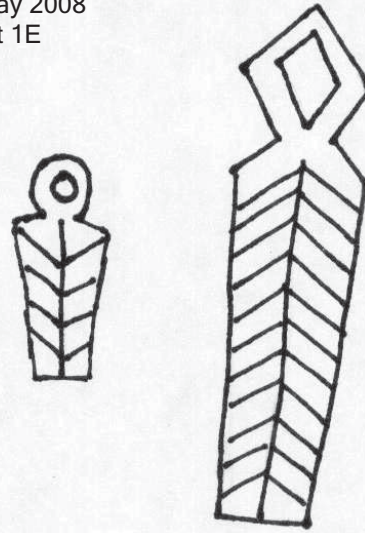
Three small slab boxes with slab markers
30 m north of turkic grave complex (Structure #26)

Figure 9
28 May 2008
Lake Khoton
Near Biluut 3



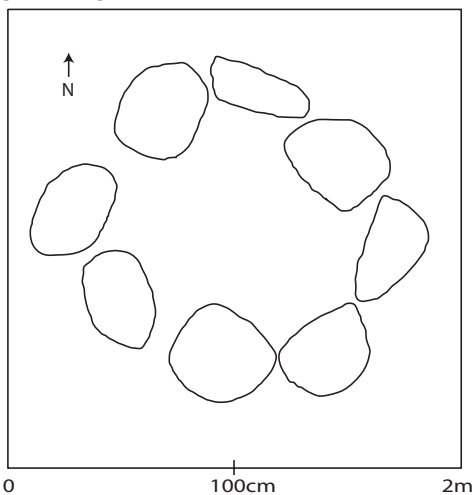
Hearth #123
Bone and charcoal in upper brown soil
No artifacts or real cultural level
Associated with khirigsuur 333

Figure 10
28 May 2008
Biluut 1E



Biluut 1E rock art drawings
Figures like this resemble Nenet, seida idols and BA pendants
4 or 5 of these at one spot

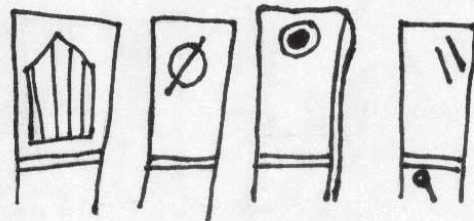
Figure 11
1 June 2008
Tsagaan Asga



Mini Hearth #1 (K. Strickland)

Depth to base of excavation is 10cm. Silty sand.
Nothing found; no stains or bone or charcoal

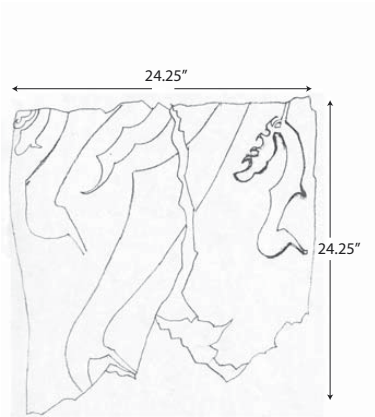
Figure 12
6 June 2008
Burentogtoogh Sum Center



Deer stone
Moved in 1902 from the side of a mountain to the south to its present location in town
GPS 352 1380 m N 49° 37.160/E 99° 35.249

Mongolia Deer Stone Project: Field Report 2008

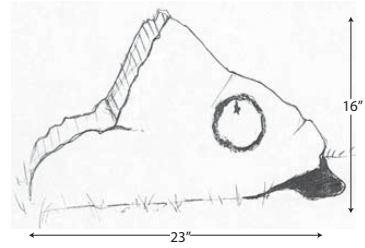
Tsagaan Asga Deer Stones - Drawn by Richard Kortum



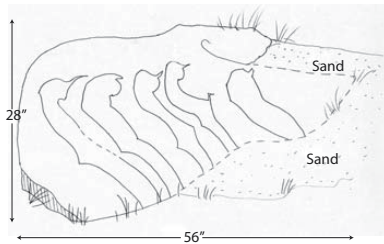
#1
2 Broken fragments
24.25" x 24.25" (pieced together)



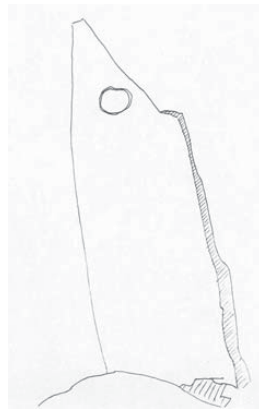
#2
Very faint peckings and gouged lines (need plastic tracing)



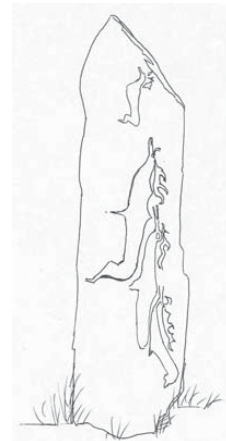
#3
Fragment in Ground
Pecked circle



#4
Fallen, embedded deerstone
Very faint outlines of rear halves of 5 mongolian deer



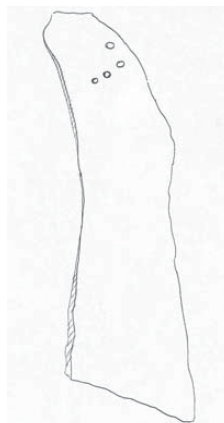
#5
Tilted stone with circle (tilted to south)
62" h x 17" w



#6
Standing deer stone (leaning to east)
61" h x 17" w



#7
Fallen, embedded deer stone -- from above (top to south)
73" h x 25" w



#8
Fallen stone (pink granite) with gouges -- "necklace"?
127" h x 22" w (from above)



#9
Almost fallen granite with circle near top, leaning south
50" h x 20" w



#10
Lying green stone, embedded in sand, with 2 circular "starburst" figures on upper face
60"l x 21" w

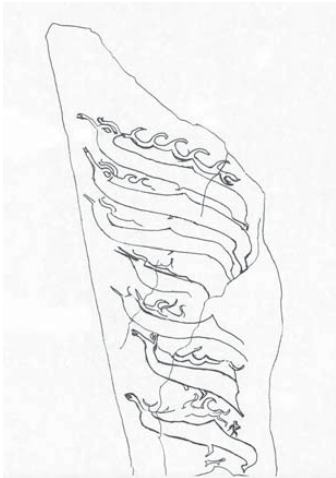
NW??
↑



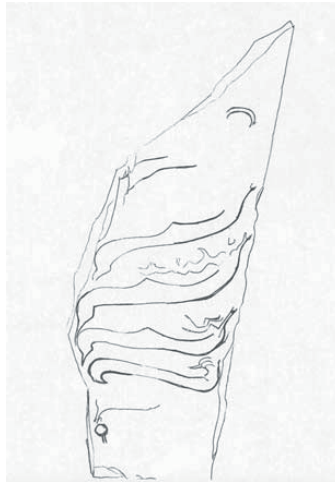
#11
Tilted stone with ibex (+ graffiti)
56"l x 20" w x 38"h



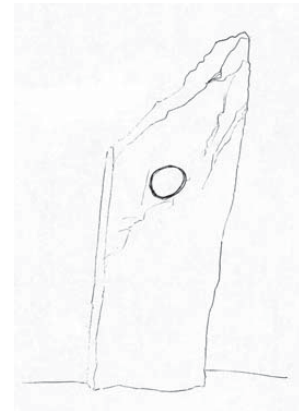
#12
Fallen grey-green deer stone, top lying to south (from above)
50"l x ??



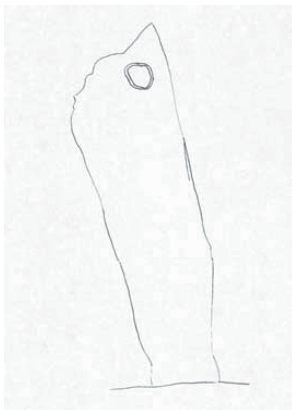
#14
Tall, standing, thin granite (north face)
88" h x 37" w



#15
South face



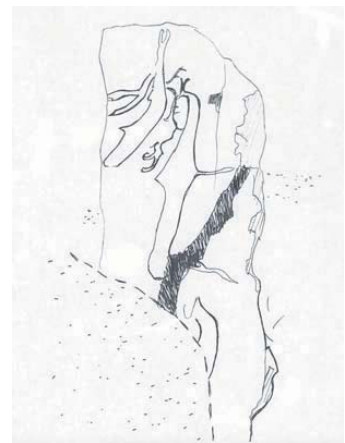
#16
Tall, thin quartz grey stone (south face)
81" h x 25" w



#17
Tall, thin pink granite (south face)
84" h x 26" w

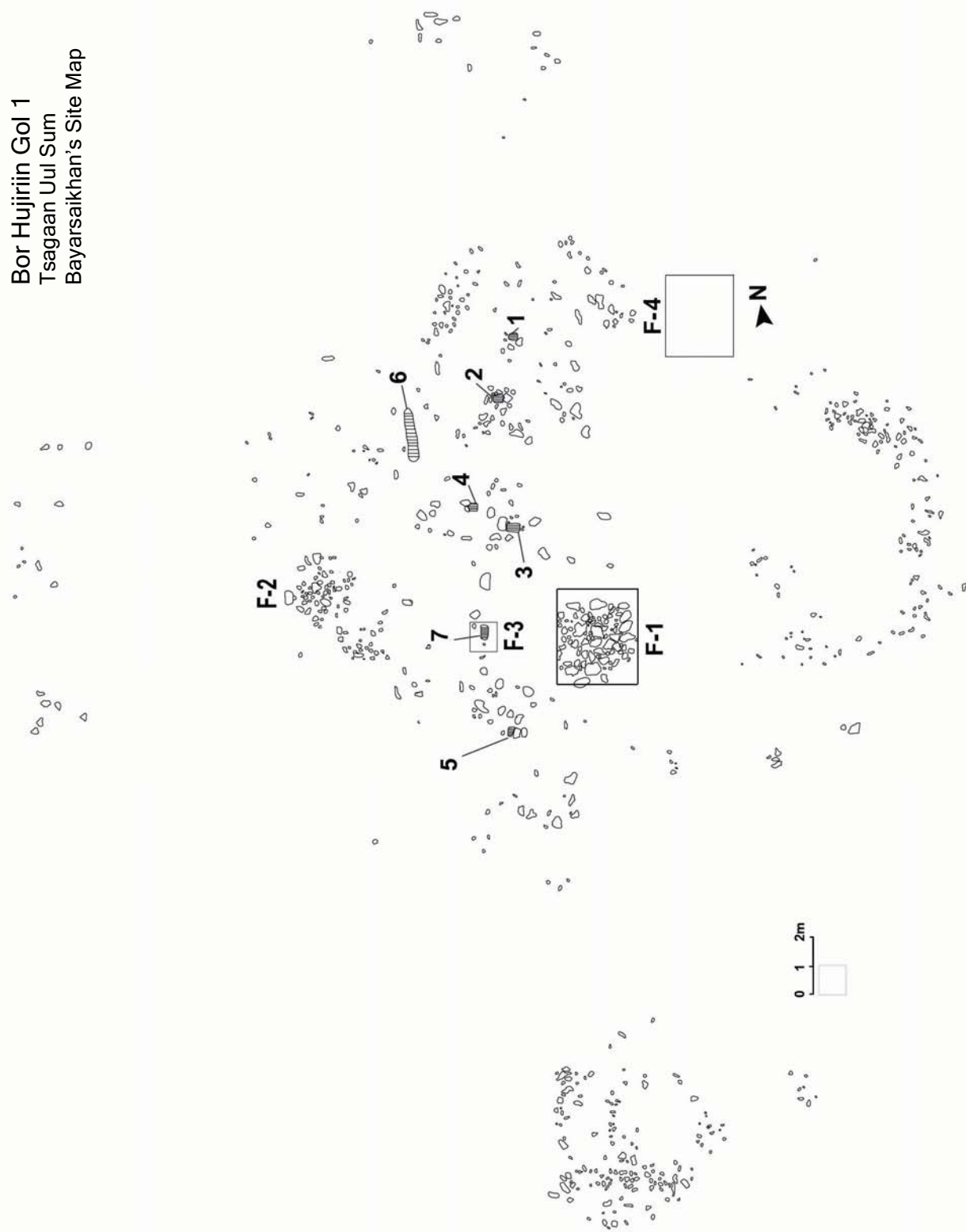


#18
Fallen, slanted grey stone
48"l x 20" w



#19
Lying grey stone, embedded in sand and grass (upper surface from above)
44"l x ??

Bor Hujirin Gol 1
Tsagaan Ul Sum
Bayarsaikhan's Site Map

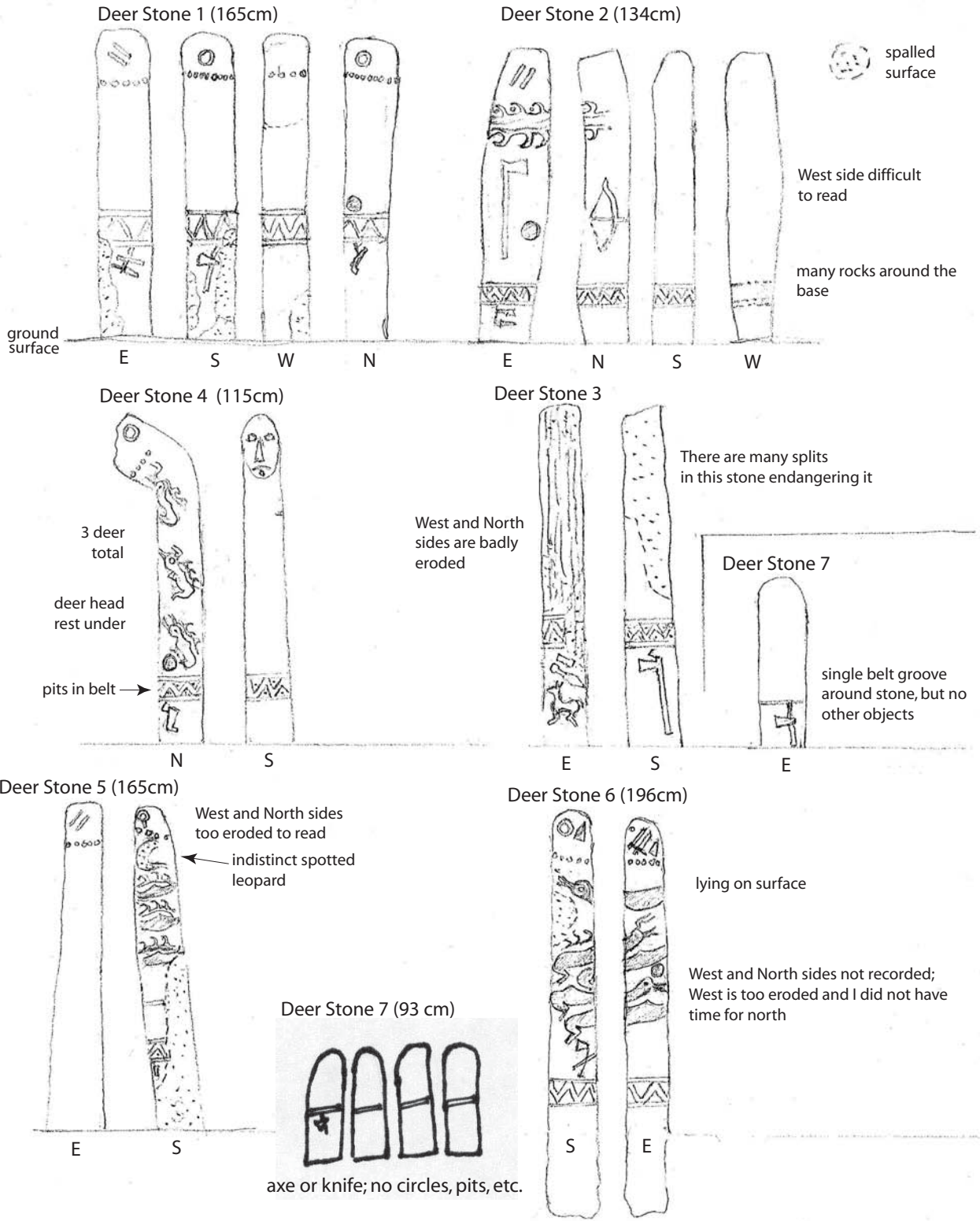


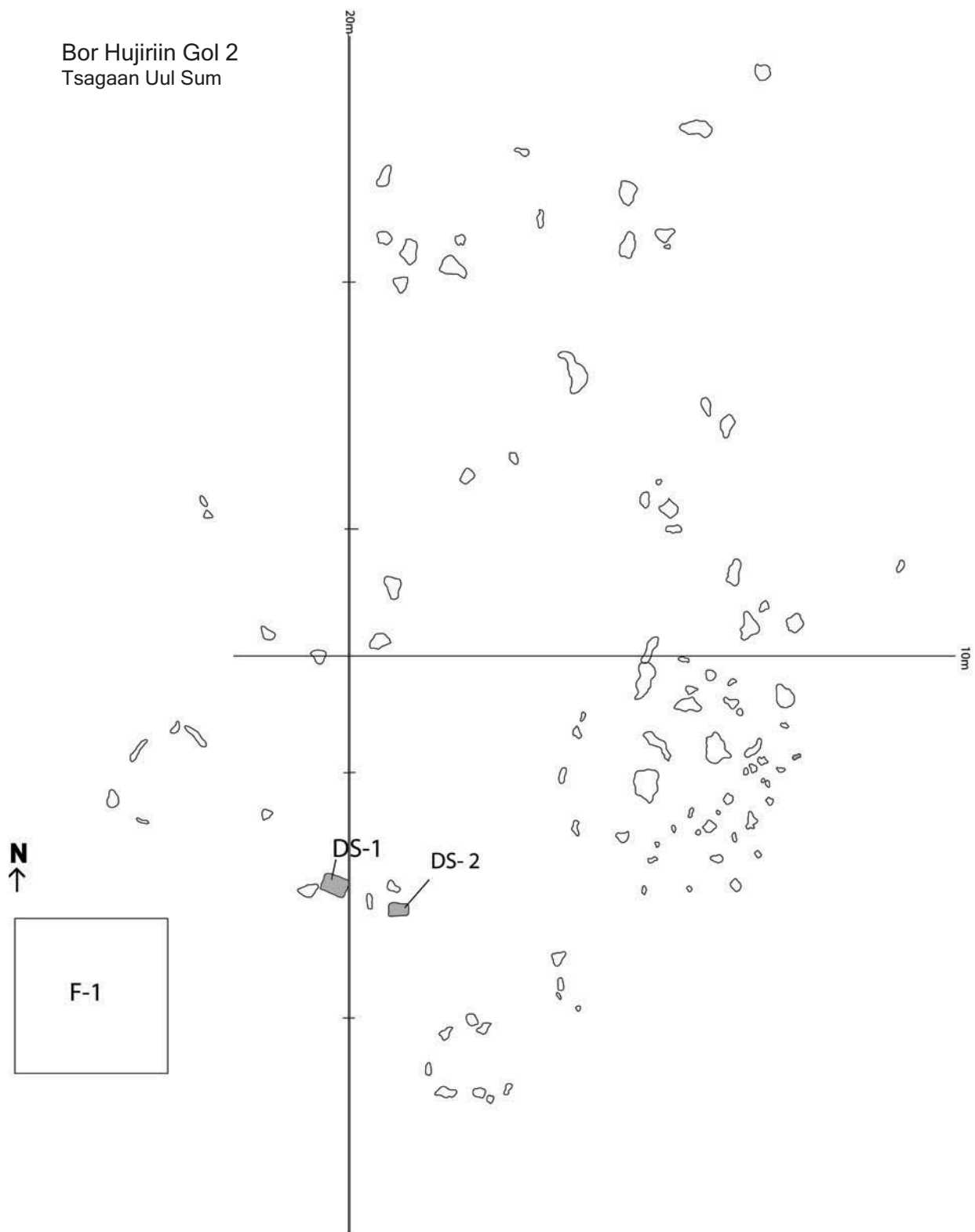
Bor Hujiriin Gol 1

Tsagaan Uul Sum

GPS #355 2021 in N 49°44.269', E 98°17.826'

June 8, 2008, W. Fitzhugh drawings

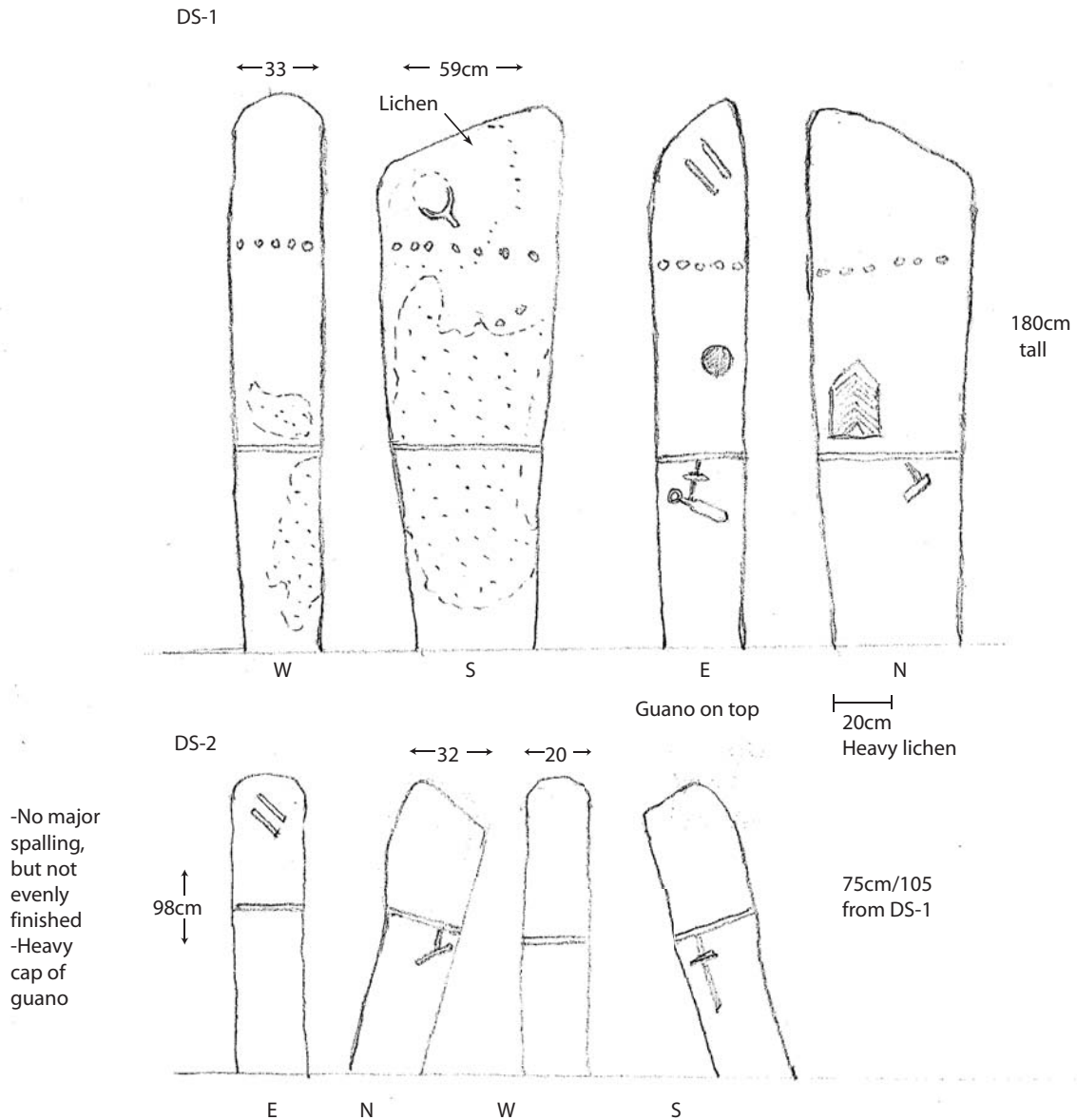




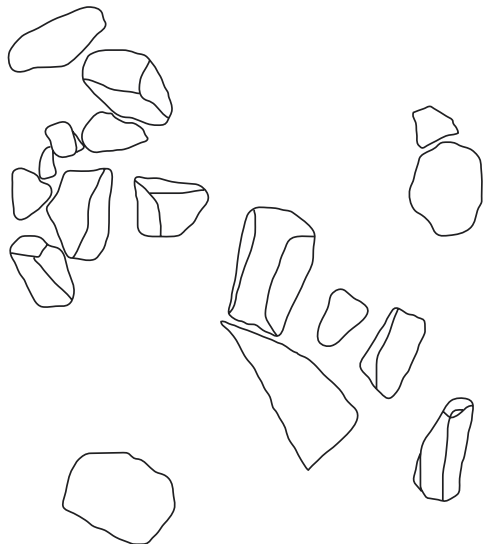
Bor Hujiriin Gol 2
 9 June 2008
 GPS 356, 2043m
 N 49°44.436'
 E 98°17.515'

We mapped this site and excavated a boulder feature that turned out to be a hearth with charcoal and burned (calcined) bone, not a horse burial. Several horse features probably exist here but we only had time for one excavation.

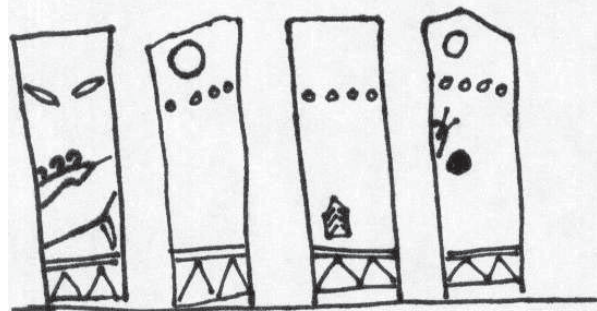
WF/Sasha's drawing of Bor Hujiriin Gol-2 Deer Stone #1, 9 June 2008



Bor Hujiriin Gol 2
Feature 1
9 June 2008

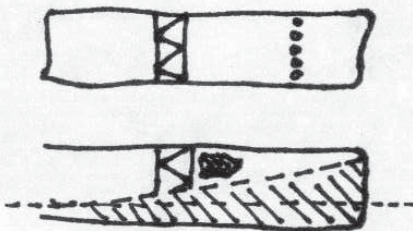


Bor Hujiriin Gol 3
10 July 2008

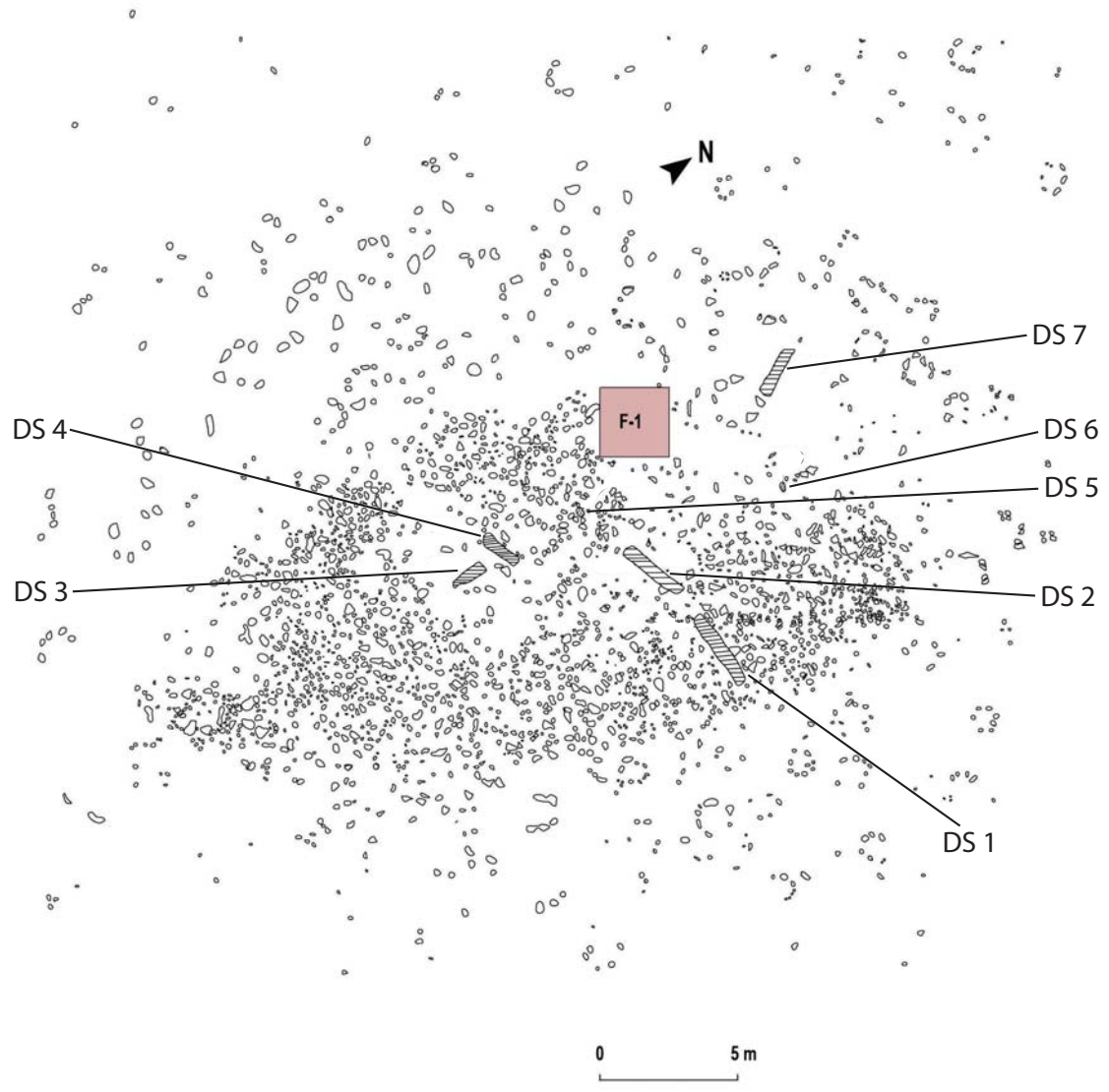
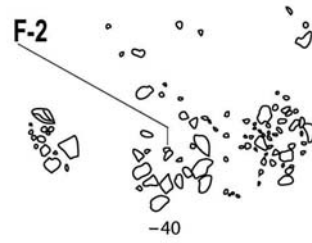
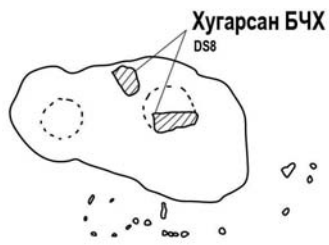


Deer Stone 1
Granite
GPS 357 2017 m
N 49° 46.078'
E 98° 17.469'

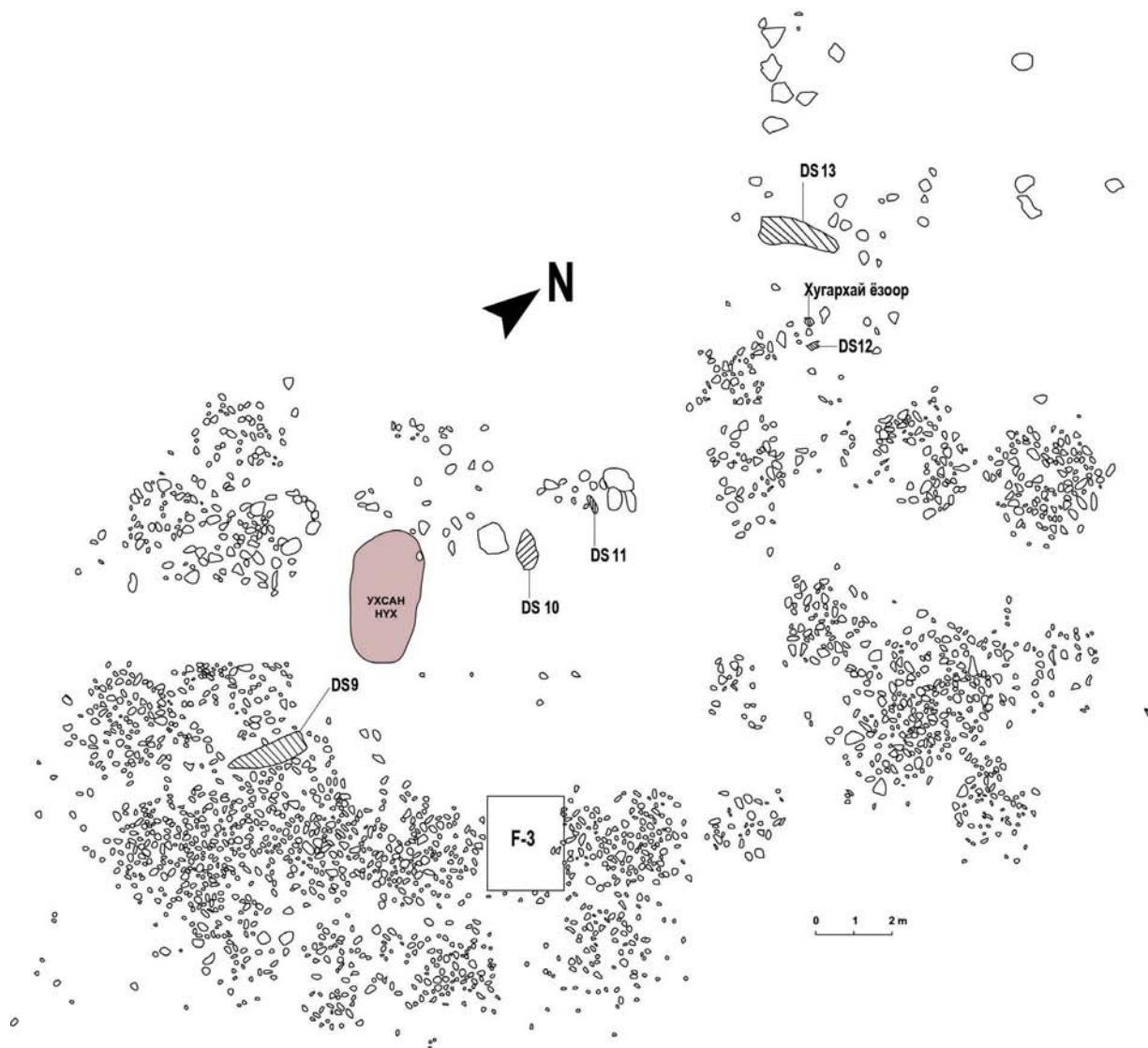
Bor Hujiriin Gol 3
10 July 2008

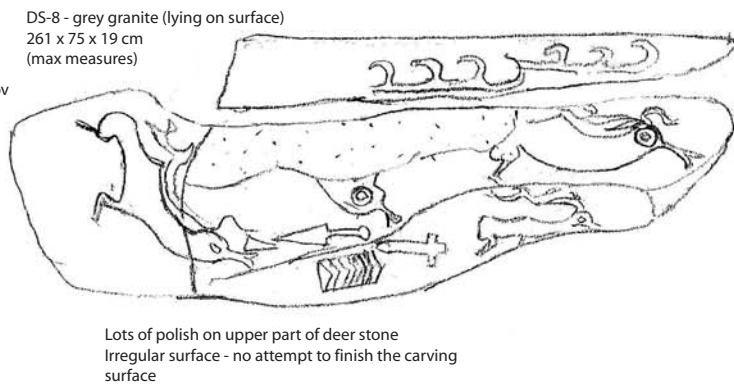
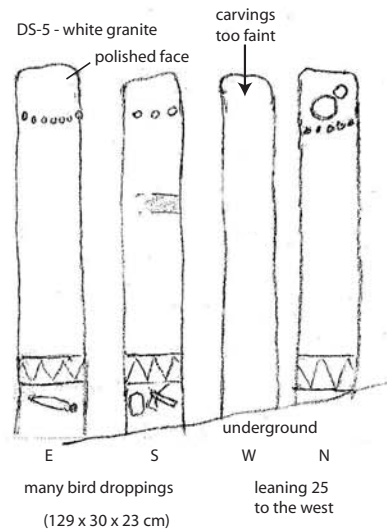
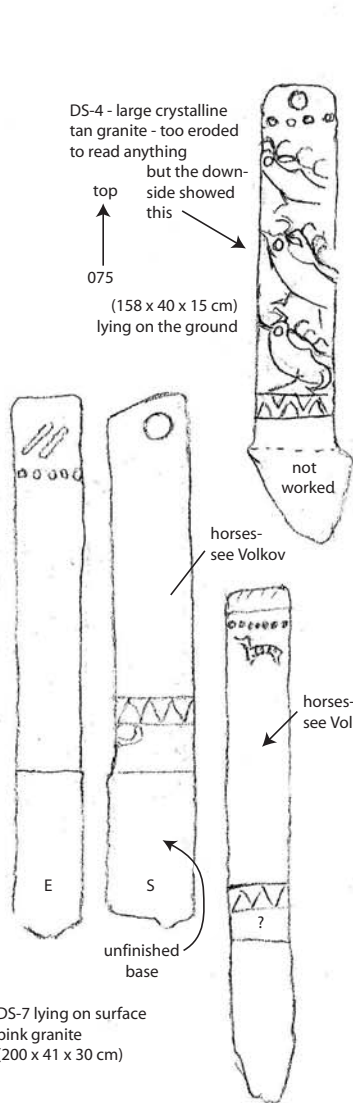
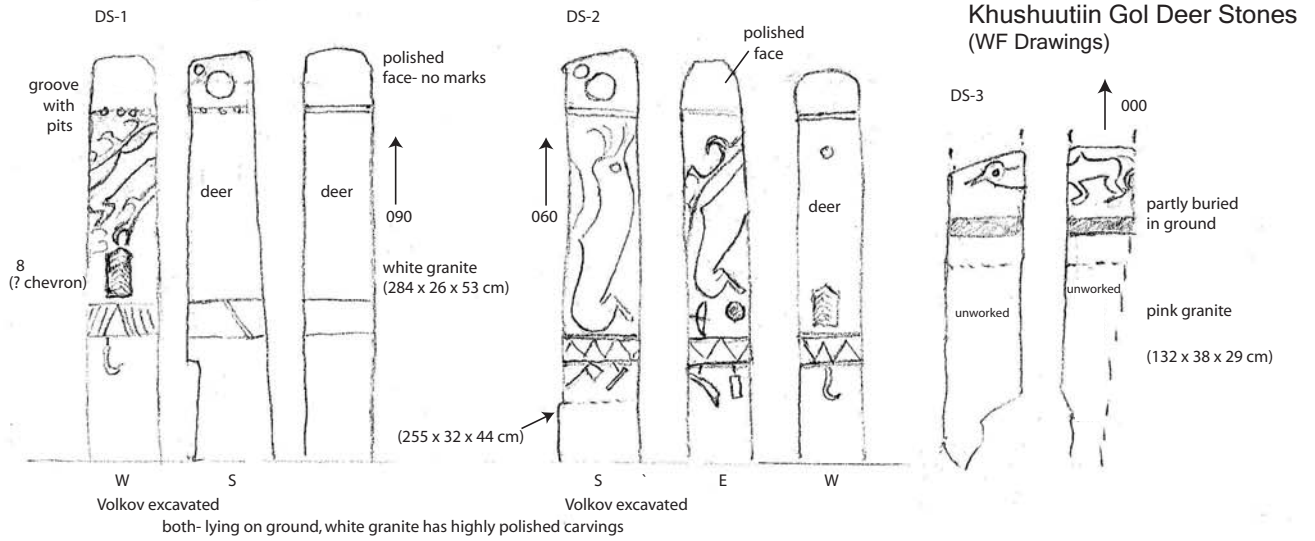


Deer Stone 2
Granite
Fallen on side
2 m north of DS 1



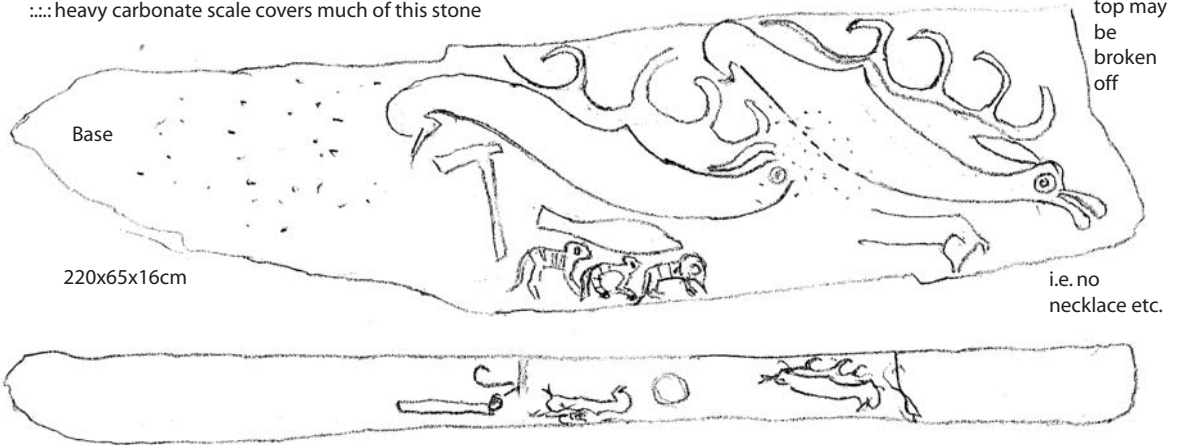
Khushuutiin Gol Map B
Drawn by J. Bayarsaikhan
Located immediately NW of Map A



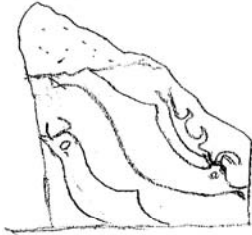


Khushuutiin Gol
13 June 2008 (WF Drawings)

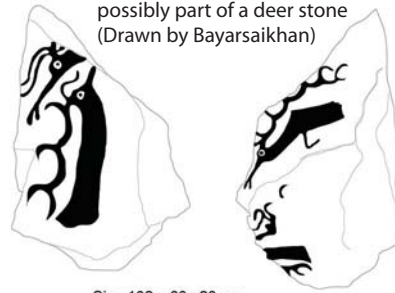
DS-9- Blue granite (lying on surface)
::: heavy carbonate scale covers much of this stone



DS-11 grey granite, broken 60cm above ground
(64x49x19cm)



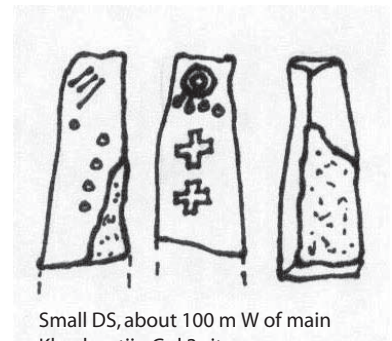
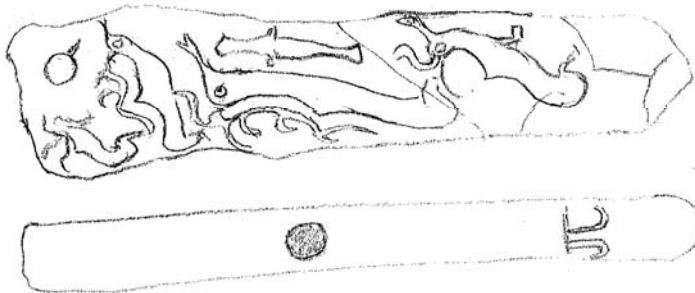
DS-10 blue granite slab
with deer engraving
possibly part of a deer stone
(Drawn by Bayarsaikhan)



Size 102 x 60 x 20 cm

DS-12 blue granite (82x33x20cm)
unmarked slab inclining toward NE
surrounded by a circle of small standing
slabs and other rocks

DS-13 Blue granite DS lying on surface,
excavated from depression 1m to NE
"flaked" in preparation (210x55x22cm)

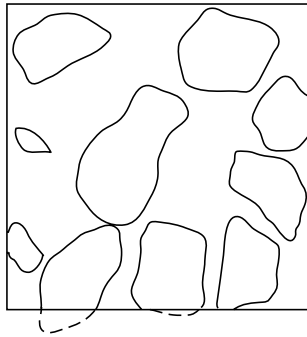


Small DS, about 100 m W of main
Khushuutiin Gol 3 site.
62 cm long.
Lying on surface with no features
around.

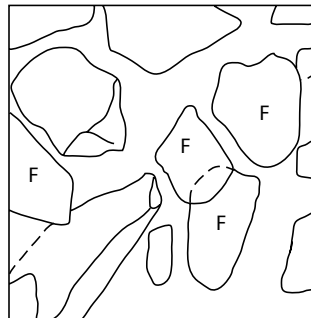
Khushuutiin Gol-1
13 June 2008
Feature 6



No calcined bone, no horse head.
A nice small sample of charcoal
came from 25-30cm below
surface in the eastern end of the
square at interface between the
brown and sterile silty tan soil.
2cm below tan silt was sterile
sandy gravel.



Level 2

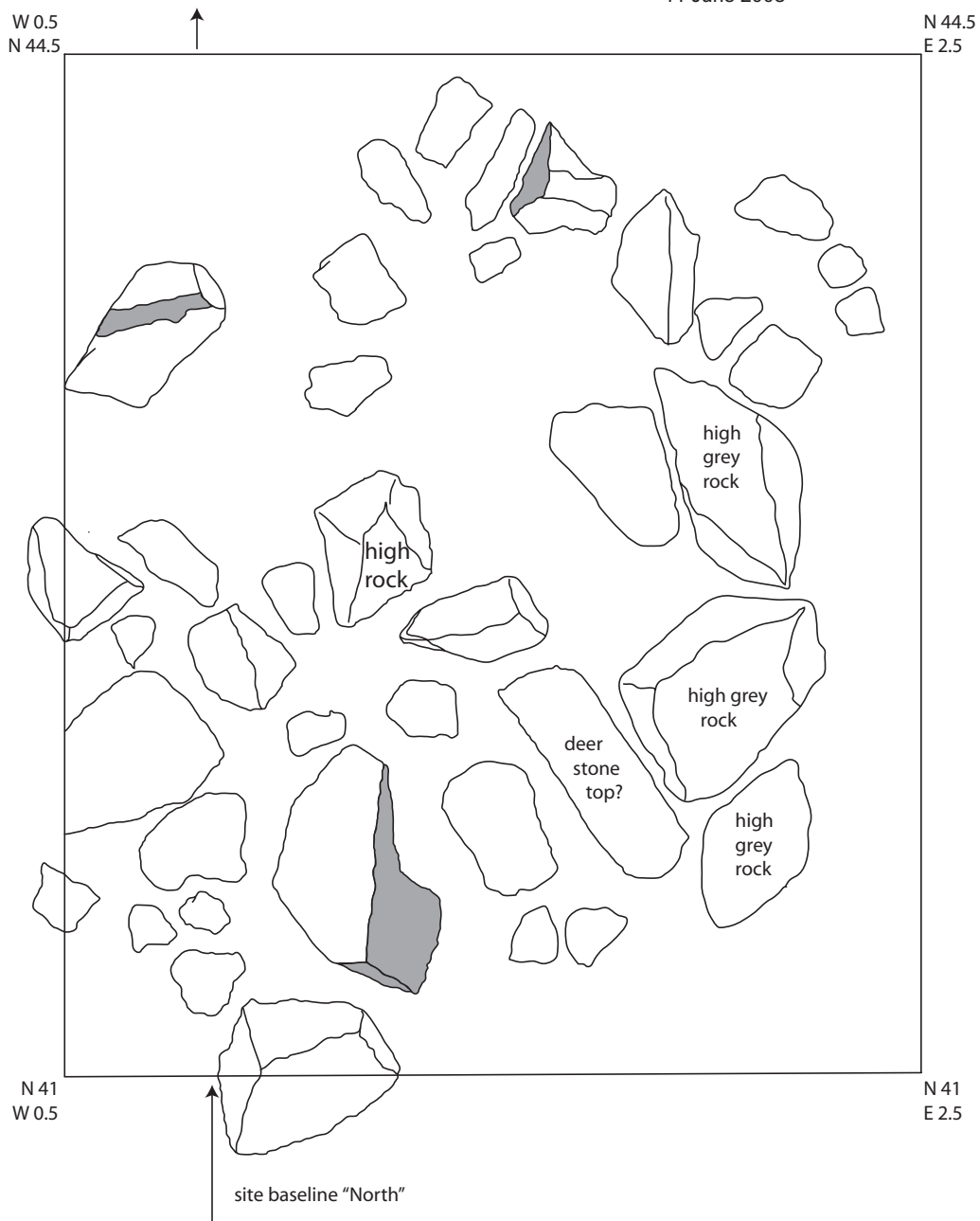


This looked like a nice horse burial
feature, even in the arrangement
of flat rocks in Level 2- but nothing
was found.

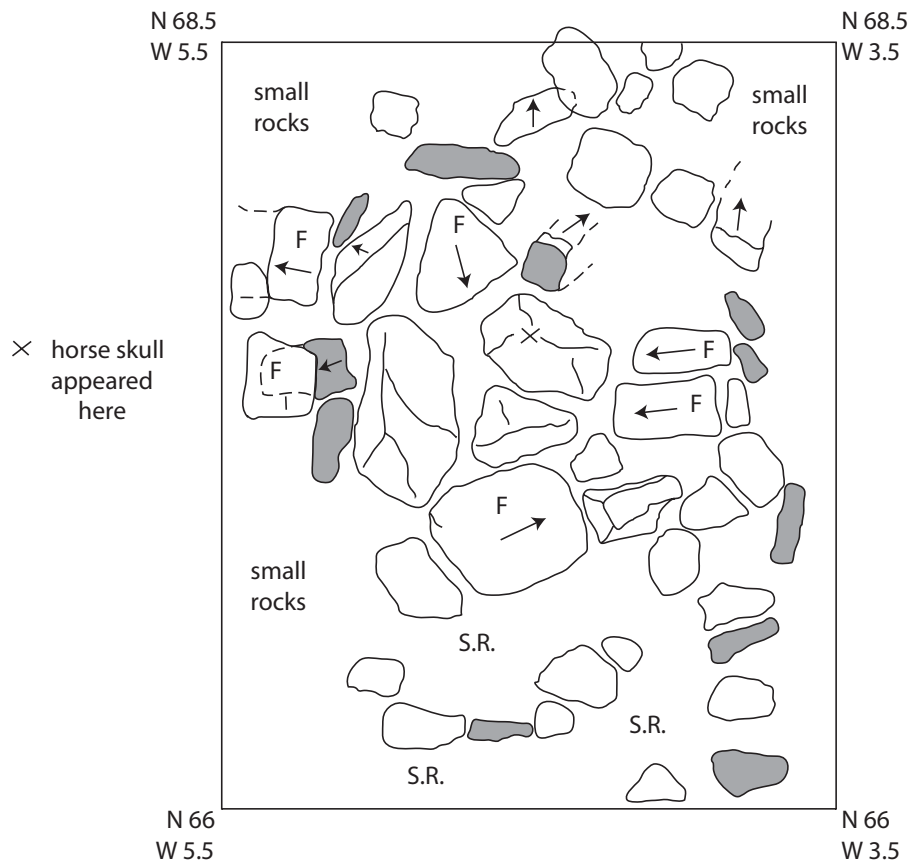
Khushuutiin Gol DS-Site

Feature 2

11 June 2008

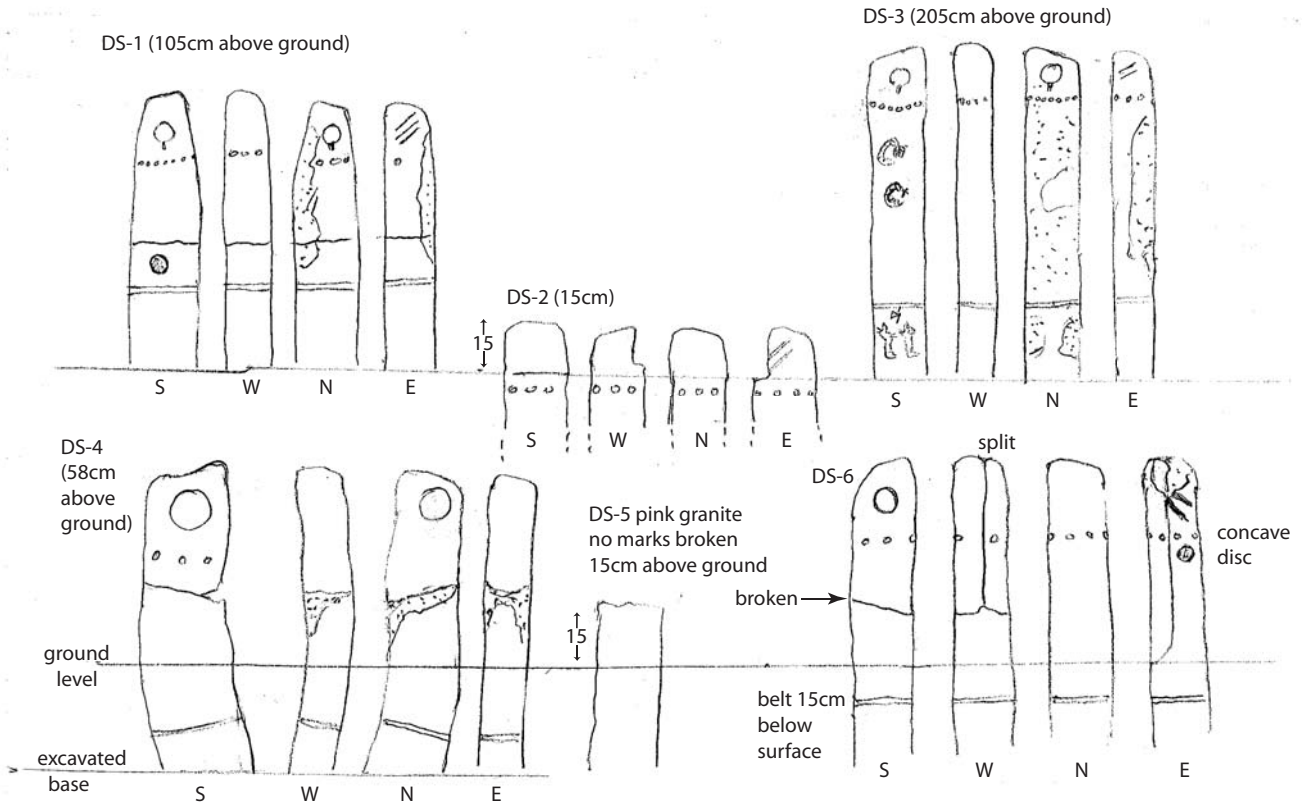


Khushuutiin Gol
Feature 3 A3
11 June 08

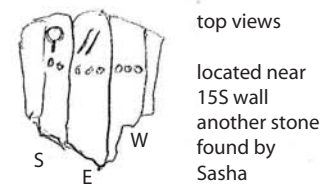
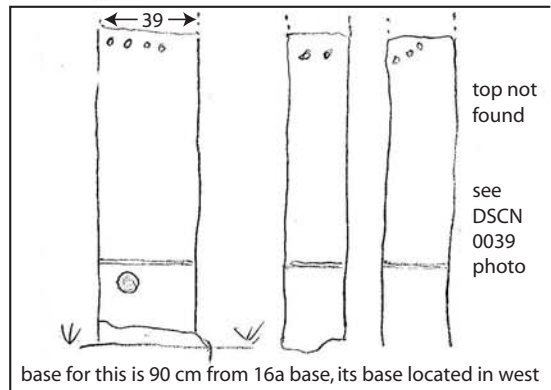
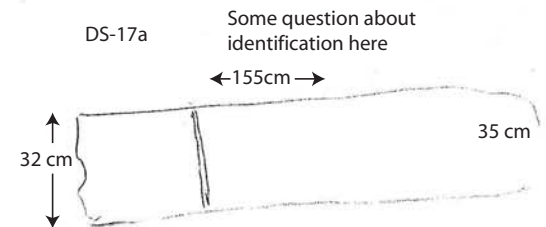
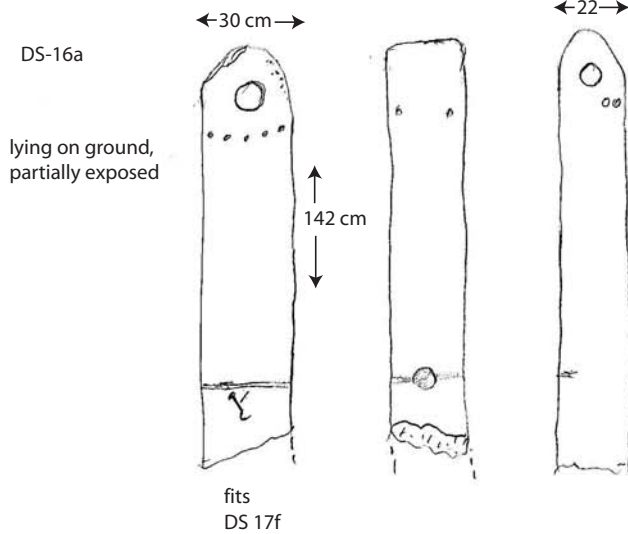
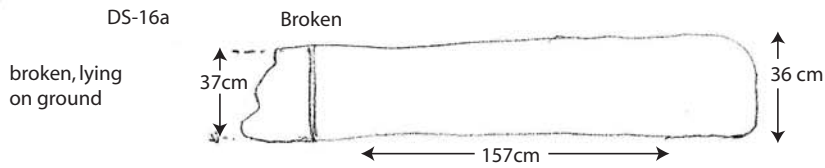
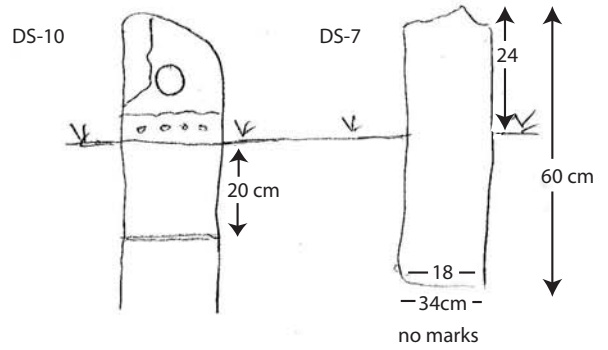
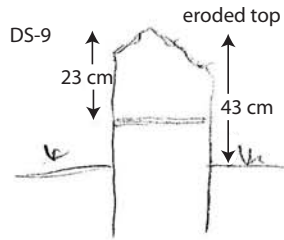
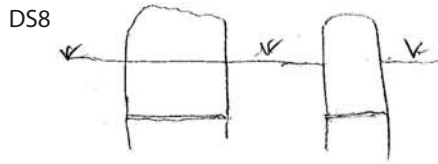


This is one of the more distinct circular rock features east of the deer stone group in A3. They seemed like a solid pavement of rocks, but they may be just closely-spaced individual "horse" burials. These features cluster around the deer stones. Feature 3 was made of rounded cobbles, rather small ones mostly. When we cleared the surface, we found an outer ring of rounded stones, a ring of thin vertical stones and inside that some large rocks and flat stones slanting inward toward the center. Under one of the large center rocks the top of the cranium appeared. The atlas vertebrae was in loose gravel 20 cm south of the SE facing skull, vertebrae tight to the skull on its north side and 2 hoof parts on either side of the nose. Atlas was in poor condition but the rest of the skull was solid. So far no sign of the jaw.

Khyadag East Deer Stones
(WF drawings)



Khyadag East
(WF copied from Sasha's notes)



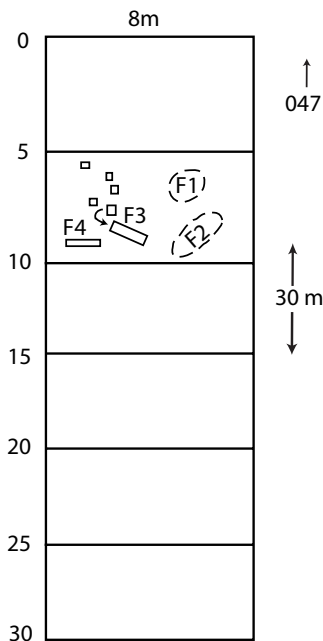
We laid out a grid 30x8 meters to encompass most of the area we wanted to map and investigate this year- Last year's excavation of a rock pavement east of DS-1 produced some bone samples, one of which we dated at 2700 B.P. (probably a horse tooth fragment). This year we wanted to excavate a larger area to check on the site layout, the many small broken deer stones found last year, and see if we could refine the dating of the large and small deer stones. We selected a 5x8m block to excavate today, from 20-25m where the majority of the small deer stones were located. Almost immediately we found a buried DS and soon another- of medium size, one of which fits the broken exposed stub of a DS we mapped last year and the second, whose broken base we found 25cm below the surface near the base of the fallen stone. These are great new finds and they suggest much more is under the surface

Feature 1: A cluster of large rock in roughly circular arrangement with several of the largest in the outer. Beneath one we found four badly-preserved teeth (young horse?) 30cm below the surface. An ashy deposit also existed at this level, right at the base of the tan gravelly soil and the white carbonate deposits. No charcoal, bone or other signs of cultural materials, the teeth were in a row and must have been part of a jaw or other bone material that had disappeared.

Feature 2: A roughly lenticular-shaped boulder feature made of small (fist to head size) rocks. Under these rocks the brown organic soil was intact at the east end of the feature.

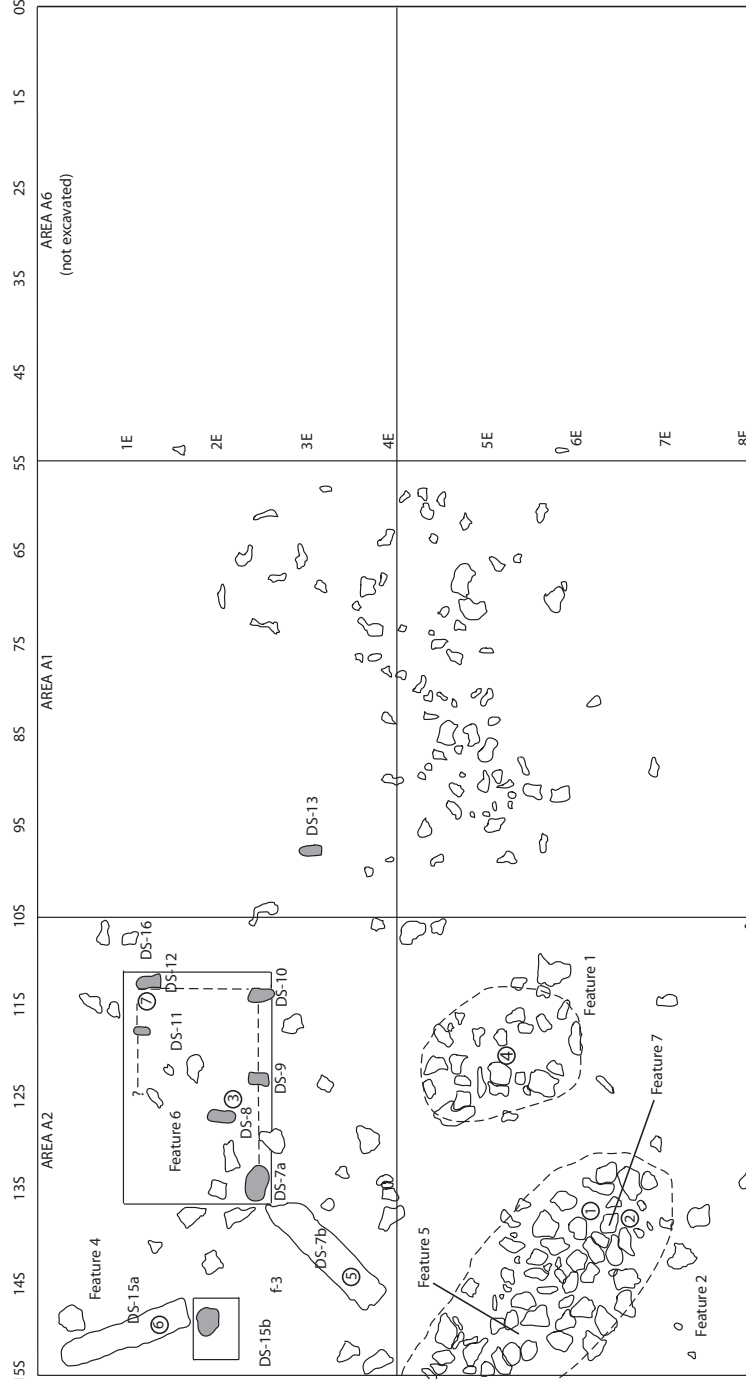
Feature 3: Deer stone was badly weathered as are most of these Khyadag stones. Lying head to the south with its broken end 50cm SW of its above-ground broken base, still in place. Features a slightly-inclined top; well-marked necklace pits, circle earrings; belt groove with one axe. Condition of surface poor, two slashes on face.

Feature 4: Deer stone lying beneath turf, top to NW, slightly inclined top. Markings: circle earrings, belt groove, necklace pits. Condition of stone and surface: poor.



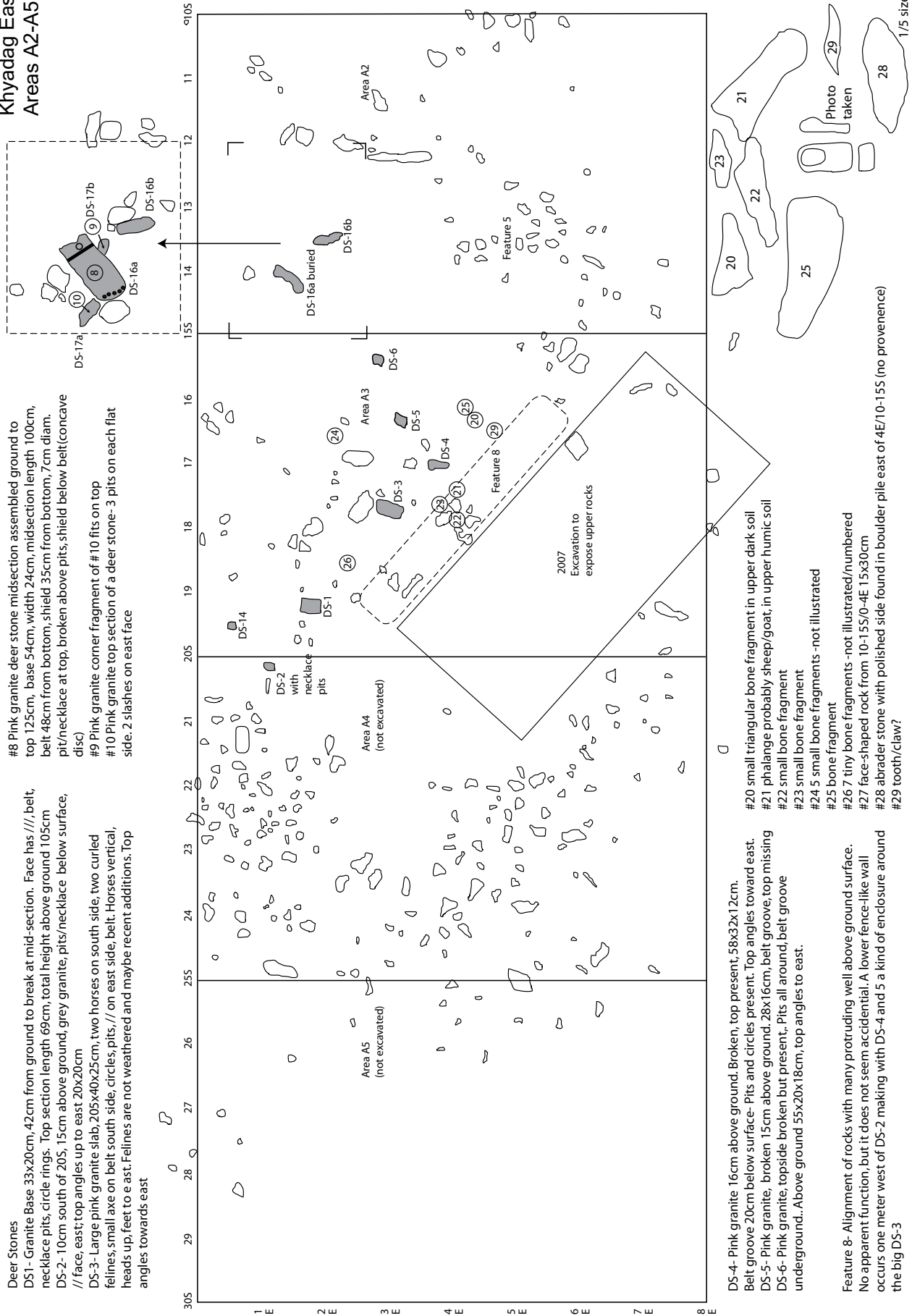
Khyadag East
Areas A1, A2, and A6

- DS 7a/b - 157cm (above ground) x 27 x 23. Pink granite. Broken at ground level above belt. Badly preserved. Belt groove only present. Top angles forward East
- DS 8 - 10 cm (above ground) x 29 x 12. Top missing. Eroded. Only belt groove present
- DS 9 - 19 cm (above ground) x 23 x 15. Pink granite. Eroded. Top missing. Belt groove present. Belt groove present, one belt appendage (rectangular shape) on North side.
- DS 10 - 40 cm (above ground) x 26 x 14. Pink granite. Top broken above pits, but present. South's side top spalled off but present. Circle, belt and bow (on North side), // on East
- DS 11 - small possible DS base broken below ground surface. No marks. 18 x 18 cm
- DS 12 - 35 cm (above ground) x 25 x 20. Pink granite. Top missing. Belt groove at ground level. North side badly spalled.
- DS 13 - 13 cm (above ground) x 24 x 10. No marks. Eroded. Not excavated. Pink granite
- DS 14 - (in A3) Underground - rounded top appears intact. 18 x 13 (l,w). Pink granite. Possible DS



- ① Bone pieces F2 - 20cm
 - ② Charcoal piece - 25cm F2
 - ③ Black flint utilized flake
 - ④ 4 young horse (?) teeth - 30 cm F1
 - ⑤ Deer Stone F3
 - ⑥ Deer Stone F4
 - ⑦ Small calcined bone fragments - 18 cm
5 cm SW of DS in grey sandy soil
- Box-like setting of small Deer Stones in A-2? What purpose/pattern for this arrangement?
Deer Stones 9, 10, 7a align N-S; O5 12 right angle with DS-10; DS-11 N/S with DS12-
This area inside box Sasha excavated to 25-30 cm below surface
The rest of Area 1 was excavated only to -10, except for F1, and F2
- ⊗ small pieces of broken bone 15cm deep

Khyadag East
Areas A2-A5



Deer Stones

- DS1 - Granite Base 33x20cm, 42cm from ground to break at mid-section. Face has ///, belt, necklace pits, circle rings. Top section length 69cm, total height above ground 105cm
- DS-2 - 10cm south of 20S, 15cm above ground, grey granite, pits/necklace below surface, // face, east; top angles up to east 20x20cm
- DS-3 - Large pink granite slab, 205x40x25cm, two horses on south side, two curled felines, small axe on belt south side, circles, pits, // on east side, belt, Horses vertical, heads up, feet to e ast. Felines are not weathered and maybe recent additions. Top angles towards east

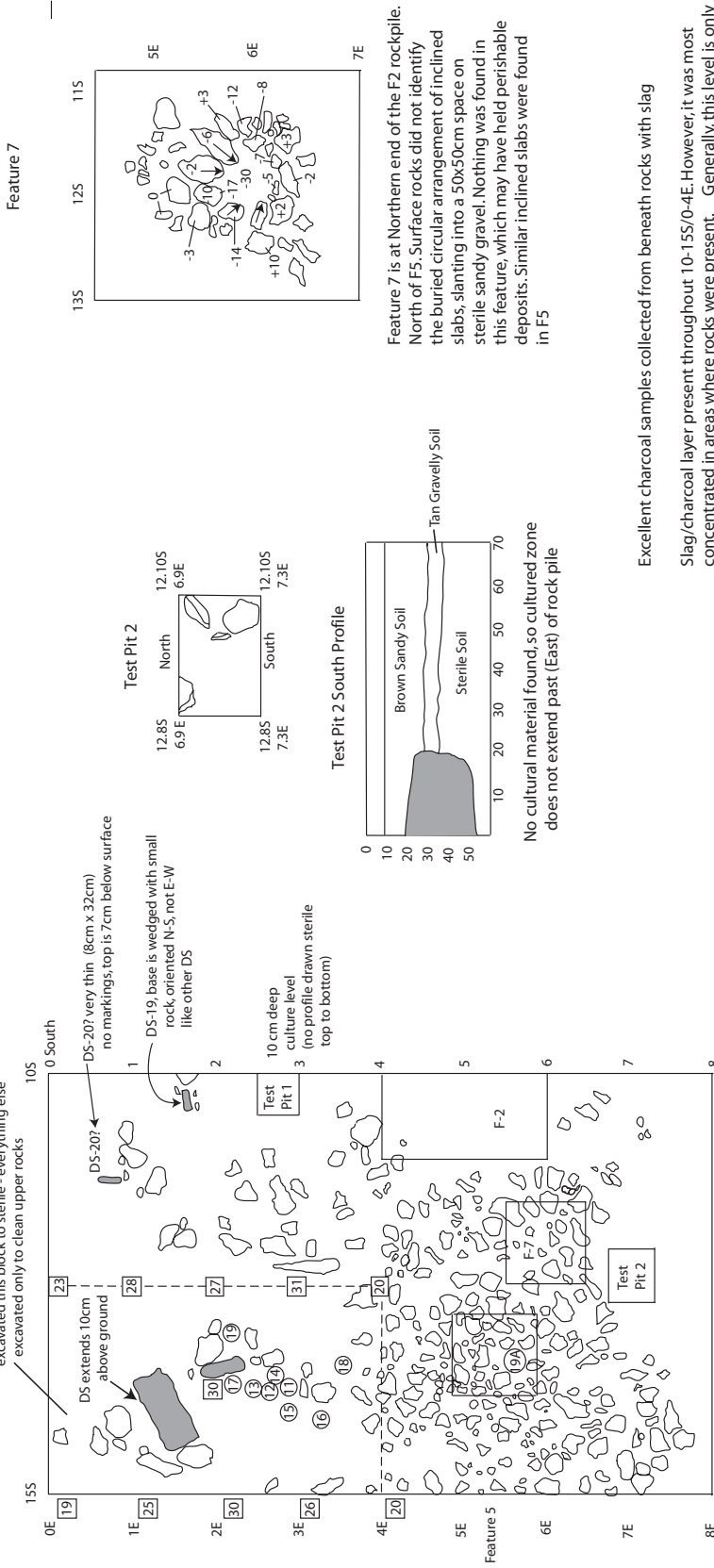
- #8 Pink granite deer stone midsection assembled ground to top 125cm, base 54cm, width 24cm, midsection length 100cm, belt 48cm from bottom, shield 35cm from bottom, 7cm diam. pit/necklace at top, broken above pits, shield below belt (concave disc)
- #9 Pink granite corner fragment of #10 fits on top
- #10 Pink granite top section of a deer stone- 3 pits on each flat side, 2 slashes on east face

- DS-4- Pink granite 16cm above ground, Broken, top present, 58x32x12cm. Belt groove 20cm below surface- Pits and circles present. Top angles toward east.
- DS-5- Pink granite, broken 15cm above ground, 28x16cm, belt groove, top missing
- DS-6- Pink granite, topside broken but present, Pits all around, belt groove underground.. Above ground 55x20x18cm, top angles to east.

Feature 8- Alignment of rocks with many protruding well above ground surface. No apparent function, but it does not seem accidental. A lower fence-like wall occurs one meter west of DS-2 making with DS-4 and 5 a kind of enclosure around the big DS-3

- #20 small triangular bone fragment in upper dark soil
- #21 phalange probably sheep/goat, in upper humic soil
- #22 small bone fragment
- #23 small bone fragment
- #24 5 small bone fragments -not illustrated
- #25 bone fragment
- #26 7 tiny bone fragments -not illustrated/numbered
- #27 face-shaped rock from 10-15S/0-4E 15x30cm
- #28 abrader stone with polished side found in boulder pile east of 4E/10-15S (no provenance)
- #29 tooth/claw?

Khyadag East A2



Feature 7 is at Northern end of the F2 rockpile. North of F5. Surface rocks did not identify the buried circular arrangement of inclined slabs, slanting into a 50x50cm space on sterile sandy gravel. Nothing was found in this feature, which may have held perishable deposits. Similar inclined slabs were found in F5

Excellent charcoal samples collected from beneath rocks with slag

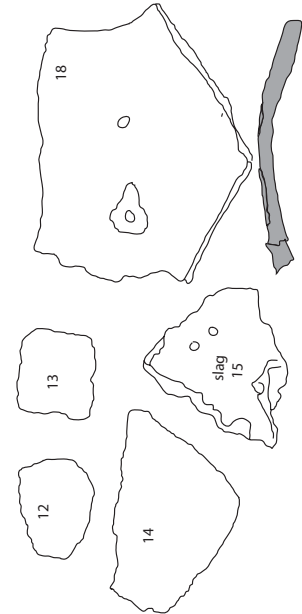
Slag/charcoal layer present throughout 10-15S/0-4E. However, it was most concentrated in areas where rocks were present. Generally, this level is only 2-3 cm thick, or less

Excavated block 10-15S/1-4E is sterile soil that was generally 20-30cm below surface, and was deepest between 2-3E/15S. [20] symbols record depth to sterile

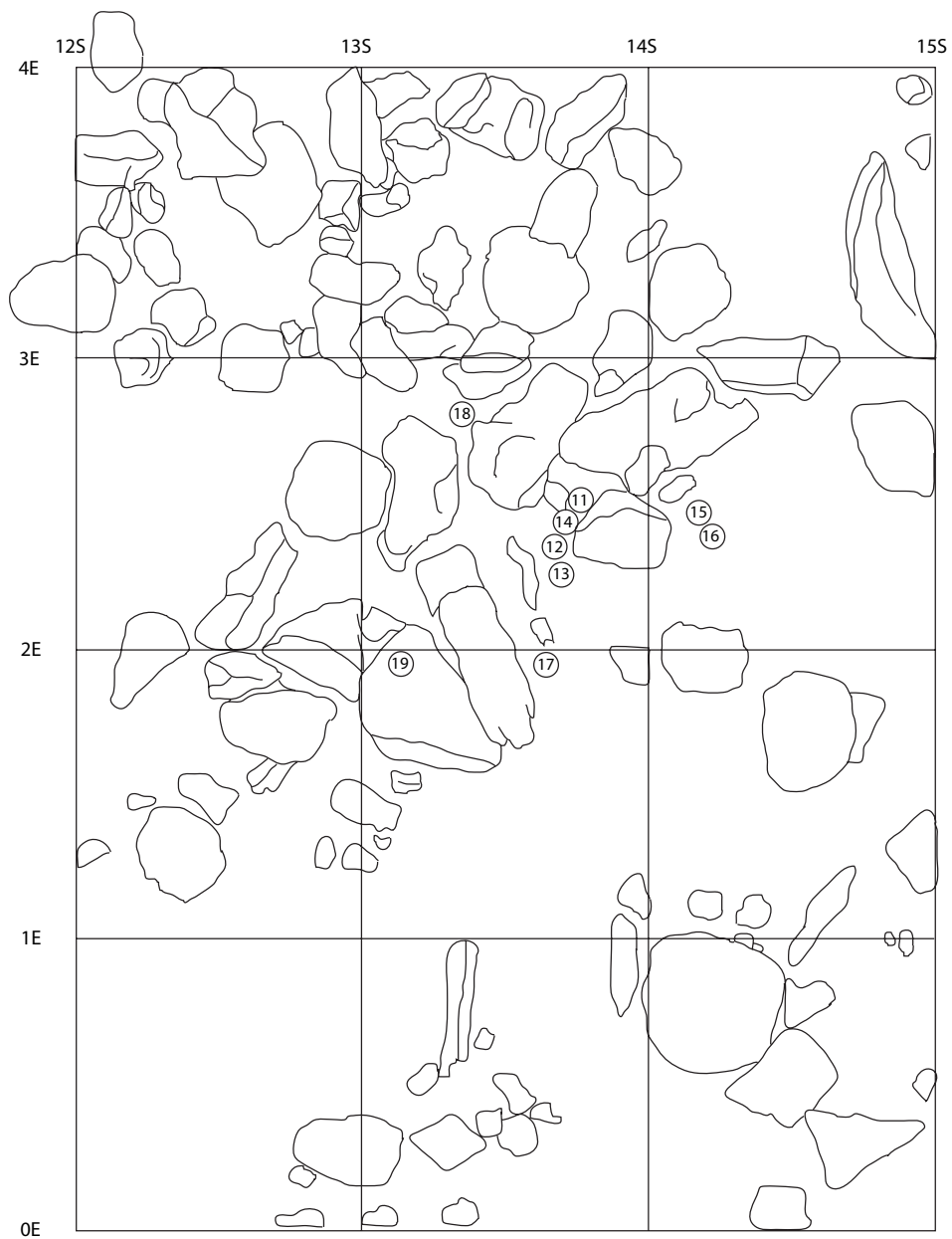
Fired clay with open side having a slaggy surface and the other side fired to an orange color were present in several areas, but mostly were isolated finds. [19] was largest piece. These may be clay furnace linings - but if so, why are there not more?

If this is a smelter (for bronze?), where is the furnace area? There is so far no indication, and our finds seem more like water deposits, not metal, more like a middle than a furnace area.

What is the association with deer stones? The slag/charcoal seems to be directly associated with the deer stones and the boulder pavements. Some boulders in pavement appear fire cracked, but not enough to be furnace floors, and slag & charcoal are not found between the rocks, but except in their lowest levels

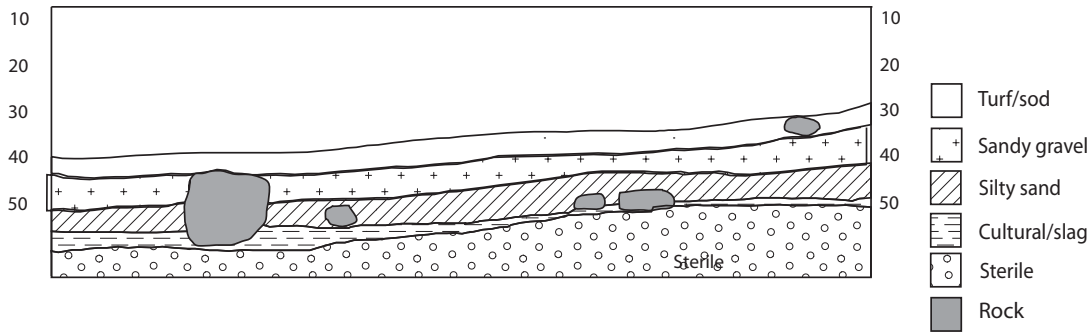


- 11. rib bone, -25cm, between rocks, with charcoal
- 12. ceramic fragment, charred, -25
- 13. ceramic fragment, charred, -25
- 14. ceramic fragment, charred, -25
- 15. slag from -25cm with inclusions
- 16. bone piece, -25cm in dark sandy/gravelly soil
- 17. ceramic fragments - ? or smelter liner clay (fired) with orange interior and black slag-like exterior
- 18. slag "plate" resembling vesse, -19cm in black soil
- 19. Thick slag/fired clay pieces, below rocks
- 19A. sheep bone from base of rockpile. Feature 5, -28cm below surface

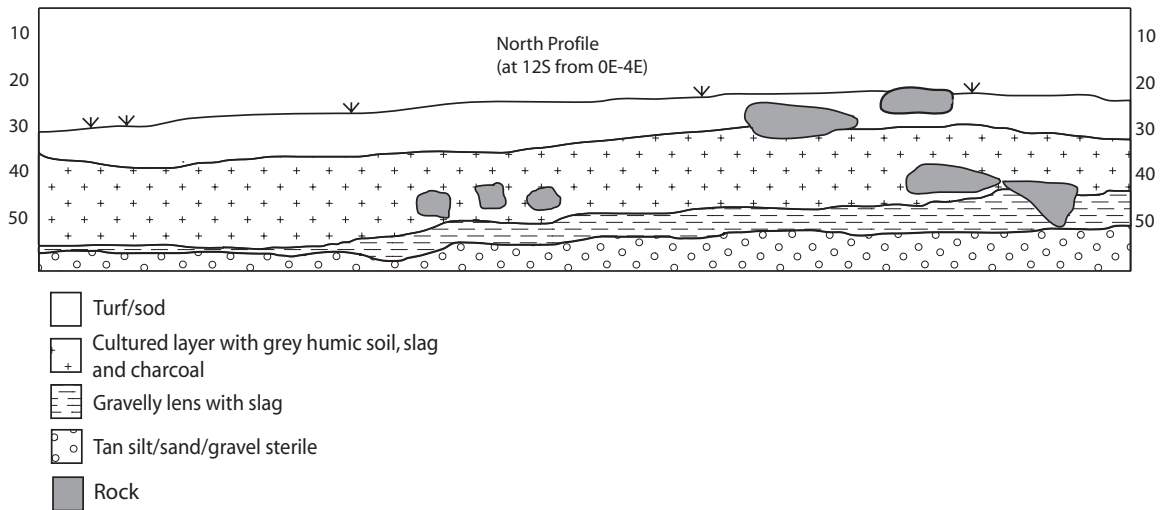


Khyadag East A2 Profiles

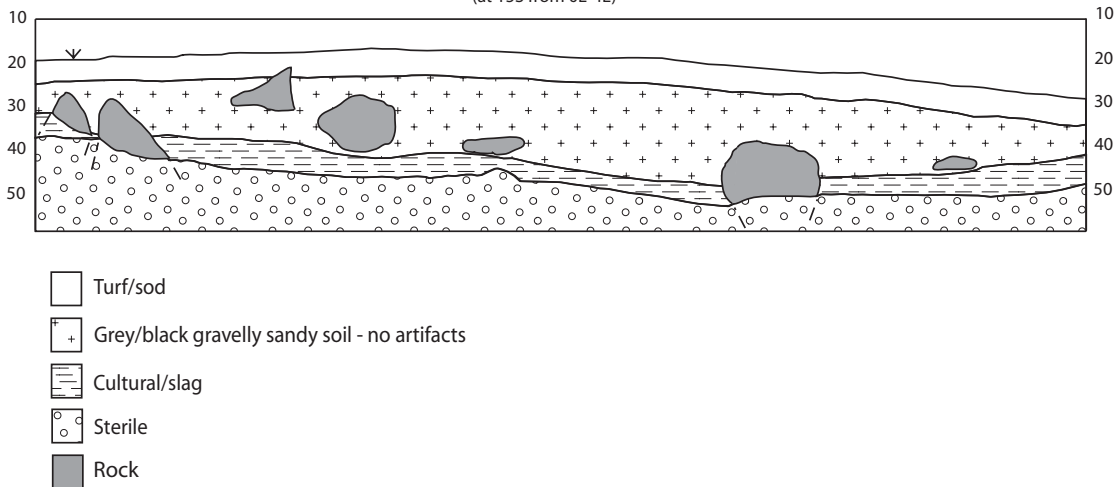
West Profile
(at 0E from 12S to 15S)



North Profile
(at 12S from 0E-4E)

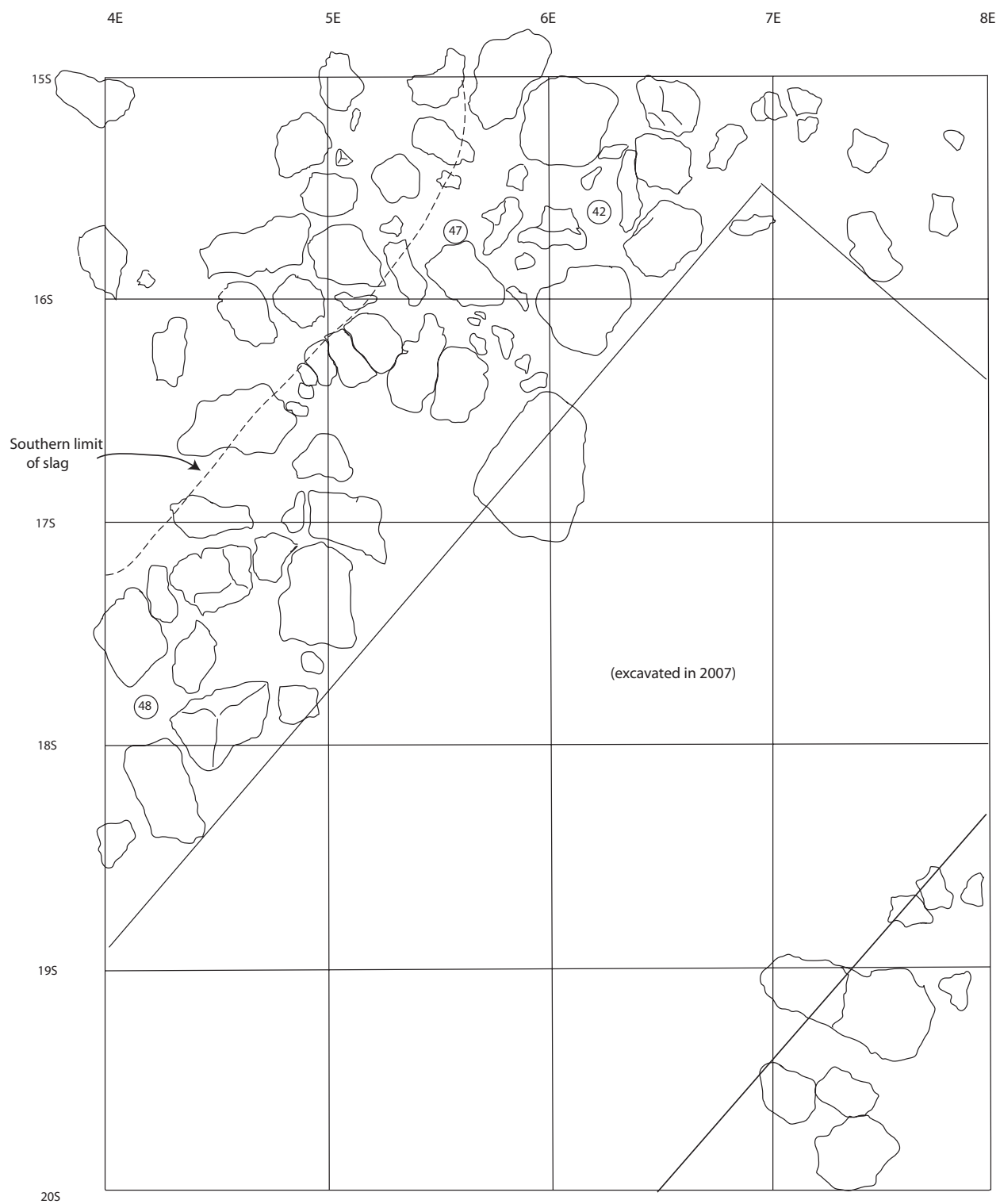


South Profile
(at 15S from 0E-4E)



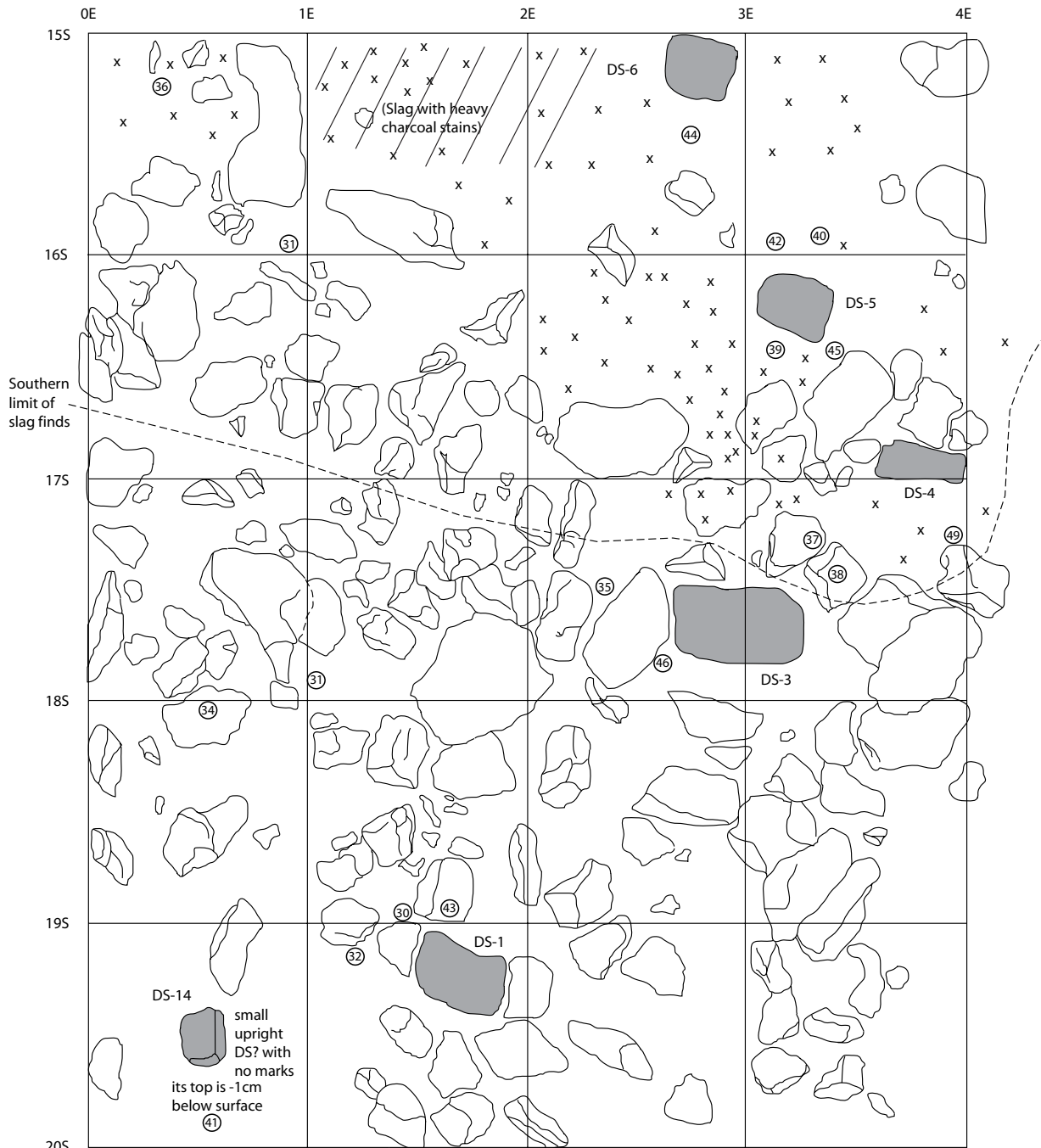
Mongolia Deer Stone Project: Field Report 2008

Khyadag East
Area 3 15-20S
20 June 2008
Surface and upper level rocks



x slag
 # collection/specimens
 /// charcoal-stained soil in slag level, but few pieces of charcoal were found
 Surface and upper level rocks, flat rocks not marked

Khyadag East
 Area 3 15-20S
 20 June 2008



In upper soil below 1st level rocks:

#20-29 need to be added to this base map

- 30. young horse teeth -10cm below
- 31. 5 pieces of bone, with 1 slag -10cm below surface
- 32. horse teeth -20cm
- 33. bone fragment- long bone cracked for cooking/eating -18cm
- 34. bone fragment (food) -28cm
- 35. bone fragment chewed by dog -12cm
- 36. considerable slag -15 to -20cm in this square
- 37. horse tooth fragment -17cm
- 38. long bone (chewed by dog?) -20cm, joint fragment
- 39. 7 pieces of bone -19cm
- 40. long bone, split-15cm
- 41. small bone -16cm



-excavation extended to include this deer stone, with necklace pits

(on other map)

- 42. bone chunk -35 cm on sterile gravel at base of rock deposits, good basal rock feature date
- 43. 6 small bones found 15cm north of DS-1 at -38cm- a possible ritual deposit
- 44. 2 fitting pieces of ceramic 15cm south of DS-6 at -24cm in dark silty soil. No decoration, black-fired exterior, brown paste with sand temper.
- 45. 2 broken proximal femurs of a small mammal -18 to -20cm below surface. Broken in same place using same element (?) of two different animals
- 46. small fragment of tooth -22cm
- 47. small fragment of bone -18cm
- 48. small fragment of bones -15cm
- 49. long bone small mammal -20cm on sterile interface

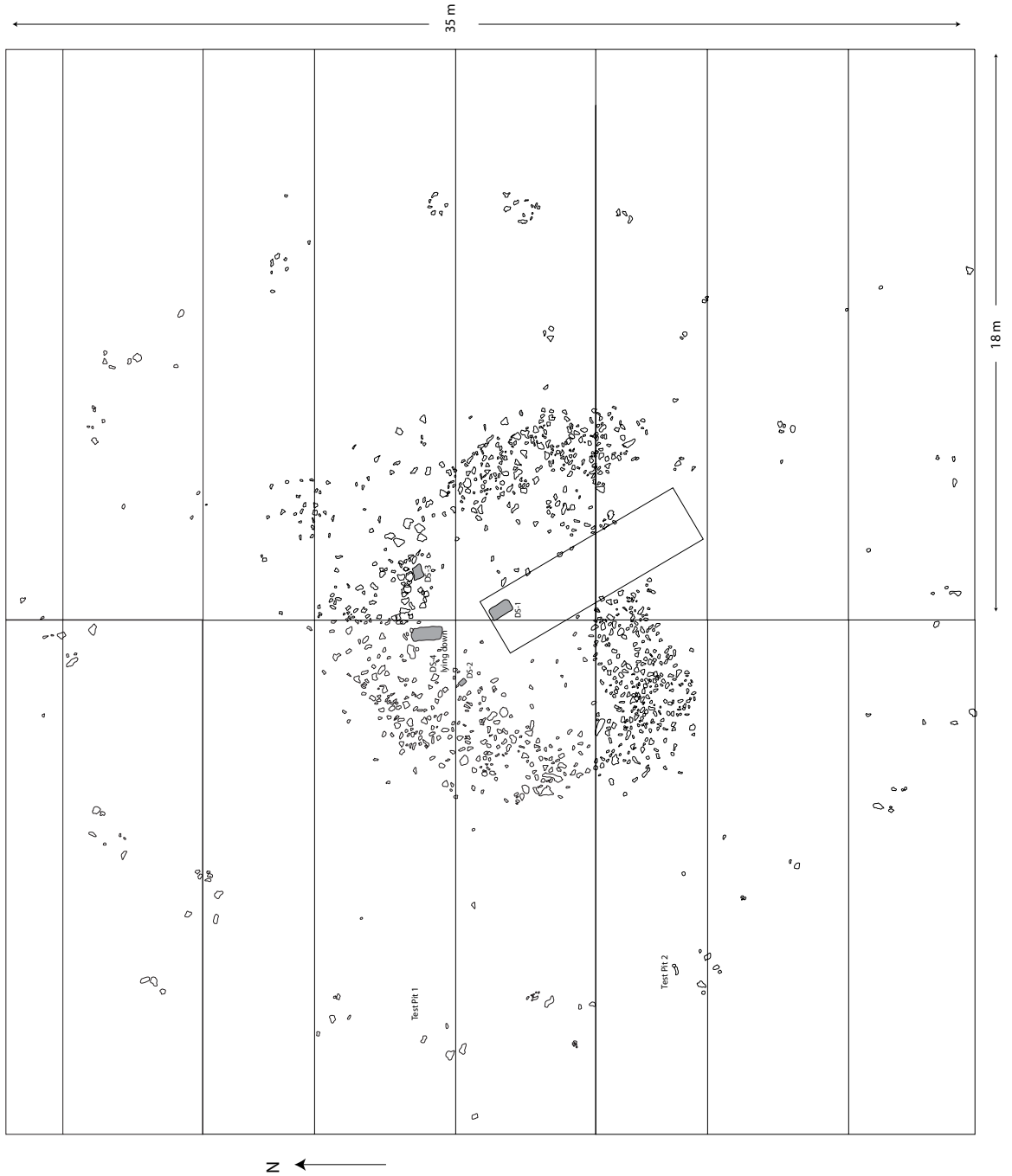
Mongolia Deer Stone Project: Field Report 2008

Khyadag East
Area 3 0E-4E, 15-20S



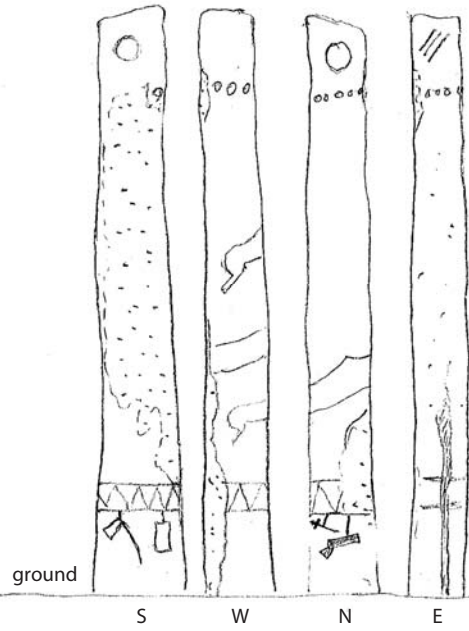
F- flat rocks
- rocks below ground in cm
x- high exposed rocks

Khyadag West Map

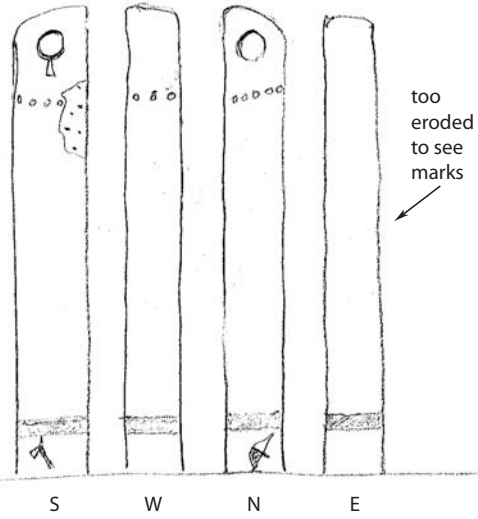


Khyadag West
(WF drawings)

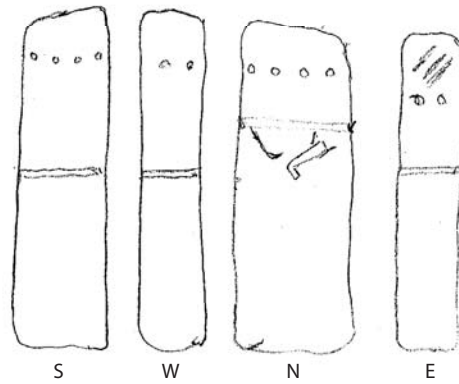
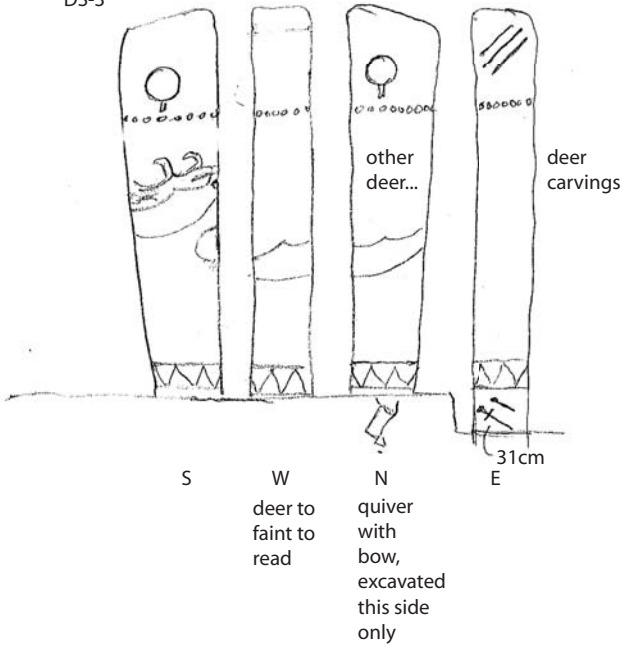
Khyadag West DS-1



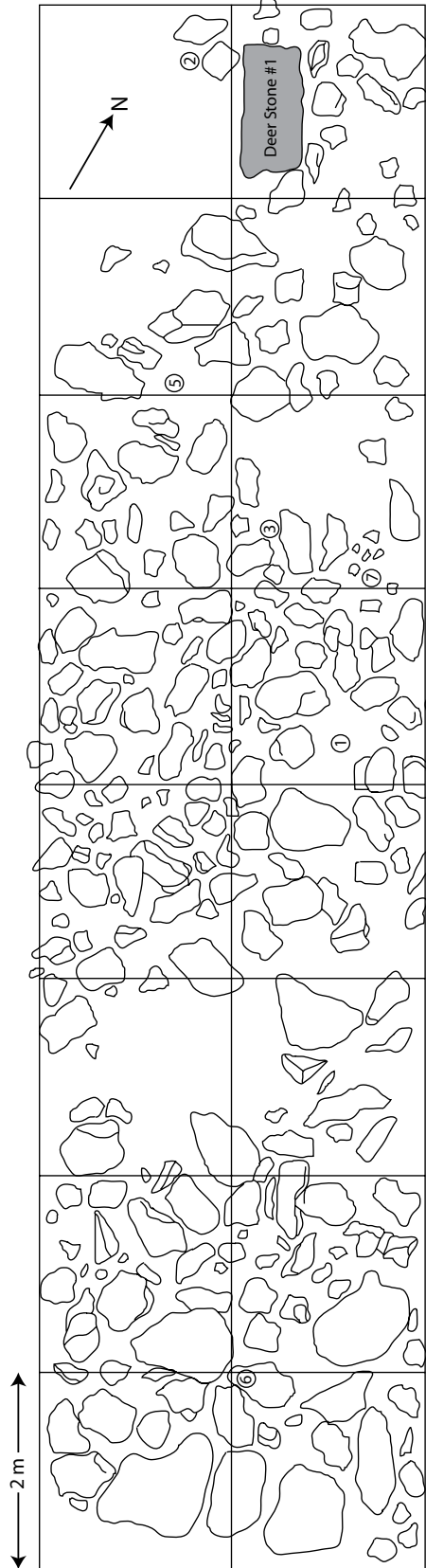
DS-2



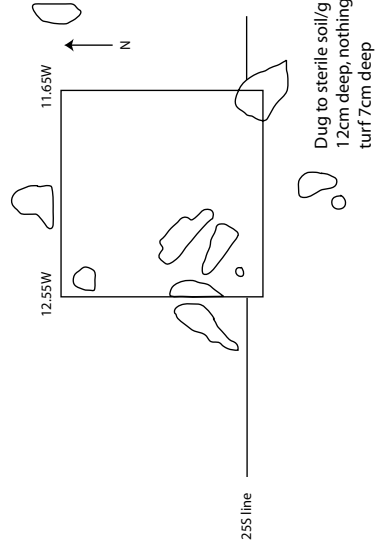
DS-3



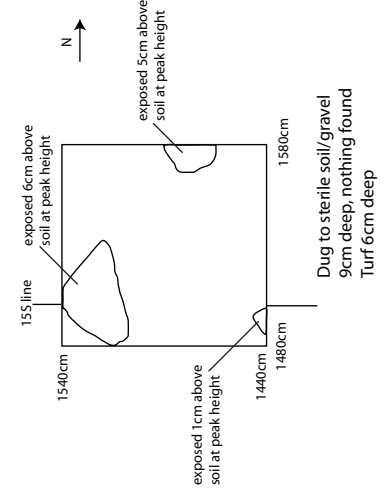
Khyadag West
Surface Rocks/Test Pits



Test Pit 2-(oval hearth) 1x1m



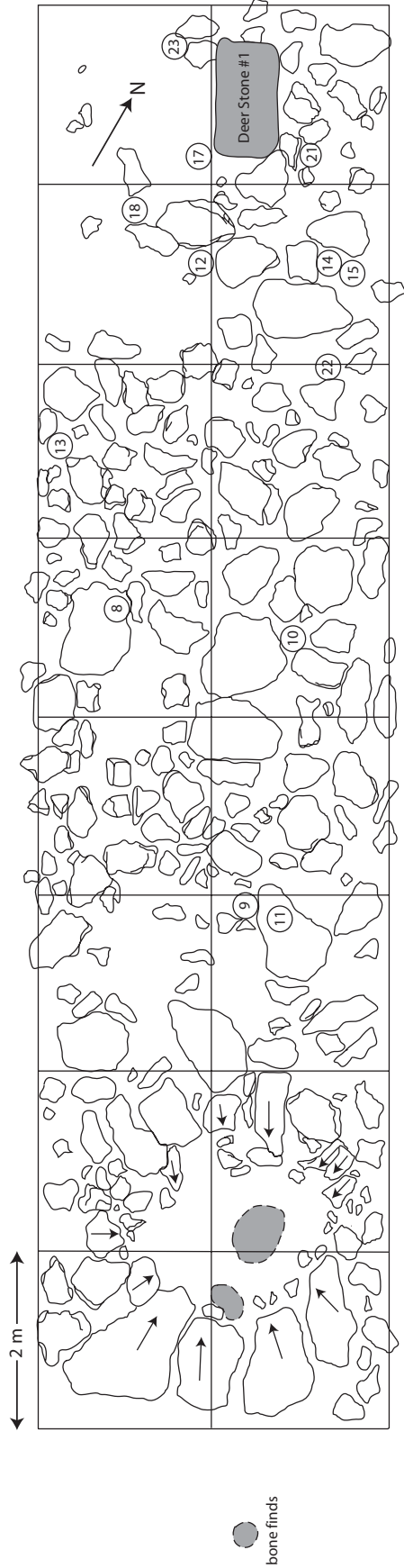
Test Pit 1-(oval hearth) 1x1m



Surface cleaning level:

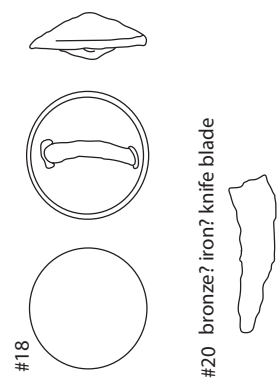
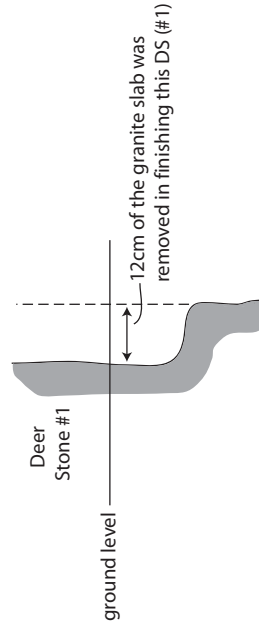
1. small bone (joint)
2. bear molar?
3. bone fragment
4. bone fragments from beneath 1st level rocks in Fea. 1, including a sheep/goat atlas/axis
5. small joint end -23cm at base of rock pavement
6. charred and uncharred bones at base of Fea. 1 center of cranial bone deposit top -21cm below surface, bottom -29cm on sterile gravel; the horse hoof
7. tooth fragment -22cm

Khyadag West
 Second level rocks
 22-23 June 2008
 Mapped by Nesanjargal



Under 2nd level rocks:

8. small long bone fragment (cooked) -35 below surface
9. long bone fragment (split) -29cm
10. ball joint fragment -33cm
11. part of small herbivore tooth row, -17cm below surface in black soil
12. tooth -15cm
13. bone spall -20cm
14. bone -18cm
15. teeth in mandible -18cm
16. joint part -18cm
17. small "fingernail" like bone -5cm
18. bronze button -15cm in sandy upper soil
19. long bone fragments, -33cm on sterile gravel found with iron?bronze? knife blad remnant
20. iron? bronze knife blade
21. wolf/dog left mandible -33 (see #15)
22. bone fragment, -33cm
23. skull fragments, -10 to -16cm (sterile gravel), may be related to #2 from just above this area



PART IV

Report on the 2008 Deer Stone Project

Jamsranjav Bayarsaikhan, National Museum of Mongolia

Бид 2008 оны 5-р сарын 24 ний 11 цаг 20 минутанд EZNIS компаний Saab 340B маркын Мөрөн - Өлгий хотын чиглэлийн нисэх онгоцоор Улаанбаатар хотоос хөөрөв. Манай судалгааны багийн бүрэлдэхүүнд Монголын талаас МҮМ-н судлаач Ж.Баярсайхан, МУБИС-ийн оюутан П.Нацагдорж, АНУ-ын талаас Смитсоны хүрээлэнгийн Умард Туйл судлалын төвийн захирал William Fitzhug, түүний оюутан Kyle болон Зүүн Теннеси их сургуулийн судлаач Richard Kortum нар байв. Биднийг Баян-Өлгийд буухад, судалгаанд явахаар урьдчилан тохиролцсон 2 машин тосож авав.

Тэр оройдоо бид Цэнгэл сумын зүг хүлгийн жолоо залав. Бид Цэнгэл сумын нутаг Хотон, Хурган нууранд хүртэлх бартаатай замыг туулахдаа олон удаа машин эвдэрч, замын айлаар хоноглон 2 өдөр явсны эцэст 25-ны оройхон Цаст хайрхан уулын цэргийн ангид хүрч очив. Тэнд нэг хоноод өглөө нь Хотон нуурын хойд савд орших Билүүт толгой хэмээх хадны зургийн дурсгалт газрын орчимд хүрч бууцгаав.

Цаст хайрхан уулын цэргийн анги орох замдаа бид Хурган нуурын ар биед орших Мянган хонхор хэмээх газарт буй нэгэн буган чулуун хөшөөг үзэж сонирхов. Энэ буган чулуун хөшөө Түрэг болов уу гэмээр нэгэн дугуй



булшны зүүн талд наран ургах зүг цувруулан босгосон гурван хөшөөний хамгийн зүүн талд оршиж байна. Уг буган хөшөө булшнаас 75 хэмд 25 м орчим зайд байна. Үүнээс харахад хуучин байрлалаасаа хөдөлсөн бөгөөд Түрэгийн үед уг хөшөөг ашиглаж зэл чулуу хийсэн бололтой (Зураг 1).

Энэ хөшөө 142 x 60 x 20 см хэмжээтэй, хөшөөний нэг өргөн тал дээр дугуй цагираг түүний дор 2 бугыг толгойг нь газар руу харуулан дүрсэлжээ. Хоёр буганы завсарт нэг адууг мөн л толгойг нь уруу харуулан сийлсэн бол, хөшөөний зүүн тийш хандсан нарийн тал дээр, гурван адууг цувруулан толгойг нь дээш хандуулан дүрсэлж, хөшөөний нөгөө өргөн талд нэг том буга дээш цоройлгон сийлсэн нь харахад бэрх болжээ (Зураг 2-3). Энэ буган хөшөөг “Монгол нутаг дахь түүх соёлын дурсгал” толь бичгийн хэрэглэгдэхүүн бүрдүүлэх шинжилгээний анги үзэж, дурдсан номонд өнгөт зургийн хамт хэвлэсэн боловч уг буган хөшөөний тодорхойлолтыг дутуу дулимагхан үйлдсэн байна¹. Тухайлбал хоёр буганы дунд буй адууг чоно гэж андуурсан бол, хөшөөний нарийн талд буй цуварсан гурван адууг огт дурдаагүй өнгөрсөн байна.



Зураг 2.



Зураг 3.

Буган хөшөө бүхий эл булшны хойд талд хэмжээгээрээ ижил бас нэг дугуй булш байх агаад мөн л зүүн тийш цуварсан гурван зэл чулуутай байна (Зураг 4).

¹ Монгол нутаг дахь түүх соёлын дурсгал. Улаанбаатар 1999.



Зураг 4.

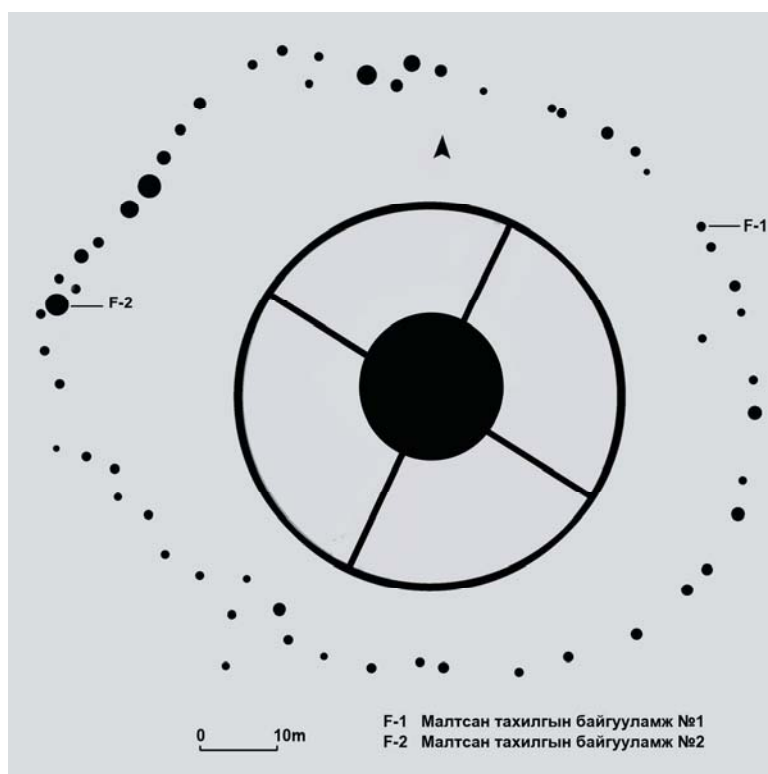
Бид Билүүт толгойн хадны зургийн орчимд бага хэмжээний хайгуул хийж, хиригсүүрийн хэлбэр, бүтэц болон буган хөшөө бүхий дурсгалт газар илрүүлэн судлах зорилготой байв. Теннеси их сургуулийн судлаач Ричард Кортум бидэнд урд жил үзсэн буган хөшөөгөө зааж өгөхөөр тохирлцсон байсан ч тэрээр буган чулуун хөшөө бүхий тэр дурсгалт газрыг олж чадаагүй билээ. Иймээс бид зарим нэг хиригсүүрийн тойм дэвсгэр зураг үйлдэж, нэгэн сонирхолтой хиригсүүрийн тахилгын байгууламжуудаас 2 тахилгын байгууламж малтсан юм.



Зураг 5.

Энэхүү хиригсүүр Хотон нуурын хойд хөвөөнд жижиг дэвсгэр дээр GPS-ийн $48^{\circ}38'10,58$ N, $88^{\circ}23'08,62$ E, цэгийн огтлолцол дээр далайн түвшнээс дээш 2085 метрийн өндөрт, машин замын хажууд оршино (Зураг 5-6). Уг хиригсүүр 50 м дугуй хүрээтэй,

голын чулуун овоолгоны голч 14 метр, голын чулуун овоолгоноос хүрээнээс дөрвөн зүгт чигэлсэн хэрээс чулуун байгууламжтай. Хиригсүүрийн хүрээний гадна талаар тойруулан 57 ширхэг жижиг дугуй дагуул байгууламж үйлджээ. Бид эдгээр дагуул байгууламжаас хоёрыг сонгож малтсан юм (Зураг 7).



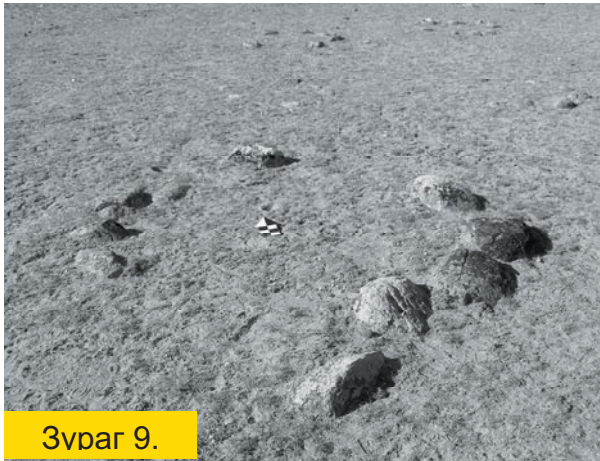
Зvдaг 7.



Зураг 8.

Нэгдүгээр тахилгын байгууламж:

Хиригсүүрийн зүүн хойд хэсэгт орших бөгөөд 9 см голчтой, 9 ширхэг чулууг тойруулан тавьж, хэмжээгээр арай том нэг чулууг голд тавьжээ. Энэ байгууламжийг малтахад шатсан ясны 2 жижиг хэсэг, нүүрсний 2 жижиг хэсгээс өөр ямар ч эд өлгийн зүйл илрээгүй билээ (Зураг 8).

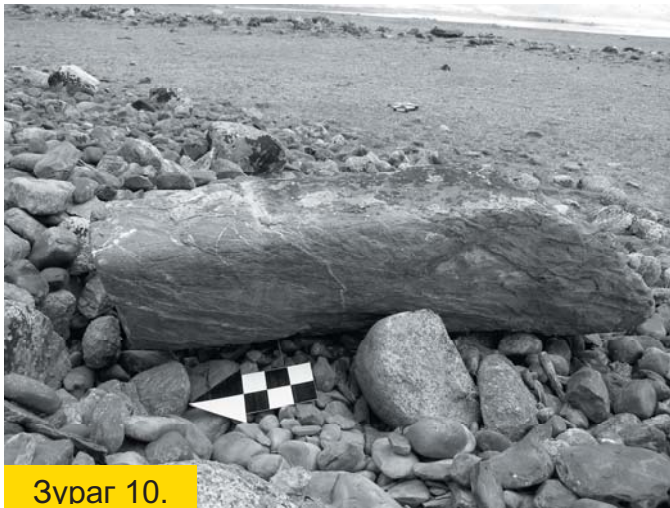


Зураг 9.

Хоёрдугаар тахилгын байгууламж:

Энэ тахилгын байгууламж хиригсүүрийн баруун хойд хэсэгт орших бөгөөд 10 ширхэг чулууг тойруулан тавьж, 3м голчтой цагираг үүсгэжээ. Байгууламжийг малтахад чулуун цагирагны дотор талын талбайн зарим хэсгээс шатсан хар хөрс, шатсан ясны хэсгүүд, нүүрсний

жижиг хэсгүүд нэлээд гарав(Зураг 9). Хоёр байгууламжийг малтахад уг тахилгын байгууламжуудыг үйлдсэн чулуунуудын ёроолоос доош байгалийн эх хөрс гарсан болно.



Зураг 10.

Үүнээс гадна бид энэ хиригсүүрийн голын чулуун овоолгоны зүүн урд талаас нэгэн хөшөө чулуу бололтой гонзгой чулууг олж, сайтар нягталж үзвэл буган чулуун хөшөөний нэг хэлбэр болох зөвхөн бүс дүрсэлсэн, өөр ямар нэг дүрслэлгүй хөшөө болохыг олж мэдэв. Уг хөшөө 135 см өндөр,

37 см өргөн байв Зураг (10).

Онъ хадны (Он тас) дурсгалт газарт хийсэн судалгаа:

Баян-Өлгий аймгийн Цэнгэл сумын нутаг Могойтын гүүр гарч, Могойтын Түрэгийн үеийн хүн чулуун хөшөөд орох замд, Онъ хад хэмээх жижиг цохиот хад бүхий нар тоссон энгэр буй. Энэ энгэрийн өмнүүр эмжсэн дэнж болон хөндийгээр нэлээд хэдэн хиригсүүр буй. Эдгээр хиригсүүрийн ихэнхи нь дугуй хүрээтэй бөгөөд ганц нэг дөрвөлжин хүрээтэй байна (Зураг 11-12).



Зураг 11.



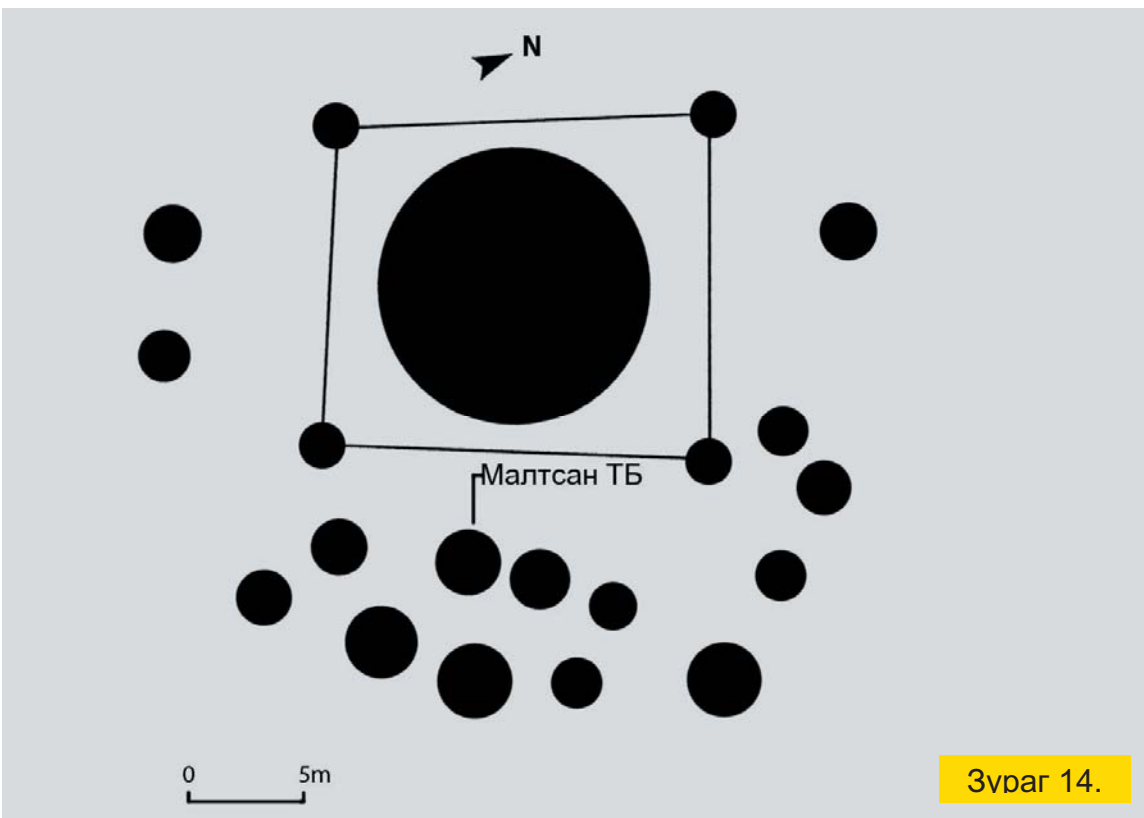
Зураг 12.

Онъ хадны хиригсүүрүүдийн дотор бидний сонирхолыг татсан нэгэн хиригсүүр байв. Уг хиригсүүр дөрвөлжин хүрээтэй, хүрээний дөрвөн буланд дугуй чулуун байгууламжтай, хүрээнийхээ зүүн урд талаар төвлөрсөн 16 дагуул байгууламжтай (Зураг 13-14). Энэ хиригсүүрийн хамгийн сонирхолтой зүйл нь чулуун овоолго бүхий дагуул байгууламжууд юм. Бидний сүүлийн 2 жил энэ бүс нутагт хийсэн судалгааны ажиглалтаар, тухайн бүс нутагт буй хиригсүүрүүд ихэнхидээ дугуй цагираг чулуун байгууламжтай байсан бөгөөд чулуун овоолго бүхий дагуул байгууламж бараг тохиолдоогүй билээ. Харин

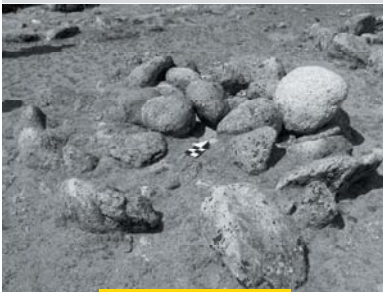
дурдан буй хиригсүүрт чулуун овоолго бүхий дагуул байгууламжууд тохиолдсон нь биднийг сорилын малтлага хийхэд хүргэсэн юм.



Зураг 13.



Зураг 14.



Зураг 15.

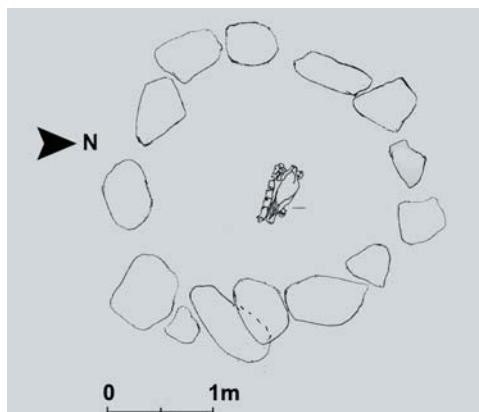
Бид энэ хиригсүүрийн зүүн урд талд орших дагуул байгууламжуудын хамгийн дотор талд орших 2,8м голчтой нэгэн дагуул байгууламжийг сонгож малтсан билээ (Зураг 15).

Энэхүү тахилгын байгууламжийн дараас чулуунуудыг авч доош малтсаар одоогийн өнгөн хөрснөөс доош 45 см гүнээс адууны толгойн тахилга илрүүлэн олсон бөгөөд

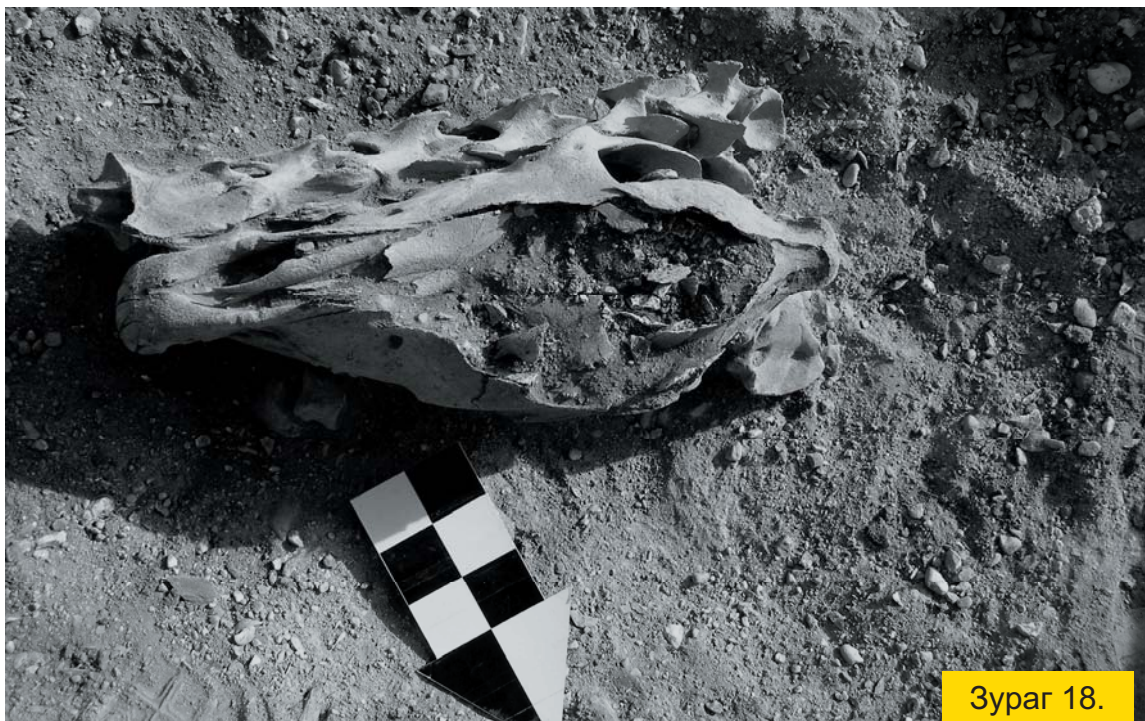
уг адууны толгойг зүүн урд зүгийн 115 хэмд хандуулан, хүзүүг аман хүзүү хатан хүзүү хоёрын дундуур нугалаж, хатан хүзүүнээс хйошхи 6 үе хүзүүг толгойны урд талаар дагуулан тавьж, аман хүзүүг толгойтой залгаатай хэвээр тавьсан бололтой дагзны хойд хэсэгт байв. Харин 4 туурайг тус бүр туурайны дээд залгаа богино тагалцагны хамтаар хоёрыг нь адууны толгойн урд хушуун доор, хоёрыг нь эрүүний хойд углуурга доор тавьсан байв (Зураг 16-18).



Зураг 16.



Зураг 17.



Зураг 18.

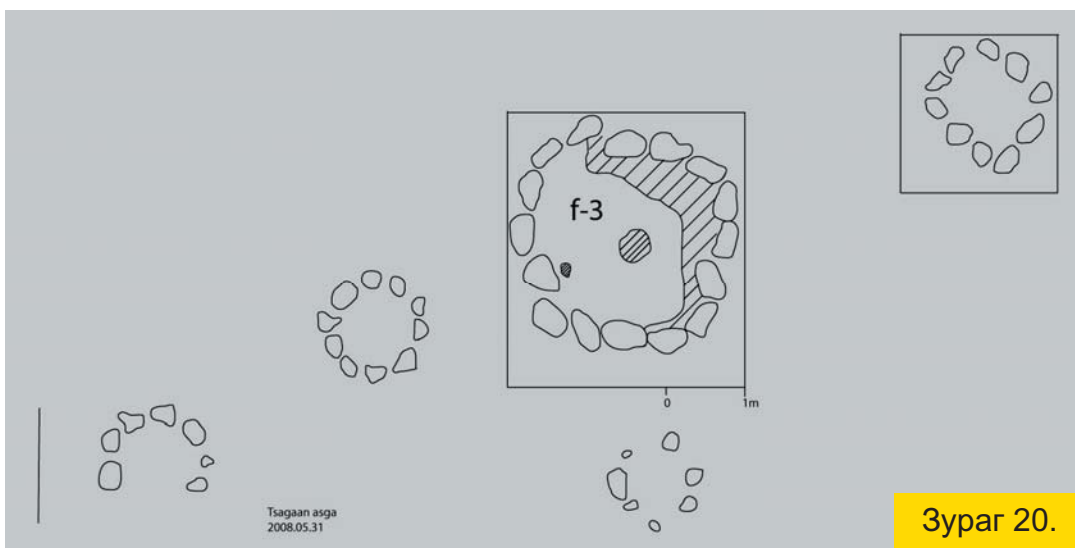
Цагаан Асгын дурсгалт газарт хийсэн судалгаа

Бид Онь хадны дурсгалт газраас Ховд голыг Могойтын гүүрээр буцаж гаран голын зүүн эргийг даган зүүн урд зүгт явсаар Хар нуурын баруун хаяагаар гарч, Сагсай сумын нутаг Хар чулуутын голын хойд хөвөөнд орших Цагаан асгын дурсгалт газар хүрсэн юм. Энэ дурсгалт газар бид өнгөрсөн жил цөөн хоногоор ажиллаж нэг дагуул байгууламж малтан судалсан боловч ямар нэг эд өлгийн илрүүлж чадаагүй юм². Учир ийм тул энэ жил бид дурсгалт газрын он цагийг багцаалдахад чухал шаардлагатай, радиокарбоны задлан шижилгээ хийж болохуйц дээж олохыг зорьсон болно. Бид сайтар зөвлөлдсөний эцэст буган чулуун хөшөөд бүхий дурсгалт газарт буй дугуй цагираг чулуун байгууламжуудаас хоёрыг сонгож малтсан билээ.



Зураг 19.

Нэгдүгээр дагуул байгууламж: Энэхүү дагуул байгууламж нь Цагаан асгын буган чулуун хөшөөдийн төв хэсэгт орших босоо буган чулуун хөшөөдийн урд хэсэгт байрлана. Ямар нэг чулуун дараасгүй зөвхөн 16 ширхэг чулууг бөөрөөр нь нийлүүлж, дугуй цагираг хэлбэр оруулан үйлдсэн байгууламж болно (Зураг 19-20).



Зураг 20.

Бид тахилгын байгууламжийн хүрээнд 3 x 3,5м хэмжээтэй талбайд малтлага эхлэв. Өнгөн хөрсийг хуулж доош малтахад, талбайн хойд болон

² Буган чулуун хөшөө төслийн 2007 оны хээрийн судалгааны тайлан (МҮМ-н Номын сан)

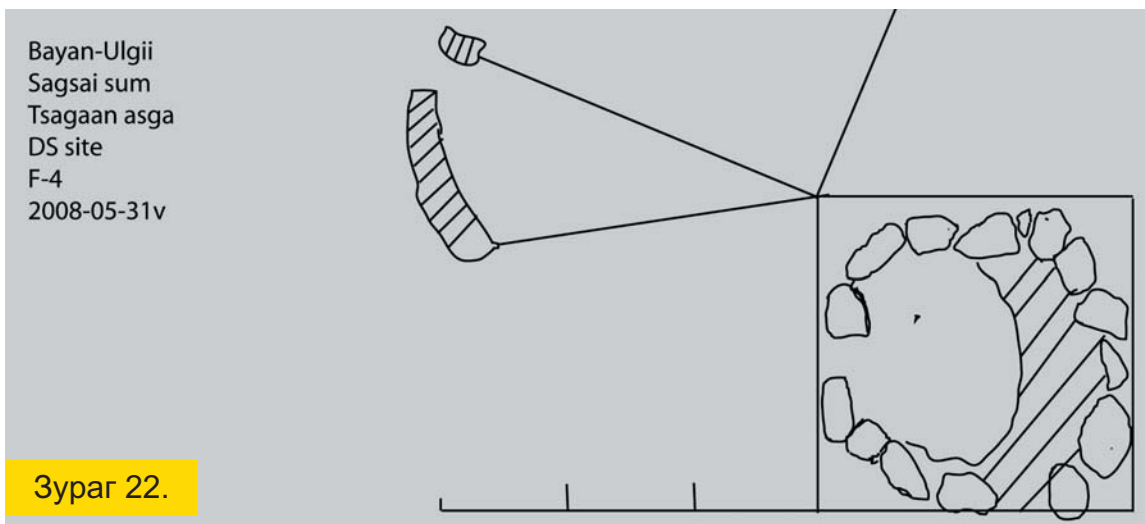
зүүн талын чулуудын дотор талаас шатсан хар хөрс ялгарч, түүн дотроос нүүрс, шатсан ясны жижиг хэсгүүд гарч байснаас гадна талбайн төв болон баруун хэсэгт жижиг шатсан хар нүүрс, яс бүхий толбууд илэрч байв (Зураг 20 F-3). Малтлага өнгөн хөрснөөс доош 30 см болоход байгалийн эх хөрс гарснаар малтлага дуусав.



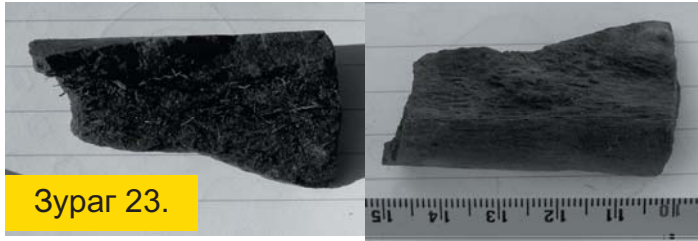
Зураг 21.

Хоёрдугаар дагуул байгууламж: Энэ цагираг байгууламж цувраа буган хөшөөдийн зүүн хойд хэсэгт орших унамал буган хөшөөдийн урд хэсэгт оршино. Бид энэ тахилгын байгууламжийн хүрээнд 2,5 х 2,5 м хэмжээтэй талбайд малтлага хийв (Зураг 21). Уг байгууламж мөн л ямар нэг

чулуун дараасгүй бөгөөд 16 ширхэг чулууг бөөрөөр нь нийлүүлэн дугуй цагираг хэлбэр гарган үйлджээ. Малтлагын явцад талбайн зүүн урд талын чулуунуудын дотор талаас нэлээд хэмжээний шатсан хар хөрс илэрч, түүний дотроос нүүрс, шатсан ясны жижиг хэсгүүд олноор гарав (Зураг 22).



Зураг 22.



Зураг 23.

Эдгээр яснуудын дотор хэмжээгээр нэлээд том, хагас шаталттай ясны хэсэг олдсон бөгөөд хэлбэрийг нь харахад ямар нэг амьтны

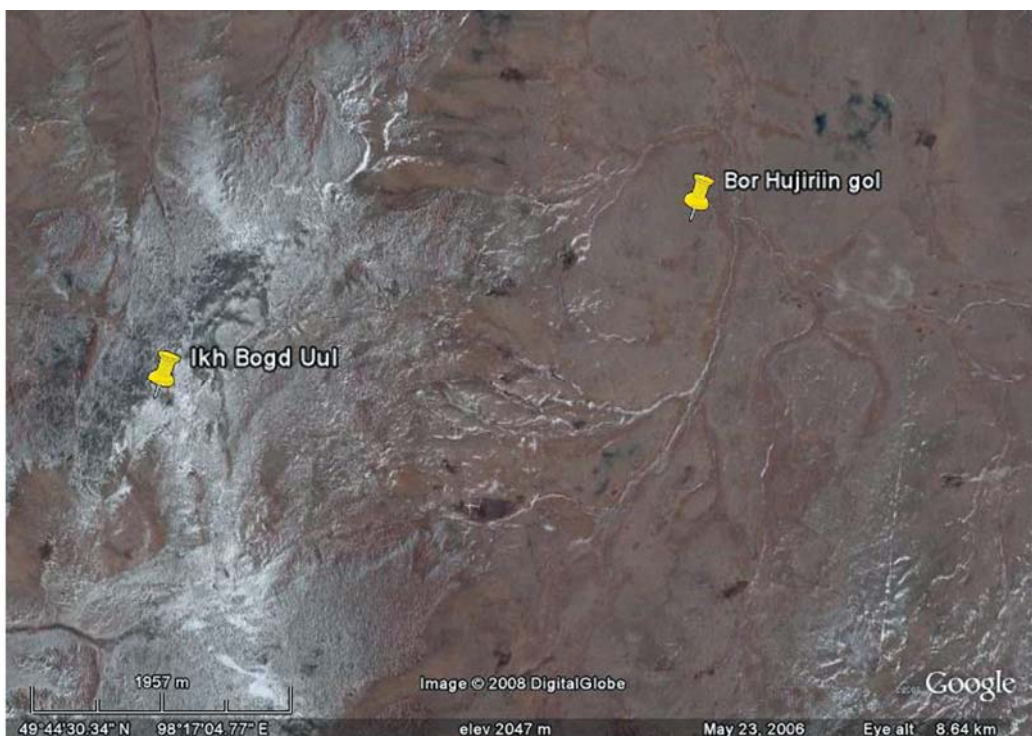
чөмөгний ясны хэсэг болох нь илэрхий байв (Зураг 23).

Хөвсгөл аймгийн Цагаан-Уул сумын нутагт хийсэн судалгааны ажил

Бид 2008 оны 6-р сарын 4 ний өглөө Улаанбаатар хотоос Хөвсгөл аймагт хийх судалгаандаа мордов. 6-р сарын 5-ны орой Мөрөн хотод ирж, 6-р сарын 6-ны өглөө Хөвсгөл аймгийн Соёлын хяналтийн байцаагч Д.Эрдэнэчимэгтэй уулзаж, судалгааны зөвшөөрлөө үзүүлж, бүртгүүлсний дараа Цагаан-Уул сумын нутаг Агар багийг зорин хөдлөв.

Бид энэ жил Хөвсгөл аймагт хийх судалгааны ажлаа Цагаан-Уул сумын Агар багийн нутаг Бор хужирын голд буй буган чулуун хөшөөт дурсгалт газраас эхлэхээр шийдвэрлэсэн байв. Энэхүү дурсгалт газрыг анх Оросын судлаач В.В. Волков олж нийтлүүлсэн юм³.

Бидний Бор хужирын голын буган хөшөөд хэмээн нэрлэж буй энэ дурсгалт газрыг Волков Агарын буган хөшөө хэмээн тэмдэглэсэн байдаг. Газар зүйн байршилныхаа хувьд эдгээр буган хөшөөд нь Их Богд уулын зүүн хормойд, Бор хужирын голын баруун дэнжид GPS-ийн N 49°44,271, E098°17,825 цэгийн огтлолцло дээр оршино (Зураг 24).



Зураг 24.

³ В.В.Волков. Оленные камни Монголии. Москва 2002. стр 86-88

Энэхүү дурсгалт газарт биднийг очиход 5 босоо, нэг унамал буган чулуун хөшөө байв. Босоо хөшөөд уртрагийн дагуу цуварсан байдалтай байрлах бөгөөд унамал буган хөшөө баруун хойд талд нь байрлалтай байлаа (Зураг 24)



Зураг 24.

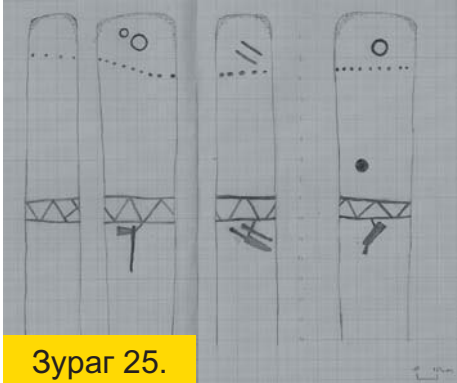
Буган чулуун хөшөөдийн эргэн тойронд буй дагуул байгууламжуудын ихэнхи нь эвдэрч хэлбэр тодорхойгүй болжээ (Зураг 25).



Зураг 25.

Дээрх зурагт буган чулуун хөшөөдийн дугаар болон малтсан дагуул байгууламжуудыг тэмдэглэв.

1-р буган чулуун хөшөө: 165 x 41 x 28 см хэмжээтэй.

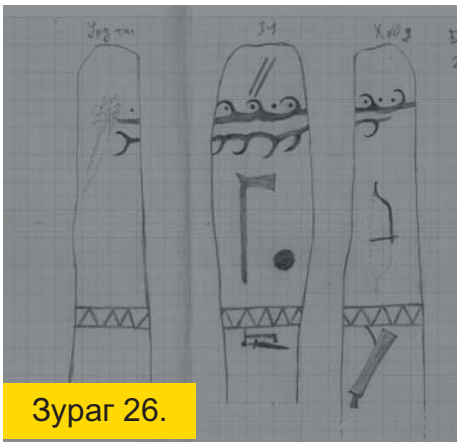


Зураг 25.

Уг хөшөөний зүүн зүгт харсан нарийн талбайн дээд хэсэгт хоёр ташуу зураас дүрсэлж, түүний зэрэгцээ баруун хажуу талд жижиг том 2 цагираг, зүүн хажуу талд нэг цагираг дугуй дүрсэлж, тэдгээрийн доохнуур 27 ширхэг өндөг дарам дугуйг хөшөөг тойруулан сийлсэн байна. Хөшөөний дундуураас доохон хэсгээр гурвалжин уулан

хээгээр чимсэн бүс дүрсэлж, хоёр ташуу зураастай урд талын талбайд бүснээс жижиг, том 2 хутга, зүүн ташаанаас саадаг, харин баруун ташаанаас урт иштэй сүх зүүсэн байдалтайгаар хонхойлгон сийлжээ. Зүүн талд бүсний дээхэн талд дугуй толь хонхойлгон дүрсэлсэн нь тодхон харагдаж байв (Зураг 25). Хөшөөний хойд болон баруун тал их хэмжээгээр хагтсан байв. Волков уг хөшөөг зурахдаа хөшөөний дээд хэсэгт байгаа дугуй цагираг дүрснүүдийг бүгдийг нь орхигдуулсан байгаа нь сайн ажиглаж хараагүйтэй холбоотой болов уу⁴.

2-р буган чулуун хөшөө: 133 x 34 x 32 см хэмжээтэй.



Зураг 26.

Эл хөшөөний зүүн урд зүгт хандсан өргөн талын дээд хэсэгт 2 ташуу зураас сийлж, түүний доогуур хөшөөг тойруулан бугын хос эвэр сийлээд, дээд талын эвэрний салаа завсраар жижиг дугуй хонхорууд дүрсэлсний 8 ширхэг нь одоогоор мэдэгдэж байна. Энэхүү хос сул эвэрний доор хоёр ташуу зураастай талд урт иштэй нэг сүх, дугуй толийг тус тус дүрсэлсэн бол зүүн хажуу

талд нум сум дүрсэлсний ихэнхи хэсэг бүдгэрч үгүй болжээ. Эдгээр дүрслэлийн доогуур гурвалжин уулан хээтэй бүс, бүснээс хутга, сүх, саадаг зүүснээр сийлсэн байна (Зураг 26). Хөшөөний үлдсэн талд ямар нэг дүрслэл ажиглагдахгүй байна. Магадгүй баларч үгүй болсон байж болно. Волков энэ

⁴ В.В.Волков. Оленные камни Монголии. Москва 2002. таблиц 87-3

хөшөөний зөвхөн зүүн болон хойд талын дүрслэлүүдийг тойм байдлаар зурж хэвлүүлсэн бөгөөд бусад талбайг нь орхигдуулсан байна⁵.

3-р буган чулуун хөшөө: 234 x 50 x 28 см хэмжээтэй.



Зураг 27.

Энэ хөшөө нэлээд гэмтэж муудсан бөгөөд энд буй буган чулуун хөшөөдийн хамгийн өндөр нь юм. Энэ хөшөөний бүснээс дээшх хэсэг ховхорч гэмтсэн тул дүрслэлийг харах аргагүй болсон байна. Харин хөшөөний бүс болон бүснээс зүүсэн зарим эд зүйлс тодорхой харагдаж байна. Хөшөөнөө 9 см өргөн бүс сийлж бүсийг гурвалжин уулан хээгээр чимж, уулан хээний голд жижиг дугуй хонхорууд (товруу Ж.Б) дүрсэлжээ. Бүснээс урт иштэй, мөрөндөө хос тал дугуй цагирагтай том сүх, дугуй тольттой чинжаал хутга зүүж, хутганы доор морь сийлжээ (Зураг 27-28).



Зураг 28.

Волков ч уг хөшөөний бүснээс дээшх дүрслэлийг харж чадаагүй бололтой зөвхөн бүс болон бүснээс доошх дүрслэлүүдийг нийтлүүлсэн байдаг⁶.

Энэ хөшөөнд дүрсэлсэн бү, бүсний чимэглэл хийгээд сүх нь тухайн үеийн хүмүүсийн хувцас, багаж хэрэгслийн түүхийг улируулан судлахад онцгой ач холбогдолтой юм.

4-р буган чулуун хөшөө: 164,5 x 27 x 33 см хэмжээтэй.

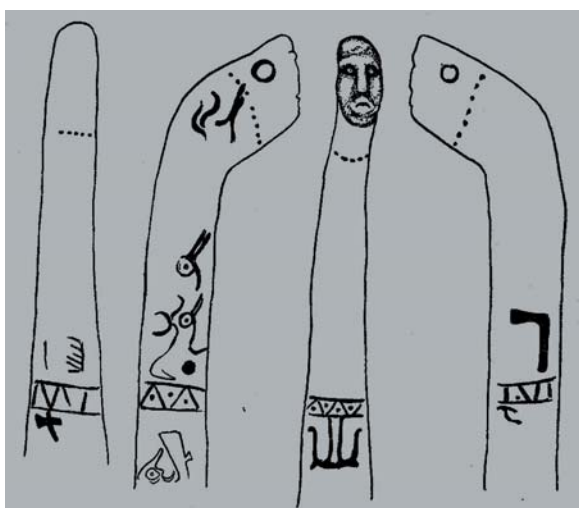
Энэ буган хөшөө нь хэлбэр, хийц, дүрслэлийн хувьд бусад буган хөшөөдөөс нэлээд өвөрмөц юм. Учир нь ихэнхи буган хөшөөг хийхдээ чулуугаа дөрвөн тал гарган засч, эгц шулуун хийсэн байдаг бол энэ хөшөөг хийхдээ хөшөөний дээд хэсгийг нэг тийш нь бөгтийлгөн засч, хүний нүүр дүрслээд, нүүрний хоёр хажуу талын талбайд тус бүр нэжгээд дугуй цагираг (ээмэг) дүрсэлж, хүзүүг нь тойруулан 18 ширхэг жижиг хонхор дугуй (хүзүүний зүүлт)

⁵ В.В.Волков. Оленные камни Монголии. Москва 2002. таблиц-88-2

⁶ В.В.Волков. Оленные камни Монголии. Москва 2002. таблиц-88

сийлжээ. Хөшөөний дундаас доогуур гурвалжин уулан хээтэй, уулан хээний голд жижиг хонхор дугуй цэгүүдээр (товруу Ж.Б) чимсэн өргөн бүс дүрсэлж, бүснээс хүний нүүртэй талд П хэлбэрийн дэгээ, зүүн ташаанаас нум сум, баруун ташаанаас саадаг, хойд талаас сүх болов уу гэмээр нэг эд зүүснээр дүрсэлжээ. Харин зүүн ташаанд бүсний дээхэн талд нэг том сүх, хойд талд бүсний дээхэн талд тагнай хээт таван талт дүрс сийлсэн бөгөөд бүснээс дээшх бусад талбайд сүрэг буга дүрсэлсэн нь нэлээд бүдгэрч муудсны улмаас цөөн хэдийг нь харах болмжтой байв(Зураг 29).

Бид энэ буган хөшөөний гар зургийг хийж чадаагүй зөвхөн нарийвчилсан өнгөт гэрэл зургууд авсан болно(Зураг 30).



Зураг 29. Волковынхоор

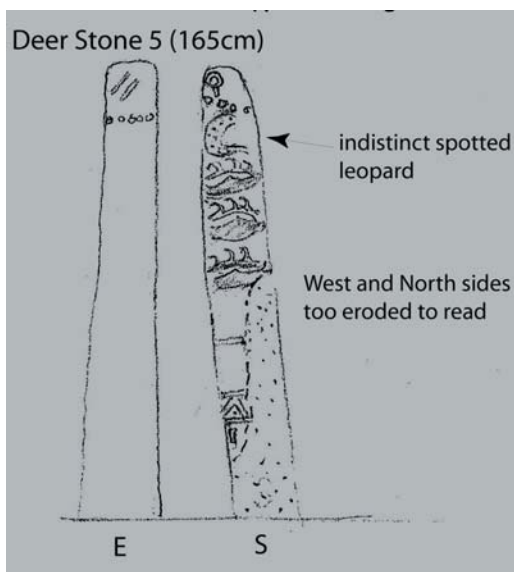


Зураг 30.

5-р буган чулуун хөшөө: 165 x 34 x 30 см хэмжээтэй.

Уг хөшөөний баруун болон хойд зүг харсан тал ихэд ховхорч гэмтсний улмаас харагдах зүйлгүй болжээ. Харин зүүн урд зүгт харсан талын дээд хэсэгт хоёр ташуу зураас дүрсэлж, түүний зэрэгцээ урд зүгт харсан тал дээр нэг салаа унжлага бүхий дугуй цагираг (ээмэг Ж.Б) дүрслээд тэдгээрийн доогуур хөшөөг тойруулан сийлсэн жижиг дугуй хонхоруудаас зөвхөн дээр дүрсдсан 2 талын дүрслэлүүдийг харагдаж байна. Зүүн урд зүгт харсан талд хонхоруудын доор ирвэс юм уу бар гэлтэй урт сүүлтэй амьтныг эвхрүүлэн сийлж, түүнээс доош бүс хүртэл зайд лавтайяа гурван буга дүрсэлсэн нь мэдэгдэж байна. Хөшөөнд дүрсэлсэн бүс зөвхөн эн тал дээр хэсэгхэн газар хадгалагдан үлдэж бусад нь баларч үгүй болжээ. Үлдсэн хэсгээс харахад

гурвалжин уулан хээтэй, уулан хээний голд жижиг хонхор цэгээр (товруу) чимсэн өргөн бүс ажээ (Зураг 31-32). Үүнээс өөр дүрслэлийг харах аргагүй болжээ. Энэ хөшөөг В.В. Волков огт дурдаагүй орхигдуулсан байна.



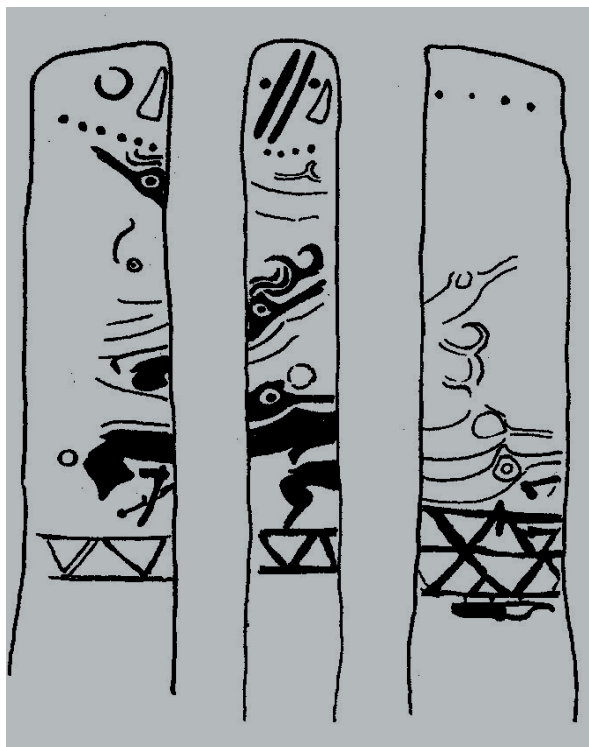
Зураг 31.Биллийн зураг



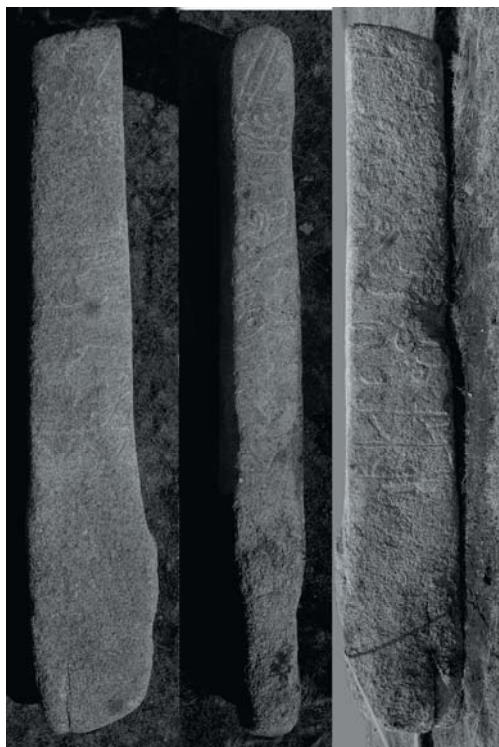
Зураг 32.

6-р буган чулуун хөшөө:196 x 34 x 22 см хэмжээтэй.

Энэ буган хөшөө цувраа босоо буган чулуун хөшөөдийн хойд талд унасан, хэвтээ байдалтай байв (Зураг 25-№6). Уг хөшөөнөө нэлээд дүрслэл байгаа боловч зарим талд бас л бүдгэрч харахад бэрх болжээ. Хөшөөний нэг талын орой хэсэгт хоёр ташуу зураас дүрсэлж, ташуу зураасны хоёр талд тус бүр нэг дугуй дүрс, нэг дугуй дүрсний хажууд бас нэг гурвалжин дүрс сийлжээ. Харин эдгээр дүрсний зэрэгцээ баруун хажуу талд нэг дугуй цагираг, нэг гурвалжин дүрс гаргажээ. Эдгээрийн доогуур хөшөөг тойруулан жижиг дугуй хонхорууд (хүзүүний зүүлт Ж.Б)дүрсэлж, түүнээс доош бүс хүртэл зайд 5-6 буга дүрсэлсэн бөгөөд бугануудын дунд дугуй толь, нэг буганы гэдсэн доор хутга, сүх хоёрыг зөрүүлэн дүрсэлжээ. Уг хөшөөнөө гурвалжин уулан хээгээр чимсэн өргөн бүс сийлсэн бөгөөд нэг талд нь бүсийг давхардуулан дүрсэлж, түүнээс саадагтай нум зүүснээр сийлжээ (Зураг 33-34). Энэ хөшөөний дээд талын дүрслэлүүд нэн сонирхолтой юм. Бид уг хөшөөний үндсэн байрлалийг хайсан боловч олж чадаагүйн улмаас хэвтээ чигээр нь үлдээсэн болно.

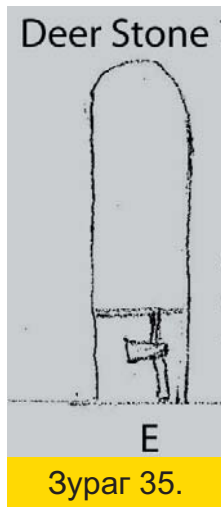


Зураг 33. В.В. Волковынхоор



Зураг 34.

7-р буган чулуун хөшөө:



Зураг 35.

Энэ хөшөөг бид 4, 5-р буган хөшөөний хоорондох зайд газарт булагдсан байсныг олж гаргасан болно (Зураг 25–F3). Уг хөшөөнөө зөвхөн цулгүй бүс, бүснээс нь нэг сүх зүүсэн дүрслэлтэй. Өөр ямар нэг дүрслэлгүй (Зураг 35-36). Бид Бор хужирын гол -1 хэмээн дугаарласан энэ дурсгалт газарт



Зураг 36.

буй буган чулуун хөшөөдийн бүрэн дэвсгэр зураг үйлдэж, судлаач Волковын хэвлүүлсэн судлагаатай харьцуулан нарийвчилсан, гар болон гэрэл зураг авсан бөгөөд бидний цуглуулсан материал зарим талаар Волковынхоос зөрүүтэй буйг зориуд дурдах нь зүйтэй болов уу. Түүнчлэн бид дурсгалт

газарт буй тахилгын байгууламжаас сонгож, гурван тахилгын байгууламж малтсан юм (Зураг 25- F-1, F-2, F-4).



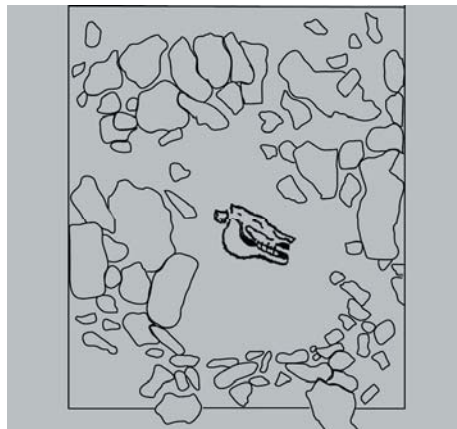
Зураг 37.

Нэгдүгээр тахилгын байгууламж: 3-р буган чулуун хөшөөний зүүн урд талд орших бөгөөд энэ тахилгын байгууламжийн хүрээнд бид 3 х 4 м хэмжээтэй талбайд малтлага эхлэв (Зураг 37).Энэ талбайгаас бид ямар нэгэн олдвор олоогүй малтлага дуусав.

Хоёрдугаар тахилгын байгууламж: Энэ байгууламж 1-р тахилгын байгууламжаас харалдаа баруун талд оршино (Зураг 25- F2). Тахилгын байгууламжийн хүрээнд бид 2,5 х 3 м хэмжээтэй талбайд малтлага хийв (Зураг 38). Энэ талбайг малтахад талбайн гол хэсэгт 35 см гүнд наран ургах зүүн урд зүгт (145 хэмд) хандуулан тавьсан адууны толгой олдов (Зураг 39).



Зураг 38.



Зураг 39.

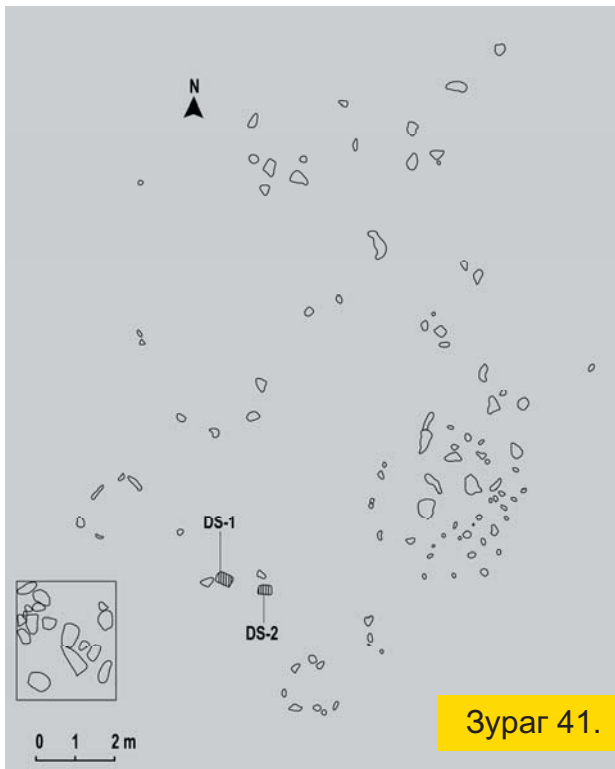
Үүний дараа бид газарт булагдсан 7-р буган хөшөөг малтаж гаргасан бөгөөд энэ талбайг F-4 хэмээн дугаарласан билээ.

3-р тахилгын байгууламж буюу F-4: Энэхүү тахилгын байгууламж 1-р буган чулуун хөшөөний зүүн урд талд оршино (Зураг 25-F4, 40). Энэ тахилгын байгууламжын хүрээнд бид 2,5х 3м талбайд малтлага хийсэн боловч ямар эд өлгийн зүйл гарсангүй.



Зураг 40.

Бор хужирын гол -2: Бор хужирын гол 1 дурсгалт газрын баруун хойд зүгт 309 хэмд 500 орчим метр зайд, GPS-ийн N49°44,437, E098°17,513 цэгийн огтлолцол дээр далайн түвшнээс дээш 2050 метрийн өндөрт, жижиг хамар дээр оршино. Энд буй хоёр буган чулуун хөшөөт дурсгалыг бид Бор хужирын гол-2 хэмээн нэрлэж, дэвсгэр зургийг үйлдэн, багаахан хэмжээний судалгаа хийсэн юм. Эл дурсгалт газарт буй хоёр буган хөшөөний орчин



Зураг 41.

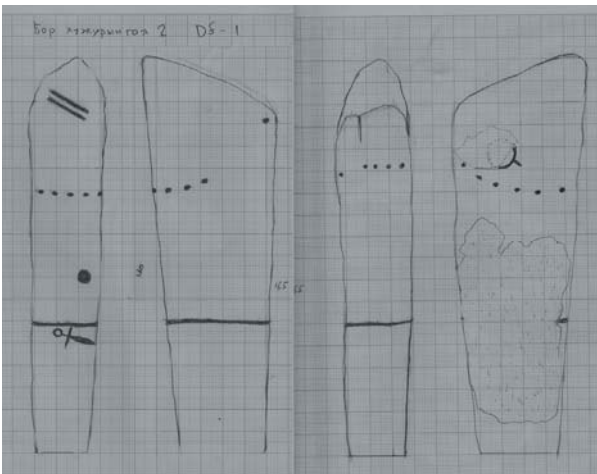
тойронд буй тахилгын байгууламжуудыг ажиглахад зарим нь хэлбэр хэмжээ нь тодорхой боловч зарим нь тодорхой бус харагдаж байлаа (Зураг 41). Бид энэ дурсгалт газарт буй тахилгын байгууламжуудаас нэг тахилгын байгууламж сонгож малтсан юм (Зураг 41-д буй дөрвөжин талбай). Энэ тахилгын байгууламжийг өнгөн хөрсийг хуулж, доош малтахад талбайн хойд хэсгээс шатсан ясны жижиг хэсгүүд, нүүрсний жижиг хэсгүүд

бага хэмжээгээр гарснаас өөр зүйл олдсонгүй (Зураг 42). Малтлага газрын өнгөн хөрснөөс доош 20 см гүн болоход байгалийн эх хөрс гарав.



Зураг 42.

Бор хужирын гол-2 ын 1-р буган чулуун хөшөө: 180 x 59 x 33 см хэмжээтэй.



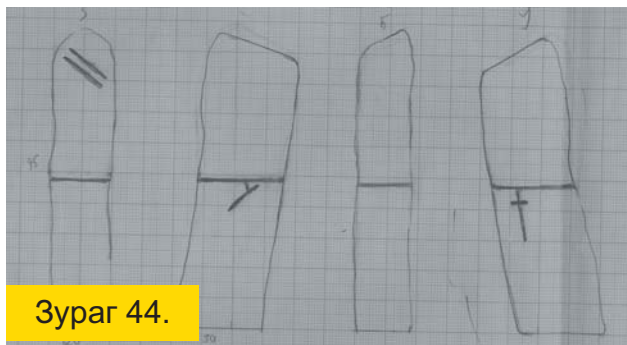
Зураг 43.

Уг хөшөөний зүүн урд зүгт харсан нарийн талын дээд хэсэгт хоср ташуу зураас, түүний зэрэгцээ баруун хажуу талд нэг салаа унжлагатай дугуй цагираг (ээмэг) дүрсэлсэний ихэнхи хэсэг нь ховхорч үгүй болсон аж. Эдгээр дүрсний доогуур хөшөөг тойруулан 21 хонхор дугуй дүрс сийлжээ.

Хөшөөний дундаас доохнуур цулгуй нарийн бүс хонхойлгон сийлж, хоёр ташуу зураастай талын бүснээс цагираган тольттой охор чинжаал зүүснээр дүрсэлжээ. Мөн хутгатай талын бүсний дээхэн талд дугуй толь хонхойлгон

гаргажээ. Хөшөөний хойд нарийн талд дүрслэгдсэн бүсний дээхэн талд тагнай хээтэй таван талт дүрс буй нь мэдэгдэх боловч бүдгэрч тун муудсан учир бид зурагт оруулж чадсангүй (Зураг 43). Хөшөөний бусад талбай хаганд идэгдсэн, ховхорч унасан зэргээс шалтгаалан чухам дүрслэл байсан эсэх нь тодорхойгүй байна. Волков энэ хөшөөний зөвхөн хоёр ташуу зураастай талыг зурж хэвлүүлжээ.

Бор хужирын гол-2 ын 2-р буган чулуун хөшөө: 98 x 32 x 20 см хэмжээтэй. Уг



Зураг 44.

хөшөөний зүүн зүгт харсан нарийн талын дээд хэсэгт хоёр ташуу зураас дүрслээд, дунд хэсгээр нь хөшөөг тойруулан нарийн цулгүй бүс сийлж, баруун ташаанаас жижиг сүх, зүүн талын ташаанаас жижиг бөгтөр хутга

зүүснээр дүрсэлсэн байна (Зураг 44). Өөр ямар нэг дүрслэлгүй. Волков энэ хөшөөний гурван талыг зурж хэвлүүлсэн байна.



Зураг 45.

Бид Бор хужирын голын орчимд багаахан хайгуул хийсний үр дүнд хэд хэдэн буган хөшөө буйг олж үзсэн юм. Үүний нэг нь бидний **Бор хужирын гол-3** хэмээн нэрлэсэн дурсгалт газар юм. Энэ дурсгалт газар Бор хужирын гол-1 дурсгалт газраас хойд зүгт 3,4 км зайд, GPS-ийн N49°46,076,

E098°17,466 цэгийн огтлолцол дээр далайн түвшнээс дээш 2021 метрийн өндөрт оршино. Энд нэг босоо, нэг унамал буган чулуун хөшөө байна(Зураг 45).Босоо буган чулуун хөшөө 97 x 28 x 24см хэмжээтэй. Хөшөөний орой хэсэгт хоёр дугуй цагираг дүрсэлж, түүний доогуур хөшөөг тойруулан 13 ширхэг жижиг дугуй хонхор сийлж, хөшөөний ёроол хэсэгт гурвалжин уулан хээтэй бүс дүрсэлсэн нь харагдаж байна. Бүснээс доош хэсэг газарт булагдсан учир дүрслэл байгаа эсэхийг харж чадсангүй. Харин хөшөөний зүүн хажуу талд бүснээс дээш хоёр хутга, саадагтай нум, толь зэргийг дүрсэлсэн бол, хойд талд бүсний дээхэн талд тагнай хээтэй таван талт дүрс

сийлжээ. Хөшөөний зүүн урагш харсан урд талд бүснээс дээш буга дүрсэлсэн мэдэгдэж байгаа боловч тодорхой хэлэх аргагүй байлаа.

Харин унамал хөшөө 215 x 40 см хэмжээтэй. Хөшөөний зарим хэсэг газарт булагдсан бөгөөд бид цагийн байдлаас болоод эргүүлж харж чадаагүй. Мл байгаа талуудыг харахад хөшөөний дээд хэсэгт дугуй цагираг дүрс, уулан хээтэй бүс, тагнай хээтэй таван талт дүрс зэрэг зүйлс харагдаж байлаа (Зураг 46).



Бор хужирын гол-4 дурсгалт газар: Энэ дурсгалт газар Бор хужирын голын зүүн талд GPS-ийн N49°48,440, E098°18,025 цэгийн огтлолцол дээр далайн түвшнээс дээш 2017 метрийн өндөрт, олон жижиг хадан цохиобүхий намхавтар уулын урд биед оршино. Энд ямар нэгэн дагуул байгууламжгүй хоёр босоо буган чулуун хөшөө буй (Зураг 47). Энэ хоёр хөшөөний нэг 170



см, нөгөө нь 196см өндөр, хоёулаа нарийн цулгуй бүсний дүрслэлтэй. Өөр дүрслэл буй эсэх нь тодорхойгүй хаг идэж, ховхорч гэмтэж муудсан хөшөөд юм.

Өвгөд багийн нутаг Хөшөөтийн голын дурсгалт газар

Энэ дурагалт газар Цагаан-Уул сумын төвөөс баруун хойш 20 орчим км зайд, Улаан толгойн зүүн урд бие, Хөшөөтийн голын хойд талд GPS-ийн N49°42,261, E098°35,706 цэгийн огтлолцол дээр далайн түвшнээс дээш 1874 метрийн өндөрт оршино (Зураг 48).



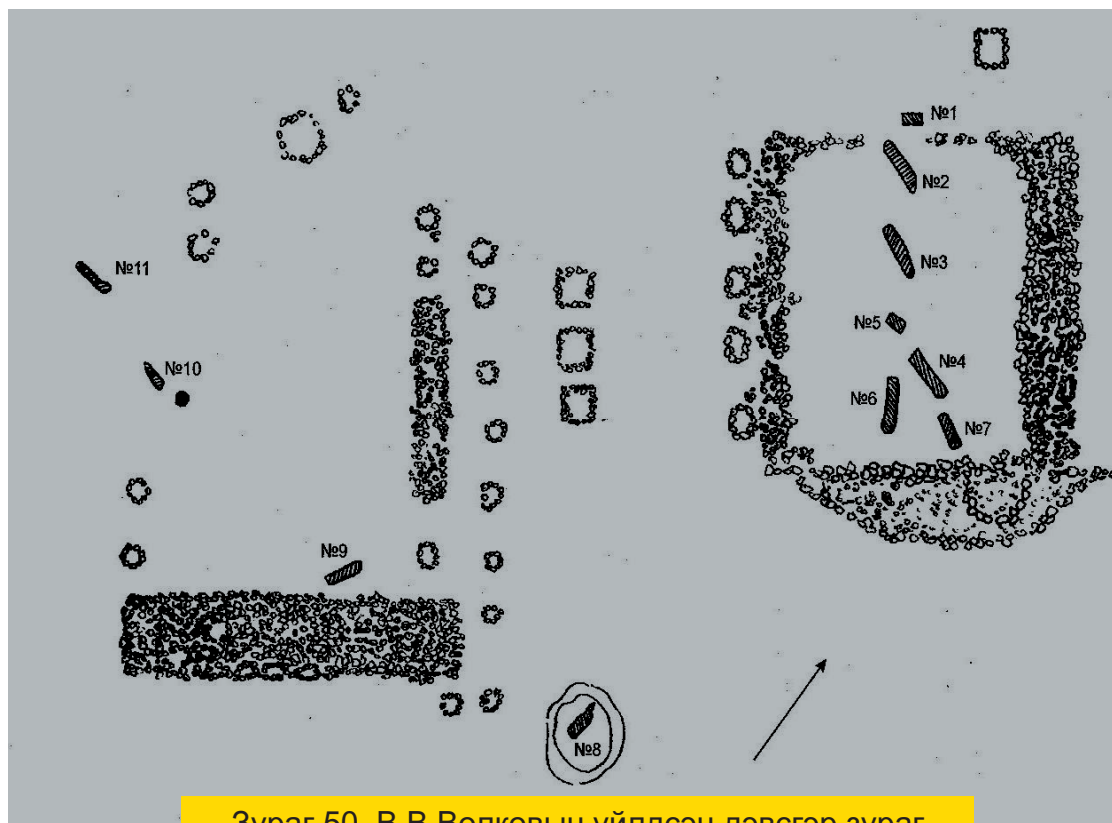
Зураг 48.

Энэ дурсгалт газар 13 буган чулуун хөшөө, дагуул тахилгын байгууламжуудын хамт орших бөгөөд хөшөөдийн ихэнхи нь унаж, үндсэн байрлалаа алдсан байна (Зураг 49).



Зураг 49.

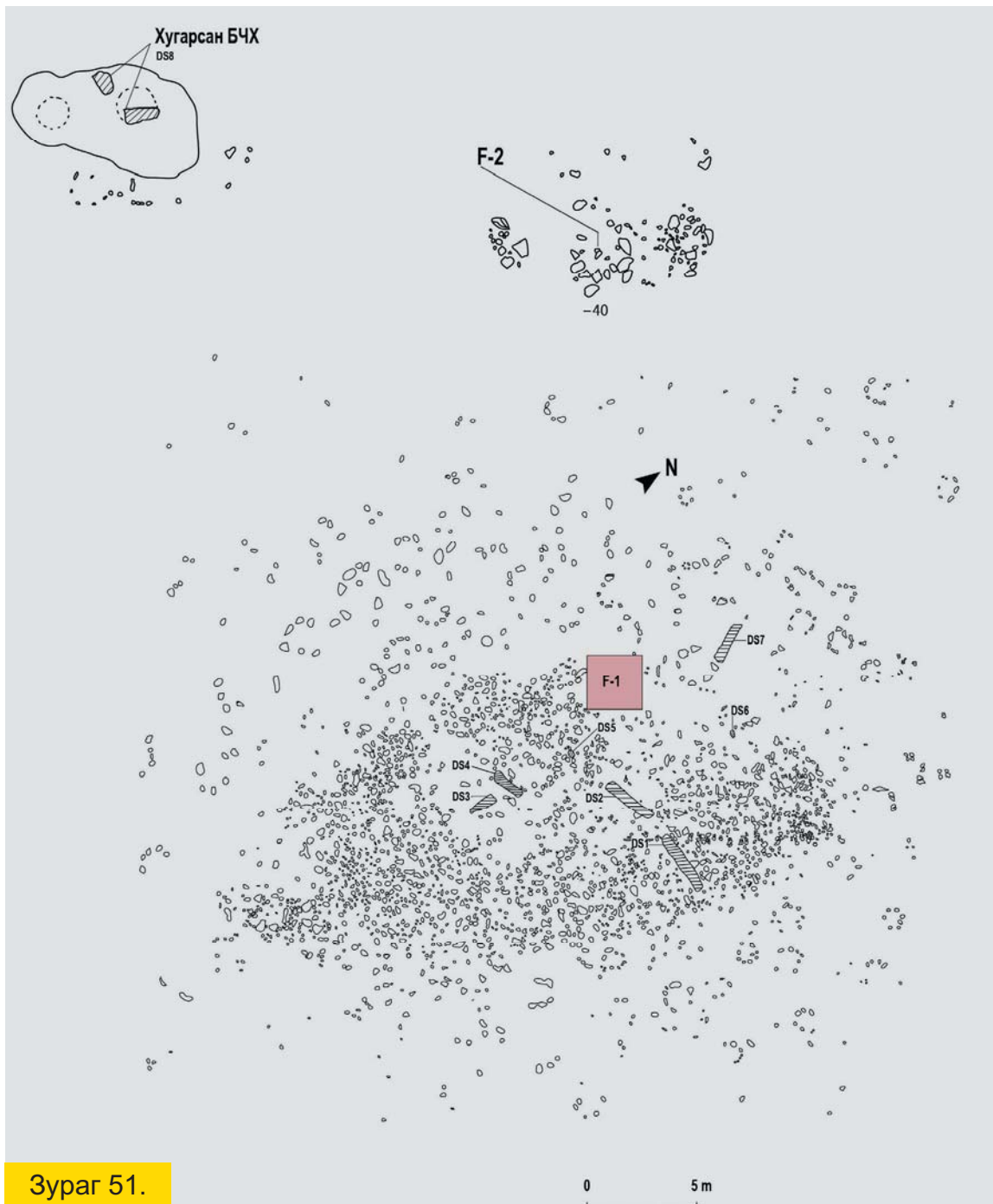
Энэхүү дурсгалт газрыг шинжлэх ухааны үүднээс анх судалсан хүн бол Оросын судлаач В.В.Волков бөгөөд тэрээр энэ дурсгал газарт буй буган чулуун хөшөөдөөс 11 хөшөөний тодорхойлолт хийж, 8 буган хөшөөний гар зургийг хэвлүүлжээ⁷. Мөн тэрээр нэлээд тоймолсон, бүдүүвч дэвсгэр зураг үйлдсэн байна (Зураг 50). Энэ зураг бидний хийсэн дэвсгэр зургаас хол зөрж буйг тэмдэглэх нь зүйтэй болов уу.



Зураг 50. В.В.Волковын үйлдсэн дэвсгэр зураг

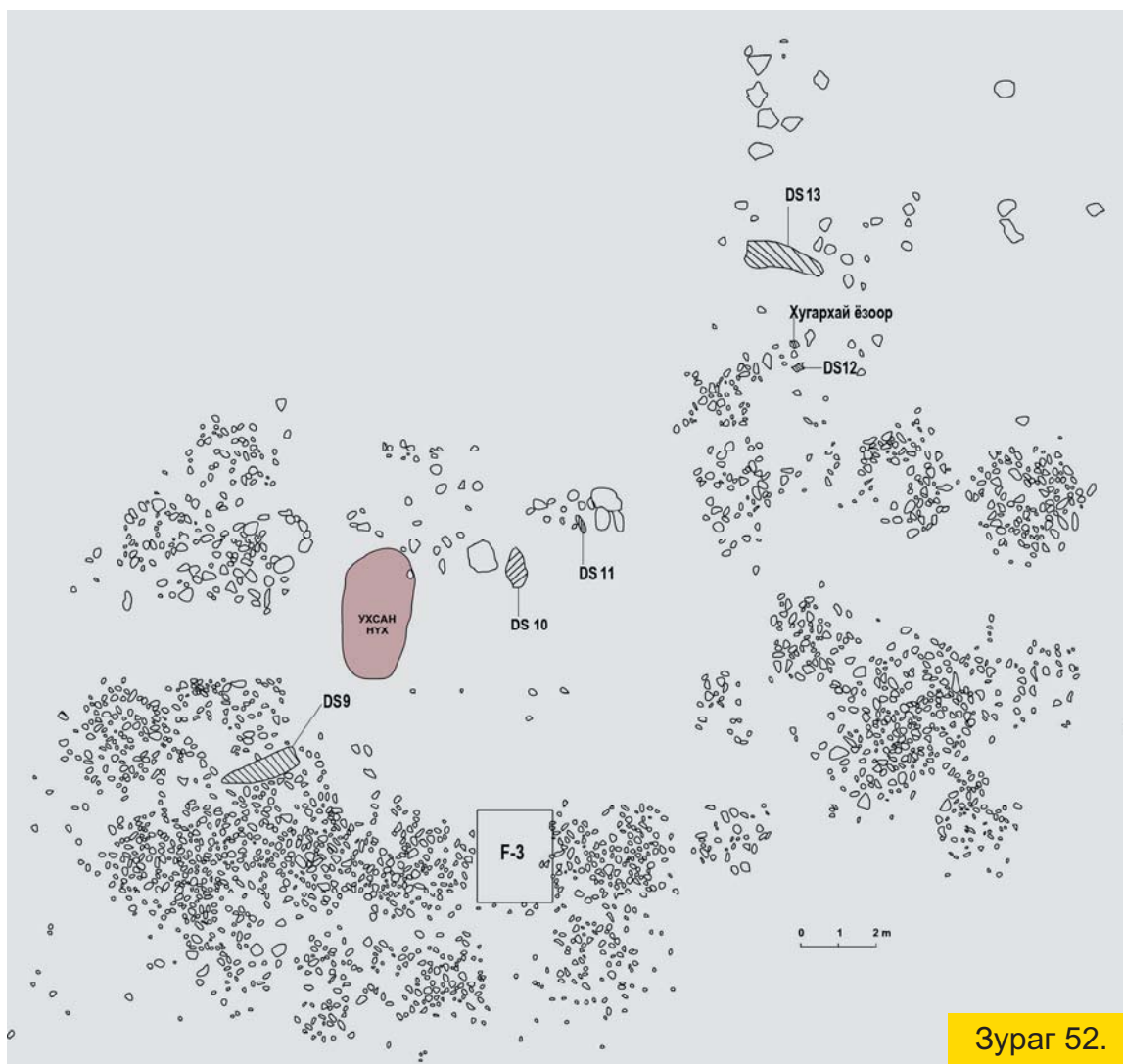
Энэ дурсгалт газарт буй буган хөшөөдийн байрлал бүтцийг ажиглахад гурван хэсгээс бүрдсэн бүлэг дурсгал болох нь илэрхий байв. Энд биднийг очиход 13 буган хөшөө байсны зөвхөн 4 жижиг хөшөө л босоо бусад нь унаж үндсэн байрлалаа алдсан байлаа. Энэ дурсгалт газраас баруун тийш нэлээд хол зайд тусдаа байрлал бүхий хоёр унамал буган чулуун хөшөө байв. Энэ хоёртой нийлээд нийт 15 буган чулуун хөшөө энд байв. Хөшөөтийн голын дурсгалт газрын дэвсгэр зургийг бид 2 хэсэг хувааж үйлдсэн бөгөөд эхнийх нь урд талын 2 бүлэг буган хөшөөдийн орчинд хамаарагдана (Зураг 51).

⁷ В.В.Волков. Оленные камни Монголии. Москва 2002.



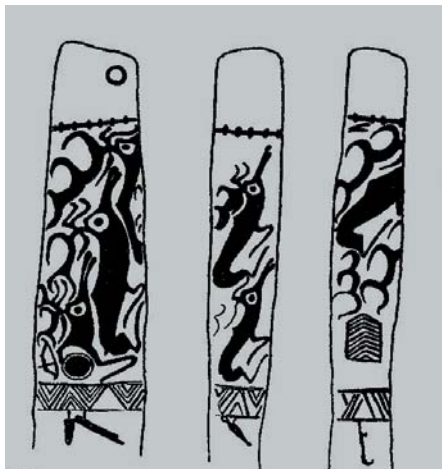
Зураг 51.

Түүнчлэн бид дурсгалт газрын хамгийн хойд хэсэгт буй бүлэг буган хөшөөдийг тахилгын байгууламжуудын хамтаар нь нэг дэвсгэр зурагт буулгав (Зураг 52).



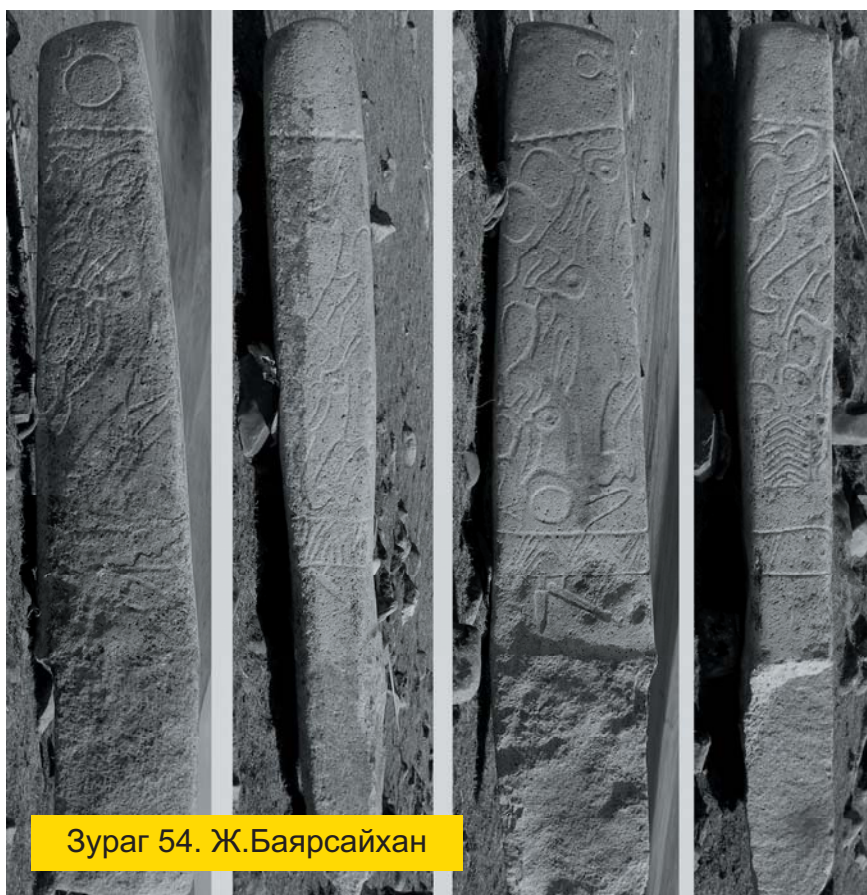
Зураг 52.

Хөшөөтийн голын 1-р буган чулуун хөшөө: Унамал, 282 x 54 x 29 см



Зураг 53. Волковынхоор

хэмжээтэй. Хөшөөний орой хэсгийг сайтар засч, хоёр өргөн талын нэг дээр нь нэг дугуй цагираг, нөгөө дээр нь нэг том нэг жижиг дугуй цагираг дүрсэлж, түүний доогуур хөшөөг тойруулан хоорондоо хэлхээтэй жижиг дугуй хонхорууд (хүзүүний зүүлт Ж.Б) сийлж, түүнээс доош бүс хүртэлх зайд нийт долоон буга цоройлгон дүрслээд, бугануудын доор нарийн хүрээтэй дугуй толь, нум сум, тагнай хээт таван талт дүрс зэргийг сийлж, түүний доогуур олон давхар уулан хээгээр чимсэн өргөн бүс дүрсэлж, бүснээс хутга, гурвалжиндуу хэлбэртэй билүү? маягын эд, бас нэг саадаг



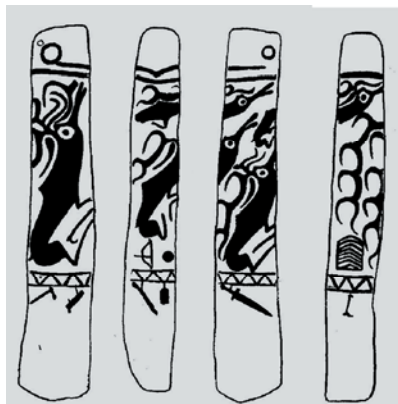
Зураг 54. Ж.Баярсайхан

мэт үл мэдэгдэх тэгш өнцөгт хэлбэрт нарийн урт эдлэл зэрэг эд зүйлс зүүсэн бөгөөд хөшөөний нэг өргөн талын бүсний хэсэг ихэд ховхорч муудсан тул бүснээс зүүсэн зүйлс сайн мэдэгдэхгүй байна (Зураг 54). Судлаач В.Волков энэ хөшөөний гурван талын дүрсийг гар зурагт

буулгаж, нэг өргөн талын дүрслэлийг орхигдуулан зуржээ (Зураг 53).

Гэвч тэрээр орхигдуулсан талын дүрслэлийг тодорхойлон бичсэн байдаг.

Хөшөөтийн голын 2-р буган чулуун хөшөө: Унамал 253 x 43 x 31см



Зураг 55. Волковынхоор

хэмжээтэй. Уг хөшөөний орой хэсгийг хүний толгой мэт хэлбэр оруулан засч, нэг нарийн талыг толийлгон засч түүний баруун хажууд том жижиг хоёр цагираг, зүүн хажууд нэг дундаж хэмжээний цагираг дүрслээд тэдгээрийн доогуур хүзүүний зүүлт мэт нэг шулуун зураасыг хоёр талын цагирагнуудаас эхлүүлж, нэг нарийн талд гурвалжлуулан доош унжуулан нийлүүлж, түүний яг доогуур хөшөөг тойруулан бас нэг шулуун зураасыг хонхойлгон сийлжээ. Түүнээс доош бүс хүртэл зайд гурван том буга, хоёр жижиг буга тэдгээрийн доор толь, нум сум, тагнай хээт таван талт дүрс зэргийг дүрсэлжээ. Түүний доогуур гурвалжин уулан хээтэй бүс дүрсэлж, бүснээс хоёр хутга, хоёр сүх, саадаг мэт нэг жижиг эдлэл, дөрвөлжин хавтага мэт бас нэг эдлэл зэргийг зүүснээр сийлсэн байна (Зураг 55-56). Энэ буган чулуун хөшөө энд буй буган хөшөөдийн хамгийн том, уран, гүн сийлбэртэй хөшөө бөгөөд үндсэн байрлалыг олох боломжгүй болсон байв. Гэвч одоо унасан газраас нэг холгүй оршиж байсан болов уу хэмээн бид таамаглаж байна.



Зураг 56. Ж.Баярсайхан



Зураг 57.

Хөшөөтийн голын 3-р буган чулуун хөшөө: Унамал хугархай, 136 x 39 x 30 см хэмжээтэй. Уг хөшөө бүснийхээ дээхэн талаар хугарч дээд хэсэг нь үгүй болсон. Үлдэсэн хугархай хэсэг дээр цулгуй өргөн бүс, бүсний дээхэн талд нэг бугын толгойн дүрслэл буй нь мэдэгдэж байна (Зураг 57). Энэ хугархай хэсэг дээр өөр ямар нэг дүрслэлгүй байна.



Зураг 58.

Хөшөөтийн голын 4-р буган чулуун хөшөө: Унамал, 186 x 50 x 20 см хэмжээтэй. Уг хөшөөний нэг өргөн талын орой хэсэгт нэг жижиг дугуй онги дүрсэлж, түүний доогуур жижиг дугуй хонхорууд түүнээс доош бүс хүртэл зайд гурван буга сийлж, буганы доогуур гурвалжин уулан хээгээр чимсэн бүс дүрсэлсэн нь мэдэгдэж байна. Бусад талуудын дүрслэл бүдгэрч, харах аргагүй болжээ (Зураг 58).

Хөшөөтийн голын 5-р буган чулуун хөшөө: Босоо, 128 x 29 x 24 см хэмжээтэй. Уг хөшөөний нэг өргөн талын орой хэсэгт нэг том дугуй онги дүрслээд, түүний доогуур хөшөөг тойруулан олон жижиг дугуй хонхорууд

сийлж, түүнээс доош хөшөөг тойруулан олон сүрэг буга дүрсэлсэн боловч чухам хэдэн буга буйг мэдэхэд бэрх болсон бөгөөд тэдгээр буганы доогуур гурвалжин уулан хээгээр чимсэн бүс дүрсэлжээ (Зураг 59). Бүснээс хутга, сүх зэрэг эд зүйлс зүүснээр дүрсэлжээ. Өөр ямар нэг дүрслэл байхгүй бололтой байна.



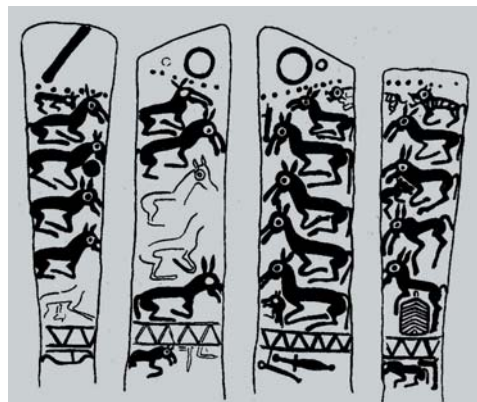
Зураг 59.



Зураг 60.

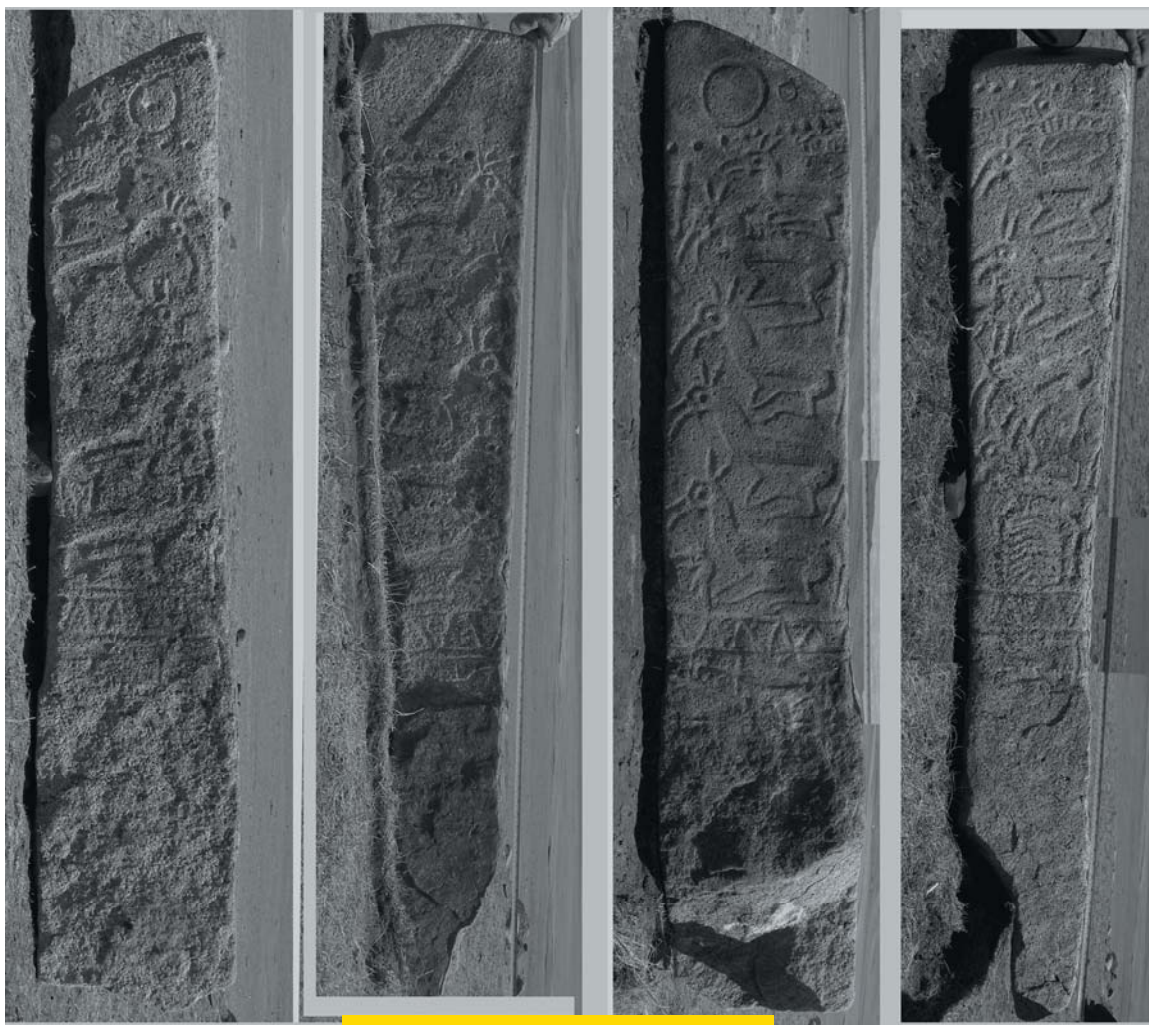
Хөшөөтийн голын 6-р буган чулуун хөшөө: Босоо боловч, бүснийхээ дээгүүр хугарсан, 86 х 29 х 18 см хэмжээтэй. Уг хөшөөний дээд хэсэгт хөшөөний гурван талд нийт 7 ширхэг жижиг дугуйг хонхойлгон сийлж, хөшөөний доод хэсэгт гурвалжин уулан хээгээр чимсэн өргөн бүс дүрслээд, хөшөөний ар талд бүсний дээхэн талд тагнай хээтэй таван талт дүрс сийлснээс өөр дүрслэл харагдахгүй байна.

Хөшөөтийн голын 7-р буган чулуун хөшөө: Унамал, 202 х 42 х 34 см хэмжээтэй. Уг хөшөөний нэг нарийн талын орой хэсэгт нэг том ташуу зураас түүний зэрэгцээ хоёр талд тус жижиг, том

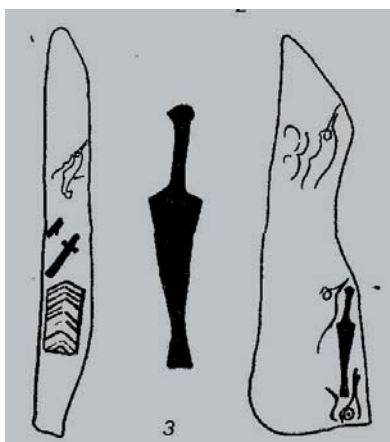


Зураг 61. Волковынхоор

хоёр цагираг дүрсэлж, тэдгээр дүрслэлийн доогуур хөшөөг тойруулан 28 ширхэг жижиг дугуй хонхор (Хүзүүний зүүлт Ж.Б) сийлж, түүний доош бүс хүртэл талд бар юм уу? ирвэс? бололтой хоёр араатан болон 22 адууг давхардуулан дүрсэлж, адуунуудын завсар зайд дугуй толь болон тагнай хээт таван талт дүрс сийлсэн байна. Хөшөөний бүс мөн гурвалжин уулан хээтэй, бүснээс нум сум, дугуй тольтой чинжаал болон цагирган тольтой бөгтөрдүү хутга, сүх зэргээс гадна үл мэдэгдэх хоёр багаж мөн зүүснээр дүрсэлсэн байна. Түүнчлэн бүсний доор сүхний хажууд нэг морь, хоёр үл мэдэгдэх зэвсгийн хажууд бас нэг жижиг морь дүрсэлсэнээр энэ хөшөөнд нийт 24 морь уран чадмаг сийлсэн байна (Зураг 61-62).



Зураг 62. Ж.Баярсайхан



8-р буган хөшөө.
Волковынхоор

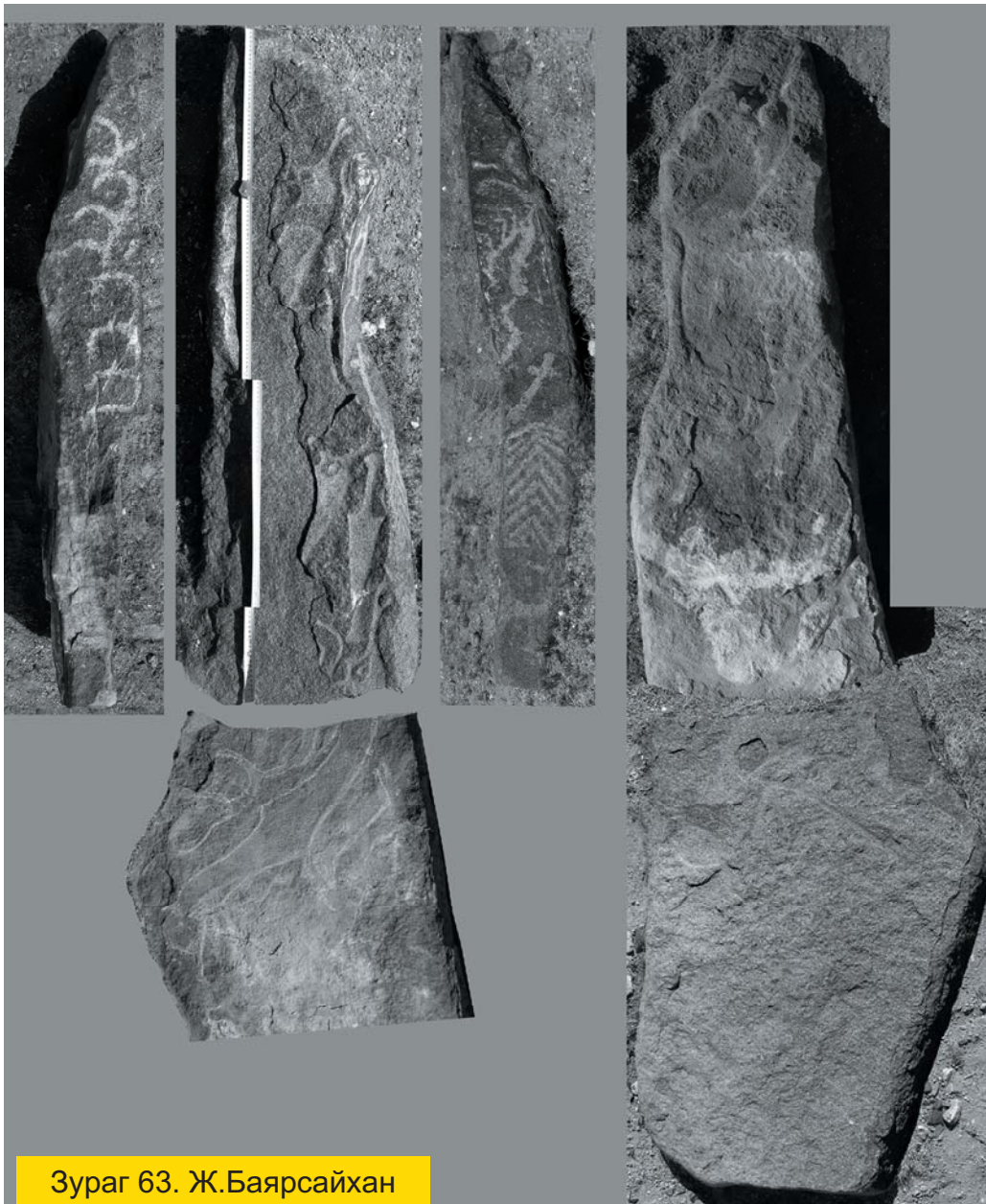
Хөшөөтийн голын 8-р буган чулуун хөшөө:

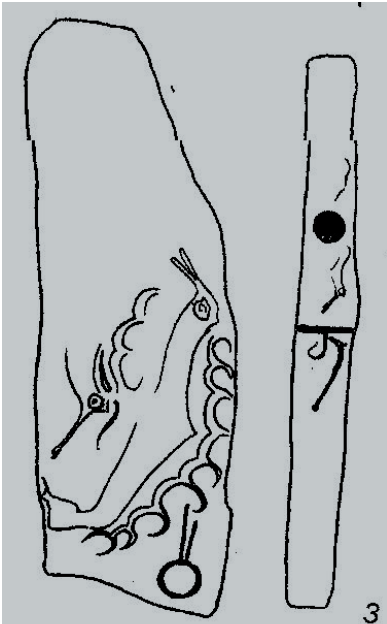
Унамал, хугархай, 263 x 77 x 23 см хэмжээтэй.

Энэ хөшөө дундуураа хугарч 2 хэсэг болсон бөгөөд хөшөөний нэг өргөн талд гурван том буга цоройлго дүрсэлж, доод талын буганы толгой дээр дугуй тольттой нэг том чинжаал хутга, хүзүүн дор нь саадаг мэт нэг эд дүрсэлэн гаргасан бол нөгөө эсрэг талын өргөн талбайд мөн гурван буга дүрсэлсний доод талын буганы дүрс ховхорч, баларч муудсан байна. Доод талын буганы доор хугархай хэсэг дээр урт иштэй нэг том сүх сийлжээ.

Харин нэг нарийн тал дээр өргөн тал дээр дүрслэгдсэн нэг том буганы

эврийг үргэлжлүүлэн сийлэн гаргасан бол, нөгөө эсрэг нарийн талд нэг жижиг буга, нэг хутга, тагнай хээт таван талт дүрс зэргийг дүрсэлжээ (Зураг 63).





Зураг 64. Волковын

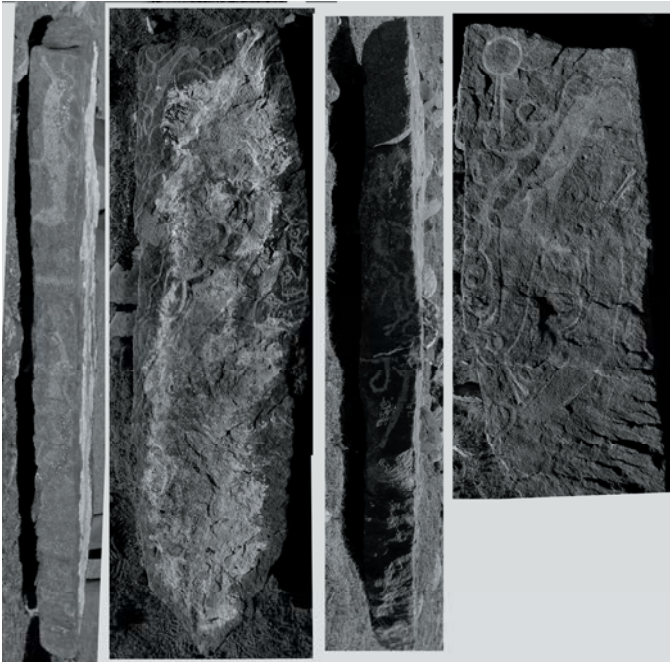
Хөшөөтийн голын 9-р буган чулуун хөшөө:

Унамал, 230 x 65 x 20 см хэмжээтэй.

Уг хөшөөг Волков анх хэвлүүлсэн бөгөөд мөн л тодорхойлолт хийгээд зураг нь бүрэн бус байна (Зураг 64). Хөшөөний нэг өргөн талын дээд хэсэгт хоёр салаа унжлагатай том онги дүрслээд, түүний доор толгой нь уруугаа харсан нэг том буга, түүний эсрэг бас нэг бугыг дээш цоройлгон толгойг нь зөрүүлэн сийлжээ. Харин нөгөө эсрэг талын өргөн талбайн орой хэсэгт нэг жижиг бугыг толгойг нь уруу харуулан дүрсэлсэн бол түүний доороос хоёр том бугыг дээш цоройлгон сийлж, доод талын буганы гэдсэн доор тольтондоо

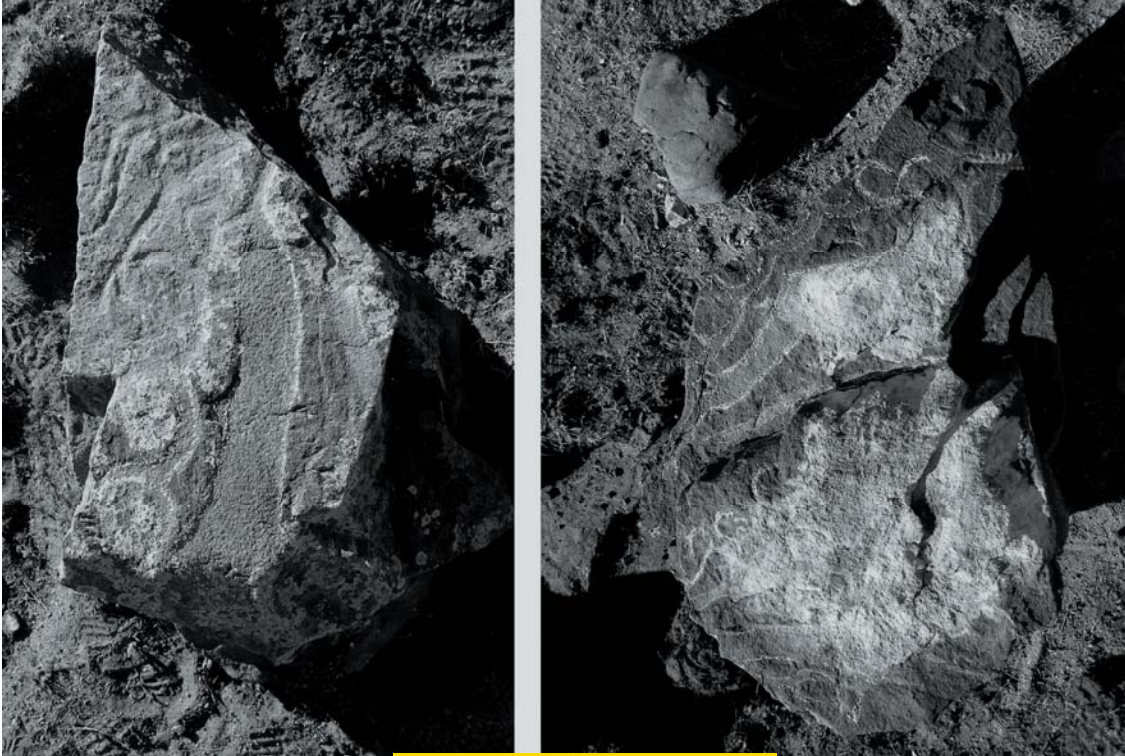
морины толгойн дүрст том хутга, түүний хажууд урт сүүлтэй, эрээн цоохор биетэй бар юмуу ирвэс гэмээр гурван араатныг дээш цувруулан дүрсэлжээ.

Харин нэг нарийн тал дээр хоёр бугыг дээш цоройлгон дүрсэлж, нөгөө эсрэг нарийн талд дугуй толь, толгой нь доош харсан нэг жижиг буга, түүний доор нарийн цулгуй бүс сийлж, бүснээс нэг дэгээ маягын эдлэл, түүний хажууд тольтондоо морин толгойт хутга зүүсэн дүрслэлтэй (Зураг 65).



Зураг 65. Ж.Баярсайхан

Хөшөөтийн голын 10-р буган чулуун хөшөө: Хугархай жижиг хэсэг, 102 х 60 х 20 см хэмжээтэй. Энэ хөшөөг хийсэн чулууг харахад магадгүй 11 р хөшөөний хугархай хэсэг байж магадгүй боловч зузаан зэрэг хэмжээг харахад эргэлзээтэй санагдана. Ямар ч атугай энэ хөшөөний нэг хавтгай талбай дээр нэг том буганы толгой, хүзүү, эвэрний дүрслэл, нөгөө эсрэг талын хавтгай дээр гурван буганы дүрслэл буй нь тодхон харагдаж байна(Зураг66).



Зураг 66. Ж.Б



Зураг 67. Ж.Б

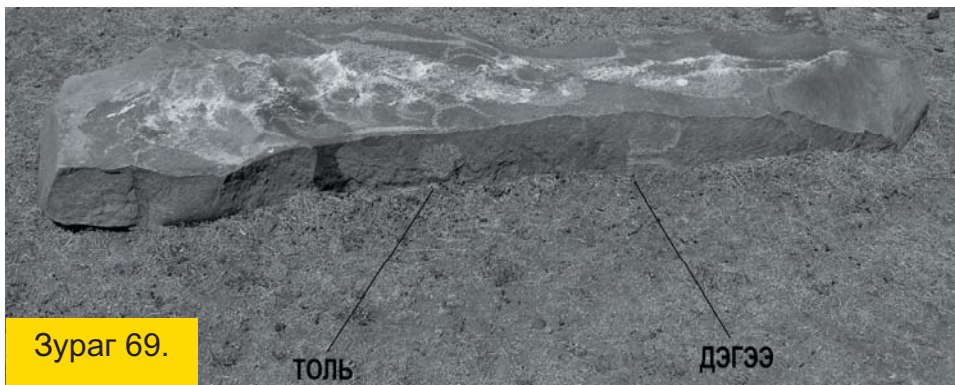
Хөшөөтийн голын 11-р буган чулуун хөшөө: Босоо, 68 х 52 х16 см хэмжээтэй. Хугарсан буган хөшөөний ёзоор хэсэг, хугарсан дээд хэсэг нь олдоогүй, эвлэхээр хэсэг байгаагүй. Үлдсэн энэ ёзоорын нэг өргөн талд хоёр бугыг дээш, доош толгойг нь зөрүүлэн дүрсэлснээс өөр дүрсэлгүй байна(Зураг 67).

Хөшөөтийн голын 12-р буган чулуун хөшөө: Босоо, 83 х 33 х 23 см хэмжээтэй. Энэ хөшөөнд ямар нэг дүрслэл байхгүй (Зураг 68).



Зураг 68. Сумаар заасан буган чулуун хөшөө

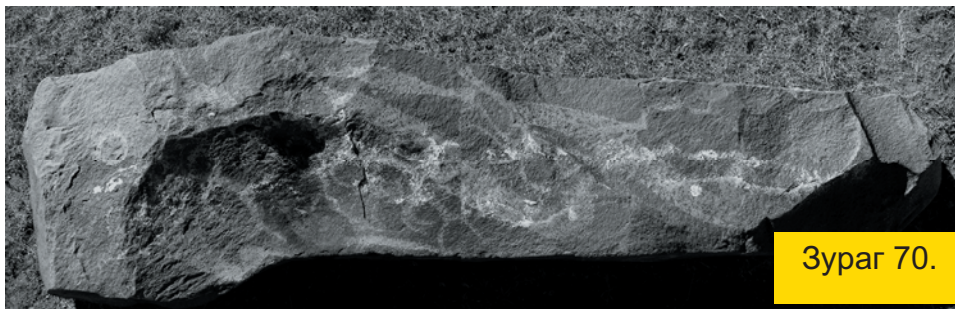
Хөшөөтийн голын 13-р буган чулуун хөшөө: Унамал, 213 х 57 х 24 см хэмжээтэй. Энэ буган чулуун хөшөө дурсгалт газрын хамгийн хойд хэсэгт унасан байв. Уг хөшөөний нэг өргөн талын орой хэсэгт нэг дугуй онги сийлж, түүний доор хоёр жижиг буга, хоёр том буга дүрсэлж, хамгийн доод талын буганы толгой дээр нэг том хутга сийлжээ. Хутганы иш хэсэг ховхорч муудсан тул сайн мэдэгдэхгүй байна. Хөшөөний нөгөө эсрэг талын өргөн талбайд нэг дугуй онгиноос өөр дүрслэлгүй. Харин нэг нарийн тал дээр дугуй толь,"П" хэлбэрийн дэгээ дүрсэлжээ(Зураг 69-70).



Зураг 69.

толь

дэгээ



Зураг 70.

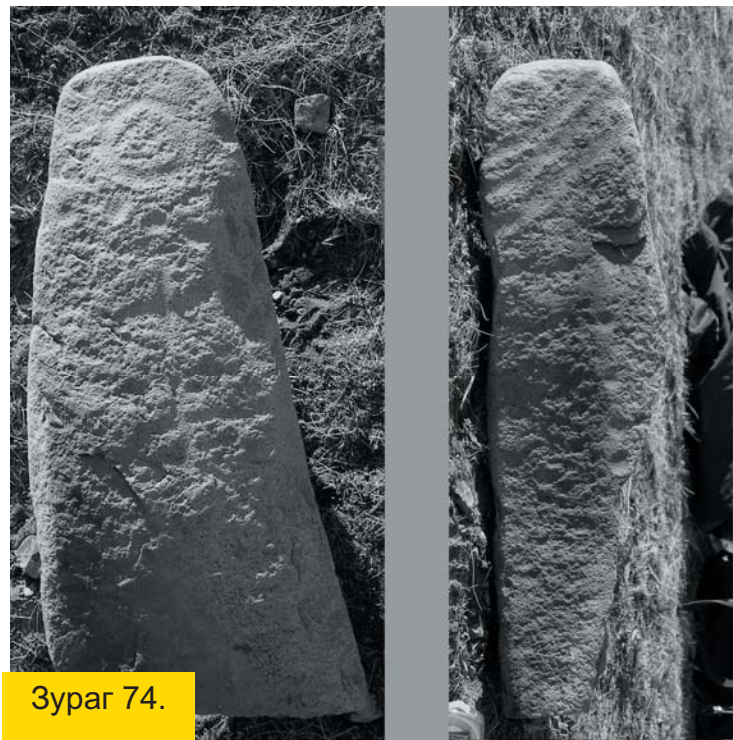
Хөшөөтийн голын 14-р буган чулуун хөшөө: Энэ буган чулуун дээр тодорхойлсон Хөшөөтийн голын бүлэг буган хөшөөнөөс баруун тийш 100 орчим метр зайд газарт булагдсан нэг буган чулуун хөшөө буй. Үүний зөвхөн багаахан хэсэг нь газраас цухуй байсан тул бид нарийн хэмжээс авч чадсангүй. Хөшөөний сийлбэр нэлээд сайн хадгалагдсан байв. Газраас цухуйж буй хэсэг дээр том жижиг 2 дугуй цагираг, түүний доогуур хоорондоо нарийн ховилоо хэлхэгдсэн олон жижиг дугуй хонхорууд, бугануудын дүрслэлүүд буй нь тод харагдаж байв. Нөгөө эсрэг талын өргөн талбайд хэлхээтэй хонхоруудын доор хоёр том буганы толгой, нэг жижиг буганы бие, нэг том эвэрний дүрслэл байгаа бөгөөд эвэрний завсар хооронд дугуй толь, жижиг нум сум дүрсэлжээ (Зураг 71). Энэ буган хөшөө буй газрыг ажиглахад урд нь хэн нэгэн хүн ухаж тоносон юм уу гэлтэй байв. Хөшөөний зүүн талд намхавтар чулуун дараастай нэгэн дугуй булш байв (Зураг 72).



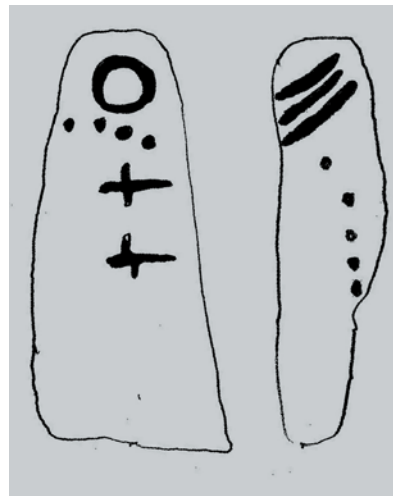
Хөшөөтийн голын 15-р буган чулуун хөшөө: Унамал, 62 x 27 x 18 см хэмжээтэй. 14-р буган чулуун хөшөөнөөс баруун тийш бас 100 орчим метр зайд бас нэг жижиг буган чулуун хөшөө газарт булагдсан байсныг олсон юм (Зураг 73). Уг хөшөөг ногоовтор боржин чулуугаар хийсэн бөгөөд нэг талын орой хэсэг гурван ташуу зураас дүрсэлж, түүнээс доош цувуулан 5 жижиг дугуй хонхор гаргажээ. Харин нөгөө нэг хажуу талд өргөн хүрээтэй дугуй цагираг сийлж, түүний доор дөрвөн жижиг дугуй хонхор гаргаж, дугуй хонхоруудын доор хутга юм уу гэлтэй үл мэдэгдэх (+) тэмдэг хэлбэрийн хоёр дүрс гаргасан аж (Зураг 74,75).



Зураг 73.



Зураг 74.



Зураг 75.

Хөшөөтийн голын буган чулуун хөшөөдийн орчимд хийсэн малтлага судалгаа: Бид Хөшөөтийн голын дурсгалт газарт 4 тахилгын байгууламж малтан судалсан билээ.

1-р тахилгын байгууламж: Энэ тахилгын байгууламж дурсгалт газрын урд талын бүлэг чулуун байгууламжуудын хойд хэсэгт, 5-р буган чулуун хөшөөний хойд талд оршино (Зураг 51 F-1-ийг харна уу). Энэ тахилгын байгууламжийн хүрээнд бид 2,5 х 2,5м хэмжээтэй талбайд малтлага хийв(Зураг 76). Малтлагын явцад чулуун дараасны доороос 20-25 см-ийн гүнээс шатсан ясны жижиг хэсэг, нүүрсний 2 жижиг хэсгээс өөр юм гарсангүй, малтлага дуусав

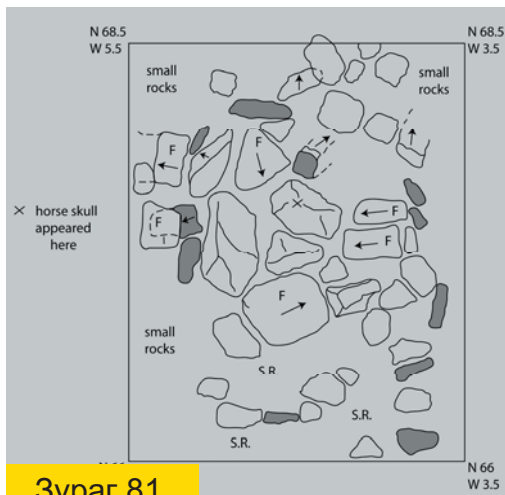


2-р тахилгын байгууламж: Энэ байгууламж урд талын бүлэг чулуун байгууламжаас баруун нэлээд зайд тусдаа байх гурван тахилгын байгууламжын голд оршино (Зураг 51 F-2). Энэ тахилгын байгууламжын хүрээнд бид 3 х 3,5 м талбайд малтлага хийж, газрын хөрснөөс доош 39 см гүнд зүүн урд 120 хэмд хандуулан тавьсан адууны толгойн тахилга илрүүлэн олсон юм (Зураг 77-78). Адууны толгойн дагзны яс хэмхэрч бараг үгүй болсон, толгойны ар талд 2 хүзүүний яс, нэг богино сээр байв(Зураг 79,80). Мөн адууны толгойн зүүн урд талаас нэг туурайн яс олсон юм. Үүнээс өөр ямар нэг зүйл олдоогүй юм. Тахилгын зан үйлээр бол дөрвөн туурай болон

хүзүүний бусад яс байх ёстой боловч бид малтлагын талбайгаас олоогүй билээ. Магадгүй мэрэгч амьтад зөөж үгүй хийсэн байж болох юм.



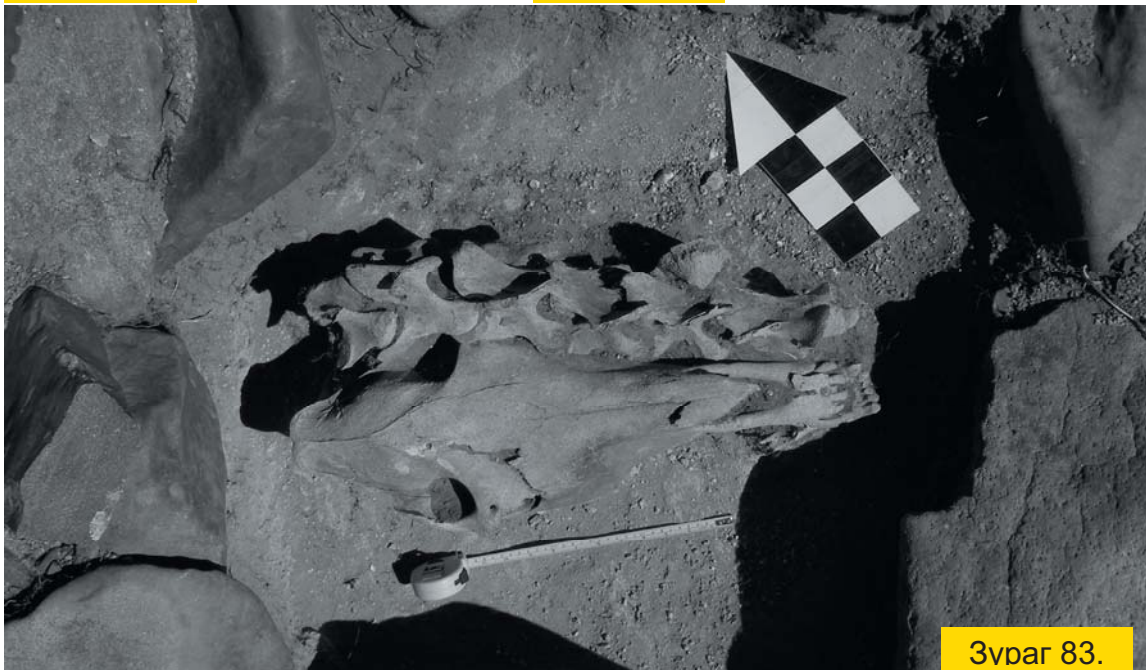
3-р тахилгын байгууламж: Энэ тахилгын байгууламж дурсгалт газрын баруун хойд талын бүлэг чулуун байгууламжын хүрээнд 9-р буган чулуун хөшөөний зүүн урд талд оршино (Зураг 52- F3). Тахилгын байгууламжын хүрээнд бид 2 x 2,5 м талбайд малтлага хийв (Зураг 81). Малтлагын явцад тахилгын байгууламжын гол дундах чулуун дараасны доороос, өнөөгийн газрын хөрснөөс доош 51 см-ийн гүнд адууны толгойн тахилга үйлдсэн байв (Зураг 82). Адууны толгойг зүүн урагш 115 хэмд хандуулан, 6 хүзүүг залгаатай нь толгойн зүүн хажууд дагуулан тавьж, дөрвөн туурайны 2-г нь урд хушуун дор, үлдсэн 2-г нь эрүүний ар углуурга дор тавьжээ (Зураг 83). Адууны толгойн дагзан доор өрөөсөн эрүү нь хажуу талаараа хэвтээ байдалтай байв. Харин нөгөө эрүү нь байхгүй байлаа. Адуун толгойн хойд хэсэг болон баруун хажуугаас үнс нэлээд хэмжээгээр гарсан бөгөөд үнсэн дотроос шатсан ясны жижиг хэсгүүд олдож байсан юм.



Зураг 81.

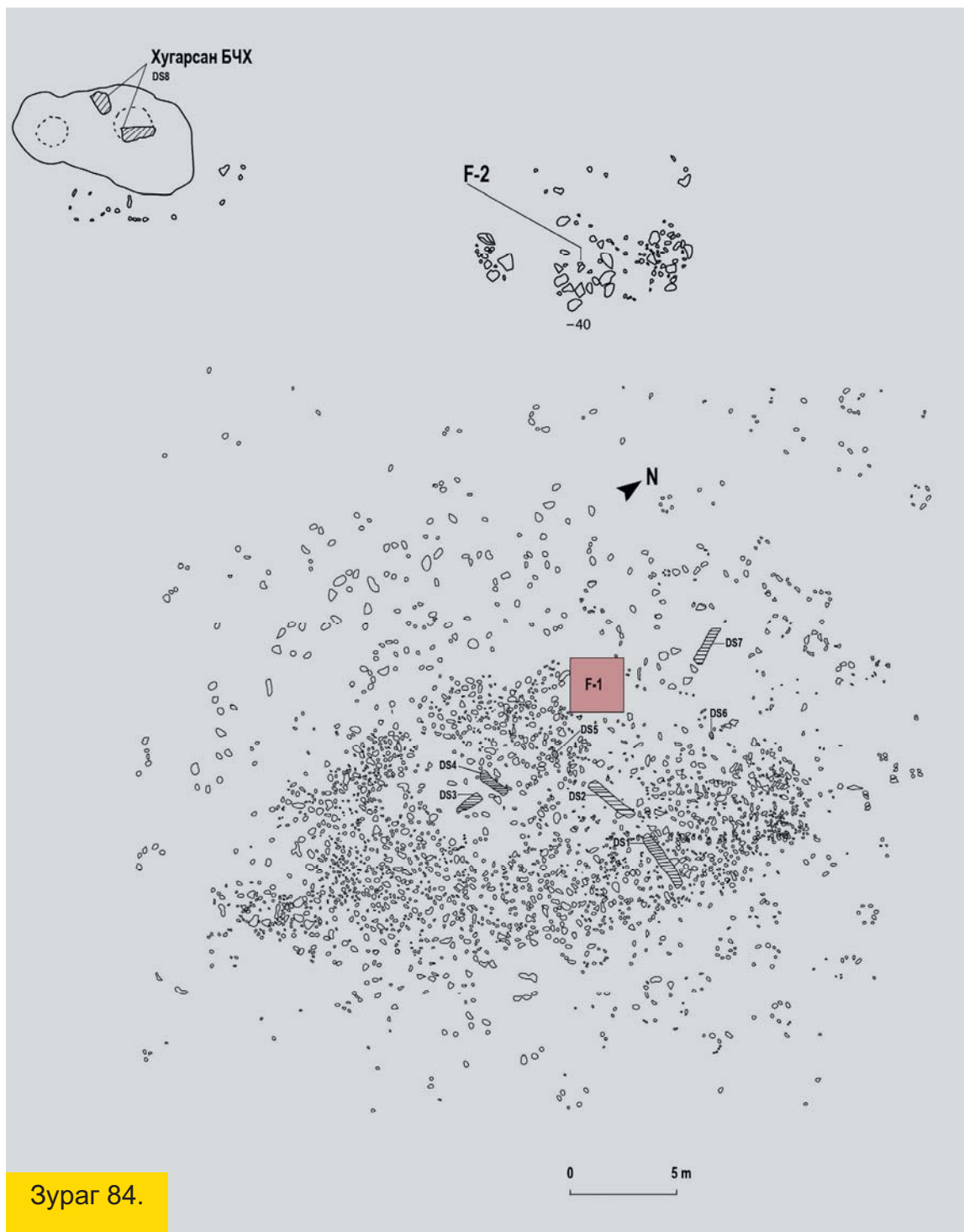


Зураг 82.



Зураг 83.

Бид дээрх гурван тахилгын байгууламжаас гадна өөр гурван газар буюу урд талын бүлэг чулуун байгууламжын баруун урд талд нэг, 6-р буган чулуун хөшөөний зүүн урд нэг, 5-р буган чулуун хөшөөний зүүн өмнө бас нэг жижиг талбайд малтлага хийсэн боловч ямар нэг эд өлгийн зүйл олоогүй юм (Зураг 84-ийн F-4, F-5, F-6).



Зураг 84.

Буянт голын дурсгалт газар: Хөшөөтийн голын зүүн хойноос цутгах нэгэн жижиг голыг Буянт гол хэмээн нэрлэнэ. Энэ голын зүүн биед хэдэн жижиг босоо чулуу буйг ажиглан, очиход гурван буган чулуун хөшөө байв (Зураг 85). Дурсгалт газар GPS-ийн N49°42,935, 98°35,077 цэгийн огтлолцол дээр оршино.



Буянт голын 1-р буган чулууг хөшөө: Хугархай хэсэг, 46 х 50 х 14 см хэмжээтэй ямар нэг дүрслэл байна.



Буянт голын 2-р буган чулууг хөшөө: Хугархай хэсэг, 27 х 28 х 17 см хэмжээтэй. Уг хөшөө урьдын нэгэн цагт хугарч хугарсан хэсэг нь үгүй болсон байна. Магадгүй газарт булагдсан байж болох юм. Харин хугархай ёзоор нь газарт зоолттой хэвээр байна. Энэ

хугархай ёзоорын арын нарийн тал дээр тагнай хээтэй таван талт дүрс, нэг өргөн талд нэг буганы бөгсний дүрс үлджээ (Зураг 86).

3-р буган чулуун хөшөө: Энэ буган хөшөө бүтэн бөгөөд 45 x 23 x 19 см хэмжээтэй. Хөшөөний урд талын зүүн урд талын нарийн талбайн орой хэсэгт гурван ташуу зураас дүрслээд түүний зэрэгцээ баруун хажуу талд нэг дугуй цагираг сийлж тэдгээрийн доогуур хөшөөг тойруулан олон жижиг дугуй хонхорууд дүрсэлснээс 14 ширхэг нь мэдэгдэж байна. Эдгээр хонхоруудын доор хөшөөнөө буга болон бусад ямар нэг дүрслэл байгаа боловч бүдгэрч харахад бэрх болжээ (Зураг 87).



Дээд Баянзүрх уулын дурсгалт газар: Буянт голын буган хөшөөт дурсгалт газраас хойш 2 км орчим зайд Дээд Баянзүрх уул хэмээх нэгэн сайхан уул бий (Зураг 88).



Энэ уулын зүүн болон урд энгэр хормойгоор олон арван хиригсүүр бий. Эдгээр хиригсүүрийн ихэнхи нь дөрвөлжин хүрээтэй, хүрээнийхээ дөрвөн

буланд босоо чулуутай байх бөгөөд зарим хиригсүүрийн хүрээг дагуулан чулуу босгосон нь сонирхолтой байна (Зураг 89-90).



Энэ уулнаа бидний тоолсноор 100 гаруй хиригсүүр лав байна. Түүнчлэн энэ уул маш сайн боржин чулуутай төдийгүй зарим хэсэгт бидний судлан буй Хөшөөтийн голын буган чулуун хөшөөдийн заримыг хийсэн хөх өнгийн чулуу бас байна. Үүнээс ажиглахад буган чулуун хөшөөдийг хийх чулууг эндээс авч байсан байж болох юм.



Хөвсгөл аймгийн Бүрэнтогтох сумын нутаг Хядагийн буган чулуун хөшөөт дурсгалт газарт хийсэн судалгааны ажил:

Бидний Цагаан-Уул суманд хийсэн судалгааны ажил өндөрлөж, дараагийн дурсгалт газар болох Бүрэнтогтох сумын нутаг Хядагийн дурсгалт газар луу нүүсэн юм. Хядагийн буган чулуун хөшөөт дурсгалт газар Мөрөн хотоос зүүн хойш 20 км орчим зайд GPS-ийн N49°48,900, E99°54,042 цэгийн огтлолцол дээр, далайн түвшнээс дээш 1575 етр өндөрт орших бөгөөд энэ дурсгалт газар олон жилийн өмнөөс удаа дараа судлагдсан юм. Энд хоёр хэсэг буган чулуун хөшөөт дурсгалт газар бий. Бид үүнийг Хядагийн баруун дурсгалт газар (Зураг 91), Хядагийн зүүн дурсгалт газар (Зураг 92) гэж нэрлэсэн билээ.



Зураг 91.



Зураг 92.

Энэ дурсгалт газрыг олон үеийн судлаачид ном бүтээлдээ хэвлэж ирсэн боловч малтлага судалгаа огт хийгдээгүй байсан юм. Харин бид дурсгалт газарт 2007 онд анх Хядагийн зүүн дурсгалт газарт бага хэмжээний малтлага хийсэн билээ⁸.

Харин энэ жил бид энэ хоёр дурсгалт газрын бүрэн дэвсгэр зургийг үйлдэж, хэд хэдэн хэсэг газарт малтлага судалгаа хийсэн юм.

Энэхүү судалгааны талаар Америкийн талын тайланд дэлгэрэнгүй өгүүлэх болно.

⁸ Ж.Баярсайхан. Буган чулуун хөшөө төслийн 2007 оны хээрийн судалгааны тайлан. МҮМ-н Номын сан. American-Mongolian Deer Stone project: Field report 2007. William Fitzhugh and J.Bayarsaikhan, Editors

PART V

Notes on a Visit to the East Taiga Reindeer People

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Two Things I Noticed on the Way

I report here on a two-week research visit to the East Taiga Tsaatan (Dukha) reindeer people living northeast of Tsaagan nuur in Khovsgol aimag, Mongolia. My project was a collaboration with the Smithsonian-Mongolian National Museum Deer Stone Project which has worked for several years in the Khovsgol region.¹ We arrived in Muren, situated about 600 km from Ulaanbaatar on June 5, 2008.

Here I separated from the group and hired a vehicle, and after driving all night arrived at the mountain pass, Oliin davaa, where I found many people gathered, coming by car, motorbike, and horse to attend an ovoo ceremony. Although it was summer, there was an early morning chill, and at this high altitude people were shivering from the cold. Oliin davaa is the last mountain pass one crosses before entering the Darkhad valley, and from early times,

Darkhat Mongolians have practiced an ovoo ceremony here. This ritual was abandoned during the socialist period, but now this tradition has been revived. Oliin davaa has 13 ovoos, constructed with



wood poles, of which the center-most is the largest. In front of this ovoo was placed a butchered lamb and offerings of cookies, candies, and other foods. After an opening by aimag and sum officials, the ceremony began with a young shaman performing rituals while standing before the large ovoo. The shaman's dress and ornaments were newly made and his chanting was broadcast over a loud-speaker. During the performance, a woman (said to be his wife) occasionally offered him a drink of an alcoholic beverage. By the end of the performance the shaman appeared to be drunk, resulting in discontent among the local people. Two large flat stones

carved and painted with the images of a human figure were erected in front of the main ovoo. These figures were said to be images of former Darkhad Mongolian shamans. After the ceremony, people returned to the sum center for a Darkhad music festival.

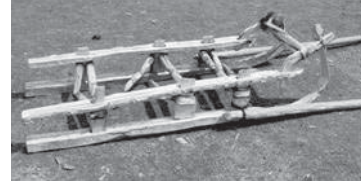
Later on, I came upon a Mongolian family and outside their ger, a wooden sledge attracted my attention. A house-wife told me in this region there are two kinds of sledges used for travel on snow and ice: a small sledge for travel on snow and a larger sledge for ice travel. This one was a snow sledge, the more common variety for use in this snowy region. Both kinds of sledge were used in earlier



times and were often pulled by horses. Today, oxen are mostly used with the snow sledge to bring wood from the mountains, ice from the river, and hay in from the fields. The sledge is made from birch, willow, and larch and is approximately four meters long.

Travel to the East Taiga

We arrived at the sum center of Tsagaan Nuur on the afternoon of June 6 and I quickly found a young man who agreed to arrange transportation to the eastern taiga. From the sum we hired two motorbikes and once in the taiga, we would travel by horse. We left on the morning of June 7 and on the way crossed the Shishgid River by raft and rode upstream along the Khorgo River. Although rocky in some areas, the road was not too bad. After covering 30 km we arrived at the place where a guide with horses was waiting for us. Our guide, a young Duvud-Mongolian man, was married to a Tuva woman, but did not know Tuva language. As we continued our journey, the road to the taiga became rougher, and so not wanting to waste time, we transferred our loads to one horse and continued our journey. At dusk, we came upon a camp site of reindeer people near Jugneg River. This camp was located at the edge of the Eastern Taiga. My choice for this camp was not random, because it was the time to move from the spring to the summer camp, and it was important for me to meet with people before they moved.



continued our journey. At dusk, we came upon a camp site of reindeer people near Jugneg River. This camp was located at the edge of the Eastern Taiga. My choice for this camp was not random, because it was the time to move from the spring to the summer camp, and it was important for me to meet with people before they moved.

First Camp in East Taiga

I found five families camping here and met with each family and took notes. In the first tent I met Ts. Phunsal, a 72-year old female, and her son P. Purevjav, 40. The family history of Phunsal, her siblings and her children was interesting. Her parents were born in Tuva and she was born in Mongolia. Her two brothers and one sister were married to Mongolians and now lived in Muren. At the age of 21, Phunsal left the taiga and went to work in the nearby fishing industry at Tsagaan



nuur. After working for about 30 years she returned to the taiga. She never married and is a single mother who raised 6 children of her own. The oldest daughter is married to a western Tuvan. Her son also married a Tuvan woman. The next daughter is married to a Mongolian. Both son and daughter move with this camp.

Other interesting information Phunsal provided was about hunting birds and about food prepared from birds and fish. Reindeer people hunt three kinds of birds. For cooking the bird is cut into three pieces

– two legs and chest, which is mainly boiled for eating. Its broth is considered good for the health.

Fish is boiled or fried, and in the wilderness meat is often barbecued over an open fire.

Purevjav's family is the only one in the camp who spends winter in the sum center, and in other seasons he tends to live in the taiga, herding reindeer. He has six children. Four are school-aged, so this is the reason he has moved to the sum center in the winter. I learned some information from Purevjav on seasonal habitats of reindeer people, making flour from wild potatoes, and extracting butter from reindeer milk. According to him, reindeer people for many years have started living closer to the sum center, which reduced the distance of moving. This camp moves to a summer camp 100 km from the sum center; in spring and autumn they camp 60 km from the sum center; and in winter they are not far away, only 30 km from the center. This is probably because the children are in school and the food supply comes largely from the sum center.

During early times when flour was rare, reindeer people used to extract flour from wild yellow potatoes. This root is shaped like garlic with cloves and is preserved in two ways. Either the cloves are separated, dried and added to soup or broth, or they are pounded into a fine powder and used like flour. Wild potatoes are abundant in the taiga, sufficient to provide flour. During summer and especially in the autumn, butter is extracted from milk. Reindeer milk is thick, and its fatty content is high, but it therefore easily turns sour. Sour milk is boiled to produce sour curd and is then pressed between two wooden boards to make curd or *aaruul*. From the liquid, butter is extracted. Although butter cannot be made in large quantities, it is occasionally consumed by reindeer people.



The East Taiga people use two kinds of reindeer saddles, the small wooden Mongolian style saddle and the army saddle. The army saddle has two types; the smaller one is called the Mongolian army saddle, and

the larger one the Russian army saddle.



Inside the tent I noticed a wooden baby cradle that is common among ethnic groups in this northern region. The cradle is made from willow and cedar and is hung from the tent poles. The head of the cradle is protected by a round-shaped cover made from willow.

The third family I visited was that of my guide, Ganbat.

They are hard work-

ing people who own 32 reindeers, 10 horses, and three cows. In the taiga it is rare to keep many livestock. These people are experienced hunters, from whom I learned information on a hunting device called *murag*, a flute for calling deer that is used by taiga hunters

but is now becoming rare. It is 70 cm long and made from cedar. A round slender piece of cedar is split lengthwise and hollowed out, one part being made narrow while the other part is thick. They are re-attached together after being carefully cleaned. In ancient times this instrument was used to hunt male reindeer during the mating season in autumn when male reindeer herd up together with the females. When not with females, the males can be easily called to the sound of the *murag*.





Other interesting notes I recorded were about a flour product prepared by the reindeer people from ancient times called *khongoono*, a traditional bread. It is prepared by adding salt to water and making dough, which is formed into a ring shape which is put into hot ashes. After a while it is turned and put back into the hot ashes. After it is done, the *khongoono* is taken out, wrapped in a cloth, and the ashes are shaken off. It is then cut in slices or broken in small portions. Adults eat it along with tea, and children with milk.



They say it is more delicious and nutritious than common bread. Now they are using modern bread-making technique which is why making of *khongoono* is declining. Another reason is that *khongoono* requires more flour than common bread.



Ganbat's father is Mongolian and his mother is from Tuva. She was once a famous *udgan*, a female shaman. She died two years ago, and it was interesting to find out how the funeral was conducted and where her shaman belongings were stored. According to the shaman beliefs, the deceased is buried soon after death, not keeping the person at home for long, and other shamans give instructions as to where to bury the deceased shaman. Ganbat buried his mother after one day. The deceased is taken out of the house not from the entrance door but from the right lower edge of the tent. Two long poles of wood are tied together horizontally, making a *sookh* that is hitched to a reindeer. The deceased is placed on the *sookh* and is dragged rather than being placed on the reindeer. The body is then placed in the open on the front lower slope of a mountain, head resting on a large piece of cedar wood and facing backwards. The deceased is not dressed, but is covered with a cloth. The shaman's belongings, as well the *sookh* is left behind at the burial spot. Small pieces of white cloth are tied on the branches of trees. They believe that the spirit does not disappear but is transformed into a ghost and always resides there. When a shaman dies, the reindeer people and Darkhad-Mongolians follow the tradition of storing all the belongings of the deceased shaman in a respectful manner. However, there are some differences in connection with this tradition. The Darkhad people build a separate wooden enclosure or pen to store the belongings, and the reindeer people tend to

hang the possessions on tree branches. Ganbat tied all his mother's possessions on the branches of a large cedar tree. This act is called "to summon the spirit." When hanging the clothes and belongings of the deceased, they should look just the same as when he/she was dressed when alive.

There were five families in this camp, 29 people altogether. Nine children from three of the families go to school, while the others reside in the taiga. The ethnic origin, family history and marriage customs are interesting indeed. Ethnically, they are Tuvan and Mongolian, the Tuvans belonging to the group of Soyon, Urad, and Balgash ethnicities of Tuva, while the Mongolians are from Darkhad-Mongol and Durvud-Mongol groups. Among these families there is one single, three mixed, and one Tuvan family. They are expecting two new families to join this camp in the autumn. The five families have 106 reindeer, 26 horses, and 19 cattle. The number of animals differs in all of the families. Two families own 32-40 reindeer and the other three have 10-14 reindeer. Most of the families own 2-4 horses, and two of the families had 6-10 horses. Three families had all three animals: reindeer, horses, and cattle. These families have started to herd cattle, but they do not possess other livestock. The horses are grazed in the taiga and the cattle on lower ground pastures and are looked after by relatives or friends.

Two families in the camp had TVs and can watch broadcasts on four channels, and all families acquire electricity from solar energy. There is also a communication system available. I remained in this camp for three days and after my departure to another camp, the first family moved to the summer camp. The family loaded their belongings on a reindeer; the head of the family himself rode a horse, carrying the heaviest loads of flour, rice etc., and led the caravan.

Second East Taiga Camp

The second camp was located on the outer slope of Moorog Mountain, 40 km from the sum center. This is the largest camp in the eastern taiga and consisted of 13 families. In winter 2-3 families move to sum center, while others live all year round in the taiga. They have 180 reindeer, 42 horses, 7 cattle, and only one family owns about 10 goats. Most of the families own 10 reindeer and have 2-3 horses for transport. Six families had 20-30 reindeer. One family had 31 reindeer, 12 horses, 4 cattle, and 16 goats. There was



one family who had no reindeer, but owned horses. Among 13 families three were single, four families had mixed marriages, and the other six were Tuvan. Five families own TVs, and the camp also had communication devices. The camp has set up a 'tent motel' to house visitors who come during the summer season. These quarters were empty and had no furniture, and they charge 5000 tugrik per night.

I talked with all the family members in this group and gathered information on burial traditions, hunting practices, costumes, and assortment of milk products, and birch bark and leather articles. I also recorded legends about their ancient religious beliefs.

I met with a young man who is Tuvan and is married to a Mongolian woman. They were married eight years ago and have two children. The only possession they own is two horses, for they lost all their reindeer three years ago. With no reindeer to herd, they live in the sum center during winter and use horse and reindeer for transportation. The husband sometimes hunts and carves reindeer horn for sale to tourists. His wife works as a seamstress, making Mongolian dels for taiga and sum people. In winter they make holes in the ice and catch fish for food. The information I received from this family was about weddings, which I also learned about from three other families. One couple was married eleven years ago; the next one, eight; and the last had been married for two years. On the ethnic side, all three are mixed marriages of Mongolian- and Tuvan. Considering geographic regions,



one couple's marriage was between the eastern taiga and the western taiga; the other three couples are between eastern taiga and young people from the sum center. Although the traditional wedding ceremony of Tuvan-reindeer people includes wedding in the tent, riding reindeer, and giving reindeer for a dowry, their weddings are becoming more similar to Darkhad-Mongolian weddings. Also, the bride is offered a mortar, pestle, and brick tea to signify family bondage.

About burial traditions, I took interesting notes from four people above the age of sixty. They respectfully buried their parents long ago according to their tradition. Reindeer people bury immediately, not later than a day after a person dies. After a person is dies, his/her clothes are taken off and the body is laid out straight forward, head facing north, and placed on the floor of right side of the tent. Early in the morning at sunrise the deceased is taken out, feet first, not through the door but between the wooden poles beside the entrance door. They carry the dead on a stretcher or on a leather skin, and usually walk to the burial site. If the location is far, they use a *sookh* dragged by a reindeer. After the funeral, the *sookh* is dismantled and left at the site. They prefer to place the dead on a mountain slope. Usually, the deceased, head to the north and facing directly back, is placed at the foot of a large tree where the first morning sun shines. A hide is spread under the deceased and the body is covered with old skin tent covering or a deel. They remove all possessions of the deceased and throw them far away. At the burial site and along the way, pieces of white cloth are tied on the tree branches. Soon after the funeral, the family moves to another location, as far away as they can. They leave a specific sign on the abandoned camp site indicating that a person has died there. When they move, stones are piled on the fireplace location. Tent poles and hitching posts for reindeer are left standing by a tree with their pointed ends facing the sunrise. Afterwards the relatives of the deceased avoid camping near the place where the person died. They believe that the ghost of the deceased remains near the burial site. Any tragedy, disease, or misfortune that occurs is thought to be connected to the ghost of the dead person. Shamans do not attend the funeral ceremony.

One of the major occupations of reindeer people is hunting. I got some interesting information on

hunting during the spring season. Spring hunting is called “dog time,” meaning hunting with dogs. Dogs and skis are accounted as necessary aspect of spring hunting, which begins when the snow starts to melt. However, this method is not practiced today. Skis were only about 2 meters long and were made from green branches of larch or thick willow. It is impossible to ride a horse or a reindeer on thin, melting snow. At this period, skis are the most efficient means of walking on snow. Dogs help locate the game. The duration of the hunting period is short, lasting only two weeks. People also hunt birds during the spring, the largest being wood grouse (*capercaillie*) which has more flesh. Black and brown wood grouse are abundant in the eastern taiga. In the spring, when mating season begins, wood grouse gather in flocks among the trees and create an extraordinary sound. The taiga people call it “wood grouse gathering”. At this moment, the birds do not pay attention to their surroundings, and so they are easily hunted. The wood grouse never changes its gathering places and comes to the same spot each spring, which also makes it easy to hunt them.

Today reindeer people have more taste for Mongolian style clothing. In earlier days their clothing was made from wild animal skins like reindeer, deer, and elk. Winter dress was made mostly from reindeer skin, which is warm, soft, and can be worn for long time. During the warm season, they prefer skins of animals which have short or thin hairs. The collar and lapel of a skin deel is trimmed by black cotton. Deels made of reindeer skin are trimmed with sheep skin. The tanned skin or leather is smoked to prevent rotting from dampness. Traditional boots are prepared from the leg skins of reindeer, deer, and elk, the latter being considered most suitable. From eight leg skins one pair of boots can be made. Although rarely seen, some older people still wear these kinds of boots. Other skin articles are blankets made from sheep skin, and household utensils are often made of leather. For winter storage, milk is preserved in bags made from reindeer or deer skin called a *khogoor*; but unfortunately they are no longer used. Most families still use skin baskets or bags called *barav*, and make them in pairs for reindeer saddle-bags, usually from elk skin. *Barav* baskets are tanned and then smoked so that the container can be stretched to hold more goods. In recent times reindeer people adopted baskets called *achmag*, which are suitable for loading oxen. *Achmag* are widely used by Darkhad-Mongolian people. Made from heavy cattle hide, they are considered suitable for moving camp gear and can be used for long periods. Tsaatan people make smaller versions for use on reindeer.



(Endnotes)

¹ This project was funded by the Smithsonian Institution’s Deer Stone Project.

PART VI

Khuren Taiga: The Tsaatan's lost homeland in sacred reindeer dewlap embroidery

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Figure 1. Khalzan displaying his shaman coat and headdress with one corner of the sacred red alter cloth shown in the background. Khalzan's wife Byambasuren and daughter are assisting by lighting "Atrz," juniper incense. (Photograph by Paula T. DePriest)

In the past several years the Smithsonian-Mongolian Deer Stone Project's botany team with 2008 participant Danielle Soyo, O. Sukbaatar, J. Oyumaa, and Oltzi; Tsaatan guide Sanjim and his sons Amerijeral (Khalzan), Batmonkh, and Bayamonkh, his foster son Batzaya, and his grandson Khongaa; Mondokh and his son Khuuhoo; and Darkhad guide Enkhbat, has explored the territories of the Tsaatan, the "Reindeer People" of Mongolia. The Tsaatan are ethnic Tuvan reindeer herders living around the northern Darkhad Valley of Hovsgol Aimag in northern Mongolia. These territories include hunting grounds, plant-gathering places, and traditional, but now abandoned, reindeer seasonal pastures up to 100 km from the Tsaaganur, Ulaan Uul, and Renchinlkhumbe

sum centers. These trips have been important in clarifying the Tsaatan's cultural concepts of their taiga homelands, the optimal organization of their seasonal camps, the current and historical carrying capacity of their reindeer pastures, and their protection of wild animals and hunting grounds. In addition we have mapped the locations of sacred mountains, springs, and ovoos -- worship sites, and documented the use and representation of natural materials and landscapes in ongons -- sacred objects.

The focus of the 2008 expedition, July 2 – August 1, 2008, was a sacred landscape displayed by Tsaatan guide Amerijeral, called Khalzan, in July 2007 (Figure 1). In the early summer of that year Khalzan, a Tsaatan shaman, was performing shaman shows in a tourist camp just east of Ulaan Baatar, the capitol city of Mongolia. During our visit to the camp, Khalzan displayed for shaman researcher Marilyn Walker (2008) a number of his sacred items: shaman coat, headdress, reindeer boots, drum, drumstick, walking sticks, etc. One item displayed was an "altar" cloth, hung behind him during performances. The cloth portrayed a landscape with a distinctive two-part lake, the outline of a mountain ridge, a reindeer, and a star. These items were depicted with white stitching of reindeer dewlap hairs on a dark red woven fabric rectangle. The fabric was approximately 40 X 60 cm and mounted on a larger panel of white cotton fabric.

When asked about the sacred landscape, Khalzan reported that the cloth was sewn by his

maternal grandmother Dejid [1911-1989] and represented an actual location -- Khuren Taiga, “Brown Taiga,” (Figure 2; N50°39.499' E 098°45.043') in the now abandoned pastures of Ulaan Taiga, “Red Taiga.” Ulaan Taiga is used as the name of the alpine tundra on the western side of the Darkhad Valley extending from the Shishged Gol north of the current summer pastures at Minge Buleg in Tsaagannur sum to the legendary Delgar Moron gol south of Lama Taiga in Bayanzurh sum. Khuren Taiga

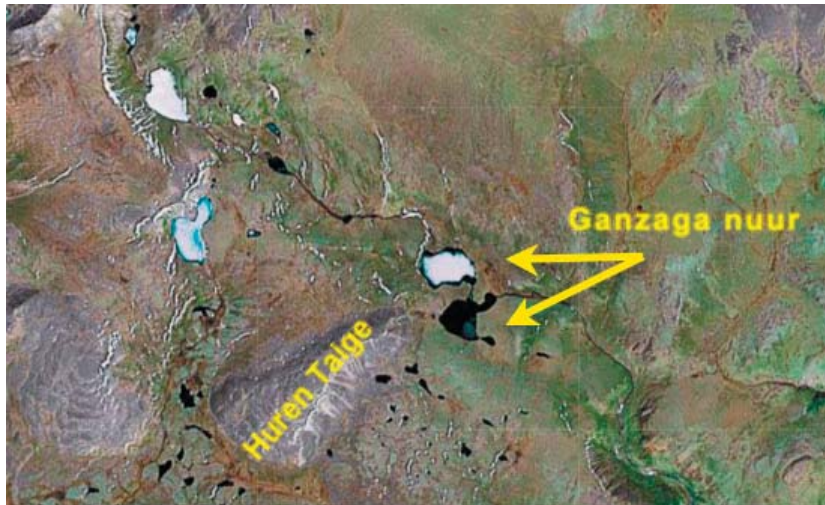


Figure 2. Satellite image of Khuren Taiga and Ganzaga nuur represented on the sacred cloth. (Photograph by Paula T. DePriest)

is in Ulaan Uul sum near the headwaters of three rivers – the Bussin Gol, the Shishged Gol, and the Delgar Moron, and near the large lakes of Tayjiyn nuur (N50°35.923' E 098°39.352') and Targan nuur (N50°35.869' E 098°33.178'). Khalzan explained that Dejid had sewn the cloth to remember her parents and the area where they had lived and herded reindeers. The two-part lake represented on the sacred cloth is Ganzaga nuur, meaning “saddlebag” lake, although alternate names such as Gashoohol “two people together,” Holboo, and Ardag were provided by various Tsaatan guides. Ganzaga is at the headwaters of the Guna gol, “three-year old male yak,” a river transversing the southern Darkhad Valley and joining the Shishged gol.

In the eighth and ninth centuries the Khuren Taiga area was part of the Uighur kingdom centered just across the Tuvan border at the Por-Bazhyn Fortress in Tere Khol' Lake (N50°36.908' E 097°23.095'). Some of the current Tsaatan such as the Soyon clans, including Khalzan's mother Chuuluu's family, consider themselves Uighur descendants. Chuuluu herself was born in 1947 to Dejid of the northern Tuvan (Todzha) Balyksh (as Balyisi and Baliqci in Dioszegi, 1961, and Balyas in Dioszegi, 1962) clan and a famous Tsaatan Shaman of the Uighur Soyon clan, Gomb [1918-1992], along the Delgar Moron close to this area and just within the Mongolia border. Our guide Mondokh, born to a Darkhad family, was adopted as an infant by Gomb and Dejid in the early 1960s.



Figure 3. Sacred mountain with “eyes” of persistent snow. (Photograph by Paula T. DePriest)

Between July 13 and 24, 2008, the botany team visited Khuren Taiga and the surrounding area. After organizing Tsaatan guides and horses at Kharmai gol in Tsaagannur sum, the group departed on horseback from Soyo, a distinctive lone peak at the eastern edge of the Darkhad Valley. We traveled along the south side of the Hog Gol, “Melody River,” beyond a tourist ger camp newly established by anthropolo-



Figure 4. Rare medicinal plant *Saussurea* in bloom.
(Photograph by Paula T. DePriest)

from the crumbling slopes of Khuren Taiga and the two-part Ganzaga nuur to the high ridgeline with snowfields. Because the pasture has not been grazed for over 20 years, the plant community provides an important example of ungrazed alpine tundra. Unlike our predictions, the birch shrub cover had not increased without ongoing reindeer grazing and is significantly less in these pastures than in the current pastures at Minge Buleg. A large number of plant species were blooming in the pasture and the area around the snowfield; we documented these plants with plant collections and photographs. One unique find was the traditional Mongolian medicinal plant sawwort – *Saussurea dorogostaiskii*. (Figure 4). We documented *Saussurea* in bloom in this and other locations, a unique occurrence since the plant rarely blooms. The guides also collected the plant to make a fermented medicine.

We visited the Khuren Taiga and Ganzaga nuur to find remnants of Gomb and Dejid’s camp, including hearth stones, firewood, reindeer stakes, and a stack of rocks where Khalzan played as a child (Figure 5). Khalzan drew a map of the Khuren Taiga summer camp to show the locations of the numerous ortzs (teepees) as he knew the summer camp in the 1970s and early 1980s (Figure 6). These ortzs included many of the West Taiga families that now camp at Minge Buleg and their parents including Gomb[†] and Dejid[†] (parents of Chuuluu and guide Mondokh), guide Sanjim and Chuuluu (parents of guides Khalzan, Batmonkh, and Bayamonkh), Shagdar[†] and Shaman Suyan[†] (parents of Bayara and East Taiga Shaman Tsend[†]), Gosic[†] and Oltzi (parents of Delgar, Tsetseg, Shonkhor, Dalai, etc.), Chuuluun[†] and Bunynt (parents of Dogie, Zorgic, Erdenchemig, Oyunchemig, etc.), Agcalag[†] (father of Shamans Ghosta and Gonzoric), and a number of other families now living in East Taiga.

gist and Tsaatan film maker Hamid Sardar, and turned up through the Dund Taigas, the spring and fall pastures of the Darkhad and Uranghai cattle and yak herders, just below Temee “Camel” rocks. From these meadows we crossed a small pass and dropped into an area of Karst lakes where mountain streams disappear into cliff faces and freshwater lakes have no visible inlets or outlets. The Tsaatan guides pointed out the location of a number of ethnic Darkhad and Uranghai ongons and sacred mountains on the ridges around the Dund Taigas and Karst lakes, including one sacred mountain with “eyes” of persistent snow (Figure 3).

After crossing the Mungarag gol in the Karst region, we climbed up to the former summer pastures of the reindeer herders, including Gomb and Dejid. Before 1985 this area supported large reindeer herds (>2,000) and a flourishing Tsaatan population (est. 60 tents) with usable summer pastures perhaps an order of magnitude larger than the current pastures at Minge Buleg. From a small mound that was the location of the original ovoo, and a new ovoo constructed by the guides, we could see the summer pastures



Figure 5. Guide Sanjim, and his sons Khalzan, Bayamonkh, and Batmonkh, with their horses in front of Khuren Taiga and Ganzaga nuur. (Photograph by Paula T. DePriest)

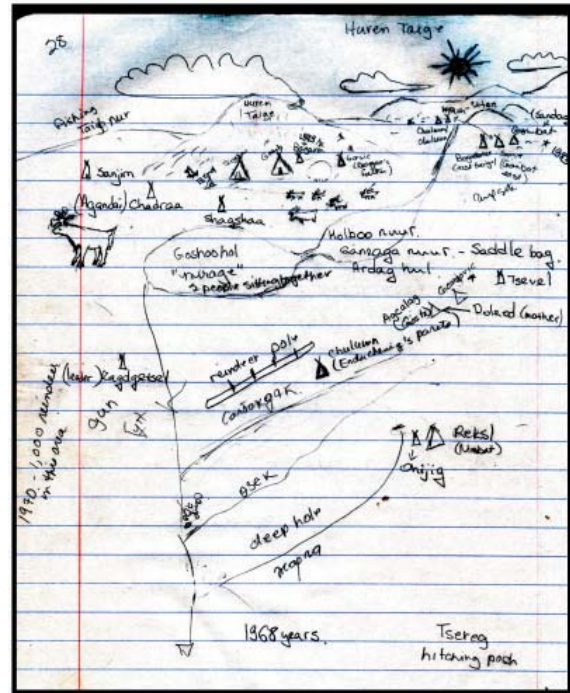


Figure 5. Guide Sanjim, and his sons Khalzan, Bayamonkh, and Batmonkh, with their horses in front of Khuren Taiga and Ganzaga nuur. (Photograph by Paula T. DePriest)

Departing Khuren Taiga, we traveled through the expansive summer pastures, finding tent poles in a number of camp locations. Some of these camps were used as recently as the late 1990s when a few Tsaatan families (Bayandalai, Zorig, etc.) used the areas as summer pastures for their reindeer. We visited a number of lakes that had been used for fishing by the reindeer herders, including the large lakes of Tayjiyn nuur, “Nobleman lake,” (N50°35.923' E 098°39.352') and Targan nuur, “Fat lake,” (N50°35.869' E 098°33.178'), and the guides caught large fish in a lake near Khuren Taiga (Figure 7). Fishing is important to the Tsaatan as a supplement to herding and hunting, and the clan name of many of the Tsaatan, including the grandmother Dejid and our guide Sanjim, is the Balyksh or “fisher” in Tuvan.



Figure 7. Guides Khangaa and Enkhbat with fish caught near Khuren Taiga. (Photograph by Paula T. DePriest)

In the area of the large Tayjiyn nuur we passed the sacred mountain Ulaan Uul, or “red mountain.” Like Khuren Taiga, it is a mountain of crumbling reddish brown rocks that by Tsaatan tradition should not be walked on, especially not by women. These mountains, and other mountains of reddish or brownish rocks including one named Khuren Taiga near Minge Buleg, are sacred in both the shamanist and Buddhist traditions active in the Darkhad Valley. Ovoos are often set up to view these mountains, as we observed three ovoos overlooking the crumbling Yolt ridgeline (Figure 8; N50°40.320' E 098°51.447'). The Tsaatan guides pointed out two of the three ovoos as first built by the Jögds, one of the Uighur tribes who lived in this area perhaps during the Chinggis

Khan era. As Purev (2003, pp. 78 and 278) mentions a Jögd chieftain from the 18th Century, and Jögd ongons (shaman burials) in Ulaan Uul sum, there is some support for Jögd origin of the ovoos. Unlike the ovoo at Salaig Davaa that we studied in 2007 (DePriest, 2008), the two original ovoos, and others in the area, were pulled down during the communist times, 1920 - 1990. Only a few ovoos, including one at the Yolt, have been rebuilt in the past 15 years since the change in governments.

Beyond the Yolt, we descended through the winter camps of Darkhad and Uranghai cattle and yak herders just to the west of Ulaan Uul sum center and detoured back into the mountains to

Temee “Camel” Rocks. This ridgeline has extensive stacked limestone formations (Figure 9) including one that is thought to look like a reclining camel. In the past this area was used by Buddhists as a worship site and is the legendary spot where lamas threw a woman off the rocks because of her resistance to the Buddhist faith. Camel Rocks was used by Tsaatan, including Gomb and Dejid, as fall or spring reindeer pastures. Descending further we passed beneath the ridges where Gomb and Dejid had winter camps and arrived back to our starting point at Soyo.



Figure 9. Tsaatan guides Khalzan, Bayamonkh, Batzaya, and Khuuhoo (kneeling) in front of a stacked limestone formation. (Photograph by Paula T. DePriest)



Figure 8. New ovoo overlooking the crumbling reddish brown slope of the Yolt. (Photograph by Paula T. DePriest)

At Soyo we participated in an important Darkhad Valley festival that is celebrated every three years. The festival included the usual activities – horse racing and wrestling – but also included a parade of the white horses favored by the Darkhad and Tsaatan ethnic groups, as they are also by the nearby Buriats. Five members of the botany team, including the author, participated in the parade, “The Blessing of the Eighty-One White Horses.” The parade organized the participating white and gray horses into a procession led by a local leader carrying a ceremonial wild horse skull wrapped in blue hadags and riders carrying Mongolian, Hovsgol Aimag, and Darkhad Valley banners. The horses, in ranks of five, entered the ceremonial circle and stayed in formation for speeches, poems, and songs, for raising of the Mongolian and local banners, and for ceremonial presentation of the horse head. At the end of the ceremony the horses circled with increasing speed until they swirled out of the ring as is the tradition in presentation of horses before Mongolian horse races. As part of the festival, members of the botany team



Figure 10. Participant Danielle Soyo (left) with Darkhad Shaman, his wife, and guide Batmonkh in front of a shaman display including a shaman drum and ongons. (Photograph provided by Danielle Soyo)

visited a Darkhad shaman's ger and photographed his display of his shaman drum and ongons, stacked strips of ribbon with animal-like figures of fur with coral eyes that hold spirits (Figure 10). This display was similar to Khalzan's display of his shaman items in 2007 at the Reindeer Festival in Kharmai that we reported last year (DePriest, 2008).

The area of Khuren Taiga, and the entirety of the summer pastures of the southern Ulaan Taiga, from the Mungarag gol through Lama Taiga, is an important lost homeland for the majority of Tsaatan in the Darkhad Valley. The Tsaatan were removed from this area in 1985-86 because of the camp's proximity to the Tuvan

border; the Tsaatan were accused, and some, including the elder shaman Gomb, jailed, in the early 1980s on charges of collusion with the Tuvans in stealing Darkhad horses and cattle. The image of reindeer herders along the Mongolian-Tuvan border stealing Darkhad horses and cattle is ingrained in the Darkhad's culture. Purev (2003, p. 77) recounts a similar legend from the 18th Century of horse stealing in this area.

The relocation north to a newly established Tsaagannur sum damaged the Tsaatan culture; in the first three years as many as 75% of their estimated 1,000 reindeer died and the Tsaatan were impoverished. Finally after three years, with a few reindeer remaining, they found the smaller, but adequate summer pastures at Minge Buleg and began rebuilding their herds. The Tsaatan now hope to reach 1000 reindeer again in the next five years. Elders such as Dejid and Gomb died in Tsaagannur sum and were buried near their new winter camps in the Kharmai Valley. Gomb, as an important Soyon Shaman and clan leader, became a spirit, ongon, worshiped by his descendants as an ancestor deity. One of his worship sites is an ongon (Figure 11) that protects the all-important spring at the current winter camp along the Moitsto gol in the Kharmai Valley. Family members add cloth strips to his ongon, the bundle of horse and wild deer skulls and ribbons that holds his spirit, when they arrive in the fall and depart in the spring to honor Gomb and to petition him to keep sending water to their camp.



Figure 11. Gomb's ongon, with skulls and ribbons, on a tree along Moitsto gol at the winter camp. (Photograph by Paula T. DePriest)

Dejid's sacred cloth is a reminder of the true homeland for the family; the sacred Khuren Taiga and Ganzaga nuur that overlooked their summer pastures and the large reindeer herds that provided their more prosperous former life. As this was the only landscape in Khalzan's shaman display, and the only one that I have seen in Tsaatan or Darkhad shaman displays, the red cloth and the location it represents seem very significant. The Tsaatan ortzs and wooden huts are often decorated with embroidered images, including reindeer and other animals and background landscapes. However, these images are typically sewn with dyed yarn on white cloth and are not treated as sacred, and are even sold as craft items. Khalzan has such a depiction of a reindeer displayed above his Emegelchin ongon (DePriest 2008). The sacred cloth is most similar to Buriat field ongons that have similar white reindeer dewlap stitching on a dark background depicting mountains, animals, and sacred symbols (i.e. Ivanov, 1954, p. 716).

The landscape, the deer, and the star not only represent the Khuren Taiga homeland, but also have sacred and symbolic meanings. The red color of the cloth itself indicates that its contents are sacred. In Siberian shamanism red is used to represent light, day, or spring, as opposed to dark, night, and winter, and therefore symbolizes the upper world (see Hoppal 2004). Khalzan's shaman cap is red cloth with white dewlap stitches outlining a face, symbolically representing the shaman ancestor, and feathers representing soul flight to the upper world. Khuren Taiga represented in outline on the cloth is an ongon mountain, crumbling red rocks that are home to land spirits that merge with ancestor spirits in the Tsaatan cosmology. The lake may offer a symbolic reference to Dejid's Balyksh clan totem, the fish. The reindeer, both the image and the use of reindeer dewlap hair, represent the ancient symbol of the "stage of the sky" that offers communication to the heavenly deities (see Hoppal, 2004, p. 185). Additionally, according to Humphreys and Onon (2003, p. 307), the reindeer is a fertility symbol for Daur Mongolians of Outer Mongolia where "female reindeers might be a spirit which could make infertile women pregnant." A long star is thought to represent the planet Venus, either in its form of the "evening star" or the "morning star;" Mandolin (1996, p. 177) notes that Buryats associate Venus with fertility as well. Therefore, the sacred items embroidered on the cloth may have a symbolic meaning as a plea for fertility. Dejid and Gomb only had a single child, their daughter Chuuluu. Doubtless Dejid had spent years following her clan's traditions to ask for more children; including the production and worship of sacred images. It is only when Chuuluu is grown and leaving home, that Dejid and Gomb adopt Mondokh to build the family that they needed for reindeer herding.

Our 2008 trip through Ulaan Taiga's unused camps highlights the changes in Tsaatan life and herding after the relocation and their longing for the better life they had in these abundant summer pastures. Moreover, Khuren Taiga and its representation on the sacred cloth are merged with the family's memories of Gomb and Dejid as grandparents and their reverence for them as ancestors. Gomb was a powerful shaman and an exemplary reindeer herder in his life and is now an important deity for the family that has an on-going role in protecting and providing prosperity to the family. However, Dejid created the sacred cloth earlier, before the relocation and before the death of a generation of elders including Gomb. The cloth seems to be focused on the most important factor in family survival – fertility. Dejid and Gomb's family was small, but they enlarged it through adoption of Mondokh. This tradition has been continued in the next generations; Chuuluu and Sanjim have seven surviving children and another seven foster children that have produced over 35 grandchildren, to date. With Monhokh and his wife Oyunchemig's five children, Gomb and Dejid have almost fifty family members; a large family to secure their legacy for a long time.

Citations:

- DePriest, P. T., 2008. Worship of spirits in the Darkhat Valley, Northwest Mongolia. Part VII. In: Fitzhugh, William W. and Bayarsaikhan, J., *American-Mongolian Deer Stone Project: Field Report 2007*, pp. 104-111.
- Dioszegi, V. (1961), Problems of Mongolian Shamanism. *Acta Ethnographica*, X, fasc. 1-2, Budapest: 195-206.
- Dioszegi, V. (1962). Tuvan Shamanism. Intraethnic Differences and Interethnic Analogies, *Acta Ethnographica Ac. Sc. Hung.* 11(1-2):143-190.
- Hoppal, M. 2004. Cosmic symbolism in Siberian shamanism. In: Leet, A. and R. P. Firnhaber (eds.). *Shamanism in the Interdisciplinary Context*. Brown Walker Press, Boca Raton, Florida, pp. 178 – 190.
- Humphrey, C., and U. Onon. 2003. *Shamans and Elders: Experience, Knowledge, and Power among the Daur Mongols*. Clarendon Press, Oxford.
- Ivanov, S. V. 1954. *Materyaly po izobrazitel'nomu isskustvu Sibiri XIX - naczala XX vv.* [Materials on the Visual Arts of the Siberian Peoples in the Nineteenth and Early Twentieth Centuries.] *Trudy Instituta Etnografii*, n.s., t. XXII. Moskva-Leningrad.
- Mandolin, K., 1996. Two Asiatic sidereal names. IN Dioszegi, V, and M. Hoppal (eds. *Folk Beliefs and Shamanistic Traditions in Siberia: Selected Reprints*. Akademiai Kiado, Budapest, pp. 168-180.
- Purev, Otgony 2003. *The Religion of Mongolian shamanism*. Ulaanbaatar: Admon.
- Walker, M. 2008. More than one hundred flowers: An interview with Anai, a Tsaatan shaman. *The Journal of Shamanic Practice* 1:26-32.

(Footnotes)

† Deceased

PART VII

An initial survey of southern Bayan Ulgii aimag, June 2-8, 2008

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The main purpose of this trip was to carry out reconnaissance and make an initial surface survey of undocumented petroglyph sites and rock art complexes in the southern extremity of Bayan Ulgii aimag — an area that heretofore appears to have remained unexplored by foreign researchers since the break-up of the Soviet Union, at least. Secondly, I sought to find and record previously undocumented deer stones and to make note of particularly interesting khirigsuurs and other surface monuments. My reconnaissance for deer stones stemmed from the previous week's collaboration with Bill Fitzhugh and members of his team. Several of these were, indeed, located, although none exhibited the typical deer imagery found in abundance at, e.g., Tsagaan Asga southeast of Khurgan Lake. Several are quite small; one stone measuring a mere 15 cm in height was marked by three chevrons and a crescent. A few stones were shaped from lithologies I have not encountered before: a pebbly black conglomerate, in one instance, and a beautiful hard, blue-grey sedimentary type in another. In addition, I encountered en route a great number of khirigsuurs, some quite large (with fences in excess of 100m diameter), and a few with paths radiating out in spokes from a tall central mound. Hearths appear to be considerably fewer than those at Mogoit, Tsagaan Asga and the spoked khirigsuur at Biluut (see Fitzhugh's Field Journal entry, May 27, GPS 333); only one or two had what might be satellite horse mounds. A smaller number of Turkic stone men, burials and balbal were seen; but for the most part I do not report on those, focusing instead mainly on surface features of the Bronze and early Iron Ages.

In a fairly systematic fashion, beginning at the southernmost extreme of the province, I investigated virtually every valley with a stream flowing eastward off the Altai Mountains that separate Mongolia from China for petroglyphs and other stone features. Many of these visits were cursory and brief; telltale signs of the presence of rock art (such as suitable geological formations and varnished surfaces) were missing. In several instances, this could be determined almost at a glance. Even so, I pursued a number of routes up into these valleys for several kilometers before turning back. I took every opportunity to interview local inhabitants for information, too. And so, in this very short time my driver-guide and I managed to record several small petroglyph sites (with the number of individual images ranging from between about 50 and more than 300) as well as three significant rock art complexes at which a close association of petroglyphs, khirigsuurs, and deer stones is evident. At these rich complexes I conservatively estimated the number of petroglyphs to be between 1,500 and more than 2,500, varying at each respective location. None of these comes close to the number, density, diversity, or quality of the petroglyphs at Biluut beside Khoton Lake. They nevertheless contain many beautiful images, and some highly unusual ones as well, and ought to be thoroughly explored in future.

2 June, Monday — Snowman's Valley

In the afternoon, my good friend Ch. Canat, owner-operator of Blue Wolf Travel in Ulgii, drove me to a remote north-south running valley that opens approximately 20-25 km to the east and south of Ulgii and extends southward for another 15-20 km. He calls it “Snowman’s Valley.” Apparently, a local legend persists of Yeti-like creatures inhabiting this barely accessible realm. Deep into this valley beneath high peaks on both sides the road is rough, even for Mongolia; one stream crossing in particular, at the bottom of a deep boulder-strewn gully, is difficult and dangerous. Fortunately, Canat’s rugged V-8 Toyota Land Cruiser is up to the task. So, too, is my experienced Kazakh-Mongolian driver and guide. We could not have even contemplated journeying into this valley with the vans we took to Khoton Lake. If only we had had one of these Land Cruisers during the previous week! As it turns out, Canat has recently bought not one, but two, brand new Land Cruisers, which of course arrived in Ulgii the very day Bill & Co. departed for UB. Canat promises that we can have one or both of them next summer.

In various places on one side or the other of the valley, Canat shows me some rock carvings. They’re rather scanty and spread out, mostly of uninteresting ibex from the Iron Age; but a few panels on outcrops contain as many as 15 or 25 individual figures in a single concentration. In under an hour I count more than 100 petroglyphs all together; this is surely but a small portion of images that can be found, especially further south in the upper valley. I suspect there are several hundreds.

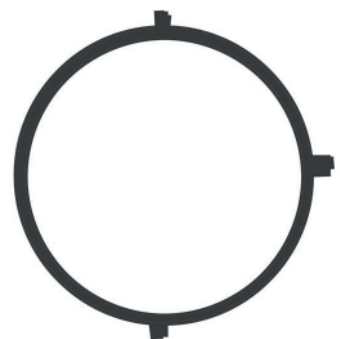
The most interesting are located a ways up the eastern escarpment, a group of 23 figures pecked into a darkly varnished outcrop. These include a panel with three nicely rendered snow leopards with typical long, thick curving tails held high and two “snowmen,” simple, fully pecked human forms with a frontal orientation, arms out to the sides and legs apart. On the basis of style, color, pecking technique and profile, I would say that these figures probably date from the late Bronze or early Iron Age. I see more antelope images than is usual, and a number of wolves.



*Snow leopards and “snowmen.” Probably Bronze Age.
GPS 434 (Elev. 2429m, N 48° 41.672’, E 90° 14.264’)*

A cold, drizzly off-and-on rain causes us to huddle in the Land Cruiser; it also makes photography very difficult and at times impossible. Thus, I do not get a picture of an intriguing circular image lower down in the valley, which might be a tamga, or clan seal. But here I reproduce a computer-enhanced drawing of it.

**GPS 436 (Elev. 2324m, N 48° 42.760’. E 90° 12.065’)
Drawing: Tamga? Date uncertain.**



Diam. = 18 cm

Inside the valley’s mouth are many khiriguurs, Pazyryk mounds, and Turkic standing stones in slab boxes. Although this hasty initial survey does not turn up great numbers or high concentrations

of petroglyphs, I believe it would prove worthwhile to explore this valley more thoroughly in future and obtain some C-14 dates, if possible, from the khiriguurs and mounds. Also, there is a cave situated high on a vertical cliff on the upper valley's western flank; it would be interesting to try to climb up there to see what it might contain.

3 June, Tuesday — Ulgii to Gantsmodnii Gol south of Deluun

Today I hire a local young man, Agii, to serve as driver, guide, translator, cook, and field assistant for my trip to southern Bayan Ulgii. Agii teaches high school English in Ulgii. He proudly owns a nearly new Russian jeep, which appears to be in excellent condition. The tires look to be in outstanding shape. The only thing that doesn't work is the gas gauge. I hope this won't spell trouble later on, down the road. Agii spends the early part of the day shopping for food, drink, and supplies, while Canat goes off to obtain my border and park permits, and I confer with his junior associates at Sher Blue Wolf as they print some topographic maps for me off their computer. This is going to be a bare-bones operation: each of us has a tent and sleeping bag, and Agii and I will do our own cooking. We'll have a packet of Ramen noodles or powdered soup with tinned fish or tinned meats for lunch and dinner, eggs and cereal with powdered milk for breakfast, some loaves of hard crusty bread and a tin of dubious cheese spread, and biscuits and chocolate bars for snacks. For desert, apples and oranges. Nothing like Irina's wonderful gourmet cooking on this trip! Fortunately, Agii hails from Bulgan, southernmost outpost in the province, so he knows the route. Canat's business manager, Jagaa, a bright and capable young man who got his first chance at working for Canat when he served as driver and invaluable, all-round helper on my summer 2005 expedition, is also from Bulgan; he marks a few locations on my map where he had seen some petroglyphs the year before. I had really hoped to have Jagaa as my companion on this trip; but, alas, he has more pressing business, and other international clients, to attend to this week. Agii is smart and eager; but I'm not sure about his driving experience, especially in extremely challenging off-road conditions such as we are likely to encounter.

Before heading out of Ulgii, we pay a visit to my old friend at the small Museum of Natural History in the center of town. I've met briefly with the friendly director in previous summers; at the end of my 2004 field excursion I donated to him two or three small fist-size stones engraved with a deer or horse or ibex that I collected from my initial reconnaissance trip to the far west. Not especially exciting perhaps, and not in my opinion worthy of the national museum in UB, but perhaps they'd be something he'd like to display (along with the brief descriptions I made of them for him) among the glass cases here in Ulgii. Since the outset, the director has been unequivocally eager to collaborate with me in some way on my work in Bayan Ulgii. Agii serves as translator, another of his many valuable skills. The director and I continue our earlier discussions, this time focusing especially on the exciting things I've found at Khoton Lake. I tell him that I'd like to involve him as a serious partner. My impression is that these small town institutions and personnel out in the countryside far from the capital are to a great extent overlooked by the government and leading officials in UB. I'd like to help change this in a small way, if possible. The director fills me in on the new nationwide administrative structure headed by the national museum under its new director, Saruulbuyan, with whom I hope to meet on my return to UB before I depart for the United States. Some minor finds I'd like to have housed here in Ulgii; I'd also like to produce large wall-mounted maps and professional presentations highlighting the petroglyphs and other stone monuments at Biluut for one of this museum's display rooms. To make this official, I ask the director to write a brief letter to this effect. Delighted, he assures me he will have one signed, stamped, sealed and ready for me to collect when I get back to Canat's in a week. Handshakes and big smiles all around.

Agii and I hit the road in the early afternoon and make good time to Deluun, the sum center that lies in a broad, flat, open dusty plain, about 125 km south of Ulgii. We pass by in the evening and go on another 20-25 km to our first night's encampment, bypassing the bridge over the Gants Mod River on the road to Bulgan. We erect our tents on the north side of the river that flows down from high snowcapped mountains to the west. While Agii busies himself with the gas cook stove, I explore the area around our campsite. I count at least 15 mounds, including one khirigsuur with a raised platform and a 2m-high central mound inside a ringed fence. The diameter of the fence is, by pacing, about 32m. In addition to several hearth rings, there are two unusual-looking features immediately outside the fence to the east. One is a wide and roughly rectangular-oblong outline of stones; the other is a narrow oblong solid stone structure 5m in length. A prominent hearth ring lies just at the end of the first feature. The narrow feature, with its double row of large stones packed side by side, looks as though it might mark a burial.



*Looking east from the central mound over khirigsuur to satellites.
GPS 443 (Elev. 2178m, N 47° 40.104', E 90° 43.490')*

4 June — Gantsmodnii Gol to Bulgan and south to Indertuyn Gol (Rentzen's Spring House Canyon)

Approximately 15 km after crossing the bridge over the Gantsmodnii Gol, we come to a fork in the road. The new road branches to the left; Agii says this is an improvement over the older track. We decide to go south that way and to return via the old track. My idea is to get to the southern border with Khovd aimag as quickly as possible, so as to leave the maximum time for exploring those river valleys that descend from the Chinese border west of the old road. According to my maps, these two routes separate and form a teardrop around high mountains (elev. 3,710m, or 12,172 ft.), then converge again 20 km north of the sum center, Bulgan, the very-out-of-the-way village where Agii was born and raised. No place south of Tolbo, a small village located below the southern tip of Tolbo Lake, approximately 50 km south of Ulgii, receives even a mention in the Lonely Planet guide to Mongolia. There are no ger camps for travelers; we will see no facilities whatsoever for tourists on this journey. Petrol is available in Deluun and, hopefully, in Bulgan. Agii's jeep has two tanks, which we filled yesterday. But we will have to be careful.

After 40 km we struggle up a series of newly bulldozed, banked switchbacks that defiantly challenge a high pass into Bulgan sum. Some of the monstrous earth-moving machines are parked halfway up the mountainside below the road. It appears that road construction is still in progress. We summit under a crisp blue sky at 3060m (10,040 ft.). In a matter of minutes, on the downward route we come upon three fallen or leaning stones on our left, tall granites with some shaping, whose feet are planted in small slab boxes of granite. They are just 8m from the side of the road. The height of the fallen stone is 2.4m, (7 ft., 10 in.) These may be a kind of Altai deer stone; there are no dis-

cernible markings, however, of any kind. They are strikingly similar to those that Bill & Co. and I found high on the eastern hills above Khoton Lake as we drove towards Mogoit last Thursday (see his Field Report entry for May 29). Askarov, Volkov, and Ser-Odjav (in Dani and Masson, *History of Civilizations of Central Asia, Volume 1: Earliest Times to 700 B.C.*, 1999) suggest that these undecorated stones may be older than those other two types that depict either stylized or naturalized animals: Bill suspects that these undecorated ones appeared later. I don't know enough to hazard an opinion. Clearly, we need to obtain some reliable dates for these unmarked stones. Some prominent art historian might feel otherwise; but, as much as can be learned from surface studies alone, there's just no substitute for scientific excavations.

A little further south, an entrance to a minor side valley or trough appears on the eastern side of the road. Up the hillside a little ways leans another tall stone in a granite box. This stone is a pebbly black conglomerate, 1.57m (5 ft., 2 in.) in height. I have not encountered this kind of stone before, put to this use.

Is this another unmarked type of Altai deer stone? It's conspicuously unlike the flat slates characteristic of Turkic burials. A slightly shorter, lichen-covered granite lies on its side just outside the box. If these features either mark or are closely associated with burials, then whoever constructed them certainly made an effort — and a point — of climbing so high to conduct their ceremonies.

Just several paces below these tall stones are some smallish square-fenced khirigsuurs; one has a prominent corner stone of granite, 0.91m (3 ft.) tall. Actually, the fence is bowed on all sides and is



Black Altai stone in "box."
GPS 445 (Elev. 2497, N 47° 18.726', E 90° 59.241')



Three fallen Altai stones with "box."
GPS 444 (Elev. 2482m, N 47° 18.802', E 90° 58.885')

almost circular. A circular pavement occupies the whole interior. Wanting to move on southward, I don't take any measurements, only three photographs. (See pg. 170.)

Lower down, the route follows right above the river; the canyon is pinched narrow here, with high peaks rising starkly on both sides. The sun hardly reaches into this ravine. At one short stretch the river flows beneath a thick crust of snow and ice. It is piled surprisingly high still in this heat. In places, the luminescent azure color is stunning, almost otherworldly. In another 30-35

km we come to the spot where the two tracks converge. The rushing Bulgan River joins here on its way to the south. On the north side of the river is a large khirigsuur with a central mound approximately 2m in height; it appears to have been broken into. A circular fence of about 52m diameter has six hearth rings to the north and north-northwest, and four (or possibly five) prominent small mounds at E 90°. These might be horse burials.



Khirigsuur with rounded square fence and (at left) prominent stone.

In addition, at E 90°, directly in line with, and just outside, the apparent horse mounds, lies a toppled worked stone, 1.02m (40 in.) long and 46cm (18 in.) wide. At the upper end is carved a circle with a diameter of 16.5 cm (6.5 in.). The original location and orientation of this stone cannot be determined. There also appears to be one faint tool or weapon of some kind, which

looks like a sharply pointed awl, directly in line below the prominent circle, near the bottom of the stone. Finally, a decorated stone!



*Possible horse mounds outside the khirigsuur fence (near top).
GPS 446 (Elev. 2068m, N 47° 05.507', E 91° 02.290')*

A sizeable number of khirigsuurs are located in this immediate vicinity, in the spread of open land carved out of the mountains by this river confluence, and for the next five kilometers or so we easily spot many on both sides of the Bulgan River that has turned southward. High mountains of bare rock that make me think of images I have seen of Afghanistan crowd the narrow gorge on both sides. In another 10 km we reach Bulgan. I kneel alongside Agii as he pays his respects at his father's grave in a

whitewashed mud-walled enclosure on the east side of the village. These Muslim cemeteries are like something from a remote age; they carry echoes from a distant world. The aboveground burials convey a stark frankness about life, and death, but are at the same time mingled with smoky mystique. A single dusty unpaved main street runs straight through the village, and many listless figures stand idly about. The air is still and it has grown hot underneath the unrelenting afternoon sun. Several inhabitants greet Agii in a friendly fashion. He has many friends and acquaintances here. Agii soon tracks down a young bespectacled Muslim cleric who chants prayers at the gravesite. Afterwards,



Fallen deer stone at GPS site 446.

we replenish our stock of bottled water and head south again. I'm hoping to make it to our first potential site of petroglyphs, somewhere inside the mouth of a small canyon at the uttermost bottom of the aimag. This location is one of those referred to me by Jagaa. It still lies another 60 or more kilometers away; given the deteriorated state of the jeep track, it seems likely that we'll have another two hours of hard driving ahead of us.

The slow, hot jolting travel has begun to weigh on both of us; I know it must be hard on Agii, since he's doing all the driving. I make sure we take a short break every

couple of hours, at least. This is not supposed to be a forced march or endurance test. As we near the southern extremity of the aimag, the track dips and winds right down to the river's edge in an extremely tight squeeze between sheer cliffs; the going is slow — and in a few places precarious. I can't imagine what drivers have to do when another vehicle comes from the opposite direction. Finally, we cross the river and get directions from a local Kazakh about the way into the canyon, where Jagaa has told us that a Mongolian relative of his named Rentzen has a spring cabin. As the light begins to fail, our informant tells us that the cabin is located about seven kilometers inside the canyon. That doesn't sound too far. But as we pass between the constricted canyon walls, it quickly dawns on me that this is the worst, most torturous track I've been on in my six visits to, and many dozens of trips within, this country. And that's saying a lot. We negotiate this ravine at barely a walking pace for long stretches, crossing and re-crossing the rushing, boulder-filled Indertuyn Gol. It's a wonder anybody can ride a horse, let alone maneuver a vehicle, through this rugged little canyon full of rocks and boulders. There's nothing whatsoever to suggest a significant concentration of petroglyphs, either. This is no river valley with room for grazing herds or flocks. After nearly an hour we've gone maybe two kilometers. It feels like twenty. I entertain thoughts of turning back. We come to another crossing, which is obviously too steep, too rocky, and too deep to risk. There's no real space to set up camp, but we decide to stop for the night and take a fresh look at things in the morning light. Agii moves the jeep off the track and in among some boulders. He boils water for a hasty soup and we don't bother with the tents. Among the rocks we each find a tight place to sleep on the bare ground.

Sometime after midnight, we are rudely awakened. The growling sound of a large truck passing by on the track gives us a start. Dim headlights dart erratically across the trunks of gnarled trees, huge boulders, and the canyon walls. It seems sheer madness. The truck flounders in the streambed and gets stuck. Voices bark in the pitch dark while the engine groans and the gears grind and gnash. It takes the men the better part of an hour to cross. I doubt that it will now be possible for us to reach the other side in the morning. They've probably made a real mess of things. The truck rumbles noisily on, leaving us with only the peaceful sound of the Indertuyn splashing among the boulders

on its way out the canyon. This startling episode soon fades into the folds of consciousness like a dream.

5 June — Rentzen's Spring House and north to a burial plateau above Bulgan Gol

I wake early, about 5:30, and while Agii slumbers deeply, for the next two hours I work up a sweat carrying and dumping hundreds of heavy stones into the stream, trying to create a crossing for our jeep. As I feared, the deep eroded sides of the Indertuyn are all torn up where the truck forced its way through in the darkness; luckily for us, they missed the more natural crossing place just 25m upstream where we intend to ford. My efforts prove successful; after breakfast, what was completely impossible last night is relatively easy now. But who knows how far this will enable us to go? We certainly don't have time to construct passageways like this again. Agii handles the extremely challenging driving well. We pass through one family compound with a small fenced enclosure for horses; everybody stops what they're doing to watch the strangers try to negotiate a difficult uphill patch of rocks. Pointing and arm waving communicate to us that Rentzen's place is still a good ways up ahead. After an hour or so of fits and starts, with some backtracking to locate passable routes, we eventually come upon the spring house. The canyon is more open here. Agii tells the old woman of our business, and we promptly go about searching the scattered boulders above the cabin on the hillside below a cliff. We find six or seven boulders, granites and sandstones with a heavy black varnish, that contain 35-40 pecked images. All appear to be from the Iron Age. They're faint and fairly crude. Nothing exciting. But it's a good opportunity to begin to show Agii how to pick out especially faint images, by getting up close and changing one's angle of view so as to catch the reflected light in different ways. I do find one image of interest here, of two concentric circles, on top of a large granite boulder right beside the track. The inner circle is offset slightly toward the top and right. This might be another kind of tamga; it might be a primitive boundary marker, I don't know. With Rentzen perched beside for scale, this is the only petroglyph I photograph here.

GPS 447 (Elev. 1771m, N 46° 36.387', E 91° 19.311')

Old man Rentzen and his wife kindly invite us inside for milk tea. We offer a couple of our chocolate bars. Our host doesn't have any information about petroglyphs in this area; but we enjoy a nice chat. I take a fancy to his leather moccasins that pull up to his knees. And I especially admire the hand-hewn logs overhead; this one-room frontier cabin with its dirt floor was built by him a decade ago. I love such dwellings; I've long wanted to build one myself. Rentzen invites me to come and stay anytime I like. He's perfectly sincere. Before we depart, the missus puts on a clean deel and tidies her hair. I take several photos of them inside and outside their cabin. Hopefully Jagaa can deliver them when he returns to Bulgan sometime within the next year. The route back through the canyon, though just as rough and jarring, is easier to retrace. We do have to get out to toss some rocks into the stream at a couple of places; but in far less time than it took us coming in we emerge into the Bulgan River gorge. This first exploratory foray, was necessary, I suppose, in the interests of a systematic survey; but in terms of the paltry collection of rock art it was hardly worth the effort. Unfortunately, we would only come to learn later, upon our return to Ulgii, that Jagaa's petroglyphs are located on the cliff faces on the north side of the *entrance* to this canyon! Jagaa hadn't intended us to drive all the way to Rentzen's spring house. Aiy-ya! So, we might have missed something significant, alas. I'll have to ask Jagaa to come back here and make a survey for me, with descriptions and a rough count of the imagery along with some photographs. After a brief training with me, he proved to be one of the most keen-eyed spotters of petroglyphs on our 2005 expedition to Khoton Lake.

We retrace our route north alongside the Bulgan River obstacle course and pass through Agii's village, where we purchase the four small bottles of water that remain in one of the wayside shops. Our water supply is precariously low. We also top up a tank with petrol. About 17 or 18 km north, a new, well-constructed dirt road turns off west into a stream valley. Using a magnifying glass and a translation table for the Russian alphabet, the name of this stream as near as I can make out is Dzhar-galantyn Gol. This smooth, well-packed road seems out of place; indeed, the likes of it is hardly to be found anywhere in Mongolia. The reason soon becomes clear: down this road is a foreign gold mining operation. On the slope above our right, a clutch of new wooden cabins and other solid-looking structures of mud brick and stone have been built, presumably to house and service the workers. We follow the road high above the north side of the stream for five kilometers. At a prominent outcrop of exposed bedrock down on the lower side we get out to scramble around on the hillside, but find nothing. The crumbling sides of the canyon have shown no sign of a suitable lithology for petroglyph production. We ask at the lodgings of some locals; a woman offers to sell me some glittery metallic-looking crystalline rocks, but no one can make a positive report. We turn around and head back to the northern track. I'm not in the market for shiny stones today.

Agii tells me that out west, "June brings the heat." Yesterday and today the temperature has grown increasingly uncomfortable. This far south, I guess I should not be too surprised. Whenever we encounter water, Agii collects some in a liter bottle and pours it over the engine. Following his lead, I soak a towel and drape it over my head and shoulders in an effort to keep my own thermostat from boiling over. This land has a lonely, harsh, forbidding aspect. It radiates a raw power. It's not to be messed with. We've rarely seen a ger. It's not much wonder that even the adventurous author of *Lonely Planet* has never ventured into this realm. At the fork where the two main tracks diverge we bear left and head northwest. We're going to pursue the old western track back to the north. My maps show several east-west valleys with streams leading into Bayan-Ulgii from its border with China; I intend to check out each of these in turn. Just northwest of a bridge that crosses to the north side of the Bulgan River (which here flows in an easterly direction) we spy a giant khirigsuur back on the far (southern) side, whose circular fence appears to be in excess of 100m. It's an impressive sight. From a distance of perhaps half a mile I take two photographs. Near here we also pass a Turkic stone man carved from granite, 1.02m (40 in.) tall, beside a looted burial. I mark the coordinates and snap a couple of photos. We don't see but a couple of these on the entire trip. Indeed, Turkic features as a whole are far less numerous down here than they are in the north, in the vicinity of Khoton Lake and Khurgan Lake. As evening grows, after another 15 km we spot some mounds up on a plateau to our right. It looks like it might be a decent place to camp for the night. One can see a fair distance from this elevated vantage point, to the southeast from where we've come and away to the north-northwest, in which direction we will be heading tomorrow. Directly across from us, our jeep faces into the broad entrance to another valley bisected by a stream that our map designates as Targis Gol. Depending on what we find here at the base of these red hills among these red mounds, that valley will be our next order of business in the morning. Again we decide not to bother with the tents; the sky is clear and the air is not too chilly. Agii will sleep in the jeep. While Agii busies himself about the stove, I venture off to explore the nearby mounds. There appear to be maybe half a dozen spreading up towards a crumbling escarpment to the north and northeast. At the second khirigsuur I discover a small deer stone; no deer, just a prominent circle in the upper left corner. Continuing northward, I find three or four undecorated but shaped stones of our "Altai" type. Buoyed by these discoveries I return to hot Ramen noodles and tinned fish, and harbor great expectations for the morning. An inquisitive Kazakh on his horse appears over the ridge and rides over to check us out. This grizzled man seems a bit suspicious; I feel a sullen edge in his glance and in his

voice. We share with our guest our meager dinner; afterwards the apples that we give him to take home seem to satisfy him. I wonder whether he'd been drinking. Agii was thinking the same thing. We work in tandem to clean the table, and following a long custom I've established since childhood, I don't close my eyes to sleep until I've seen a shooting star. A few wispy ones trail across the zenith and with contentment I close my lids and fall into slumber. Out here I don't have to fret about keeping Agii awake with my snoring.

6 June — Targis Gol Valley to Khuiten Gol

I'm up before the sun at about five a.m. The sky is cloudless. It turns out there are 18 khirigsuurs and several small mounds on this plateau overlooking the river. Just beside our campsite to the northwest a deep ravine runs down to the road below, and I can see more khirigsuurs and mounds on the rocky slope across the divide. The variety of mounds and fences on this plateau is exciting; they are of various sizes and shapes. Some have circular fences, some squarish; some of these have prominent corner stones. One mound is an elongated ovoid within an ovoid fence. Another central mound has an open center with long rectangular slabs positioned in a rectangle. Some have hearth rings, numbering from three to 32. Most of the piled stones are heavily covered by lichen, which gives them their distinctly ruddy cast. I don't see any horse burials; but I move quickly across this plateau from one khirigsuur to another. I want to get going again as soon as possible to continue my search for petroglyphs. But this is clearly a site of great significance. I jot down notes of the main highlights. I think Bill will have to spend some time at this place, hopefully next summer.

Working northwards from the jeep, along the northwestern edge of the plateau, I photograph and number the mounds 1-7. I cross toward the base of the cliffs to the southeast, document a broad undecorated standing stone in a box, then continue southwards towards the road where I find several more mounds, numbers 8-17. The hastily scribbled details are as follows:

Mound 1. A solidly packed circular mound approximately 1.5m tall, and 25m in diameter.

Mound 2. This khirigsuur has a squarish fence with corner stones at the S and N corners. The mound is about a meter high; the interior is completely paved with stones. To its east lies a fallen grey granite with a suggestive shape, 94cm (37 in.) long by 35.5cm (14 in.) wide. It has no apparent markings; but it might be a type of undecorated deer stone.

Mound 3. Approximately 1.5m tall, in a circular fence with a diameter of about 25m.

Mound 4. 2m in height, with a circular fence approximately 18m in diameter. This one has comparatively large stones on its perimeter.

Mound 5. A small circular, flat pavement, approximately 8m in diameter. This one has an open circular center with slabs laid on edge to form a rectangle, quite likely a burial chamber.

Mound 6. A square khirigsuur with 13m sides and three hearth rings of 1m-1.5m diameter on its SW.

Mound 7. Khirigsuur with a 1.5m tall mound and circular fence of 22m diameter. Eleven hearth rings 1.1m to 1.7m in diameter arc from N to W and also appear on the SSW. On the E side at 125° lies a fallen deer stone, 1.02m (40 in.) long by 43.2cm (17 in.) wide. Its original placement is inde-

terminable. On one side near the top are carved three slanted grooves, or “slashes.” On the flat top-side is an earring and immediately beneath it a form that looks like a quarter moon. Turning it over, the obverse side shows a similar earring immediately above some kind of pointed tool or weapon, or possibly an insignia: a T-shape with two small outwardly curving horns above and near both ends of the top of the ‘T’.

One hundred meters to the SSE of Mound 7 stands a shaped pink granite in a slab box. This one is uncharacteristically broad. It measures 1.07m (42 in.) in height and 86.5cm (34 in.) in width. There are no visible markings, only a possible faint belt-groove on the SE side that my fingertips pick out. I think, however, that this rough depression has been caused by natural forces.

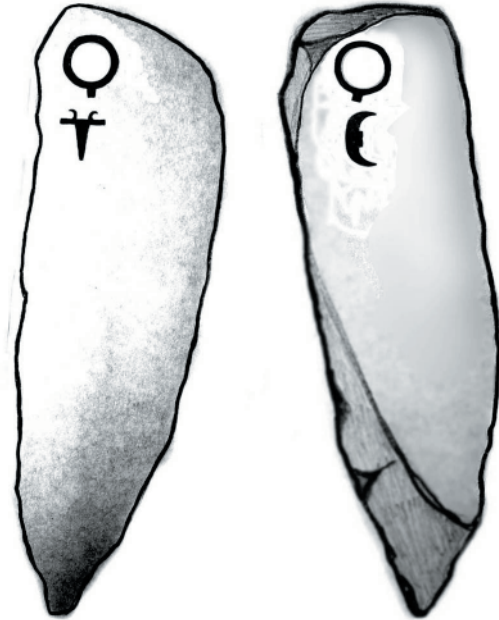
GPS 451 (Elev. 2152m, N 47° 08.818', E 90° 53.619')

Mound 8. Approximately 200m SE of this standing stone is a peculiar, long ovoid mound inside an ovoid fence. It is encircled nearly all the way around, including on its eastern side, by at least 32 hearths of about 1.5m to 1.8m diameter constructed of large stones. Lying nearby are several slabs that have roughly a deer stone shape. Another possible deer stone lies fallen 30m from the middle of the mound SE at 140°. It measures 1m (39 in.) in height and 56cm (22 in.) in width. Ten meters from the mound's central core lies another fallen stone at E 105°. This one measures 1.3m (51 in.) long by 53cm (21 in.) wide. Neither of these stones shows any decorations.

Mounds 9 and 10. 35m and 45m ESE of Mound 8, both squarish with prominent stones to the E. Each mound is about 6m across.

Mound 11. Circular, almost pentagonal, with two fallen stones of granite. Both are buried deeply, lengthwise, so that only their flat faces are visible. One, to the east, has two deep grooves all the way across its face; they are carved, apparently. The other stone has one deeply cut, thin groove across the face. These might be belts, though the two “stripes” on the first stone occur fairly high on what looks to be the upper section of the stone. The horizontal groove on the second stone is deep. It looks as though it would lie at about, or just above, the ground line, if that end were buried. I don't know what to make of these grooves. The first stone measures 1.47m (58 in.) long by 35.5cm (14 in.) wide; the smaller one is 66cm (26 in.) tall and 28cm (11 in.) in width.

Mound 12. This mound contains a tall shapely granite on its SE (a low corral wall of recent manufacture is built against its western side). This standing stone is 1.8m (70 in.) tall and 48cm (19 in.) wide. It has no visible markings.



Mound 7 deer stone drawing.
GPS 449, center of mound (Elev. 2156m, N 47° 08.900', E 90° 53.564')

GPS 452 (Elev. 2148m, N 47° 08.694', E° 90 53.663')

Mounds 13-17. There are five more small mounds to the ESE and SSE. Mound 14, 15m south of Mound 12, has a half-buried stone lying on its southern border, a large tapered granite whose apparent bottom has been cut and shaped. This, too, is possibly an undecorated type of deer stone. This stone's height cannot be determined, as its tapering end is buried. But the section above ground is 1.47m (58 in.) long and 45.7cm (18 in.) wide.

Following this longer-than-expected survey, we cross the Bulgan River and enter the broad mouth of the valley through which the Targis Gol flows. There are some khirigsuurs here, too, but we don't see any standing stones. We drive on towards a prominent rocky outcrop on the northern side, just beyond a low stone animal pen. In short order Agii and I count 52 pecked figures, mostly ibex, very faint. They look to be from the Iron Age. There is also one archer. I estimate that this outcrop contains between 60 and 80 individual images. I record the coordinates by GPS and take a photo of the archer. Further into the valley on our right are more small outcrops of exposed bedrock; on an upper hump of rock we count eight images including a stag with wolves or dogs, and on the lower hump we mark 35 images, mostly crude ibex. Again, all appear to be Iron Age creations. Another photo (of the stag) and GPS coordinates. The next outcrop contains only five or six unremarkable ibex. We rise steadily in elevation as we penetrate the valley, approaching close to the peaks that form the border with China. Approximately five kilometers into the valley a depressed fold, a shallow U-shaped trough, falls abruptly from high on our right; bedrock outcroppings bend away and upward along the eastern edge of this high side valley. The incline is steep and, shifting down and down again, Agii maneuvers the jeep in switchback fashion as high as he can go. Right up above us in the bright noon sun gleams the silent sentinel of Kherts Uul, peaked at 3,599m (11,807 ft.).

Still high above us are several rocky outcrops of blue-grey-green shales, many surfaces of which are glazed by a beautiful dark purple varnish. I'll be surprised if any petroglyphs will be found this high up, but I feel the need to check. The slopes are covered with the breakdown of slates that slide down from these outcroppings. We have to make like mountain goats. Unfortunately, we won't have time to scour all these surfaces even half-thoroughly; we'll have to make a sampling. One of the highest exposed bluffs reveals 50 or so images, mostly ibex, but with an occasional argali, horse, and stag. Probably Iron Age. GPS and several photos. Sheer elevation makes the rock art up here all the more impressive. It required an investment of muscle power, and will, to work this high. Down to the right a blue stone animal pen is tucked under a cliff; three small, chunky shale outcrops rise above it, and one larger one can be seen just below. The middle of the upper three reveals 75 images: I estimate that it contains another 10-25. At the corral beneath the sheer cliff we carefully count another 75. Again, ibex predominate; but there is also a faint horse and rider, a Mongolian deer 33cm (13 in.) long, and an unusual "wheeled" figure that might be a tamga. The Mongolian deer is depicted in a perfectly vertical orientation, snout pointing up, legs to the viewer's left side, its long waves of antler extending down, well past its rump. It looks to be from the late Bronze or early Iron Age.

The next outcrop just below the blue corral contains at least 150 images and quite probably in excess of 200. Two lovely stags display many-pointed antlers; these robust figures might date from the early Bronze Age, possibly earlier. There's also an unusual horse rider of considerably more recent execution, which may be Turkic or even much more recent than that. The pecked grooves are still whitened. I record GPS coordinates and take many photos at each outcrop. Beside this grouping to the right is another bluff with at least 45 images that include an archer and a nicely rendered antelope in addition to ibex, argali, and dogs/wolves. Most of these, too, are Iron Age; but a small number

must be from the Bronze period. On the next outcrop, a vertical panel that we did not see from up higher, Agii and I tally at least 45 figures more. One is a Mongolian deer with its head turned back



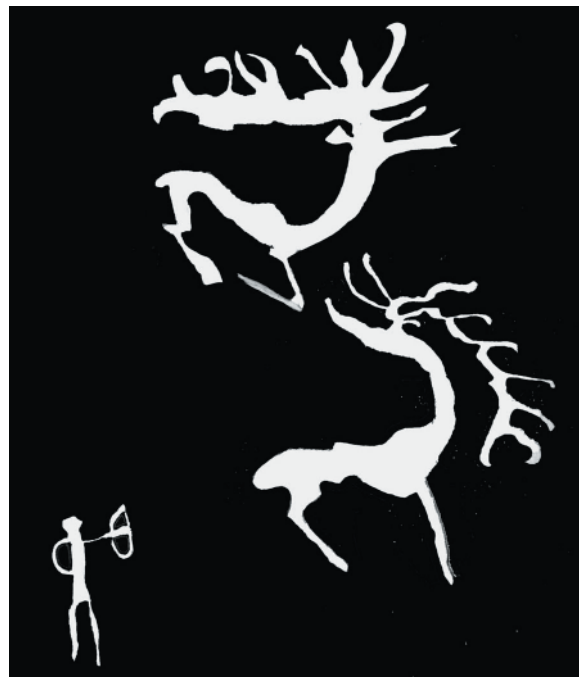
Horse and rider. Date uncertain.
GPS 457 (Elev. 2427m, N 47° 07.201', E 90° 49.888')

over its shoulder. This is the first of its kind that I have seen in the Altai; it's a bit indistinct, but both it and the Mongolian deer figure above it, with its highly arched spine, curvy body, and kneeling foreleg, resemble deer rendered in the Scythian "Animal Style." There are no such images at Biluut.

These are really exciting finds. We estimate that these outcrops nearest the blue corral alone contain at least 400-500 individual petroglyphic figures. This entire river valley, then, upper and lower, can reliably be expected to contain a minimum of several hundred more. Considering its proximity to the many khirigsuurs down below near the mouth of the valley, despite its relatively small number of images

as compared with Biluut, we should consider this location to comprise a rock art *complex* (as distinct from a petroglyph *site*). I'd really like to return here one summer to produce a full documentation and mapping.

Just 10 km north of Targis Gol Valley we come to the mouth of Turgen Gol Valley, longer and narrower than the former. We pass into this valley a short ways on a little-used track. The geology does not give any hopeful indications, and though we stop and look at some samples at the base of the cliffs on our right, we don't find any peckings. Some locals stop by and in answer to our queries tell us that they have seen a small number of pecked figures scattered here and there further up the valley; but this intelligence does not prompt us to seek further along the Turgen Gol on this occasion. After another 10 km on our northern track we come alongside three mounds with circular fenced platforms, right beside the road. One of these has another of the undecorated Altai stones. The fence is approximately 22m in diameter with three hearths. The granite, 1.07m (42 in.) tall and 38cm (15 in.) wide, is located 330° from the mound's



Tracing of Animal Style deer. Probably early Iron Age.
GPS 461 (Elev. 2424m, N 47° 07.177', E 90° 49.971')

center. Some white chalky markings appear on its northern face; but these look to be recent. Still, the top has a distinctive slanted shape. Also, a large slab of granite has fallen inside the fence on the east side of the mound. Perhaps this was the cover to a burial chamber.

GPS 462 (Elev. 2364m, N 47° 14.515', E 90° 47.464')

Beyond these khiriguurs lies the opening to another stream canyon. A brief look at the slopes inside, however, convinces me that there is little or no chance of petroglyphs. I have to be back in Ulgii on the 8th, the day after tomorrow, so I'm going to have to be picky. I already know of two possibly significant concentrations of petroglyphs further to the north near Deluun, which I visited briefly with Canat three years ago. I will need time to explore those more thoroughly this time around. So, we move on. In another three kilometers the Bulgan River turns sharply left (it's flowing down from that direction). It is broad and the current is swift, swollen with snowmelt. Soft marshes of emerald green grasses appear on this side, and the faint track becomes lost. We both sense the danger of getting bogged down in a mire. It seems that few vehicles have come through this place. I wonder if we've missed a turn somewhere. After some difficulty, looping back a couple of times, we find a way onto ruts left by a previous truck and come to a crossing where the main channel branches into smaller rivulets off the main flow. Unfortunately, the water is not only swift, it looks far too deep. We get out and separate, searching the banks on foot in both directions for possibilities; but as much as I want to, I simply can't see how we will manage to cross anywhere near here. I fear we will have to turn around and go all the way back to the major junction where the new road heads north around the eastern horn of the mountains, and drive back up to Deluun the same way we came down. This is utterly dismaying, of course; it means we will have to forego the exploration of the several remaining river valleys on this side. It also means we'll lose a great deal of time. And waste precious petrol.

At other crossings on previous days, I was the optimistic one, convincing Agii that we could ford a river when he was clearly reluctant. Now the roles are reversed. Agii is confident that we can make it across. We debate this several times, for long minutes. We go off and scour the area again. Dubiously, I toss rocks into the river near where the truck tracks drop down into the water. Not very far out, I can't see the bottom. My rocks splash with a sound that does not assuage my worries. All I can see is the two of us being swept away down this icy river, . . . to what unfortunate end? It strikes me as beyond risky. The situation seems hopeless. Nevertheless, somehow or other I yield to Agii's gentle but persistent prodding. He'll do whatever I decide, I know. Against my better judgment, I put my life in his hands and agree to let him take the plunge.

The water is immediately deep; we're in up over the axels and the pressure of the surging tide is felt instantly against the driver's side. Agii fights to maintain control of the steering wheel and, going with the flow, swings out in an arc downstream, along the route we mapped out together. I can't tell whether we're driving or floating. But now the bottom feels solid enough and the tires maintain traction. I've made sure in advance that he's understood not to stall the engine in midstream by trying to shift to low gear. That would spell disaster. I don't know how many times I've had an otherwise excellent driver do this in Bayan-Ulgii and elsewhere in this country, in far less perilous circumstances. So, Agii put us in the lowest gear of his 4-wheel drive before we plunged into the river. Our tires are soon completely submerged, as is the tailpipe; but the rushing water levels off in midstream, and lo and behold, we swing back toward the muddy cutting in the bank opposite. I'm nervously urging us on all the way, and as Agii angles the jeep up the rutted bank and onto firm level ground again we both erupt in hoots and hollers. Agii beams as I thump him repeatedly on the back and shoulders.

This mild-mannered young schoolteacher has proven to be much more of a driver than anyone expected! I'd like to see Dale Earnhardt or Tom Petty try that. It's time for a chocolate bar. And more cold water to soak our headdresses.

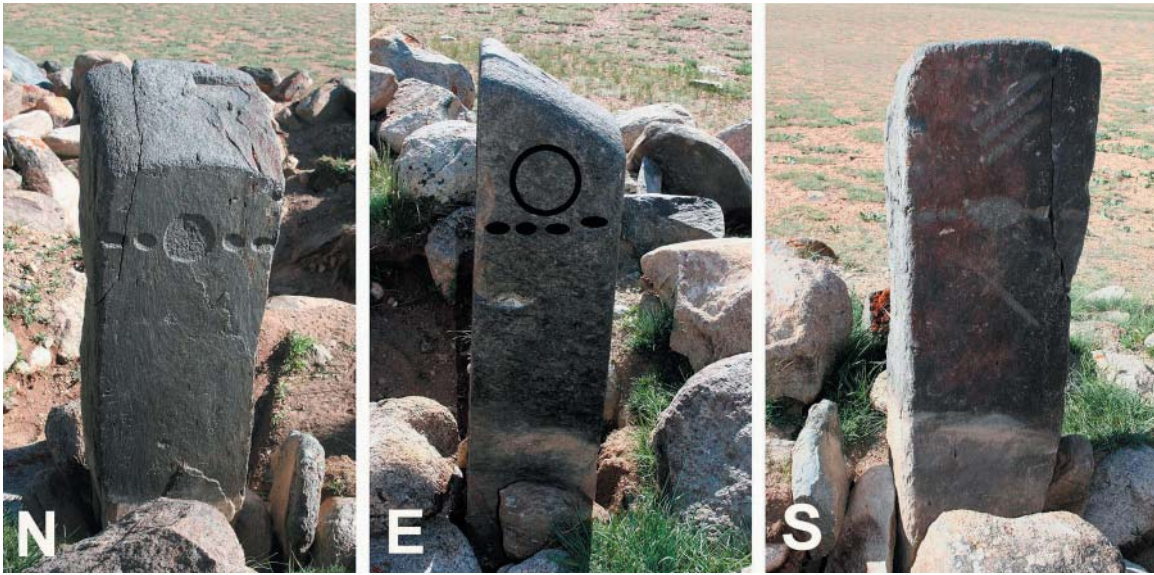
In a mere three-quarters of a kilometer we drive right beside a mound with some small upright stones. A tall khirigsuur lies another 50m beyond it to the west where the hot sun is lowering over high snow-covered ridge tops. The nearer feature is highly unusual. Its stones are mounded in a curve like a crescent moon, a sort-of fat, flattened letter 'C'. The western end is a bit thicker than the eastern; west to east I pace off 17m in a straight line, while the distance around the outside arc is 39m. I've never seen or heard of anything even remotely like this.

The stones are heaped higher at the western, or upper, end. Here there is an open pit inside an oval depression. This place has been broken into; I can't tell to what species they belong (human or otherwise), but bones are scattered in the bottom of the rectangular pit. I let them lie where they are. Agii returns from the tall khirigsuur mound and reports that he can see all the way to its bottom, where there is also a pile of bones. Along the inside arc of this crescent mound, beginning just below the top of the 'C', stand several small, marked stones. I designate these #s 1-7, going from top to bottom (west to east). None contain animal imagery; but all have large circles, extensive necklaces, and chevrons.



Crescent mound.
GPS 463 (Elev. 2423m, N 47° 16.798', E 90° 46.550')

Stone #1. The tallest of these stones; because of the plundering on its southern side, its entire length can be seen. This stone measures 1.1m (43 in.) in total height, 68.6cm (27 in.) of which stands above ground. It is 28cm (11 in.) wide and 23.5cm (9.25 in.) thick. Some unscrupulous individual may have tried to make off with the decorated top section: a large wedge has been knocked off and is found lying near the base. A thin graphite line is marked across the north face near the bottom; someone used a pencil and straight edge to make it. Has an archaeologist visited here recently? This is disturbing. The slanted top of the stone has been sculpted in a unique fashion, with a kind of narrow hump or rounded ridge running along half of the higher, western edge. All four faces are decorated with a necklace that runs continuously around the stone. Large circles are carved near the top of the east and west faces. The northern face has five circular gouges for the necklace; the middle one is considerably larger than the other four. The south side likewise has five necklace holes, the middle one of which is a slightly larger flattened oval. Above this are three slanted slashes; below the necklace a dagger points downward and to the right. I shoot photos of three sides: N, E, and S; the bright westering sun makes photographing the western side impossible without special filters. Sketches, however, are made of each side.



Deer Stone #1.
GPS 463 (Elev. 2423m, N 47° 16.798', E 90° 46.550')

Stone #2. Just a couple of paces E of Stone #1, this one's height is 50.8cm (20 in.). It is 33cm (13 in.) wide and 16.5cm (6.5 in.) deep. A necklace runs continuously around all four sides: the north has six gouges, the east three, the south six, and the western side four. Above the necklace on the north face are carved three broad slashes (slanting downward to the left); the eastern face contains a large circle above the necklace; and the western face has a large earring — a circle with short pendant at its bottom right. Lying half-buried just beneath this stone's eastern side is a small decorated stone, a mere 15cm (6in.) in height. Three short slashes are carved on its lower left and a semi-circular arc, its ends “pointing” upwards, marks the upper right. This might be part of a full circle, the top of which is missing. I am quite surprised — and pleased — to have found such a tiny “deer stone!”

Stone #3. Another couple of paces E of Stone #2, this decorated stubby stone is just 38cm (15 in.) tall, 30.5cm (12 in.) wide, and 15cm (6 in.) deep. Three slashes are carved on the upper north face, a large circle marks the upper east face, a slanting (belt) groove cuts halfway across the southern side, and the west has three or four irregular gouges and a vague oval shape just above its middle.

Stone #4. This chunky stone is located just a couple of meters E of Stone #3. It is 53.5cm (21 in.) tall, 43cm (17 in.) at its greatest width, and 30.5cm (12 in.) deep. Three flat horizontal slashes with two round gouges on each side of the bottom stripe, marks the upper half of the north face; three gouges in a line mark the middle of the east face; a necklace of five slightly upward bending gouges with a single slash above (slanting downward to the left), decorate the southern face; and four prominent circular gouges bending upward with a circle above are carved on the west face.

Stones #5, 6, and 7: Each just a couple of paces to the E of the others. Small uprights, but none has carvings.

This has been a feverishly busy day, full of exciting discoveries. It turned out to be a tremendous stroke of good fortune that we were able to cross the river back there! With anticipation, late in the afternoon we pack our gear in the jeep and head north. The 8x11 black & white topographic map

of the area between Deluun and Bulgan that Canat's office assistant printed out for me before we left. Sher Blue Wolf shows a dotted-line branching off northwestward above the course of the Bulgan River. It appears to crest a moderately high pass then descend into a narrow north-south valley, parallel to but separated from the old northern track by a long line of low mountains. This smaller track is not shown on the large colored topographic map of southern Bayan-Ulgii that I purchased in UB, even though the scale (1:500,000) appears to be virtually identical. The 8x11 printout shows dotted lines crossing between the tracks at two intervals; but it looks as though it would be much easier to find and enter the next five river valleys if we could take the westernmost northern route, if it's passable. Agii thinks it is; so we branch off to the left. In five or six kilometers the track makes a hard right and heads abruptly uphill, over high shoulders of the barren, rocky ridge. We rumble up and down, with twists and loops, over these empty hills. There's nothing to suggest a human presence other than our own in any direction. It's about five kilometers going up, five kilometers winding across the hilltops, and another five going down. Steady but slow going, probably about an hour. There's a near-continuous shifting of gears; we stall once, but Agii has no real trouble getting through. Near the bottom of our descent into the narrow north-south valley, the large colored topographic map represents a stream coming down from the left at an acute angle; the small black & white page shows nothing here. What we cross further down is, instead, a dry watercourse. It must be a seasonal flow, I reckon. In any case, there's no real valley up there, just a small, shallow, fairly steep ravine. I cross it off the list of potential petroglyph sites and we wind our way on down to the valley floor. As evening comes on and the stillness deepens, we can see across this silent valley to the barren feet of a mountain opposite. In the slanting light the steep hillsides do not look particularly conducive to petroglyph production.

In another three kilometers or so, a larger stream runs down from beneath the 3,878m (12,723 ft.) peak of Dushiin Uul on our left. We are 15 km from the Chinese border. We veer left to go up and over a saddle in the lower arm of a ridge that ends just ahead, to make a short cut into the Usugen River Valley. As we mount this ridge, a conspicuous hump of exposed dark outcrop rises up immediately on our right. The rocks are varnished, so we stop to take a look. Agii and I clamber all over this hill with its jutting shelves of chunky rock panels. Together we count 15-20 petroglyphs. Mostly faint Iron Age ibex. I record the GPS and snap a couple of photographs. There are no doubt a handful more images at this site, but nothing to write home about.

The next valley, of the Khuiten Gol, lies another 10 km ahead. We turn left on a faint dirt track and head west. The light is low; even so, some of the weathered bluffs on the opposite side of the stream to our right look promising. A heavy truck rumbles along for a while beneath those hills in the same direction we're going, but we can't see a place to cross. Up ahead a motorcyclist descends the slopes from our left, crosses a low-lying grassy area, passes out of site, then reappears on the other side of the stream, in a plume of dust motoring eastward. It's clear he's crossed a ford that can't be too difficult to negotiate. Rather than try to follow his route from the road father up ahead, we decide to angle directly down to the waterside to where we guess he crossed. But suddenly we're cut off by a wire fence. We swerve right, into soft marshy ground. Agii hits the brakes, but, *ka-plonch!*, just like that, our front tires have sunk into mud. Try as he will, we can't back out. The spinning tires dig deeper into the mire. Evening is falling as we get out to try our hand at shoveling our way out. The back tires are mired down, too. We sweat for an hour, jacking the rear end, digging and scraping out the mud around all four tires, refilling the holes with handfuls of gravel and small stones. Once or twice we think we've got it. But, alas, nothing works. We're good and stuck. Agii is profusely apologetic; but it's not his fault. It looks like we're going to have to spend the night out here; in the

morning perhaps we can flag down a truck for assistance.

A couple of gers are erected farther down the trail, maybe a mile away, high on the north-facing slopes to our left. Unwilling to concede defeat, Agii asks my permission for him to venture forth to see whether someone up there has a truck and can come down to pull us out. I watch his diminishing form make the long trek along the road and up the slope until he disappears inside the door. The sweat grows chill beneath my thin silk Tee, so I climb inside the jeep to wait. A long time ticks by. I check and recheck the slope, expecting, and hoping, to see a vehicle descending. I stamp around outside to warm my muscles. As the light grows dim, I spy three horse-mounted figures disappearing at a canter over a ridge beyond that nearest ger. Still no sign of Agii. I wonder, what can be keeping him? Something feels amiss. At long last, after more than an hour, dim headlights appear on the dirt road away to the west. A big lumbering truck approaches; I rush out to flag it, but to my delight it is already turning down the hillside toward our jeep. Out jumps Agii with two other men. It was the three of them, he explains, who had gone off on horseback from the ger. They went in search of a relative who owns a truck. The headman of the ger owns a truck, Agii tells me; but as luck would have it, his wife and son said that he was away for the day. Hence the horses. Agii's full of remorse for having left me on my own for so long. I'm sorry that he's had to go to such trouble. But all's well now. The men make quick work of it. Hooking Agii's short cable to their own longer one, they easily jerk us out of the muck. I hand Agii ten thousand tugriks to give them for petrol, and a handful of oranges and apples. The men would also like Agii to siphon off some of our petrol. Although we haven't much to spare, he kindly obliges with three or four liters in a battered can. The men leave us with directions to the stream crossing. It's too late, too dark, and we're too exhausted to attempt to drive further this night, so we park just below the road. Agii opts to sleep in the jeep again. I scour around for a more-or-less level and rock-free place to spread my down bag. Ever considerate, Agii boils water for a late bowl of powdered soup. After the day's toil and trouble, it tastes especially good. It warms the heart as well as the tummy. Another day, another adventure. After all, one shouldn't come to Mongolia without being ready for the unexpected. As Heraclitus in his characteristically paradoxical way remarked, "Expect the unexpected. For it is difficult and hard to find." Yes, sir. Tomorrow will be another good day. Our karma must surely be running in the black.

7 June — Khuiten Gol and Gantsmod Valley to Chigertei Gol

After breakfast, our early morning crossing of the Khuiten Gol is short and sweet. This stream is shallow and not wide at all. At this particular place, one could pretty much jump from one bank to the other. So much for short cuts at the end of a long grueling day! We turn left when we hit the dirt track above the bank and eyeball the steep, rock-strewn hills tumbled below an escarpment of bedrock. Pockets of snow shine brightly in the morning sun, directly above us on the summit of Khuiten Salaa Uul, at 3,576m (11,732 ft.) marking the border with China. There's no way through to Mongolia's neighbor from this valley; the road dead-ends up ahead in another 10 km. But here on our right flank we find a varnished rock with a nice stag. GPS and a photo. We explore a few bluffs along this track; one contains 32 figures, the next, lower down, has 10. I'd say 90 percent are ibex and Iron Age. There's another nice stag, and a 'boxy' deer that deserves a photo. We also see a small undistinguished rock mound nearby. All together Agii and I count more than 50 images hereabout. Looking up and down the track at what promising rock faces remain, I estimate that this valley contains upwards of two hundred petroglyphs. It's interesting to note just how common and widespread this phenomenon is, even where it's small scale. Here we have a small, scattered site, perhaps. But little or nothing more, I warrant.

We still have two major valleys to explore, and only today and tomorrow morning are left to complete my survey. I figure we'll have to be headed out of Chigertei Valley, our final survey site, west of Deluun, by one in the afternoon tomorrow, at the latest, if we are to get back to Ulgii before dark. Rather than re-cross the Khuiten Gol, we follow the track on this side of the stream eastward to the mouth of the valley and soon hit our northern road again. Across the junction looms a sheer dark cliff hundreds of feet high that looks to be smooth and heavily varnished. Chunks, large and small, of broken down shales lie all about its base. There could be petroglyphs here. We stop and pick our way through the rubble; indeed, many of these surfaces are outstanding. But to my sad surprise, we don't find a single pecked image. It's hard to fathom; it's like leaving a beautifully primed canvas completely untouched. Tall Turkic stones and slab box structures are situated close by, on a slope across the road to the southwest; some are quite elaborate. You'd think that maybe their artists would have been glad to make use of such surfaces, readymade and so easily accessible. Then again, perhaps this varnish was not at that time so well developed. Or maybe they found this rock just too hard, too dense and refractory, that is, to work. Or something. At Khoton Lake, too, I've come upon beautiful panels empty of imagery. It's a bit of an enigma. So, anyway, on we go once more.

The entrance to Gantsmodnii Gol Valley lies above a deep river gorge just seven or eight kilometers ahead. A small army post sits on a bluff a little ways to the east of the southern rim and we stop at the gated checkpoint to show our papers. There's a short wait while the right official can be found; but everything is in order and we pass under the lifted barrier heading west again toward the border. Things can get pretty touchy out here on the borderlands. To hear some Mongolians tell it, an invasion from their powerful, hungry neighbor is imminent. It's a gross understatement to say that these two peoples have a lengthy history of uneasy relations. After about five kilometers, something does not feel right to me. This landscape does not look familiar. It doesn't match what I mentally play back of my first trip here three years earlier, crammed into a jeep with some friends of Canat's, and friends of friends picked up along the way. As the feeling grows, we stop so that I can walk about and have a look up and down the hills, and down into the gorge below. It just doesn't feel right. Trusting to instinct, I ask Agii to drive us back past the army post.

We descend the steep gully below the post and cross a wooden bridge. I want to lay out both maps on the hood, and compare them with my 2005 field notes from Gants Mod that contain GPS entries. Just ahead across the flat plain a tiny collection of buildings marks the local sum's administrative center. Immediately beyond, the Gantsmodnii Gol is joined by a tributary that runs roughly parallel from the west. This stream is not named on my large topo map; but on the small black & white one, it looks like it's called Ttsgreg Gol. I imagine that this must be the river we're looking for. I record our location on my GPS, so that if necessary I can take another somewhere up ahead and then triangulate to our intended destination. Agii, of course, hasn't a clue as to where my 2005 site is to be found. We pass by the cluster of Russian-built offices, cross the Gants Mod, and make for the next stream valley. It should lie no more than three kilometers ahead. Sure enough, we make another crossing, find the track, and head west into the Ttsgreg Valley. At first, I feel as though my hunch is right. And yet, the further we go along this lonely winding trail, the less sanguine I become. After a long 12 kilometers we come beside a small lake; the track passes right along the northern shoreline. Large water birds spread their wings and alight from rocks a short ways out in the water. It is a beautiful sight. But I know it's not right. Agii seems to have some familiarity with this body of silver-blue water. He knows its name. But I am dead certain I have never seen it before. It's time to turn around again and go back.

Criminy, we've lost at least two hours already, and used up more of our depleted petrol reserve. I take another GPS, and another when we reach the outlet of the valley. Now I can not only generate a direction, I can finally accurately mark a distance on the map and pinpoint where we should be headed. It turns out that we were right the first time. The location of the petroglyphs I visited briefly in 2005 lie somewhere along the western arm of the Gantsmodnii Gol, at a fork (which I can still picture fairly well) deep inside, near the Chinese border. Back we go, past the open, dusty administrative yard, across the wooden bridge, up the hill to the army post. This time, driver and passenger both get out and with embarrassed grins explain our predicament to the ranking officer. Thankfully, there's no problem in letting us through once more. As we wind our way down and down into the gorge and begin to make our way westward along the stream, I finally start to recognize things. This is definitely the way. Still, it's a good 18-20 kilometers from the army post to our intended destination, a stretch of broken, scattered bedrock outcroppings on the northern side of the Gantsmodnii Gol. I remember the first time I came in here, I had to sacrifice my passport to the attending army man and collect it on my way out. I wonder why I didn't have to do the same thing this time. Maybe Canat has something to do with it. It seems that everybody out here knows Canat Cheriyaadaa; my friend has his fingers in lots of pies, to be sure.

In the middle of the opened valley bottom the track grows faint in grassy turf; it meanders and breaks up uncertainly. But that's okay now. We simply continue to head in the direction dictated by my GPS. We pause a couple of times to check the distance. We're getting close. It's less than two kilometers now. In the mid-distance ahead I spot some smallish mounds, and, unexpectedly, what looks to be a standing stone. We ignore the GPS arrow and distance indicator for the moment and, taking care to avoid the many small rivulets that crisscross this bottom land, make for the shape. Lady Luck smiles upon us: it turns out to be two standing stones, not one. An even taller one has fallen on its side beside the visible upright. Both have carved decorations. Another exciting discovery! The upright is 1.2m (46 in.) in height, 38cm (15 in.) wide, and 38.7cm (15.25 in.) deep. The fallen stone is 1.4m (55.5 in.) long, 33cm (13 in.) wide, and 17.8 (7 in.) deep. Both are made from a hard sedimentary stone with a rich deep-grey hue. The fallen stone is covered on its three exposed surfaces by ugly graffiti. The upright has a steeply inclined smoothed top; it bears a continuous necklace on all four faces. Its north face has a carved circle, possibly a sun or full moon emblem, near its upper left corner above the five necklace gouges; the east face has three deep slashes near its top; the south face has a large earring, and the west face has only three downward arcing necklace gouges. On its upper face, the fallen stone has a wide, double-lined belt running across its very top, above a necklace of four arced gouges. The belt contains no interior articulation; but its placement strikes me as unusual. This cannot be the stone's bottom, surely, for it would have been out of sight, buried underground. But I've never heard of a belt running across the top of a deer stone before. I'll have to ask Bill. The thin eastern side has a three slashes at the same end; the belt grooves are continued on this side, too. The opposite western side is rough; it is naturally scarred and cracked, and covered with graffiti. Other than a possible continuation of the lower line of the belt from above, there appear to be no other decorations. Agii and I flip this stone over to look at the underside. This face, too, is covered with graffiti. But the belt is clearly visible; on this side it is pecked solid. There is a necklace, too, a slanted line of four large gouges. Other gouges and scratchings, sadly, are from recent hands.

GPS 472 (Elev. 2429m, N 47° 35.706', E 90° 32.751')

We drive towards some gers set up at the place where the valley splits into two smaller ones, at the

fork in the stream. All along the far, northern, side the lower slope of the mountain is peppered with a line of intermittent, shaley outcroppings and low cliffs; it stretches for about 1.5 km west to east. One of these cliff faces near a stone corral was where I came in 2005. Now there's a man-made channel of running water all along the base of the hillside. There aren't many people about, but this place has a more domesticated feel than I remember. Agii and I spend the greater part of the rest of this day climbing these slopes and counting, recording, tracing, and photographing petroglyphs. There are far more than I had imagined, based on the maybe 20 or 30 minutes I stopped here three years ago. At the westernmost point of our explorations, we count eight Iron Age ibex and estimate another 20-25 in the broken shales roundabout.

GPS 474 (Elev. 2463m, N 47° 36.028', E 90° 30.634')

Over the next section of varnished tumbledown rocks to the east we count 110 images; clearly there are many more along this section of slope. I find a broken shard of iron, a piece from the rim of what must have been a large shallow bowl. I have no way of telling how old it might be; it's slightly corroded and has evidently been lying exposed from some time. I mark the location on my GPS and seal it in a plastic bag, in the hopes that later I can find someone sufficiently expert to make an identification. Ultimately, I'll give this to the national museum in UB, if it turns out to be old. We continue to work our way eastward along the lower slopes. But there are also lots of promising boulders higher up. We don't have nearly enough time to investigate thoroughly or to be rigorously systematic. So we mark off a rough length of hillside, make a count, and then generalize inductively. This method should give us a reasonable estimate, sufficient for my present purposes. Near the mid-point, both east-west and in terms of elevation, I find an interesting image: it's a nicely outlined Mongolian deer 20cm long, but, curiously, it has no antlers. I have not encountered one like this before. I take a photo and make a graphite tracing.

GPS 477 (Elev. 2466m, N 47° 36.084', E 90° 31.215')

Further along, Agii and I count another 50-some images in the next section of rock-strewn slope. Of note are a multi-pointed stag and a running antelope pursued by a wolf, probably from the late Bronze Age. A small section of a large, broken panel of the next outcropping contains many figures. Of real interest are two archers hunting a Mongolian deer. Probably dating from the Iron Age, it is uncertain whether these later artists imagined a real creature unfamiliar to them being hunted by earlier bowmen, or whether this image with its legendary bird-like deer is to be interpreted symbolically — a magical or spiritual “hunt” of some kind. A nice puzzle for art and cultural historians.

Abutting the base of a cliff further to the east is another stone animal pen. Up on the cliff's multiple vertical faces we find in excess of 250 images; down low, immediately east of the pen we count off another 50-plus. This has turned out to be

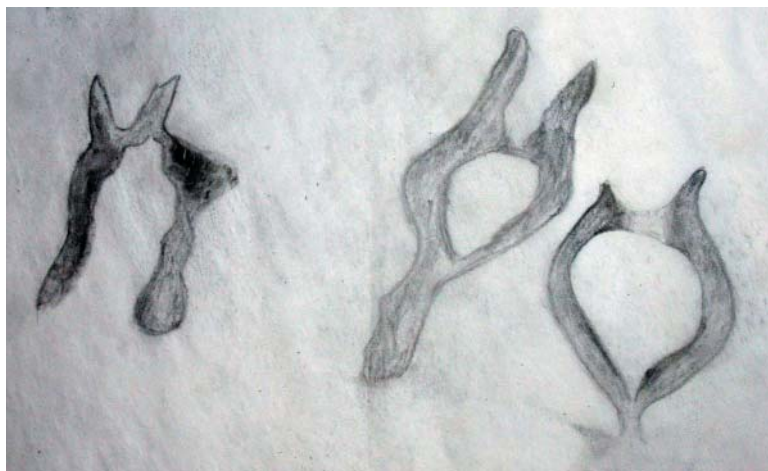


Mongolian Deer Hunt. Early Iron age?

GPS 479 (Elev. 2468m, N 47° 36.094', E 90° 31.296')

a major site. Again, because of the proximity to mounds, and to the deer stones, I have to designate this a far richer petroglyph *complex*. Discovering the possible relations and orientations among the various surface features will require a careful mapping. There's a good bit of work to be done here in the future. Among many interesting images on this low cliff, I find one of three horned heads, probably masks. My field partner Tserendagva from the Academy of Sciences' Institute of Archaeology in UB and his Director, Tseveendorj, published many similar images in their study of Javkhlant Khairkhan in the Gobi Altai to the far south, and Esther Jacobson of the University of Oregon has likewise documented masked figures at Tsagaan-Salaa in the far north; but I have never come across such imagery myself, at Biluut or elsewhere. My excitement continues to grow,

Another 60m east of this pen we find a large stone with many fine bulls, a stag, and a yak, probably Bronze Age. We have seen precious few of these signs of domestication on this trip. Finally, at the easternmost stone pen, for which many pieces of the flaking cliff have been used in its construction, we count another 50-some images. These vertical panels are marred by a great deal of graffiti, scratched into the surface and painted here and there by locals. We explore one last location, in the middle of a tall outcropping. On this group of panels we count more than 140 images, an

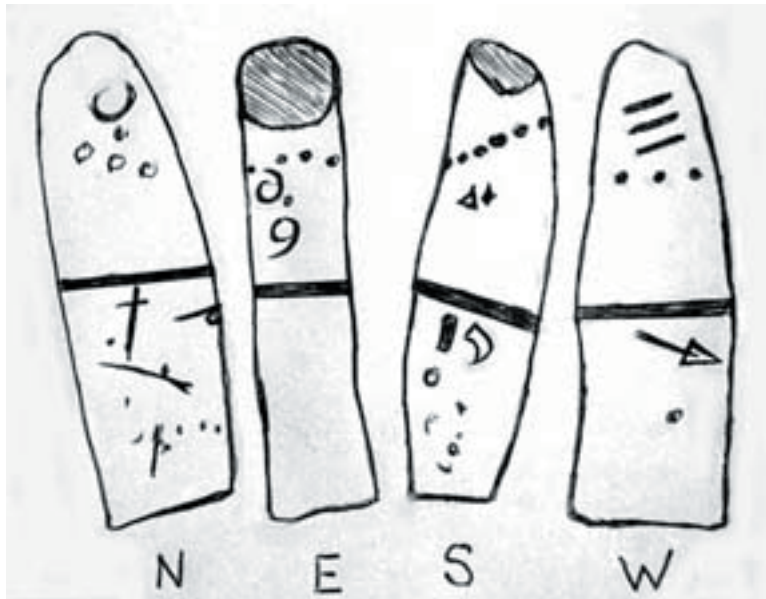


Three horned figures, probably masks. Date uncertain.
GPS 480 (Elev. 2453m, N 47 36.084', E 90 31.326')

especially dense concentration that reveals many Bronze Age figures: stags, wolves, argali, bulls, antelopes, deer, dogs, and humans. Here as at the previous spots we take many photographs and record one last set of coordinates. All told, in this short time we count nearly 700 distinct images; it is reasonable to infer that this location is bound to contain at least that many more. This valley certainly needs further exploration — and a full summer season of fieldwork, at least. I'd especially like to be able to investigate both of the upper forks to our west. No doubt, that would require special permission, probably from the Chinese as well. I still have years of work yet to complete at Khoton Lake; but I nevertheless hope that I can return to this special place in the not-too-distant future.

GPS 484 (Elev. 2447m, N 47 36.098', E 90 31.770')

Somewhat reluctantly, though quite satisfied, Agii and I wave good-bye to Gantsmodnii Gol. We cross the stream and make our way across the grassy valley floor. We haven't gone far when we are dealt another surprise. There's another standing stone up ahead, which we hadn't spotted on our way in earlier today — a lone deer stone, with no other features nearby. It's a lovely blue-grey in hue, modest in height, and very slim. Like the Tower of Pisa, it leans precipitously, towards the southeast. It's 0.99m (39 in.) tall, 21.6cm (8.5 in.) wide, and 19cm (7.5 in.) deep. Each side is richly decorated with belts, necklaces, circles and swirls, and below the belt on three sides are images of tools and weapons. I believe this is the most excellent stone we've found on this trip. I take eleven photos, from each side, with close-ups, and finally we're on our way.



Blue deer stone details.

GPS 486 (Elev. 2413m, N 47° 35.829', E 90° 34.012')



Blue deer stone.

GPS 486 (Elev. 2413m, N 47° 35.829', E 90° 34.012')

We drive through the early evening out past the army post and north through Deluun. Agii stops to fill the tanks one last time with petrol; but, to his dismay, one of the jeep's gas caps won't come off. The threads are evidently crossed. Agii tries a variety of tools: pliers, hammer and screwdriver, a crowbar, a large pointed rock. I try my hand at it, too. Nothing works. We have no choice but to refill just the one tank and hope for the best. Agii doesn't know how much petrol is left in the other. Now my original worry about the non-functioning gas gauge comes back to nag. We roll out of town into a gorgeous sunset. About 20 minutes later we find a suitable spot to camp for the night, down along the stream just inside the mouth of Chigertei Valley, the final target of my reconnaissance mission. Since this will be our last dinner on the road, we splurge on what remains of our meager rations — leaving enough, of course, for tomorrow's breakfast and lunch. We help ourselves to an extra chocolate bar as reward for a successful day's work. In the failing light a lone dark figure strides purposely down the slope straight towards us from the road above. He's cradling a little girl in his arms. Evidently, his jeep has had a flat; so off goes Agii with his jack and tire arm. After half an hour my Good Samaritan returns with a newspaper wrapped around two small fish. We re-ignite the stove and pour in cooking oil. They're bony, but the flavor is delicate. I go to sleep in my bag beneath blazing stars hoping that Chigertei will reveal even half the bounty of treasure that we found deep inside Gants Mod Valley.

8 June — Chigertei Gol Valley back to Ulgi

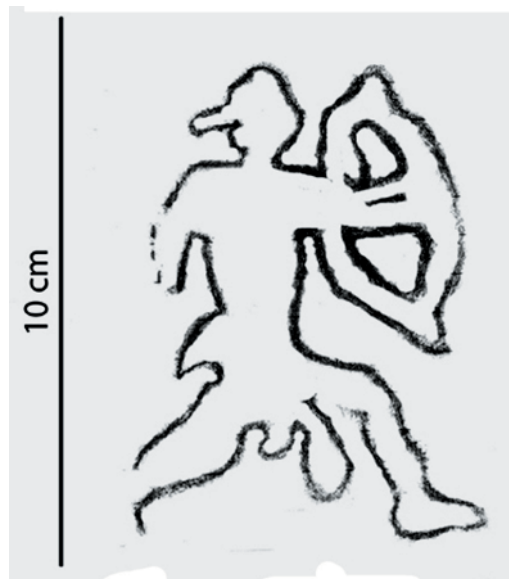
It's barely six kilometers to the big lake, Chigertei Nuur, which is three kilometers long, then just another one and-a-half kilometers to our first stop, a large many-spoked khirigsuur north of the river. This mound is marked on my large colored topographic map; so, presumably, Russian surveyors have been here before.

GPS 487 (Elev. 2312m, N 47° 52.561', E 90° 25.270')

Ten spokes radiate from the central mound to the fence, whose diameter by pacing is about 108 meters. This khirigsuur, despite being on the map, looks undisturbed. The height of the mound is about two meters. There's a large 2m hearth outside the circle to the WNW. What looks to me like a possible horse burial lies six meters outside the fence at 348°. But this doesn't fit with horse burial locations anywhere else in Mongolia, as far as I know from the work of Americans Francis Allard, Jean-Luc Houle, Bruno Frolich and of course, Bill. Moreover, there's only the one mound, not four. I take several photos to show Bill later.

It's barely another five kilometers to our destination, a series of bedrock bluffs on the north side of the stream, above a family spring or summer house and animal pens. Some of these outcrops rise high up on the craggy mountainside; others sprawl off in long intermittent lines. Lower down, to the northeast of the compound, a number of broken shelves of dark bedrock trail off down to the bottom of the slopes below. Agii with his younger legs sets off upwards; I shuffle off along the lower slopes to examine the many varnished shelves north of the compound. My field assistant returns with a count of 194 images from high upon the mountain's shoulder; my tally is 249. Agii had also ventured over the crest of the shoulder to the west and from there reported 175 more, for a total of 618. We've been here maybe an hour. We've only just begun. It's clear that we are going to find a lot of petroglyphs here today!

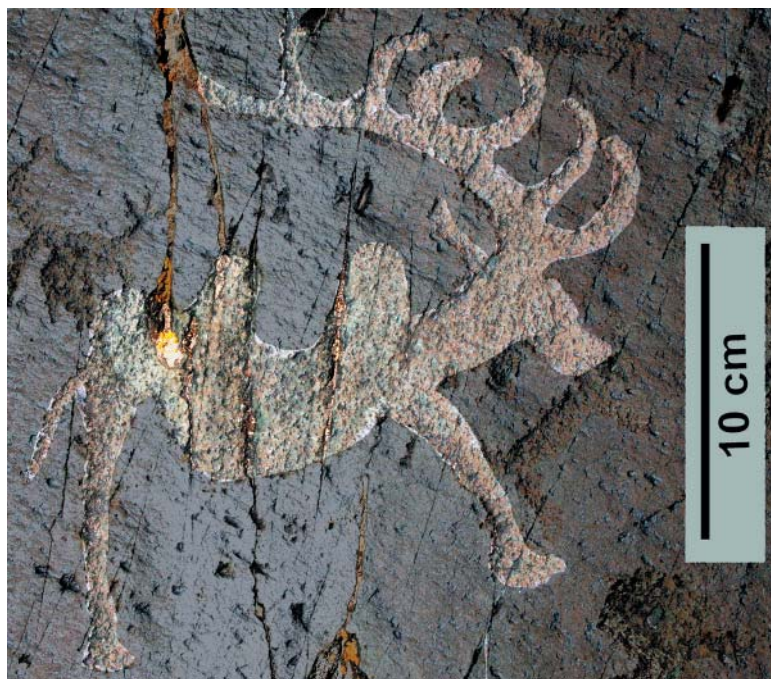
I record coordinates at the northernmost low outcrop near a stone corral, just three meters below (SE) a small weathered mound five meters in diameter. It's interesting to note that a few small old mounds are interspersed right among the rocks bearing petroglyphs. Beside this mound lies a half-buried long pink granite, covered in lichen. The top edge looks slightly angled; it might be smoothed and crisply edged. Though no markings can be detected, I nevertheless suspect it's a fallen standing stone. I snap another photo. Right beside, on a large cracked but highly polished rock face are another 40-plus figures, including a massive stag with impressive antlers, 61cm (24 in.) hind leg to tip of antler. Some shallow fragments of rock are missing, a few containing parts of images, unfortunately. These images, such as they are, are all fairly faint. I judge by subject, style, technique, coloring, and weathering that they date from the Bronze Age — quite possibly earlier, in the case of the stag. Atop the southern shoulder of the same rock two lively archers are shown in hot pursuit of game; the one on the right is especially dynamic. He appears to be running while shooting. Both have what look to be exaggerated sexual organs dangling between their legs. Again, there are plenty of bowmen and hunting scenes at Biluut and Boregtiin Gol (another rock art complex I've documented west of Tolbo Lake (*INORA* 2007), and at several other sites I've investigated and recorded up north (Snowmen's Valley, for instance), but none look like this. Placing a notebook page directly on the surface and following the pecked grooves with the soft point of a pencil, I make a graphite tracing of each figure.



Tracing of archer. Bronze age.
GPS 488 (Elev. 2372m, N 47° 51.941', E 90° 21.591')

Thirty-five meters WSW of the old deflated mound my foot strikes something that produces a metallic clank. I stoop to find another iron shard lying half-buried in the dirt, a pointed, gently curved piece with a small notch-hole at the rim. Judging by the sweep of the outer curve, this, like the first one from Gants Mod, must have been a shallow bowl with a very large circumference. I'll make a precise calculation later; but for now I guess its diameter must have been in excess of 75cm (30 in.). I wonder whether it functioned like a huge wok. Its graceful curve is evenly thin throughout; the workmanship strikes me as excellent. I have no way of knowing whether it's associated with this or another nearby mound, or whether it might have come from a household rubbish pile in the recent past. Into another sealed plastic bag it goes. All about the main lower shoulder and vertical 'corner' of the mountainside west of the compound are numerous panels of flat, varnished bedrock. Several of these contain dense concentrations of figures, (late) Bronze and Iron Age. One figure, a great outlined stag with a peppering of pecks in its breast, neck, and head, measures nearly 50 cm (nearly 20 in.) in length. A powerful figure, it looks to be Archaic, i.e., pre-Bronze.

On the middle of a great sloping panel on the lower southern shoulder, further around the 'corner' to



Camel with antlers. Late Bronze age-early Iron Age.
GPS 491 (Elev. 2384m, N 47° 51.535', E 90° 21.183')

the west, I count off 350 individual pecked figures. I don't believe that any among even the most densely covered panels at Biluut contains more than 150 or 160. Agii reports another 142 from the rocks higher up. Adding these 492 to our previous 618, we have 1,110. This is unquestionably a substantial number. There's a great variety of animals and a few more humans, including another archer or two. Another figure of a deer with its head turned back over its shoulder resembles the Animal Style of the Scythians. Lower down on the big panel I find a train of distinctive camels with tall rounded humps. I've documented many camels before, but not like these. The round humps are a delight — almost humorous. The most surprising find, the most captivating figure, is a two-humped

camel with long, wave-like antlers that resemble those found on Mongolian deer. A camel with antlers! So, the fable comes to life! On our long journey south, Agii recounted to me the mythical legend, of how the deer originally got its beautiful antlers, and how the camel, most generous of creatures, lost his. Mongolians delight in these stories, which remind me of the Kipling Just-So stories I read as a boy. It seems that for a formal function of some kind, a gala party, the bare-headed Deer asked to borrow Camel's crowning glory. Camel graciously acquiesced. But Deer's promise to return those handsome antlers was never fulfilled. To this day Camel continues to eye the horizon, longing to see the figure of Deer returning over the hills with his prized antlers. And, now, here, right before my eyes, right beneath my feet, is Mr. Camel with his fine long rack. Chicken or egg,

which came first? Did this charming legend spring up as a result of an early encounter with this or a similar petroglyph image? Or is the myth older still? Did this rock artist seek to pass on a story that he had learned around the fire? Of the ten thousands of Mongolian petroglyphs I have viewed, this one is truly unique. And so, yet another mouthwatering mystery confronts us.

It's about one-thirty in the afternoon. Time to pack up and hit the road. We haven't even paused for lunch. But now we've got a long slog ahead of us to Ulgii. From Deluun to Ulgii is close to five hours, according to Agii; add another hour from here. The sun likely will have set, but I'm hopeful that we'll arrive at Canat's while there is still light in the sky. I don't feel safe driving in the dark on the Mongolian highways. In fact, we arrive ahead of time. Despite the intense heat, with single-minded resolve Agii keeps his foot to the floor; through the barren, almost desert landscape we stop just once. The only hot shade to be found is cast by the jeep; so our late, cold luncheon is brief. We pass the silent eerily blue Tolbo Lake on our left. We're in the home stretch, only 90 minutes to go. Our water bottles are empty, but we arrive on the streets of Ulgii well before six o'clock. After freshening up, we devour a wonderful hot meal of soup, rice & potatoes, shredded carrots, Russian salad, tea & cookies lovingly prepared by Canat's handsome wife Ika. After our week on the hard trail down in the far south, this delicious fare (and the second helping) goes down the gullet like a royal feast fit for a chieftain.

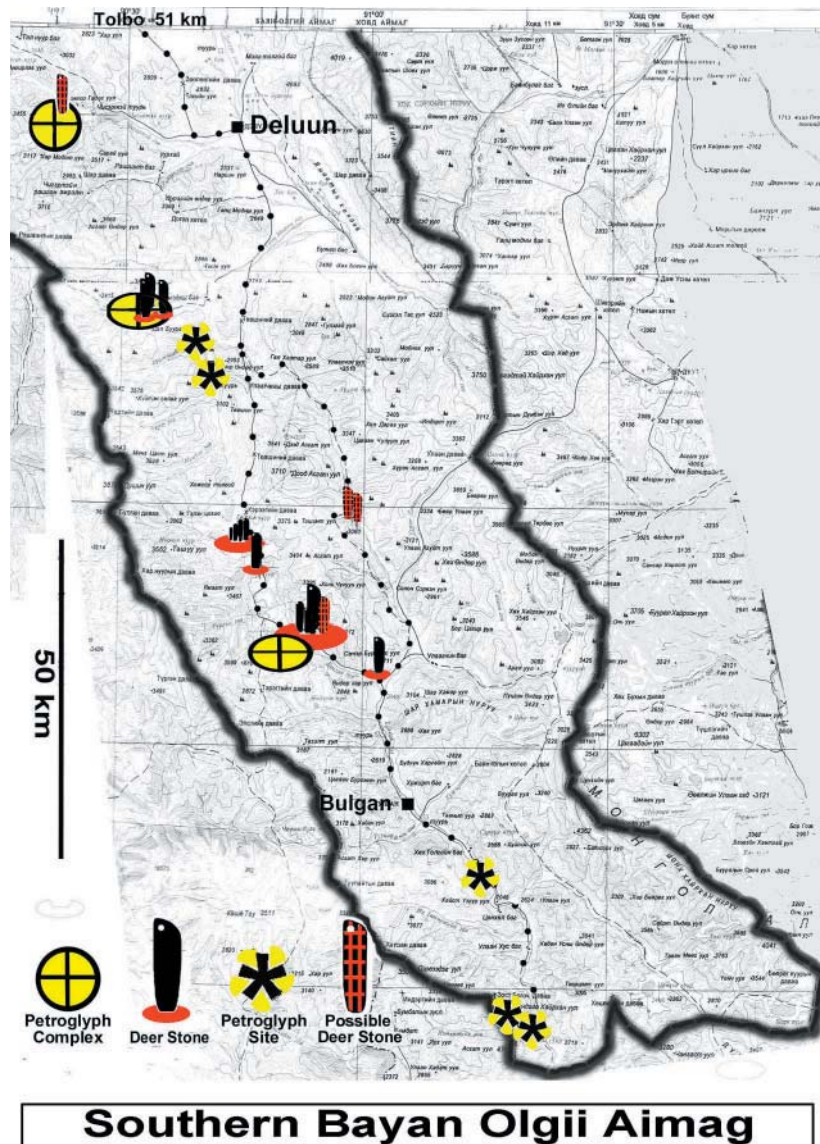
. . . Back in UB two days later, I enjoy a terrific extended meeting with the new director of the national museum, Saruulbuyan, and his English-speaking international secretary, Dembereldorj. Our discussion ranges over many things, from changes in the museum and the countrywide museum network to my recent work with Bill Fitzhugh and my new discoveries in the far south of Bayan Ulgii, from my taste for airag to Saruulbuyan's writing and painting, to sharing impressions of Oxford and London with Dembereldorj. Saruulbuyan pays a nice tribute to my wife, Theresa Markiw, whom he remembers warmly from her two years working in UB as Public Affairs Officer at the U.S. Embassy (2000-2002). Saruulbuyan shares with me, a fellow artist, a stack of 5x7 glossy cards with reproductions of his most recent pastels. He's a multi-talented Renaissance man; his palette is subtle and his colors are exceptionally vivid. The style is impressionistic. This collection of work is really excellent. I'm truly delighted that someone with his background in the arts and humanities has been awarded this important museum appointment. My earlier three-year partnership with the museum under its former director Ochir has expired. Expressing a great deal of enthusiasm, the new director agrees to renew our collaboration and asks me to formulate a new five-year agreement and work plan for Khoton Lake. I deliver the letter from the director of the little Museum of Natural History in Ulgii. Saruulbuyan accepts without reservation my request to include him and the museum in Ulgii as a partner, too. I leave it to him to decide how best to do this. And so, finishing my tea I prepare to leave Mongolia on a high note, following an intensive two-week excursion in the field that despite its brevity was immensely productive and personally rewarding.

Major results of this reconnaissance expedition

1. Deer stones: On this trip my field assistant Agii and I recorded nearly 30 previously undocumented stones. Sixteen stones bore no visible decorative markings. Among these, six stones were situated in small slab boxes; at least 10 were not. Almost all of these stones are formed of feldspathic granite, like the majority of those located elsewhere in north-central Mongolia, near Muren, for instance, where Bill Fitzhugh and his team have accomplished a lot of work. One stone, however,

was a pebbly black conglomerate, and one was a dense black sedimentary, I believe. We also recorded eleven new decorated stones, five of which are located on the inner arc of a peculiar crescent-shaped stone mound. These five are small, one of the marked stones being only 15 cm (6 in.) high. In Gantsmod we found three more, composed of a dense sedimentary rock, deep grey or pale blue-grey in color. No doubt this region contains many more.

Importantly, none of the stones we discovered display any animal figures, whether of stylized Mongolian deer or of naturalistic animals. This makes me wonder whether another type of deer stone ought to be distinguished from the three currently named in the literature. Those referred to as ‘Mongolian’ or ‘Transbaikal’ are generally characterized by the presence of sun or moon circles, necklaces and/or earrings, belts, and tools and/or weapons; but most especially by the depiction of paradigmatic stylized deer. ‘Sayan-Altai’ designates shaped stones that are most commonly decorated with deer or other animals represented in a naturalistic fashion; and ‘Eurasian’ is widely applied to large shaped stones that are devoid of decorations, usually associated with first and second millennium BC cultures whose realms are centered further to the west. In this brief foray into southern Bayan Ulgii aimag, we’ve encountered representatives, it would seem, of each of these recognized types. But what about the several tall shaped stones in boxes? Are these Eurasian, or are they some other variation entirely? And the many smaller stones decorated with just a circle, or with slashes only, or with both of these plus other ornaments such as tool belts and weapons — that is, with no deer of any kind or animals whatsoever — to which category do they belong? Only closer inspection, I think, can resolve this issue. That, and excavations for datable material that can reliably be linked to all these stones.



Map of southern Bayan Ulgii sites.

2. Khirigsuurs and other stone features: As is the case in the northern part of this province, southern Bayan Ulgii contains a vast number and large variety of ancient stone mounds. On this trip we

counted more than 150; we must have seen well over 200. This is just a tiny fraction of the total, I'm certain. There must be thousands. A few of the ones we examined are broken into, but the overwhelming majority appear not to be — yet. At least three major river valleys contain khirigsuurs in association with petroglyphs. At Chigertei, a few old mounds are interspersed among rocks decorated with pecked imagery. With one or two possible exceptions, horse mounds associated with fenced khirigsuurs are almost entirely absent. Shape and size, in terms of both diameter and mound height, vary a great deal; we encountered squares (several with prominent corner stones), circles, ovoids, a crescent-shaped mound, as well as spoked designs, but far fewer Pazyryk graves, and still fewer Turkic slab boxes, balbal, and slate standing stones. This marks a distinct difference from what we've discovered so far in the area surrounding lakes Khoton and Khurgan to the northwest. On this trip, we came across only two Turkic stone men. We observed only a few spoked khirigsuurs; typically these seem to have four radial paths leading from the central mound to a circular perimeter fence. On the plain just south of the three Biluut hills are several such features. But two of those we discovered in the far south had at least twice as many spoked paths: one in particular had ten spokes in a squarish fence of gigantic proportions (over 100m sides); four of these paths connected to the corners. This one closely resembles another that Bill and I recorded at Tsagaan Asga, although the one in the south possesses two more paths and is considerably larger (see Fitzhugh's Field Report entry for May 30). I don't believe we came across any khirigsuurs with east plaza pavements, though one of the mounds in the group I explored just below Deluun (at our first campsite) had a kind of trapezoidal ramp leading up to the circular pavement. That one put me in mind of Hunnu graves that I've seen pictured.

3. Petroglyphs: Beginning at Bayan Ulgii's southwestern border with Khovd aimag, we documented four or five modest petroglyph sites. The overwhelming majority of images can be credited to early Iron Age artists, with a small proportion attributable to the late Bronze. A very few appear to be older, either Neolithic or possibly even Archaic. My assistant and I also discovered three significant rock art complexes; two of these reveal a larger presence of Bronze Age pastoralists. Worthy of special note, I found three figures rendered in a manner resembling the 'Animal Style,' which suggests therefore either the presence or the influence of Scythian artists. Also intriguing are images of bowmen hunting a Mongolian-style deer, another of a man riding a Mongolian deer (with reins), and the one of the camel with (Mongolian deer-style) antlers. Strangely, I found not one single image of a wheeled vehicle. At Biluut there are many, on the order of two dozen, at least. Far fewer depictions of horses and of deer were found, as well, in the far south, especially as compared with Biluut (and Boroogt). Only a few moose, no bears, and no bird imagery. Nothing that looked explicitly "shamanistic" or ceremonial. Also a surprise, we hardly saw an image of a yak, and very few of bulls. These two creatures are dominant in the work of the Bronze Age artists at Biluut. Still, at least in terms of sheer numbers pecked on a single rock face, at Chigertei there are rich panels that surpass anything located on the three Biluut hills. So far, only Chigertei and Gantsmod show significant abuse by vandals; in one or two places in Chigertei the damage is particularly bad. It's just a matter of time, I fear. Sadly, this situation is sure to get worse in the weeks, months, and years to come.

Appendix 1. J. Bayarsaikhan GPS data for Deer Stone sites**List of Deer Stone Sites**

№	Site name	Province name	GPS position
1	Khushuutiin am	Galt sum of Khuvsgul province	48°42,288' N 99°53,669'E Elev 1553m
2	Nuhtiin am DS site 3 DS№ 1	Galt sum of Khuvsgul province	48°49,155' N 99°47,554'E Elev 1452m
3	Ulaan tolgoi DS site DS№ 2	Alag-Erdene sum of Khuvsgul province	49°55,907' N 99°48,250'E Elev 1607m
4	Shuvuutiin am DS site DS№ 1	Alag-Erdene sum of Khuvsgul province	49°58,373' N 99°56,521'E Elev 1582m
5	Khushuugiin devseg DS site DS№ 1	Alag-Erdene sum of Khuvsgul province	49°55,031' N 100°3,164'E Elev 1711 m
6	Tumst DS site DS№ 1	Alag-Erdene sum of Khuvsgul province	49°53,482' N 100°3,862'E Elev 1793 m
7	Zuun Shuuregtei DS site DS№ 1	Ulaan -Uul sum of Khuvsgul province	50°58,617' N 99°22,441'E Elev 1564 m
8	Evdei Turkish standing stone DS№ 2	Renchinlkhumbе sum of Khuvsgul province	51°7,310' N 99°13,300'E Elev 1618 m
9	Evdein amnii DS site DS№ 1	Renchinlkhumbе sum of Khuvsgul province	51°7,402' N 99°14,827'E Elev 1568 m
10	Tsatstain Khoshuu DS site DS№ 1	Renchinlkhumbе sum of Khuvsgul province	51°10,142' N 99°22,554'E Elev 1550 m
11	Avt mod DS site DS№ 1	Renchinlkhumbе sum of Khuvsgul province	51°28,010' N 99°21,910'E Elev 1673 m
12	Tsagaan usnii davaa DS	Renchinlkhumbе sum of Khuvsgul province	51°27,402' N 99°22,107'E Elev 1687 m
13	Khyadag West DS site Tallest DS	Burentogtokh sum of Khuvsgul province	49°48,876' N 99°53,946'E Elev 1587m
14	Khyadag East DS site DS№ 2	Burentogtokh sum of Khuvsgul province	49°48,900' N 99°53,042'E Elev 1589m
15	Uushigiin uvur	Burentogtokh sum of Khuvsgul	49°39,925' N

	DS site	province	99°56,206'Ez Elev 1338 m
16	Hort uzuur DS site, DS№ 1	Renchinlkhumbе sum of Khuvsgul province	51°25,850' N 99°35,550'E Elev 1571 m
17	Sakhalt khairkhan DS site	Saikhan sum of Bulgan province	48°20,786' N 102°22,578'E Elev 1375 m
18	Khairhan DS site	Khairkhan sum of Arkhangai province	48°23,70' N 102°11,871'E Elev 1592 m
19	Ulziit DS site	Ulziit sum of Arkhangai province	48°5,772' N 102°33,335'E Elev 1302 m
20	Khanui DS site	Undur-Ulaan sum of Khuvsgul province	48°10,343' N 101°5,606'E Elev 1636 m

List of Rock art sites

	Name of sites	Province name	GPS position
1	Toljigiin boom rock art	Ulaan uul sum of Khuvsgul province	51°0,856' N 99°12,245'E Elev 1605 m
2	Angirtag rock art -1	Renchinlkhumbе sum of Khuvsgul province	51°26,609' N 99°24,278'E Elev 1793 m
3	Angirtag rock art -2	Renchinlkhumbе sum of Khuvsgul province	51°27,234' N 99°23,785'E Elev 1584 m
4	Elst khoshuu rock art	Renchinlkhumbе sum of Khuvsgul province	51°29,115' N 99°29,708'E Elev 1554 m
5	Khogorgo rock art-1	Renchinlkhumbе sum of Khuvsgul province	51°24,846' N 99°19,104'E Elev 1575 m
6	Khogorgo rock art-2	Renchinlkhumbе sum of Khuvsgul province	51°24,820' N 99°19,148'E Elev 1564 m
7	Khogorgo rock art-3 (Bill olson)	Renchinlkhumbе sum of Khuvsgul province	51°24,841' N 99°17,015'E Elev 1603 m
8	Khogorgo rock art-4 (Bill olson)	Renchinlkhumbе sum of Khuvsgul province	51°24,836' N 99°17,078'E Elev 1604 m