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REVIEW ARTICLE

NEW DISCOVERY OF A LARGE NUMBER OF CHARIOT PETROGLYPHS IN THE OLON OVOO AREA AND THEIR PRELIMINARY IDENTIFICATION AND INTERPRETATION

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ABSTRACT

Olon Oovo petroglyphs are located in the Gobi Desert area with an altitude of about 1,100 meters, more than 20 kilometers northeast of Mandal Town, Darhan Muumyangan Banner, Bao Tou city, Inner Mongolia Autonomous Region. From 2011 to 2022, the rock art research team of the Inner Mongolia Museum completed more than 10 surveys in the Olon Oovo area and recorded more than 1,270 groups of petroglyphs. So far, a total of 36 groups of chariot petroglyphs have been found in the Olon Oovo petroglyphs, including 62 images with a single chariot. The article makes a detailed observation and interpretation of the chariot structure, the form of draught animals, and the image of the charioteer seen in the above-mentioned petroglyphs. Meanwhile, the article also makes a preliminary analysis of the relationship between the combined images of roads, people leading horses, archers, wrestlers, dome-style buildings, and various animals that appear around the chariots.

KEYWORDS

Olon Oovo, chariot petroglyphs, identification and interpretation

1. INTRODUCTION

Olon Oovo petroglyphs are mainly located in Tenger nuur of Tsagaan Khad sum, more than 20 kilometers northeast of Mandal Town, Darhan Muumyangan Banner, Bao Tou city, Inner Mongolia Autonomous Region. Some parts in the east are distributed in Dalai Gatsaa, Bayan Oovo sum, Durved Banner, Ulaantsav city. This site and the petroglyph in the Nanjwandan area to the west are both close to the China-Mongolia border. (Figure 1) In the north, petroglyph remains are found in Baruun Bichigtin am (Энхбат and Даваацэрэн, 2010:82), Bayan Khairkhan (Энхбат and Даваацэрэн, 2010:82), Khairkhan Tsokhio (Энхбат and Даваацэрэн, 2010:86), Shiree Khar undur (Энхбат and Даваацэрэн, 2010:87), in Khatanbulag sum, Dornogobi aimag, Mongolia. Olon Oovo petroglyph group is often distributed in small tablelands on the Gobi Plain, with an altitude of about 1,100 meters. Countless ravines and small hills are scattered like sheep flock, or black rocks are stretched like horse hair. (Figure 2) Due to the unique natural landform features, the local Mongolian herdsmen call it "Olon Oovo" ("Olon Oovo" is a combination of the Mongolian "Olon" and "Oovo", which means "many small hills". Among them, "Olon" means "many", and "Oovo" means "hills" or "stone pile for sacrifice".) or "Olon Khar Oovo" ("Olon khar Oovo" means "many black hills". Among them, "khar" means "black"). The petroglyph remains discovered in the Olon Oovo area are carved on these dark and shiny taupe rock surfaces that look like mirrors from a distance. (Altad S. Terguunbayar, Borjigon A. Erdenesan, and Yang Mengmeng, 2017:105) Petroglyph investigators from the Inner Mongolia Museum started investigating and researching the Olon Oovo petroglyph in 2011.

So far, we have discovered more than 1,270 groups of petroglyphs, and sorted out 1,240 groups of petroglyphs with clear images, completing the collection of the research reports – Olon Oovo Petroglyphs. (Figure 3) (Terguunbayar, Tungalag and Erdenesan, 2022) This article will focus on an in-depth introduction and discussion of the 62 single images of chariots represented in the 36 groups of chariot petroglyphs in the Olon Oovo Petroglyphs. (Тэргүүнбаяр, 2022:149)

2. DISCOVERY AND RESEARCH OF OLON OVOO PETROGLYPHS

2.1 Early Investigation and Research on the Nanjwandan Petroglyph Group and Khairiin Gashuun Petroglyphs

From 1980 to 1983, Mr. Gai Shanlin, a famous Chinese expert in petroglyphs, conducted an in-depth investigation of the petroglyph remains in the eastern areas of Darhan Muumyangan Banner (At that time, the Darhan Muumyangan Banner was under the jurisdiction of Ulaantsav city.) in Bao Tou city and Uradiin Dund banner in Bayan Nuur city (Gai, 1999: 128, 151-153). In 1982, he discovered the Nanjwandan petroglyph group in the east of Mandal Town, including four petroglyph sites such as Otson (Gai, 1989:241, 243-246), Nanjwandan (Gai, 1989:241-243), Modon Oovo (Gai, 1989:248-250. In the book, Gai Shanlin recorded the name of the petroglyph site as "Modon Oovo (Maodun Aobao)". Because "Modon Oovo" is closer to the Mongolian pronunciation and semantics, the article has slightly modified it.) and Shiar-Oovo (Gai, 1989: 245,247-249. In the book, Gai Shanlin recorded

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the name of the petroglyph site as “Shiar-Ovoo (Xiare Ovoo)”. Because “Shiar-Ovoo” is closer to the Mongolian pronunciation and semantics, the article has slightly modified it.), and published it in a book named Ulaan tsav Petroglyphs. In addition, Gai Shanlin also investigated and recorded 11 groups of petroglyph remains on a low mountain ridge about 4 kilometers east of Otson. (Gai, 1989:240, 248, 250-253) However, it is particularly regrettable that he did not conduct a systematic survey of the Olon Ovoo area to the east, and missed the Olon Ovoo petroglyphs.

In addition, it is worth mentioning that from August 22 to 28, 1991, Mr. Munkhdelger, the director of the Darhan Muumyanggan Banner People's Congress, led Deng Hongwei, Bagana, Wang Xinwen, Chen Yonggang and others to conduct a banner-wide investigation. This census involved 9 sumus (a township-level administrative division in Inner Mongolia) at that time, including Bayantal, Mandal, Bayan Khua, Bayan zurekh, Shine bulag, Bayan Ovoo, Duuren Ovoo, Tsagaan Ovoo, and Erdene Ovoo. It has recorded a total of more than 1,000 groups of petroglyphs (more than 3,500), and published part of the content in the book Historical Trace of the Aibaga River (Munkhdelger, 1979:39-51. In addition, Mr. Munkhdelger's investigative work records at that time were also referred to.). In this census, investigators reached the eastern part of the Olon Ovoo area for the first time and investigated some petroglyphs in the Khairiin Gashuun area, which was under the jurisdiction of Bayantal Sumu at that time. In 2001, when the Darhan Muumyanggan Banner CPPCC Cultural and Historical Materials Committee and the Cultural Relics Management Office edited and published the book Darhan Muumyanggan Petroglyphs (Jiang Hou, Serendorj, 2001:13, 187), Wang Xinwen, Bagana, Sun Zhiyuan, Deng Hongwei and others once again investigated the petroglyphs of Khairiin Gashuun area, but they have not yet gone deep into the core area of the Olon Ovoo petroglyph group to conduct systematic investigation. Moreover, the investigation data on KhairiinGashuun petroglyphs in 1991 and 2001 were not officially compiled and published at that time.

2.2 Investigation on Baotou Museum and Cultural Relics Protection Center of Darhan Muumyanggan Banner

On November 24, 2008, when Baotou Cultural Relics Management Office (*The baotou cultural relics management office has now been merged into the baotou museum*) and Cultural Relics Management Office of Darhan Muumyanggan Banner (*The Cultural Relics Management Office of Darhan Muumyanggan Banner has been renamed as the “Cultural Relics Protection Center of Darhan Muumyanggan Banner”*.) were conducting the third national cultural relics census in Mandal Town, Zhang Haibin, Wang Xinwen, etc. explored the core distribution area of Olon Ovoo petroglyphs and discovered a large number of precious petroglyph remains that had not been formally investigated and recorded before under the leadership of the herdman named Sanjaijavat in Khairiin

Gashuun. As of October 2009, Zhang Haibin, Wang Xinwen, Qiao Zhijie and others had discovered a total of about 200 petroglyphs in Olon Ovoo (Zhang, Wang, Xing and Wang, 2009:4).

In 2009, Zhang Haibin, Wang Yingze, Xing Yanyan, Wang Xiaoling, etc. from the Baotou Cultural Relics Management Office made a large-scale introduction to Olon Ovoo petroglyphs in the book Baotou Petroglyph (Zhang, Wang, Xing and Wang, 2009:67). At the same time, Wang Xinwen et al. from the Cultural Relics Management Office of Darhan Muumyanggan Banner made simple reports in briefings such as Mandal Petroglyphs in Darhan Muumyanggan Banner, Inner Mongolia (Wang, 2009:90) and Olon Ovoo Petroglyphs (Wang, 2011:103). In addition, Xiao Liguang and Tan Shijun also conducted interpretations of Olon Ovoo petroglyphs in the book Khuumi Rocks: up to Darhan Muumyanggan Prairie Rock Tour (2014:3-9). Since then, Zhang Haibin has also discussed Olon Ovoo petroglyphs in depth in articles such as Interpretation of Olon Ovoo Petroglyphs in Baotou (Zhang, 2019, Interpretation of Olon Ovoo Petroglyphs in Baotou (1):53-59; Zhang, 2019, Interpretation of Olon Ovoo Petroglyphs in Baotou (2):103-108) and Cultural Treasures of the Secret Grassland - Olon Ovoo Petroglyphs in Darhan Muumyanggan Banner in Baotou (Zhang, 2020:102).

2.3 Investigation by the Petroglyph Research Team of the Inner Mongolia Museum

In October 2011, Mr. Khasbaatar (*At the time, Khasbaatar was a doctoral candidate studying the history of Chinese ethnic minorities at the Mongolian Studies Research Center of Inner Mongolia University.*). From Inner Mongolia University and I went to the Olon Ovoo area to conduct a preliminary investigation of more than 180 petroglyphs in total. Based on past experience, we initially speculated that the distribution area of the petroglyph remains was at least about 30 square kilometers, and the number of petroglyphs may be more than 250. At that time, researcher Tala from the Inner Mongolia Museum and I agreed that the petroglyph remains were well preserved and concentrated, and had important research value and protection significance.

In 2014, the project “Data Collection and Regional Research on the Olon Ovoo Petroglyph Group” (*The project has been completed in 2020. The project approval number is 14XKG001 and the certificate number is 20203061.*) applied by professor Tala was funded by the Western Project of National Social Science Fund. The petroglyph research team of our institute launched a systematic investigation of Olon Ovoo petroglyph group. From 2014 to 2022, the petroglyph research team went to the Olon Ovoo area to complete more than 10 surveys, and investigated and recorded more than 1,270 groups of petroglyphs. The investigation process is as follows.



Figure 1: Schematic diagram of the location of the Olon Ovoo petroglyphs. (made by Altad S.Terguunbayar)



(a) Photographed by Maya



(b) Photographed by S. Terguunbayar



(c) Photographed by S.Terguunbayar

Figure 2: Landscape of the area where Olon Ovoo Petroglyphs are located

First, the specific location of each group of petroglyphs is recorded via GPS positioning, so as to have an overall grasp of the distribution range of the entire petroglyph. The core distribution area of petroglyphs is within a range of about 11.45 kilometers long from east to west and 5.56 kilometers wide from north to south. It has a total area of about 64 square kilometers. The stretched areas or scattered distribution areas of petroglyphs may reach 70-80 square kilometers. New petroglyph remains are also discovered in the southwest of the Olon Ovoo petroglyphs, Saiiin Adag, Gishuunt and Tsagaan Manda in the Darhan Muumyangan Banner, and Khar Khushuu in the Durved Banner of Ulaantsav city in the northeast. Although the number of petroglyphs discovered and recorded in these petroglyph sites is relatively small, these new discoveries have practical significance for the next step of comprehensive regional research on the Olon Ovoo petroglyph group and the petroglyph remains in surrounding areas.

Secondly, the petroglyphs here are not distributed along large mountains, but on scattered rocky mountaintops or small rock veins, so it is difficult to form a regular distribution. It is easy to get lost during the investigation and miss some surveys on a small hill or rocks. Therefore, in order to facilitate the investigation, we adopted the "excavation and exploration" method in archaeology and used the "square area" investigation method to conduct a systematic investigation for 35 petroglyph investigation squares (hereinafter referred to as "square") set up in the area where the Olon Ovoo petroglyph group is located. The numbers on the horizontal axis of the square area we set are A, B, C, D, E, F, G from west to east, and the numbers on the vertical axis from south to

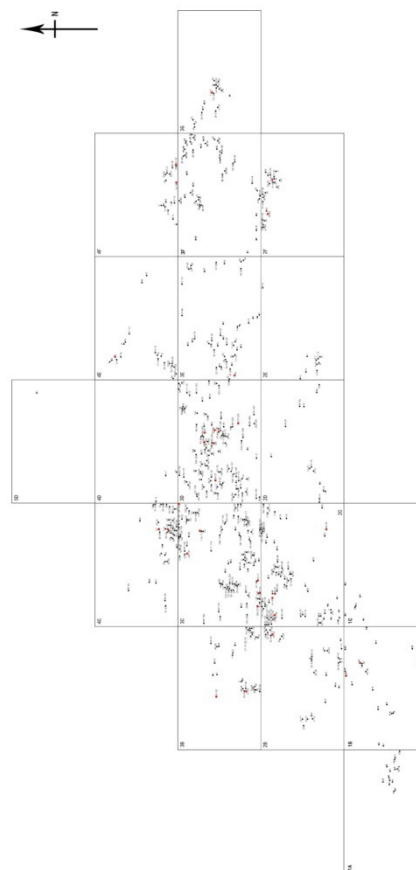


Figure 3: Regional survey of Olon Ovoo Petroglyphs and distribution of chariot petroglyphs

(Charted by Maya and S.Terguunbayar)

north are 1, 2, 3, 4, and 5. Among the 35 squares, there are petroglyphs discovered in 19 squares including 1A, 1B, 1C, 2B, 2C, 2D, 2E, 2F, 3B, 3C, 3D, 3E, 3F, 3G, 4C, 4D, 4E, 4F, and 5D. We found 32 groups of petroglyphs in 12 squares including 1B, 2B, 2C, 2F, 3B, 3C, 3D, 3E, 3G, 4C, 4E and 4F.

Third, we took high-definition photos of each group of petroglyphs, and used a special "survey record measurement scale" or "survey record board for petroglyph" to cooperate with the photography work to complete effective petroglyph recording. The content of petroglyphs includes not only individual animals such as ibex, horses, deer, and birds, but also images of people, vehicles, and imprinted symbols. There also exist many large-scale petroglyphs showing hunting or nomadic life scenes.

Based on the field surveys, we have published some relevant research. From 2014 to 2021, Tala, S.Terguunbayar, Yang Mengmeng, etc. introduced the mid-term results in the systematic investigation of Olon Ovoo petroglyphs via the articles "Survey on Olon Ovoo Petroglyphs" (Ta, Terguunbayar, Yang, Erdenesan, Li, and Ma 2016:322-335), "Data Collection and Regional Research of Olon Ovoo Petroglyphs" (Altad S. Terguunbayar, Borjigon A. Erdenesan, and Yang Mengmeng, 2017:105), and "Investigation Report on Olon Ovoo Petroglyphs in Inner Mongolia" (Yang and S. Terguunbayar, 2021:50-64). During this period, I also completed "Research on the Images of Domes and Light Chariots on the Olon Ovoo Petroglyphs" (Terguunbayar, 2014:94-97), "Images of Chariots on the Olon Ovoo Petroglyphs" (Тэргүүнбаяр, 2022:149-168) and other related special research on images of chariots, domes, etc. found in the area. In addition, through years of effort, the petroglyph research team successfully completed the project "Data Collection and Regional Research of the Olon Ovoo Petroglyph Group" (Chinese version) supported by the Western Project of National Social



(a) Photographed by S. Terguunbayar

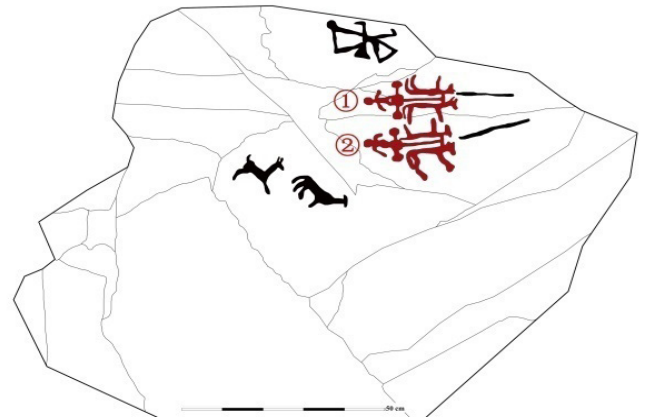


(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 4: Chariot Petroglyph 1



(a) Photographed by S. Terguunbayar

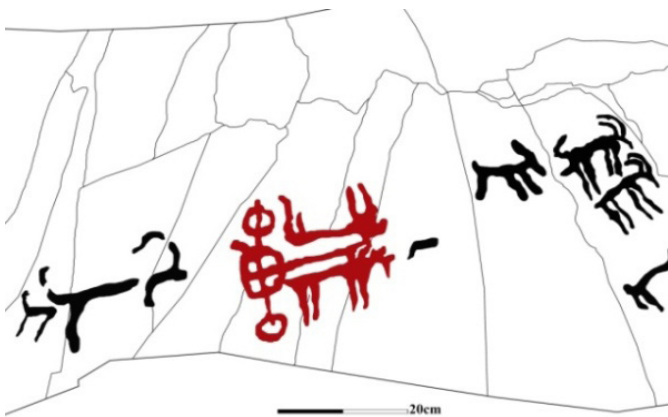


(b) Charted by D. Sodnomjamts

Figure 6: Chariot Petroglyph 3



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts

Figure 5: Chariot Petroglyph 2

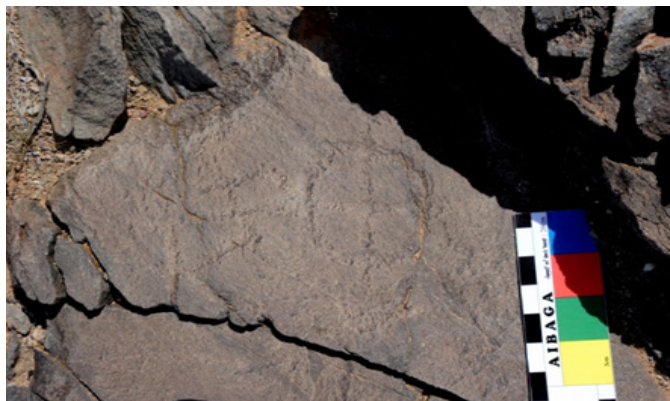


(a) Photographed by S. Terguunbayar

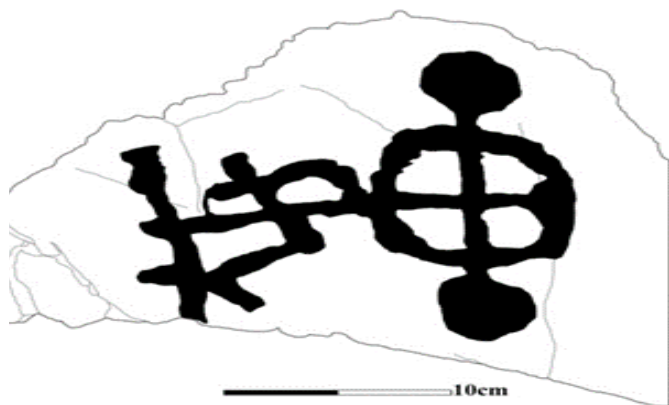


(b) Charted by D. Sodnomjamts

Figure 7: Chariot Petroglyph 4



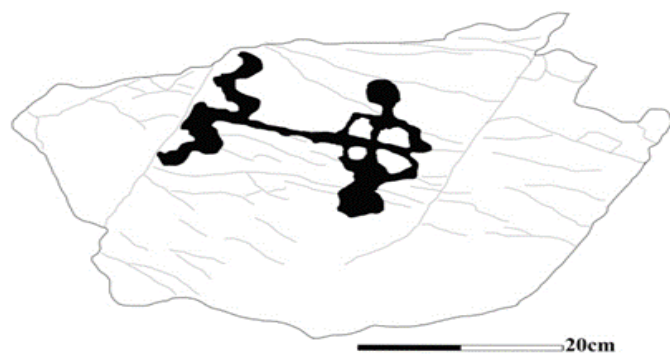
(a) Photographed by S. Terguunbayar



(b) Charted by Ch. Amarbileg

Figure 8: Chariot Petroglyph 5

(a) Photographed by S. Terguunbayar



(b) Charted by Ch. Amarbileg

Figure 9: Chariot Petroglyph 6

Science Fund and hosted by professor Tala in 2020, and published the Mongolian version of the book *Olon Ovoo Petroglyphs* (Terguunbayar, Tungalag and Erdenesan, 2022) in early 2022. The Chinese version of the book is being edited and planned to be published in the near future.

2.4 Others

In addition, in 2015, the master's thesis of Liang Yan from Inner Mongolia University titled "Preliminary Studies on Olon Ovoo Petroglyphs" (Liang, 2015), and in 2016, the master's thesis of Zhang Xiaoxia from the Minzu University of China titled "Stage Research on Olon Ovoo Petroglyphs" (Zhang, 2016) deeply interpreted and studied some petroglyphs in the center of Olon Ovoo petroglyph group, especially the content of the largest petroglyph "Grassland Settlement Map". Although some of the views in the article are still open to question, it still provides valuable insights into the scientific research on petroglyphs.

3. CHARIOT PETROGLYPHS

So far, 36 groups of chariot petroglyphs have been found in the Olon Ovoo Petroglyphs, including 62 single images of chariots. The petroglyph survey team investigated and recorded 32 groups of chariot petroglyphs (Figures 4-35), and 4 groups of chariot petroglyphs (Figures 36-39) were unable to be visited on site. Moreover, among the 32 groups of chariot petroglyphs we investigated, 9 groups of chariot petroglyphs (Figures 6, 10-11, 14-17, 20-21) were initially discovered and reported by researchers from the Baotou Cultural Relics Management Office, Baotou Museum and Cultural Relics Management Office of Darhan Muumyan Banner who were led by Zhang Haibin, research of the Baotou Museum. The other 23 groups of chariot petroglyphs (Figures 4-5, 7-9, 12-13, 18-19, 22-35) were first discovered and recorded by us. The 36 groups of chariot petroglyphs will be introduced in detail (Тэргүүнбаяр, 2022:149-150), (Terguunbayar, Tungalag and Erdenesan, 2022:715).

3.1 Chariot Petroglyph 1 (Survey Number: 1B016)

It is located in the northeast of Square 1B. The frame size is large: 128×240 cm. There is an image of a single-shaft, two-wheeled chariot and pair on the lower left side of the rock survey. The chariot is slightly vertical rectangular. There are cross-shaped lines inside the double wheels. The axle part is clearly visible and located in the middle of the chariot. The shaft part overlaps with a crack in the rock surface, and only a small part is visible. The two horses have their backs facing the chariot shaft and their legs facing outwards. They have obvious male characteristics and are symmetrically arranged on both sides of the chariot shaft. In chariot petroglyphs, this type of representation of horses riding on both sides of the shaft is the most common and can be called a typical style. There is a short-connected line at the necks of the two horses, which should be the scale at the front of the shaft. There is a human figure behind the chariot, with one arm raised and connected to the rear end of the chariot, and the other arm hanging naturally. The male characteristics are obvious, and it should represent the image of a charioteer standing in the chariot and holding the reins. There is a pair of parallel straight lines in front of the chariot, which should be the road the vehicle is traveling along. In addition to the images of chariots, there are also images of humans, horses, goats (In this article, the "goat", "*Capra sibirica*", "*Pseudois nayaur*", etc. seen in the petroglyphs are collectively referred to as "goat". If it can be confirmed to be a "goat" in the herd or a wild "*Capra sibirica*", etc., it will be particularly explained.) and other animals as well as animal hoof prints carved on the rock surface (Тэргүүнбаяр, 2022:150), (Terguunbayar, Tungalag and Erdenesan, 2022:35-36, 41).

3.2 Chariot Petroglyph 2 (Survey Number: 1B018)

It is located on the northern edge of Square 1B, northwest of Chariot Petroglyph 1. The size is 150×56 cm. There is an image of a single-shaft, two-wheeled chariot and pair in the middle of the figure. The chariot is slightly square. The shaft and axle are in the shape of a cross in the chariot. The wheels on both sides are shown in circles. The axle passes through the inside of the left wheel and stretches outside the wheel. The other side is connected to the right wheel and continues inside the wheel. There is a short line on the left rear of the chariot. It is not sure what its use is. The shaft is straight, and there are several lines on the front end of the shaft that are connected to the horse's neck arranged in

a typical style on both sides, which should be the scale. There exist goats and unrecognizable animal figures on the front and rear of the chariot petroglyph (Тэргүүнбаяр, 2022:150), (Terguunbayar, Tungalag and Erdenesan, 2022:36,42).

3.3 Chariot Petroglyph 3 (Survey Number: 2B053)

It is located in the northeast of Square 2B. The size is 102×106 cm. In the upper right corner of the petroglyph, there are two single-shaft, two-wheeled chariots (Zhang, Wang, Xing and Wang, 2009:67). The first chariot is at the top and the second one is at the bottom. Both chariots are driving side by side toward the right. There is a straight line in front of each chariot, which should be the road. The shape of the two chariots, the image of the draught animals, and the charioteers are basically the same. The details are as follows: the chariot and wheels are slightly round, and are carved together; the axle part between the wheels and chariots is clearly visible; there are scales in the front end of the single shaft; the draught animals are arranged in a typical style on both sides of the shaft, and the scales are connected to the necks of the two horses; the charioteer's legs are connected to the chariots, with his head facing back and his arms extended out to hold the reins. There is an image on the upper left side of the chariot, which looks like a flying bird. There are two more animals on the lower left side of the chariot. One has a long neck, a raised tail, erect ears or short horns on its head, and is running like a roe deer; the other has a larger body and a drooping tail, resembling a horse (Тэргүүнбаяр, 2022:151), (Terguunbayar, Tungalag and Erdenesan, 2022:66,107).

3.4 Chariot Petroglyph 4 (Survey Number: 2C025)

It is located in the southeast of Square 2C. The size is 60 x 42 cm. There is an image of a single-shaft, two-wheeled chariot in the lower right corner. The chariot is slightly horizontally rectangular, and the wheels are small circles, all of which are carved together. The axle part between the wheels is clearly visible. There is a scale at the front end of the single shaft, and the two ends of the scale are upturned. There are two larger animals and some unrecognizable images on the upper left side of the chariot. Among the two animals, the one on the right has ears standing forward and a slender tail. Its male characteristics are discernible

and it is obviously a horse (Тэргүүнбаяр, 2022:151), (Terguunbayar, Tungalag and Erdenesan, 2022:86,129).

3.5 Chariot Petroglyph 5 (Survey Number: 2C031)

It is located in the northwest of Square 2C with a size of 35 x 25 cm. There is an image of a single-shaft, two-wheeled chariot on the rock. The chariot part is large and circular, with the shafts and axles crisscrossing inside the chariot. The wheels are smaller than the chariot which is

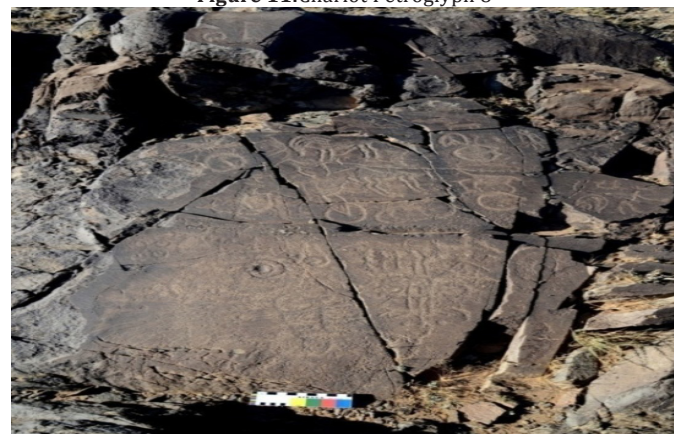


(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 11: Chariot Petroglyph 8



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar



(a) Photographed by S. Terguunbayar;



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 10: Chariot Petroglyph 7

Figure 12: Chariot Petroglyph 9

round and carved in a continuous way. There is a longer drawbar at the front end of the shaft. Below the drawbar, there are some carved lines on both sides of the shaft, which seem to be V-shaped components. Such V-shaped components appear frequently in chariot petroglyphs. There is an arc-shaped line between the V-shaped component on the right side of the shaft and the chariot, which looks like a rein. In addition, there seems to be a short line on the lower left side of the chariot, which may be a "herringbone" yoke. (Ta, Terguunbayar, Yang, Erdenesan, Li, Ma, 2016:333), (Yang, Terguunbayar, 2021:62) (Тэргүүнбаяр, 2022:151), (Terguunbayar, Tungalag and Erdenesan, 2022:88,130).

3.6 Chariot Petroglyph 6 (Survey Number: 2C032)

It is located in the northwest of Square 2C, near Chariot Petroglyph 5. The size is 68 x 32 cm. There is an image of a single-shaft, two-wheeled chariot on the rock surface. The chariot is large and slightly square, with the shafts and axles crisscrossing inside the chariot. The two wheels are slightly rounded and carved in a continuous way. The axle between the chariot and the right wheel is clearly visible. There is a drawbar at the front end of the shaft (Тэргүүнбаяр, 2022:151), (Terguunbayar, Tungalag and Erdenesan, 2022:88,130).

3.7 Chariot Petroglyph 7 (Survey Number: 2C042)

It is located in the northwest of Square 2C, east of Chariot Petroglyph 5 and 6 (Wang, 2009:90), (Zhang, Wang, Xing and Wang, 2009:57-61), (Wang, 2009:103) (Zhang, 2020:105), (Zhang, 2019, Interpretation of Olon Ovoo Petroglyphs in Baotou (1):59). The size is 136x50 cm. A total of 7 chariots are carved on the rock surface, among which there are 5 single-shaft, and two-wheeled chariots and 2 single-shaft and four-wheeled chariots. Chariot 1: It is located on the upper left side of the rock surface and on the left side of the road. The chariot is slightly square, with a single shaft and axle in a cross shape. The rear part of the chariot is damaged due to the collapse of the rock. The two wheels are smaller than the chariot, slightly rounded, and carved in a continuous way. The straight single shaft is located in front of the chariot, and there are no draught animals on either side of the shaft. Chariot 2: It is located below the first chariot, overlapping with the parallel lines representing the road. The shaft is located in the middle of the road represented by double



(a) Photographed by S. Terguunbayar

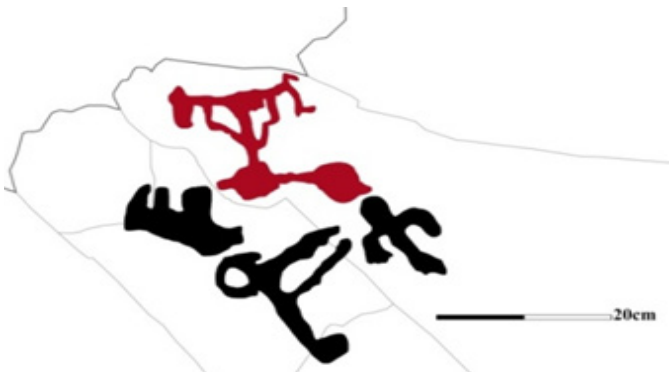


(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 14: Chariot Petroglyph 11



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 13: Chariot Petroglyph 10



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 15: Chariot Petroglyph 12

parallel lines. The single shaft is vertically connected to the axle. The chariot part is missing and the two wheels are represented by two small rings. There is a drawbar at the front end of the shaft, and a V-shaped component below the drawbar. The draught animals on both sides of the shaft are horses, with their limbs facing the shaft and their backs facing outwards, arranged in a symmetrical manner. The necks of the draught animals are located at both ends of the drawbar. Chariot 3: It is located in the middle and upper part of the rock surface. The chariot is square in shape with "cross"-shaped lines inside. The wheels on the left are small circles, and the right are round wheels carved in a continuous way. The axles between the wheels and the chariot are clearly visible. There is a long drawbar on the top of the single shaft, and there is a thin parallel line on the left side of the shaft, which should represent the reins. The horses on both sides of the shaft are arranged in a typical style. Chariot 4: It is located below chariot 3. The chariot is slightly square in shape and has "cross" shaped lines inside. The left wheel is a large ring with dots inside, and the right wheel is a small ring. The long axle between the wheels and the chariot is visible. There is a short drawbar at the front of the shaft, and a V-shaped component below the drawbar. The draught horses on both sides of the chariot are arranged in a typical style, and their male characteristics are obvious. The above five chariots are all two-wheelers. Chariot 5: It is located on the upper right side of the rock surface. It is a two-horse and four-wheeled chariot. The chariot is located in the center of the rear axle represented by a circle, and the wheels on both sides are vaguely identifiable. The chariot in the middle of the front axle is not obvious, and the wheels are difficult to identify. The single shaft extends from the front of the circular chariot and intersects with the front axle in the shape of a "cross". The front end of the shaft crosses with the drawbar. There are two male horses on both sides of the shaft, arranged in a symmetrical and typical style. Chariot 6: It is located below Chariot 5, and it is also a two-horse and four-wheeled chariot. It seems to have a slightly round chariot in the middle of the front and rear axles, and the wheels and axles on both sides can be identified. The single shaft connects the front and rear chariot and is connected with the front chariot drawbar. The axle length on the right side of the front wheel is obviously extending outside the wheel. Two horses are arranged in a typical style on both sides of the shaft. Chariot 7: It is located on the left side of Chariot 6 and is a two-horse chariot. The chariot and wheels are integrated together, and the shape is unrecognizable. The shaft is also difficult to identify. The horses on both sides of the shaft are arranged in a typical style. It can be inferred from the entire petroglyph and other chariot images that this image should represent a two-horse chariot. There are two parallel long lines on the left side of the entire image, and the lower part of the line curves to both sides. There is a short line on the left side and two parallel long lines on the right side, which show a road in general. There is a circle at each end of the road, which may also refer to a chariot moving along the road. In addition to chariots and roads, there are also animals such as goats and horses as well as some human figures on the petroglyph. Some people are holding bows and arrows, and some are leading horses. There are also images of animal hoof prints on the petroglyph. In addition, the horns of a big goat on the upper left part of the rock surface are carved with three curved lines, which is quite unique (Terguunbayar, 2014:94,96), (Тэргүүнбаяр, 2022:151-152), (Terguunbayar, Tungalag and Erdenesan, 2022:91-92,131).

3.8 Chariot Petroglyph 8 (Survey Number: 2C051)

It is located in the northwest of Square 2C and southeast of Chariot Petroglyph 7 (Zhang, Wang, Xing and Wang, 2009:54-55), (Zhang, 2019, Interpretation of Olon Ovoo Petroglyphs in Baotou (1):58). The size is 156×86 cm. There is an image of a single-shaft, two-horse, and two-wheeled chariot on the lower left side of the rock surface. The chariot is carved in a continuous way, and is slightly square in shape. The axle passes through the interior of the chariot and is located in the middle and forward position. Both wheels are represented by small circles with dots inside. The shaft is slender, with a drawbar on the top and a V-shaped line below the drawbar. The two horses on both sides of the shaft have obvious male characteristics and are arranged in a typical style. Under the heads of both horses, there is a human figure with one hand raised in the shape of leading the horse. On the upper right side of the chariot petroglyph is a huge, stylized goat image. The goat's male characteristics are obvious, with a circle under the front legs and an indistinguishable notch on the tail. In addition, there are images of horses, goats and other animals as well as some animal hoof prints carved on the rock surface.



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 16: Chariot Petroglyph 13

On the right side of the rock surface, there is also an image of a mark symbol with hooks at both ends and a circle at the bottom above a goat (Terguunbayar, 2014:94,96), (Тэргүүнбаяр, 2022:152), (Terguunbayar, Tungalag and Erdenesan, 2022:95-96,133).

3.9 Chariot Petroglyph 9 (Survey Number: 2F011)

It is located in the north-eastern area of Square 2F. The size is 127×173 cm. There is an image of a at the bottom of the figure. The round chariot and wheels are similar in size, and both are carved in a continuous way. The axle section between the wheels is clearly visible. There is a drawbar at the front end of the shaft, and a V-shaped component below the drawbar. Two horses are arranged on both sides of the shaft in a typical style. In addition to chariots, there are also horses, goats and other animals on the petroglyph, as well as some animal imprint symbols. Moreover, there are many human figures in the petroglyph, including human figures riding horses, fingers and people with obvious male characteristics (Тэргүүнбаяр, 2022:152-153), (Terguunbayar, Tungalag and Erdenesan, 2022:176-177,193).

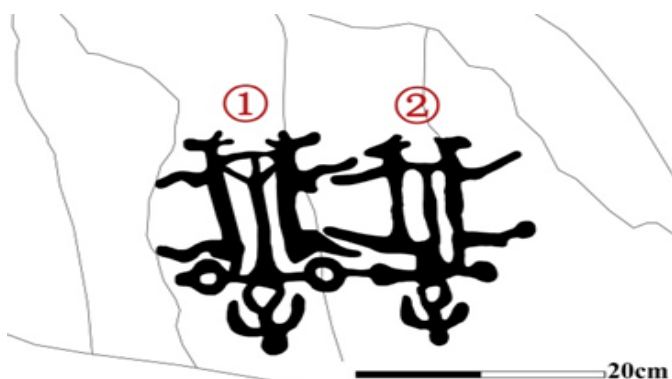
3.10 Chariot Petroglyph 10 (Survey Number: 2F045)

It is located in the north-west of Square 2F. The size is 35 x 23 cm. There is an image of a single-shaft, and two-wheeled chariot on the figure. The chariot and the right wheel are both round in shape and are carved in a continuous way. The left wheel part is unrecognizable. The axle part is visible. There is a drawbar at the front end of the shaft, and there is a V-shaped component below the drawbar. The two ends of the drawbar have downwardly curved or bifurcated structures. There exist two animals and a human figure underneath the chariot. One of the two animals seems to be a goat (Тэргүүнбаяр, 2022:153), (Terguunbayar, Tungalag and Erdenesan, 2022:187,198).

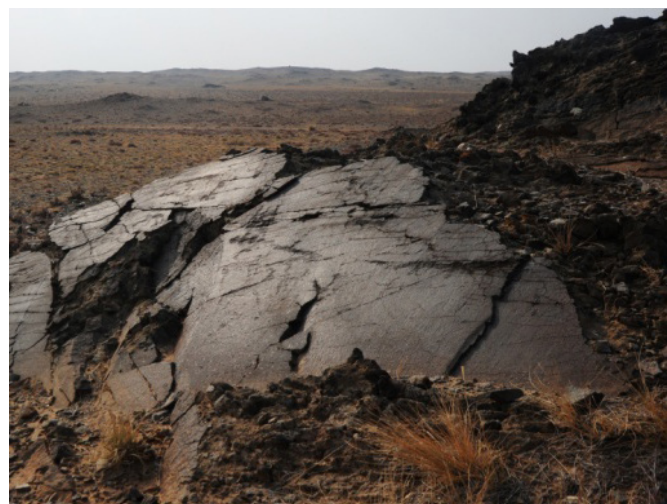
3.11 Chariot Petroglyph 11 (Survey Number: 3B021)



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 17: Chariot Petroglyph 14

(a) Photographed by S. Terguunbayar



(b) Charted by Ch. Amarbileg

Figure 19: Chariot Petroglyph 16

It is located in the due south of Square 3B (Zhang, Wang, Xing and Wang, 2009:20). The size is 92 x 92 cm. There is an image of a single-shaft and two-wheeled chariot in the lower right corner of the figure. The chariot is slightly round, and the axle part is clearly visible. The two wheels and chariot are all carved in a continuous way. There is a drawbar at the front of the long shaft. The horses on both sides of the shaft are arranged in a typical style, and the drawbar is located at the necks of the two horses. The male characteristics of the horse on the left side are obvious. There is a humanoid figure at the rear of the vehicle with his head close to the chariot and his legs spread out towards the rear. This person should be a charioteer. His arms appear to be hanging down, but he should be stretching his arms forward and holding the reins. There are images of animals and a look-alike figure on the top and left side of the chariot. Among the animals, there is obviously the image of a horse (Тэргүүнбаяр, 2022:153), (Terguunbayar, Tungalag and Erdenesan, 2022:209-210,222).

3.12 Chariot Petroglyph 12 (Survey Number: 3B051)

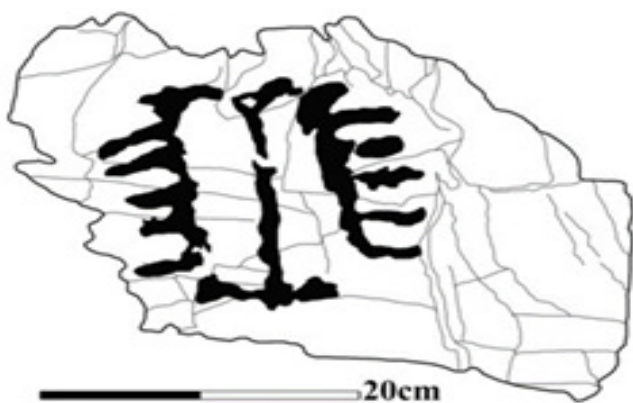
It is located in the middle of Square 3B. The size is 260×115 cm. There is an image of a single-shaft, two-horse, and two-wheeled chariot in the middle of the figure. The chariot and wheels are not obvious, and only a straight line represents the axle, wheels and chariot. There are some indiscernible carving marks behind the horizontal lines, which may represent the image of the charioteer. The shaft is slender, and its front end intersects with the drawbar indicated by a short line. The horses on both sides of the shaft are arranged in a typical style, with the neck part of the horse on the left connected to the drawbar. In addition to chariots, the petroglyph also contains many images of people, animals (some are obviously horses), and animal hoofprints (Zhang, Wang, Xing and Wang, 2009:24. *Although the petroglyph is published in the book, it does not indicate that there are images of chariots. It may not be clearly identified.*), (Тэргүүнбаяр, 2022:153), (Terguunbayar, Tungalag and Erdenesan, 2022:218,227).

3.13 Chariot Petroglyph 13 (Survey Number: 3C001)

It is located in the northeast of Square 3C. The size of the large petroglyph



(a) Photographed by S. Terguunbayar

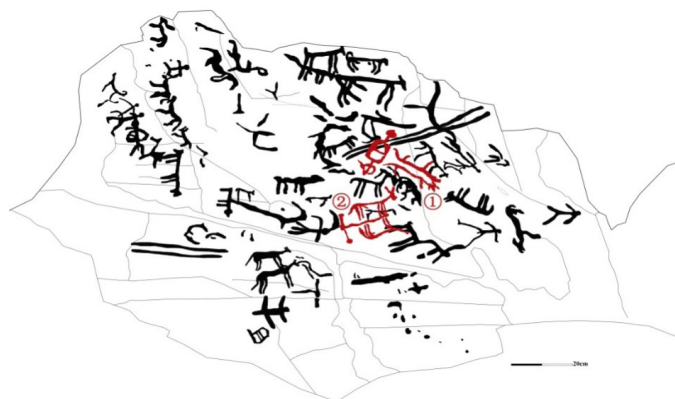


(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 18: Chariot Petroglyph 15



(a) Photographed by S. Terguunbayar;



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 20: Chariot Petroglyph 17

(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts

Figure 22: Chariot Petroglyph 19

(a) Photographed by Chasuna



(b) Charted by D. Sodnomjamts

Figure 21: Chariot Petroglyph 18

is 510×340 cm. In 2009, Zhang Haibin et al discovered the petroglyph and named it "Grassland Settlement Picture" (Zhang, Wang, Xing and Wang, 2009:4,12-19), (Xiao and Tan, 2014:3-9), (Zhang, 2019, Interpretation of Olon Ovoo Petroglyphs in Baotou (1):54), (Zhang, 2020:3-9,102). There are four chariots represented on the entire petroglyph, all of which are single-shaft and two-wheeled chariots. In addition, there are two roads represented by double parallel lines on the petroglyph. The first road on the upper left is longer and has two corners, and the second road on the lower right of the first road is only a straight parallel line. The first chariot is located at the east end of the first road, overlapping with the road. The spalling of the rock surface happened on the chariot part. After taking a close look at it, it can be seen that it is a slightly square chariot. The axles on both sides of the chariot are clearly visible. The left wheel of the chariot overlaps the road and is difficult to identify, while the right wheel is a round wheel carved in a continuous way. The chariot has a drawbar at the front end of the single shaft, and a V-shaped component below the drawbar. Interestingly, on the right side of the chariot, there is a human figure with one arm raised and the other hanging naturally. Its head overlaps with the right wheel of the above-mentioned chariot, sharing a circular indentation. The second chariot is in the upper left of the first chariot. The chariot also has the spalling of rock surface. It can be found that it is a round chariot after careful observation. The wheels on both sides of the chariot are round in shape and slightly smaller than the chariot. The axle part between the wheels is visible. There is a straight single shaft in front of the chariot, and a short drawbar in front of the shaft. The two ends of the drawbar are curved downwards. The third chariot is located on the lower right side of the first chariot and the chariot image is pretty small. The shape of the chariot is unrecognizable. The wheel on the left side is a round shape carved in a continuous way. The single shaft is slender and straight. There is a drawbar at the front end of the shaft and a V-shaped component is under the scale. The rest of the chariot is difficult to identify. In particular, the chariot and the wheel on the right overlap with the human pattern below, making it difficult to identify. Chariot 4: It is located on the right side of the figure, between



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 23: Chariot Petroglyph 20

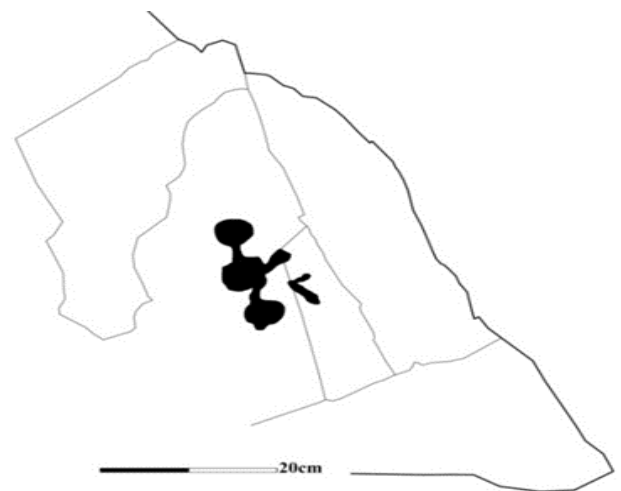
the first and the second road. The chariot is in the shape of a transverse oval, with a single shaft passing through the middle of the chariot. There is a drawbar at the front end of the shaft, and a V-shaped component below the drawbar. The horses on both sides of the shaft are arranged in a typical style. The drawbar is connected to the neck part of the draught animal. Wheels are represented by small circles. The axle part between the wheels is clearly visible. There seems to be a human figure behind the chariot, which should be a charioteer. In addition to chariots and roads, the rock surface is also carved with dome-style buildings, various figures, and images of animals such as horses and goats. There are three dome-style buildings on the lower left side of the rock surface, of which the one on the lower left side is slightly smaller. There are images of people sitting cross-legged, convex-shaped utensils and other images inside the dome-style buildings. In addition, there is an image of a small dome-style building on the upper right side of the second chariot. There are four rows of hand-in-hand humanoid images on the lower left side of the first three chariots and the upper left side of the rock surface, which may represent a dance scene. In addition, there are equestrians, horse-leaders and some simple humanoid images on the rock surface. There are a large number of goats, horses and other animal images in the picture, and some of the goats are marching in a queue. Most of the images on the rock are drawn with thick lines or carved in a continuous way. A few images are contoured (Terguunbayar, 2014:94,96), (Тэргүүнбаяр, 2022:153-154), (Тэргүүнбаяр, 2022:153), (Terguunbayar, Tungalag and Erdenesan, 2022:231-234,302).

3.14 Chariot Petroglyph 14 (Survey Number: 3C009) (Zhang, Wang, Xing and Wang, 2009:62 Although the petroglyph is published in the book, it does not indicate that there are images of chariots.)

It is located in the south and west of Square 3C, and close to Square 2C. The size is 46 x 37 cm. There are images of two single-shaft, two-horse,



(a) Photographed by Erdunsang



(b) Charted by D. Sodnomjamts

Figure 24: Chariot Petroglyph 2

and two-wheeled chariots running side by side on the rock surface. The first one is on the left and the second one is on the right. The shape of the two chariots, the image of the draught animals and the charioteers are roughly the same. The details are as follows: the round chariot is carved in a continuous way; the axle part between the wheels is clearly visible; there is a drawbar at the front end of the single shaft; the draught animals are arranged on the two sides of the shaft in a typical style, and the drawbar is connected to the necks of the two horses; the charioteer's legs are spread apart and connected to the chariot, with his head facing back and his arms holding the reins (arms hanging naturally). There exist some differences between the two chariots. The first chariot is smaller than the wheels. The left wheel is represented by a small circle, the axle extends beyond the left wheel, the right wheel is carved in a continuous way, and there is a V-shaped component below the drawbar. The wheels of the second chariot are smaller than the cart, and both wheels are carved in a continuous way. (Terguunbayar, 2014:94,97), (Тэргүүнбаяр, 2022:154), (Terguunbayar, Tungalag and Erdenesan,



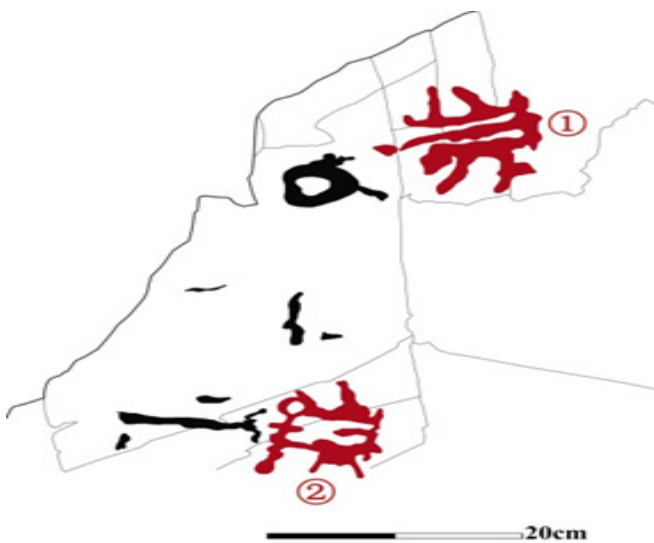
(a) Photographed by S. Terguunbayar



(a) Photographed by S. Terguunbayar



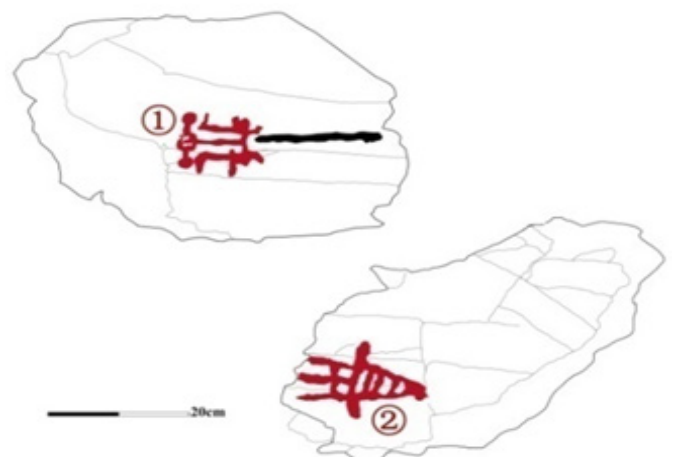
(b) Charted by Ch. Amarbileg and S. Terguunbayar

Figure 26: Chariot Petroglyph 23

(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 25: Chariot Petroglyph 22

(a) Photographed by S. Terguunbayar



(b) Charted by S. Terguunbayar and D. Sodnomjamts

Figure 27: Chariot Petroglyph 24

2022:236,303].

3.15 Chariot Petroglyph 15 (Survey Number: 3C016)

It is located in the south-west of Square 3C, east of Chariot Petroglyph 14. The size is 40 x 28 cm. There is only an image of a single-shaft, two-horse, and two-wheeled chariot on the rock surface. The chariot and wheels are slightly rounded and carved in a continuous way. The axle between the wheels is clearly visible. There is a drawbar at the front end of the shaft, and a V-shaped component below the drawbar. The bifurcated part should be the drawbar. There is a horse on each side of the shaft, with its legs outward and its back facing the shaft, arranged in a typical style. The two ends of the bifurcated drawbar are obviously



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjамts and S. Terguunbayar

Figure 28: Chariot Petroglyph 25

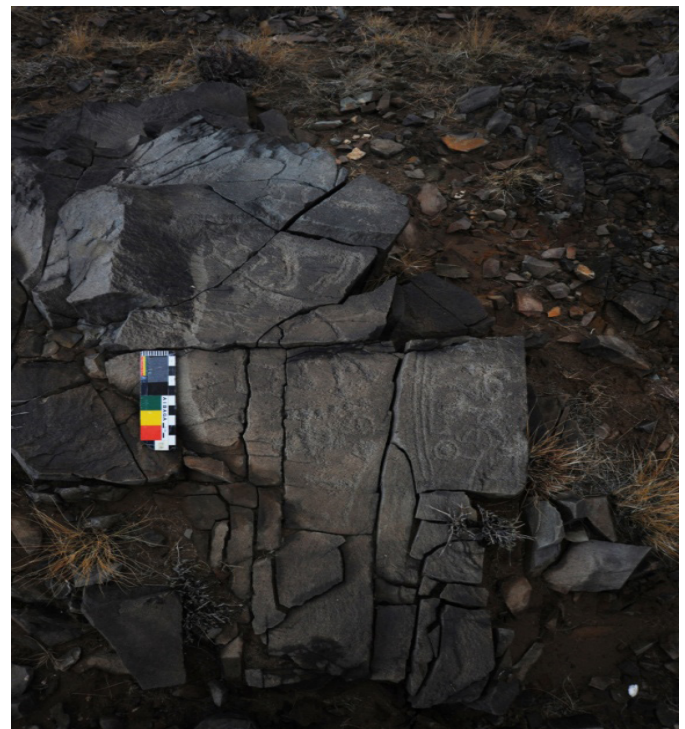
connected to the heads of the draught animals (Тэргүүнбаяр, 2022:154), (Terguunbayar, Tungalag and Erdenesan, 2022:238,304).

3.16 Chariot Petroglyph 16 (Survey Number: 3C130)

It is located in the north of Square 3C. The size is 200×86 cm. There is an image of a single-shaft and two-wheeled chariot carved in the middle of the rock surface. The chariot and wheels are slightly round in shape and are carved in a continuous way. There is a horizontal line crossing the front of the shaft, which seems to be a drawbar. There are unclear images on both sides of the shaft, which seem to be draught animals. There are some animals and illegible images carved on the upper left and lower right sides of the chariot. Some of the animals look like horses (Тэргүүнбаяр, 2022:154), (Terguunbayar, Tungalag and Erdenesan, 2022:275,323).

3.17 Chariot Petroglyph 17 (Survey Number: 3C139) (Zhang, Wang, Xing and Wang, 2009:78. Although the petroglyph is published in the book, it does not indicate that there are images of chariots. It may not be clearly identified.)

It is located in the northeast corner of Square 3C. The size is 218×140 cm. There are two chariots carved on the rock surface, both of which are single-shaft, two-horse, and two-wheeled chariots. In addition, there are two road images represented by double parallel lines in the petroglyph. The first is shorter and located at the lower left; the second is slightly longer and located at the upper right. The first chariot is in the upper right part of the rock surface, and the chariot and left wheel axle overlap with the second road. The chariot is in the shape of a horizontal rectangle. There is a vertical line inside the chariot, which seems to be the intersection of the shaft and the axle, but there is no shaft in the front of the chariot. There is a wheel represented by a small circle on both sides of the chariot, and the right axle passes through the inside of the wheel. In front of the chariot are two horses arranged in a typical style. There should be a shaft in the middle, but it is not carved on the petroglyph. The second chariot is on the lower left of the first one. Its wheels are small, slightly rounded, and carved in a continuous way. There is a longer axle between the two wheels, and the chariot part is



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjамts and S. Terguunbayar

Figure 29: Chariot Petroglyph 26

difficult to identify. The shaft is long and straight, with a leg on each side facing the shaft and the back facing outward, forming a symmetrical arrangement of the image of a horse. At the rear of the chariot is a human figure with arms stretched out and legs crossed. It has obvious masculine characteristics and its head is facing the chariot, which seems to be the image of a charioteer. Besides chariots, there are also animals such as horses and goats and some human figures carved on the rock surface (Тэргүүнбаяр, 2022:154-155), (Terguunbayar, Tungalag and Erdenesan, 2022:278-279,325).

3.18 Chariot Petroglyph 18 (Survey Number: 3C204) (Zhang, Wang, Xing and Wang, 2009:86)



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 30: Chariot Petroglyph 27

(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts

Figure 31: Chariot Petroglyph 28

It is located in the southwest of Square 3C, and west of Chariot Petroglyph 14. The size is 75 x 60 cm. There is an image of a single-shaft, two-horse, and two-wheeled chariot on the top of the rock surface. The chariot part is slightly horizontally rectangular, the two wheels are round, and the chariot and wheels are all carved in a continuous way. The axle part between the wheels is clearly visible. The axle appears to be extending outside of the left wheel. The front end of the single shaft is represented by a short line. On both sides of the shaft is a horse with its back facing the shaft and its legs facing outwards, arranged in a typical style. The drawbar is connected to the neck part of the draught animal. In the lower right corner of the chariot image are two marching horses. A humanoid image is in the lower corner that appears to be moving toward the left. In addition, there are some unrecognizable carving marks on the rock surface (Тэргүүнбаяр, 2022:155), (Terguunbayar, Tungalag and Erdenesan, 2022:296,336).

3.19 Chariot Petroglyph 19 (Survey Number: 3D026)

It is located in the west of Square 3D. The size is 86 x 54 cm. The upper part of the rock surface is carved with the image of a single-shaft and two-wheeled chariot. The chariot is slightly square and the wheels are slightly round, both of which are carved in a continuous. The axle between the wheels is clearly visible. Judging from the connection position between the shaft and the chariot, the left axis is close to the middle and rear part of the chariot, and the right axis is close to the middle and front part of the chariot. The shaft in front of the chariot is straight, and there is a long drawbar at the front end. There is a "human" shaped yoke under each end of the drawbar. At the bottom of the chariot petroglyph are two human figures leading horses. They may be people leading the horses to harness the chariot. The images are also surrounded by two horses and some unrecognizable animals (Тэргүүнбаяр, 2022:155), (Terguunbayar, Tungalag and Erdenesan, 2022:350,420).

3.20 Chariot Petroglyph 20 (Survey Number: 3D080)

It is located in the middle of Square 3D. The size is 100x38 cm. On the left side of the rock surface is an image of a chariot with a single shaft and two wheels. The chariot part is horizontally rectangular and the two wheels are round, both of which are carved throughout. The thin lines between the wheels represent the axle part. There is a single shaft in the front of the chariot, and the front end of the shaft is like a V-shaped component, which is connected to the shaft in a slightly Y-shaped shape. The two horses on both sides of the shaft have obvious male characteristics and are arranged in a typical style. There is a human figure behind the chariot, with its head facing the chariot, its legs facing outwards in a cross-like shape, and one arm raised to hold a rein. There are several images of obscure animals and hoof prints on the right side of the chariot (Тэргүүнбаяр, 2022:155), (Terguunbayar, Tungalag and Erdenesan, 2022:367,429).

3.21 Chariot Petroglyph 21 (Survey Number: 3D084)

It is located in the middle of Square 3D, and on the northeast side of Chariot Petroglyph 20. The size is 32 x 54 cm. There is a single-shaft and two-wheeled chariot on the rock surface, which seems to be an incomplete image. The chariot and two wheels are round and carved in a continuous way. There are obviously axles between the wheels, and there seems to be a shaft on the right side. An incompletely carved animal is on the right side of the shaft, which should be a draught animal (Тэргүүнбаяр, 2022:155), (Terguunbayar, Tungalag and Erdenesan, 2022:368,429).

3.22 Chariot Petroglyph 22 (Survey Number: 3D221)

It is located in the south-eastern area of Square 3D. The size is 70 x 120 cm. There are two chariots on the rock surface. The first one is at the top and the second one is at the bottom. They are both single-shaft, two-horse, and two-wheeled chariots. The shapes, draught animals and images of the charioteers are roughly the same between the two chariots. The details are as follows: the chariot and wheels are both round in shape and are carved in a continuous way. The chariot is slightly larger than the wheels; the draught animals looking like horses on both sides of the single shaft are arranged in a typical style. The differences between the chariots are: the axles of the first chariot are on the outside



(a) Photographed by S. Terguunbayar



(b) Charted by S. Terguunbayar and D. Sodnomjamts

Figure 32: Chariot Petroglyph 29

(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

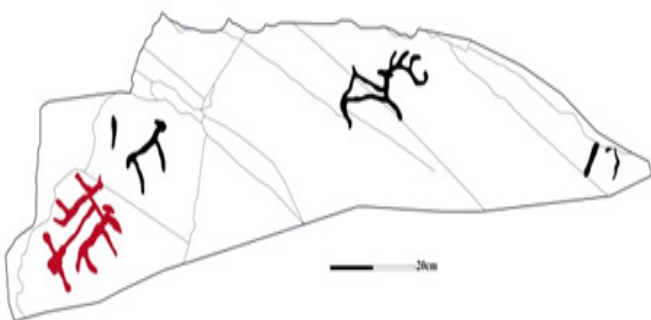
Figure 34: Chariot Petroglyph 31

of the wheels; the right wheel of the second chariot is on the outside of the wheels. There is a drawbar on the front end of the shaft, but it is difficult to clearly identify it because of the blurred marks. In addition, there is a long straight line in front of the second chariot, which should indicate the road. There are some indecipherable images on the left side of the first chariot and on the top of the second chariot (Тэргүүнбаяр, 2022:155-156), (Terguunbayar, Tungalag and Erdenesan, 2022:406,452).

3.23 Chariot Petroglyph 23 (Survey Number: 3D248)



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 33: Chariot Petroglyph 30



(a) Photographed by S. Terguunbayar



(b) Charted by D. Sodnomjamts and S. Terguunbayar

Figure 35: Chariot Petroglyph 32

(a) Offered by Wang Xinwen from Cultural Relics Management Office of Darhan Muumyanggan Banner, Bao Tou, Inner Mongolia Autonomous Region



(b) Charted by S. Terguunbaya

Figure 36: Chariot Petroglyph 33

It is located in the north-central area of Square 3D. Its size is 120×77 cm. There is an image of a single-shaft, two-horse, and two-wheeled chariot on the lower right side of the rock surface. The carving traces of the petroglyph are very blurred, and some images are difficult to identify. The chariot and wheels are slightly round in shape and are carved throughout. The shaft part overlaps with a crack in the rock surface and is vaguely visible. There is an unobvious drawbar at the front end of the shaft. The horses on both sides of the shaft are arranged in a typical style. On the left side and upper part of the chariot, there are goats, horses, birds and other animals as well as some unrecognizable carved marks (Тэргүүнбаяр, 2022:156), (Terguunbayar, Tungalag and Erdenesan, 2022:413,456).

3.24 Chariot Petroglyph 24 (Survey Number: 3D254)

It is located in the middle of Square 3D, and south of Chariot Petroglyph 23. The rock surface is severely peeled off and damaged. There is an image of a chariot on two remaining small rock surfaces respectively. The total size of the entire petroglyph is 49 × 49 cm. The first chariot is on the upper left. The chariot part is slightly horizontally rectangular, with a single shaft passing through the middle of the chariot. The axle parts on both sides of the chariot are clearly visible. The two wheels are slightly round and are carved in a continuous way. In front of the shaft, there is a drawbar with both ends tilted upward. There is a draft animal on each side of the shaft arranged in a typical style, probably a horse. There is a straight line in front of the chariot that should indicate the road. The second one is on the lower right. There is a slightly rounded wheel at each end of the axle, which is carved in a continuous way. The cart can be divided into two parts. The front part of the axle is triangular (A-shaped), and the back part is horizontal rectangular. The whole is slightly triangular (A-shaped). There are three horizontal lines on the inside of the front part of the triangular platform, and there is a long line extending backward on the inside of the rear part of the horizontal rectangular platform, and the edges on both sides are also long lines extending back (Тэргүүнбаяр, 2022:156), (Terguunbayar, Tungalag and Erdenesan, 2022:254,458).

3.25 Chariot Petroglyph 25 (Survey Number: 3D257)

It is located in the central northeastern area of Square 3D, east of Chariot



(a) Edited by Zhang Haibin, Wang Yingze, Xing Yanyan, and Wang Xiaoling. Baotou Petroglyph. Inner Mongolia University Press, Hohhot, 2009, page 104, picture 121

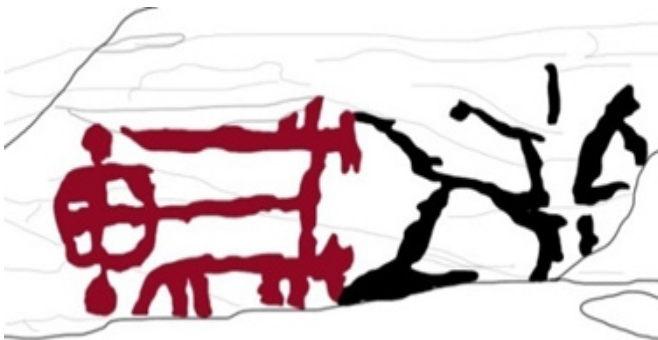


(b) Charted by S. Terguunbayar

Figure 37: Chariot Petroglyph 34



(a) Edited by Zhang Haibin, Wang Yingze, Xing Yanyan, and Wang Xiaoling. Baotou Petroglyph. Inner Mongolia University Press, Hohhot, 2009, page 130, picture 166



(b) Charted by S. Terguunbayar

Figure 38: Chariot Petroglyph 35



(a) Offered by Wang Xinwen from Cultural Relics Management Office of Darhan Muumyanggan Banner, Bao Tou, Inner Mongolia Autonomous Region



(b) Charted by S. Terguunbayar

Figure 39: Chariot Petroglyph 36

Petroglyph 23. The size is 38 x 31 cm. There is an image of a single-shaft, two-horse, and two-wheeled chariot on the top of the rock surface. The chariot part is represented by a large circle, and the shaft and axle intersect in the shape of a "cross" inside. Judging from the carvings, the wheel on the left side is slightly oval-shaped, and the longer part of the axle is on the outside of the wheel. The wheel and axle part on the right side are difficult to accurately identify due to cracks in the rock surface. The two horses on both sides of the shaft are arranged in a typical style. The shaft and the front half of the draft animal were missing due to damage to the rock surface. There exists an animal that looks like a horse and some traces of indecipherable carvings below the petroglyph (Тэргүүнбаяр, 2022:156), (Terguunbayar, Tungalag and Erdenesan, 2022:415,458).

3.26 Chariot Petroglyph 26 (Survey Number: 3E024)

It is located in the southwest of Square 3E, and close to Square 3D. The size is 48 x 71 cm. A total of four single-shaft and two-wheeled chariots are carved on the rock surface. There are two parallel lines from top to bottom in the middle right of the rock surface, which should represent roads. There are two chariots marching side by side. The one on the left is the first chariot and the second chariot is on the right. On the right side of the road are two other chariots arranged one after the other. The one above is the third chariot and the one below is the fourth vehicle. Judging from the figure, the shapes of the four chariots are basically the same. The chariot and wheels are round and carved throughout. The axle part is vaguely visible. There is a drawbar at the front of the shaft and a V-shaped component below the drawbar. In addition to chariots, there are also images of horses and some difficult-to-identify animals, squares, and animal hoof prints carved on the rock surface (Тэргүүнбаяр, 2022:156-157), (Terguunbayar, Tungalag and Erdenesan, 2022:467,488).

3.27 Chariot Petroglyph 27 (Survey Number: 3G014)

It is located in the central-west area of Square 3G. It has a large size of 280x140 cm. A total of 4 images of single-shaft and two-wheeled chariots are carved on the rock surface. There are two parallel lines running through the entire picture in the middle of the rock surface, which should be roads. The first chariot is on the upper left side of the road. There is a chariot each on the upper and lower right sides of the road. The second chariot is on the upper side, and the third chariot is on the lower side. These three chariots should be carts marching along the road, with their front heads facing left. The fourth chariot is located at the lower left of the rock surface. Although it is far away from the road, the direction of the chariot is still towards the left part of the road. What these chariots have in common is a drawbar at the front of the shaft, a V-shaped component below the drawbar, and no draught animal. After careful observation, it can be seen that there are two people holding horses behind the first chariot and in front of the second and third chariots, which depicts a scene of preparing to hitch a ride and set off. There is no image of the horse leader near the fourth chariot. Of course, there is a line on the left side of the first chariot, and it cannot be ruled out that this line is an unfinished image of a draft animal. The wheels of the first chariot are already unclear. The wheels of the second, third and fourth chariots are all represented by circles, and the axle of the second chariot passes through the inside of the wheel. The outside of the right wheel of the fourth chariot is connected with a long line that is unknown. The chariot parts of the first and third chariots are slightly round, and the chariot parts of the second and fourth chariots are slightly square. Interestingly, there is a triangle above the right end of the upper line of the two parallel lines, which is unknown yet. There is also an upper opening on the right side of the triangle, and there are outward curved lines at both ends, which can be taken as a square image. This image is very similar to the bow-shaped vessels of the Shang and Zhou dynasties, and may be related to chariot petroglyphs. In addition to chariots, there are also many human and animal figures carved on the rock surface, most of which are heading to the left. Most of the animals are horses, and a few are goats and unrecognizable animal images. In addition, there are a few images of horse hoof prints carved on the rock surface. In addition to simple human figures, most of the human figures are figures of people leading horses, and horseback riders account for a minority. Some animals and people show male characteristics (Тэргүүнбаяр, 2022:157), (Terguunbayar, Tungalag and Erdenesan, 2022:539-540,549).

3.28 Chariot Petroglyph 28 (Survey Number: 4C009)

It is located in the southeast of Square 4C. Its size is 111×74 cm. There is an image of a single-shaft and two-wheeled chariot on the lower right side of the rock surface. The chariot and wheels of the chariot are both slightly round, the chariot is slightly smaller than the wheels, and they are all carved in a continuous way. There is a drawbar at the front end of the shaft, and a V-shaped component below the drawbar. Interestingly, the drawbar and the V-shaped component are connected to form a triangle, and the interior of the triangle is carved throughout. Although there are no draught animals carved on both sides of the shaft of the chariot, there are images of coachmen on the lower left and upper right sides of the vehicle, which seems to represent the scene of leading a horse to prepare for a harness. In addition, images of horses, goats, people, etc. are also carved around the chariot and on the upper left part of the rock surface. The curved line on the upper left may be an unfinished animal image. (Тэргүүнбаяр, 2022:157), (Terguunbayar, Tungalag and Erdenesan, 2022:557,575).

3.29 Chariot Petroglyph 29 (Survey Number: 4C035)

It is located in the southeast of Square 4C, and on the north side of Chariot Petroglyph 28. Its size is 105 x 100 cm. There are two widely spaced parallel lines on the left side of the rock surface from top to bottom, which should represent roads. There are five single-shaft and two-wheeled chariots on the left and right sides of the upper part of the road. Moreover, a slightly square image that overlaps with the road is carved on the upper part of the left line of the road. The first chariot is located on the upper left side of the road, with a straight shaft. The draught animals on both sides should be horses arranged in a typical style, and the legs of the horses on the right overlap with the road. The right wheel is a circle carved in a continuous way, and the axle is clearly identifiable. The second chariot is on the right side of the first one. There are draught animals on both sides of the single shaft, which should be horses arranged in a typical style. There is a thin line on the right side of the shaft, which may represent the reins. The left wheel of the chariot is represented by a circle, and the right wheel is missing. The left wheel and the left part of the chariot overlap with the road. The third chariot is on the left side of the square image, with the front of the chariot facing the square image and the rear of the cart facing the left side of the rock surface. There is a drawbar at the front end of the shaft, and there is a V-shaped component below the drawbar. There are bifurcated lines at both ends of the drawbar, as if there is a herringbone yoke on each side. The fourth chariot is located on the lower right side of the third chariot. There is a drawbar at the front of the shaft and a V-shaped component under the drawbar. The wheels are vaguely discernible and the axle is clearly visible. The left axle part of the chariot, the drawbar and the left part of the V-shaped member overlap with the road. The wheels of the fifth car are round wheels with carvings all over the body. The axle is clearly visible. There is a drawbar at the front of the shaft, and there is a herringbone yoke on the left and right sides of the drawbar. In addition, judging from the shape of the chariot: the first chariot part is represented by a small circle, and the axle and shaft are in the shape of a "cross" inside; the second half of the second chariot is shaped by the rock surface. It is damaged and difficult to identify, but the remaining parts should be horizontally rectangular; the chariots of the third and fifth vehicles are slightly square; the chariots of the fourth chariot are slightly larger than the wheels, slightly round, and are carved in a continuous way. In the picture, the fronts of the first, second, and fourth chariots are all facing the top of the rock surface, and they are marching along the road. In addition to the chariot petroglyph, the rock is also carved with images of people leading the horses, horses of various sizes, and animal hoof prints. Some images overlap with the roads. (Тэргүүнбаяр, 2022:157), (Terguunbayar, Tungalag and Erdenesan, 2022:564,579).

3.30 Chariot Petroglyph 30 (Investigation Number: 4E003)

It is located in the northwest of Square 4E. Its size is 144×36 cm. There is an image of a single-shaft, two-horse, and two-wheeled chariot on the lower left side of the rock surface. The shape of its chariot is unknown. The shape of the wheel is unknown, but the axle part is clearly identifiable. There is a drawbar at the front end of the single shaft. The horses on both sides of the shaft are arranged in a typical style. The drawbar is connected to the neck and back of the horse. There is an

animal figure in front of the chariot. In the middle of the rock surface is an outline-shaped image of a deer looking back. There is an animal's leg at the right end of the rock surface, and part of the body is missing due to the damage (Тэргүүнбаяр, 2022:158), (Terguunbayar, Tungalag and Erdenesan, 2022:593-594,607).

3.31 Chariot Petroglyph 31 (Survey Number: 4F017)

It is located in the middle area of the southern edge of Square 4F. Its size is 60 x 100 cm. The middle part of the rock surface is carved with the image of a single-shaft, two-horse, and two-wheeled chariot. The chariot and the two wheels are all round and carved in a continuous way. The wheels are larger than the chariot. The axle is clearly carved, and both ends extend beyond the wheel. The shaft is represented by straight lines, and the horses on both sides are arranged in a typical style. The shaft of the cart and the front part of the draught animal are missing due to the peeling of the rock surface, so it is difficult to determine whether there is a cart drawbar (Тэргүүнбаяр, 2022:158), (Terguunbayar, Tungalag and Erdenesan, 2022:620-621,628).

3.32 Chariot Petroglyph 32 (Survey Number: 4F031)

It is located in the eastern section of the southern edge of Square 4F, and on the east side of Chariot Petroglyph 31. Its size is 145×89 cm. The rock surface can be divided into two parts: the left and right parts. There is an image of a single-shaft, two-horse, and two-wheeled chariot carved on the bottom of the rock surface on the right. The chariot part is horizontally rectangular, and the axles and shafts are intersecting in the shape of a "cross" inside the chariot. Observed from the carvings, it is obvious that the two ends of the axle are spoked wheels. The left wheel has at least 4 spokes and the right wheel has at least 6 spokes. There is a thick short line on both sides of the wheel, which may represent the axle part of the wheel. The shaft is slender, with a drawbar crossing the front end, and a V-shaped component below the crossbar. The two horses on both sides of the chariot are arranged in a typical style. The drawbar is connected to its neck, and the male characteristics of the draught animal on the right side are obvious. At the rear of the chariot, there is a simple human figure with a head close to the chariot, arms hanging naturally, body bending, and legs facing down to the right, which should be the image of a charioteer holding the reins. There are some carving marks around the chariot petroglyph, some of which are obviously animal images. The middle part of the rock surface on the left is carved with two silhouette-like figures with shoulders and backs, clearly representing a wrestling scene. There is an onlooker on both sides of the wrestlers. The one on the right seems to have raised his arms high. The two may be referees or spectators of the wrestling event. On the upper right side of these people, there is a wrestling-like person facing to the right, with arms raised. However, there is no opponent on the right side, which may mean that a complete wrestling image has not been carved. Above and below these images are images of animals, some of which appear to be horses (Тэргүүнбаяр, 2022:158), (Terguunbayar, Tungalag and Erdenesan, 2022:624-625,630).

3.33 Chariot Petroglyph 33

It is located in the western part of the distribution area of Olon Ovoo petroglyphs. (According to the GPS coordinates provided by the Baotou Museum, the petroglyph should be located in the northeast of Square 2B. The specific location needs to be determined by on-site investigation). Its size is 43 x 98 cm. (Zhang, Wang, Xing and Wang, 2009:69), (Wang, 2009:90), (Wang, 2011:103), (Zhang, 2019, Interpretation of Olon Ovoo Petroglyphs in Baotou (2):103). There is an image of a single-shaft, two-horse, and two-wheeled chariot carved on the rock surface. The wheels of the chariot are represented by small circles, with a slender axle between the two wheels, and the chariot part is not shown. The shaft and axle are connected in a "T" shape. There is a long drawbar at the front end of the single shaft, and there is a short diagonal line on the right front of the shaft that is connected to the crossbar, which should represent a V-shaped component. The two horses on both sides of the shaft are arranged in a typical style, with the crossbar of the cart connected to the neck of the draught animal. Behind the axle, there is a pair of arms that appear to be hanging naturally, but are actually the image of a charioteer holding reins. The charioteer's legs stand in a cross-shaped position in the middle of the axle, and his head faces backward (Terguunbayar,

2014:94,97), (Тэргүүнбаяр, 2022:158).

3.34 Chariot Petroglyphs 34

It is located in the southwest of the distribution area of Olon Ovoo petroglyphs. (According to the GPS coordinates provided by the Baotou Museum, the petroglyph should be located in the southwest of Square 2B, and close to Square 1B. The specific location needs to be determined by on-site investigation.) Its size is 75 x 65 cm. (Zhang, Wang, Xing ang Wang, 2009:104). There are three chariots carved on the rock surface, all of which are single-shaft and two-wheeled chariots. Chariot 1: it is located on the left side of the rock surface. The round and small chariot and wheels are carved in a continuous way. The axle between the wheels is represented by a thin line. The single shaft is also carved with fine lines, with a drawbar at the front and a V-shaped component below the drawbar. Chariot 2: it is located on the lower right side of Chariot 1. The shape of the chariot is difficult to identify. The wheels on both sides are carved in a continuous way. The axle part is clearly identifiable, and is stretching outside of the wheels. There is a drawbar at the front of the shaft, and there are draft animals on both sides of the shaft, which is a typical style arrangement. Chariot 3: it is located on the upper right side of the rock surface. The shape of the chariot and wheels is difficult to identify, but the axle is visible. There is a drawbar at the front of the shaft, a V-shaped component under the drawbar, and two horses arranged in a typical style on both sides. There seems to be an image of a charioteer behind the chariot. There are two parallel lines in front of the chariot, which should be roads. There is a human figure on the upper left side of the third chariot. There are also some unrecognizable carved images on the rock surface. (Тэргүүнбаяр, 2022:158-159).

3.35 Chariot Petroglyphs 35

It is located in the central and western areas of the Olon Ovoo petroglyphs. Its size is 68 x 52 cm. (Zhang, Wang, Xing ang Wang, 2009:130). There is an image of a single-shaft, two-horse, and two-wheeled chariot carved on the rock surface. The chariot part is represented by a large circle. The axle is located in the middle and rear of the chariot, and the shaft and the axle form a "cross" shape. There are small wheels at each end of the axle, which are carved throughout. There is a drawbar in front of the shaft, and the draught animals on both sides are arranged in a typical style. Although most of the draught animal on the left side and the legs of the draught animal on the right side are missing due to peeling off of the rock surface, the overall shape is obviously a horse. The two ends of the drawbar are connected to the horse's neck. There are some carved marks on the front of the chariot, some of which are clearly animals (Тэргүүнбаяр, 2022:159).

3.36 Chariot Petroglyph 36

It is located in the central and western regions of the Olon Ovoo petroglyph distribution area. Its size is unknown now (*The photo of the petroglyph was provided by Wang Xinwen from the Cultural Relics Management Office of Darhan Muumyanggan Banner., 2011. Baotou City, Inner Mongolia Autonomous Region on September 30.*). There is an image of a single-shaft, two-horse, and two-wheeled chariot carved on the rock surface. The two wheels of the chariot are represented by small circles, with a long axle between the wheels, and the chariot part is less obvious. The shaft is straight and there is a drawbar at the front. There is a horse with obvious male characteristics on each side of the shaft, arranged in a typical style. The two ends of the drawbar are connected to the neck of the draught animal. In front of the chariot is a big-horned goat with its tail raised. There are two other images of horses on the right side (Terguunbayar, 2014:94,97), (Тэргүүнбаяр, 2022:159).

4. CONCLUSIONS

In 1978, when Mr. Gai Shanlin, a famous expert on petroglyphs in China, was investigating Yinshan petroglyphs in Dengkou County, Bayan Nuur City, Inner Mongolia Autonomous Region, he first discovered the petroglyph of a "single-shaft and two-wheeled chariot" on a black rock in the north of Tuoling Valley. In 1985, he published a book titled *Petroglyphs in the Yinshan Mountains*, which initiated the study of ancient Chinese chariot petroglyphs. In the more than 40 years from 1978 to 2022, a total of 178 chariot petroglyphs have been discovered in

China (including 210 images of single chariot)(*These include 36 chariot petroglyphs /including 62images of single chariot/ discovered in the OlonOvoo area.*), accounting for about a quarter of the world's chariot petroglyphs. (According to the information collected by the author so far, at least 700 chariot petroglyphs have been discovered around the world. Among them, except for a small number of chariot petroglyphs in Northern Europe, Western Europe, Southern Europe, North Africa, West Asia, South Asia and other regions, the remaining 624 petroglyphs /including 730 images of single chariot/ are found throughout the Eurasian steppes.) These petroglyphs are distributed in 6 western provinces including Inner Mongolia, Ningxia, Gansu, Xinjiang, Qinghai and Tibet. From the perspective of physical geographical units, they are distributed as follows: 4 in the Tianshan Mountain, 4 in the Tarvagtai uul Mountain, 8 in the Altai Mountains, 24 from the Qinghai-Tibet Plateau, 1 from Tongdao Bei Mountain, 2 from Yavrai uul Mountain, 17 from Helan Mountain, 11 from Yinshan Mountain, and 107 from the Gobi hilly area north of Yinshan Mountain(Terguunbayar, Tungalag and Erdenesan, 2022:714).In Mongolia to the north, more chariot petroglyphs have been discovered, most of which are distributed in the Altai Mountains and Hangay Uul Mountain. There are also some distributions in the Sayan-Tagnin Nuruu Mountains, Khentii Mountains and the Gobi Hills in the south. The chariot petroglyphs discovered in the Olon Ovoo area are an important part of it. The discovery of these chariot petroglyphs has important reference value for the study of ancient chariot culture in northern China and even the Eurasian steppe region. Based on the basic structure of chariots, draught animals and charioteers seen in the petroglyphs, as well as the roads, dome-style buildings, horse leaders, riders, wrestlers, arm dancers, and special features on the same screen as the chariot images, people with special hats and hair accessories, images of animals such as horses, goats, birds and beasts, as well as imprinted symbols, bow-shaped devices, etc. all need to be studied.

Due to space limitations, this article only provides some general descriptions of the large number of newly discovered chariot petroglyphs in the Olon Ovoo area, and also makes some preliminary analyses of their chariot structures.

1. Structural characteristics of two-wheeled chariots, four-wheeled chariots and wheels: Among the 62 chariot images in the Olon Ovoo petroglyph, 2 chariots are four-wheeled chariots (Figure 10: Chariot Petroglyph 7, chariot 5 and 6), and the remaining 60 chariots are all two-wheelers. In addition, judging from the style of the wheels, one chariot clearly has spoked wheels (Figure 35: Chariot Petroglyph 32), and one chariot has cross lines inside the wheels. It may have hub-spoked wheels, or double-crossed wheels (Figure 4: Chariot Petroglyph 1), and the wheels of other chariots are represented by circular indentations or outline circles carved in a continuous way. Of course, the chariot petroglyphs in the Gobi grassland area in the central and southern part of the Mongolian Plateau are simpler in terms of representation of wheels than those in the Altai Mountains and Hangay Uul Mountains, which do not detail the internal structural features of the wheels. Therefore, it cannot be explained simply that these chariots are all flat wheels.

2. Shaft and chariot: 61 of the 62 chariot images shown in the chariot petroglyphs of Olon Ovoo are single-shaft chariots. Among these 62 chariots, 10 have no carved chariots or the chariot parts are difficult to distinguish. If the remaining 52 chariots are classified according to the shapes shown in the petroglyphs, they can be divided into: 31 round chariots; 1 oval chariot; 11 square chariots; 7 horizontal rectangular chariots; 1 vertical rectangular chariot; 1 A-shaped chariot. Especially, the A-shaped cart, with its chariot and shaft parts connected together, is unique among the Olon Ovoo petroglyph. (Figure 27: Chariot Petroglyph 24, Chariot 2), André-Georges Haudricourt proposed that the two-wheeled chariot originated from the A-shape. Mr. Lin Junxing of Soka University in Japan introduced that as follows: Andre-Georges Haudrey shaped sled in 1948. In addition, according to Andrew Sherratt's 2004 article, he also reconstructed this type of two-wheeled vehicle by observing handcarts in Turkey. In 1977, Mr. Lin Junxiong of Soka University in Japan observed a double ox cart with an A-shaped shaft in Gümüşhane, northeastern Anatolia. There are also such images on the petroglyphs in the Val de Fontanalbe in Mont Bégo in southeastern France. Pierre Pétrequin believes that these should be yoked (The original author may have meant a drawbar rather than a yoke.) sleds. In addition, Helmut Schlichtherle also believed that the double wheels with

A-shaped shafts originated from the A-shaped sleds of that time (Lin and Li, 2020:3-4) From the above, it can be seen that the petroglyphs discovered in the Olon Ovoo area have important research value for studying the origin and development of chariot culture in eastern Eurasia.

3. Drawbar, yoke, V-shaped components, reins, etc.: In the Olon Ovoo petroglyphs, there are 51 chariots with drawbars at the front end of the shafts, while others are not carved or the carvings are blurred and unrecognizable. The two ends of the vehicle scale are obviously tilted (Figure 7: Chariot Petroglyph 4), downwardly curved (Figure 16: Chariot Petroglyph 13, chariot 2), or bifurcated (Figure 13: Chariot Petroglyph 10; Figure 32: Chariot Petroglyph 29, Chariot 3) or chariots with obvious herringbone yokes (Figure 22: Chariot petroglyph 19; Figure 32: Chariot Petroglyph 29, chariot 5), there are 6 chariots in total. Judging from the images of chariots with drawbars found around the world, the drawbars are often painted shorter when there are draught animals. At this time, the two ends of the drawbar are long and connected to the neck of the draught animal. It is rare to see a herringbone yoke carved on both ends of the drawbar with draught animals, as is the Olon Ovoo petroglyphs. None of the chariots with herringbone yokes in the Olon Ovoo petroglyphs have draft animals. In addition, there are 27 chariots with V-shaped components at the front of the shafts in the Olon Ovoo petroglyphs. Among them, 24 chariots have obvious drawbars at the front of the V-shaped components, and the other 3 chariots have no drawbars at the front of the V-shaped components. It can be seen that it looks like the front end of the shaft is bifurcated in a Y-shape. Among the chariot petroglyphs in Olon Ovoo, there are not many images where you can see reins on both sides of the shaft or in the hands of the charioteer. Only two petroglyphs have some lines that seem to represent the reins of driving a chariot. (Picture 10: Chariot Petroglyph 7, chariot 3; Figure 16: Chariot Petroglyph 13, chariot 4; Figure 32: Chariot Petroglyph 29, Chariot 2)

4. Expression methods and categories of draught animals: There are 38 chariots showing draught animals in the chariot petroglyphs of Olon Ovoo. Among them, the expression style of 37 chariots is clearly identifiable, and the expression style of another one is unrecognizable. There are two main styles of expression of the arrangement of draught animals in the Olon Ovoo petroglyphs. Category 1 is: the back of the draught animal is facing the shaft and the limbs are facing outward, which is the most common typical style in chariot petroglyphs around the world. There are 35 chariots of this type. Category 2: The performance style in which the back of the draught animal faces outward and the limbs face the shaft. There are 2 vehicles of this type (Figure 10: Chariot Petroglyph 7, chariot 2; Figure 20: Chariot Petroglyph 17, chariot 2). Among the chariot petroglyphs in Olon Ovoo, the draught animals of 34 chariots are horses, while the rest of the chariots have no draft animals or the types of draft animals are unknown. No ox cart or camel cart petroglyphs have been found yet.

5. The image of the charioteer on the chariot: In the Olon Ovoo chariot petroglyphs, there are 14 chariots with the image of the charioteer carved on the back of the chariots. Moreover, the chariots with charioteers all have draught animals. There are two types of styles for the charioteers. Category 1: The charioteer's legs are connected to or close to the chariot, and the head is facing backward. There are a total of 7 chariots showing this style. Category 2: The charioteer's head faces the chariot and his legs face toward the rear. There are also 7 chariots expressed in this style. When using the Category 1 style to represent the charioteer, the charioteer stands with his long legs crossed on the chariot, and his arms naturally droop or stretch to both sides, which should also represent the posture of holding the reins. (Figure 6: Chariot Petroglyph 3, chariot 1 and 2; Figure 17: Chariot Petroglyph 14, chariots 1 and 2; Figure 36: Chariot Petroglyph 33; Figure 39: Chariot Petroglyph 36). In some chariots, the charioteer's leg features are not obvious, and his arms are in the shape of holding a rein. (Figure 37: Chariot Petroglyph 34, chariot 3) When using the second type of style to represent the charioteer, the charioteer often has one arm hanging down naturally, and the other arm is raised close to the chariot, as if holding the reins. (Figure 4: Chariot Petroglyph 1; Figure 11: Chariot Petroglyph 8) Of course, sometimes both arms of the charioteer are naturally drooped, but this is also likely to represent the posture of standing on the chariot and holding the reins with both hands (Figure 14: Chariot Petroglyph 11; Figure 16: Chariot Petroglyph

13, chariot 4; Figure 20: Chariot Petroglyph 17, vehicle 2; Figure 35: Chariot Petroglyph 32) There are also individual petroglyphs that seem to have both arms raised upward. (Figure 23: Chariot Petroglyph 20) Judging from the above characteristics, the charioteers on the chariots in the chariot petroglyphs in this area do not have obvious scenes of tribal wars with spears, bows and arrows and other weapons. There is only a human figure holding a bow and arrow carved on the side of one chariot, which may be a hunting scene. Combined with the images surrounding the chariot petroglyphs, which mainly feature horses, goats and other animals, as well as dome-style buildings, wrestling scenes, etc., it can be seen that the main expressions are a kind of animal husbandry life that also involves hunting.

6. Images of people leading chariots and horses: Sometimes there are figures of people leading chariots carved next to the chariot petroglyphs, obviously pulling the chariots forward. (Figure 32: Chariot Petroglyph 29, chariot 5) There are many scenes of people leading horses next to chariots without draught animals, and they often show the image of two horse leaders. (Figure 16: Chariot Petroglyph 13, chariot 1, 2, 3; Figure 22: Chariot Petroglyph 19; Figure 30: Chariot Petroglyph 27, chariots 1, 2, 3; Figure 31: Chariot Petroglyph 28; Figure 32: Chariot Petroglyph 29, chariots 3, 4, 5) Of course, there is also a group of petroglyphs in which the horse has been hitched to the horse, and there is also an image of a charioteer behind the chariot, but there is still an image of a horse leader in front of the horse. (Figure 11: Chariot petroglyph 8)

This article introduces a brief history of the discovery and research of petroglyphs in the Olon Ovoo area and a large number of chariot petroglyphs found in the area, hoping to illustrate that this area has certain significance in the study of chariot culture in the eastern Eurasian steppe. As for the age and ethnicity of these chariot petroglyphs, it is not the main content of this article, and it is not an issue that can be solved in one article. Based on the overall observation of the chariot images and related images found in the Olon Ovoo area, and combined with the large number of chariot petroglyphs and related archaeological unearthed cultural relics and ethnological data in the Eurasian steppe area, it is inferred that the age of these chariot petroglyphs may be 3500~2000BP. However, this is only a preliminary guess. The author will also sort out and verify this bit by bit through subsequent research. Of course, we hope that relevant scholars can conduct in-depth research based on this survey briefing and publish more in-depth interpretive articles.

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