Title: A Journal of a Survey of the Northern Bay of the Port of San Francisco, Made in a Longboat in 1821 from the 17th to the 25th of January

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No. ? Captain-Lieutenant Gleb S. Shishmaryov, "A Journal of a Survey of the Northern Bay of the Port of San Francisco, Made in a Longboat in 1821 from the 17th to the 25th of January by Fleet Captain-Lieutenant Shishmaryov, the Survey Beginning at the Island Designated on the Map by the Letter A."[1] No number. [San Francisco Bay]. 17/28 January-25 January/5 February 1821.[2]

_____ [Monday], 17/29 [28] January 1821.

In accordance with the order given to me on 14 January by the commander of the expedition, the honorable Fleet Captain-Lieutenant and Cavalier Vasilyev, to set out in the first good weather in the longboat from the sloop [*Blagonamerenny* (*Benevolent*)] entrusted to me to survey the northern bay [San Pablo Bay] of the port of San Francisco from the eastern cape [Point San Pedro?] of the mission of San Rafael to the cape [Point San Pablo] opposite it, I determined [the positions] of both of these capes that define the entrance to the northern bay by means of astronomical observations. For assistance in conducting the survey Midshipmen Karl Gillesem [Charles Gilsen] and Roman Gall [Robert Hall] [of the sister ship *Otkrytie* (*Discovery*)] were given to me to make views and to keep a journal.

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[1] RSNA, f. 213, op. 1, d. 89, fols. 1-10. Original. First publication.

[2] The International Date Line, which separated Siberia and Russian America and put the latter one day behind the former, had not yet been drawn, so until then the Julian Calendar (Old Style) was eleven, not twelve, days behind the Gregorian Calendar (New Style) in the nineteenth century.

The following instruments were taken: pocket chronometer no. 880, 1 sextant [with stand], 2 pocket sextants, 1 floor compass [compass with stand], 1 steering compass, 1 new copper log, 1 old copper log, 2 crowbars [pries] with 3 graduated leadlines, 1 chain for measuring lines to 50 sazhens,[3] 1 hourglass of 30", and 1 hourglass of 15".

Provisions were taken for 15 men for 10 days.

At 9 o'clock this morning of 17/29 January we left the sloop safely and proceeded as prescribed. A fresh breeze from the W. Cloudy.

Not having time by noon to reach the designated cape that had to be determined by astronomical observations, at midday we took the height of the meridian from the longboat: 33° 45' 30" with an instrument error of 1' 45" and the height of the glass [spyglass] at 5 feet, and then the island [Tesoro, now Red Rock] shown on the map by the letter A was NNW from us at an eyeballed [sighted] distance of ½ a mile, so the latitude of island A was calculated to be 37° 57' 17" N. Having landed on this island, after midday we took the height of the ⊙ [sun] with the mercury [artificial] horizon, by which the longitude of island A was calculated to be 2' 48" W. of the presidio.

At midday a light breeze from the W. and a little cloud. At 2 o'clock a little rain, but soon it cleared again. At 2:45 we cast off island A and went to cape B [Point San Pedro] lying at the entrance

[3] Presumably the marine sazhen of 6 feet, not the land sazhen of 7 feet.

to the northern bay; at 3 o'clock we met a strong squall with rain and hail but soon it cleared and the wind [abated] as well. Cloudy. The depths from island A to cape B are as follows: 13 sazh[ens] and a bottom of silt with sand, 7¾, 6½, 7½, 7, 11, 16, 15, 12, 10½, 8½, 10½ and a bottom of silt with sand and sometimes mussels, and at cape B up to 1½ sazhens.

Island A consists of stratified reddish brown stone extending very gently and pleasingly to a height of 200 feet, has a circumference of 1½ miles, is very craggy, and has several lowlands suitable for landings at low tide only [as] at high tide they are covered with water. There are no trees on this island, but low shrubs grow here and there. At 4:30 in the afternoon we landed at cape B and settled ourselves to stay the night on it.

The shore from cape B to the N. is hilly and fairly high, consisting of yellow sandstone, and it has trees, which from their fruit resemble chestnut, and laurel, too, of medium size, but they are not numerous; along the shore there are lowlands suitable for landings.

Calm all night, clear weather, bright stars, moonlight from 3 o'clock in the morning.

During the night high tide was observed at 10:45 in the evening and rose up to 7 ft. 4 inches, and low tide at 3 in the morning at 4 ft. 4 in.; the difference between high and low tide was 3 feet.

_____ [Tuesday], 18/30 [29] January 1821.

At 8 o'clock in the morning the weather clear, a gentle breeze

from the NNW, strong ☼ [sunshine], a little cloud, and overcast on the horizon to the S.

At 9:35 in the morning at cape B we took the height of the ⊙ [sun] with the mercury [artificial] horizon, according to which the longitude of cape B was found to be 0° 3' 36" W. of the presidio. At midday the twice-taken [*dvoinoy*] height of the ⊙ was 67° 51' 45", according to which the latitude of cape B was 37° 59' 28" N. At noon, too, the variation of the compass was observed to be 13° 30' E.

The angles from cape B: cape E [Point San Pablo] at R [compass point] 51° SE; from it the angles to the right of cape E + cape C [Point Molate] and from it in line with islet b = 10° 24', and to the left: E + cape F = 14° 18', E + Rancho San Pablo is 32° 13', and E + cape G [Point Pinole] and from it in line with islet c = 75° 9' and island A at 50° 29'.

At midday we cast off from cape B and boated to cape E lying opposite; the depth was 13.15 sazhens and the bottom silt. Within half an hour we landed at cape E, from which we took angles: cape G is 32° NE of it; the angles to the left: cape G + cape H = 64° 25', G + islet c = 70° 45', and to the right: g + cape F = 55° 10'.

After taking the angles we boated to cape G. The depth went from 10 sazh[ens] to 10½ to 6 to 5 to 3¾ to 3 to 2, the bottom silt with sand; upon nearing the shore the depth diminished gradually to 2½ feet. Then we turned away from the shore and went again to cape G, and the depths were 1, 1¼, 1¼, 1¾, 1½, 1¼, 1¼, and 1¼ [sazhens]

and the bottom sticky silt.

At 2 o'clock we met a squall from the W with rain but it soon cleared and then we anchored with the grapnel at a depth of 1 sazhen to take views. At that time [we were] near a rancho and saw many cattle.

Soon we raised the grapnel and continued our course towards the same cape G.

From cape E towards the E. the shore is elevated and steep as far as cape F, beyond which there is a large lowland on which we saw a rancho surrounded by some trees; however, all of the southern shore of this bay is completely treeless. Inland there are high hills.

From the rancho to cape G the shore becomes gradually higher, and the cape itself is high and steep and consists of yellow clay overlain by black earth; there is a small lowland, and it is very inconvenient to put in to it at low tide.

At 4:30 we landed near cape G, where we settled ourselves to stay the night. Until midnight the weather was clear with bright stars and a light breeze from the S and W.

_____ [Wednesday] 19/31 [30] January 1821.

After midnight a strong wind from the WNW, overcast, and often heavy rain and squalls. In the morning the wind the same, the rain gentle but now and then heavy.

At cape G we ran a line [*magistral*] 250 sazhens long in accordance with the rhumb of 29° SE. From the first point of the line, or from

cape G, the angles from cape B to the right: B + cape L = 20° 45' and B + H = 64° 5'. Cape M [Lone Tree Point] at compass point 50° NE, and from it the angles to the right: cape M + cape N [Wilson Point] = 24° 50' and cape M + little cape O = 32° 45'.

From the southern end of the line the angles are: cape M at 47° NE; from it the angles to the right: M + N = 21° 30', M + O = 15° 10'.

At 8:30 we arrived at the tents to find two Indians, who told us that the settlement we had seen is Rancho San Pablo. The soil on cape G consists of excellent black earth.

At 9 o'clock we boated to cape M; the depths went from 3 to 3½ to 4 to 4½ to 5 to 6 to 6 to 5 to 5 to 4½ sazhens, and the bottom was silt.

At 10 o'clock we met a strong squall from the W with rain and hail that continued for about 1½ hours, then the wind died somewhat and thick snow fell. At this time we went beyond cape M and entered an apparent strait [Carquinez Strait] leading to the E and no more than 1 mile wide. Owing to the foul weather, it was impossible to continue the survey, so we headed farther into the strait. At 3 o'clock in the afternoon the strait turned towards the N and brought us into a large bay [Junta de los Quatro Evangalists, now Suisin Bay], to the N of which in the distance heights [Sierras?] were barely visible, so at the exit from the strait we stopped to overnight at one of the capes separating it [from the bay]. This cape we named B [Point Bolotas].

The shore from cape G to cape M is a low sandbank at first and then rises little by little; cape M itself is high and steep and consists of clay. Mountains are visible inland, and there are trees on them here and there.

Nearing cape B the water becomes fresher, and this demonstrates the entry of a river [Sacramento River] here.

The northern shore of the strait is hilly and sloping but quite treeless; in places on it we saw herds of deer. The southern shore is very hilly and steep, has small draws [valleys] for landings, and is fairly wooded.

At the time of our passage through the strait we were unable to obtain the depth because of our speedy progress; the lead [plummet] was taken to 8 and 9 sazhens.

From 4 o'clock in the afternoon until midnight a fresh wind from the W and often squalls with rain.

_____ [Thursday] 20 January/1 February [31 January] 1821.

Clear after midnight, bright stars, and a light breeze from the NE and NW. The rise and fall of the tide was noticed at cape B in a small stream, where a foot rod was erected: the low tide at 6:00 AM was 1 ft., 9 in. and the high tide at 12:30 PM was 6 ft., 8 in. and the difference between high and low tide = 4 ft., 11 in. The tide took almost as long to ebb as it did to flood — about 6 hours.

From atop cape B we saw a river to the NE, where we headed at 7 o'clock in the morning. The depth went from 4½ to 6 to 1½ to 2

to 3 and at its very mouth 8 sazhens, the bottom silt; farther along the river the depth went from 7½ to 5 to 3½ to 6 to 1½ to 1 to 1¾ to 4½ to 6½ to 7½ to 7 to 7 to 6 to 3 to 1¾ [sazhens], the bottom silt.

At 8 o'clock in the morning clear weather, a little cloud, sunshine, and a light breeze from the N and E. The water in the river where we now found ourselves proved to be totally fresh.

The shore on both sides of the river is low, quite treeless, overgrown with reeds, and at high tide covered with several inches of water. Heights [Sierras?] are visible very faraway to the N and high mountains in the distance to the S.

At 9:30 we wanted to land on the southern bank of the river for observations of the latitude and longitude of this place, but it was impossible to land because the bank was covered with nearly ½ a foot of water; then we boated across the river to the northern bank to try there. The depths across the river: 2½, 1½, 1½, 1½, 1¾, 1¾, 2, 2, and 2 [sazhens] and the bottom silt with sand. At the northern bank it was impossible to land for the same reason, so after taking water in a jug for delivery to the sloop and supplementing the expended water on the longboat, we went back along the river to the site of our overnight, keeping in turns to both sides of the river. The depths were: 2, 2, 2, 3, 2, 4½, 1, 1½, 3½, and 1 [sazhens], the bottom sand.

Boating along the river, we noticed large, uprooted [*vykidivie*] oak trees lying in many places on its northern bank.

As far as one can judge, at low tide the river[bank]'s trees become dry and then it is convenient to put in to them.

Before leaving the mouth of the river, a small island was found adjoining the southern bank that was also covered with water, and we saw many very large sea lions lying on it.

At midday clear weather, sunshine, a little cloud, and a light breeze from the NW. After leaving the mouth of the river, we boated to the same spot where we had overnighted in order to begin taking the angles of the river from there; the depths went from 2 to 1½ to 6 to 4½ to 3 [sazhens], the bottom silt with sand.

Before reaching cape B, on a hill found on the low shore of the bay we saw 4 Indians, who glanced at us; [then] they withdrew beyond the hill.

At 2 o'clock we landed at cape B and settled ourselves to stay the night. A wind arose from the N, and at 4 o'clock snow fell and soon changed to rain. At 7 o'clock in the evening we saw fire in the distance.

After midnight clear weather, bright stars, and a light breeze from the N and W throughout the night.

The observed rise and fall of the tides: yesterday evening low tide was 1 ft., 3 in. at 6:45 and high tide was 7 ft., 1 in. at 1:05 at night; this morning low tide was 5 ft., 0 in. at 6:45 and high tide was 8 ft., 4 in. at 0:35 [12:35 PM], and thus the evening rise was 5 ft., 10 in. and the morning rise 3 ft., 4 in. Since today

is the day of a new moon, the closest high-tide time[4] would be 0:35 [1:35 AM].

At 8 o'clock in the morning clear weather, a little cloud, sunshine, and a light breeze from the N. At 8:45 we took the height of the ⊙ [sun] to determine the longitude of cape B, which proved to be 0° 18' 0" E. of the presidio, as well as the azimuth, from which the variation of the compass was found to be 13° 59'.

At midday the latitude of cape B was found to be 38° 2' 29" N. Cloudy weather all day, a breeze from the N, very calm.

The angles taken from cape B: cape C [Navy Point] at 57° NW; from it the angles to the left: cape C + the little lake is 17° 30', cape C + cape F and in line with it islet E [another Seal Island] = 35° 17', cape C + cape D [Point Phelps] = 31° 19', cape C + the white draw = 46° 19', and cape C + cape A = 99° 33'. From cape C the angles to the right: C + cape H = 11° 12', C + cape K = 52° 59', C + ht. [height] L = 94° 32', and C + the river's mouth = 105° 45'.

_____ 21 January/2 [1] February 1821.

At 12:30 at night, having cast off from cape B, we went to cape G, lying opposite it, and in crossing the depths were: 2, 13½, 9½, 8, 8½, 11, 13¼, 14, and 7 [sazhens], the bottom fine sand.

At cape C, also with the mercury [artificial] horizon, we took several heights of the ⊙ [sun], from which the longitude of cape

[4] The high-tide time (*prikladnoy chas*, or *prikladka*) is the amount of time at any place that needs to be added to the hour of the moon's midday transit in order to determine the time of high tide.

C was found to be 0° 17' 7" E. of the presidio of San Francisco.

From cape G the angles: height L at 40° NE, and from it the angles to the left: L + H = 21° 24'; from height L the angles to the right: L + the river's mouth = 24° 34' and L + little cape X = 38° 8'.

Cape B at 57° SE, and from it the angles to the right: B + draw Q = 20° 28', B + A = 47° 58', and B + the white draw = 119° 26'.

At 2 o'clock at night we boated to cape A [Martinez], and the depths were: 16 and 12 [sazhens] with a bot[tom] of fine sand, 12 and 11¼ [sazhens] with silt, and 9½ 8, 7¾, 8, 8, 7, 6, and 1½ [sazhens] with silt and sand. From cape A and from cape C the angles to the right: C + K = 10°; from the same cape C to the left: C + islet E = 54° 21', C + D = 61° 20', C + isl. F = 53° 14', and C + the little lake = 19° 14'. At this cape we saw a yurta [hut] of the savage Indians; the soil consists of black earth, with trees here and there. After taking the angles, we started for islet E, and the depths went from 7¼ to 8 to 8½ to 9½ to 11½ to 11 to 10 to 15½ [sazhens], the bottom fine sand. At this last depth we dropped the grapnel in order to learn the speed of the current, which at ebbtide, according to the log, ran at 3½ angles [?] in an hour.

After having raised the grapnel near islet E, the depths were 10, 6, and 2 sazhens, and the bottom sand with mussels.

From islet E and from cape B the angles to the left: B + X = 10° 28'; to the right: B + Q = 14° 9'. From cape D the angles to the right: D + cape R = 11° 56', D + draw T = 33° 56', and D + the

cape near Y [Benecia] = 83° 21'.

From islet E, which consists of soft yellow stone and is surrounded by rocks on which seals rest, we set off to cape D. The depths went from 16½ to 17 to 16 to 12 sazhens, the bottom sand with stones and mussels.

From cape D, cape R [Malakadel?] is at 29° 00' NW. From it the angles to the right: R + T = 9° 26' and R + Y = 102° 49'; to the left: R + cape Aa = 31° 19', R + cape Bb = 49° 50', R + Cc = 51° 56', and R + cape Dd = 60° 27'. Then we set out for cape R; the bottom could not be touched at 10 sazhens on account of the strong current. Near cape R there is a crag [*kekur*] at which the current is so strong that it resembles a vortex, and the water whirls around; it is dangerous to come upon this whirlpool in a rowing vessel.

From cape R cape Dd is 67° SW, and from it the angles to the right: Dd + Bb = 19° 42' and Dd + M^2 [Pyramid Point] = 5° 43'.

After taking the angles at cape R, we began to look for a place to overnight, since it was already late, and finally, finding one on the southern shore, we landed in the dark and settled ourselves to stay the night.

The longboat could not approach the shore closely, so a foot rod was not erected.

_____ 22 January/3 [2] February 1821.

All night after midnight the weather was clear, a little cloud, bright stars, and a gentle breeze from the SW that by the morning became a light wind between the S and W.

At 7:30 in the morning we cast off from our overnight place and went to cape Dd, keeping very close to the southern shore, although the depth was more than 1 sazhen; however, we struck a rock very hard, from which it is to be supposed that rocks are numerous near the southern shore. The longboat was not damaged at all.

After landing near cape Dd, we took the R [compass point] of cape Ff [Point Semple] at 65° NW, from which the angles to the right: Ff + Aa = 80° 59'; from cape Ff the angles to the left: Ff + Cc = 13° 29' and Ff + M^2 = 37° 55'.

After taking the angle from cape Dd, we boated to cape Ff, and the depths were 13, 16, 15, 17, 16½, 15, 6, and 2 [sazhens], the bottom sand with mussels. Approaching cape Ff, we saw between it and cape Cc a bay [mouth of Napa Creek] stretching to the NW, so after landing near cape Ff and from it taking the R [compass point] of cape Cc at 79° SW, we walked to see the bay, heading for the middle of it on the rhumb of 30° NW. The depths along the bay were 2, 4, 10, 6, 6, and 3¾ sazhens, the bottom silt.

The shore at the entrance to this little bay is very high, but farther inland it becomes gradually lower, so that to the north the bay is completely confined by a lowland; farther inland, too, the depth diminishes gradually. This bay's length, as indicated by the log, is about 3 miles and its width from 1 to 1½ miles. At 9:30, after having crossed almost all of the bay and seen that it is confined by a lowland, we sighted its position and made a view and then turned back and went to cape M. The depths from the mouth of the bay to

cape M were 6, 5¾, 7¾, 13½, 12, 9, 5¾, 5¾, and 5½ [sazhens], the bottom silt with sand.

Beside cape M itself lies an islet that has been washed away from the cape 30 sazhens distant. Putting in to it, we took the midday height of the ⊙ and the angles; in the meantime we cooked the crew's dinner. This islet is sheer on all sides, and we put in to it very conveniently at any time.

The twice-taken height of the ⊙ at midday was 69° 59' 30", from which the latitude of cape M = 38° 3' 12" N. The variation of the compass was observed at noon to be 13° 30' E. The compass point of cape L was 30° NW, from which the angles to the left: L + height Q = 29° 00'.

At midday the weather clear, sunshine, a light breeze from the NE.

At 12:45 in the afternoon we boated to cape Z [Mare Island]. The depths went from 9½ to 12 to 7½ to 4 to 3½ to 2¾ to 2¼ to 2¼ to 2 to 1½ [sazhens], the bottom silt.

The shore from cape A as far as cape Z runs to the NW and is fairly high, rock-strewn, and quite treeless; near cape Z it is possible to put in at high tide only, but no closer than almost a versta in a small longboat, as happened to us now.

After putting in to cape Z at 3 o'clock, we took the bearing of cape G at the compass point of 27° SW, and from it the angles to the right: G + hillock Q = 71° 11'; in the distance height P at the compass point of 23° NW. Here at cape Z we settled ourselves

to stay the night, and we sent some men to shoot deer that we saw not far off; but they were unable to shoot them, and we saw how the deer swam across the bay to the other side.

From cape Z the shore runs N and becomes gradually lower and ends in a marsh that extends very far to the north; a path has been worn through the marsh by the Indians, of course, and heights are visible in the distance.

In the marsh there are numerous small lakes, on which a great many ducks and a few geese are found; along the shore near cape Z large flocks of sandpipers sit on the rocks.

_____ 23 January/4 [3] February 1821.

The night was clear, a little cloud, bright stars, and a light breeze from the N and E; calm in the morning. At 9:30 in the morning we set off from cape Z and went to cape M in order to connect the survey of the river with the description of the bay. After putting in to it we took the compass point of cape Cc at 11° NW, and from it the angles to the right: Cc + Ff = 31° 25' and Cc + M^2 = 60° 40'; after taking the angles, we boated to the northern shore, where height Q was visible. The depths were 6½, 10½, 8½, 5½, 4, 2½, 2½, 2½, 2, 2, 2, 2, 1½, 1½, 1½, 1¼, 1¼, 1¼, 1¾, and 1 sazhens, the bottom silt.

From cape Z to height Q the shore is low and marshy and runs at first somewhat to the N and then turns little by little to the W, and farther from [beyond] Q it gradually bends to the S.

At midday the weather clear, a little cloud, sunshine, and a light breeze from the SW.

In order to determine the curvature and position of the lowland, on which there are no landmarks whatsoever from which bearings could be taken, we put right in to the lowland itself in the longboat and took [the compass point] of cape G at 8° 00' SE, from which the angles to the left: G + Z = 64° 14' and to the right: G + L = 27° 30' and G + H = 43° 42'. The lowland extends even farther to cape A, whither we headed; the depths were ¾, 1½, 1½, 1½, 1½, 1¼, 1½, 1½, 1½, 1½, 1½, 1¼, 1¼, 1¼, 2, 2¼, 1¼, 1, and 1 sazhens, the bottom silt.

At 3:30 in the afternoon, after boating along the lowland, we caught sight of the bay running at first to the W and then turning to the NW and dividing into 2 arms, one going to the E and the other to the W; between these arms is an islet, beyond which the bay completely disappears from view to the N. The water in the bay is salty and shallow, so one can suppose that there is a stream right here, but there cannot be a river. From the start the western shore of the bay is hilly and wooded and the N extremity is a lowland; the northeastern extremity, too, is all one lowland.

At 5 o'clock we put in to cape A^2 [Gallinas Creek], from which cape G and in line with it cape C^2 are at compass point 74° SE; from cape G the angles to the left: G + M^2 = 37° 30' and G + the extremity of lowland B^2 = 35° 23'.

After taking the angles, we settled ourselves at cape A^2 to stay the night. The weather clear, a little cloud, bright stars, and a light breeze from the N and W.

At times in the evening it rained, with squalls from the W,

but it soon became clear again.

The night was noticeably cold and a heavy dew fell; in the morning our tents were completely frozen.

_____ 23 January/4 [3] February 1821.

At 8 o'clock in the morning the weather cloudy, occasional sunshine, and a light breeze from the NW. We cast off from our overnight place and went to cape C^2 and from there to cape E at compass point 33° 30' SE, from which the angles to the left: E + lowl. B^2 = 92° 5'. With this the survey ended, since from cape C^2 to cape L all of the shore is sandbarred and low-lying, and it is not convenient to put in to it, so we boated across the bay to cape G; the depths were 1, ¾ ½, 1, 1¼, 1½, 2, 2, 2½, 2½, 2, 2½, 2½, 2½, 2½, 2½, and 2½ [sazhens], the bottom silt.

At 10:30, when cape B was 25° SW, we went to cape E; along the bay the depths went from 3 to 3¼ to 3 to 3½ to 4 to 4½ to 5 to 6 to 7 to 7½ to 7½ to 7 to 7 to 7¼ to 7 to 7½ to 7¼ to 7¼ to 7½ to 8 to 8½ to 9 to 10 to 9½ to 9½ to 9¼ saz[hens], the bottom silt.

By midday we wanted to have time at cape E to determine its latitude, but as we could not manage it we forwent it; a whole day for this makes no sense, for [the latitude of] cape E is fixed and very well, too. Thus having ended the survey of the whole bay, we set off to the sloop, the weather clear and a fresh breeze from the SW. From island A we took [the compass point of] cape C at 72° SE and [that of] the 2 little rocks [The Brothers?] at 70° NE.

At 5 o'clock in the evening we arrived safely at the sloop

Blagonamerenny.

Captain-Lieutenant Shishmaryov.[5]

[5] Autograph.