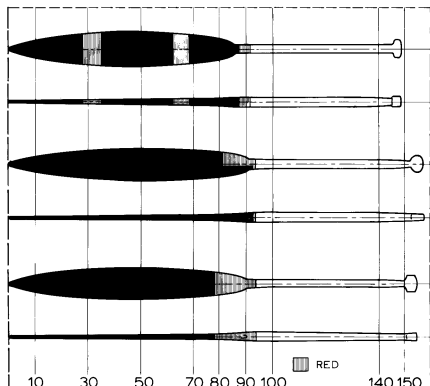


**KODIAK  
THREE-HOLE KAYAK**  
MUSEUM OF ANTHROPOLOGY  
AND ETHNOGRAPHY  
LENINGRAD, U.S.S.R.

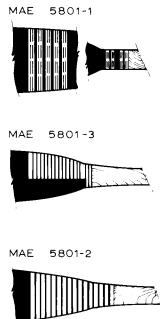
MAE 536-24  
 LENGTH TO SHEER 28.53' 807.0  
 BEAM 31.2" 79.2  
 DEPTH TO SHEER 30.5" 77.2  
 WEIGHT (ESTIMATE) 100 lb 45.4 kg  
 DISPLACEMENT TO SHEER 1860.6 lb 844.0 kg  
 CP (PRISMATIC COEFFICIENT) .62  
 THEORETICAL TOP SPEED 5.9 KNOTS  
 LOADED KAYAK UNSTABLE AT 31" HEEL  
 LWL (LOAD WATERLINE) BASED ON 68 kg  
 (150 lb) MEN SEATED 265.0 cm 460.5 cm &  
 645.0 cm FROM BOW  
 COLLECTED BY UREY LISIANSKY, KODIAK  
 ISLAND, 1805.

LINES AND CONSTRUCTION DETAILS  
 SHEET 1 OF 2

LINES TAKEN OFF BY DAVID W ZIMMERLY  
 NOVEMBER 1975  
 DRAWN BY KATHRYN P IRELAND, 1982

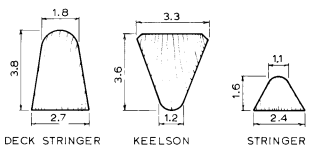
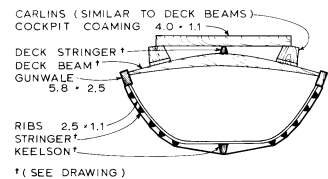


PADDLE OFFSETS		STATIONS IN cm											GRIP
		10	30	50	70	80	90	100	140	150			
HALF BREADTH	3.5	5.7	6.3	5.2	4.1	1.7	1.8	1.6				3.4	
THICKNESS	0.8	1.3	1.7	2.3	3.1	3.4	3.4	3.0				3.5	
HALF BREADTH	3.1	5.3	6.1	5.4	4.5	2.1	1.8	1.7	1.5	3.0			
THICKNESS	0.7	0.9	1.3	1.8	2.5	3.1	3.5	3.2	2.9	2.7			
HALF BREADTH	3.2	5.7	6.1	5.1	4.1	1.7	1.5	1.5	1.2	3.1			
THICKNESS	0.6	0.9	1.3	2.0	2.5	3.1	3.5	2.9	2.3	2.7			

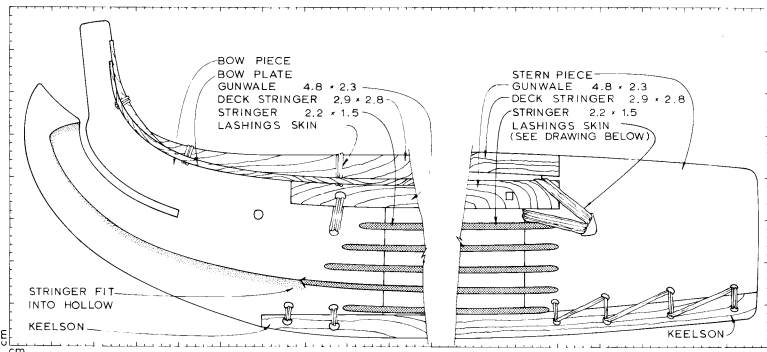
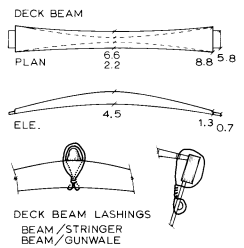


BLACK PATTERNS IN AREAS PAINTED RED

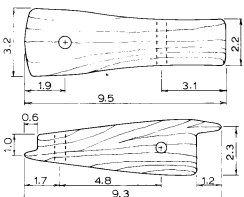
THESE PADDLES ARE IN THE COLLECTIONS OF THE MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY IN LENINGRAD AND WERE COLLECTED BY LISIANSKY IN 1805. THEY PROBABLY HAVE THE ABOVE CATALOG NOS. THE BLADES OF ALL THREE PADDLES ARE SYMMETRICAL RIDGED ON BOTH SIDES. THE EDGE THICKNESS VARIES FROM c. 0.3 cm AT THE TIP TO 0.4-0.6 cm AT THE SIDES ALMOST TO THE LOOM.



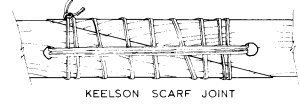
SECTION	STEM	CENTIMETERS TO OUTSIDE OF SKIN										STERN
		1	2	3	4	5	6	7	8	9	10	
DECKRIDGE	49.5	45.3	43.7	46.5	48.2	49.6	49.4	47.0	42.4	39.8	39.5	
SHEER		39.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0		
CHINE 5			31.5	28.6	28.2	27.8	27.5	27.2	30.2			
CHINE 4			27.2	22.9	22.2	22.2	22.0	22.2	25.6			
CHINE 3			22.6	17.9	17.1	16.9	17.1	17.6	22.3			
CHINE 2			19.0	13.9	12.6	12.6	12.7	13.8	17.9			
CHINE 1			16.0	10.7	9.6	9.4	9.6	10.0	15.7			
KEELSON	18.5	13.7	8.3	7.0	6.6	6.8	7.1	10.5	14.5	15.5		
SHEER	2.0	6.4	11.5	25.7	35.0	39.2	37.7	31.7	10.0	2.5	2.0	
CHINE 5			9.4	20.6	31.6	35.6	34.6	27.6	8.2			
CHINE 4			7.5	17.3	27.4	31.8	31.0	24.6	6.8			
CHINE 3			5.9	13.9	23.2	27.8	27.4	21.5	5.9			
CHINE 2			3.7	10.6	18.7	23.2	22.8	17.9	3.5			
CHINE 1			1.9	6.7	13.1	17.6	16.4	14.1	1.9			



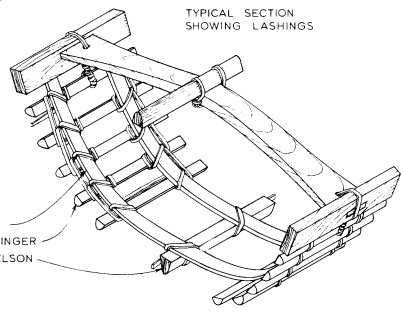
THE BOW AND STERN CONSTRUCTION DETAILS AND MEASUREMENTS ARE BASED ON A KAYAK FRAME IN THE COLLECTIONS OF ST. HERMAN'S THEOLOGICAL SEMINARY, KODIAK, ALASKA.



DECK STRINGER AND GUNWALE MORTICED INTO STERN PIECE.



TYPICAL SECTION SHOWING LASHINGS



THE THREE-HOLE ALEUT AND KODIAK KAYAKS WERE USED EXTENSIVELY BY THE RUSSIAN PRIESTS, TRADERS AND EXPLORERS. THEY AND THEIR BAGGAGE OCCUPIED THE MIDDLE COCKPIT WITH NATIVE PADDLERS IN THE OTHER TWO.

THIS IS THE OLDEST SURVIVING SPECIMEN OF ITS TYPE AND WAS IN REMARKABLY GOOD CONDITION IN 1975. COMPLETE LINES WERE NOT TAKEN OFF AND THE LINES DRAWING IS RECONSTRUCTED BASED ON A STRAIGHT SHEER LINE. BOW AND STERN CONSTRUCTION DETAILS ARE BASED ON COMMON KODIAK ESKIMO BUILDING PRACTICES AND INSIDE PHOTOGRAPHS OF THIS SPECIMEN. DECK LINES AND STERN HANDHOLD ARE RECONSTRUCTED FROM PHOTOGRAPHS OF OTHER SPECIMENS.

LISIANSKY (1814: 211-212) WROTE THAT "THE KADIAK MEN DESERVE GREAT CREDIT FOR THE INVENTION OF THE BIDARKA, WHICH IS LIGHTLY CONSTRUCTED OF WOOD, FASTENED TOGETHER WITH WHALEBONE, AND COVERED OVER WITH SEAL SKINS, THE SEAMS OF WHICH ARE SO WELL SEWED THAT NOT A DROP OF WATER CAN GET THROUGH... THE BIDARKAS PADDLE VERY FAST AND ARE SAFER AT SEA IN BAD WEATHER THAN EUROPEAN BOATS; ESPECIALLY WHEN PROVIDED WITH GOOD HATCHWAY CLOTHS, WHICH ARE ALWAYS DRAWN OVER HOLES, ANSWERING TO HATCHWAYS, AND EXTEND AROUND THE WAISTS OF THE PEOPLE SITTING IN THEM... WHEN THERE ARE SEVERAL OF THESE VESSELS IN COMPANY, AND A STORM OVERTAKES THEM, THEY FASTEN TOGETHER IN PARTS OF THREE OR FOUR, AND THUS RIDE IT OUT, LIKE SO MANY DUCKS TOSSED UP AND DOWN BY THE WAVES, WITHOUT THE SMALLEST DANGER, AT FIRST I DISLIKED THESE LEATHER CANOES ON ACCOUNT OF THEIR BENDING ELASTICITY IN THE WATER, ARISING FROM THEIR BEING SLENDERLY BUILT; BUT WHEN ACCUSTOMED TO THEM, I THOUGHT IT RATHER PLEASANT THAN OTHERWISE."

## KODIAK THREE-HOLE KAYAK

MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY LENINGRAD, U.S.S.R.

MAE 536-24	26' 5.7"	807.0
LENGTH	31.2'	79.2
BEAM	100 lbs	45.4 kg
WEIGHT (ESTIMATE)	30.5"	12.0
DEPTH TO SHEER	COLLECTED BY UREY LISIANSKY, KODIAK ISLAND, 1805.	

LISIANSKY UREY  
1814 A VOYAGE ROUND THE WORLD  
IN THE YEARS 1803 4 5 6  
LONDON: JOHN BOOTH.

### NOTES AND CONSTRUCTION DETAILS

SHEET 2 OF 2

LINES TAKEN OFF BY DAVID W ZIMMERLY  
NOVEMBER 1975  
DRAWN BY KATHRYN P IRELAND 1982