

sediment sample from
Analysis of ~~XIX~~/Laranjito Site, RS-I-69, Square I-8, depth 6.85-6.90 m.
from same level as Square I-7 with C-14 date of 10,400 ± 110 BP (N-2521).
Rio Uruguay, Rio Grande do Sul, Brasil.

John Albanese's report of Jan. 4, 1978. See letter file.

Extract....

" I examined the sediment sample from the Laranjito site. It is a lightbrown, slightly sandy clay that is finely laminated and displays some truncated ripple marks. The charcoal at the very top (upper 2 cm) is imbedded in the clay. The sample does not effervesce with acid and is therefore non-calcerous or very low in CaCO_3 . There has been leaching of iron in the upper 2 cm. and some limonite staining along laminae in the lower clay. I would guess that the sediment is an overbank deposit that formed adjacent to a river channel."

"Pedogenesis itself is very poorly ~~refined~~ developed. There is an incipient soil development but it does not amount to much. The good ~~XXXXX~~ preservation of the sedimentary bedding would indicate that the sediment sample was never subjected to much pedogenesis. It must have been buried by sediments not long after the PaleoIndian occupation. The iron staining can occur under climatic environments ranging from semi-arid to temperate to tropical and by itself is not that diagnostic. The apparent lack of CaCO_3 would argue that the sample did not form under an arid or semi-arid environment. It reminds me more of Abrigo do Sol sediments than the Dutton or Selby sediments of Colorado. My guess is that it probably formed in a semi-tropical or tropical environment. It would help to see the whole outcrop rather than just a hand specimen, however, I don't think I will make it down to Brazil this January. I have too many commitments plus the fact that I have to go to the hospital and get a cataract removed in January, which will put me out of the field business for a month ... "

John Albanese
Geologist
Post Office Box 1397
Casper, Wyoming 82602

06/7/76

Smithsonian Institution
Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI-

Rec'd:

Site name: LARANVITO

Site number: RS-1-69

Exact site location:

MARGEM ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA, RGS, BRASIL

Latitude: 29°34'42" S

Longitude: 56°56'36" W

Cultural and/or time range of site:

PALEOINDIO

Sample material: CARVÃO VEGETAL

CAT. Nº 5560

Genus and species:

20 GRAMAS

Identified by:

Geological/chemical environment of sample:

PLEISTOCENO (FINAL)

Evidence of leaching or humus:

Evidence of contamination or root penetration:

Field packaging: SACO PLÁSTICO

Preservative or fungicide: NÃO

Excavation coordinates and stratigraphic position:

PROFUNDIDADE 8.40-8.60 METROS / QUADRICULA 6-8

Feature number and description:

Associated cultural materials: CARVÃO ASSOCIADO À LASCAS E PERCUTOR LÍTICOS

Estimated age and basis: MAIS DE 10.000 B.P. POR ESTAR EM NIVEL ESTRATIGRÁFICO MAIS PROFUNDO QUE AS AMOSTRAS N.ºS 5157 (SI-2631) E 5559

Importance of dating this sample: AMOSTRA DE CARVÃO DO MESMO POÇO TESTE DAS AMOSTRAS N.ºS 5157 (SI-2631) E 5559, DEVERÁ DATAR AS EVIDÊNCIAS ARQUEOLÓGICAS MAIS ANTIGAS ATÉ O PRESENTE ESCAVADAS NAS MARGENS DO RIO URUGUAI.

OVER----

106/7/76

Smithsonian Institution
Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI-

Rec'd:

Site name: *LARANJITO* Site number: *RS-1-69*

Exact site location:

MARTEM ESQUERDA DO RIO URUGUAI-HUM. URUGUAIANA, RGS, BRASIL

Latitude: *29° 34' 42" S*

Longitude: *56° 56' 36" W*

Cultural and/or time range of site:

PALEOINDIO

Sample material: *CARVÃO VEGETAL*

CAT. N° *5550*

Genus and species:

43 GRAMAS

Identified by:

Geological/chemical environment of sample:

PLEISTOCENO (FINAL)

Evidence of leaching or humus: *SIH*

Evidence of contamination or root penetration:

Field packaging: *SACO PLÁSTICO*

Preservative or fungicide: *NÃO*

Excavation coordinates and stratigraphic position:

PROF. 6.85 - 6.87 M / QUADRICULA I-7

Feature number and description:

Associated cultural materials: *LITICOS LASCADOS - PONTAS DE PROJÉTIL PEDUNCULADAS E LASCAS COM E SEM RETOQUES*

Estimated age and basis: *MAIS DE 9.000 ANOS COM BASE EM SI-2631 (9620 ± 110 B.P) EM RS-1-69 COM MESMO NIVEL ESTRATIGRÁFICO*
Importance of dating this sample:

A DATAÇÃO DESTA AMOSTRA ALÉM DE MELHOR BASE PARA AVALIAÇÃO DO RESULTADO DE SI-2631 COMO UMA SEGUNDA DATAÇÃO PARA ESTE ESTRATO, AVALIARÁ TAMBÉM AS PONTAS DE PROJÉTIL, ESTREITAMENTE ASSOCIADA A AMOSTRA NUMA VARIAÇÃO DE APENAS 2 CM'S. DE PROF. EM UMA ÁREA DE APENAS 40 X 40 CM'S.

OVER----

106/7/76

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Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI-

Rec'd:

Site name: LARANJITO

Site number: RS-1-69

Exact site location:

MARGEM ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA, RGS, BRASIL

Latitude: 29° 34' 42" S

Longitude: 56° 56' 36" W

Cultural and/or time range of site:

PALEOINDIO

Sample material: CARVÃO VEGETAL

CAT. N° 5559

Genus and species:

11 (12) GRAMAS

Identified by:

Geological/chemical environment of sample:

PLEISTOCENO (FINAL)

Evidence of leaching or humus:

Evidence of contamination or root penetration:

Field packaging: SACO PLÁSTICO

Preservative or fungicide: NÃO

Excavation coordinates and stratigraphic position:

PROF. 8,15 - 8,25 metros / QUADRICULA G-8

Feature number and description:

Associated cultural materials: LASCAS E PERCUTOR LITICO ASSOCIADOS A CARVÃO

Estimated age and basis: MAIS DE 10.500 B.P. POR ESTAR NO MESMO POÇO TESTE E 1,35 M ABAIXO DE SI-2631 COM 9620 ± 110 B.P.

Importance of dating this sample:

IRÁ DATAR UM NIVEL CULTURAL COM 1,35 M ABAIXO DO NIVEL DE 6.8 M DE PROFUNDIDADE / SI-2631. LARANJITO, E OS LITICOS LASCADOS A SEREM ESCAVADOS EM 1976/PP.

OVER----

106/7/76

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Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI-

Rec'd:

Site name: LARANJITO

Site number: RS-1-69

Exact site location:

MARGEM ESQ. RIO URUGUAI, MUNICIPIO DE URUGUAIANA, RGS, BRASIL

Latitude: 29° 34' 42" S

Longitude: 56° 56' 36" W

Cultural and/or time range of site:

PRE-CERAMICO

Sample material: CARVÃO VEGETAL CAT. Nº 5156

51 (49) GRAMAS

Genus and species:

Identified by:

Geological/chemical environment of sample:

Evidence of leaching or humus: SIM

Evidence of contamination or root penetration: SIM

Field packaging: SACO PLASTICO

Preservative or fungicide: NÃO

Excavation coordinates and stratigraphic position:

PROF. 4,9 M MARGEM DO RIO URUGUAI

Feature number and description:

Associated cultural materials: LITICOS LASCADOS

Estimated age and basis: CERCA 6500 B.P. ESTRATIGRAFIA

Importance of dating this sample: IMPORTANCIA EM RELAÇÃO ÀS EVIDÊNCIAS ARQUEOLÓGICAS, GEOMORFOLÓGICAS E CLIMÁTICAS. DEVERÁ NÃO CONFIRMAR SI-2630 MUITO ANTIGO, ESTA AMOSTRA É A OUTRA METADE DA Nº 5156. O RESULTADO DEVE SER MENOS ANTIGO QUE O DA AMOSTRA Nº 5550 OU (SI-2631) OVER----

Smithsonian Institution
Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI-

Rec'd:

Site name: (RS-1-69) EL LARANJITO Site number: RS-1-69

Exact site location: MARGEM ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA
R.G.S., BRASIL

Latitude: 29° 34' 42" S Longitude: 56° 56' 36" W

Cultural and/or time range of site:

PALEO INDIGENA

Sample material: CARVÃO VEGETAL

Genus and species:

Identified by: EURICO TH. MILLER

Geological/chemical environment of sample:

PLEISTOCENO (FINAL)

Evidence of leaching or humus: SIM

Evidence of contamination or root penetration: SIM

Field packaging: SACO PLÁSTICO

Preservative or fungicide: NÃO

Excavation coordinates and stratigraphic position:

PROF. 6,8M - TESTE À MARGEM DO RIO URUGUAI

Feature number and description: AMOSTRA Nº 5157

Associated cultural materials: LÍTICOS LASCADOS

Estimated age and basis: 11.000 ± 1.000 ESTRATIGRÁFICA

Importance of dating this sample:

IMPORTANCIA: PALEO INDIGENA, CLIMÁTICA, GEOMORFOLÓGICA

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Radiation Biology Laboratory
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Rockville, Md., 20852

SI-

Rec'd:

Site name: *EL LARANJITO*

Site number: *RS-1-69*

Exact site location:

MARLEH ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA - R.B.S. - BRASIL

Latitude: *29°34'42" S*

Longitude:

Cultural and/or time range of site: *56°56'36" W*

PRÉ-CERÂMICO ARCAICO

Sample material: *CARVÃO VEGETAL*

Genus and species:

Identified by: *EURICO TH. HILLER*

Geological/chemical environment of sample:

HOLOCENO (ANTIGO)

Evidence of leaching or humus: *SIH*

Evidence of contamination or root penetration: *SIH*

Field packaging: *SACO PLÁSTICO*

Preservative or fungicide: *NÃO*

Excavation coordinates and stratigraphic position:

PROF. 4,9 M MARGEM DO RIO URUGUAI - TESTE

Feature number and description: *AMOSTRA Nº 5156*

Associated cultural materials: *LÍTICOS LASCADOS*

Estimated age and basis: *± 6.500 ± 1.000 ESTRATIGRAFIA*

Importance of dating this sample:

IMPORTÂNCIA - ARQUEOLÓGICA, GEOMORFOLÓGICA, PALEONTOLÓGICA E CLIMÁTICA

10,985 ± 100 B.P. (1950)
9035 B.C.

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Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI- 2630

Rec'd:

Site name: *EL LARANJITO*

Site number: *RS-1-69*

Exact site location:

MARLEM ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA - R.G.S. - BRASIL

Latitude: *29° 34' 42" S*

Longitude:

Cultural and/or time range of site: *56° 56' 30" W*

PRE-CERAMICO ARCAICO

Sample material: *CARVÃO VEGETAL* Cat. No. 5156

Genus and species:

Identified by: *EURICO TH. HILLER*

Geological/chemical environment of sample:

HOLOCENO (ANTIGO)

Evidence of leaching or humus: *SIM*

Evidence of contamination or root penetration: *SIM*

Field packaging: *SACO PLÁSTICO*

Preservative or fungicide: *NÃO*

Excavation coordinates and stratigraphic position:

PROF. 4,9 M. MARGEM DO RIO URUGUAI - TESTE
4.9 meters depth on the bank of the Rio Uruguai

Feature number and description: *ANOSTRA Nº 5156*

Associated cultural materials: *LITICOS LASCADOS*

Estimated age and basis: *± 6.500 ± 1.000 ESTRATIGRAFIA*

Importance of dating this sample:

IMPORTÂNCIA - ARQUEOLÓGICA, BECHNOLÓGICA, PALEONTOLÓGICA E CLIMÁTICA

OVER----

Dennis Stanford, Director of SI PaleoIndian Research Program
Feb. 18, 1975

Submitter and affiliation: EURICO TH. HILLER-MUSEU ARQUEOLÓGICO DO A. G. S.

April 7, 1974 BRASIL

Collector and collection date: EURICO TH. HILLER 7/4/74

Contract Project for PaleoIndian Program of Smithsonian

Other dates from site, position and publication reference:

NÃO HA'

Relevant publications:

NÃO HA'

Further comment:

10,240 ± 80 B.P.
8290 B.C.

Smithsonian Institution
Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI- 3106

Rec'd: 2/77

Site name: Laranjito Site number: RS-I-69
Exact site location: Left Margin of Rio Uruguai, Municipio Uruguaina,
Rio Grande do Sul, Brasil
Latitude: 29° 34' 42" S Longitude: 56° 56' 36" W
Cultural and/or time range of site: PaleoIndian

Sample material: Charcoal Field Cat. No. 5550

Genus and species:

Identified by:

Geological/chemical environment of sample: Late Pleistocene

Evidence of leaching or humus: Yes

Evidence of contamination or root penetration: Not seen

Field packaging: Plastic bag

Preservative or fungicide: No.

Excavation coordinates and stratigraphic position:

Quadricula I-7, 6.85-6.87 meters

Sample is better than from previous collection SI-2631 (Cat. No. 5157)

Feature number and description:

Associated cultural materials: Lithic materials only; flakes; projectile points with base, flakes with indications of use.

Estimated age and basis: 10,000 ± B.P.

Importance of dating this sample: SI-2631 gave a date of 9620 ± 100 BP from this same level; this appears too young since sample SI-2630 gave date of 10,005 ± 100 BP from a level higher than the SI 2631. So need a check to see what is going on.

T. Miller

11

10,240 \pm 80

SI-3106. Laranjito, 5550

8290 B.C.

Charcoal from Laranjito, RS-I-69 (29° 34' 42" S, 56° 56' 36" W),
 Rio Uruguai, Rio Grande do Sul, Brazil. Coll. 1976 by E. Th. Miller;
 subm. by Dennis Stanford, Smithsonian Inst. Charcoal from quadrant
 I-7, 6.85 to 6.87m, assoc. with lithic materials, projectile points
 and flakes. Comment: nitration pretreatment. Prior sample from this
 level was dated as 9620 \pm 100 (SI-2631), while sample from level above
 this (SI-2630) was dated 10,985 \pm 100. These earlier samples received
 standard NaOH/HCl pretreatments, and some dissolved root material may
 have remained in the samples. This however, still will not explain the
 fact that both samples from 6.85 to 6.87m are younger than that from
 6.5m.

9620 ± 110 B.P. (1950)
7670 B.C.

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Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI- 2631

Rec'd:

Site name: (RS-1-69) EL LARANJITO Site number: RS-1-69

Exact site location: MARGEM ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA,
R. B. S., BRASIL

Latitude: 29° 34' 42" S Longitude: 56° 56' 36" W

Cultural and/or time range of site:

PALEO INDIGENA

Sample material: CARVÃO VEGETAL Cat. No. 5157

Genus and species:

Identified by: EURICO TH. MILLER

Geological/chemical environment of sample:

PLEISTOCENO (FINAL)

Evidence of leaching or humus: SIM

Evidence of contamination or root penetration: SIM

Field packaging: SACO PLASTICO

Preservative or fungicide: NAO

Excavation coordinates and stratigraphic position:

PROF. 6,8 M - TESTE A MARGEM DO RIO URUGUAI

6.8 meters depth on margin of Rio Uruguai

Feature number and description: AMOSTRA Nº 5157

Associated cultural materials: LITICOS LASCADOS

Estimated age and basis: 11,000 ± 1,000 ESTRATIGRAFICA

Importance of dating this sample:

IMPORTANCIA: PALEO INDIGENA, CLIMATICA, GEOMORFOLOGICA

Dennis Stanford, Director, PaleoIndian Archeology Research
Program for SI, Feb. 18, 1975

Submitter and affiliation: *EURICO TH. HILLER*
MUSEU ARQUEOLÓGICO DO R.G.S. - BRASIL

Collector and collection date: *EURICO TH. HILLER - 7/4/74* April 7, 1974
Contract research Project for Smithsonian

Other dates from site, position and publication reference:

NAO HA'

Relevant publications:

NAO HA'

Further comment:

9620 ± 110 B.P. (1950)
7670 B.C.

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Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI- 2631

Rec'd:

Site name: (RS-1-69) EL LARANJITO Site number: RS-1-69

Exact site location: MARÉM ESQUERDA DO RIO URUGUAI-KUN, URUGUAIANA,
R.L.S., BRASIL

Latitude: 29° 34' 42" S Longitude: 56° 56' 36" W

Cultural and/or time range of site:

PALEO INDIGENA

Sample material: CARVÃO VEGETAL Cat. No. 5157

Genus and species:

Identified by: EURICO TH. MILLER

Geological/chemical environment of sample:

PLEISTOCENO (FINAL)

Evidence of leaching or humus: SIM

Evidence of contamination or root penetration: SIM

Field packaging: SACO PLÁSTICO

Preservative or fungicide: NÃO

Excavation coordinates and stratigraphic position:

PROF. 6,8M -TESTE À MARÉM DO RIO URUGUAI

6.8 meters depth on margin of Rio Uruguai

Feature number and description: AMOSTRA Nº 5157

Associated cultural materials: LÍTICOS LASCADOS

Estimated age and basis: 11,000 ± 1,000 ESTRATIGRÁFICA

Importance of dating this sample:

IMPORTANCIA: PALEO INDIGENA, CLIMÁTICA, GEOMORFOLÓGICA

Submitter and affiliation: *EURICO TH. HILLER*
MUSEU ARQUEOLÓGICO DO A.G.S. - BRASIL

Collector and collection date: *EURICO TH. HILLER - 7/4/74* April 7, 1974
Contract research Project for Smithsonian

Other dates from site, position and publication reference:

UĀ HA'

Relevant publications:

UĀ HA'

Further comment:

T.M. Miller

10,240 \pm 80

SI-3106. Laranjito, 5550

8290 B.C.

Charcoal from Laranjito, RS-I-69 (29° 34' 42" S, 56° 56' 36" W), Rio Uruguai, Rio Grande do Sul, Brazil. Coll. 1976 by E. Th. Miller; subm. by Dennis Stanford, Smithsonian Inst. Charcoal from ^yquadrant I-7, 6.85 to 6.87m, assoc. with lithic materials, projectile points and flakes. Comment: nitration pretreatment. Prior sample from this level was dated as 9620 \pm 100 (SI-2631), while sample from level above this (SI-2630) was dated 10,985 \pm 100. These earlier samples received standard NaOH/HCl pretreatments, and some dissolved root material may have remained in the samples. This however, still will not explain the fact that both samples from 6.85 to 6.87m are younger than that from 6.5m.

10,240 ± 80 B.P.
8290 B.C.

Smithsonian Institution
Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI- 3106

Rec'd: 2/77

Site name: Laranjito Site number: RS-I-69
Exact site location: Left Margin of Rio Uruguai, Municipio Uruguaina,
Rio Grande do Sul, Brasil
Latitude: 29° 34' 42" S Longitude: 56° 56' 36" W
Cultural and/or time range of site: PaleoIndian

Sample material: Charcoal Field Cat. No. 5550

Genus and species:

Identified by:

Geological/chemical environment of sample: Late Pleistocene

Evidence of leaching or humus: Yes

Evidence of contamination or root penetration: Not seen

Field packaging: Plastic bag

Preservative or fungicide: No.

Excavation coordinates and stratigraphic position:

Quadricula I-7, 6.85-6.87 meters

Sample is better than from previous collection SI-2631 (Cat. No. 5157)

Feature number and description:

Associated cultural materials: Lithic materials only; flakes; projectile points with base, flakes with indications of use.

Estimated age and basis: 10,000+B.P.

Importance of dating this sample: SI-2631 gave a date of 9620 ± 100 BP from this same level; this appears too young since sample SI-2630 gave date of 10,985 ± 100 BP from a level higher than the SI 2631. So need a check to see what is going on.

Smithsonian Institution
Radiocarbon Laboratory
Radiation Biology Laboratory
12441 Parklawn Drive
Rockville, Md., 20852

SI-2630

Rec'd:

Site name: *EL LARANVITO*

Site number: *RS-1-69*

Exact site location:

MARGEM ESQUERDA DO RIO URUGUAI - MUN. URUGUAIANA - R.G.S. - BRASIL

Latitude: *29°34'42" S*

Longitude:

Cultural and/or time range of site: *56°56'36" W*

PRÉ-CERÂMICO ARCAICO

Sample material: *CARVÃO VEGETAL* Cat. No. 5156

Genus and species:

Identified by: *EURICO TH. HILLER*

Geological/chemical environment of sample:

Holoceno (Antigo)

Evidence of leaching or humus: *SIH*

Evidence of contamination or root penetration: *SIH*

Field packaging: *SACO PLÁSTICO*

Preservative or fungicide: *NÃO*

Excavation coordinates and stratigraphic position:

*PROF. 4,9 M MARGEM DO RIO URUGUAI - TESTE
4.9 meters depth on the bank of the Rio Uruguai*

Feature number and description: *ANOSTRA Nº 5156*

Associated cultural materials: *LÍTICOS LASCADOS*

Estimated age and basis: *6.500 ± 1000 ESTRATIGRAFIA*

Importance of dating this sample:

IMPORTÂNCIA ARQUEOLÓGICA, BEOMORFOLÓGICA, PALEONTOLÓGICA E CLIMÁTICA

Dennis Stanford, Director of SI PaleoIndian Research Program
Feb. 18, 1975

Submitter and affiliation: EURICO TH. MILLER - MUSEU ARQUEOLÓGICO DO P. G. S. -

April 7, 1974 BRASIL

Collector and collection date: EURICO TH. MILLER 7/4/74

Contract Project for PaleoIndian Program of Smithsonian

Other dates from site, position and publication reference:

NÃO HA'

Relevant publications:

NÃO HA'

Further comment: