

2002-0193

INTRODUCED BY: ALBERT D. LAQUE, PARISH PRESIDENT
(DEPT. OF PLANNING & ZONING/CZM SECTION)

ORDINANCE NO. 02-5-18

An ordinance to accept the proposal of Surveys Unlimited Research Associates, Inc. to perform Archeological work associated with the permitting of the Lake Salvador Shoreline Protection Phase III Project, the cost not to exceed \$67,278.15.

WHEREAS, St. Charles Parish has received \$289,211 from the United States Department of Commerce, National Oceanic and Atmospheric Administration (NOAA); and,

WHEREAS, St. Charles Parish has entered into a Memorandum of Understanding with the Louisiana Department of Natural Resources, for administration and construction of the Lake Salvador Shoreline Phase III Project; and,

WHEREAS, St. Charles Parish, acting as the permitting agent for the Lake Salvador Shoreline Phase III Project, has advertised for an archeological contractor, necessary to complete an Archeological Phase II investigation of the project area because of know Native American resources in the area.

THE ST. CHARLES PARISH COUNCIL HEREBY ORDAINS:

SECTION I. The St. Charles Parish Council approves and authorizes the Parish President to accept the proposal of Surveys Unlimited Research Associates, Inc. to perform Archeological work associated with the permitting of the Lake Salvador Shoreline Protection Phase III Project, the cost not to exceed \$67,278.15.

The forgoing ordinance having been submitted to a vote, the vote thereon was as follows:

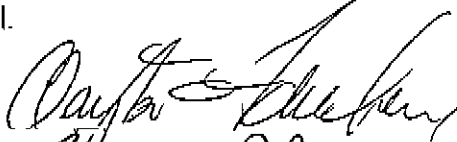
YEAS: RAMCHANDRAN, FAUCHEUX, HILAIRE, FABRE, ABADIE, AUTHEMENT, BLACK, MARINO, MINNICH

NAYS: NONE

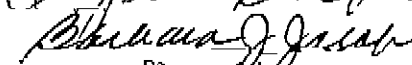
ABSENT: NONE

And the ordinance was declared adopted this 20th day of May, 2002, to become effective five (5) days after publication in the official journal.

CHAIRMAN:



SECRETARY:

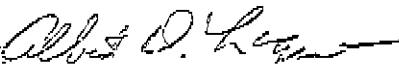


DLVD/PARISH PRESIDENT: May 21, 2002

APPROVED.

DISAPPROVED.

PARISH PRESIDENT:




RETD/SECRETARY:

May 21, 2002

AT 2:50 pm

RECD BY:



**A PROPOSAL
TO CONDUCT SITE DEFINITION AND PHASE II TESTING
AT THREE ARCHAEOLOGICAL SITES
ALONG THE NORTHWEST SHORE OF LAKE SALVADOR,
ST. CHARLES PARISH, LOUISIANA**

Submitted to

**Planning and Zoning Office
St. Charles Parish
P.O. Box 302
Hahnville, LA 70057**

By

**SURVEYS UNLIMITED RESEARCH ASSOCIATES, INC
P.O. Box 14414
Baton Rouge, LA 70898-4414**

April 12, 2002



Surveys Unlimited Research Associates, Inc.

Archeology

Historic Preservation

Cultural Resource Management

NARRATIVE PROPOSAL

I. Introduction:

As part of a shoreline protection project, St. Charles Parish was requested by the Corps of Engineers and the Louisiana Division of Archaeology to carry out a Phase I cultural resources survey of approximately 2.5 miles (4 kilometers) along the northwest shore of Lake Salvador. This work was carried out by Surveys Unlimited Research associates, Inc (SURA) in October, 2001, and a draft report submitted in February 2002. In that report, SURA suggested that three archaeological sites in the survey corridor (16SC4, 16SC8 and 16SC14) were potentially eligible for the National Register of Historic Places. Accordingly, SURA proposed a scope of work for the Phase II investigation of these sites. The State Historic Preservation Officer endorsed this scope of work in letters dated January 8, 2002 (Appendix A) and March 27, 2002 (Appendix B). This proposal addresses this requirement and presents a price estimate for the work involved.

II. Scope of Work:

Surveys Unlimited Research Associates, Inc. (SURA) proposes to conduct Phase II testing at Sites 16SC4, 16SC8 and 16SC14, as per the Scope of Work presented in the draft report entitled *Cultural Resources Survey of a Portion of the Northwest Shore of Lake Salvador, St. Charles Parish, Louisiana*, and endorsed by the State Historic Preservation Officer in the two letters appended as Appendices A and B. The tasks composing this Scope of Work consist of the following:

1. **Examination of materials already recovered from these sites and now curated at the Louisiana State University Museum of Natural Science:** Material was collected by previous visitors to this site and some limited test excavations were carried out by the Delta Chapter of the Louisiana Archaeological Society, though the results of these investigations were never published. SURA's principal investigator has spoken with the curator, Dr. Saunders, and arranged to review these collections as the initial step of the project.
2. **Site definition:** Each of the three sites will be surface collected and then shovel tested at 10 m intervals to determine lateral extent. Areas of standing water will not be shovel tested.

3. **Mapping:** Each site will be mapped to determine topography and other features.
3. **Test Units:** A total of nine 1 m x 1 m test units will be excavated. Four test units will be excavated at 16SC4, two test units at 16SC8, and three test units at 16SC14. These units will be taken as deeply as feasible, given the high water table, and a pump will be used as necessary during excavations. Water screening will be employed in the field if practical; alternately, samples of each test unit will be returned to the SURA lab for flotation and/or water screening, depending on field conditions.
4. **Analysis:** Cultural materials will be analyzed in the SURA lab. Ceramics will be identified as to type and, when possible, variety. Lithics will be identified as to type of implement and material. Faunal material (with the exception of shell) will be identified as to genus and, if possible, species. Samples of floral material will also be analyzed as to genus and species where possible. Samples will be submitted for radiocarbon dating where appropriate.
5. **Report:** A report of the investigations will be produced, consisting of an introduction, environmental synopsis, evaluation of the history and prehistory of the area, account of previous investigations, description of methodology employed, description of the results, and recommendations. A list of references will be appended.
6. **Liaison:** The Chitimacha Tribe of Louisiana has expressed an interest in these sites and in this project in particular, as evidenced by their letter of January 21, 2002 (Appendix C). The principal investigator has been in contact with the tribe, both by telephone and by letter (Appendix D). Accordingly, SURA will interface with the Chitimacha and a site visit will be arranged.

III. Experience:

A short history of the firm is included as Appendix E. The Principal Investigator's resume is attached as Appendix F. Relevant projects are sketched below:

- | | |
|-----------|---|
| 1997-1999 | SURA conducted investigations for a levee enlargement project at Des Allemands. In the course of so doing, human burials were discovered. |
| 2000 | SURA conducted a damage assessment of site 16SC75, near Des Allemands. |
| 2001 | SURA carried out a cultural resources survey for the Willow Bend Levee project near Boutte. |

SURA, Inc./Site Testing

2002 SURA carried out a Phase I cultural resources survey of the northwest shore of Lake Salvador and in so doing visited the sites that will be tested under the present scope of work. Thus, the Principal Investigator is familiar with these sites and with the logistics involved in reaching them.

IV. Cost Estimate:

The cost estimate is attached as Appendix G. The expense categories are presented only as guides; amounts expended may vary within any given category but the total quoted for the entire project will not be exceeded. The cost for curation of artifacts is not included in the price cited, as this is a fee charged by the State, not by SURA. This amount is estimated at approximately \$2,000. Billing will be monthly throughout the course of the project.

V. Schedule:

The schedule will be mutually agreed upon by the client and SURA, but will necessarily be dependent upon the weather to a large extent. SURA will begin work on the project within one week of receipt of written notice to proceed.

VI. Access:

Client guarantees that it has legal access to the project area and/or will arrange same.

APPENDIX A:

Letter from State Historic Preservation Officer dated January 8, 2002



KATHLEEN BAILINFAUX BLANCO
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

PHILLIP J. JONES
SECRETARY

LAUREL WYCKOFF
ASSISTANT SECRETARY

January 8, 2002

Dr. Malcolm K. Shuman
Surveys Unlimited Research Associates, Inc.
2931 Government Street
Baton Rouge, LA 70806

Re: Phase I Cultural Resources Management Summary
COE Permit Application No. EG-19-970-2175-1
CUP Permit Application No. P0010149
Lake Salvador Shoreline Protection
Applicant: St. Charles Parish
Location: Northwest Shoreline of Lake Salvador,
St. Charles Parish, Louisiana

Dear Dr. Shuman:

Receipt is acknowledged of your letter dated November 20, 2001, transmitting two copies of the Phase I Cultural Resources Management Summary prepared in support of permit applications for the Lake Salvador Shoreline Protection Project. We have completed our review of the document and have the following comments to offer.

The Phase I investigations established the fact that substantial portions of three previously recorded archaeological sites (16SC4, 16SC8, and 16SC14) are present in the proposed project's Area of Potential Effects (APE). Phase II investigations will be necessary to determine the National Register of Historic Places (NRHP) eligibility of these sites. These investigations will necessarily involve more detailed site delineation and controlled subsurface excavation units. Once these assessments are completed, a determination of project effect on historic properties can then be made.

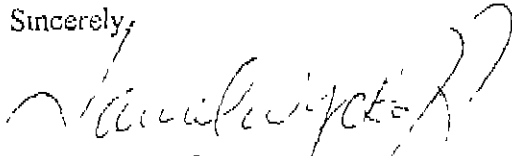
Should you have any questions concerning our comments, do not hesitate to contact Duke River in the Division of Archaeology at (225) 342-8170.

Dr Malcolm K. Shuman

January 8, 2002

Page 2

Sincerely,



Laurel Wyckoff
State Historic Preservation Officer

LW PR s

c Mr Michael Farabee
Permits Section
USACE, New Orleans District
P O Box 60267
New Orleans, LA 70160

Mr Alton LeBlanc, Chairman
Chitimacha Tribe of Louisiana
P O Box 661
Charenton, LA 70523

Mr Earl Matherne
St Charles Parish
P.O Box 302
Hahnville, LA 70057

Mr Jeff Thibodeaux
LA Department of Natural Resources
Coastal Management Division
P O. Box 44487
Baton Rouge, LA 70804-4487

APPENDIX B:

Letter from State Historic Preservation Officer dated March 27, 2002



KATHLEEN BABINEAUX BLANCO
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

PHILLIP J. JONES
SECRETARY

LAUREL WYCKOFF
ASSISTANT SECRETARY

March 27, 2002

Dr. Malcolm K. Shuman
Surveys Unlimited Research Associates, Inc.
P O Box 14414
Baton Rouge, LA 70898-4414

Re: Draft Phase I CRM Report
DOA Report No. 22-2464
COE Permit Application No. EG-19-970-2175-1
CUP Permit Application No. P0010149
Lake Salvador Shoreline Protection
Applicant: St. Charles Parish
Location: Northwest Shoreline of Lake Salvador,
St. Charles Parish, Louisiana

Dear Dr. Shuman,

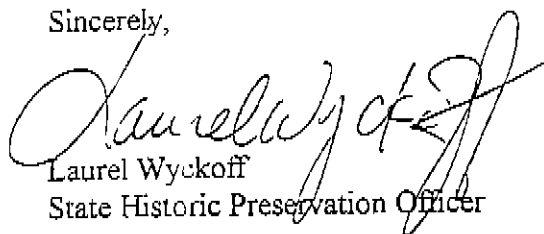
Receipt is acknowledged of your letter dated February 28, 2002, transmitting two copies of the above-referenced report, entitled, *Cultural Resources Survey of a Portion of the Northwest Shore of Lake Salvador, St. Charles Parish, Louisiana*. We have completed our review of the document and have the following comments to offer.

As stated in our earlier comment letter dated January 8, 2002, reviewing the CRM Management Summary prepared for this project, we recommend that Phase II archaeological investigations be undertaken at each of the three archaeological sites (16SC4, 16SC8, and 16SC14) located in the proposed project's Area of Potential Effects (APE). The purpose of these investigations will be to make definitive National Register of Historic Places (NRHP) eligibility determinations for each of these sites relative to assessing project effect on any site which is determined to meet the eligibility criteria.

Technical comments on the draft Phase I report are enclosed with this letter, as are other comments/corrections which have been noted on photocopied pages of the report. Please address these as appropriate and transmit two copies of the final report for our files. Should you have any questions concerning our comments, do not hesitate to contact Duke Rivet in the Division of Archaeology at (225) 342-8170

Dr. Malcolm K. Shuman
March 27, 2002
Page 2

Sincerely,



Laurel Wyckoff
State Historic Preservation Officer

LW PR.s

Enclosures as stated

c Mr Michael Farabee
Regulatory Branch
USACE, New Orleans District
P O Box 60267
New Orleans, LA 70160

Mr. Alton LeBlanc, Chairman
Chitimacha Tribe of Louisiana
P O. Box 661
Charenton, LA 70523

Mr Earl Matherne
St Charles Parish Government
P O Box 302
Hahnville, LA 70057

Mr Jeff Thibodeaux
LA Department of Natural Resources
P.O. Box 44487
Baton Rouge, LA 70804-4487

APPENDIX C:

Letter from the Chitimacha Tribe of Louisiana to Dr. Malcolm K. Shuman
(January 21, 2002)

CHITIMACHA
TRIBE OF LOUISIANA

CULTURAL DEPARTMENT

January 21, 2002

Dr. Malcom K. Shuman
Surveys Unlimited Research Associates, Inc.
2931 Government Street
Baton Rouge, LA 80806

Dear Dr. Shuman,

RE. Phase I Cultural Resources Management Summary: Lake Salvador Shoreline Protection,
St. Charles Parish – CUP #P0010149, COE EG-19-970-2175-1

I am in receipt of a letter from Laurel Wyckoff, State Historic Preservation Officer, dated January 8, 2002, which acknowledges receipt of your letter on the above referenced project. Ms. Wyckoff stated that the Phase I investigations established the fact that three previously recorded archaeological sites (16SC4, 16SC8 and 16SC14) are present in the proposed projects Area of Potential Effect (APE). Based on this, Phase II investigations will be necessary to determine National Register of Historic Places eligibility of these sites. Ms. Wyckoff's letter also states that the investigations will necessarily involve more detailed site delineation and controlled subsurface excavation units. It will be from these assessments that a determination of project effect on historic properties can be made.

Based on the above referenced information, we are requesting a copy of the Phase I report. The St. Charles Parish area is all part of the aboriginal homelands of the Chitimacha. As such, large village sites, sacred sites, burial sites and traditional cultural properties were in place in that entire area. As sites 16SC4, 16SC8 and 16SC14 are present in the proposed project area, the Chitimacha Tribe is extremely concerned about the potential impact to traditional site areas.

The Chitimacha Tribe of Louisiana appreciates your compliance with federal and state laws of notification and consultation, and awaits the start of consultation proceedings.

Sincerely,



Kimberly S. Walden, M.Ed.
Cultural Director
KW/MA

APPENDIX D:

Letter from Dr. Malcolm K. Shuman to Ms. Kimberly Walden
(February 28, 2002)



Surveys Unlimited Research Associates, Inc.

Archeology

Historic Preservation

Cultural Resource Management

February 28, 2002

Ms. Kimberly Walden
Cultural Director
Chitimacha Tribe of Louisiana
P.O. Box 661
Charenton, LA 70523

Dear Ms. Walden:

As per your request, I enclose herein a copy of the draft report on the Phase I cultural resources survey for the shoreline protection project on Lake Salvador. I look forward to working with you on this project.

Sincerely,

Malcolm K. Shuman

Enc. Lake Salvador Shoreline Protection CRS (Draft report)

APPENDIX E:

Brief History of SURA, Inc.



Surveys Unlimited Research Associates, Inc.

Archeology

Historic Preservation

Cultural Resource Management

Surveys Unlimited Research Associates, Inc. (SURA) was incorporated in 1986 by Dennis C. Jones and Malcolm K. Shuman. It is located at 2931 Government Street, Baton Rouge, Louisiana 70806. Since its founding, the company has carried out approximately 150 projects of various kinds. Its clients have included such private parties as Exxon Pipeline Company, Amoco Pipeline Company, Louisiana Hunt Oil Company, Pennzoil, Hogan Exploration, R-S-H Engineers, Ford Bacon & Davis Engineers, Compliance Consultants, Inc., Urban Systems, Inc., A. Wilbert & Sons, Inc., and many others. Its public clients have included the City of Baton Rouge and Parish of East Baton Rouge, the Corps of Engineers (Vicksburg District), the U.S. Forest Service, and the Louisiana Department of Transportation and Development, and the St. Charles Parish Police Jury. SURA has lab space of about 1500 square feet and office space of about 1000 square feet. It has three networked computers and employs Autocad and other professional drawing programs for report production. It also has two flatbed scanners for artifact illustration. In 1998, SURA entered into an agreement with the National Aeronautics and Space Administration (NASA) to share equipment and data. The first such project, a DOTD-sponsored excavation in Catahoula Parish, has proven extremely successful. Such NASA technologies as Ground Penetrating Radar and infrared and thermal aerial photography were able to reveal previously unknown features in the survey area. In addition, in 1987 Jones and Shuman assisted the Louisiana Geological Survey with the ground-truthing of remotely sensed data by collecting samples during a flyover of two Louisiana archaeological sites, Poverty Point and the Raffinan Mounds.

Some of SURA's other projects are listed below:

In 1986, under contract to the Vicksburg District, U.S. Army Corps of Engineers, SURA conducted a cultural resources survey of the Ben Routh Recreation Area in Avoyelles Parish, Louisiana.

From 1988 through 1992, the principals of SURA, working through Louisiana State University, carried out a number of projects for the U.S. Army Corps of Engineers (New Orleans District). These projects ranged from survey to testing, monitoring, research plans and National Register evaluation of engineering structures.

In a 1991 project for the Louisiana Office of State Parks, SURA conducted testing at three archaeological sites (two prehistoric, one historic) on Lake D'Arbonne in Union Parish, Louisiana.

In 1992, working for Gulf Engineers and Consultants, SURA principals undertook a survey of the expansion corridor of US Highway 165 from I-10, in Jefferson Davis Parish, to Woodworth, in Rapides Parish. In the course of that survey, they recorded four archaeological sites and, after testing, recommended one, 16RA775, for the National Register of Historic Places

In 1993, SURA surveyed the location of a proposed industrial park in Minden, Webster Parish, Louisiana, under contract with the local industrial development authority (Shuman *et al.* 1993). In the same year, under contract to the U.S. Forest Service, SURA undertook a survey of 3,623 acres in four districts of Kisatchie National Forest. They reported 38 sites, of which 33 were prehistoric, four were historic, and one both historic and prehistoric. The following year, SURA carried out another large survey for the Forest Service. This survey covered 3,969 acres and resulted in the discovery of 34 new sites, of which 25 were prehistoric.

In 1994, the same archaeologists began a two year program of site survey at Fort Polk. They completed seven delivery orders, surveying approximately 5,228 acres, at both Peason Ridge and the Main Fort.

Also in 1994, Jones and Shuman conducted a survey of the expansion corridor of U.S. Highway 171 in Sabine and DeSoto parishes. This work led to the discovery of several archaeological sites, the most significant of which was Burnit Site (16SA204). This was a late Caddo site that held intact deposits. It was tested and recommended as eligible for the National Register of Historic Places.

In 1996, SURA carried out site testing at a major mall project in Louisiana and reported on a multicomponent archaeological site at the mall location.

From 1997 to 1999, SURA worked at Woodstock Plantation (16EBR35), an historic location on Bayou Manchac in southeast East Baton Rouge Parish. As part of the Section 404 permitting process for an exclusive golf course and residential development, SURA went from Phase I through Phase III. Another 1999 project was the survey of a portion of downtown Natchitoches, Louisiana, at the site of an early 19th century fort, Fort Claiborne.

In a major 1999 project, SURA's archaeologists conducted testing of two sites near Harrisonburg, Louisiana. One site, 16CT17, on the west bank of the Ouachita River, contained a Late Archaic/Early Poverty Point component and was determined to be eligible for the National Register. This project was administered by Compliance Consultants, Inc., as prime contractor for the Louisiana Department of Transportation and Development.

The year 2000 saw SURA complete Phase I and II work on the proposed corridor for the Central Thruway, in East Baton Rouge Parish, Louisiana. Three archaeological locations were found during this project and one, 16EBR166, was tested for National Register eligibility. Also in 2000, SURA completed a Phase I survey of a portion of South Toledo Bend State Park, under contract with the Louisiana Office of State Parks.

Projects in 2001 included survey of a hurricane protection levee corridor in St. Charles Parish, Louisiana; a shoreline protection survey along Lake Salvador, in St. Charles Parish; work at the site of St. Mary's Plantation in West Baton Rouge Parish; and a survey at Audubon State Historic Site in West Feliciana Parish, as well as an assessment of historic materials at Audubon Park in New Orleans.

SURA has also completed numerous well pad and pipeline surveys in Louisiana in the years 1986 through the present. These include projects for Exxon Pipeline Company, Amoco Pipeline Company, Ford, Bacon & Davis, Hogan Exploration, and R-S-H Engineers.

SURA stands ready to give you prompt, quality service; to determine if there are any cultural resource concerns in your project area; and to assist you in resolving these concerns as efficiently as possible.

APPENDIX F:

Resume of Principal Investigator

CURRICULUM VITAE

NAME: Malcolm K. Shuman

BORN: Jackson, Mississippi, 11/26/41

EDUCATION: Ph.D. in Anthropology, Tulane University, 1974.

M.A. in Anthropology (with emphasis on Archaeology), University of New Mexico, 1969.

B.A. in Geography & Anthropology, Louisiana State University, 1962.

Also, various short courses and seminars in community education and museums; management; foreign languages.

PROFESSIONAL

REGISTRATIONS: Registered Professional Archaeologist (R.P.A.)

MILITARY EXPERIENCE:

1963 to 1966 *U.S. Army, assigned to Military Police Security. Decorations: National Defense Service Medal; Good Conduct Medal. Honorably discharged from U.S. Army Reserve in 1969.

ADMINISTRATIVE & RESEARCH EXPERIENCE:

1986-present **President, Surveys Unlimited Research Associates, Inc.*

Principal Investigator on numerous projects for public and private agencies, including U. S. Forest Service, Corps of Engineers, etc.

1991 to 1994 **Part time Assistant Research Professor/Section Head, Center for Coastal, Energy, and Environmental Resources (formerly Louisiana Geological Survey), Louisiana State University.*

Administrative head of Cultural Resources Section; principal investigator of

APPENDIX G:

Cost Estimate

COST ESTIMATE: LAKE SALVADOR PHASE II

PERSONNEL

Task	Employees	Subcontracted	Totals
FIELDWORK:			
Site Definition:			
	20 x \$23.40		\$468.00
	40 x \$12.35		\$494.00
		20 x \$35	\$700.00
			\$962.00
	8 x \$23.40		\$187.20
	8 x \$12.35		\$98.80
		8 x \$35	\$280.00
			\$286.00
	10 x \$23.40		\$234.00
	30 x \$12.35		\$370.00
		10 x \$35	\$350.00
			\$962.00
Mapping:			
	16 x \$23.40		\$374.40
	16 x \$12.35		\$197.60
		16 x \$35	\$560.00
			\$572.00
	4 x \$23.40		\$93.60
	4 x \$12.35		\$49.40
			\$143.00

	4 x \$35	\$140.00	
	12 x \$23.40 12 x \$12.35	\$280.80 \$148.20	\$429.00
	12 x \$35	\$420.00	
Testing:	73 x \$23.40 146 x \$12.35	\$1,708.20 \$1,803.10	\$3,511.30
	73 x \$35	\$2,555.00	
	20 x \$23.40 40 x \$12.35	\$468.00 \$494.00	\$962.00
	20 x \$35	\$700.00	
	60 x \$23.40 120 x \$12.35	\$1,404.00 \$1,482.00	\$2,886.00
	60 x \$35	\$2,100.00	
LABORATORY			
Washing	5 x \$23.40 35 x \$12.35	\$117.00 \$432.25	\$549.25
	2 x \$23.40 16 x \$12.35	\$46.80 \$197.60	\$244.40
	3 x \$23.40 23 x \$12.35	\$70.20 \$284.05	

			\$354.25
Analysis:			
	60 x \$23.40		\$1,404.00
	25 x \$23.40		\$585.00
	50 x \$23.40		\$1,170.00
			\$3,159.00
Cataloging			
	90 x \$12.35		\$1,111.50
	35 x \$12.35		\$432.25
	70 x \$12.35		\$864.50
			\$2,408.25
WRITING:			
Management Summary:	60 x \$23.40		\$1,404.00
Draft Report:	160 x \$23.40		\$3,744.00
Final Report:	20 x \$23.40		\$468.00
			\$5,616.00
HISTORY.			
Title Research:	40 x \$23.40		\$936.00
Misc. Research:	20 x \$23.40		\$468.00
			\$1,404.00
LIAISON:			
Tribal & officials:	16 x \$23.40		\$374.40
			\$374.40
PREVIOUS COLLECTIONS:			
Examine:	24 x \$23.40		\$561.00

MISC.				\$561.60
Mobilization, etc.	16 x \$23.40		\$374.40	\$374.40
TOTAL EMPLOYEE S&W				\$25,401.85
OVERHEAD (@70% S&W)				\$17,781.30
SUBTOTAL SUBCONTRACTED LABOR				\$7,805.00
FAUNAL ANALYSIS:		25 x \$50	\$1,250.00	
BOTANICAL ANALYSIS:		20 x \$50	\$1,000.00	
GEOMORPHOLOGIST:		20 x \$60	\$1,200.00	
SUBTOTAL CONSULTANTS				\$3,450.00
EXPENSES				
Meals & lodging: 108 days x \$65=			\$7,020.00	
Radiocarbon (7 x \$400)=			\$2,800.00	
Boat rental (36 x \$25)=			\$900.00	
Mileage: 6 RT x 2 x \$.345 x 200 mi=			\$828.00	
Supplies=			\$200.00	
2" Centrif. Pump Rental: 20 x \$39.10			\$782.00	
Gas for pump & boats=			\$100.00	
Report duplication:			\$200.00	
SUBTOTAL EXPENSES				\$12,830.00
TOTAL PROJECT COST				\$67,278.15