

June 2012

INTERIM DRAFT

**FEASIBILITY REPORT
AND ENVIRONMENTAL ASSESSMENT**

**FALSE RIVER AQUATIC ECOSYSTEM RESTORATION
POINTE COUPEE PARISH, LOUISIANA**



**VOLUME II of III
Appendix A**

Prepared for



**U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana**

Prepared by



Gulf Engineers & Consultants

**Environmental Resources
Baton Rouge, Louisiana**

June 2012

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AND ENVIRONMENTAL ASSESSMENT**

**FALSE RIVER AQUATIC ECOSYSTEM RESTORATION
POINTE COUPEE PARISH, LOUISIANA**

Contract No. W912P8-09-D-0004
Task Order No. 0027
GEC Project No. 0027.3160010.027

**VOLUME II of III
Appendix A**

Prepared for



U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana

Prepared by



Gulf Engineers & Consultants

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DISCLAIMER

As is customary with all USACE products, this information is considered preliminary as it has not been through the requisite review channels (Agency Technical Review, Alternative Formulation Briefing, Public Review, and Civil Works Review Board) leading to a signed Chief's Report. This Interim Draft has not been reviewed by the non-Federal Sponsors. Additionally, due to budget restraints, items that are outstanding include the Water Quality Certification (WQC), State Historic Preservation Officer (SHPO) coordination, Public Notice, U.S. Fish and Wildlife Service Coordination Act Report (CAR), Legal Review, updated Sponsor's Letter of Intent, updated Fact Sheet, and MCACES.

ORGANIZATION OF REPORT

This Interim Draft, *Feasibility Report and Environmental Assessment, False River Aquatic Ecosystem Restoration, Pointe Coupee Parish, Louisiana* contains the following major sections, published in three volumes.

- Volume I:** Executive Summary
- 1.0 Study Information
 - 2.0 Problems, Needs, and Opportunities
 - 3.0 Alternatives
 - 4.0 Affected Environment
 - 5.0 Environmental Consequences
 - 6.0 Compatibility with Federal, State, and Local Objectives
 - 7.0 Public Involvement, Review, and Consultation
 - 8.0 Environmental Commitments
 - 9.0 Environmental Compliance
 - 10.0 Conclusions and Recommendation
 - 11.0 List of Preparers
 - 12.0 References and Acronyms
- Volume II:** Appendix A: Engineering Appendix and Data Summary
- Volume III:** Appendix B: Non-Federal Sponsor's Letters of Intent and Financial Plan
- Appendix C: Preliminary Restoration Plan
 - Appendix D: Environmental Benefits Analysis
 - Appendix E: HTRW Assessment
 - Appendix F: Cost Appendix
 - Appendix G: Findings of No Significant Impact
 - Appendix H: Real Estate Plan
 - Appendix I: U.S. Fish and Wildlife Service Coordination Act Report
 - Appendix J: Letter of No Objection from the State Historic Preservation Officer
 - Appendix K: Agency Technical Review and Quality Control Plan
 - Appendix L: Water Quality Certification, Louisiana Department of Environmental Quality
 - Appendix M: Statements of Technical Review, Documentation of the Technical Review
 - Appendix N: Section 404(b)(1) Evaluation
 - Appendix O: Historical Aerial Photography
 - Appendix P: Aerial Photography for Forested Acreage Evaluation

CONTINUING AUTHORITIES PROJECT FACT SHEET

False River Aquatic Ecosystem Restoration Project - New Orleans District - U.S. Army Corps of Engineers



False River Ecosystem Restoration, Pointe Coupee Parish, Louisiana

PROJECT AUTHORITY: The project was authorized by Section 206, Water Resources Development Act of 1996.

PROJECT SPONSORS: The project sponsor is the Pointe Coupee Parish Police Jury and the Louisiana Department of Natural Resources.

PROJECT LOCATION: False River is located 25 miles northwest of Baton Rouge, La. in Pointe Coupee Parish. The town of New Roads, La. is located on the west side of the lake.

PROJECT PURPOSE: This proposed action would enhance and restore the False River ecosystem by enhancing fisheries and wildlife habitat, addressing sedimentation and associated water quality issues in False River.

PROJECT FEATURES: The proposed action includes drainage lateral reconfiguration to reduce erosion and improve quality of runoff entering False River and excavation in False River for aquatic ecosystem restoration.

PROJECT BUDGET/SCHEDULE: The Project Restoration Plan (PRP) was completed in August 2002 and submitted to the Corps' Mississippi Valley Division for approval.

PROJECT COST:	<u>PRP</u>
Estimated Federal Cost	\$10,000
Estimated Non-Federal Cost	\$0
Total Estimated Cost	\$10,000

[<<Back to home page](#)

Appendix A

ENGINEERING APPENDIX AND DATA SUMMARY

FALSE RIVER ECOSYSTEM RESTORATION DATA SUMMARY

Pointe Coupee Parish, Louisiana

FINAL

Prepared for



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New Orleans District
New Orleans, Louisiana**

Prepared by



Gulf Engineers & Consultants

Baton Rouge, Louisiana

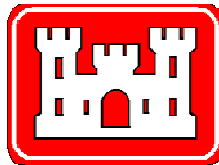
August 2011

**False River Ecosystem Restoration
Data Summary
Pointe Coupee Parish, Louisiana**

Final

August 2011

Prepared for



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- Appendix E: NEW DATA AND RESULTS: GEC SAMPLING
- Appendix F: SAMPLING REPORT
- Appendix G: MODELING REPORT
- Appendix H: ARTICLES

**DATA SUMMARY REPORT FOR
FALSE RIVER ECOSYSTEM
RESTORATION PROJECT**

1.0 INTRODUCTION

Pointe Coupee Parish and the U.S. Army Corps of Engineers (Corps) have initiated a Section 206 study for the ecosystem restoration of False River in Pointe Coupee Parish, Louisiana (Figure 1.1). The Continuing Authorities Program (CAP) and Section 206 of the Water Resources Development Act of 1986 authorize the U.S. Army Corps of Engineers New Orleans District (Corps) to participate in ecosystem restoration. The data report initiates Step 1 of the six step planning process: identification of problems and opportunities. The six step process includes: (1) problems and opportunities, (2) inventory and forecast, (3) development of alternative plans, (4) analysis of alternative plans, (5) comparisons of alternative plans, and (6) recommendation of a plan.

The perceived problems in False River include sedimentation and turbidity, eutrophication, and loss of fishery habitat, mostly in the northern and southern ends of the lake. These shallow ends of the False River ox-bow are referred to as the flats. Much of this understanding is from stakeholders that live and fish on the lake. Some have indicated that drainage work and land use changes have lead to these problems.

This data report presents information collected in a limited effort due to availability of funds available to the Corps. The intent was to collect as much information as possible with the limited resources. This data report should support future work towards analyzing the information, and finalizing the problems and opportunities, as well as completing the six step planning process.

The data presented herein is an effort to identify and quantify the problems, as well as to begin to develop some management measures to address the perceived problems. Information collected from other sources is included here as well in an effort to provide as much data as possible to support future planning efforts.

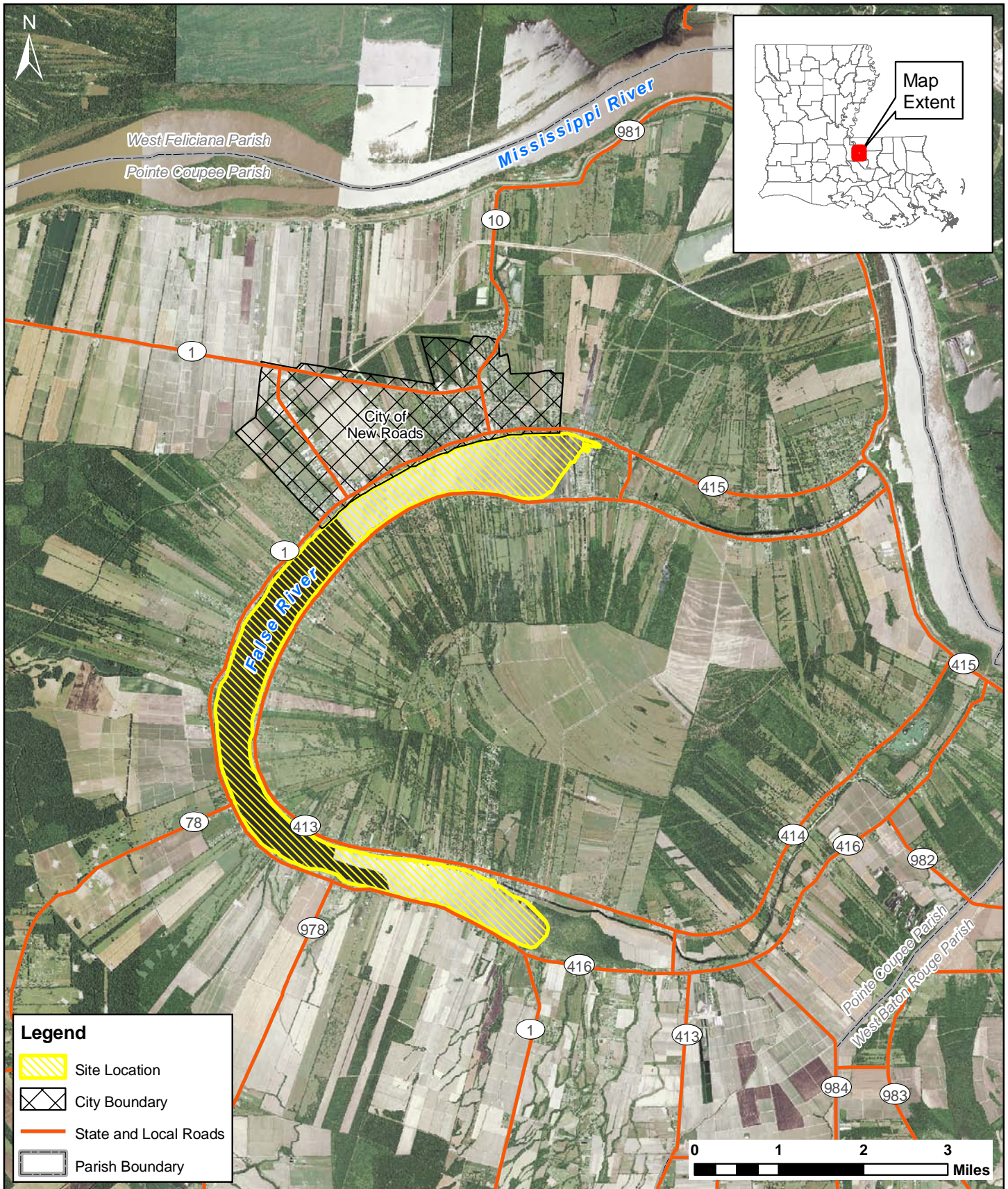
During this study period, a drawdown was proposed by the Louisiana Department of Wildlife and Fisheries. Controversy arose regarding this proposed drawdown from the stakeholders surrounding the lake. The Corps asked that GEC develop a Hydraulic and Hydrologic (HEC-RAS) model to provide information that would help in the drawdown decision. This HEC-RAS report is included in this report (Appendix C).

The existing data included in this report includes (Appendix A):

- Chustz Inc. bathymetric survey
- USGS bathymetric survey
- Existing water quality data collected by the LDEQ

The new data collected for this report includes (Appendix B):

- *In situ* water quality readings
- Water quality data resulting from continuous monitoring
- Chlorophyll-a and Biochemical Oxygen Demand levels observed from water samples
- Chemical analysis of sediment samples



SITE LOCATION

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee and West Feliciana Parishes USDA-FSA-APFO NAIP MrSID Mosaic

GEC Gulf Engineers & Consultants	
Figure: 1.1	
Date: July 2010	
Scale: 1:100,000	
Source: USDA/GEC	
Map ID: 273161006-2185	

- Agronomic analysis of sediment samples

Sampling and modeling reports are included in Appendix C. Also, new articles that were published during this study are included (Appendix I).

In addition to data collection and analysis, this report also identifies management measures to address the perceived problems in the lake. Additional information may need to be collected to further identify the problems in the lake and to further develop future management measures.

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2.0 DATA AND METHODS DESCRIPTON

Data collection within False River and the surrounding area included the sampling and analysis of water and sediment quality, along with multiple bathymetric surveys and an H&H analysis. This section of the report describes the methodologies and procedures utilized for the data collection process.

2.1 Bathymetric Surveys

2.1.1 Chustz Surveying, Inc., 2003

During a previous effort on False River, the Corps contracted with Chustz Surveying, Inc. (Chustz) to conduct a bathymetric survey, focusing on the north and south flats and using dual frequency echo sounding equipment. This surveying information is contained in Appendix A.

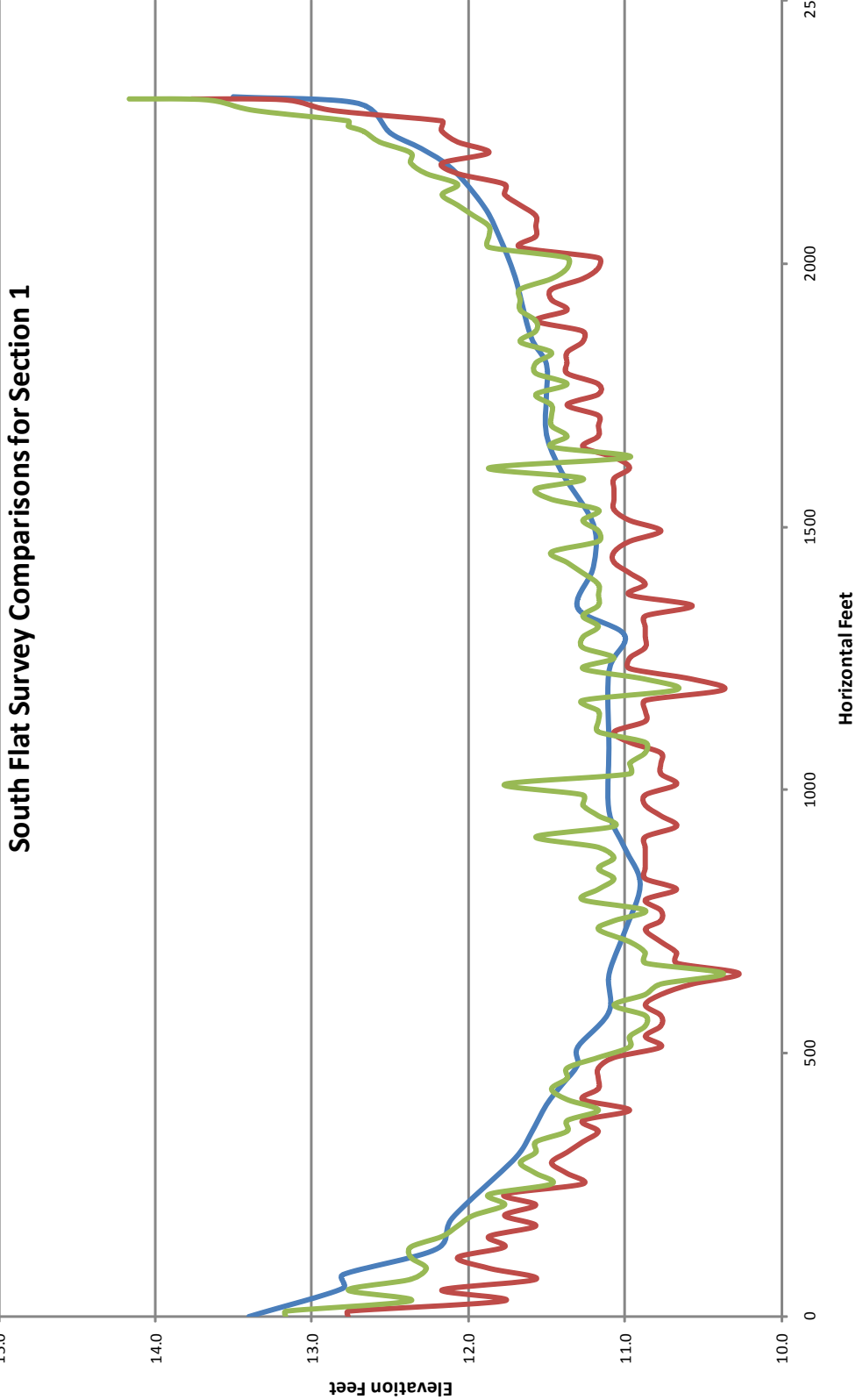
2.1.2 G.E.C., Inc., 2010

In August 2010 G.E.C., Inc (GEC) collected depth measurements within False River (Appendix B), along or near the same transects utilized by Chustz in 2003, to conduct a test sample to compare to the Chustz information in order to determine whether the Chustz data were still accurate. These spot measurements were recorded by utilizing a survey rod and a handheld GPS. Two depth measurements were collected for each point. One represented the depth from the water surface to the unconsolidated layer and the other represented the depth from the water surface to the natural lake bottom, below the unconsolidated layer. While some degree of judgment was required for determination of the depth to the natural lake bottom, the results were fairly consistent with the Chustz survey data (see appendices A and B).

The depth measurements collected were not intended to represent a complete bathymetric survey, but rather an opportunity to verify that the existing survey data collected in 2003 was still valid. The bathymetric survey conducted by Chustz in 2003 identified the pool stage for False River as being at NAVD88 elevation 15.2 under an assumption of normal pool conditions. This same assumption was utilized when comparing the results of the depth measurements collected by GEC with the results presented from the two previous surveys. These comparisons are shown in Figure 2.1. GEC concludes that the Chustz survey data is still representative of lake conditions.

2.1.3 USGS, 1998

USGS has collected bathymetric and other data, and is included herein (Appendix A). Bathymetric data for False River were collected during June 4-5 and July 23-28, 1998. Accurate position and depth data were obtained to comprehensively describe the lake bathymetry; 119,474 data points of latitude, longitude, and depth were recorded. Water depths were referenced to the water-surface elevation of 15.56 feet above sea level, which existed on June 4-5, 1998.



South Flat Survey Comparisons for Section 1

GEC 2010
 LOW FREQ
 HIGH FREQ

GEC COMPARISON WITH CHUSTZ DATA

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana



Figure: 2.1
Date: October 2010
Scale: 1:9,000
Source: USDA/GEC
Map ID: 273161006-2479

2.2 Water Quality Sampling

Three types of water quality data was collected during this effort. The data consisted of *in situ* water quality measurements, collected over a three-month period, continuous water quality readings recorded by monitoring stations installed within the lake, and data resulting from the analysis of water samples. The full Sediment Sampling and Analysis Report, including descriptions of the water quality analysis conducted, is found in Appendix B of this report.

2.2.1 *In situ* Water Quality Measurements

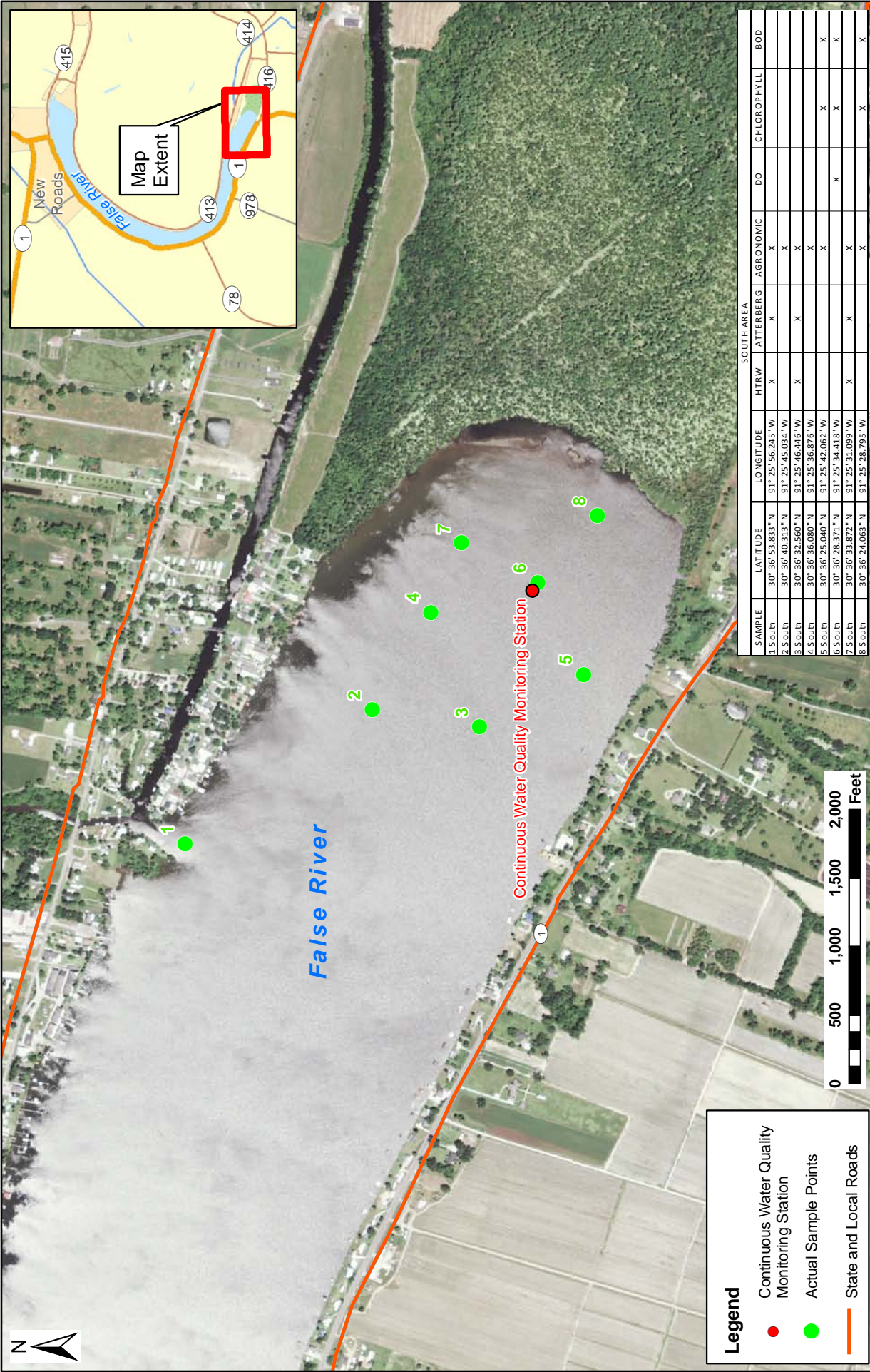
During three site investigations on July 12, August 9, and September 8, 2010, water quality parameters at ½-foot below the water surface were collected with a calibrated Horiba U-10 multi-parameter meter. Water quality parameters included pH, temperature, conductivity, dissolved oxygen, turbidity, and salinity. These measurements were collected for specific locations within the northern and southern flats of False River (figures 2.2 and 2.3). All measurement locations were navigated to via Global Positioning System (GPS). Actual locations were recorded with a WAAS enabled GPS unit. The results of this analysis are in Appendix B of this report.

2.2.2 Chlorophyll-a and BOD

On September 8, 2010, three surface water samples were collected from each end of the lake for analysis of biochemical oxygen demand (BOD) and chlorophyll *a* (chl *a*) (figures 2.2 and 2.3). The sites from which samples were collected corresponded with locations in which *in-situ* water quality measurements were recorded. Upon retrieval, the samples were delivered to and analyzed at TestAmerica in Orlando, Florida for BOD by Standard Methods 5210B and for chl *a* by Standard Methods 19 Chlorophyll A. The results of this analysis are in Appendix B of this report.

2.2.3 Continuous Water Quality Monitoring

In addition to the water quality data collected during the aforementioned site investigations, ENCOS, Inc. (ENCOS) collected continuous water quality measurements within the northern and southern flats of False River over a two-month period. These water quality measurements were collected through the use of permanent monitoring stations, which were installed in the northern and southern flats of the lake (figures 2.2 and 2.3). These stations recorded dissolved oxygen, water depth, specific conductivity, salinity, temperature, and turbidity every hour, continuously. The data was periodically downloaded from the stations by ENCO personnel. The results of these measurements are included in Appendix B of this report.



Legend

- Continuous Water Quality Monitoring Station
- Actual Sample Points
- State and Local Roads

SAMPLE	LATITUDE	LONGITUDE	SOUTH AREA				DO	CHLOROPHYLL	BOD
			HTRW	ATTERBERG	AGRONOMIC				
1 S.outh	30° 36' 53.833" N	91° 25' 56.245" W	X	X	X				
2 S.outh	30° 36' 40.313" N	91° 25' 45.034" W			X				
3 S.outh	30° 36' 32.560" N	91° 25' 46.444" W	X		X				
4 S.outh	30° 36' 36.080" N	91° 25' 56.876" W			X				
5 S.outh	30° 36' 25.040" N	91° 25' 42.062" W			X		X	X	
6 S.outh	30° 36' 28.371" N	91° 25' 44.218" W			X		X	X	
7 S.outh	30° 36' 33.872" N	91° 25' 31.099" W	X	X	X		X	X	
8 S.outh	30° 36' 24.063" N	91° 25' 28.795" W			X		X	X	

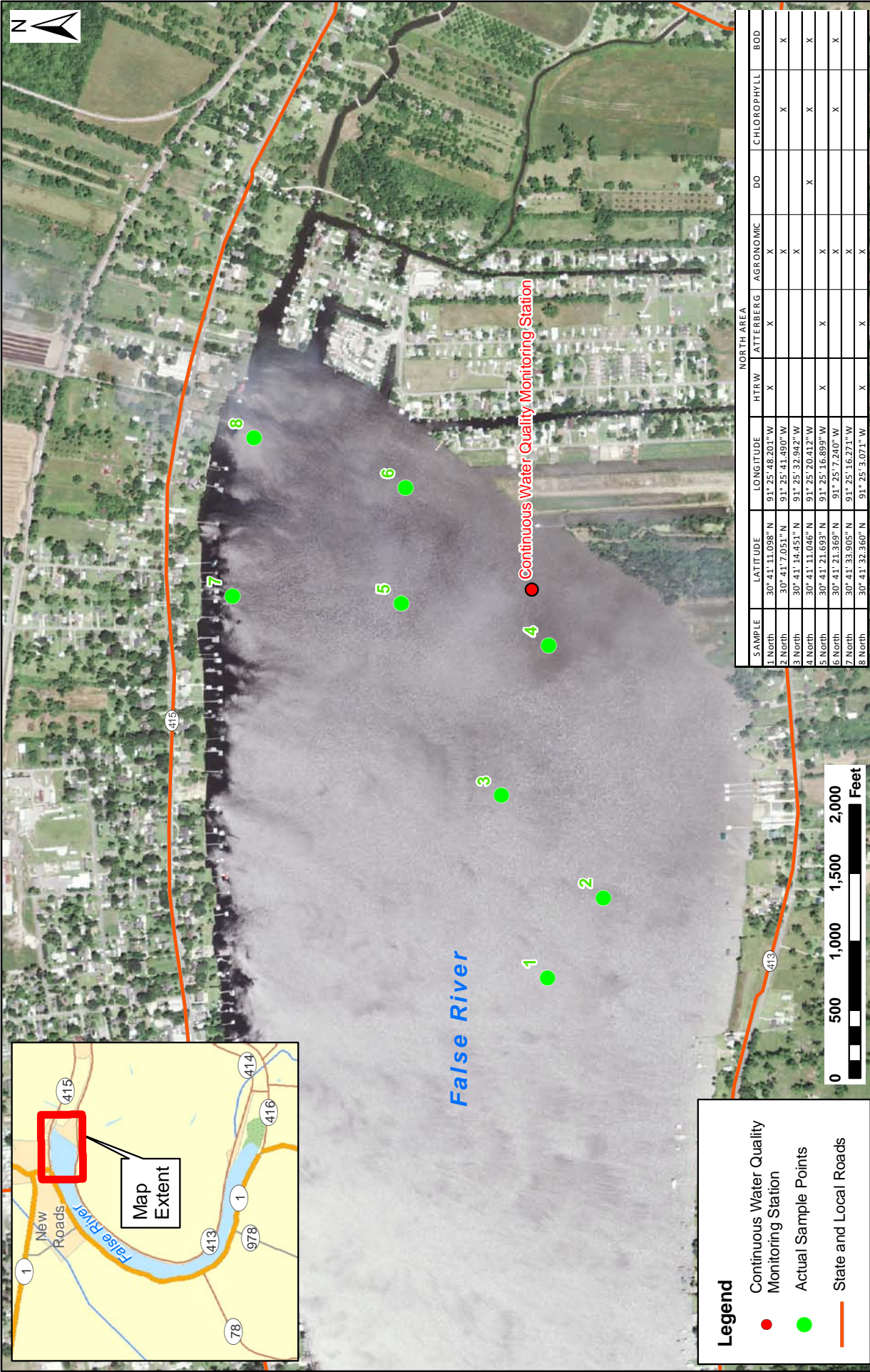
ACTUAL SAMPLE LOCATIONS - SOUTH FALSE RIVER AREA

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana



Figure: 2.2
 Date: July 2010
 Scale: 1:12,000
 Source: USDA/GEC
 Map ID: 273161006-2187

Image: 2009 Pointe Coupee Parish USDA-FSA-APFO NAIP M/SID Mosaic



GEC
Gulf Engineers & Consultants

Figure: 2.3
Date: July 2010
Scale: 1:12,000
Source: USDA/GEC
Map ID: 273161006-2186

ACTUAL SAMPLE LOCATIONS - NORTH FALSE RIVER AREA
Sampling and Analysis
False River Ecosystem Restoration
Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee Parish USDA-FSA-AFPO NAIP Mosaic

2.3 Sediment Sampling

Both sediment grab samples and sediment cores were collected as a part of the data collection effort. From these samples, agronomic characteristics, Atterberg Limits, and measurements of Constituents of Concern (COCs) were evaluated. Sediment core samples were collected from six stations, three at each end of the lake, to five feet below sediment surface, where possible, for use in physical, chemical, and agronomic analyses (figures 2.2 and 2.3). Sediment core samples were collected with a portable vibracore unit utilizing three-inch diameter, 12 to 20 foot long aluminum sample barrels. Composite samples were collected from the cores to approximately five feet below sediment surface or to refusal. Core depths were recorded on the sediment logs included in Appendix A. Sediment grab samples were collected with a ponar dredge from eight locations: four on the north end and four on the south end (figures 2.2 and 2.3). Water quality parameters at ½-foot below the water surface were collected at the time of sampling with a calibrated Horiba U-10 multi-parameter meter. Sample locations were navigated to via Global Positioning System (GPS). Actual locations were recorded with a WAAS enabled GPS unit. The Sediment Sampling and Analysis Report is located in Appendix B of this report.

2.3.1 Agronomic Analysis

On July 12, 2010, six sediment core samples and eight grab samples (for a total of 14) were collected by GEC in order to conduct agronomic testing. Of the 14 samples, seven were located in the northern flat and seven were located in the southern flat of the lake (figures 2.2 and 2.3). The locations from which these samples were retrieved corresponded with the locations of *in situ* water quality measurements taken throughout this data collection effort. Once collected, the samples were sent to the Louisiana State University AgCenter Soil Testing and Plant Analysis Laboratory (STPAL), at which time they were tested for multiple agronomic characteristics including, pH, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, and zinc. The STPAL conducts analyses in accordance with their own methodologies. The results of these analyses are included in Appendix B of this report.

2.3.2 Sediment Chemistry Analysis

On July 12, 2010, six vibracore sediment samples were collected at locations that correspond with previous sampling sites on both ends of the lake (figures 2.2 and 2.3). These samples were collected in order to test for potential COCs. COCs to be evaluated in the sediment were determined by reviewing existing data and historical land use in the vicinity of False River. Potential COCs included EPA Priority Pollutant metals plus iron, organochlorine pesticides, and chlorinated herbicides. Samples were additionally analyzed for geotechnical properties including grain size, Atterberg limits, and specific gravity. Sediment cores were collected from a platform supported by two 14-foot boats. Water and grab samples were collected from a 17-foot boat (figures 2.4 and 2.5).



Figure 2.4. Sediment Core Sampling



Figure 2.5. Sediment Cores

Samples were analyzed at TestAmerica in Mobile, Alabama, for EPA Priority Pollutant metals plus iron by SW-846 Method 6010 and 7471, for organochlorine pesticides by EPA SW-846 Method 8081, and chlorinated herbicides EPA SW-846 Method 8151. Grain size analysis (ASTM D422) specific gravity (ASTM D854) and Atterberg Limits (ASTM D4318) were conducted at Fugro in Baton Rouge, Louisiana. The results of these analyses are included in Appendix B of this report.

2.4 H&H Modeling

As part of the ongoing False River Ecosystem (Section 206) Feasibility Study, a hydraulic and hydrological analysis was performed by GEC in June 2010. This analysis was conducted in order to present data and information on a drawdown proposed by Louisiana Department of Wildlife and Fisheries (LDWF) to take place in September 2010. The intent was for the H&H analysis, which was based on existing information and modeling analysis, to assist decision makers in answering stakeholder's questions regarding the proposed drawdown.

The scope of this H&H analysis was to simulate the drawdown during periods of low, average, and high rainfall. The model simulation was run from September 15 to April 1, with the control structure gates opened on September 15 and closed on January 15. The model simulation was run through April 1 to show how False River would return to pool stage after the gates were closed. The USACE Hydrologic Engineering Center (HEC) Hydrologic Modeling System (HEC-HMS) and River Analysis System (HEC-RAS) were used to simulate the lake drawdown. The full H&H report is found in Appendix G.

3.0 PRELIMINARY POTENTIAL MANAGEMENT MEASURES

A management measure is a feature (a structural element that requires construction or assembly on-site) or an activity (a nonstructural action) that can either constitute an alternative plan by itself or, alternately, can be combined with other management measures to form an alternative plan. The management measures described in this section represents a preliminary view of potential solutions to the issues facing the False River ecosystem, as they are currently perceived. These potential actions are preliminary in nature and subject to change upon further data collection and analysis within the area of study.

3.1 Manage Incoming Non-Point Source Pollution

These measures represent the management of non-point source pollution that enters the lake via overland flow and tributary canal during periodic rain events. This pollution may include, but is not limited to sediments, pesticides, nutrients, and waste water from septic tanks. Typical implementations for this measure would include identifying sources of non-point source pollution and managing the watershed or pollutant sources to lower and/or eliminate its introduction into the area of study through best management practices (BMPs).

3.1.1 Best Management Practices within the Watershed

For the watershed surrounding False River, BMPs could be implemented with the goal of lowering the introduction of non-point source pollution to the lake. This could include urban, agricultural, and forestry BMPs. Potential measures may include re-vegetating unstable areas found within the surrounding watershed, the implementation of low-impact designs such as filter strips and grass swales, land leveling, creating buffer zones between the agricultural areas and the drainage areas, and the use of slow-release fertilizers aimed at reducing nutrient runoff. For the most part, implementation of these measures would concentrate on reducing the non-point source pollution from the watershed.

3.1.2 Stabilize Erosive Channels

Unstable or highly-erodible drainage features, such as ditches, canals, and bayous, which drain into False River, may produce excessive quantities of sediment and all associated pollutants to drain into the lake system. In order to prevent these sediments from continuously migrating from erosive areas into the lake, the drainage paths may be stabilized through natural stream design practices, bank reshaping, and vegetative plantings. Upon implementation of these measures, drainage canals, such as the M-1 Canal on the southern end of the lake, may reduce excessive turbidity and the formation of unconsolidated substrates within the shallow portions of the lake.

3.2 Dredge Accumulated Sediments within the Lake

The mechanical or hydraulic dredging of unconsolidated material within False River would be a measure aimed at producing a more suitable substrate along the lake bottom within the shallow ends of the lake. The material, which would be transported through various methods, could be used to create additional habitat or disposed of in various locations. The method of material

transport would vary depending on the disposal location and distance. This management measure would be most beneficial if it is determined that a substantial amount of flocculent or unconsolidated material exists within portions of the lake. This type of material creates additional turbidity during windy days, which inhibits submerged aquatic growth within the lake, and creates unsuitable habitat for fish spawning.

3.2.1 Dredge Flats with Upland Disposal

All unconsolidated material found within the northern and southern flats of False River could be hydraulically dredged and pumped via pipes to upland disposal areas, outside the lake. This material could be beneficially used in agricultural areas, located along the lake, and would require a hydraulic setup to account for the high water content in the material. The pumped material would most likely be placed in pre-constructed containment areas and allowed to settle before the remaining water is pumped off the top and returned to the lake. Due to the relatively low density of the material to be pumped, a suction head would be sufficient for this method of dredging. This measure would most likely result in additional costs due to the longer distances the material will be pumped.

3.2.2 Dredge Flats with Island Creation as Material Disposal

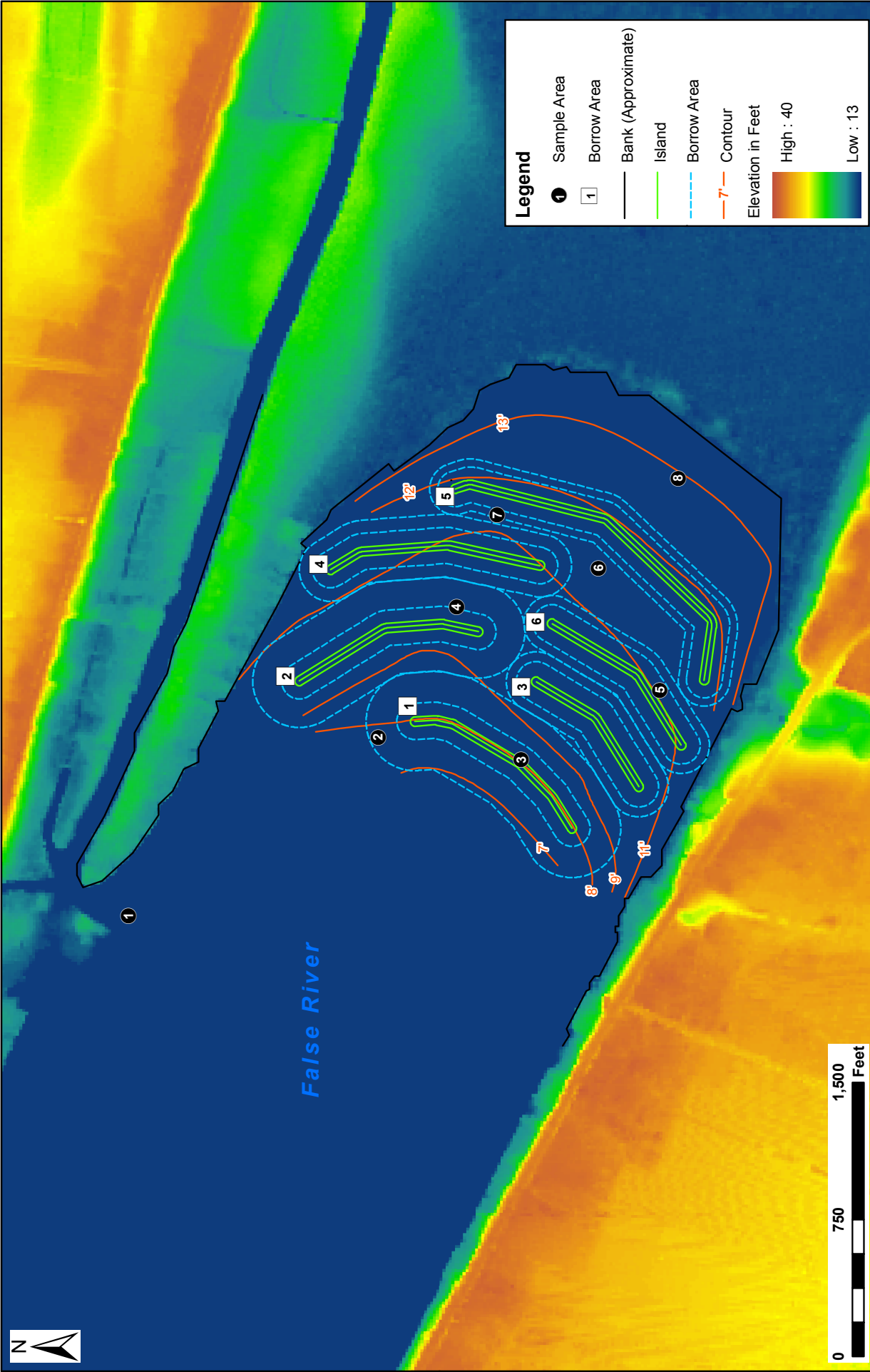
This measure would involve mechanically dredging portions of False River and placing material within the lake as islands, in order to create additional littoral and riparian habitat (Figure 3.1). The mechanical dredging would most likely require a bucket dredge. The material would be dredged and placed in a manner suitable for island creation. According to the conceptual designs shown in figures 3.1 and 3.2, it is estimated that approximately 142,000 and 132,000 cubic yards of material would be dredged and placed within the southern and northern portions of the lake, respectively (Table 3.1).

3.2.2 Dredge Flats with Material Disposal within Deeper Portions of the Lake

This management measure would involve the dredging of unconsolidated material from the shallow flats within False River, with material placement to be placed within the deeper portions of the lake. As with the upland disposal method, this would be a hydraulic dredging setup with a suction-head pump, but no return flow would be required. The material would be pumped to, or placed in, deeper portions of the lake, thereby removing the potential for turbidity spikes and improving the substrate within shallow areas.

3.3 Lake Water-Level Management

This management measure would involve the periodic lowering of the water level within False River through the control structure located at the Lighthouse Canal outlet. The periodic lowering of the pool stage would expose shallow portions of the lake to the atmosphere, thereby oxidizing sediment-based nutrients, consolidating the substrate, and allowing for seed germination and the subsequent growth of submerged aquatic vegetation. Water-level management could also be implemented in conjunction with other management measures.



Legend

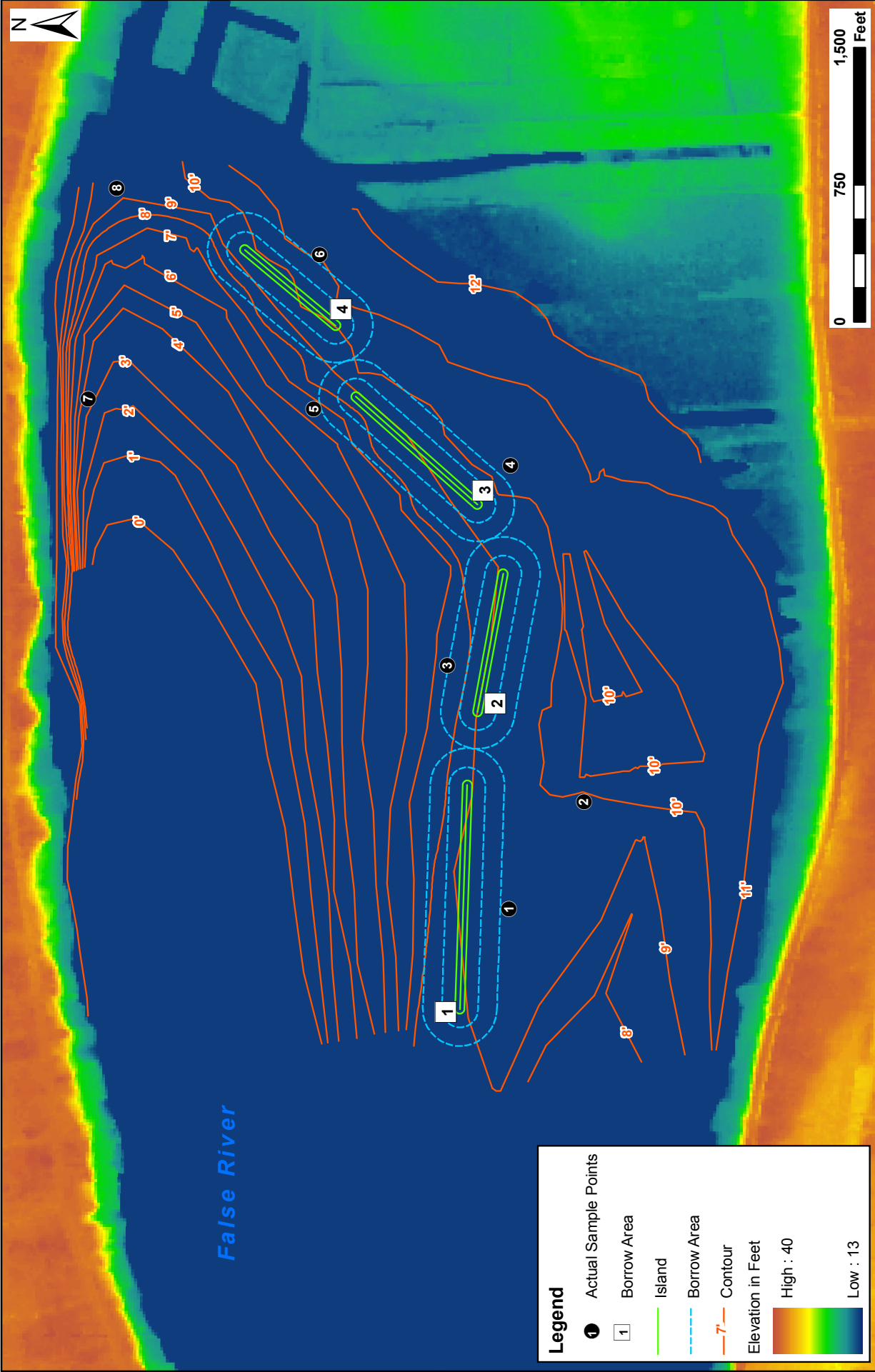
- ① Sample Area
- 1 Borrow Area
- Bank (Approximate)
- Island
- - - Borrow Area
- - - Contour
- 7-13 Elevation in Feet
- High : 40
- Low : 13

GEC Gulf Engineers & Consultants	
Figure: 3.1	
Date: October 2010	
Scale: 1:9,000	
Source: USDA/GEC	
Map ID: 273161006-2477	

DESIGN OF POTENTIAL MANAGEMENT MEASURES - SOUTH FALSE RIVER AREA

Island Creation
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee Parish USDA-FSA-APFO NAIP MrSID Mosaic



Legend

- ① Actual Sample Points
- Borrow Area
- Island
- - - Borrow Area
- - - Contour
- - - Elevation in Feet

High : 40
Low : 13

DESIGN OF POTENTIAL MANAGEMENT MEASURES - NORTH FALSE RIVER AREA

Island Creation
False River Ecosystem Restoration
Pointe Coupee Parish, Louisiana

GEC
Gulf Engineers & Consultants

Figure: 3.2
Date: July 2010
Scale: 1:9,000
Source: USDA/GEC
Map ID: 273161006-2478

Image: 2009, Pointe Coupee Parish, USDA-FSA-APFO NAIIP, M/SID, Mosaic

Table 3.1. Approximate Quantities

False River South								
Island	Length of Island (lf)	Depth to bottom of borrow area (lf)	Existing Depth (Assumed)	Total Fill Required (CY)	(CY of fill required)/(lf of island)	Bench Area Total (AC)	Borrow Area (AC)	Island Area (AC)
1	1,094.38	10	7	41,018.98	37.48	2.51	8.17	1.26
2	1,067.64	7	5	25,623.40	24.00	2.45	7.75	1.23
3	826.74	10	5	19,841.79	24.00	1.90	2.08	0.95
4	1,186.62	7	4	20,743.96	17.48	2.72	3.96	1.36
5	997.11	8	4	17,431.00	17.48	2.29	2.33	1.14
6	1,582.46	6	3	17,582.88	11.11	3.63	3.20	1.82
Total	6,754.96			142,242.01	21.06	15.51	27.49	7.75
False River North								
Island	Length of Island (lf)	Depth to bottom of borrow area (lf)	Existing Depth (Assumed)	Total Fill Required (CY)	(CY of fill required)/(lf of island)	Bench Area Total (AC)	Borrow Area (AC)	Island Area (AC)
1	1,226.30	10	6	45,963.53	37.48	2.82	9.16	1.41
2	768.28	10	6	28,796.41	37.48	1.76	5.74	0.88
3	887.96	10	6	33,282.02	37.48	2.04	6.63	1.02
4	646.77	10	6	24,241.85	37.48	1.48	4.83	0.74
Total	3,529.31			132,283.80	37.48	8.10	26.36	4.05

3.4 Vegetative Plantings

Vegetative plantings could be implemented within the lake, along unstable drainage canals, within upland disposal areas, or along newly created islands to aid in the stabilization of sediments and to facilitate the creation of additional riparian and littoral habitat. These actions could serve as stand-alone measures or be implemented in conjunction with other management measures. Both upland and bottomland hardwood species of vegetation (including submerged aquatic vegetative species) could be planted in and around the lake, depending on the portions of the lake system in which the measure is to be implemented.

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Appendix A

EXISTING INFORMATION: LDEQ

Report on Water Quality Conditions on False River Lake

January 8, 2003

Introduction

The Point Coupee Parish Police Jury and the Louisiana Senate passed resolutions in the spring of 2001 requesting the Louisiana Department of Environmental Quality conduct periodic water quality testing on False River Lake near New Roads, Louisiana. Subsequent communications with False River Lake Commission members indicated that primary concerns relative to the Senate Resolution 51 included sedimentation, organic enrichment and elevated fecal coliform bacteria levels. This work plan was developed to collect sufficient data from the ambient waters of the lake and from inflow points to determine current ambient lake conditions and potential influences from major inflow points to the lake.

Methods

Sample Stations – Three stations were selected to represent the ambient water quality conditions on False River: one station each for the north and south ends of the lake and one to represent mid-lake conditions. In addition to the three ambient lake stations, stations were established at three inflow points to the lake, one at the La. Hwy. 413 bridge over Patin Dyke Slough, one at the La. Hwy. 413 bridge over False Bayou (both at the north end of the lake) and one at the mouth of Discharge Bayou (at the south end of the lake).

Sample Parameters - Composite water samples at each ambient lake station were analyzed for turbidity, total suspended solids (TSS), nutrients (nitrate/nitrite nitrogen, total Kjeldahl nitrogen, ammonia nitrogen, total phosphorus and total organic carbon). Grab samples at each ambient lake station (taken at mid-lake since bacteria samples cannot be composited) were taken for bacteria analysis (fecal coliform bacteria) and water quality meters were used at each ambient lake station to gather *in-situ* data on dissolved oxygen, pH, specific conductance and temperature.

Grab samples were collected at inflow stations for turbidity, total suspended solids (TSS), nutrients (nitrate/nitrite nitrogen, total Kjeldahl nitrogen, ammonia nitrogen, total phosphorus and total organic carbon) and bacteria analysis (fecal coliform bacteria). Water meters were used at each inflow station to gather *in-situ* data on dissolved oxygen, pH, specific conductance and temperature.

Sample Specifications - Composite samples were taken using a Kemmerer Sampler to composite aliquots from various depths according to the LDEQ “Standard Operating Procedure (SOP) for Water Sample Collection, Preservation, Documentation and Shipping”. Grab samples will be taken at a depth of one meter unless water depth is less than two meters, in which case sample depth will be one-half total water depth.

Containers were certified clean HDPE containers of sufficient volume to conduct nutrient, turbidity and TSS analyses according to U.S.E.P.A.-approved methods. Bacteria sample containers used were sanitized “Whirl-pak” bags approved for use in fecal coliform sampling by the Louisiana Department of Health and Hospitals.

Sample Frequency – Sampling events were conducted monthly from October 2001 to September 2002. Sampling events were roughly scheduled for the third or fourth week of the month on a Monday or Tuesday to accommodate the bacteria analysis laboratory. Effort was made to amend the sample schedule to include up to one-half total number of sampling days to be immediately after significant rainfall events, however only two of the 13 sampling events were conducted within two days of a significant rainfall event.

Sample Analyses – Samples were analyzed by the LDHH Laboratory in Amite, La. (bacteria) and by the LDEQ Laboratory in Baton Rouge (all other parameters). Analyses were conducted using EPA-approved methods.

Results

The results of the 13 sampling events are stated in the spreadsheets attached to this report. All data appear to pass scrutiny for quality control except for the pH values for the month of May 2002, which were vacated as inaccurate and labeled “N/A”. The spreadsheets are arranged by sample location.

Discussion

The following parameters were measured and used to characterize False River Lake water quality for the purposes of this study: total suspended solids, turbidity, nitrate/nitrite nitrogen, total phosphorus, total Kjeldahl nitrogen, ammonia nitrogen, total organic carbon, fecal coliform bacteria, temperature, pH, dissolved oxygen and specific conductance.

Total suspended solids (TSS) in the main body of the lake appeared generally lower in concentration than in the inflow points measured during this study. The mid-lake station, where water depth was greatest, appeared to have consistently lower TSS values than those taken from the more shallow south and north flats where high winds and choppy surface conditions can contribute to suspension of solids. Mid-lake TSS values may have been influenced by water-borne algal populations more than inorganic sediments especially during times of warm, stable weather patterns accompanied by lake stratification. TSS values at the inflow points were higher than main-lake station values on the average, but did not consistently elevate with rainfall events. This was more likely due to the timing of the sampling, and it is likely that TSS values did elevate somewhat after rainfall events, but the phenomenon was not captured during the time of the sampling events.

Results from turbidity analyses seemed to parallel those for TSS in that main lake station values appeared generally lower than those for inflow points. The average turbidity contributions appeared greatest from Patin Dyke Slough and Discharge Bayou. Some elevated turbidity values were noted from the north flats of the main lake that exceeded values seen from the northern inflow points. These elevated values may have been due in part to the shallow nature of the north flats, which would allow for re-suspension of particulate matter during times of high winds and lake surface chop.

Three parameters measured different forms of nitrogen in the samples and one parameter measured total phosphorus. Collectively, the four parameters provide information on nutrient levels in the subject surface waters. Although nitrogen and phosphorus are essential elements for plant and animal life, the concentrations needed to maintain ecosystem health are actually quite low. Reid and Wood (1976)ⁱ state that the mean total phosphorus content of most lakes ranges from 0.010 to 0.030 ppm. Most data points for phosphorus in this study were approximately ten times that average. The quoted reference further states that the world average for nitrate nitrogen in freshwaters is 0.30 ppm. Although data on nitrogen compounds from this study do not routinely exceed this average, it is apparent that nitrogen compounds are present in sufficient quantities so as not to be limiting to aquatic plant growth. The data appears to support that False River Lake is experiencing organic enrichment, and that conclusion is supported by frequent observations of significant algal populations as evidenced by elevated pH readings (frequently above 8 s.u.) and the frequent visible “pea-green” color of the lake water.

Total organic carbon (TOC) was measured as an indicator of organic content of the lake. The values obtained for TOC support that the lake waters are fairly rich in organic matter, although not to the extreme of some highly “nutrient over-enriched” (eutrophic/dystrophic) waters. An “average” value for organic content of fresh waters is believed to be approximately 6 to 8 ppm (Reid and Wood, 1976), and these average values were occasionally exceeded in the inflow points of the lake. Main lake stations appear to fall within the average range for TOC.

For waters with primary contact (swimming) as a designated use, such as False River Lake, the fecal coliform bacteria standard is 200 to 400 cfu/100ml. Sample results for this parameter from the main lake stations were generally well below these numbers with one exception of a 500 cfu/100ml at the north flats. All inflow points appeared to contribute to bacteria loading to the lake, but data from the False Bayou station was consistently high. It is important to note that due to sampling limitations, the main lake stations were sampled for fecal coliform bacteria away from shoreline activity influences. It is quite possible that near shore samples would demonstrate bacteria contributions from camps and residences in the littoral (near-shore) zone of the lake. Although the lake samples in this study did not result in a water quality standard violation for fecal coliform bacteria, there may be localized areas of higher bacteria counts near sources of sewage discharge to the lake.

Of the field parameters measured with a water quality meter at the time of sample collection, the two of most significance are pH and dissolved oxygen. The frequently

elevated pH levels encountered in this study are typical of waters that are dominated by algal blooms, which in turn supports the conclusion that the lake is experiencing organic enrichment. The dissolved oxygen levels in the lake (taken at one meter depth) demonstrated sufficient oxygen to support aquatic life, seldom falling below the 5 mg/l standard set for waters such as False River Lake. However, of interest is the data derived from the initial survey in August 2001 that demonstrated the degree of stratification the lake experiences. During that initial survey, the dissolved oxygen concentrations were observed to fall sharply below a thermocline depth of approximately 6 to 7 meters.

Conclusions

The data appear to support the conclusion that False River Lake is nutrient-rich lake with total phosphorus levels sufficient to support frequent algal blooms. Inflow points appear to contribute elevated bacteria concentrations, although the lake itself does not appear to be in violation of the water quality standard for fecal coliform bacteria. The sample collection methods employed, however, do not address the possibility of near-shore, localized areas that may be influenced by sewage discharges from water front camps and residences. Data on TSS and turbidity seem to indicate that contributions of these parameters from the inflow points on the lake are occurring and the highest averages for TSS appear to be from all inflow points and the north flats area. The relationship between rainfall events and increased contribution of sediment/solids to the lake was not clearly demonstrated, but waters coming into False River Lake appear to be higher in suspended solids and turbidity than ambient lake conditions.

ⁱ *Ecology of Inland Waters and Estuaries*, 2nd ed. 1976. Reid, George K. and Richard D. Wood. D. Van Nostrand Company. New York, New York. 485pp.

Location	Station ID	Latitude	Longitude	Time	Depth of Sample	Dissolved Oxygen	pH	Temp	Cond	Comments
Mouth of Patin Dyke Slough		N30-41.527	W91-24.904	0941	1 meter	3.8	8.13	28.32	229	1.5 meters deep
Mouth of False Bayou		N30-41.334	W91-25.039	0949	1 meter	3.82	7.94	28.24	217	1.5 meters deep
North end of lake (flats)	01011144	N30-41.310	W91-25.782	0954	1 meter	4.39	8.63	29.3	208	
North end of lake (flats)	01011144	N30-41.310	W91-25.782	0954	3 meters	4.11	8.59	29.12	206	near bottom
North end of lake (flats)	01011144	N30-41.310	W91-25.782	1125	1 meter	5.41				
North Mid-lake, east side		N30-39.855	W91-28.309	1011	1 meter	5.29	8.71	29.18	206	
North Mid-lake, east side		N30-39.855	W91-28.309	1011	5 meters	4.1	8.56	29.42	209	near bottom
North Mid-lake, west side		N30-39.614	W91-28.902	1019	1 meter	4.72	8.63	29.64	210	
North Mid-lake, west side		N30-39.614	W91-28.902	1019	12 meters	0.3	7.2	21.72	291	Dissolved oxygen falls off abruptly at ~7 meters
South Mid-lake, east side		N30-38.172	W91-28.937	1030	1 meter	5.4	8.69	29.64	209	
South Mid-lake, east side		N30-38.172	W91-28.937	1030	8 meters	0.2	7.39	26.5	241	Dissolved oxygen falls off abruptly at ~6 meters
South Mid-lake, west side		N30-37.561	W91-28.872	1038	1 meter	6.27	8.76	29.82	207	
South Mid-lake, west side		N30-37.561	W91-28.872	1038	19 meters	0.27	7.16	18.9	306	Dissolved oxygen falls off abruptly at ~7 meters
South end of lake (flats)	01011146	N30-36.774	W91-26.241	1052	1 meter	4.9	8.47	29.36	212	
South end of lake (flats)	01011146	N30-36.774	W91-26.241	1052	5 meters	4.37	8.32	29.16	209	near bottom
Mouth of Discharge Bayou	01011149	N30-36.924	W91-25.924	1100	1 meter	3.7	7.34	26.99	149	2.5 meters deep
False Bayou @ Hwy 413	01011148			1300	1 meter	3.85	7.3	27.1	275	
Patin Dyke Slough @ Hwy 413	01011147			1310	1 meter	4.23	7.42	27.12	307	
The Chenal @ Hwy 413				1340	1 meter	2.84	7.41	27.89	327	

Mouth of Discharge Bayou				
Date	10/2/2001	10/30/2001	11/27/2001	12/18/2001
<u>TSS(ppm)</u>	16	20.5	21	22
<u>Turbidity(NTU)</u>	12	6.6	17	22
<u>Nitrate/Nitrite Nitrogen(ppm)</u>	ND	0.13	0.1	0.35
<u>Total Phosphorus(ppm)</u>	0.16	0.15	0.1	0.31
<u>Total Kjeldahl Nitrogen(ppm)</u>	1.2	0.95	1.18	1.58
<u>Ammonia Nitrogen(ppm)</u>	ND	ND	0.11	0.25
<u>Total Organic Carbon(ppm)</u>	8.9	8.9	7.6	14.4
<u>Fecal Coliform(cfu/100ml)</u>	70	30	23	500
<u>Temperature(Deg C)</u>	23.32	18.32	20.61	17.29
<u>pH(S.U.)</u>	8.54	7.41	7.16	8.02
<u>Dissolved Oxygen(ppm)</u>	6.3	7.45	6.05	2.77
<u>Specific Conductance(Umhos/cm)</u>	205	220	230	186

False Bayou at Hwy 413

Date	10/2/2001	10/30/2001	11/27/2001	12/18/2001
<u>TSS(ppm)</u>	10.5	5	ND	5
<u>Turbidity(NTU)</u>	8.6	4.6	3.4	8
<u>Nitrate/Nitrite Nitrogen(ppm)</u>	0.07	0.06	ND	0.3
<u>Total Phosphorus(ppm)</u>	0.16	0.12	0.19	0.19
<u>Total Kjeldahl Nitrogen(ppm)</u>	1.19	0.67	0.59	1.47
<u>Ammonia Nitrogen(ppm)</u>	0.14	ND	ND	0.48
<u>Total Organic Carbon(ppm)</u>	7.7	6.8	10.1	10.1
<u>Fecal Coliform(cfu/100ml)</u>	2400	300	300	3000
<u>Temperature(Deg C)</u>	21.99	15.51	21.95	16.07
<u>pH(S.U.)</u>	7.41	7.27	7.25	8.02
<u>Dissolved Oxygen(ppm)</u>	4.48	12.44	8.08	3.75
<u>Specific Conductance(Umhos/cm)</u>	527	456	605	278

Patin Dyke Slough at Hwy 413

Date	10/2/2001	10/30/2001	11/27/2001	12/18/2001
<u>TSS(ppm)</u>	18	20	26	34
<u>Turbidity(NTU)</u>	14	12	20	45
<u>Nitrate/Nitrite Nitrogen(ppm)</u>	ND	ND	0.08	0.34
<u>Total Phosphorus(ppm)</u>	0.13	0.19	0.15	0.28
<u>Total Kjeldahl Nitrogen(ppm)</u>	1.21	0.91	0.8	1.2
<u>Ammonia Nitrogen(ppm)</u>	ND	ND	0.13	0.29
<u>Total Organic Carbon(ppm)</u>	9.5	10.6	8.8	17.9
<u>Fecal Coliform(cfu/100ml)</u>	300	50	300	500
<u>Temperature(Deg C)</u>	22.38	16.26	19.78	16.92
<u>pH(S.U.)</u>	7.2	7.13	7.11	8.14
<u>Dissolved Oxygen(ppm)</u>	5.44	6.21	5.37	3.52
<u>Specific Conductance(Umhos/cm)</u>	239	248	312	237

South Flats of False River				
Date	10/2/2001	10/30/2001	11/27/2001	12/18/2001
TSS(ppm)	15.5	ND	7.5	8.5
Turbidity(NTU)	9.1	6	5.2	5.7
Nitrate/Nitrite Nitrogen(ppm)	ND	0.15	0.2	0.61
Total Phosphorus(ppm)	0.08	0.15	0.06	0.1
Total Kjeldahl Nitrogen(ppm)	1.28	1.14	0.84	0.73
Ammonia Nitrogen(ppm)	ND	ND	0.44	ND
Total Organic Carbon(ppm)	9	8.5	7.3	6.9
Fecal Coliform(cfu/100ml)	2	11	240	8
Temperature(Deg C)	25.6	20.32	19.33	17.7
pH(S.U.)	9.05	7.98	7.07	7.97
Dissolved Oxygen(ppm)	9.17	8.24	4.15	4.08
Specific Conductance(Umhos/cm)	200	215	226	187

False River Mid-Lake				
Date	10/2/2001	10/30/2001	11/27/2001	12/18/2001
<u>TSS(ppm)</u>	10.5	22	8	6
<u>Turbidity(NTU)</u>	6.3	5.7	5.5	4.9
<u>Nitrate/Nitrite Nitrogen(ppm)</u>	ND	0.14	0.2	0.62
<u>Total Phosphorus(ppm)</u>	0.1	0.17	0.11	0.07
<u>Total Kjeldahl Nitrogen(ppm)</u>	1.4	1.39	0.9	0.83
<u>Ammonia Nitrogen(ppm)</u>	ND	0.27	0.28	0.1
<u>Total Organic Carbon(ppm)</u>	7.2	9.6	7.6	7.1
<u>Fecal Coliform(cfu/100ml)</u>	<2	2	130	8
<u>Temperature(Deg C)</u>	24.94	20.74	19.76	18.21
<u>pH(S.U.)</u>	7.89	7.42	7.25	8.07
<u>Dissolved Oxygen(ppm)</u>	4.03	5.35	6.31	3.88
<u>Specific Conductance(Umhos/cm)</u>	206	221	222	186

North Flats of False River				
Date	10/2/2001	10/30/2001	11/27/2001	12/18/2001
TSS(ppm)	13	9.5	19	10.5
Turbidity(NTU)	8.5	7.8	8.6	7.9
Nitrate/Nitrite Nitrogen(ppm)	ND	0.08	0.18	0.59
Total Phosphorus(ppm)	0.1	0.18	0.1	0.08
Total Kjeldahl Nitrogen(ppm)	1.47	1.27	0.54	0.99
Ammonia Nitrogen(ppm)	ND	0.41	0.15	0.1
Total Organic Carbon(ppm)	8.6	8.6	9	7.5
Fecal Coliform(cfu/100ml)	8	11	130	220
Temperature(Deg C)	24.06	19.71	20	18.47
pH(S.U.)	8.14	7.51	7.43	8.16
Dissolved Oxygen(ppm)	7.14	6.77	7.26	4.11
Specific Conductance(Umhos/cm)	208	223	225	192

Initial Survey of False River (August 29, 2001)

Location	Station ID	Latitude	Longitude	Time	Depth of sample (meters)	D.O. (mg/L)	pH	Temp (°C)	Cond (umhos/cm)	Comments
Mouth of Patin Dyke Slough		N30-41.527	W91-24.904	9:41 AM	1	3.8	8.13	28.32	229	1.5 meters deep
Mouth of False Bayou		N30-41.334	W91-25.039	9:49 AM	1	3.82	7.94	28.24	217	1.5 meters deep
North end of lake (flats)	01011144	N30-41.310	W91-25.782	9:54 AM	1	4.39	8.63	29.3	208	
North end of lake (flats)	01011144	N30-41.310	W91-25.782	9:54 AM	3	4.11	8.59	29.12	206	Near bottom
North end of lake (flats)	01011144	N30-41.310	W91-25.782	11:25 AM	1	5.41				
North Mid-lake, east side		N30-39.855	W91-28.309	10:11 AM	1	5.29	8.71	29.18	206	
North Mid-lake, east side		N30-39.855	W91-28.309	10:11 AM	5	4.1	8.56	29.42	209	Near bottom
North Mid-lake, west side		N30-39.614	W91-28.902	10:19 AM	1	4.72	8.63	29.64	210	
North Mid-lake, west side		N30-39.614	W91-28.902	10:19 AM	12	0.3	7.2	21.72	291	Dissolved oxygen falls abruptly at 7 meters
South Mid-lake, east side		N30-38.172	W91-28.937	10:30 AM	1	5.4	8.69	29.64	209	
South Mid-lake, east side		N30-38.172	W91-28.937	10:30 AM	8	0.2	7.39	26.5	241	Dissolved oxygen falls abruptly at 6 meters
South Mid-lake, west side		N30-37.561	W91-28.872	10:38 AM	1	6.27	8.76	29.82	207	
South Mid-lake, west side		N30-37.561	W91-28.872	10:38 AM	19	0.27	7.16	18.9	306	Dissolved oxygen falls abruptly at 7 meters
South end of lake (flats)	01011146	N30-36.774	W91-26.241	10:52 AM	1	4.9	8.47	29.36	212	
South end of lake (flats)	01011146	N30-36.774	W91-26.241	10:52 AM	5	4.37	8.32	29.16	209	Near bottom
Mouth of Discharge Bayou	01011149	N30-36.924	W91-25.924	11:00 AM	1	3.7	7.34	26.99	149	2.5 meters deep
False Bayou @ Hwy 413	01011148			1:00 PM	1	3.85	7.3	27.1	275	
Patin Dyke Slough @ Hwy 413	01011147			1:10 PM	1	4.23	7.42	27.12	307	
The Chenal @ Hwy 413				1:40 PM	1	2.84	7.41	27.89	327	

Mouth of Discharge Bayou									
Date	TSS	Turbidity (NTU)	Nitrate/Nitrite Nitrogen	Total Phosphorus	Total Kjeldahl Nitrogen	Ammonia Nitrogen	Total Organic Carbon	Fecal Coliform (cfu/100ml)	
10/2/2001	16	12	ND	0.16	1.2	ND	8.9	70	
10/30/2001	20.5	6.6	0.13	0.15	0.95	ND	8.9	30	
11/27/2001	21	17	0.1	0.1	1.18	0.11	7.6	23	
12/18/2001	22	22	0.35	0.31	1.58	0.25	14.4	500	
1/29/2002	26	18	0.22	0.15	1.19	0.15	9.5	3000	
2/25/2002	26	21	0.16	0.13	1.14	ND	9.6	300	
3/25/2002	25	20	0.08	0.13	1.02	ND	8.4	130	
4/22/2002	31.5	19	0.09	0.16	0.78	ND	9.3	90	
5/21/2002	26	14	0.05	0.13	0.59	ND	6.9	36	
6/25/2002	27.3	19	ND	0.16	0.96	ND	6.2	80	
7/30/2002	26	19	ND	0.11	1.08	ND	7.7	170	
8/27/2002	22	12	ND	0.16	1.19	ND	6.8	220	
9/24/2002	17.3	10	0.06	0.14	1.22	0.16	8.8	30	
MDLs	4	1	0.05	0.05	0.1	0.1	2	2	

Field Parameters				
Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)
10/2/2001	23.32	8.54	6.3	205
10/30/2001	18.32	7.41	7.45	220
11/27/2001	20.61	7.16	6.05	230
12/18/2001	17.29	8.02	2.77	186
1/29/2002	15.59	7.03	5.82	316
2/25/2002	14.96	7.26	7.72	339
3/25/2002	18.3	7.29	8.15	297
4/22/2002	25.37	7.14	3.36	301
5/21/2002	22.9	N/A	5.89	304
6/25/2002	28.05	8.49	7.25	253
7/30/2002	29.74	7.62	2.98	239
8/27/2002	29.65	8.16	6.35	242
9/24/2002	26.73	7.87	6.02	239
*italics indicates samples were taken within 48 hrs of a rainfall event				
All values in parts per million (ppm) unless otherwise noted				

False Bayou at Hwy 413

Date	TSS	Turbidity (NTU)	Nitrate/Nitrite Nitrogen	Total Phosphorus	Total Kjeldahl Nitrogen	Ammonia Nitrogen	Total Organic Carbon	Fecal Coliform (cfu/100ml)
10/2/2001	10.5	8.6	0.07	0.16	1.19	0.14	7.7	2400
10/30/2001	5	4.6	0.06	0.12	0.67	ND	6.8	300
11/27/2001	ND	3.4	ND	0.19	0.59	ND	10.1	300
12/18/2001	5	8	0.3	0.19	1.47	0.48	10.1	3000
1/29/2002	16.6	14	0.12	0.16	1.38	0.56	7.4	1300
2/25/2002	25	21	0.07	0.21	1.44	0.27	10.7	2400
3/25/2002	24	24	0.06	0.21	1.88	0.25	10.1	1300
4/22/2002	12	10	0.06	0.2	1.01	0.29	9.8	1300
5/21/2002	17.3	11	ND	0.14	0.81	ND	9.2	300
6/25/2002	5.5	4.8	ND	0.23	0.79	0.11	7.9	5000
7/30/2002	26	10	ND	0.68	1.52	0.15	10.6	3000
8/27/2002	20	10	0.05	0.5	1.86	ND	14.1	230
9/24/2002	50	25	ND	1.51	13.9	0.21	16.8	280
MDLs	4	1	0.05	0.05	0.1	0.1	2	2

Field Parameters

Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)
10/2/2001	21.99	7.41	4.48	527
10/30/2001	15.51	7.27	12.44	456
11/27/2001	21.95	7.25	8.08	605
12/18/2001	16.07	8.02	3.75	278
1/29/2002	19.14	7.08	2.65	413
2/25/2002	14.56	7.21	7.29	432
3/25/2002	19.11	7.4	6.4	475
4/22/2002	26.46	7.38	2.6	403
5/21/2002	22.61	N/A	5.91	400
6/25/2002	27.29	7.37	2.27	333
7/30/2002	28.68	7.55	5.23	319
8/27/2002	29.39	7.78	5.24	366
9/24/2002	25.43	7.56	2.22	330
*italics indicates samples were taken within 48 hrs of a rainfall event				
All values in parts per million (ppm) unless otherwise noted				

Patin Dyke Slough at Hwy 413

Date	TSS	Turbidity (NTU)	Nitrate/Nitrite Nitrogen	Total Phosphorus	Total Kjeldahl Nitrogen	Ammonia Nitrogen	Total Organic Carbon	Fecal Coliform (cfu/100ml)
10/2/2001	18	14	ND	0.13	1.21	ND	9.5	300
10/30/2001	20	12	ND	0.19	0.91	ND	10.6	50
11/27/2001	26	20	0.08	0.15	0.8	0.13	8.8	300
12/18/2001	34	45	0.34	0.28	1.2	0.29	17.9	500
1/29/2002	18.6	22	0.07	0.27	0.99	0.25	15	130
2/25/2002	20	27	0.06	0.22	1.12	0.29	12.2	110
3/25/2002	13.3	11	ND	0.13	1.21	0.1	10	80
4/22/2002	19	13	0.06	0.22	0.85	0.15	11.2	30
5/21/2002	30	21	0.06	0.18	0.91	ND	5.7	80
6/25/2002	11	12	0.08	0.67	1.03	0.27	13	2200
7/30/2002	39	26	ND	0.16	1.17	0.22	4.9	22
8/27/2002	19.3	13	0.06	0.18	0.9	0.12	6.7	23
9/24/2002	38.6	25	0.06	0.16	1.21	0.23	9.8	17
MDLs	4	1	0.05	0.05	0.1	0.1	2	2

Field Parameters

Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)
10/2/2001	22.38	7.2	5.44	239
10/30/2001	16.26	7.13	6.21	248
11/27/2001	19.78	7.11	5.37	312
12/18/2001	16.92	8.14	3.52	237
1/29/2002	16.48	6.88	3.4	344
2/25/2002	15.18	7.08	4.48	439
3/25/2002	18.73	7.31	3.85	489
4/22/2002	25.63	7.34	4.6	451
5/21/2002	22.64	N/A	4.68	600
6/25/2002	29.22	7.25	3.03	233
7/30/2002	30.06	7.4	2.25	446
8/27/2002	30.28	7.96	4.03	420
9/24/2002	26.66	7.54	4.89	405
*italics indicates samples were taken within 48 hrs of a rainfall event				
All values in parts per million (ppm) unless otherwise noted				

South Flats of False River

Date	TSS	Turbidity (NTU)	Nitrate/Nitrite Nitrogen	Total Phosphorus	Total Kjeldahl Nitrogen	Ammonia Nitrogen	Total Organic Carbon	Fecal Coliform (cfu/100ml)
10/2/2001	15.5	9.1	ND	0.08	1.28	ND	9	2
10/30/2001	ND	6	0.15	0.15	1.14	ND	8.5	11
11/27/2001	7.5	5.2	0.2	0.06	0.84	0.44	7.3	240
12/18/2001	8.5	5.7	0.61	0.1	0.73	ND	6.9	8
1/29/2002	14	7.6	0.45	0.11	0.9	ND	6.9	17
2/25/2002	32	18	0.26	0.12	1.11	ND	6.4	4
3/25/2002	11	6.9	0.17	0.07	0.98	ND	7.8	11
4/22/2002	12.5	7.4	0.05	0.07	0.77	ND	7.3	8
5/21/2002	9	6.5	ND	0.09	1.08	ND	6.7	23
6/25/2002	10	8.4	ND	0.11	1	ND	7.8	17
7/30/2002	75.3	7.7	ND	0.14	1.24	ND	6.8	8
8/27/2002	39	4.4	0.09	0.17	1.54	0.16	6.7	4
9/24/2002	12.6	7.6	ND	0.1	1.02	ND	8.2	23
MDLs	4	1	0.05	0.05	0.1	0.1	2	2

Field Parameters

Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)
10/2/2001	25.6	9.05	9.17	200
10/30/2001	20.32	7.98	8.24	215
11/27/2001	19.33	7.07	4.15	226
12/18/2001	17.7	7.97	4.08	187
1/29/2002	13.51	7.52	7.85	246
2/25/2002	14.3	7.79	9.13	259
3/25/2002	17.64	8.3	11.35	264
4/22/2002	23.65	8.11	7.24	264
5/21/2002	23.83	N/A	6.59	280
6/25/2002	28.05	8.68	6.72	252
7/30/2002	29.85	8.02	4.01	237
8/27/2002	30.19	8.97	7.68	228
9/24/2002	27.72	8.45	7.47	233
*italics indicates samples were taken within 48 hrs of a rainfall event				
All values in parts per million (ppm) unless otherwise noted				

False River Mid-Lake									
Date	TSS	Turbidity (NTU)	Nitrate/Nitrite Nitrogen	Total Phosphorus	Total Kjeldahl Nitrogen	Ammonia Nitrogen	Total Organic Carbon	Fecal Coliform (cfu/100ml)	
10/2/2001	10.5	6.3	ND	0.1	1.4	ND	7.2	<2	
10/30/2001	22	5.7	0.14	0.17	1.39	0.27	9.6	2	
11/27/2001	8	5.5	0.2	0.11	0.9	0.28	7.6	130	
12/18/2001	6	4.9	0.62	0.07	0.83	0.1	7.1	8	
1/29/2002	12	4.9	0.38	0.1	0.96	ND	7.6	17	
2/25/2002	8	6.3	0.3	ND	1.02	ND	7.4	2	
3/25/2002	12	7.7	0.06	0.08	0.98	ND	7.5	2	
4/22/2002	7.3	5.5	0.05	0.09	0.6	ND	6.8	11	
5/21/2002	9.5	4.8	ND	0.09	0.66	ND	6.5	4	
6/25/2002	7.3	6.4	ND	0.11	0.8	ND	7.1	22	
7/30/2002	9.3	5.8	ND	0.12	1.36	0.14	7.1	<2	
8/27/2002	11	22	ND	0.19	1.61	0.53	8.3	2	
9/24/2002	9.3	5.9	ND	0.1	1.36	0.12	8	17	
MDLs	4	1	0.05	0.05	0.1	0.1	2	2	

Field Parameters				
Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)
10/2/2001	24.94	7.89	4.03	206
10/30/2001	20.74	7.42	5.35	221
11/27/2001	19.76	7.25	6.31	222
12/18/2001	18.21	8.07	3.88	186
1/29/2002	14.46	8.3	10.45	246
2/25/2002	14.61	7.94	9.67	260
3/25/2002	17.75	8.45	12.05	264
4/22/2002	24.54	8.37	7.71	263
5/21/2002	24.4	N/A	7.71	281
6/25/2002	28.61	8.01	7.29	248
7/30/2002	30.54	8.36	6.8	230
8/27/2002	30.24	8.99	8.71	219
9/24/2002	27.83	8.15	6.29	238
*italics indicates samples were taken within 48 hrs of a rainfall event				
All values in parts per million (ppm) unless otherwise noted				

North Flats of False River									
Date	TSS	Turbidity (NTU)	Nitrate/Nitrite Nitrogen	Total Phosphorus	Total Kjeldahl Nitrogen	Ammonia Nitrogen	Total Organic Carbon	Fecal Coliform (cfu/100ml)	
10/2/2001	13	8.5	ND	0.1	1.47	ND	8.6	8	
10/30/2001	9.5	7.8	0.08	0.18	1.27	0.41	8.6	11	
11/27/2001	19	8.6	0.18	0.1	0.54	0.15	9	130	
12/18/2001	10.5	7.9	0.59	0.08	0.99	0.1	7.5	220	
1/29/2002	14	7.8	0.3	ND	1.14	ND	7.7	500	
2/25/2002	82	70	0.13	0.22	1.77	ND	7.9	300	
3/25/2002	17.3	12	ND	0.07	1.08	ND	8	23	
4/22/2002	68	29	0.07	0.16	0.78	ND	6.1	13	
5/21/2002	36.6	18	ND	0.13	0.88	ND	5.8	2	
6/25/2002	16	14	ND	0.12	0.82	ND	7.4	17	
7/30/2002	67	20	ND	0.18	1.96	ND	8.9	<2	
8/27/2002	23	10	ND	0.14	1.46	ND	10	2	
9/24/2002	13.3	7.1	ND	0.15	1.62	0.33	7.7	4	
MDLs	4	1	0.05	0.05	0.1	0.1	2	2	

Field Parameters				
Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)
10/2/2001	24.06	8.14	7.14	208
10/30/2001	19.71	7.51	6.77	223
11/27/2001	20	7.43	7.26	225
12/18/2001	18.47	8.16	4.11	192
1/29/2002	15.55	8.3	11.06	251
2/25/2002	14.71	8.13	10.66	267
3/25/2002	18.04	8.55	12.35	266
4/22/2002	27.49	8.59	7.52	271
5/21/2002	23.52	N/A	8.15	283
6/25/2002	28.33	8.83	8.22	259
7/30/2002	31.48	8.59	7.21	219
8/27/2002	30.28	8.97	6.79	220
9/24/2002	27.06	7.9	3.97	243
*italics indicates samples were taken within 48 hrs of a rainfall event				
All values in parts per million (ppm) unless otherwise noted				

Appendix B

EXISTING INFORMATION: DEPARTMENT OF PUBLIC WORKS



ROY AGUILLARD
DIRECTOR

State of Louisiana
DEPARTMENT OF PUBLIC WORKS
P. O. BOX 44185, CAPITOL STATION
BATON ROUGE, LOUISIANA 70804

December 31, 1975

BOARD OF PUBLIC WORKS
GEORGE CHANEY, CHAIRMAN
EMMETT A. EYMARD
P. P. VERRETT, SR.
RICHARD P. GIBSON
ROLAND CARTER

MEMORANDUM

TO : Mr. Daniel V. Cresap, Chief Engineer
FROM : Warren P. Beedle, District Engineer *W.P.B.*
SUBJECT: Drainage Problems in the Vicinity of False River, Pointe
Coupee Parish

On August 26, 1975 the Pointe Coupee Parish Police Jury adopted a resolution requesting our Department to make a drainage study of the area around False River with particular emphasis on the False River water level and the rate of runoff for this area. In accordance with that request, we have now completed a brief drainage study of the area. The complex hydraulic computations required for this study were performed by Mr. Hirsch Meyer, Chief--Hydraulics Section, utilizing available basic data. Since the Southcentral District has accumulated a heavy backlog of work, it has not been possible to gather additional field data for the study.

The area under study is located in southeast Pointe Coupee Parish generally south and east of the city of New Roads. The dominant hydraulic feature of this area is False River, an old meander cut-off of the Mississippi River. This lake has a surface area of about 3200 acres and drains an area of approximately 37,500 acres. This drainage area is generally defined by the Mississippi River levee on the north and east, and the old cut-off natural levee on the west and south. Only a relatively small amount of land on the west bank of False River drains into the lake due to the high alluvial ridge on that side. Practically all runoff into the lake is conveyed through channels to the east which have been cut through the alluvial ridge on that side. The primary outlet for the lake is a large man-made channel which extends southwesterly about 3.7 miles from a point near the Oscar settlement to Bayou Grosse Tete.

About 50% of the lake's 37,500 acre watershed is composed of agricultural lands and the remainder, poorly drained woodlands. The only urban area drained is a small portion of the city of New Roads.

Mr. Daniel V. Cresap
December 31, 1975
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Numerous channels draining into the lake will be improved under the Soil Conservation Service's Grosse Tete Watershed project.

In 1947 the Pointe Coupee Parish Police Jury and our Department constructed a structure on the south bank of False River near the Oscar settlement to control stages on the lake. The 3.7 mile long outlet channel which conveys discharges from the structure southward to Bayou Grosse Tete near Torbert was also excavated at that time. The control structure is located at Louisiana Highway No. 1 and consists of 3-8 ft. by 8 ft. by 175 ft. reinforced concrete conduits under the highway embankment. The lakeside end of the structure consists of a weir at crest elevation 15.0 ft. MSL. The weir structure is equipped with stop logs and slots that can be utilized to raise the crest elevation to 20.96 ft. MSL. It is my understanding that the stop logs have seldom, if ever, been inserted in the weir. Except in periods of extreme drought, the structure maintains a minimum pool elevation of 15.0 ft. MSL in the lake.

A review of available contoured maps of the study area has revealed that about 33,000 acres (88%) of the lake's drainage basin lie above elevation 25.0 ft. MSL. Additionally, some 3900 acres of the basin fall between the 20 and 25 ft. MSL contours and approximately 600 acres lie below elevation 20 ft. MSL. Over 98% of the lands drained by the lake, then, are situated above elevation 20.0 ft. MSL. Available gage records indicate that stages exceeding 19.0 ft. MSL occur about every two years at False River. The peak stage recorded since 1963 was 20.6 ft. MSL which occurred in February 1966. At maximum stage condition, a differential of some 4.6 ft. would exist between the lake surface and the greater portion of the lands drained by it. This head differential would furnish a water surface slope of at least 0.00020 ft./ft. along the channels of maximum length draining into it. Such a slope should be more than sufficient to provide satisfactory drainage for these lands provided the individual channels are at adequate section and grade. It can be concluded, then, that even when stages on False River are at a maximum, they have little effect on drainage of most of the lands draining into it. Maximum stages on the lake would, however, result in inundation of the 600 acres of land below elevation 20 ft. MSL (at the upper and lower ends of the lake). In addition, such stages would reduce the available water surface slopes along channels draining the 3900 acres of land between the 20 and 25 ft. MSL contours. This would result in lessened velocities of

Mr. Daniel V. Cresap
December 31, 1975
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flow along these streams and consequently the time required to completely drain the affected lands would be prolonged.

Gage records for the Bayou Grosse Tete gage near Torbert indicate that stages exceeding 17.0 ft. MSL occur on the average of every two years. This gage is located only about 0.8 mile southeasterly from the juncture of Bayou Grosse Tete and the False River control structure outlet channel. It can be assumed then that stages of at least 17.5 ft. MSL will occur at the discharge end of the control structure every other year. Since any type of control structure here would require a minimum head of one foot, it can be assumed that stages exceeding 18.5 ft. MSL must be expected on False River on the average of every two years. These peak stages on the lake are controlled primarily by downstream conditions and alteration of the control structure would not significantly reduce them. It must be concluded then that no practical means are available to prevent periodic flooding of most affected lands below the 20 ft. contour.

Reduced flooding of lands below elevation 20 ft. MSL and improved drainage of lands between the 20 and 25 ft. MSL contour could be accomplished by reducing peak stages (those above 18.5 ft. MSL) on False River. Peak stages on False River, however, can be reduced significantly only by lowering the normal pool elevation of the lake. To effect this, the control structure weir crest would have to be lowered from 2-3 feet. It is certain that the large number of home, camp, and business owners situated around the lake would never accept normal pool stages on the order of 12-13 ft. MSL. That being the case, reduction of the duration of peak stages is the only possible alternative available. This action would not eliminate occasional flooding of lands below elevation 20 ft. MSL but would reduce the time required for complete drainage of lands between the 20 and 25 ft. contour.

To determine how peak stage durations might be reduced, several hydraulic computations were performed. These computations were based on a storm of 25-year recurrence frequency which would produce a peak stage of 20.6 ft. MSL (equal to maximum recorded). A condition of no tailwater effect was assumed for all calculations. The results of these calculations have revealed that the present control structure requires approximately 35 days to draw the stage down from 20.6 ft. MSL to 15.0 ft. MSL. The control structure now provides a weir length

Mr. Daniel V. Cresap
December 31, 1975
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of 24 feet. If the weir length were extended to 48 feet at the existing crest elevation, the design storm would require a drawdown time of 21 days. To extend the weir to 48 feet, it would be necessary to break out the existing concrete weir wall and move it 12 feet lake-ward. An additional 12 feet of weir could then be added on both sides of the structure between the relocated weir and the inlet structure walls. As noted previously, all hydraulic computations were based on no tailwater effects at the control structure. It has been determined, however, that the outlet channel is inadequate to handle discharges from a storm of 25-year frequency without excessive tailwater buildup at the discharge end of the structure. In effect, then, extensive enlargement of the entire 3.7 mile length of outlet channel would be required under either of the following conditions: (a) drawdown from peak stage of 20.6 ft. MSL to 15 ft. MSL in 35 days with the structure as is; and (b) drawdown from 20.6 ft. MSL to 15 ft. MSL in 21 days with the structure's weir length increased to 48 feet. Since enlargement of the outlet channel would require cuts ranging from 18-25 feet, extremely high volumes of excavation would be involved in such a project.

From the results of this brief study, it would appear that the alteration of the False River control structure to facilitate drainage from areas contributing to it lacks feasibility. The 600 acres of land inundated as a result of a 25-year storm are, for the most part, woodlands or pasture. Complete flood protection for those lands below elevation 18.5 ft. MSL cannot in any way be provided. Protection of lands between 18.5 and 20.0 ft. MSL can only be afforded at the expense of considerably lower pool stages in the lake. This unquestionably cannot be accomplished. Removal of runoff from about 3900 acres of land between the 20 and 25 ft. MSL contours would be delayed somewhat as a result of a 25-year storm. The areas so affected generally consist of woodlands and pasture; some croplands are, however, involved. More rapid drainage of these lands would require not only modification of the False River control structure but also a major enlargement of its 3.7 mile long outlet channel. The benefits that could be derived from more rapid drainage of 3900 acres of primarily pasture and woodlands, at infrequent intervals, obviously could not justify the large expenditures necessary.

DEPARTMENT OF PUBLIC WORKS

Mr. Daniel V. Cresap
December 31, 1975
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The current investigation has been based on limited available data. If it is felt that a more detailed study is warranted, a very considerable amount of time and effort will be required to complete it.

WPB/js

attachments / location map
 gage tabulations
 control structure sketch

PEAK ANNUAL STAGES

<u>YEAR</u>	<u>FALSE RIVER @ NEW ROADS</u>	<u>BAYOU GROSSE TETE NEAR TORBERT</u>
1963	Gage Estab. 8-13	*13.5 (1-20)
1964	19.8 (10-4)	*17.3 (10-4)
1965	17.9 (3-4)	15.5 (3-2)
1966	20.6 (2-17)	17.9 (2-16)
1967	20.2 (4-18)	17.9 (4-17)
1968	16.4 (5-1)	12.4 (4-30)
1969	18.7 (4-17)	16.7 (4-13)
1970	17.2 (10-31)	14.5 (10-28)
1971	19.7 (12-10)	17.8 (12-8)
1972	18.7 (5-16)	15.3 (5-13)
1973	19.3 (3-28)	17.0 (3-25)
1974	19.3 (1-29)	17.6 (2-3)
1975	19.8 (8-5)	15.8 (8-6)

*At. Friscoville, La.

STATE OF LOUISIANA
PARISH OF POINTE COUPEE

PEAK ANNUAL STAGES FOR
FALSE RIVER AND BAYOU GROSSE TETE

-PREPARED BY
LOUISIANA DEPARTMENT OF PUBLIC WORKS
BATON ROUGE, LOUISIANA

JANUARY 1976

PLATE 11



DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

INTRADEPARTMENTAL CORRESPONDENCE

REFERRED TO

IN REPLY PLEASE REFER TO FILE NO.

District 61 Headquarters
Design Section
(504) 231-4125
linc. 8-432-1125

March 6, 1993

To: Willie Taylor, District 61 Administrator

From: C. J. Gaudin, District 61 Design Engineer

Subject: Study to Recommend Initial Gate Operating Plan for the False River Drainage Structure

The Problem

We have been asked by the Pointe Coupee Parish Police Jury to prepare a plan for operating the gates on the modified False River Drainage Structure. This request has been made because there is much debate among local business owners, residents and sportsman concerning lake levels and their affect on flood control and recreation.

Desirable False River Stages

According to my most recent discussion with some Jury members, the following False River water levels were recommended as the desirable pool stages for lake use at this time: A normal pool stage of 15.0' for the months of November, December and January, and a normal pool stage of 16.0' for all other months. Additionally, the lake should be closed to boat traffic when lake stages equal or exceed 18.0'.

It should be noted that the datum referred to in this report is the original datum used to build the False River Drainage Structure which has historically set the normal pool stage for False River at 15.0'. It should also be noted that the Corps of Engineers staff gage near the Police Jury building is not set to this historic datum and that the staff gage near the False River Drainage Structure is set to this historic datum.

FOR SENATOR TOM GREENE

- REFERRED FOR ACTION
ANSWER FOR MY SIGNATURE
FOR FILE
FOR YOUR INFORMATION
FOR SIGNATURE
RETURN TO ME
PLEASE SEE ME
PLEASE TELEPHONE ME
FOR APPROVAL
PLEASE ADVISE ME

BY DATE
BY DATE
BY DATE
BY DATE

AN EQUAL OPPORTUNITY EMPLOYER
A DRUG FREE WORKPLACE

RECOMMENDED FOR APPROVAL DAT
RECOMMENDED FOR APPROVAL DAT
RECOMMENDED FOR APPROVAL DAT
APPROVED DAT

Factors Affecting False River Lake Levels

False River peak stages during flood periods are primarily controlled by the following factors:

1. Bayou Grosse Tete stages
2. Inflow from the False River drainage area.
3. To a lesser degree, the available flood storage in False River just prior to the time of a flood period.
4. To a much lesser degree, operation of the False River Drainage Structure gates during flood periods.

False River stages during non-flood periods are primarily controlled by the False River Drainage Structure gate operations after Bayou Grosse Tete has receded to non-flood levels.

In order to develop a meaningful gate operating plan, each of these factors must be analyzed for their individual effects on False River stages.

Bayou Grosse Tete Stages

The dominant factor affecting False River during flood periods is the water level in Bayou Grosse Tete. Not only do Bayou Grosse Tete stages reach elevations above 17' during major flood periods, it sometimes peaks quicker than False River thereby causing reverse flow in the Lighthouse Canal and reducing available flood storage in False River Lake.

If stages in Bayou Grosse Tete were able to be lowered sufficiently, the existing False River Drainage Structure alone could reasonably be expected to maintain adequate False River Lake levels. For example, the Corps of Engineers has performed water discharge measurements which showed that at times the original drainage structure, prior to being modified with lift gates, produced flows which equaled or slightly exceeded the capacity of the proposed Bayou Chenal Pumping station. Although a mathematical analysis would have to be performed to produce precise figures, such an outflow capacity would undoubtedly have a significant impact on reducing peak flood stages on False River Lake.

There are no short term plans to reduce peak stages in Bayou Grosse Tete. There have been various long term proposals to reduce stages in Bayou Grosse Tete and lower not only the stages in False River but also water levels in other common tributaries and distributaries. These long term proposals are summarized in the attached literature and are currently being studied by the Corps of Engineers as part of a larger drainage study extending from the Northern limits of Pointe Coupee Parish to the Gulf of Mexico. It is understood that a preliminary report of that study will be issued sometime during the 1993 calendar year.

Inflow from the False River Drainage Area

Approximately 40,700 acres of area, including land and lake surface, produces storm runoff which must ultimately exit False River through the existing drainage structure. The peak rate of these inflows into False River are much greater than the outflows with the difference being temporarily stored as increases in the lake level. It would theoretically be possible to reduce these peak inflows and the corresponding False River flood stages by forcing some of the temporary flood storage to occur in upstream areas beyond the limits of False River Lake. This situation could be achieved by installing culverts or constructing weirs at certain locations along the inflow canals. Such a plan does not seem practical however since it would appear to be in direct conflict with the nearly completed Bayou Grosse Tete Watershed Project. This conclusion is based on the fact that the primary purpose of the Bayou Grosse Tete Watershed Project is the reduction of upstream flooding (and temporary storage) by reducing both the elevation and duration of upstream ponding.

The Potential for Reducing Flood Stages by Drawing Down False River Lake Prior to a Storm Period

As mentioned previously, the difference between inflow volumes from the drainage area and outflow volumes through the Drainage Structure are temporarily stored in False River as increases in the Lake level. There has been some speculation that Lake flood stages can be reduced by drawing down the level of False River prior to a storm period thereby making more flood storage available for that particular event. According to the attached reports, False River Lake has a surface area of about 3200 acres at elevation 15.0' and about 3800 acres at an elevation of 20.0'. When these figures are considered along with the 40,700 acre drainage area, it can be shown that the lake area between elevations 15.0' and 20.0' will only store about 5 inches of watershed runoff if no outflow takes place. This averages out to about 1 inch of watershed runoff storage for each 1 foot change in lake level. Furthermore, Police Jury records indicate that for lake levels in the 15 to 17 foot range, an 0.25 foot drawdown per day with the gates open is a reasonable figure. Given the unpredictable occurrence and intensity of local rainstorms, it would not seem practical to begin drawing the lake level down several days in advance for the potential of providing additional storm storage for only about 1 additional inch of watershed runoff. Therefore, it is concluded that the gates should not be operated in anticipation of storm periods due to the uncertainties involved in forecasting and the limited potential for this action to effectively reduce peak stages.

Operation of the Drainage Structure Gates During Flood Periods

When it was first recommended to replace the Drainage Structure's fixed weir with movable gates, it was in response to long duration high stages which had closed False River Lake to boat traffic for a considerable period of time during the summer months. At that time, a field reconnaissance had shown that the control point for False River outflows was at the weir crest and that stages in Bayou Grosse Tete were sufficiently low to allow a greater rate of outflow if movable gates replaced the fixed weir configuration. Although the gates do have some small positive effect on reducing False River flood stages, their main intent is and always has been to reduce the duration of high lake stages. The fact that opening the gates will not prevent flooding has been dramatically displayed by the recent flood of January 20, 1993 when False River Lake levels reached 20.4 feet during an open gate period. Therefore, no more should be expected of the gate operations under existing conditions than to reduce the negative impact of False River closure by drawing the lake level down at a faster rate.

Maintenance of Normal Pool Stages

The original False River drainage structure had a fixed weir inlet 24' long set at an elevation of 15.0'. When stages were above 15.0', water would overflow into the (3) 8' x 8' concrete box culverts thereby lowering False River stages. As the level of False River dropped, these overflow rates become smaller and the Lake stages dropped at a decreasing rate toward the 15.0' level. Because the rate of outflow was so small near the 15.0' level, False River Lake rarely achieved this normal 15.0' pool stage but rather maintained an average stage of somewhere between 16' and 17'.

When the gates are closed on the present False River Drainage Structure, it functions in essentially the same manner it did with the original fixed weir configuration. This occurs because the tops of the gates in the closed position are at 15.0' and the area above the (3) eight foot wide gates is then available for overflow into the same (3) 8' x 8' concrete box culverts. The major difference now however is that by opening the gates the False River normal pool stage can readily be lowered below 15.0' during non-flood periods. The fact that the normal pool stage can be reasonably controlled during non-flood period was taken into account when formulating the recommended gate operating schedule.

As a matter of interest concerning lake levels since the gates became operational, we analyzed Corps of Engineers' records of daily False River Lake stages between January 1, 1991 and October 13, 1992. It was found that the average stage during this time was 16.3' which is only slightly below the long term average with the fixed weir configuration in place. This result is not unexpected because unusually low or high lake stages are normally short term events.

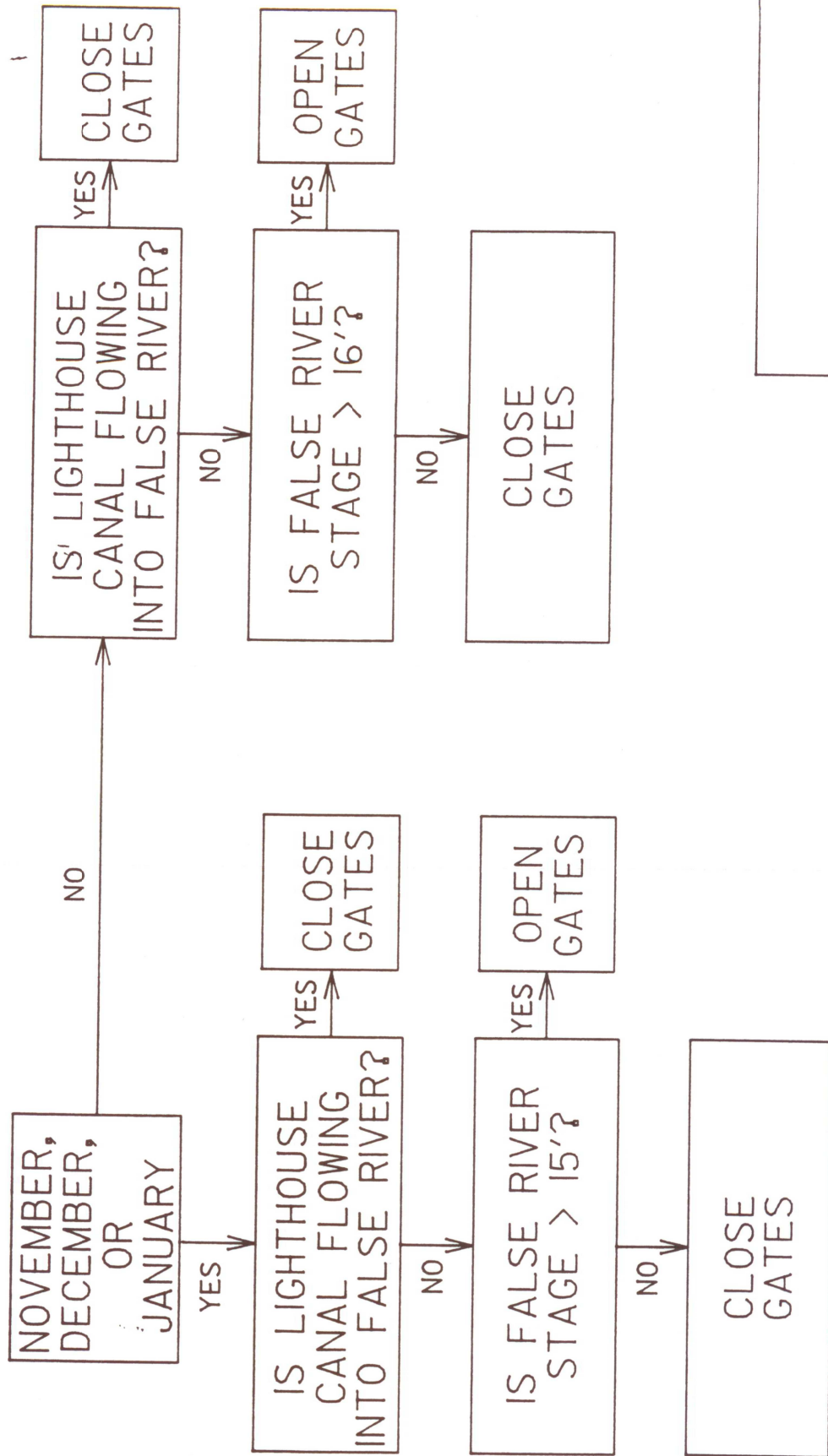
Recommended Gate Operating Schedule

In summary, it was shown that operation of the gates to reduce False River peak flood stages should not be considered as a practical option. In contrast it was shown that operating the gates can have a significant effect on False River normal pool stages during non-flood periods. Considering these facts and the desirable normal lake levels, I have prepared the attached flow chart which is a first draft of the recommended Gate Operating Schedule for the False River Drainage Structure. Naturally, some changes in the schedule can be made to fit future changes in conditions or criteria such as minor changes in the normal pool stage. However, drastic changes in the Gate Operating Schedule should be avoided until the consequences of such changes can be properly analyzed.

The Police Jury should contact us if there are further questions in this matter.

Attachments: Gate Operating Schedule
 Report of Warren Beedle to Dan Cresap (12/31/75)
 Report of E.J. Breckwoldt to Sen. Green (5-1-92)

PROPOSED FALSE RIVER GATE OPERATION PLAN



DATE: MARCH 5, 1993

STATE OF LOUISIANA	
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT	
DESIGNED BY: C. J. GAUDIN	APPROVED BY: R. R. ROMEO
DRAWN BY: C. J. GAUDIN	CHECKED BY: J. G. FAUSCH
DATE: _____	DATE: _____
DESCRIPTION: _____	REVISIONS: _____
BY: _____	DATE: _____

Appendix C

EXISTING INFORMATION: SURVEYS

Existing Surveys: USGS

INTRODUCTION

False River, an oxbow lake formed from an abandoned meander loop of the Mississippi River in southeastern Louisiana, is a popular recreational lake used for water-based activities such as water skiing, fishing, boating, and swimming. The nearness of this large oxbow lake to Baton Rouge and its continued year-to-year fishing productivity make it one of the most used lakes in southern Louisiana. An understanding of current hydrologic conditions of False River and other lakes and reservoirs in Louisiana is essential to the management and protection of these valuable natural resources. Water quality and quantity are important concerns to those who use these bodies of water for municipal, recreational, agricultural, or industrial purposes. Current and accurate information regarding the physical and chemical-related properties and conditions of freshwater lakes in Louisiana is fundamental to planners and managers for evaluating these resources. In October 1996, the U.S. Geological Survey, in cooperation with the Louisiana Department of Transportation and Development, began a study to conduct a bathymetric survey and determine the physical and chemical-related properties of False River.

The purpose of this report is to present the results of the bathymetric survey and the results of vertical profiles of physical and chemical-related properties, including depths, water temperature, dissolved oxygen (DO), specific conductance, and pH.

Hydrographic surveying software was used for combining differential global positioning system (DGPS) information with digital survey fathometer data to accurately map the bathymetry of the lake. The bathymetric map was produced using geographic information systems (GIS), and lines of equal depth of water were reviewed and edited for accuracy and consistency. On-site physical and chemical-related properties were measured at three selected locations using a water-quality monitor. This report is one in a series of planned map reports describing current bathymetry and physical and chemical-related properties of lakes and reservoirs in Louisiana.

Description of Study Area

False River (fig. 1) is located in southeastern Pointe Coupee Parish near New Roads, Louisiana, and about 25 miles northwest of Baton Rouge, Louisiana. A recent census (1998) estimates a population of 23,316 for Pointe Coupee Parish, 5,510 for New Roads, and 232,637 for Baton Rouge (Northwest Louisiana University, Uniform Resource Locator accessed May 19, 1999). This area has a subtropical transitional climate with a mean annual rainfall of 61.0 inches, and a mean annual temperature of 66.5°F (degrees Fahrenheit) (Ray Grymes, Louisiana Office of State Climatology, written commun., 1998).

False River has a drainage area of 62 square miles and primarily receives inflow from Painin Duke Slough and False Bayou, which enter at the northern end of the lake, and The Chenal and Discharge Bayou, which flow into the southern end of the lake. The lake level is controlled by a spillway structure on Lighthouse Canal. The original spillway was completed in 1948 and modified in 1991. The spillway is 24 feet in length at a crest elevation of 17.00 feet above sea level. The maximum design discharge for the spillway structure is 1,400 cubic feet per second (Ray Elifami, Louisiana Department of Transportation and Development, written commun., 1998). Boat ramps are available at four locations on the lake (fig. 1).

Acknowledgments

The author extends appreciation to Zahir "Bo" Bolourchi, Chief, Water Resources Section, Louisiana Department of Transportation and Development, for direction and assistance provided for this study.

BATHYMETRY

Bathymetric data for False River were collected during June 4-5 and July 23-28, 1998. Accurate position and depth data were obtained to comprehensively describe the lake bathymetry; 119,474 data points of latitude, longitude, and depth were recorded. The bathymetry of the lake is shown in figure 1; water depths are referenced to the water-surface elevation of 15.56 feet above sea level, which existed June 4-5, 1998. The lake has a bathymetry typical of Mississippi River oxbow lakes with a steep outer bank and a gradually sloping inner bank. The normal pool elevation of False River is 17.00 feet above sea level.

Equipment used during the bathymetric survey included a Starlink DNAV-212 DGPS, an Odom digital survey fathometer, and HYPACK software. The DGPS measured spatial position in latitude and longitude with routine accuracy of 5 feet; horizontal control points were established at the beginning and rechecked at the end of each survey day to maintain that accuracy. The survey fathometer measured the depth with routine accuracy of 0.1 foot; the fathometer was calibrated at the start and verified at the end of each survey day to maintain that accuracy. The HYPACK software was used for survey planning, survey execution, and storage and editing of data. Data were exported to ARC/INFO for drawing lines of equal depth of water and subsequent reviewing and editing of the results.

Surface area and volume spatial analyses also were performed within ARC/INFO. The water-surface area of False River was 3,060 acres, and the water volume was 67,300 acre-feet (fig. 2). The depth-surface area and depth-volume relations are shown in figure 2. The average depth of False River was 22.0 feet, with a depth of 20.3 feet or greater over more than 50 percent of the lake-surface area. Greatest depths are located in the southwestern part of the lake near the spillway and Lighthouse Canal.

PHYSICAL AND CHEMICAL-RELATED PROPERTIES

Data on physical and chemical-related properties were collected on July 29, 1998, at three selected sites in False River. At

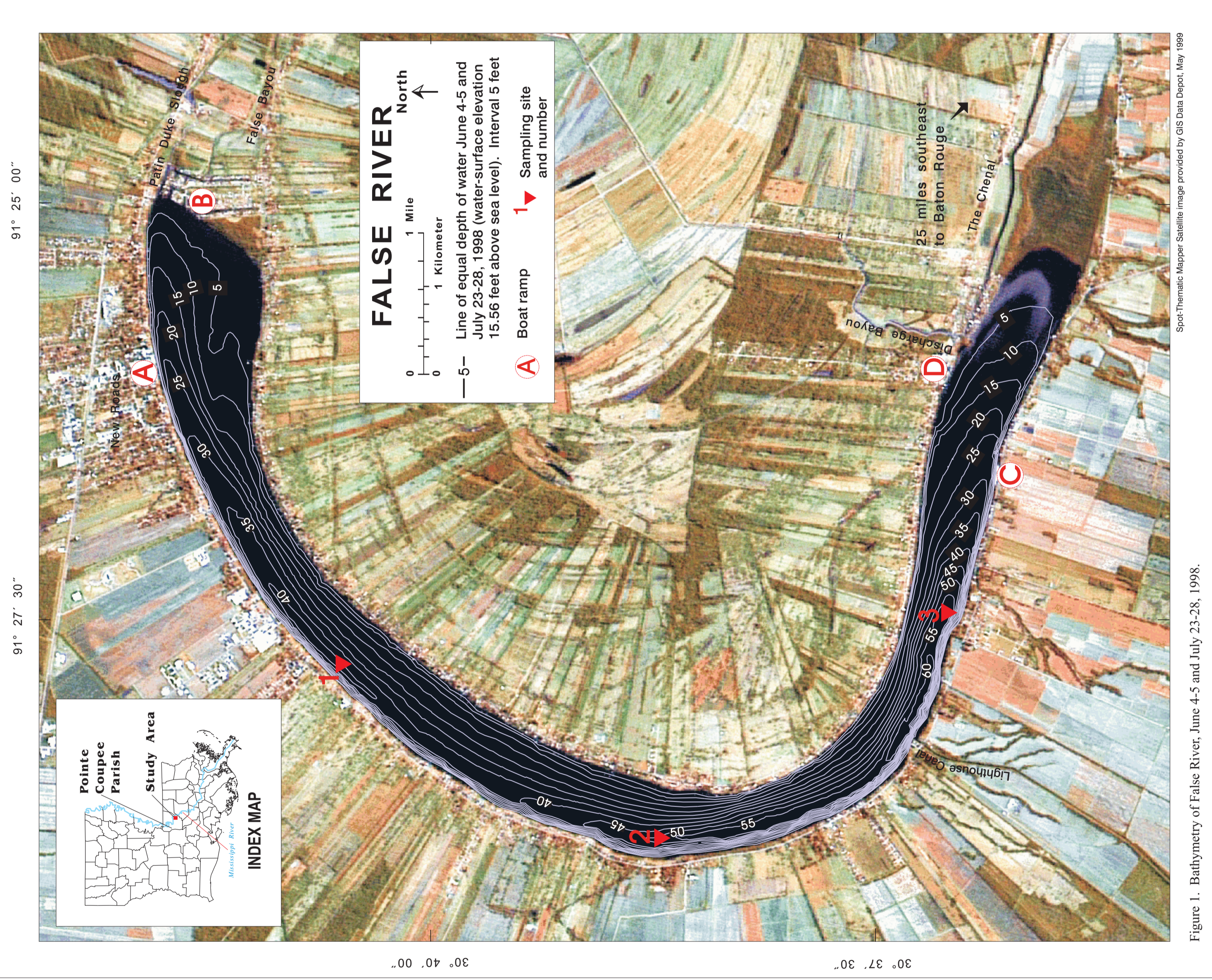


Figure 1. Bathymetry of False River, June 4-5 and July 23-28, 1998.

these sites (1, 2, and 3 in fig. 1), multiple points along a vertical profile were sampled to establish the occurrence and depth of stratification. The HYDROLAB, a water-quality monitor, was calibrated at the beginning of the day prior to physical and chemical-related property data collection.

Data were collected along a vertical profile from approximately 31 feet to 1.6 feet below the water surface, with additional sampling points within the stratification zone. Water temperature decreased slightly with depth from approximately 87°F at the surface to a depth of 17 to 19 feet, then decreased rapidly to the lowest measurement of 69.1°F at 31.1 feet (fig. 3).

Chemical-related properties indicated a distinct stratification of the lake existed on July 29, 1998. Shallow-water DO ranged from 6.30 to 9.60 mg/L, then decreased substantially at a depth from 16 to 19 feet below the water surface. Concentrations of DO below 20 feet ranged from 0.10 to 0.14 mg/L. Concentrations of DO vary considerably with depth, location, and season (Demas, 1985). The criterion for DO is 5 mg/L for freshwater aquatic life (Louisiana Department of Environmental Quality, 1998, p. 128; U.S.

Environmental Protection Agency, 1976; 1986). Water visibility, measured with a Secchi disk, was 3.2 feet.

The specific conductance varied slightly from the surface to approximately 17 feet; shallow-water concentrations ranged from 220 to 231 $\mu\text{S}/\text{cm}$ (microsiemens per centimeter at 25 degrees Celsius). Below 17 feet, the specific conductance increased with depth; deepest measurements ranged from 285 to 304 $\mu\text{S}/\text{cm}$. The pH was about 8.4 (standard units) near the surface and generally decreased with depth.

REFERENCES

- Demas, C.R., 1985. A limnological study of Lake Bruin, Louisiana: Louisiana Department of Transportation and Development, Office of Public Works Water Resources Technical Report no. 38, 96 p.
- Louisiana Department of Environmental Quality, 1998. Water quality regulations in Environmental Regulatory Code: Baton Rouge, Louisiana, Louisiana Administrative Code, title 33, part IX, p. 128.

Northwest Louisiana University, Center for Business and Economic Research, Louisiana parishes and municipalities July 1, 1998, population estimates published in January 1999; accessed May 19, 1999, at URL <http://leptalu.edu/POPHIS/pop1998.txt>

U.S. Environmental Protection Agency, 1976. Quality criteria for water: Washington, D.C., U.S. Environmental Protection Agency, 256 p.

-----, 1986. Quality criteria for water: Washington, D.C., U.S. Environmental Protection Agency (variously paged).

In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929—a geoidic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

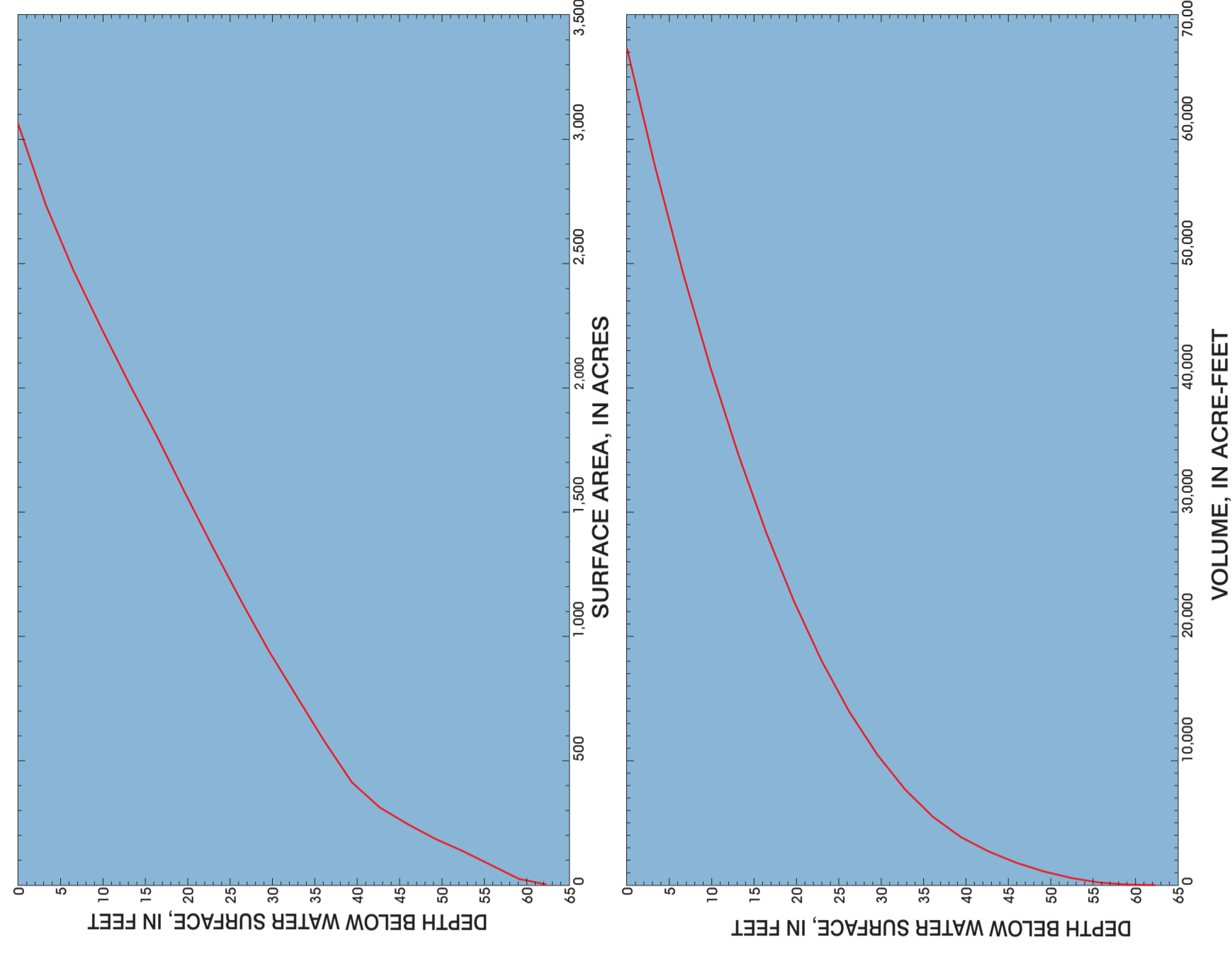


Figure 2. Depth-surface area and depth-volume relations for False River. Water-surface elevation was 15.56 feet above sea level during the bathymetric survey of June 4-5 and July 23-28, 1998.

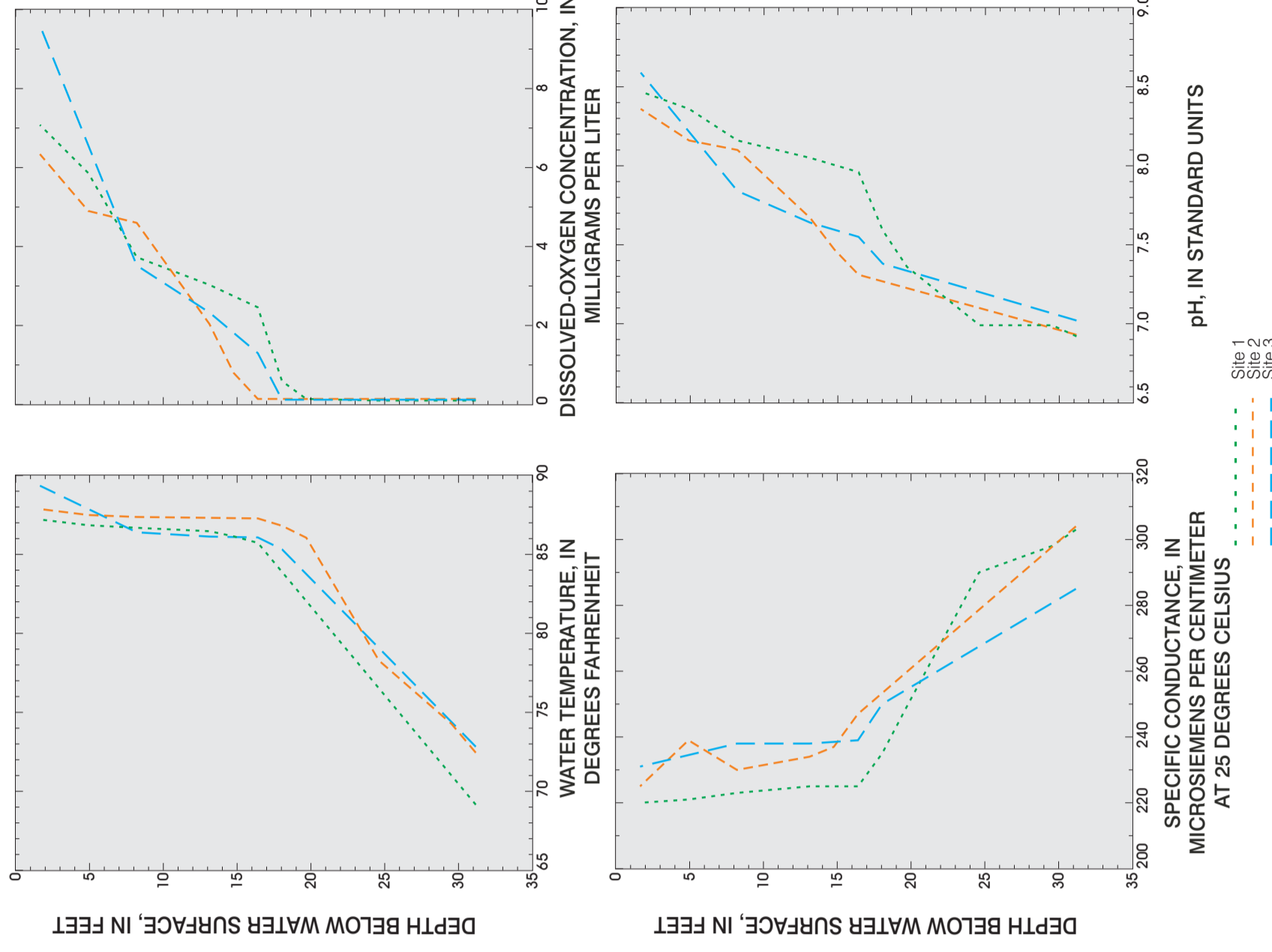


Figure 3. Variation of water temperature, dissolved-oxygen concentration, specific conductance, and pH in False River, July 29, 1998.

Existing Surveys: Chustz

False River Ecological Restoration

GPS Control Surveys

Pointe Coupee Parish, Louisiana



Prepared for
Department of the Army
New Orleans District, Corps of Engineers

Contract No. DACW29-00-D-0011
NOD Project No. 03-061
Task Order No. 34

GPS Summary

Chustz Surveying Inc.
120 North Carolina Ave.
New Roads, LA 70760
225-638-5949



August 2003

False River Ecological Restoration

GPS Control Surveys Summary

- Project Summary

- Data Processing and Network Adjustment Summary

- Adjustment Results
 - Coordinate Listing
 - Baseline Summary
 - Fully Constrained Primary Network
 - Fully Constrained Secondary Network
 - Published Control vs. GPS Comparison
 - OPUS Checks

- Project Map

- Station Descriptions

False River Ecological Restoration Project Summary

On June 10, 2003 Chustz Surveying, Inc. (CSI) received a Request for Proposal from the New Orleans District Corps of Engineers to perform hydrographic surveys of False River in Pointe Coupee Parish near New Roads, Louisiana. Soundings and/or rod readings were to be taken on the river bottom to differentiate between soft, unconsolidated sediments (or sediment fluff) from the original river bottom (or hard bottom) characterized by stiff, consolidated sediments. This would require the use of dual frequency echosounding equipment and conventional lead weight equipment to differentiate between the sediment fluff and hard bottom.

To control the water surface elevation required to reduce the hydrographic data, CSI was additionally requested to establish elevations on four marks referenced to the NAVD88 datum. Existing gages on the river were to be conventionally tied to this datum. The scope of work requested that CSI set one deep rod PBM on the south end of the river. After careful consideration and conclusion that the area surrounding False River was void of good published control CSI decided to set deep rods for the remaining three required points at no extra charge to the NOD. Ultimately the survey data would be submitted to NGS for inclusion in their data base.

The project work effort was estimated and negotiated with NOD resulting in a Delivery Order with Notice to Proceed issued on July 8, 2003. All monument materials were acquired and the four deep rods were set. The GPS surveys were conducted on Julian days 202, 203, 204 and 205 as per NOAA Technical Memorandum NOS58.

False River Ecological Restoration GPS Survey

GPS Data Processing and Network Adjustments

Trimble Geomatics Office version 1.60 was used to download GPS field data and Trimble GPSurvey version 2.35a software was used to process GPS data collected on July 21-24, 2003 in the False River area of Louisiana. All observations were made with Trimble 4400 and Trimble 5700 geodetic receivers equipped with: Trimble Micro Centered L1/L2 geodetic antennas with ground planes, Trimble Compact L1/L2 geodetic antennas with ground planes, and Trimble Zephyr geodetic antennas with ground planes. Meteorological data was also collected at each observation, and visibility diagrams were made for each occupation.

PRIMARY NETWORK

The Primary Network consists of: NGS Stations A-order monument "Louisiana Center of Population" (PID DE5745), "B205" (PID BJ0749), "V206" (PID BJ0083), and "Z281" (PID BJ0052) and Corps of Engineers levee monument 16 ABLDAPA (PID BJ0077). Occupation times ranged from 7 to 8 hours, and were conducted on 3 different days and different times of day. CORS data were downloaded for each of the three days of occupations from the two (2) nearest CORS stations: HAMM (Hammond CORS ARP, PID AJ7833), and KJUN CORS ARP (PID AJ7830).

The vectors were processed with the Rapid IGR Precise Ephemerides, and a minimally-constrained least-squares adjustment was performed holding to the published ARP Latitude, Longitude and Ellipsoid height values of HAMM. The derived values for KJUN were compared with its published values, and they agreed closely.

Next, a fully-constrained GPS Network adjustment was performed constraining to the published values of both CORS stations. After applying the appropriate scalar and station weighing factors, the adjustment was finalized. The error ellipses indicated that horizontal and vertical precisions at the 95% confidence level were all less than two (2) centimeters. GEOID99 was used in conjunction with the adjusted ellipsoid heights derived, to determine the NAVD88 elevations of the five (5) stations.

SECONDARY NETWORK

The Secondary Network consisted of nine (9) stations including four (4) new stations and the five (5) previously established primary network stations. Occupation times were at least two (2) hours and the number of occupations for each station ranged from 2-4 hours.

Vectors were processed with the Rapid IGR Precise Ephemerides, and the final results of the processing yielded all "fixed" or "iono- free fixed" solutions.

These vectors were loaded into the adjustment and a minimally constrained least squares network adjustment was performed constraining to the Primary Network coordinates and ellipsoid height of A-order sta. "CPOP" (Louisiana Center of Population PID DE5745). The other Primary Network stations were then compared. The values of the remaining four (4) Primary Network stations checked very closely. Next, a fully-constrained network adjustment was made, constraining to all five (5) of the Primary Network stations. The adjustment had only three (2) small outliers in 90 vectors, and after they were disabled and a scalar factor of 4.0 was applied, the fully-constrained adjustment passed the chi square test. The statistics indicated an excellent adjustment. The final, fully-constrained Secondary Network adjustment resulted in 95% confidence value error ellipses that were < .02 m in both horizontal and vertical components.

GEOID99 was used in conjunction with the final ellipsoid heights of both Primary and Secondary networks to calculate the orthometric heights in NAVD88 datum.

Finally, CORPSCON was used to convert the geographic coordinates and metric orthometric heights to Louisiana State Plane South (Zone 1702) X and Y coordinates and NAVD88 elevations all in U.S. Survey feet.

False River Ecological Restoration

GPS Control Surveys

Contract No. DACW29-00-D-0011

NOD Project No. 03-061, Task Order No. 34

Coordinate Listing

Horizontal Datum: NAD83, Louisiana South,

Vertical Datum: NAVD88

Station	GPS Name	Latitude	Longitude	Northing (feet)	Easting (feet)	Orth. Ht. (meters)	Orth. Ht. (feet)
False 1	FAL1	30 40 29.179403	91 28 14.708261	790,925.11	3,237,630.16	10.588	34.74
False 2	FAL2	30 37 26.511825	91 28 52.826608	772,473.72	3,234,277.43	10.497	34.44
False 3	FAL3	30 36 33.489650	91 26 14.418372	767,101.54	3,248,113.53	10.361	33.99
Stella	STEL	30 41 21.930203	91 24 57.042446	796,238.21	3,254,896.27	5.42	17.78

Baseline Summary

Secondary Network

From Station Short Name	To Station Short Name	Solution Type	Slope	Ratio	Reference Variance	Ant. Ht. (From)	Ant. Ht. (To)
16AB	FAL3	Iono free fixed	10730.698	17.4	1.328	2.000	2.000
16AB	FAL3	Iono free fixed	10730.73	1.7	8.639	2.000	2.000
16AB	V206	Iono free fixed	6732.795	2	9.717	2.000	2.000
16AB	V206	Iono free fixed	6732.778	7.5	0.72	2.000	2.000
CPOP	FAL1	L1 fixed	2930.824	4.1	16.394	2.000	2.000
CPOP	FAL1	L1 fixed	2930.82	7.7	6.369	2.000	2.000
CPOP	FAL1	L1 fixed	2930.82	22.4	4.458	2.000	2.000
CPOP	FAL1	L1 fixed	2930.815	2.4	12.259	2.000	2.000
CPOP	STEL	L1 fixed	4130.648	1.6	43.517	2.000	2.000
CPOP	STEL	L1 fixed	4130.647	12	6.984	2.000	2.000
CPOP	STEL	L1 fixed	4130.646	3.3	7.977	2.000	2.000
CPOP	Z281	Iono free fixed	7806.582	2.6	1.517	2.000	2.000
CPOP	Z281	Iono free fixed	7806.587	2.7	1.453	2.000	2.000
FAL1	FAL2	Iono free fixed	5716.125	6.6	1.798	2.000	2.000
FAL1	FAL2	Iono free fixed	5716.124	2.2	4.699	2.000	2.000
FAL1	FAL2	Iono free fixed	5716.122	16	1.842	2.000	2.000
FAL1	FAL2	Iono free fixed	5716.12	3.6	2.98	2.000	2.000
FAL2	B205	Iono free fixed	10680.673	19.4	1.774	2.000	2.000
FAL2	B205	Iono free fixed	10680.675	1.8	2.724	2.000	2.000
FAL2	FAL3	L1 fixed	4524.038	5.3	40.207	2.000	2.000
FAL2	FAL3	L1 fixed	4524.046	24.9	5.737	2.000	2.000
FAL2	Z281	Iono free fixed	12507.136	2	1.475	2.000	2.000
FAL3	STEL	Iono free fixed	9118.411	1.5	8.876	2.000	2.000
FAL3	V206	Iono free fixed	11768.172	1.6	10.47	2.000	2.000
STEL	16AB	Iono free fixed	6449.812	1.9	4.472	2.000	2.000
STEL	16AB	Iono free fixed	6449.809	3.6	0.701	2.000	2.000
STEL	CPOP	L1 fixed	4130.651	4	22.617	2.000	2.000
STEL	FAL3	Iono free fixed	9118.384	2.9	1.139	2.000	2.000
V206	FAL3	Iono free fixed	11768.149	11.7	1.432	2.000	2.000
Z281	FAL2	Iono free fixed	12507.13	2.8	1.593	2.000	2.000

False River Ecological Restoration

GPS Control Surveys

Contract No. DACW29-00-D-0011

NOD Project No. 03-061, Task Order No. 34

Fully Constrained Primary Network

Horizontal Datum: NAD83 CORS & Louisiana South

Vertical Datum: NAVD88

GEOID Model: GEOID99

* indicates Horizontal and Vertical Constraints to CORS Stations

Station	Latitude	Longitude	Northing (feet)	Eastings (feet)	Geoid Ht. (meters)	Ellip. Ht. (meters)	Orth. Ht. (meters)	Orth. Ht. (feet)
16AB	30 40 18.045262	91 21 06.270210	789,774.74	3,275,045.73	-27.227	-16.836	10.391	34.091
B205	30 33 16.779464	91 33 31.023004	747,282.53	3,209,920.34	-27.325	-18.200	9.125	29.938
CPOP	30 41 55.129346	91 27 27.423669	799,604.33	3,241,768.97	-27.225	-18.936	8.289	27.195
HAMM*	30 30 47.051590	90 28 03.428730			-27.032	7.270	34.302	112.539
KJUN*	30 13 16.947340	92 02 42.388660			-27.370	-5.560	21.810	71.555
V206	30 37 11.312061	91 18 54.756837	770,908.43	3,286,534.22	-27.226	-17.231	9.995	32.792
Z281	30 43 41.298975	91 31 53.845714	810,364.00	3,218,526.36	-27.217	-16.668	10.549	34.610

False River Ecological Restoration

GPS Control Surveys

Contract No. DACW29-00-D-0011

NOD Project No. 03-061, Task Order No. 34

Fully Constrained Secondary Network

Horizontal Datum: NAD83, Louisiana South,

Vertical Datum: NAVD88

GEOID Model: GEOID99

* indicates Primary Network results used as constraints

Station	Latitude	Longitude	Northing (feet)	Easting (feet)	Geoid Ht. (meters)	Ellip. Ht. (meters)	Orth. Ht. (meters)	Orth. Ht. (feet)
16AB*	30 40 18.045262	91 21 06.270210	789,774.74	3,275,045.73	-27.227	-16.836	10.391	34.09
B205*	30 33 16.779464	91 33 31.023004	747,282.53	3,209,920.34	-27.325	-18.200	9.125	29.94
CPOP*	30 41 55.129346	91 27 27.423669	799,604.33	3,241,768.97	-27.225	-18.936	8.289	27.20
FAL1	30 40 29.179403	91 28 14.708261	790,925.11	3,237,630.16	-27.234	-16.646	10.588	34.74
FAL2	30 37 26.511825	91 28 52.826608	772,473.72	3,234,277.43	-27.254	-16.757	10.497	34.44
FAL3	30 36 33.489650	91 26 14.418372	767,101.54	3,248,113.53	-27.244	-16.883	10.361	33.99
STEL	30 41 21.930203	91 24 57.042446	796,238.21	3,254,896.27	-27.225	-21.805	5.42	17.78
V206*	30 37 11.312061	91 18 54.756837	770,908.43	3,286,534.22	-27.226	-17.231	9.995	32.79
Z281*	30 43 41.298975	91 31 53.845714	810,364.00	3,218,526.36	-27.217	-16.668	10.549	34.61

False River Ecological Restoration

Published Control vs. GPS Control

Primary Network

Horizontal Datum: NAD83 (CORS)

Vertical Datum: NAVD88

Geoid Model: Geoid 99

Coordinate System: Lamber State Plane
Louisiana South Zone (1702)

Horizontal Comparison

PID	Designation	Horiz Order	Published Data (ft)		GPS Adjustment (ft)		Delta's (ft)	
			Northing	Eastng	Northing	Eastng	Northing	Eastng
DE5745	CPOP	A	799,604.42	3,241,768.95	799,604.33	3,241,768.97	0.088	-0.024
BJ0077	16ABLDAPA	Scaled	789,762.20	3,275,059.07	789,774.74	3,275,045.73	-12.540	13.340
BJ0749	B205	Scaled	747,308.22	3,210,000.14	747,282.53	3,209,920.34	25.690	79.800
BJ0083	V206	Scaled	771,094.26	3,286,607.60	770,908.43	3,286,534.22	185.830	73.380
BJ0052	Z281	Scaled	810,529.88	3,218,858.39	810,364.00	3,218,526.36	165.880	332.030

Vertical Comparison

PID	Designation	Vert Order/Class	NAVD88 (ft)		Delta's (ft)	Stability
			Published	GPS-Derived		
DE5745	CPOP	Scaled	26.00	27.20	1.20	C
BJ0077	16ABLDAPA	First, Class 1	34.27	34.09	-0.18	B
BJ0749	B205	First, Class 1	30.19	29.94	-0.25	D
BJ0083	V206	First, Class 1	33.11	32.79	-0.32	C
BJ0052	Z281	First, Class 1	34.60	34.61	0.01	D

OPUS solution _ z2812042_03o.txt

From: <opus@ngs.noaa.gov>
To: <lhines@chustz.com>
Subject: OPUS solution : z2812042.03o
Date: Tuesday, August 05, 2003 4:40 PM

FILE: z2812042.03o

2004 WARNING! The IGS precise orbit was not available at processing
2004 time. The IGS rapid orbit was/will be used to process the data.
2004

NGS OPUS SOLUTION REPORT
=====

USER: lhines@chustz.com
RINEX FILE: z2812042.03o

DATE: August 05, 2003
TIME: 21:53:23 UTC

SOFTWARE: page5 0203.19 ./master.pl
EPHEMERIS: igr12283.eph [rapid]
NAV FILE: brdc2040.03n
ANT NAME: TRM41249.00
ARP HEIGHT: 2.0

START: 2003/07/23 05:06:00
STOP: 2003/07/23 12:30:00
OBS USED: 13428 / 13728 : 98%
FIXED AMB: 56 / 64 : 88%
OVERALL RMS: 0.028(m)

REF FRAME: ITRF00 (EPOCH:2003.5572)

X: -146672.706(m) 0.008(m)
Y: -5485476.875(m) 0.054(m)
Z: 3240012.583(m) 0.009(m)

LAT: 30 43 41.31821 0.023(m)
E LON: 268 28 6.12923 0.006(m)
W LON: 91 31 53.87077 0.006(m)
EL HGT: -18.135(m) 0.049(m)

UTM: Zone 15
NORTHING: 3400394.678(m)
EASTING: 640582.931(m)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AJ7830	KJUN KJUN CORS ARP	N301316.947	W0920242.388	74747.8
	1LSU			48993.7
AJ7833	HAMM HAMMOND CORS ARP	N303047.051	W0902803.428	104764.6

This position was computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

OPUS solution _ cpop2020_03o.txt

From: <opus@ngs.noaa.gov>
To: <lhines@chustz.com>
Subject: OPUS solution : cpop2020.03o
Date: Tuesday, August 05, 2003 4:10 PM

FILE: cpop2020.03o

2004 WARNING! The IGS precise orbit was not available at processing
2004 time. The IGS rapid orbit was/will be used to process the data.
2004

NGS OPUS SOLUTION REPORT
=====

USER: lhines@chustz.com
RINEX FILE: cpop2020.03o

DATE: August 05, 2003
TIME: 21:22:44 UTC

SOFTWARE: page5 0203.19 ./master.pl
EPHEMERIS: igr12281.eph [rapid]
NAV FILE: brdc2020.03n
ANT NAME: TRM41249.00
ARP HEIGHT: 2.0

START: 2003/07/21 18:39:00
STOP: 2003/07/22 02:59:30
OBS USED: 16192 / 16948 : 96%
FIXED AMB: 85 / 95 : 89%
OVERALL RMS: 0.022(m)

REF FRAME: ITRF00 (EPOCH:2003.5533)

X: -139629.698(m) 0.005(m)
Y: -5487329.209(m) 0.005(m)
Z: 3237200.511(m) 0.022(m)

LAT: 30 41 55.14882 0.016(m)
E LON: 268 32 32.55122 0.005(m)
W LON: 91 27 27.44878 0.005(m)
EL HGT: -20.349(m) 0.016(m)

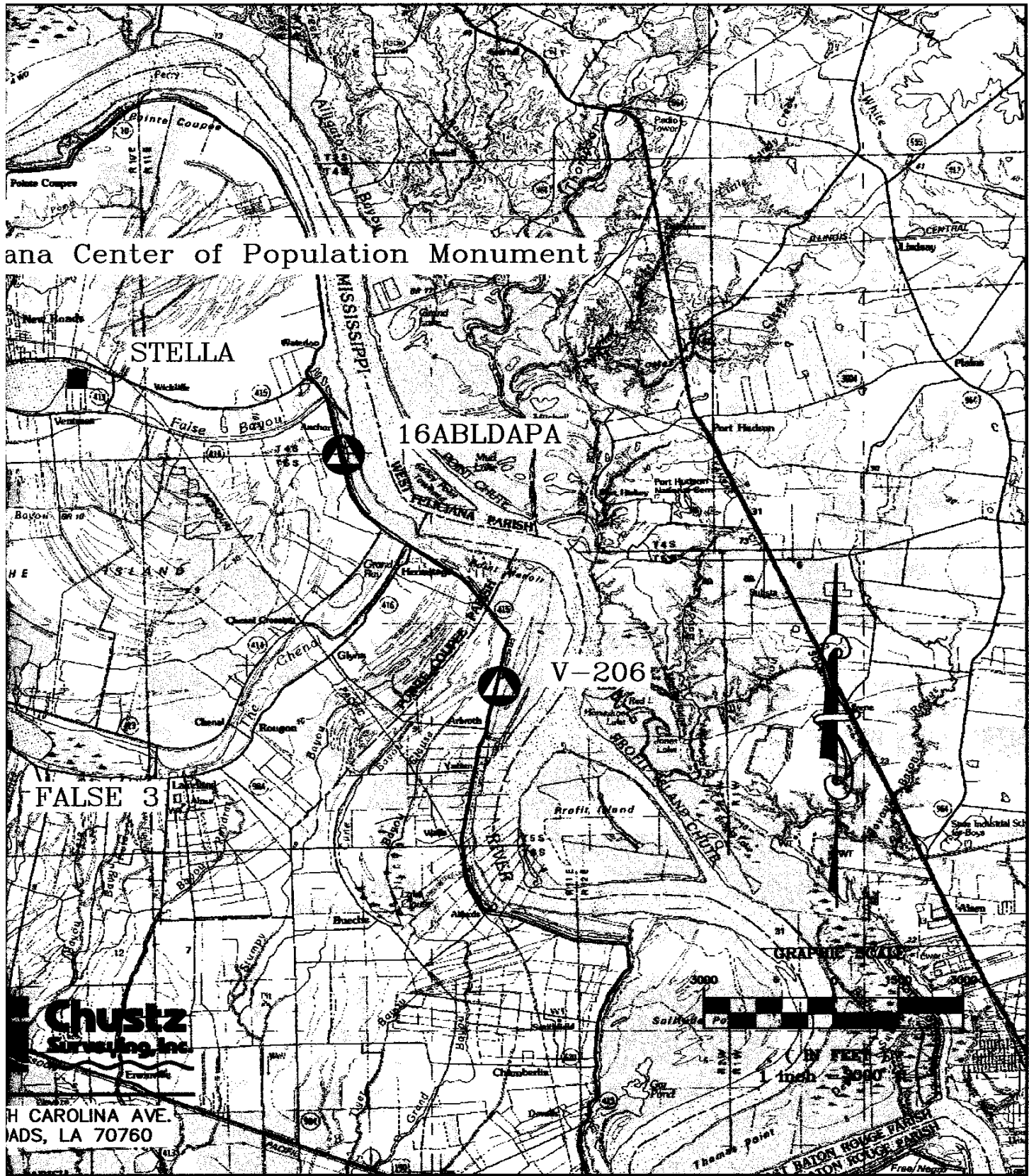
UTM: Zone 15
NORTHING: 3397221.008(m)
EASTING: 647714.098(m)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AJ7830	KJUN KJUN CORS ARP	N301316.947	W0920242.388	77348.4
	ILSU			41839.9
AJ7833	HAMM HAMMOND CORS ARP	N303047.051	W0902803.428	97138.0

This position was computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

ana Center of Population Monument



Chustz
Surveying, Inc.
1000 N. CAROLINA AVE.
MONROE, LA 70760

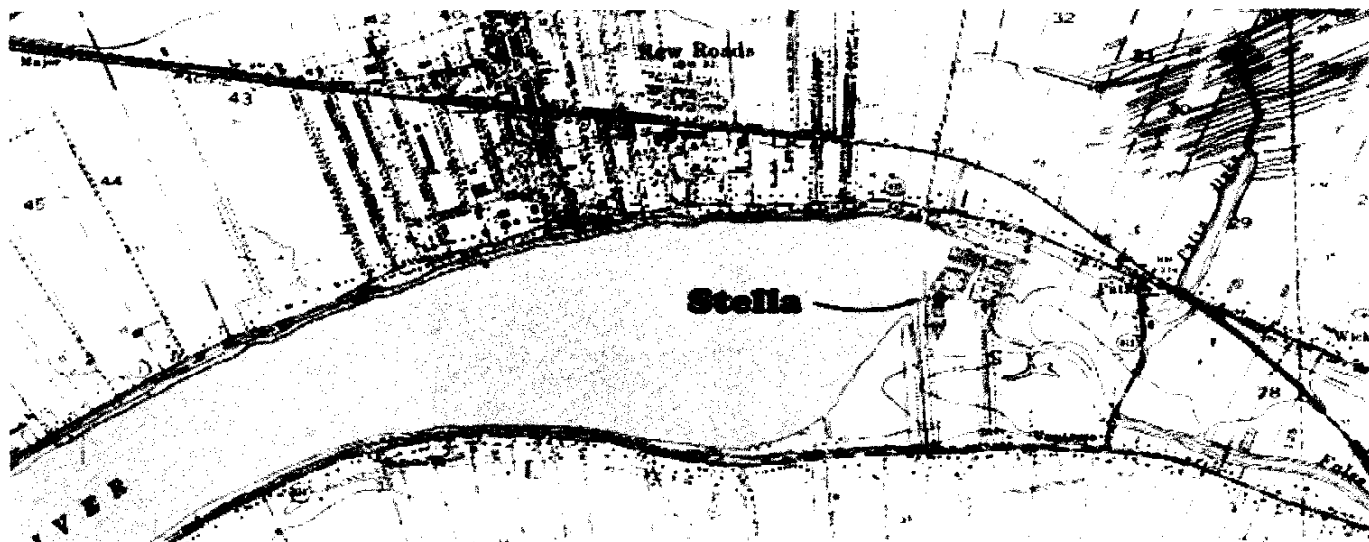
NOTES:

COE JOB NO. 03-061
CONTRACT NO. DACW29-00-D-0011
TASK ORDER NO. 34
TITLE: FALSE RIVER ECOLOGICAL RESTORATION
GPS CONTROL SURVEYS
HORIZONTAL DATUM: NAD-1983
VERTICAL DATUM: NAVD 88, POST-83 EPOCH
UNITS: U.S. SURVEY FEET
PROJECTION: LAMBERT, LOUISIANA SOUTH ZONE

LEGEND:

- DEEP ROD MONUMENT SET
- PUBLISHED MONUMENT FOUND





Vicinity Map

Reference USC&GS Quadrangle "New Roads"

Station Name: "STELLA"

Monument Location: To reach the station from the Court House in New Roads, LA, go East on East Main Street for 1.65 miles to American Legion Road, right (South) for 0.55 mile to Hwy 413, right (West) for 0.4 mile to Lance Street, right (North) for 0.5 mile to Park Street, left (West) for 0.1 mile to Station on the right. Station is between Park Street and a small canal leading to a boat ramp at "Jims Place". Station "STELLA" is 12' south of the south bank of canal, 22' north of the C/L of Park Street, 162' west of the intersection of Park Street and Morel Street.

Monument Description: Monument is a 9/16" stainless steel rod driven to 80 feet with aluminum access cover. Set as per NGS "Specifications and Setting Procedures for Three-Dimensional Monumentation", Appendix H.

Monument Established By:
New Orleans District COE
Chustz Surveying, Inc.
August 2003

Adjusted NAD83 Geodetic Position

Latitude 30° 41' 21.930203" N
Longitude 91° 24' 57.042446" W

Adjusted NAD83

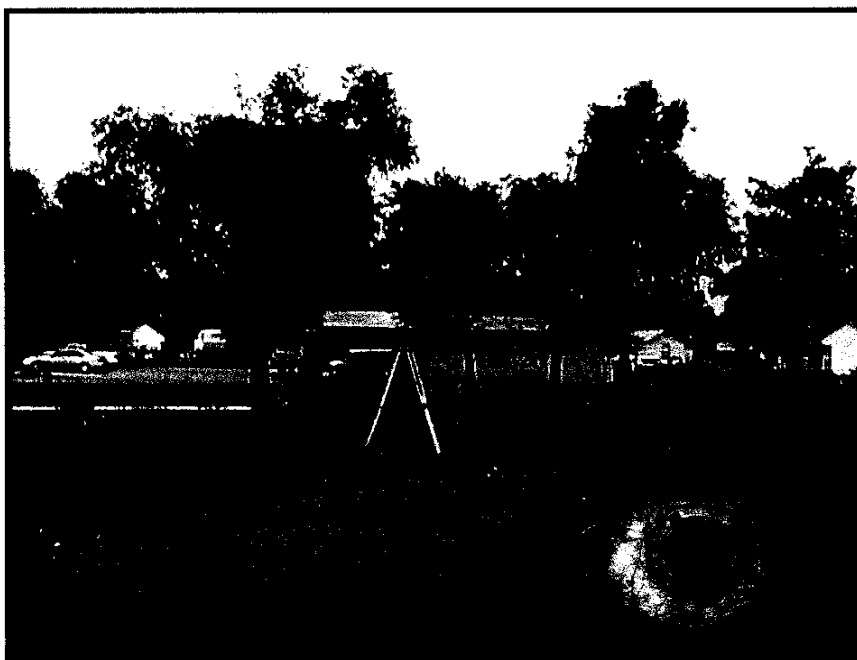
Louisiana South 1702, feet

Northing 796,238.21
Easting 3,254,896.27

Adjusted NAVD88

Orthometric Height

17.78 feet 5.420 meter





Vicinity Map

Reference USC&GS Quadrangle "New Roads"

Station Name: "FALSE 1"

Monument Location: To reach the station from the Court House in New Roads, LA, go West on East Main Street which turns into Hwy 1 at Hwy 3131, continue South on Hwy 1 for a total of 2.65 miles to Station on the left. Station is between the Hwy and False River at the approximate crown of the shoulder of the road. Station "FALSE 1" is 23' south of the C/L of the Hwy, 18' northeast of a dirt driveway leading to the river, and across the Hwy from Bergeron Pecan Company.

Monument Description: Monument is a 9/16" stainless steel rod driven to 80 feet with aluminum access cover. Set as per NGS "Specifications and Setting Procedures for Three-Dimensional Monumentation", Appendix H.

Monument Established By:
 New Orleans District COE
 Chustz Surveying, Inc.
 August 2003

Adjusted NAD83 Geodetic Position

Latitude 30° 40' 29.179403" N
 Longitude 91° 28' 14.708261" W

Adjusted NAD83

Louisiana South 1702, feet

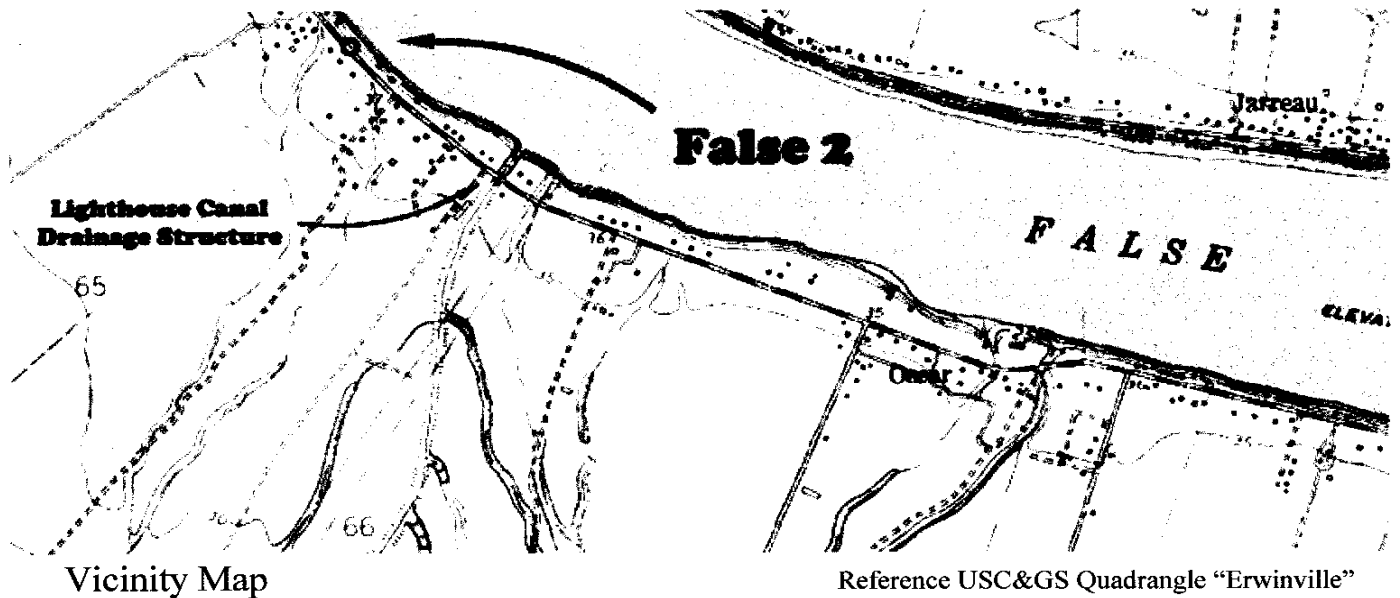
Northing 790,925.11
 Easting 3,237,630.16

Adjusted NAVD88

Orthometric Height

34.74 feet 10.588 meter





Station Name: "FALSE 2"

Monument Location: To reach the station from the Court House in New Roads, LA, go West on East Main Street which turns into Hwy 1 at Hwy 3131, continue South on Hwy 1 for a total of 6.65 miles to Station on the left. Station is between the Hwy and False River at the approximate crown of the shoulder of the road. Station "FALSE 2" is 25' northeast of the C/L of the Hwy, 54' southeast of a driveway leading to a camp on False River.

Monument Description: Monument is a 9/16" stainless steel rod driven to 80 feet with aluminum access cover. Set as per NGS "Specifications and Setting Procedures for Three-Dimensional Monumentation", Appendix H.

Monument Established By:
 New Orleans District COE
 Chustz Surveying, Inc.
 August 2003

Adjusted NAD83 Geodetic Position

Latitude 30° 37' 26.511825" N
 Longitude 91° 28' 52.826608" W

Adjusted NAD83

Louisiana South 1702, feet

Northing 772,473.72
 Easting 3,234,277.43

Adjusted NAVD88

Orthometric Height

34.44 feet 10.497 meter





Vicinity Map

Reference USC&GS Quadrangle "Erwinville"

Station Name: "FALSE 3"

Monument Location: To reach the station from the Court House in New Roads, LA, go West on East Main Street which turns into Hwy 1 at Hwy 3131, continue South on Hwy 1 for a total of 9.5 miles to Station on the left. Station is between the Hwy and False River at the approximate crown of the shoulder of the road. Station "FALSE 3" is 24' northeast of the C/L of the Hwy, 89' northwest of a fire hydrant and across the Hwy from a new house under construction at 6436 False River Road (Hwy 1).

Monument Description: Monument is a 9/16" stainless steel rod driven to 80 feet with aluminum access cover. Set as per NGS "Specifications and Setting Procedures for Three-Dimensional Monumentation", Appendix H.

Monument Established By:
 New Orleans District COE
 Chustz Surveying, Inc.
 August 2003

Adjusted NAD83 Geodetic Position

Latitude 30° 36' 33.489650" N
 Longitude 91° 26' 14.418372" W

Adjusted NAD83

Louisiana South 1702, feet

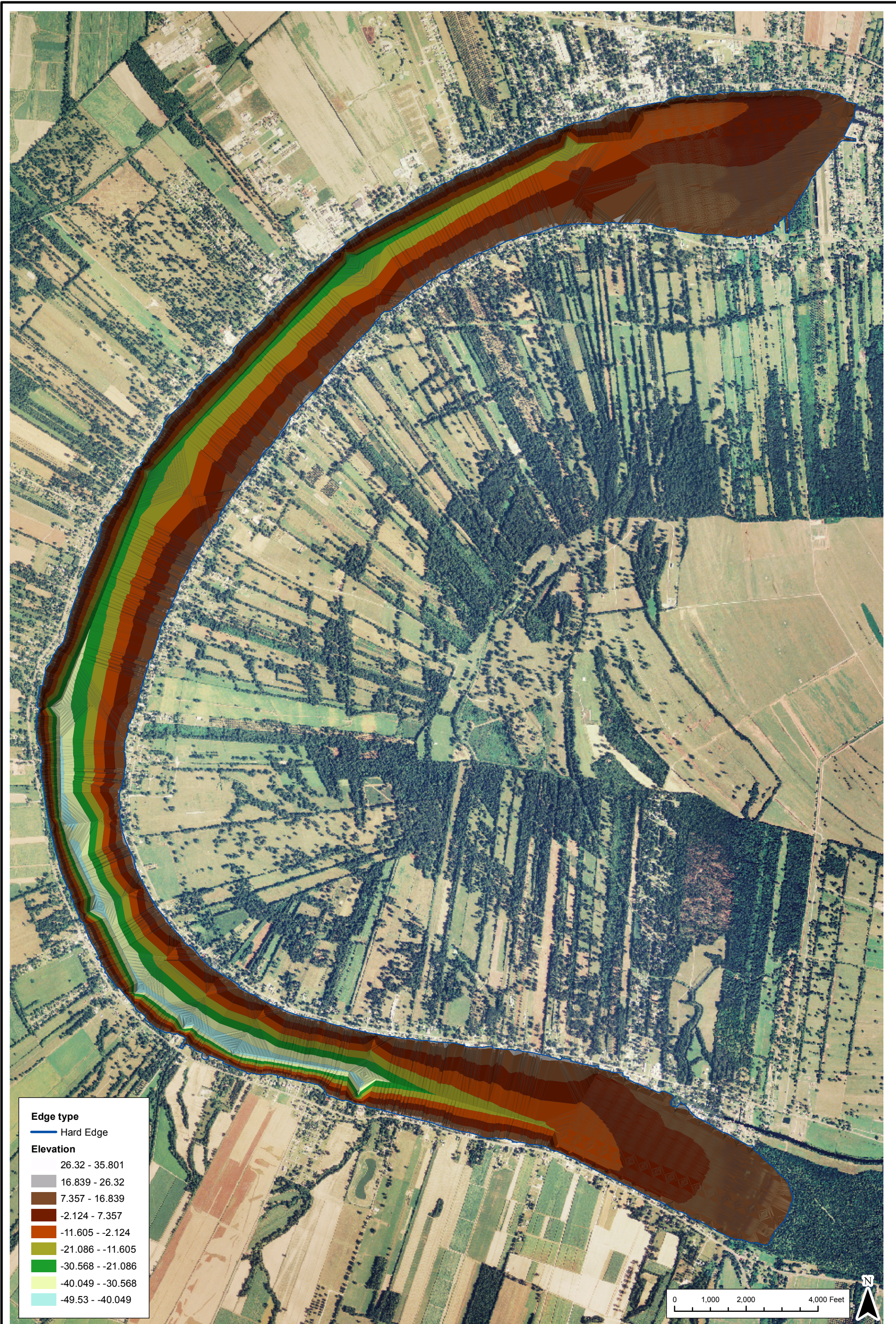
Northing 767,101.54
 Easting 3,248,113.53

Adjusted NAVD88

Orthometric Height

33.99 feet 10.361 meter





False River High Frequency Bathymetry

Pointe Coupee Parish, Louisiana

Data Sources & Dates. NAIP 2007 Parish Mosaic, Pointe Coupee Parish, Louisiana



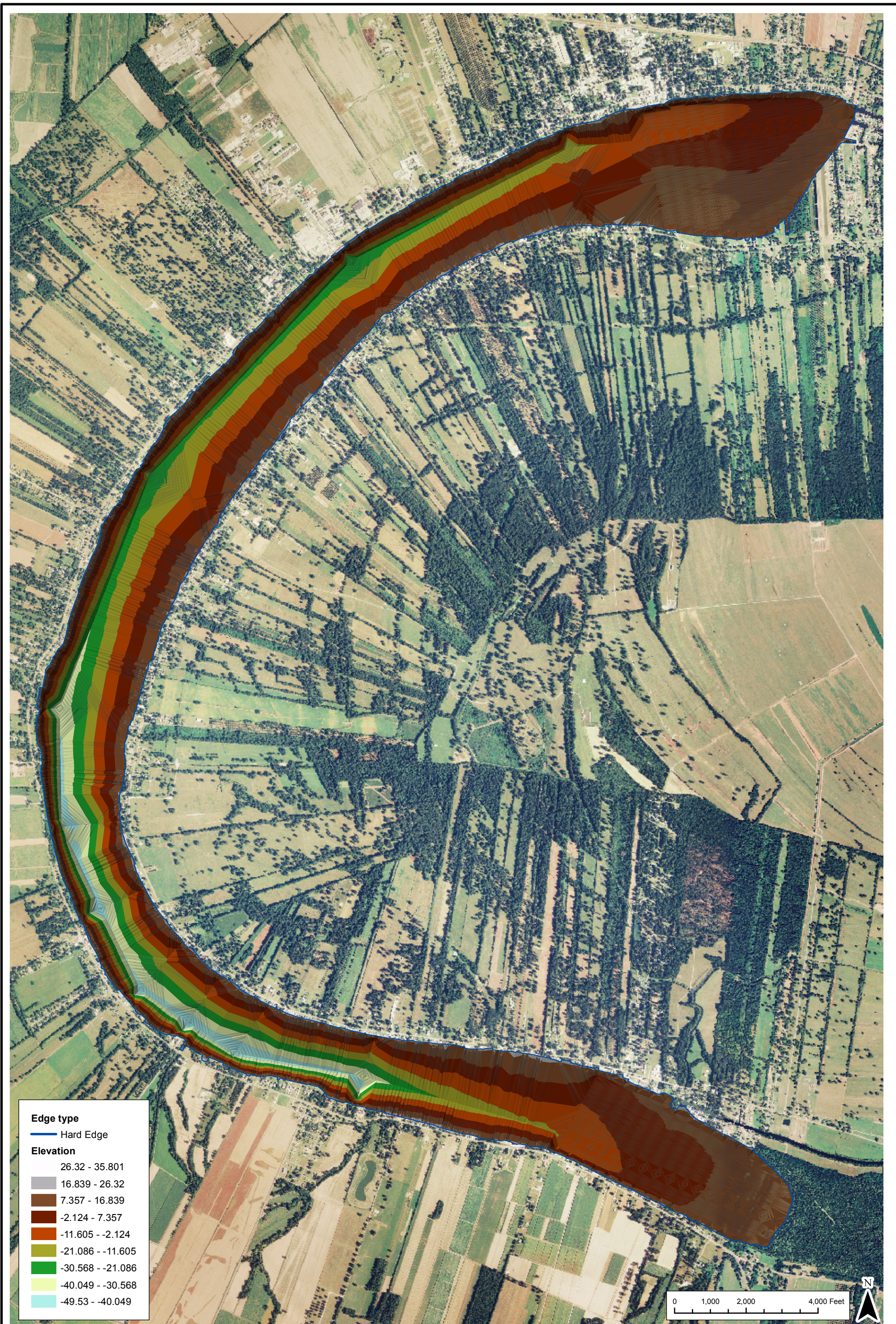
Figure: 1

Date: November 2009

Scale: 1:30,000

Source: NAIP 2007

Map ID: 273161006



False River Low Frequency Bathymetry

Pointe Coupee Parish, Louisiana

Data Sources & Dates. NAIP 2007 Parish Mosaic, Pointe Coupee Parish, Louisiana



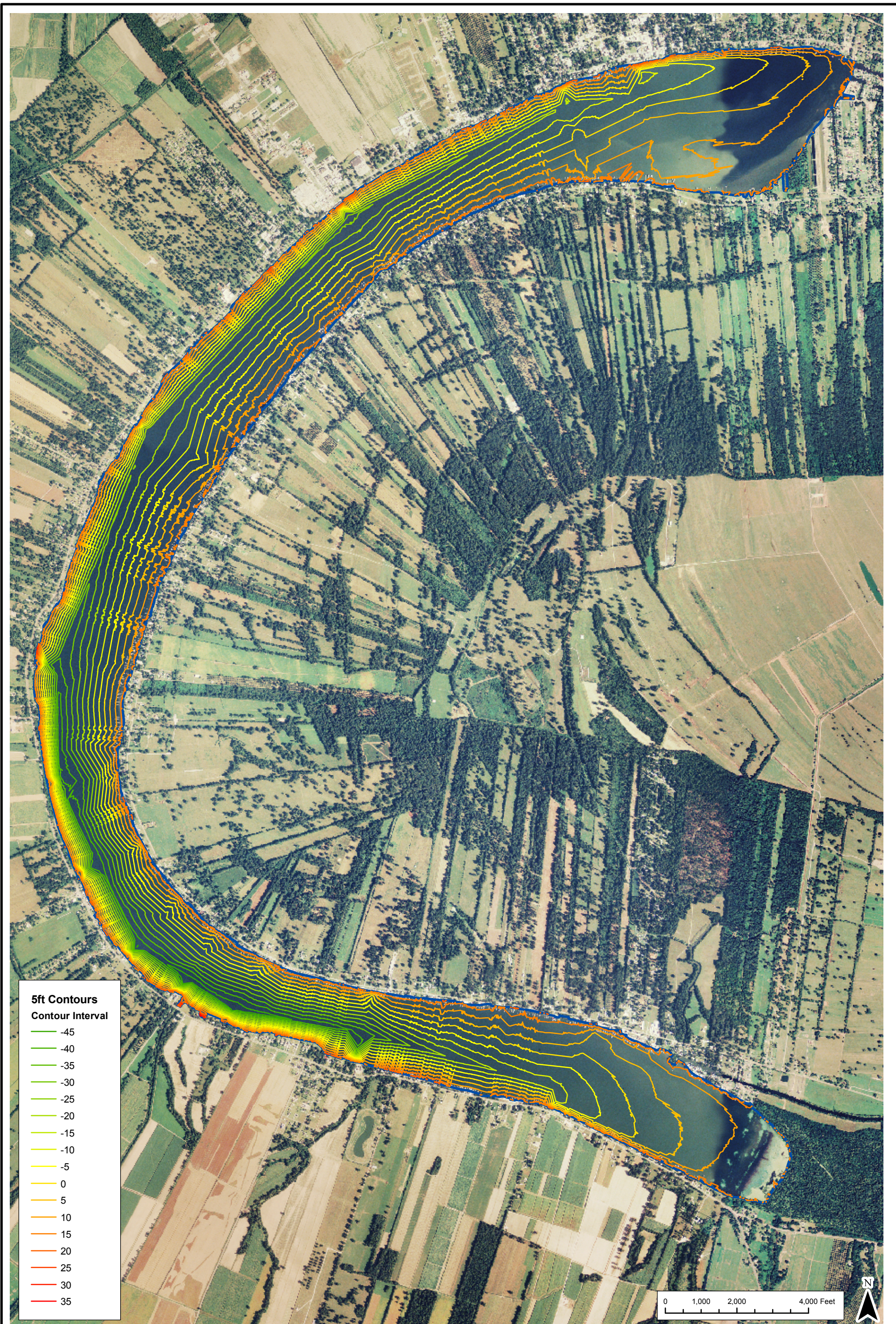
Figure: 2

Date: November 2009

Scale: 1:30,000

Source: NAIP 2007

Map ID: 273161006



False River High Frequency Contours

Pointe Coupee Parish, Louisiana

Data Sources & Dates. NAIP 2007 Parish Mosaic, Pointe Coupee Parish, Louisiana



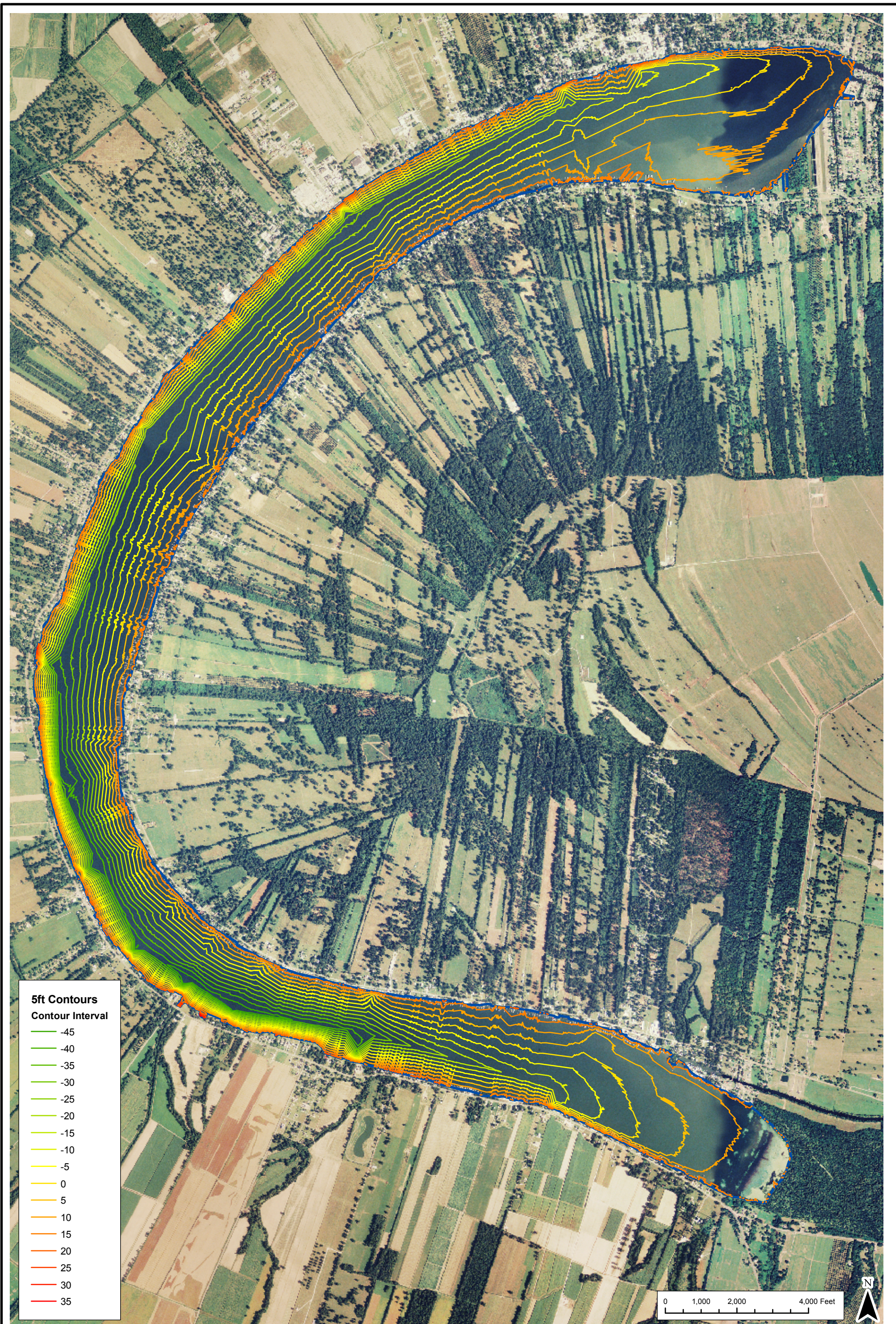
Figure: 3

Date: November 2009

Scale: 1:30,000

Source: NAIP 2007

Map ID: 273161006



False River Low Frequency Contours

Pointe Coupee Parish, Louisiana

Data Sources & Dates. NAIP 2007 Parish Mosaic, Pointe Coupee Parish, Louisiana



Figure: 4

Date: November 2009

Scale: 1:30,000

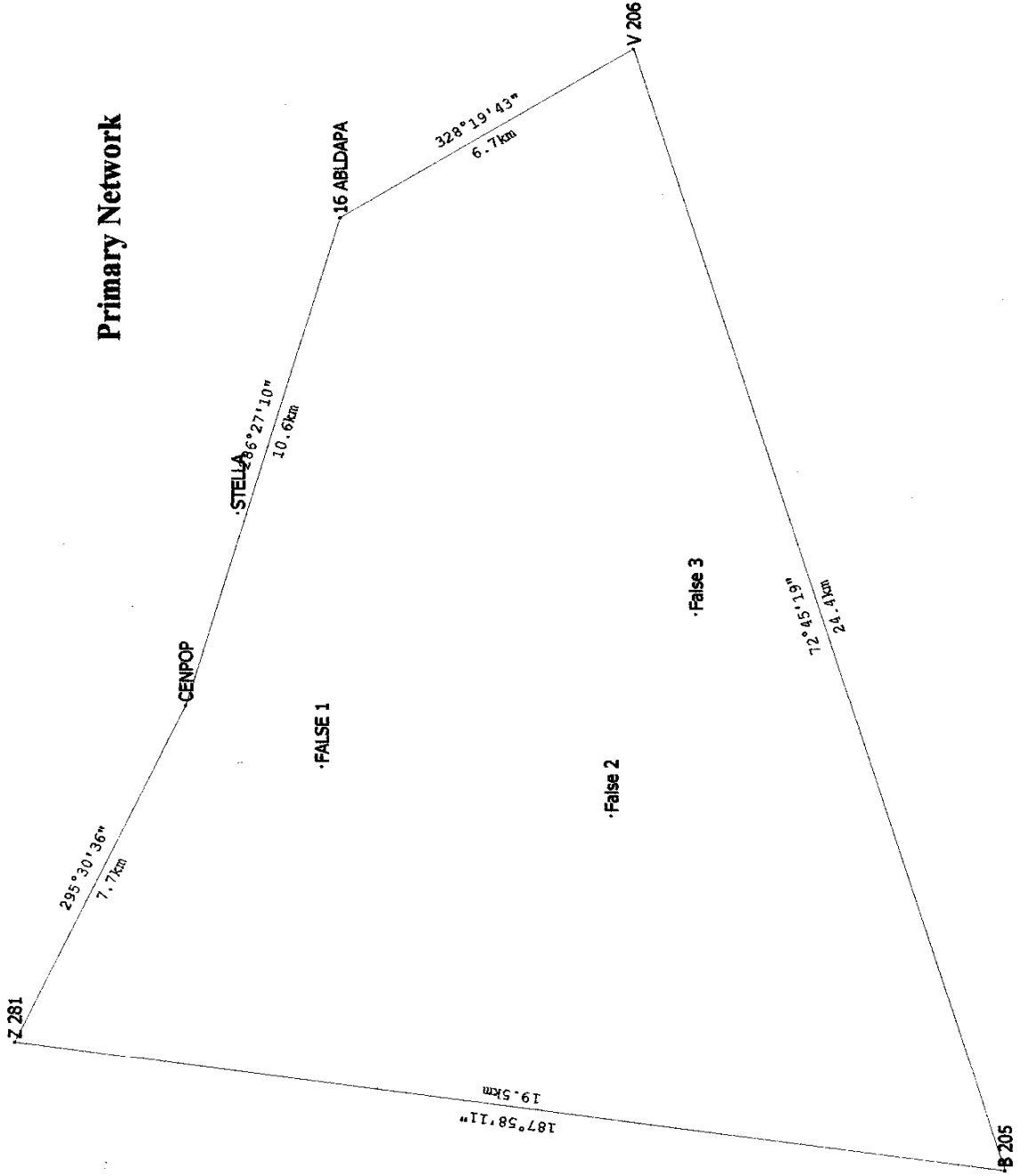
Source: NAIP 2007

Map ID: 273161006



1:125000

Primary Network



Static GPS Checkin Log

Project: FALSE RIVER GPS Date 21 JULY 03
 Network / Survey PRIMARY / SURVEY 1 Julian Day 202
 Log sheet file 202 0 LOG.PDF Session 0
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS GOE

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
5700 / 9027	DEGLANDON	—	9027 2020	9027 2020
5700 / 7009	OUBRE	—	7009 2020	7009 2020
4400 / TDC-1	LANGSTON	202 A	16 AB 2020	16 AB
4400 / TDC-1	PHILLIPS	202 B	V 206 2020	V 206
4400 / TSC-1	DUPONT	202 C	B 205 2020	B 205

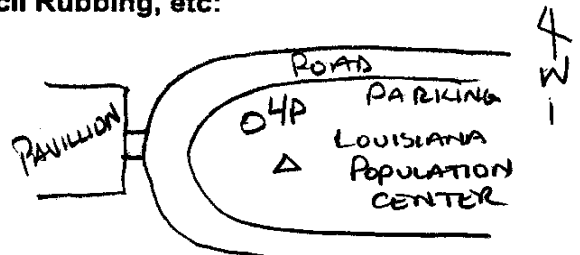
ALL OCCUPATIONS ON FIXED HEIGHT ZMT. TRIPODS

Checkin Edits

- * PT NAME 9027 2020 CHANGED TO "CEN POP", ANT. HT. CHANGED TO 2.000 MT. AND BOTTOM OF MOUNT. POWER FAILURE 13:39 TO 16:14 BUT 5700 RECVR. MAINTAINED 1 DATA FILE.
- * PT NAME 7009 2020 CHANGED TO "ZZ81" ANT. HT CHANGED TO 2.000 MT. AND BOTTOM OF MOUNT. POWER FAILURE 17:52 → 18:06.
- * PT NAME 16 AB CHANGED TO "16 AB/DAPA" AND MEASURED TO BOTTOM OF MOUNT.
- * PT NAME V206 GOOD! CHANGE ANT. HT MEASURED TO BOTTOM OF MOUNT
- * PT NAME B205 GOOD! NO EDITS TO THIS FILE!

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) LOUISIANA POPULATION CENTER	Station PID, if any: DE5745	Date (UTC): 21 JULY 03
	General Location: FALSE RIVER PARK, NEW ROADS, LA.	Station 4-Character ID: CPOP	Day of Year: 202
Project Name: GPS CONTROL FALSE RIVER, LA.		Project Number: CSI GPS-03-030	Station Serial # (SSN): 0
(92) NAD83 Latitude 30° 41' 55.13019	NAD83 Longitude 091° 27' 27.42343	NAD83 Ellipsoidal Height -19.07 meters	Agency Full Name: CHUSTZ SURVEYING
Observation Session Times (UTC): Sched. Start 1339 Stop 2230 Epoch Interval = 15 Seconds	Elevation Actual Start 1339 Stop 2235 Mask = 15 Degrees	NAVD88 Orthometric Ht. SEALED 8.0 meters	Operator Full Name: MIKE DEGLANDON
GPS Receiver: TRIMBLE Manufacturer & Model: 5700 P/N: 40406-00 S/N: 220279027 Firmware Version: 1.24 • CamCorder Battery, (12V DC) • 110V AC • Other		GPS Antenna: TRIMBLE Manufacturer & Model: ZEPAYR GEODETIC P/N: 41249-00 DC 4137 S/N: 11890377 Cable Length, meters: 10 MT. Vehicle is Parked 20 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) -if no, Weather observed at antenna ht. <input checked="" type="radio"/> (Y) <input type="radio"/> (N) explain Antenna ground plane used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna radome used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) if yes, Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) describe. Any obstructions above 10'? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Use Radio interference source nearby? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Vis. form
Tribrach or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tribrach • <input type="radio"/> Slip-Leg Tribrach • <input type="radio"/> Fixed Mount Manufacturer & Model: SELO P/N: N/A S/N: N/A Fixed HT! Last Calibration date: 21 JULY 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
Tribrach: Check one: <input checked="" type="radio"/> None, <input type="radio"/> Wild GDF 22, • <input type="radio"/> Topcon, • Other (describe) Last Calibration date:		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) 2.000 Please note &/or sketch ANY unusual conditions. Height Entered into Receiver = 2.000 meters. Be Very Explicit as to where and how Measured!	
Barometer: BARIGO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03		Weather DATA	
Psychrometer: Manufacturer & Model: BACHARACH S/N: 89050 12-7011		Time (UTC)	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:		Dry-Bulb Temp Fahrenheit Celsius	
WetBulb Temp Fahrenheit Celsius		Rel. % Humidity	
Atm. Pressure inches Hg millibar		Weather Codes *	
Average of Readings		* See back of form for codes	
<p>* POWER FAILURE RESTART @ 16:14 *</p> <p>- PARTLY CLOUDY, WINDS N S-10 MPH HOT</p> <p>- PAVILLION WEST COULD CAUSE MULT-PATH</p> <p>- PUBLISHED A-ORDER HORIZ.</p> <p>Note: Entries are Required in all Unshaded areas.</p>			
Data File Name(s): 20030721.DAT (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached <input checked="" type="radio"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="radio"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="radio"/> Submitted earlier Pencil Rubbing of Mark: • Attached <input checked="" type="radio"/> Submitted earlier	
LOG CHECKED BY: 0			

Pt. NAME CHANGED TO CENPOP, ANT AT 2.00 MT, BOT. OF MOUNT



THIS IS SESSION 1 OF 3 PRIMARY

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) Z 281	Station PID, if any: BJ005Z	Date (UTC): 21 July 03				
	General Location: LABARRE, 5 MI. EAST OF MORGANZA LA	Airport ID, if any: Z 281	Station 4-Character ID: Z 281	Day of Year: 202			
Project Name: GPS CONTROL, FALSE RIVER, LA.		Project Number: CS1 GPS- 03-030	Station Serial # (SSN): 0				
NAD83 Latitude 30° 43' 43 (scaled)	NAD83 Longitude 091° 31' 50 (scaled)	NAD83 Ellipsoidal Height — meters	Agency Full Name: CHUSTZ SURVEYING, INC.				
Observation Session Times (UTC): Sched. Start 1405 Stop 2235	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. 10.546 meters	Operator Full Name: KIM OUBRE				
Actual Start 1406 Stop 2236	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.22 meters	Phone #: (225) 638-5949				
GPS Receiver: TRIMBLE Manufacturer & Model: 5700 P/N: 40406-00 S/N: 220287009 Firmware Version: 1.24 • CamCorder Battery, • 12V DC , • 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: ZEPHYR GEODETIC P/N: 41249-00 DC 4223 S/N: 12286295 Cable Length, meters: 10 MT Vehicle is Parked 20 meters S (direction) from antenna.					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • <input type="checkbox"/> Slip-Leg Tripod • <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Fix'd HT. Last Calibration date: 21 JULY 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: <input checked="" type="checkbox"/> None • <input type="checkbox"/> Wild GDF 22 • <input type="checkbox"/> Topcon • <input type="checkbox"/> Other (describe) Last Calibration date:		Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N)					
Before Session Begins: measure and record both Meters AND Feet		After Session Ends: measure and record both Meters AND Feet					
A = Datum point to Top of Tripod (Tripod Height)		FIXED					
B = Additional offset to ARP if any (Tribrach/Spacer)		HEIGHT					
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)							
Note: Meters = Feet X (0.3048) Please note &/or sketch ANY unusual conditions. Height Entered into Receiver = 2.000 meters. Be Very Explicit as to where and how Measured!							
Barometer: BARIBO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	1615	93°	84°	69%	30.45	01111
	Middle	2030	87°	81°	76%	30.30	01111
	After	2240	82°	79°	87%	30.35	01111
Psychrometer: Manufacturer & Model: BACHARACH S/N: 89050 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: POWER FAILURE, BACK UP 18:06 PUBLISHED MONUMENT VERTICAL ORDER FIRST, CLASS I Note: Entries are Required in all Unshaded areas. THIS IS SESS. 1 OF 3 PRIMARY							
Data File Name(s): PT0000.DAT (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: [Signature]			

PT Name CHANGED TO 228100, ANT HT. 2.000 MT, + BOT. OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) 16 ABLDAPA	Station PID, if any: BJ0077	Date (UTC): 21 JULY 03				
	General Location: BIG CAJUN #1 POWER PLANT/LEVEE	Airport ID, if any: 16 AB	Station 4-Character ID: 16 AB				
Project Name: GPS CONTROL, FALSE RIVER LA		Project Number: GPS- 03-030	Station Serial # (SSN): 0				
NAD83 Latitude 30° 40' 18" (SCALED)	NAD83 Longitude 091° 21' 06" (SCALED)	NAD83 Ellipsoidal Height _____ meters	Agency Full Name: CHUSTZ SURVEYING, INC Operator Full Name: MITCH LANGSTON Phone #: (225) 638-5949 e-mail address: LHINES@CHUSTZ.COM				
Observation Session Times (UTC): Sched. Start 1545 Stop 2200	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. 10.444 meters GEOID99 Geoid Height -27.23 meters					
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 W/TDC-1 P/N: 29887-11 S/N: 3614 A15151 Firmware Version: • CamCorder Battery, • 12V DC • 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: COMPACT L1/L2 W/1 GP P/N: 22020-00 S/N: 220066028 Cable Length, meters: 5 M.T. Vehicle is Parked 20 meters N (direction) from antenna.					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • <input type="checkbox"/> Slip-Leg Tripod • <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: JULY 21, 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: <input checked="" type="checkbox"/> None • <input type="checkbox"/> Wild GDF 22 • <input type="checkbox"/> Topcon • <input type="checkbox"/> Other (describe) Last Calibration date:		Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet					
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		A = Datum point to Top of Tripod (Tripod Height) FIXED					
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters.		B = Additional offset to ARP if any (Tribrach/Spacer) HEIGHT					
Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!							
Barometer: BARIBO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	1540	92°	85°	75%	30.6	01111
	Middle	1900	88°	82°	77%	30.3	01111
	After	2210	83°	79°	83%	30.3	01111
Psychrometer: Manufacturer & Model: BACHMACH S/N: 89050 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: PARTLY CLOUDY, HOT VERTICAL ORDER - FIRST CLASS I JOB FILE 202A (TDC-1 A) Note: Entries are Required in all Unshaded areas. THIS IS SESSION 1 OF 3 PRIMARY							
Data File Name(s): 16ABLDAPA.DAT (Standard NGS Format = aaaaadds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached			Submitted earlier Submitted earlier Submitted earlier		LOG CHECKED BY: [Signature]	

PT. NAME CHANGED TO 16ABLDAPA
ANT. HT. MEASURED TO BOT. OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC BM) V 206	Station PID, if any: BJ0083	Date (UTC): 21 JULY 03
	General Location: 7.2 MI N.W FROM DENALL ELEMENTARY	Airport ID, if any: V 206	Station 4-Character ID: V 206
Project Name: GPS CONTROL FALSE RIVER, LA.		Project Number: GPS-03-030	Station Serial # (SSN): 0
NAD83 Latitude 30° 37' 13" (SCALED)	NAD83 Longitude 091° 18' 54" (SCALED)	NAD83 Ellipsoidal Height _____ meters	Agency Full Name: CHOSTZ SURVEYING, INC
Observation Session Times (UTC): Sched. Start 1450 Stop 2200	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. 10.091 meters	Operator Full Name: JAMES PHILLIPS
Actual Start 1452 Stop 2203	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.23 meters	Phone #: (229) 638-5949
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 W/TOL P/N: 29887-11 S/N: 8742A20788 Firmware Version: • CamCorder Battery, (12V DC) , 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: COMPACT LI/L2 P/N: 22020-00 W/GP S/N: 200081649 Cable Length, meters: 10 MT.'S Vehicle is Parked 20 meters N (direction) from antenna.	
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: 5115-00YEL S/N: Last Calibration date: 21 JULY 03		Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N)	
Tribrach: Check one: <input checked="" type="checkbox"/> None, <input type="checkbox"/> Wild GDF 22, • Topcon, • Other (describe) Last Calibration date:		Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use Any obstructions above 10°? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby? <input checked="" type="checkbox"/> (Y/N) Vis. form	
Barometer: BARIGO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
Psychrometer: Manufacturer & Model: BACHARACH S/N: 89050 12-7011		Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet	
Weather DATA		A = Datum point to Top of Tripod (Tripod Height) FIXED	
Time (UTC)		B = Additional offset to ARP if any (Tribrach/Spacer) HEIGHT	
Dry-Bulb Temp Fahrenheit Celsius		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	
WetBulb Temp Fahrenheit Celsius		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	
Rel. % Humidity			
Atm. Pressure inches Hg millibar			
Weather Codes *			
Before			
Middle			
After			
Average of Readings			
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: VERTICAL ORDER - FIRST CLASS I JOB FILE 202 B (TDC-1 B) (THIS IS SESSION 1) OF 3 PRIMARY			
Data File Name(s): 20002020.DAT (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached	
Submitted earlier		LOG CHECKED BY: [Signature]	
Submitted earlier			
Submitted earlier			

CHANGED ANT. HT. MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM)	Station PID, if any:	Date (UTC):
	General Location: BZ05 LIVONIA LA	Airport ID, if any:	Day of Year:

Project Name: GPS CONTROL FALSE RIVER LA.	Project Number: CHUSTZ GPS-03-030	Station Serial # (SSN):	Session ID:(A,B,C etc)
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NAD83 Latitude 30° 33' 17 (scaled)	NAD83 Longitude 91° 33' 30 (scaled)	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTZ SURVEYING, INC Operator Full Name: LONNIE DUPONT Phone #: (225) 638-5949 e-mail address: LHINES@CHUSTZ.COM
Observation Session Times (UTC): Sched. Start 1415 Stop 2200	Epoch Interval: 15 Seconds	NAVD88 Orthometric Ht. 9.201 meters	
Actual Start 1415 Stop 2201	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.32 meters	

GPS Receiver: TRIMBLE Manufacturer & Model: 4400 W/TSC-I P/N: 29887-11 S/N: 3705A18389 Firmware Version: • CamCorder Battery, • 12V DC , • 110V AC, • Other	GPS Antenna: TRIMBLE Manufacturer & Model: MICRO/CENTERED L1/L2 w/GP P/N: 33429-00 S/N: 220102799 Cable Length, meters: 10MT. Vehicle is Parked 50 meters S (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (N) Antenna radome used? <input checked="" type="radio"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (N) Use Any obstructions above 10'? <input checked="" type="radio"/> (N) Vis. form Radio interference source nearby? <input checked="" type="radio"/> (N)
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Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: _____ S/N: _____ Last Calibration date: 21 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration) A= Datum point to Top of Tripod (Tripod Height) B= Additional offset to ARP if any (Tribrach/Spacer) H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet
	A = FIXED	
	B = HEIGHT	
	H =	

Barometer: BARI60 Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
		Before	1415	97°	83°	55%	30.6	0111
		Middle	1800	94°	84°	66%	30.4	0111
		After	2120	86°	81°	79%	30.3	0111
		Average of Readings						

Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:
HEAVY TRAFFIC AREA B.M LOCATED ON BRIDGE CURB
APPROX. 4' FROM EDGE OF HWY 190
VERTICAL ORDER - FIRST CLASS I

Note: Entries are Required in all Unshaded areas.

THIS IS SESSION 1 OF 3 PRIMARY

Data File Name(s): XXXXXXXX.DAT	Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached	LOG CHECKED BY: [Signature]
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NO EDITS TO DATA FILE

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 22 JULY 03
 Network / Survey PRIMARY / SURVEY 2 Julian Day 203
 LOG SHEET FILE 2030 LOG.PDF Session 0
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS COE

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
4400 / TSC-1	DUPONT	203C	b 205203A	B 205
4400 / TDC-1	LANGSTON	203A	16AB2030	16 AB
4400 / TDC-1	PHILLIPS	203B	✓2062030	✓206
5700 / 9027	DEGLANDON	—	90272030	90272030
5700 / 7009	OURBRE	—	70092030	70092030

ALL OCCUPATIONS ON FIXED HEIGHT 2MT. TRIPODS

Checkin Edits

- * B205 - THIS RECEIVER HAD POWER PROBLEMS CREATING 3 DATA FILES FOR THE ONLY SESSION RUN TODAY (SESSION 0). FILES B2052030 AND B2052031 CONTAINED APPROX 0:15 MIN OF DATA EACH. FILE B205203A IS THE GOOD FILE FOR THIS SESSION. NO OTHER EDIT OF THE RAW DATA WAS REQUIRED.
- * PT. NAME 16AB WAS CHANGED TO "16ABLDAPA", ANT. HT. WAS MEASURED TO THE BOTTOM OF MOUNT.
- * PT. NAME ✓206 IS GOOD, ANT. HT. WAS MEASURED TO BOTTOM OF MOUNT.
- * PT. NAME 90272030 WAS CHANGED TO (CENPOP) LOUISIANA CENTER OF POPULATION MONUMENT. ANT. HT. CHANGED TO 2,000 MT. AND MEASURED TO BOTTOM OF MOUNT.
- * PT. NAME 70092030 WAS CHANGED TO Z281, ANT. HT CHANGED TO 2,000 MT. AND MEASURED TO BOTTOM OF MOUNT.

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) B205	Station PID, if any: BJ0749	Date (UTC): 22 JULY 03
	General Location: LIVONIA, LA.	Airport ID, if any: B205	Day of Year: 203

Project Name: GPS CONTROL FALSE RIVER LA.	Project Number: CHUSTZ GPS-03-030	Station Serial # (SSN):	Session ID: (A, B, C etc) 01 & A SEE NOTE
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NAD83 Latitude 30° 33' 17" (SCALED)	NAD83 Longitude 91° 33' 30" (SCALED)	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTZ SURVEYING INC
Observation Session Times (UTC): Sched. Start 915 Stop 1530	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. 9.201 meters	Operator Full Name: LONNIE DUPONT
Actual Start 915 Stop 1532	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.32 meters	Phone #: (225) 638-5949
			e-mail address: LHINEX@CHUSTZ.COM

GPS Receiver: TRIMBLE Manufacturer & Model: 4400 TSC-1 P/N: 29887-11 S/N: 3705A 18389 Firmware Version: • CamCorder Battery, • 12V DC , 110V AC, • Other	GPS Antenna: TRIMBLE Manufacturer & Model: MICRO-CENTERS 1/2 w/6A P/N: 33429-00 S/N: 220102799 Cable Length, meters: 10MT Vehicle is Parked 50 meters S (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> N) Circle Antenna plumb after session? <input checked="" type="radio"/> N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> N) -if no, explain Weather observed at antenna ht. <input checked="" type="radio"/> N) Antenna ground plane used? <input checked="" type="radio"/> N) Antenna radome used? <input checked="" type="radio"/> N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> N) Use Any obstructions above 10'? <input checked="" type="radio"/> N) Vis. form Radio interference source nearby? <input checked="" type="radio"/> N)
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Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: - S/N: - Last Calibration date: 21 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration) A= Datum point to Top of Tripod (Tripod Height) B= Additional offset to ARP if any (Tribrach/Spacer) H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	Before Session Begins: measure and record both Meters AND Feet FIXED	After Session Ends: measure and record both Meters AND Feet HEIGHT
Tribrach: Check one: <input checked="" type="radio"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: -			

Barometer: BARI60 Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	0850	83°	80°	87%	30.5	01120
	Middle	1210	93°	84°	66%	30.4	01121
	After	1530	90°	81°	79%	30.4	00120
	Average of Readings						* See back of form for codes

Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:
POWER FAILURE - FILE B205 2030
RESTART - FILE B205 2031 - ENDED
FINAL FILE B205 203A
HEAVY TRAFFIC AREA, BM LOCATED ON BRIDGE CURB APPROX 4' FROM EDGE OF ROAD

Note: Entries are Required in all Unshaded areas. **JOB FILE 203 C THIS IS SESSION 2 OF 3 PRIMARY**

Data File Name(s): B205 203A.DAT (Standard NGS Format = aaaaaddss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached <input checked="" type="checkbox"/> Submitted earlier	LOG CHECKED BY: [Signature]
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NO EDIT'S PERMITTED TO THESE FILES

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="checkbox"/> M) 16 ABLDAPA	Station PID, if any: B50077	Date (UTC): 22-July-2003
	General Location: Waterloo, La. \ River Road @ Big Cajun #1	Airport ID, if any: N/A	Station 4-Character ID: 16AB
Project Name: False River GPS		Project Number: GPS-03-030	Station Serial # (SSN): 0
NAD83 Latitude 30°40'18.2"	NAD83 Longitude 091°21'06.3"	NAD83 Ellipsoidal Height meters 10.444	Agency Full Name: Chaste Surveying
Observation Session Times (UTC): Sched. Start 08:38 Stop 12:30 Interval = 15 Seconds	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. meters 10.444	Operator Full Name: Mitch Langston
Actual Start 0837 Stop 1531 Elevation Mask = 15 Degrees		GEOID99 Geoid Height meters -27.23	Phone #: (225) 638-5949
GPS Receiver: Trimble Manufacturer & Model: 4400 w/TDC-1 P/N: 29887-11 S/N: 3614A15151 Firmware Version: • CamCorder Battery, • 14V DC • 110V AC • Other		GPS Antenna: Trimble Manufacturer & Model: Compact L1-L2 P/N: 22020-00 w/GP S/N: 0220066028 Cable Length, meters: Vehicle is Parked 20 meters SSW (direction) from antenna.	
Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) Antenna ground plane used? <input checked="" type="checkbox"/> (N)		Antenna radome used? <input checked="" type="checkbox"/> (Y) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (N) Radio interference source nearby <input checked="" type="checkbox"/> (Y) Vis. form	
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
A = Datum point to Top of Tripod (Tripod Height)		2.000	6.562
B = Additional offset to ARP if any (Tribrach/Spacer)		0	0
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		2.000	6.562
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	
Tribrach: Check one: • None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A			
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-03		Weather DATA	
Time (UTC)		Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius
Rel. % Humidity		Atm. Pressure inches Hg millibar	Weather Codes *
Before		08:45	83°
Middle		12:00	94°
After		15:30	90°
Average of Readings			
Psychrometer: Manufacturer & Model: Bachman S/N: N/A 2-7011		* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Mostly Cloudy, 5 mph SSW Breeze, Hot 08:45 " " " 5-10 mph " " 12:00 " " " calm scat. showers, 15:30 " " " steaming Hot			
THIS IS SESSION 2 OF PRIMARY NETWORK			
Note: Entries are Required in all Unshaded areas.			
Data File Name(s): 16AB2030 (Standard NGS Format = aaaaaddds.xxx) Job# 203A where aaaa=4-Character ID, dddd=Day of Year, s=Session ID, xxx=file dependent extension		Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached	
		LOG CHECKED BY: JAR	

CHANGED POINT NAME TO 16ABDAPA AND ANT HT. TO BOT. OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) V206	Station PID, if any: BJ0083	Date (UTC): 22 July 03
	General Location: 7.2 MI N OF DEVALL ELEMENTARY	Airport ID, if any: V206	Station 4-Character ID: V206
Project Name: GPS CONTROL FALSE RIVER, LA.		Project Number: CHUSTZ GPS-03-30	Station Serial # (SSN): 0
NAD83 Latitude 30° 37' 13" (SCALE)	NAD83 Longitude 91° 18' 54" (SCALE)	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTZ SURVEYING INC.
Observation Session Times (UTC): Sched. Start 0857 Stop 1530	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. 10.091 meters	Operator Full Name: JAMES E PHILLIPS
Actual Start 0858 Stop 1531	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.23 meters	Phone #: (225) 638-5949
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 P/N: 29887-11 S/N: 8742 A 20788 Firmware Version: • CamCorder Battery, 12V DC • 110V AC • Other		GPS Antenna: COMPACT Manufacturer & Model: L1/L2 w/GP P/N: 22020-00 S/N: 0220081649 Cable Length, meters: 10MT. Vehicle is Parked 30 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="radio"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (Y/N) -if no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (Y/N) Antenna ground plane used? <input checked="" type="radio"/> (Y/N)
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SEU P/N: _____ S/N: _____ Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
Tribrach: Check one: <input checked="" type="radio"/> None, <input type="radio"/> Wild GDF 22, <input type="radio"/> Topcon, <input type="radio"/> Other (describe) Last Calibration date: _____		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	
Barometer: BAR160 Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 July 03		Note: Meters = Feet X (0.3048) 2.000 Please note &/or sketch ANY unusual conditions. Height Entered Into Receiver = 2.000 meters. Be Very Explicit as to where and how Measured!	
Psychrometer: Manufacturer & Model: BACHARACH S/N: 89050 12-7011		Weather DATA	
Time (UTC)		Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius
Rel. % Humidity		Atm. Pressure inches Hg millibar	Weather Codes *
Before		0850 83	80 88% 30.5 02121
Middle		1215 95	85 66% 30.4 02121
After		1520 89	81 78% 30.3 02121
Average of Readings			
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:			
Note: Entries are Required in all Unshaded areas. JOB 203B			
Data File Name(s): 2030 (Standard NGS Format = aaaadddsss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependent extension		Updated Station Description: • Attached <input checked="" type="radio"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="radio"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="radio"/> Submitted earlier Pencil Rubbing of Mark: • Attached	
		LOG CHECKED BY: [Signature]	

P. NAME GOOD, CENTERED ANT. HT MEASURED TO BOT. OF MOUNT.

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) LOUISIANA POPULATION CENTER	Station PID, if any: DE5745	Date (UTC): 22 JULY 03				
	General Location: FALSE RIVER PARK, NEW ROADS, LA	Airport ID, if any: CEN POP	Station 4-Character ID: 203				
Project Name: GPS CONTROL FALSE RIVER LA.		Project Number: EST GPS-03-030	Station Serial # (SSN): 0				
NAD83 Latitude 30° 41' 55.13019	NAD83 Longitude 91° 27' 27.42393	NAD83 Ellipsoidal Height -19.07 meters	Agency Full Name: CHOSTZ SURVEYING Operator Full Name: MIKE DEGLANDON Phone #: (225) 638-5949 e-mail address: LHINES@CHOSTZ.COM				
Observation Session Times (UTC): Sched. Start 0845 Stop 1531	Epoch Interval = 15 Seconds Elevation Mask = 13 Degrees	NAVD88 Orthometric Ht. SCALED 8.0 meters GEOID99 Geoid Height -27.23 meters					
GPS Receiver: TRIMBLE Manufacturer & Model: 5700 P/N: 40406-00 S/N: 220279027 Firmware Version: 1.24 • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC • 110V AC • Other	GPS Antenna: TRIMBLE Manufacturer & Model: ZEPHYR GEDDETIC P/N: 41249-00DC 4137 S/N: 11890377 Cable Length, meters: 10 MT. Vehicle is Parked 20 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) -If no, Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) explain Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N) Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) describe. Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby? <input checked="" type="checkbox"/> (Y/N) Vis. form					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • <input type="checkbox"/> Slip-Leg Tripod • <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A FIXED HT. Last Calibration date: 21 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration) A= Datum point to Top of Tripod (Tripod Height) FIXED B= Additional offset to ARP if any (Tribrach/Spacer) HEIGHT	Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet				
Tribrach: Check one: <input checked="" type="checkbox"/> None • <input type="checkbox"/> Wild GDF 22 • <input type="checkbox"/> Topcon • Other (describe) Last Calibration date: —	H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) 2.000 Height Entered into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: BAR160 Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	845	82°	80°	90%	30.45	02121
	Middle	1200	93°	84°	66%	30.4	02121
	After	1500	90°	82°	79%	30.4	02121
	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: NO PROBLEMS, GOOD SURVEY							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): 406T2030 (Standard NGS Format = aaaaaddss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached <input checked="" type="checkbox"/> Submitted earlier			LOG CHECKED BY: [Signature]			

CHANGED NAME TO CENPOP, ANT. HT. TO 2.000 AND MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC (BM))	Station PID, if any:	Date (UTC):
	General Location: Z 281	Station 4-Character ID: BJ0052	Day of Year: 22 JULY 03

Project Name: GPS CONTROL, FALSE RIVER, LA.	Project Number: ZSI GPS-03-030	Station Serial # (SSN):	Session ID:(A,B,C etc):
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NAD83 Latitude: 30° 43' 43" (SCALED)	NAD83 Longitude: 91° 31' 50."	NAD83 Ellipsoidal Height: — meters	Agency Full Name: CHUSTZ SURVEYING Operator Full Name: KIM OUBRE Phone #: (225) 638-5949 e-mail address: LHINES@CHUSTZ.COM
Observation Session Times (UTC): Sched. Start 830 Stop 1527	Epoch Interval: 15 Seconds	NAVD88 Orthometric Ht.: 10.546 meters	
Actual Start 830 Stop 1527	Elevation Mask = 13 Degrees	GEOID99 Geoid Height: -27.22 meters	

GPS Receiver: TRIMBLE Manufacturer & Model: S700 P/N: 40406-00 S/N: 220287009 Firmware Version: 1.24 • CamCorder Battery, (12V DC) • 110V AC • Other	GPS Antenna: TRIMBLE Manufacturer & Model: ZEPHYR GEODETIC P/N: 41244-00DC 4223 S/N: 12286295 Cable Length, meters: 10 MT. Vehicle is Parked 20 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) -If no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N) Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby? <input checked="" type="checkbox"/> (Y/N) Vis. form
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Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • <input type="checkbox"/> Slip-Leg Tripod • <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration)	Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet
	A= Datum point to Top of Tripod (Tripod Height)	FIXED	
	B=Additional offset to ARP if any (Tribrach/Spacer)	HEIGHT	
Tribrach: Check one: <input checked="" type="checkbox"/> None • <input type="checkbox"/> Wild GDF 22 • <input type="checkbox"/> Topcon • <input type="checkbox"/> Other (describe) Last Calibration date: —	H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		
Note: Meters = Feet X (0.3048) Please note &/or sketch ANY unusual conditions. Height Entered Into Receiver = 2.000 meters. Be Very Explicit as to where and how Measured!			

Barometer: BAR160 Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
		Before	0830	80°	79°	94%	30.45
Middle	1150	92°	83°	67%	30.5	01121	
After	1600	89°	80°	79%	30.4	01120	
Psychrometer: Manufacturer & Model: BACHARACH S/N: B9050 12-7011	Average of Readings						* See back of form for codes

Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:
NO PROBLEMS

Note: Entries are Required in all Unshaded areas.

Data File Name(s): 10092030 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached <input checked="" type="checkbox"/> Submitted earlier	LOG CHECKED BY: [Signature]
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PT NAME CHANGED TO Z 281, ANT HT CHANGED TO 2.000 MT AND MEASURED TO BOTTOM OF MOUNT

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 23 JULY 03
 Network / Survey PRIMARY / SURVEY 3 Julian Day 204
 Log sheet file 2040 LOG. PDF Session 0
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS COE

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
5700 / 9027	DEGLANDON	—	90272040	90272040
4400 / TSC-1	DUPONT	204C	B2052040:1	B205
4400 / TDC-1	PHILLIPS	204B	V2062040	V206
4400 / TDC-1	LANGSTON	204A	16AB2040	16AB
5700 / 7009	CUBRE	—	70092042	70092042

Checkin Edits * THIS IS A NIGHT SURVEY *

- * PT NAME 90272040 CHANGED TO "CENPOP"; ANT. HT. TO 2.000 MT AND MEASURED TO BOTTOM OF MOUNT.
- * PT NAME B205 OK! NO EDITS TO DATA. POWER FAILURE CREATED 2 DATA FILES B2052040 : B2052041.
- * PTNAME GOOD! CHANGED ANT. HT. MEASURED TO BOTTOM OF MOUNT
- * PTNAME CHANGED TO 16ABLDAPA AND ANT HT MEASURED TO BOTTOM OF MOUNT
- * PT NAME 70092042 CHANGED TO 7281, ANT HT TO 2.000 MT, AND MEASURED TO BOTTOM OF MOUNT.
- * NOTE: TWO FALSE STARTS @ BEGINNING OF OCCUPATION. FILES 70092040 AND 70092041 NOT USED!

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) LOUISIANA POPULATION MARKER	Station PID, if any: DE5745	Date (UTC): 23 JULY 03					
	General Location: FALSE RIVER PARK, NEW ROADS, LA.	Airport ID, if any: CPOP	Station 4-Character ID: 204					
Project Name: GPS CONTROL FALSE RIVER LA.		Project Number: CST GPS-03-030	Station Serial # (SSN): 0					
NAD83 Latitude 30° 41' 55.13019	NAD83 Longitude 91° 27' 27.4293	NAD83 Ellipsoidal Height -19.07 meters	Agency Full Name: CHOSTZ SURVEYING INC Operator Full Name: MICHAEL DEGLANDON Phone #: (225) 638-5949 e-mail address: LHINES@CHOSTZ.COM					
Observation Session Times (UTC): Sched. Start 104 Stop 730	Epoch Interval = 15 Seconds Elevation Mask = 13 Degrees	NAVD88 Orthometric Ht. SCALED 8.0 meters GEOID99 Geoid Height -27.23 meters						
Actual Start 103 Stop 729	GPS Receiver: TRIMBLE Manufacturer & Model: 5700 P/N: 40406-00 S/N: 220279027 Firmware Version: 1.24 • CamCorder Battery, <input checked="" type="radio"/> 12V DC, <input type="radio"/> 110V AC, • Other	GPS Antenna: TRIMBLE Manufacturer & Model: ZEPHYR GODET P/N: 41249-00 DC 4137 S/N: 11890377 Cable Length, meters: 10MT. Vehicle is Parked 20 meters W (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna radome used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Use Any obstructions above 10'? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Use Radio interference source nearby? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Vis. form					
Tripod or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tripod, <input type="radio"/> Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Before Session Begins: measure and record both Meters AND Feet					
Tribrach: Check one: <input checked="" type="radio"/> None, <input type="radio"/> Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: —	A = Datum point to Top of Tripod (Tripod Height) B = Additional offset to ARP if any (Tribrach/Spacer) H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) 2.000 Please note &/or sketch ANY unusual conditions. Height Entered Into Receiver = 2.000 meters. Be Very Explicit as to where and how Measured!		After Session Ends: measure and record both Meters AND Feet					
Barometer: BARIWO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
Psychrometer: Manufacturer & Model: BACHARACH S/N: 09050 12-7011	Before	0100	80°	77	89%		00120	
	Middle	0300	79°	78	96%		00120	
	After	0730	80°	78	91%		00120	
Average of Readings								* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: THIS IS A NIGHT TIME SURVEY NO PROBLEMS								
Note: Entries are Required in <u>all</u> Unshaded areas.								
Data File Name(s): 90212040 (Standard NGS Format = aaaaddss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached <input checked="" type="radio"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="radio"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="radio"/> Submitted earlier Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: [Signature]				

CHANGED ANT TO CPOP ANT HT TO 2.000 MT + MOUNTED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BN) B205	Station PID, if any: B10749	Date (UTC): 23 July 03						
	General Location: LIVONIA La.	Airport ID, if any: N/A	Station 4-Character ID: B205						
Project Name: GPS Control False River La.		Project Number: CHUSTZ GPS-03-230	Station Serial # (SSN): 0/1						
NAD83 Latitude 30° 33' 17" (scaled)	NAD83 Longitude 91° 33' 30"	NAD83 Ellipsoidal Height — meters	Agency Full Name: CHUSTZ Survey, Inc						
Observation Session Times (UTC): Sched. Start 0104 Stop 0730	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. 9.201 meters	Operator Full Name: LORDIE P Dupont						
Actual Start SEE REMARKS	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.32 meters	Phone #: (225) 638-5949						
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 w/ RSC4 P/N: 29887-11 S/N: 3705AB389 Firmware Version: 2.30 • CamCorder Battery, • 12V DC, • 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: MICRO CENTERED 4/2 w/ GP. P/N: 33428-00 S/N: 220102799 Cable Length, meters: 10 m. Vehicle is Parked 50 meters N (direction) from antenna.							
Tripod or Ant. Mount: Check one: • Fixed Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)							
Tribrach: Check one: <input checked="" type="radio"/> None, <input type="radio"/> Wild GDF 22, <input type="radio"/> Topcon, <input type="radio"/> Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet							
Barometer: BARIGO Manufacturer & Model: P/N: 549C S/N: 43334 Last Calibration or check Date: 21 July 03		After Session Ends: measure and record both Meters AND Feet							
Psychrometer: Manufacturer & Model: BACHARACIT S/N: 89050 12-7011		A = Datum point to Top of Tripod (Tripod Height) FIXED							
Weather DATA		B = Additional offset to ARP if any (Tribrach/Spacer) HEIGHT							
Time (UTC)		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)							
Dry-Bulb Temp Fahrenheit Celsius		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!							
WetBulb Temp Fahrenheit Celsius									
Rel. % Humidity									
Atm. Pressure inches Hg millibar									
Weather Codes *									
Before	0100	80°	78°						
Middle	0330	80°	78°						
After	0700	80°	78°						
Average of Readings									
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: HEAVY TRAFFIC AREA. B.M. LOCATED ON BRIDGE CURB APPROX. 4' FROM EDGE OF HWY 190. AT 0250 HRS ERROR OCCURED - "RECEIVER NOT RESPONDING" (wire). AT 0330 HRS POWER FAILURE, RESTART @ 0338 HRS FILE B2052041									
<table border="1"> <tr> <td>File B2052040</td> <td>START</td> <td>STOP</td> </tr> <tr> <td>" B2052041</td> <td>0104</td> <td>0732</td> </tr> </table>				File B2052040	START	STOP	" B2052041	0104	0732
File B2052040	START	STOP							
" B2052041	0104	0732							
Note: Entries are Required in all Unshaded areas.									
Data File Name(s): B2052040 (Standard NGS Format = aaaadddd.xxx) Tab*204C where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached <input checked="" type="radio"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="radio"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="radio"/> Submitted earlier Pencil Rubbing of Mark: • Attached							
		LOG CHECKED BY: JPA							

NOTE: DUE TO POWER FAILURE THIS POINT HAS TWO SESSIONS B2052040 & 1 THE REMAINING SESSIONS WILL BE ONE # HIGHER THAN THE OTHER RECORDS WITHIN THE SAME SESSION

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC (BM)) V 206	Station PID, if any: BJ0083	Date (UTC): 23 July 03
	General Location: 7.2 MI NW OF DEVALLELEM. SCHOOL	Airport ID, if any:	Station 4-Character ID: V 206

Project Name: GPS CONTROL FALSE RIVER, LA.	Project Number: C-1 GPS- 03-030	Station Serial # (SSN):	Session ID:(A,B,C etc) 0
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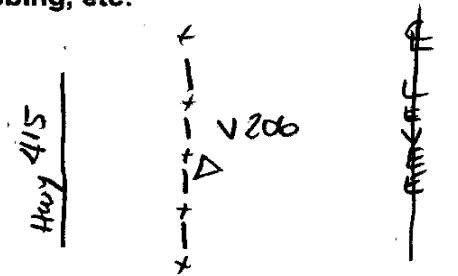
NAD83 Latitude 30° 37' 13" (SCALED)	NAD83 Longitude 91° 18' 54"	NAD83 Ellipsoidal Height — meters	Agency Full Name: CHUSTZ SURVEYING INC Operator Full Name: JAMES E. PHILLIPS Phone #:(225) 638-5949 e-mail address: LHINES@CHUSTZ.COM
Observation Session Times (UTC): Sched. Start 2350 Stop 0730		Epoch Interval= 15 Seconds	
Actual Start 2350 Stop 0731		Elevation Mask = 15 Degrees	

22 JULY

GPS Receiver: TRIMBLE Manufacturer & Model: 4400 W/TDC-1 P/N: 29887-11 S/N: 8742 A 20788 Firmware Version: 2.38 • CamCorder Battery, • 12V DC, • 110V AC, • Other	GPS Antenna: COMPACT L/LZ Manufacturer & Model: W/GP P/N: 22020-00 S/N: 220081649 Cable Length, meters: 10MT Vehicle is Parked 40 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y) / <input type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (Y) / <input type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (Y) / <input type="checkbox"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y) / <input type="checkbox"/> (N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y) / <input type="checkbox"/> (N) Antenna radome used? <input type="checkbox"/> (Y) / <input checked="" type="checkbox"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input type="checkbox"/> (Y) / <input checked="" type="checkbox"/> (N) Use Any obstructions above 10°? <input checked="" type="checkbox"/> (Y) / <input type="checkbox"/> (N) Use Radio interference source nearby <input type="checkbox"/> (Y) / <input checked="" type="checkbox"/> (N) Vis. form
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Tripped or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet
	A= Datum point to Top of Tripod (Tripod Height) FIXED	B= Additional offset to ARP if any (Tribrach/Spacer) HEIGHT		
Tribrach: Check one: <input checked="" type="checkbox"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: _____	H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) Height Entered Into Receiver = _____ meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	

Barometer: BARISO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	0100	78°	74°	82%	30.3	00120
	Middle	0300	79°	76°	88%	30.3	00120
	After	0730	80°	79°	96%	30.3	00120
Psychrometer: Manufacturer & Model: BACHARACH S/N: 89050 12-7011	Average of Readings						* See back of form for codes

Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:
SOUTH BOUND TRAFFIC STARTED @ 0440
NO PROBLEMS


Data File Name(s): V206 2040 (Standard NGS Format = aaaadddd.xxx) where aaaa=4-Character ID, dddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached <input checked="" type="checkbox"/> Submitted earlier Visibility Obstruction Form: • Attached <input checked="" type="checkbox"/> Submitted earlier Photographs of Station: • Attached <input checked="" type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: • Attached	LOG CHECKED BY: PHL
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CHANGED ANT HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="checkbox"/> M) 16ABLDAAA	Station PID, if any: BJ0077	Date (UTC): 23-July-2003				
	General Location: Waterloo, La. @ Big Cajun #3 <i>River Rd. Airport ID, if any: N/A</i>	Station 4-Character ID: 16AB	Day of Year: 204				
Project Name: False River GPS		Project Number: GPS-03-030	Station Serial # (SSN): 0				
NAD83 Latitude 30° 40' 18.2	NAD83 Longitude 091° 21' 06.3	NAD83 Ellipsoidal Height meters	Agency Full Name: Christy Surveying				
Observation Session Times (UTC): Sched. Start 00:00 Stop 07:30	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. meters	Operator Full Name: Mitch Langston				
Actual Start 23:57 Stop 0732	Elevation Mask = 15 Degrees	GEOID99 Geoid Height -27.23 meters	Phone #: (225) 638-5949				
GPS Receiver: Trimble Manufacturer & Model: 4400 w/TDC-1 P/N: 29887-11 S/N: 3614A15151 Firmware Version: 2.38 • CamCorder Battery, • <input checked="" type="checkbox"/> VDC • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: Compact L1-L2 P/N: 22020-00 w/GP S/N: 022-0066028 Cable Length, meters: 10 Vehicle is Parked 150 meters S (direction) from antenna.					
Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) Antenna ground plane used? <input checked="" type="checkbox"/> (N)		Antenna radome used? <input checked="" type="checkbox"/> (Y) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (N) Use Radio interference source nearby? <input checked="" type="checkbox"/> (Y) Vis. form					
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: <input checked="" type="checkbox"/> None • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet					
A = Datum point to Top of Tripod (Tripod Height)		2.000	6.562				
B = Additional offset to ARP if any (Tribrach/Spacer)		0.0	0.0				
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		2.000	6.562				
Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	00:00	78°	74°	82%	30.30"	00120
	Middle	03:30	80°	76°	83%	30.30	00120
	After	07:30	80°	79°	96%	30.30	00120
	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: 05:00 → 06:30 scattered Rain Showers w/15 mph Winds from the West							
Data File Name(s): 16AB2040 (Standard NGS Format = aaaadddsss.xxx) 506#204A where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached		LOG CHECKED BY: [Signature]	

CHANGED NAME TO 16ABLDAAA AND ANT HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="radio"/> BM)	Station PID, if any:	Date (UTC):					
	General Location: <i>Z 281</i> <i>LaBarre, La.</i>	Airport ID, if any: <i>N/A</i>	Station 4-Character ID: <i>Z 281</i>					
Project Name: <i>False River G.P.S. Blue Book</i>		Project Number: <i>CSI GPS-03-030</i>	Station Serial # (SSN): <i>0</i>					
NAD83 Latitude: <i>30° 43' 43 (scaled)</i>	NAD83 Longitude: <i>91° 31' 50</i>	NAD83 Ellipsoidal Height: _____ meters	Agency Full Name: <i>Christa Surveying</i>					
Observation Session Times (UTC): Sched. Start: <i>00:10</i> Stop: <i>07:30</i>	Epoch Interval = <i>15</i> Seconds	NAVD88 Orthometric Ht.: <i>10.546</i> meters	Operator Full Name: <i>Kim Oubre</i>					
Actual Start: <i>0006</i> Stop: <i>0731</i>	Elevation Mask = <i>15</i> Degrees	GEOID99 Geoid Height: <i>-27.22</i> meters	Phone #: <i>(225) 638 5949</i>					
GPS Receiver: <i>Trimble</i> Manufacturer & Model: <i>5700</i> P/N: <i>40406-00</i> S/N: <i>0220287009</i> Firmware Version: _____		GPS Antenna: <i>Trimble</i> Manufacturer & Model: <i>Zephyr Geo.</i> P/N: <i>41249-00 DC 4223</i> S/N: <i>12286295</i> Cable Length, meters: <i>10</i>						
• CamCorder Battery, • 16V Dc, • 110V AC, • Other		Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Yes or No Antenna plumb after session? <input checked="" type="radio"/> (N) Antenna oriented to true North? <input checked="" type="radio"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (Y)						
• Tripod or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tripod <input type="radio"/> Slip-Leg Tripod <input type="radio"/> Fixed Mount Manufacturer & Model: <i>Trimble</i> P/N: <i>N/A</i> S/N: <i>N/A</i> Last Calibration date: <i>23-July-2003</i>		** ANTENNA HEIGHT ** (see back of form for measurement illustration)						
• Tripod: Check one: <input checked="" type="radio"/> None <input type="radio"/> Wild GDF 22 <input type="radio"/> Topcon <input type="radio"/> Other (describe) Last Calibration date: <i>N/A</i>		Before Session Begins: measure and record both Meters AND Feet						
		After Session Ends: measure and record both Meters AND Feet						
		A = Datum point to Top of Tripod (Tripod Height)						
		B = Additional offset to ARP if any (Tribrach/Spacer)						
		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)						
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = <i>2.000</i> meters.						
		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: <i>Bariso</i> Manufacturer & Model: <i>Affimeter</i> P/N: <i>N/A</i> S/N: <i>N/A</i> Last Calibration or check Date: <i>23-July-2003</i>	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	Wet-Bulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
	Before	<i>00:00</i>	<i>78°</i>	<i>74°</i>	<i>82%</i>	<i>30.3"</i>	<i>00120</i>	
	Middle	<i>03:30</i>	<i>79°</i>	<i>76°</i>	<i>88%</i>	<i>30.3"</i>	<i>00120</i>	
	After	<i>07:30</i>	<i>80°</i>	<i>79°</i>	<i>96%</i>	<i>30.3"</i>	<i>00120</i>	
Psychrometer: <i>Balkarach</i> Manufacturer & Model: <i>Balkarach sling</i> S/N: <i>N/A</i> <i>12-7011</i>	Average of Readings						* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:								
<i>5 AM to 6:30 AM Rain showers (attered)</i>								
<i>FILE 70092040 & 70092041 ARE FALSE STARTS, DO NOT USE!</i>								
Note: Entries are Required in all Unshaded areas.								
Data File Name(s): <i>70092040 70092041</i>		Updated Station Description: • Attached			Submitted earlier			LOG CHECKED BY: <i>[Signature]</i>
(Standard NGS Format = aaaadddd.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Visibility Obstruction Form: • Attached			Submitted earlier			
		Photographs of Station: • Attached			Submitted earlier			
		Pencil Rubbing of Mark: • Attached						

NAME CHANGED TO Z 281, ANT. HT. TO 2.000 MT. AND MOUNTED TO BOTTOM OF MOUNT

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 23 JULY 03
 Network / Survey SECONDARY / SURVEY 1A Julian Day 204
 Log sheet file 2041 LOG.PDF Session 1 (PRIMARY WAS 0)
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS C.O.E.

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
4400 / TSC-1	DUPONT	204C	B2052042	B205
4400 / TDC-1	LANGSTON	204A	FAL12041	FAL1
4400 / TDC-1	PHILLIPS	204B	FAL22041	FAL2
5700 / 9027	DEGLANDON	—	90272041	90272041
5700 / 7009	OUBRE	—	70092043	70092043

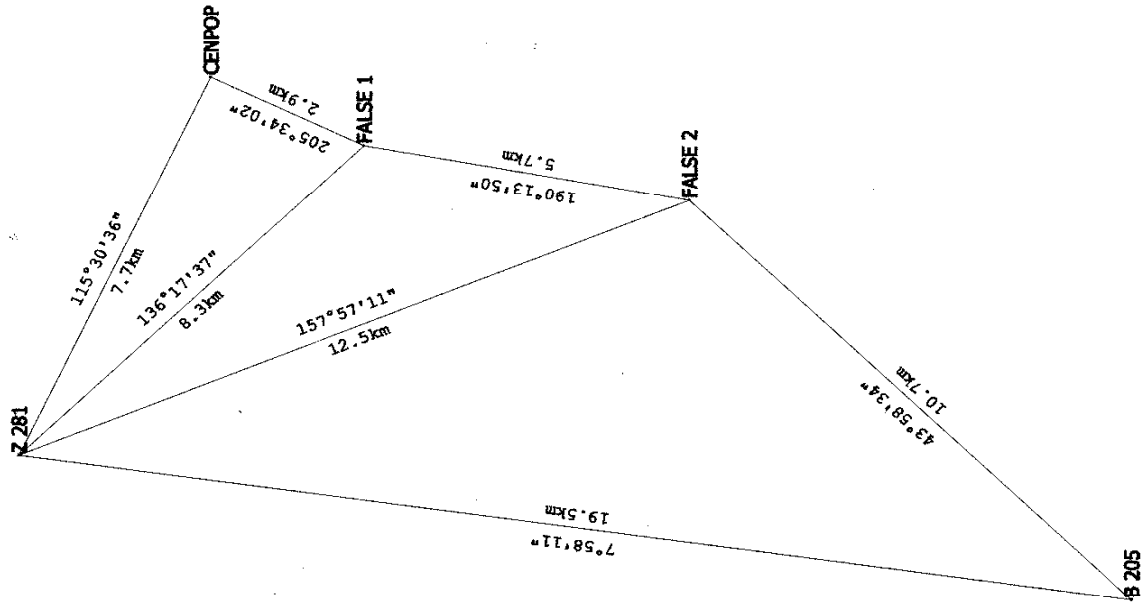
THIS IS THE SECOND SESSION TODAY. THE FIRST SESSION WAS SURVEY 3 OF PRIMARY. THIS IS FIRST SURVEY OF
Checkin Edits SECONDARY

- * Pt B205 IS GOOD NO EDITS REQUIRED. THE FILE IS 2 DUE TO POWER PROBLEMS ON THE PREVIOUS SESSION USING UP 0 ! ... 1
- * Pt FAL1 IS GOOD. CHANGED ANT HT. MEASURED TO BOTTOM OF MOUNT
- * Pt FAL2 IS GOOD, CHANGED ANT. HT. MEASURED TO BOTTON OF MNT.
- * Pt 90272041 CHANGED TO CEN POP ANT HT TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT
- * Pt 70092043 CHANGED TO Z201, ANT. HT. TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT



1:125000

Secondary Network Survey 1, Session 1



STELLA

16 ABLDAPA

FALSE 3

V 206

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) B205	Station PID, if any: B50749	Date (UTC): 23 July 03				
	General Location: LIVONIA La.	Airport ID, if any: N/A	Station 4-Character ID: B205				
Project Name: GPS Control False River La.		Project Number: CHUSTA GPS-03-030	Station Serial # (SSN): 2				
NAD83 Latitude 30° 33' 17" (scaled)	NAD83 Longitude 91° 33' 30"	NAD83 Ellipsoidal Height meters —	Agency Full Name: CHUSTA SURVEYING INC.				
Observation Session Times (UTC): Sched. Start 0815 Stop 1030	Epoch Interval= 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. 9.201 meters	Operator Full Name: LOWRIE P DUPONT				
Actual Start 814 Stop 1032		GEOID99 Geoid Height -27.32 meters	Phone #: (225) 638-5949				
GPS Receiver: TRIMBLE Manufacturer & Model: 440 20/TSC-1 P/N: 29887-11 S/N: 3705A18389 Firmware Version: 2.38 • CamCorder Battery. • (2V DC) 110V AC. • Other		GPS Antenna: TRIMBLE Manufacturer & Model: MICRO CENTERED U/22 W/GR. P/N: 33429-00 S/N: 220102799 Cable Length, meters: 10 mt. Vehicle is Parked 50 meters N (direction) from antenna.					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • <input type="checkbox"/> Slip-Leg Tripod • <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: <input checked="" type="checkbox"/> None • <input type="checkbox"/> Wild GDF 22 • <input type="checkbox"/> Topcon • <input type="checkbox"/> Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet					
		After Session Ends: measure and record both Meters AND Feet					
		A = Datum point to Top of Tripod (Tripod Height) FIXED					
		B = Additional offset to ARP if any (Tribrach/Spacer) HEIGHT					
		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)					
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 21.000 meters.					
		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: BARICO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 July 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	0820	81°	79°	91%	30.30	00120
	Middle	0930¹⁶	86°	81°	80%	30.45	00120
	After	1040	88	81	77%	30.45	00120
	Average of Readings						* See back of form for codes
Psychrometer: Manufacturer & Model: BACHARACH S/N: B9050 12-7811							
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: HEAVY TRAFFIC AREA. BM LOCATED APPROX. 4' FROM EDGE OF HIGHWAY 190 ON BRIDGE CURB							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): B205 2042 (Standard NGS Format = aaaaaddds.xxx) 506²204C where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependent extension		Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached			Submitted earlier Submitted earlier		LOG CHECKED BY: LSA

THIS SECTION (6) MISPLACES OTHER RECORD SESSIONS (1)
NO EDITS TO DATA

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) <i>False 1 2003</i>	Station PID, if any: <i>N/A</i>	Date (UTC): <i>23-July-2003</i>
	General Location: <i>New Roads, La.</i>	Airport ID, if any: <i>N/A</i>	Station 4-Character ID: <i>FAL1</i>
Project Name: <i>False River GPS</i>		Project Number: <i>GPS-03-030</i>	Station Serial # (SSN): <i>N/A</i>
NAD83 Latitude <i>30° 40' 29.17"</i>		NAD83 Longitude <i>91° 28' 14.72"</i>	NAD83 Ellipsoidal Height meters
Observation Session Times (UTC): Sched. Start <i>08:02</i> Stop <i>10:30</i>		Epoch Interval = <i>15</i> Seconds	Agency Full Name: <i>Chutz Surveying</i>
Actual Start <i>803</i> Stop <i>1031</i>		Elevation Mask = <i>15</i> Degrees	Operator Full Name: <i>Mitch Langston</i>
GPS Receiver: <i>Trimble</i> Manufacturer & Model: <i>4400 WTC-1</i>		GPS Antenna: <i>Trimble</i> Manufacturer & Model: <i>Compact L1-L2</i>	Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -if no. Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) explain Antenna ground plane used? <input checked="" type="checkbox"/> (N) "
P/N: <i>29887-11</i>		P/N: <i>22020-00</i> w/G.P.	Antenna radome used? <input checked="" type="checkbox"/> (Y) If yes, describe.
S/N: <i>3614A15151</i>		S/N: <i>0220066028</i>	Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y) Use
Firmware Version: <i>2.38</i>		Cable Length, meters: <i>10</i>	Any obstructions above 10'? <input checked="" type="checkbox"/> (N) Use
• CamCorder Battery, • <input checked="" type="checkbox"/> DC, • 110V AC, • Other		Vehicle is Parked <i>25</i> meters <i>E</i> (direction) from antenna.	Radio interference source nearby <input checked="" type="checkbox"/> (Y) Vis. form
Tripod or Ant. Mount: Check one: • Fixed Weight Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: <i>Trimble</i>		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
P/N: <i>N/A</i>		Before Session Begins: measure and record both Meters AND Feet	
S/N: <i>N/A</i>		After Session Ends: measure and record both Meters AND Feet	
Last Calibration date: <i>21-July-2003</i>		A = Datum point to Top of Tripod (Tripod Height)	
		B = Additional offset to ARP if any (Tribrach/Spacer)	
		H = Antenna Height = A + B	
		= Datum Point to Antenna Reference Point (ARP)	
		Note: Meters = Feet X (0.3048) <i>2.000</i> Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	
Tribrach: Check one: • <input checked="" type="checkbox"/> Mon., • Wild GDF 22, • Topcon, • Other (describe)		Height Entered into Receiver = <i>2.000</i> meters.	
Last Calibration date: <i>N/A</i>			
Barometer: <i>Barigo</i> Manufacturer & Model: <i>Altimeter</i>		Weather DATA	
P/N: <i>N/A</i>		Time (UTC)	
S/N: <i>N/A</i>		Dry-Bulb Temp Fahrenheit Celsius	
Last Calibration or check Date: <i>21-July-2003</i>		Wet Bulb Temp Fahrenheit Celsius	
		Rel. % Humidity	
		Atm. Pressure inches Hg millibar	
		Weather Codes *	
Psychrometer: <i>Bacharach</i> Manufacturer & Model: <i>slings</i>		Before	
S/N: <i>N/A</i>		Middle	
		After	
		Average of Readings	
		* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: <i>False River</i>			
<i>Calm winds @ start up. Traffic moderate 14 cars per min in North Bound Lane. Est. Lat Long of Point. 30-40-29.4 Lat 91-28-14.9 Long</i>			
<i>Traffic increase by 6 cars per min. Winds have increase to 5-10 mph.</i>			
Note: Entries are Required in all Unshaded areas.			
Data File Name(s): <i>FAL1 2041</i>		Updated Station Description: • Attached	
(Standard NGS Format = aaaaaddds.xxx) <i>Job# 204A</i>		Visibility Obstruction Form: • Attached	
where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Photographs of Station: • Attached	
		Pencil Rubbing of Mark: • Attached	
		Submitted earlier	
		Submitted earlier	
		LOG CHECKED BY: <i>[Signature]</i>	

GPS

(changed) Antenna mounted TO BOTTOM OF MOUNT

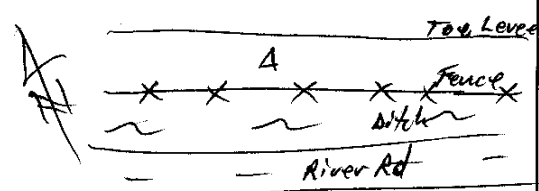
GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / SMY) FALSE 2	Station PID, if any: N/A	Date (UTC): 23 July 03				
	General Location: HWY 1 NEAR LIGHT HOUSE	Airport ID, if any: N/A	Station 4-Character ID: FAL2				
Project Name: GPS CONTROL FALSE RIVER LAKE		Project Number: C.S.T. GPS-03-030	Station Serial # (SSN): N/A				
NAD83 Latitude 30° 37' 26.523		NAD83 Longitude 91° 28' 52.811	NAD83 Ellipsoidal Height meters				
Observation Session Times (UTC): Sched. Start 0820 Stop 1030		Epoch Interval = 15 Seconds	Agency Full Name: CHUSSE SURVEYING INC				
Actual Start 0821 Stop 1031		Elevation Mask = 15 Degrees	Operator Full Name: JAMES E. PHILLIPS				
GPS Receiver: TRIMBLE 4400		GPS Antenna: TRIMBLE COMPACT L1, L2	Antenna plumb before session? <input checked="" type="radio"/> (Y/N) Circle				
Manufacturer & Model: W/TDC-1		Manufacturer & Model: W/GROUND PLANE	Antenna plumb after session? <input checked="" type="radio"/> (Y/N) Yes or No				
P/N: 29887-11		P/N: 22020-00	Antenna oriented to true North? <input checked="" type="radio"/> (Y/N) -If no, explain				
S/N: 8742 A2D788		S/N: 0220081649	Weather observed at antenna ht. <input checked="" type="radio"/> (Y/N)				
Firmware Version:		Cable Length, meters: 10	Antenna ground plane used? <input checked="" type="radio"/> (Y/N)				
• CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, • 110V AC, • Other		Vehicle is Parked 20 meters SE (direction) from antenna.	Antenna radome used? <input checked="" type="radio"/> (Y/N) If yes, describe.				
Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y/N)		Any obstructions above 10'? <input checked="" type="radio"/> (Y/N)	Use				
Radio interference source nearby? <input checked="" type="radio"/> (Y/N)		Use	Vis. form				
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • <input type="checkbox"/> Slip-Leg Tripod, • <input type="checkbox"/> Fixed Mount		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Manufacturer & Model:		Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet				
P/N: 5115-00-YEL		A = Datum point to Top of Tripod (Tripod Height)	2.0 6.5616 2.0 6.5616				
S/N: N/A		B = Additional offset to ARP if any (Tribrach/Spacer)	0.0 0. 0.0 0.				
Last Calibration date: 21 JULY 03		H = Antenna Height = A + B	2.0 6.5616 2.0 6.5616				
Tribrach: Check one: <input checked="" type="checkbox"/> None • <input type="checkbox"/> Wild GDF 22, • <input type="checkbox"/> Topcon, • Other (describe)		= Datum Point to Antenna Reference Point (ARP)					
Last Calibration date: N/A		Note: Meters = Feet X (0.3048) Please note &/or sketch ANY unusual conditions. Height Entered into Receiver = 2.0 meters. Be Very Explicit as to where and how Measured!					
Barometer: BARISO	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
Manufacturer & Model: ALTI METER	Before	0825	81°	77°	90%	30.3	00120
P/N: NA	Middle	0930	86°	81°	80%	30.4	00120
S/N: NA	After	1030	88°	82°	87%	30.4	00120
Last Calibration or check Date: NA	Average of Readings						* See back of form for codes
Psychrometer: Manufacturer & Model: BACHARACH	Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:						
S/N: NA	"FALSE 2" = NEW - 1 ST SESSION						
	Note: Entries are Required in <u>all</u> Unshaded areas.						
Data File Name(s): FAL22041	Updated Station Description: • Attached • Submitted earlier					LOG CHECKED	
(Standard NGS Format = aaaadddd.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Visibility Obstruction Form: • Attached • Submitted earlier					BY: [Signature]	
	Photographs of Station: • Attached • Submitted earlier						
	Pencil Rubbing of Mark: • Attached						

GPS

CHANGED ANT HT MONITORED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) Louisiana Population Center Marker	Station PID, if any: DE 5745	Date (UTC): 23 July 03				
	General Location: Civic Center	Airport ID, if any: N/A	Station 4-Character ID: CPOP				
Project Name: GPS CONTROL FALSE RIVER, LA		Project Number: CSZ # GPS- 03-030	Station Serial # (SSN): 1				
NAD83 Latitude 30° 41' 55.13079	NAD83 Longitude 91° 27' 27.4237	NAD83 Ellipsoidal Height -19.07 meters	Agency Full Name: Chustz Surveying, Inc. Operator Full Name: Michael DEGLANDON Phone #: (225) 638-5949 e-mail address: LHines@Chustz.com				
Observation Session Times (UTC): Sched. Start 8:11 Stop 10:45	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. SCALED 8.0 meters GEOID99 Geoid Height -27.23 meters					
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220279027 Firmware Version: 1 • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, <input type="checkbox"/> 110V AC, • Other	GPS Antenna: Trimble Manufacturer & Model: Zepher Geo. P/N: 41249-00 Dc 4137 S/N: 11890377 Cable Length, meters: 10 MT. Vehicle is Parked 15 meters W (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N) Antenna radome used? <input type="checkbox"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby (Y/N) <input checked="" type="checkbox"/> (Y/N) Vis. form					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21-July-2003	** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Before Session Begins: measure and record both Meters AND Feet				
	A = Datum point to Top of Tripod (Tripod Height)	Fixed					
	B = Additional offset to ARP if any (Tribrach/Spacer)	Height					
	H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)						
Tribrach: Check one: <input checked="" type="checkbox"/> None, <input type="checkbox"/> Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A	Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	0815	81	79	91	30.30	00120
	Middle	0900	86	81	80	30.35	00120
	After	1040	88	82	77	30.40	00120
Psychrometer: Manufacturer & Model: Bacharach S/N: N/A slings 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:							
Data File Name(s): 90772041 (Standard NGS Format = aaaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependent extension		Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: [Signature]		

CHANGED PLUMB TO CENPOP, ANT HT TO 2.000 MT. AND REPORTED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="checkbox"/> PVI) Z 281	Station PID, if any: HP	Date (UTC): 23-July-2003
	General Location: La Barre, La.	Airport ID, if any: N/A	Station 4-Character ID: Z 281
Project Name: False River GPS		Project Number: CSF# GPS- 03-030	Station Serial # (SSN): 1
NAD83 Latitude 30° 43' 43" (Sunid)	NAD83 Longitude 91° 31' 50"	NAD83 Ellipsoidal Height meters -	Agency Full Name: Chustz Surveying
Observation Session Times (UTC): Sched. Start 08:00 Stop 10:30	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. meters 10.546	Operator Full Name: Kim Dukre
Actual Start 0806 Stop 1031	Elevation Mask = 15 Degrees	GEOID99 Geoid Height meters -27.22	Phone #: (225) 638-5949
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220287009 Firmware Version: 1.00		GPS Antenna: Trimble Manufacturer & Model: Zepher Geo. P/N: 41249-00 DC 4223 S/N: 12286795 Cable Length, meters: 10 Vehicle is Parked 30 meters S-E (direction) from antenna.	
Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) * Antenna ground plane used? <input checked="" type="checkbox"/> (N)		Antenna radome used? <input checked="" type="checkbox"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (N) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (N) Form Radio interference source nearby? <input checked="" type="checkbox"/> (N) Vis. form	
Tripped on Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, <input type="checkbox"/> Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
Tribrach: Check one: <input checked="" type="checkbox"/> Topcon, <input type="checkbox"/> Wild GDF 22, <input type="checkbox"/> Topcon, <input type="checkbox"/> Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet	
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		After Session Ends: measure and record both Meters AND Feet	
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003		Weather DATA	
Psychrometer: Bacharach Manufacturer & Model: slings S/N: N/A 12-7011		Time (UTC)	
Average of Readings		Dry-Bulb Temp Fahrenheit Celsius	
		WetBulb Temp Fahrenheit Celsius	
		Rel. % Humidity	
		Atm. Pressure inches Hg millibar	
		Weather Codes *	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: No Problems  MISSISSIPPI RIVER CROWN LEVEL Sugar cane Field			
Data File Name(s): 70092041 (Standard NGS Format = aaaadddd.xxx) where aaaa4 Character = 0000-9999		Updated Station Description: <input type="checkbox"/> Attached <input type="checkbox"/> Submitted earlier Visibility Obstruction Form: <input type="checkbox"/> Attached <input type="checkbox"/> Submitted earlier Photographs of Station: <input type="checkbox"/> Attached <input type="checkbox"/> Submitted earlier Pencil Rubbing of Mark: <input type="checkbox"/> Attached <input type="checkbox"/> Submitted earlier	
		LOG CHECKED BY: [Signature]	

CHANGED AT NAME TO Z281, ANT. HT. 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 23 JULY 03
 Network / Survey SECONDARY / SURVEY 1B Julian Day 204
 Log sheet file 2042 LOG.PDF Session 2
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS C.O.E.

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
4400 / TDC-1	VOINCHE	204 A	FAL1 2042	FAL1
5700 / 7009	OUBRE	—	7009 2044	7009 2044
4400 / TDC-1	PHILIPS	204 B	FAL2 2042	FAL2
5700 / 9027	DEGLANDON	—	9027 2042	9027 2042
4400 / TSC1	DUPONT	204 C	FAL3 2043	FAL3

Checkin Edits

* PT. NAME FAL1 GOOD! CHANGED ANT. HT MEASURED TO BOTTOM OF MOUNT
* PT NAME 70092044 CHANGED TO "STEL", ANT. HT 2.000 MT, MEAS. TO BOTTOM OF MOUNT
* PT FAL2 OK! CHANGED ANT. HT. MEASURED TO BOTTOM OF MOUNT
* PTNAME 90272042 CHANGED TO CEN PDP, ANT. HT TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT.
* PT FAL3 GOOD. NO EDITS REQUIRED

Z 281

Secondary Network Survey 1, Session 2

1:125000



CENPO 84° 16' 50"
4.1 km
205° 34' 02"
2.9 km

STELLA

FALSE 1

16 ABDAPA

190° 13' 50"
5.7 km

13° 16' 59"
9.1 km

FALSE 2 111° 24' 28"
4.5 km

FALSE 3

V 206

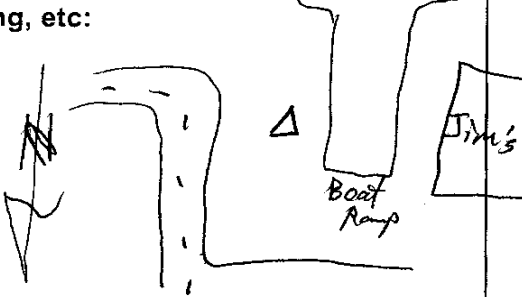
B 205

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / GM) <i>False 1 2003</i>	Station PID, if any: <i>N/A</i>	Date (UTC): <i>23 July 2003</i>				
	General Location: <i>New Roads La.</i>	Airport ID, if any: <i>N/A</i>	Station 4-Character ID: <i>FAL1</i>				
Project Name: <i>False River GPS</i>		Project Number: <i>CSI# GPS-03-030</i>	Station Serial # (SSN): <i>N/A</i>				
NAD83 Latitude <i>30° 40' 29.174"</i>		NAD83 Longitude <i>91° 28' 14.724"</i>	NAD83 Ellipsoidal Height meters				
Observation Session Times (UTC): Sched. Start <i>11:29</i> Stop <i>13:40</i> Interval = <i>15</i> Seconds Actual Start <i>11:29</i> Stop <i>13:40</i> Elevation Mask = <i>15</i> Degrees		NAVD88 Orthometric Ht. meters	GEOID99 Geoid Height meters				
GPS Receiver: <i>Trimble</i> Manufacturer & Model: <i>4400 w/TOC 1</i> P/N: <i>29887-11</i> S/N: <i>3614A15151</i> Firmware Version: • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, • 110V AC, • Other		GPS Antenna: <i>Trimble</i> Manufacturer & Model: <i>compact 21</i> P/N: <i>22020-00 w/GP.</i> S/N: <i>0220066028</i> Cable Length, meters: <i>10</i> Vehicle is Parked <i>25</i> meters <i>W</i> (direction) from antenna.					
Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Yes or No Antenna plumb after session? <input checked="" type="checkbox"/> (N) Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) Antenna ground plane used? <input checked="" type="checkbox"/> (N)		Agency Full Name: <i>Chustz Surveying</i> Operator Full Name: <i>Mark Voinche</i> Phone #: <i>(225) 638-5949</i> e-mail address: <i>N/A</i>					
Antenna radome used? <input type="checkbox"/> (Y/N) if yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby <input checked="" type="checkbox"/> (Y/N) Vis. form							
Triped or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: <i>Trimble</i> P/N: <i>N/A</i> S/N: <i>N/A</i> Last Calibration date: <i>21 July 2003</i>		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
		Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet				
		A = Datum point to Top of Tripod (Tripod Height)	<i>2.000 6.562 2.000 6.562</i>				
		B = Additional offset to ARP if any (Tribrach/Spacer)	<i>0.0 0.0 0.0 0.0</i>				
Tribrach: Check one: <input checked="" type="checkbox"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: <i>N/A</i>		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) <i>2.000 6.562 2.000 6.562</i>					
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = <i>2.000</i> meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: <i>Barigo Antidote</i> Manufacturer & Model: P/N: <i>NA</i> S/N: <i>NA</i> Last Calibration or check Date: <i>21 July 03</i>	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	<i>11:30</i>	<i>90</i>	<i>81</i>	<i>69</i>	<i>30.45</i>	<i>00121</i>
	Middle	<i>12:30</i>	<i>90</i>	<i>81</i>	<i>69</i>	<i>30.45</i>	<i>00121</i>
	After	<i>13:45</i>	<i>90</i>	<i>81</i>	<i>69</i>	<i>30.45</i>	<i>00121</i>
Psychrometer: <i>BAC 512ag</i> Manufacturer & Model: S/N: <i>NA 12-7011</i>	Average of Readings						
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: <i>Winds have picked up to 5-10 mph</i> <i>Traffic in North Bound lane ± 6 cars per hr</i> <i>(11:45 → 11:50 rain light)</i> <i>Power line above ± 3 meters East of point ± 2 meters.</i>							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): <i>FAL1 2042</i> (Standard NGS Format = aaaaddds.xxx) <i>Job#204A</i> where aaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached		LOG CHECKED BY: <i>JAH</i>	

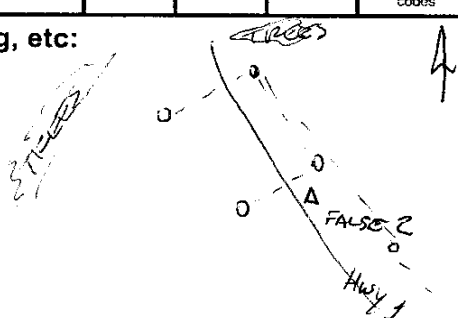
GPS

CHANGED ANT. HT. MEASURED TO BOTTOM OF MOUNT

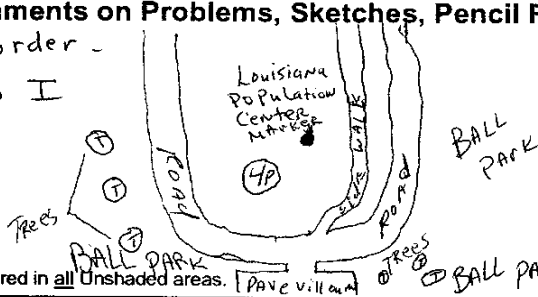
GPS

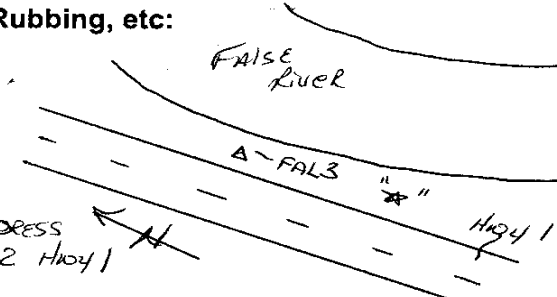
GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="radio"/> BN) STELLA	Station PID, if any: N/A	Date (UTC): 23 July 2003					
	General Location: Ventress La.	Airport ID, if any: N/A	Station 4-Character ID: STEL					
Project Name: False River GPS		Project Number: CSI# GPS-03-030	Station Serial # (SSN): N/A					
NAD83 Latitude 30° 41' 22.014"		NAD83 Longitude 91° 24' 57.062"	NAD83 Ellipsoidal Height meters					
Observation Session Times (UTC): Sched. Start 11:20 Stop 13:30		Epoch Interval = 15 Seconds	Agency Full Name: Chaste Surveying					
Actual Start 1120 Stop 1343		Elevation Mask = 15 Degrees	Operator Full Name: Kim Dubore					
GPS Receiver: Trimble Manufacturer & Model: P/N: 40406-00 S/N: 0220287009 Firmware Version: • CamCorder Battery, • <input checked="" type="radio"/> DP, • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: P/N: 41249-00 DC 4223 S/N: 12286295 Cable Length, meters: 10 Vehicle is Parked 25 meters N (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Yes or No Antenna plumb after session? <input checked="" type="radio"/> (N) Antenna oriented to true North? <input checked="" type="radio"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (Y) Antenna radome used? <input checked="" type="radio"/> (Y) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) Any obstructions above 10'? <input checked="" type="radio"/> (N) Use Radio interference source nearby <input checked="" type="radio"/> (Y) Vis. form					
Tripod or Ant. Mount: Check one: • Free-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21 July 2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)						
		A = Datum point to Top of Tripod (Tripod Height)	2.000 6.562 2.000 6.562					
		B = Additional offset to ARP if any (Tribrach/Spacer)	0.0 0.0 0.0 0.0					
Tribrach: Check one: • <input checked="" type="radio"/> Topcon, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	2.000 6.562 2.000 6.562					
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: BARIGO Manufacturer & Model: P/N: N/A S/N: N/A Last Calibration or check Date: 21 July 2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	Wet-Bulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
	Before	11:30	88°	81°	74%	30.50"	00121	
	Middle	12:35	88°	81°	74%	30.45"	00121	
	After	13:45	88°	80	70%	30.40"	00121	
Psychrometer: Manufacturer & Model: S/N: N/A	Average of Readings						* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: No Problem 								
Data File Name(s): 70092047 (Standard NGS Format = aaaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: JAD	

PT. NAME CHANGED TO STEL, ANT. HT. TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT.

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / NEW) FALSE 2 <i>NEW</i>	Station PID, if any: N/A	Date (UTC): 23 JULY 03					
	General Location: HWY 1 NEAR LIGHTHOUSE	Airport ID, if any: N/A	Station 4-Character ID: FALZ					
Project Name: GPS CONTROL FALSE RIVER LAKE		Project Number: OSI GPS-03-030	Station Serial # (SSN): N/A					
Project Number: OSI GPS-03-030		Station Serial # (SSN): N/A	Session ID:(A,B,C etc) 2					
NAD83 Latitude 30° 37' 26.523"	NAD83 Longitude 91° 28' 52.81"	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTZ SURVEYING INC.					
Observation Session Times (UTC): Sched. Start 1128 Stop 1345	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters	Operator Full Name: JAMES E. PHILLIPS					
Actual Start 1130 Stop 1340		GEOID99 Geoid Height meters	Phone #: (225) 638-5949					
GPS Receiver: TRIMBLE 4400 Manufacturer & Model: N/TDC I P/N: 29887-11 S/N: 8742A20780 Firmware Version: • CamCorder Battery, <input checked="" type="checkbox"/> 2V DC, • 110V AC, • Other		GPS Antenna: Trimble Compact G1 L2 Manufacturer & Model: N/GROUND PLANE P/N: 22020-00 S/N: 0220081649 Cable Length, meters: 10 Vehicle is Parked 20 meters NW (direction) from antenna.						
Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Yes or No		Antenna plumb after session? <input checked="" type="checkbox"/> (N)						
Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -if no, explain		Weather observed at antenna ht. <input checked="" type="checkbox"/> (N)						
Antenna ground plane used? <input checked="" type="checkbox"/> (N)		Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, describe.						
Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use		Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Use						
Radio interference source nearby <input checked="" type="checkbox"/> (Y/N) Vis. form								
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: Trimble SECO P/N: 5115-00-YEL S/N: N/A Last Calibration date: 21 JULY 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)						
A = Datum point to Top of Tripod (Tripod Height)		2.0	6.566					
B = Additional offset to ARP if any (Tribrach/Spacer)		0.0	0.0					
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		2.0	6.566					
Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.0 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Tribrach: Check one: <input checked="" type="checkbox"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A								
Barometer: BARIGO Manufacturer & Model: ALTIMETER P/N: N/A S/N: N/A Last Calibration or check Date: N/A 21-July-03		Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
Before			1125	88°	81°	71%	30.4	02120
Middle			1228	88°	81°	71%	30.4	02120
After			1345	88°	80	70%	30.4	01110
Psychrometer: BACHARACH Manufacturer & Model: S/N: N/A SLING 12-7011		Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: "FALSE 2" - NEW - 2ND SESSION 								
Note: Entries are Required in all Unshaded areas.								
Data File Name(s): FALZ22042 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension			Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached			Submitted earlier Submitted earlier Submitted earlier		
			LOG CHECKED BY: JAP					

CHANGED ANT. HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) Louisiana Population Center Marker	Station PID, if any:	Date (UTC): 23 July 03																																			
	General Location: CIVIC CENTER	Airport ID, if any:	Station 4-Character ID: 204																																			
Project Name: GPS CONTROL FALSE RIVER, LA.		Project Number: CHUSTZ GPS-	Station Serial # (SSN): 2																																			
NAD83 Latitude °	NAD83 Longitude °	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTZ SURVEYING, INC.																																			
Observation Session Times (UTC): Sched. Start 11:00 Stop 13:45	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters	Operator Full Name: Michael DeGlandon																																			
Actual Start 1100 Stop 1345		GEOID99 Geoid Height meters	Phone #: (225) 638-5949																																			
GPS Receiver: TRIMBLE Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220279027 Firmware Version: • CamCorder Battery. <input checked="" type="checkbox"/> 12V DC. <input type="checkbox"/> 110V AC. • Other		GPS Antenna: TRIMBLE Manufacturer & Model: Zepher Geo. P/N: 41249-00 DC 4137 S/N: 1189037 Cable Length, meters: 10 MT Vehicle is Parked <input checked="" type="checkbox"/> meters 50 West (direction) from antenna.																																				
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod. <input type="checkbox"/> Slip-Leg Tripod. <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)																																				
Tribrach: Check one: <input checked="" type="checkbox"/> None. <input type="checkbox"/> Wild GDF 22. • Topcon. • Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet																																				
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21 July 03		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2,000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!																																				
Psychrometer: Manufacturer & Model: S/N: N/A Back 12-2011		<table border="1"> <thead> <tr> <th>Weather DATA</th> <th>Time (UTC)</th> <th>Dry-Bulb Temp Fahrenheit Celsius</th> <th>WetBulb Temp Fahrenheit Celsius</th> <th>Rel. % Humidity</th> <th>Atm. Pressure inches Hg millibar</th> <th>Weather Codes *</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>11:15</td> <td>88</td> <td>81</td> <td>71%</td> <td>30.4</td> <td>00121</td> </tr> <tr> <td>Middle</td> <td>12:30</td> <td>88</td> <td>81</td> <td>71%</td> <td>30.4</td> <td>00121</td> </tr> <tr> <td>After</td> <td>13:45</td> <td>88</td> <td>80</td> <td>70%</td> <td>30.4</td> <td>00121</td> </tr> <tr> <td colspan="2">Average of Readings</td> <td></td> <td></td> <td></td> <td></td> <td>* See back of form for codes</td> </tr> </tbody> </table>		Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	Before	11:15	88	81	71%	30.4	00121	Middle	12:30	88	81	71%	30.4	00121	After	13:45	88	80	70%	30.4	00121	Average of Readings						* See back of form for codes
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Average of Readings						* See back of form for codes																																
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Vertical order - FIRST CLASS I  NO PROBLEMS!																																						
Data File Name(s): 90272042 (Standard NGS Format = aaaadddd.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached																																				
LOG CHECKED BY: JAH		CHANGED NAME TO CENPOP , ANT HT TO 2,000 MT. AND MEASURED TO BOTTOM OF MOUNT.																																				

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) FALS	Station PID, if any: N/A	Date (UTC): 23 July 03				
	General Location: False River	Airport ID, if any: N/A	Station 4-Character ID: FALS				
Project Name: GPS Control False River La.		Project Number: CHUSA GPS-03-030	Station Serial # (SSN): N/A				
NAD83 Latitude o		NAD83 Longitude o	NAD83 Ellipsoidal Height meters				
Observation Session Times (UTC): Sched. Start 1110 hrs Stop 1345		Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	Agency Full Name: CHUSA Surveying INC. Operator Full Name: LORIOLE P DUPONT Phone #: (225) 638-5949 e-mail address: N/A				
Actual Start 1110 Stop 1346		NAVD88 Orthometric Ht. meters	GEOID99 Geoid Height meters				
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 w/ TSC-1 P/N: 29887-11 S/N: 3705A18389 Firmware Version: • CamCorder Battery, • 12V DC , • 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: MICRO CENTERED L1/L2 w/ G.P. P/N: 33429-00 S/N: 220102799 Cable Length, meters: 10 mt. Vehicle is Parked 20 meters SW (direction) from antenna.					
Antenna plumb before session? <input checked="" type="radio"/> (Y/N) Circle Antenna plumb after session? <input checked="" type="radio"/> (Y/N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (Y/N) -If no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (Y/N) Antenna ground plane used? <input checked="" type="radio"/> (Y/N)		Antenna radome used? <input checked="" type="radio"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y/N) Use Any obstructions above 10°? <input checked="" type="radio"/> (Y/N) Use Radio interference source nearby? <input checked="" type="radio"/> (Y/N) Vis. form					
Tripod or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tripod, • <input type="radio"/> Slip-Leg Tripod, • <input type="radio"/> Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
A = Datum point to Top of Tripod (Tripod Height)		FIXED					
B = Additional offset to ARP if any (Tribrach/Spacer)		HEIGHT					
Tribrach: Check one: <input checked="" type="radio"/> None, • <input type="radio"/> Wild GDF 22, • <input type="radio"/> Topcon, • Other (describe) Last Calibration date: N/A		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)					
Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: BARIGO Manufacturer & Model: Altimeter P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 July 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	11:00	88°	81°	72%	30.40	00110
	Middle	12:30	88°	81°	72%	30.40	00110
	After	14:00	88°	81°	72%	30.40	00110
Psychrometer: Manufacturer & Model: BACHARACH 5/119 S/N: 89050 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: No Problems 							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): FALS2043 (Standard NGS Format = aaaaddss.xxx) Job # 204C where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached		Submitted earlier Submitted earlier Submitted earlier	
LOG CHECKED BY: JAD							

**THIS SESSION (3) MATCHES OTHER RECUR SESSIONS (2)
NO EDITS REQUIRED**

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 23 JULY 03
 Network / Survey SECONDARY / SURVEY 1 C Julian Day 204
 Log sheet file 2043 LOG.PDF Session 3
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS COE.

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
4400 / TDC-1	PHILIPS	204 B	V2062043	V206
5700 / 7009	OUBRE	-	70092046	70092046
5700 / 9027	DEGLANDON	-	90272043	90272043
4400 / TDC-1	VOINCHE	204 A	16AB2043	16 AB
4400 / TSC-1	DUPONT	204 C	FAL32044	FAL3

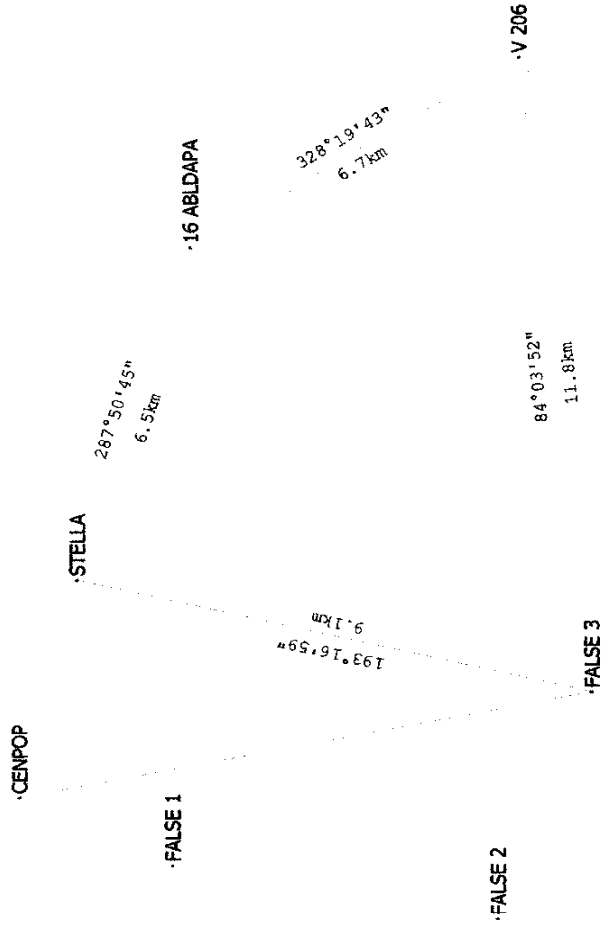
Checkin Edits

* Pt Name V206 IS GOOD, CHANGED ANT. HT. MEASURED TO BOTTOM OF MOUNT.
* Pt Name 70092046 CHANGED TO "STEL" ANT HT CHANGED TO 2.000 MT, AND ANT. HT MEASURED TO BOTTOM OF MOUNT.
* Pt Name 90272043 CHANGED TO "CENPOP" ANT HT CHANGED TO 2.000 MT AND ANT HT MEASURED TO BOTTOM OF MOUNT
* Pt Name 16AB CHANGED TO 16ABLDAPA, AND ANT. HT. MEASURED TO BOTTOM OF MOUNT.
* Pt Name FAL3 NO EDITS

·Z 281

Secondary Network Survey 2, Session 3

1:125000



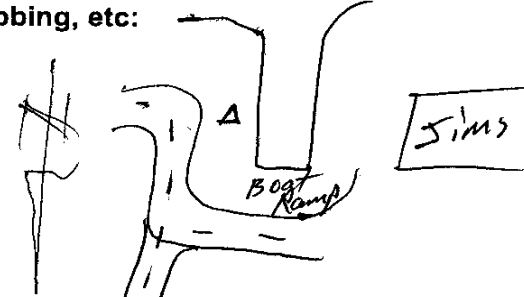
·B 205

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / SM) V206 1964	Station PID, if any: BJ0083	Date (UTC): 23 July 03
	General Location: 7.2 mi NW Hawk Hwy. 415 from DEWALL ELEM.	Airport ID, if any: N/A	Station 4-Character ID: V206
Project Name: GPS CONTROL FALSE RIVER LAKE		Project Number: C.S1 GPS-03-030	Station Serial # (SSN): 3
NAD83 Latitude 30° 37' 13"	NAD83 Longitude 91° 18' 54"	NAD83 Ellipsoidal Height meters NAVD88 Orthometric Ht. meters GEOID99 Geoid Height meters 102091 -27.23	Agency Full Name: CHUTE SURVEYING INC Operator Full Name: JAMES E. PHILLIPS Phone #: (225) 638-5949 e-mail address: N/A
Observation Session Times (UTC): Sched. Start 1415 Stop 1630 Actual Start 1415 Stop 1631		Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	
GPS Receiver: TRIMBLE 4400 Manufacturer & Model: W/TDC1 P/N: 29887-11 S/N: 8742A20788 Firmware Version: • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, • 110V AC, • Other		GPS Antenna: Compact L1, L2 Manufacturer & Model: W/Ground Plane P/N: 22020-00 S/N: 0220081649 Cable Length, meters: 10 Vehicle is Parked 40 meters E (direction) from antenna.	
GPS Receiver: TRIMBLE 4400 Manufacturer & Model: W/TDC1 P/N: 29887-11 S/N: 8742A20788 Firmware Version: • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, • 110V AC, • Other		Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (N) -If no. Weather observed at antenna ht. (Y/N) explain Antenna ground plane used? <input checked="" type="radio"/> (N) explain Antenna radome used? (Y/N) If yes. Eccentric occupation (>0.5 mm)? (Y/N) describe. Any obstructions above 10'? <input checked="" type="radio"/> (N) Use Radio interference source nearby (Y/N) Vis. form	
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: P/N: 5115-00-46L S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
P/N: 5115-00-46L S/N: N/A Last Calibration date: 21 July 03		Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet	
Tribrach: Check one: <input checked="" type="checkbox"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		A = Datum point to Top of Tripod (Tripod Height) 2.0 6.5616 B = Additional offset to ARP if any (Tribrach/Spacer) 0.0 0.0 H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) 2.0 6.5616 2.0 6.5616 2.0 6.5616 Note: Meters = Feet X (0.3048) Please note &/or sketch ANY unusual conditions. Height Entered Into Receiver = 2.00 meters. Be Very Explicit as to where and how Measured!	
Barometer: PARIGO Manufacturer & Model: P/N: NA S/N: NA Last Calibration or check Date:		Weather DATA	
Psychrometer: Manufacturer & Model: BACH ARCH S/N: SLING		Time (UTC)	
		Dry-Bulb Temp Fahrenheit Celsius	
		WetBulb Temp Fahrenheit Celsius	
		Rel. % Humidity	
		Atm. Pressure inches Hg millibar	
		Weather Codes *	
		Average of Readings	
		* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: "V206" FIRST CLASS I SHOWERS 1605:1620 Note: Entries are Required in <u>all</u> Unshaded areas.			
Data File Name(s): V2062043 (Standard NGS Format = aaaaddss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached Submitted earlier Submitted earlier Submitted earlier	
		LOG CHECKED BY: JEP	

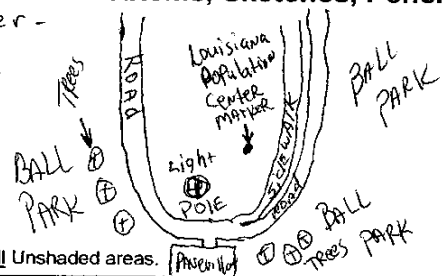
CHANGED ANT. HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) STELLA	Station PID, if any: N/A	Date (UTC): 23-July-2003					
	General Location: Ventress, La.	Airport ID, if any: N/A	Station 4-Character ID: STEL					
Project Name: False River GPS		Project Number: CSI# GPS-03-030	Station Serial # (SSN): N/A					
NAD83 Latitude 30° 41' 22.0137"		NAD83 Longitude 91° 24' 57.0618"	NAD83 Ellipsoidal Height meters					
Observation Session Times (UTC): Sched. Start 14:00 Stop 16:30 Actual Start 13:58 Stop 16:20		Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	Agency Full Name: Chustz Surveying Operator Full Name: Kim Oubre Phone #: (225) 638-5949 e-mail address: N/A					
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 022 0287009 Firmware Version: • CamCorder Battery, • 2V Dc , • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: Zepher Geo P/N: 41249-00 DC 4223 S/N: 12286295 Cable Length, meters: 10 Vehicle is Parked 25 meters N (direction) from antenna.						
Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (Y) Vis. form		Antenna radome used? <input checked="" type="radio"/> (Y) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) Use Any obstructions above 10°? <input checked="" type="radio"/> (N) Radio interference source nearby <input checked="" type="radio"/> (Y) Vis. form						
Tripped or Ant. Mount: Check one: • <input checked="" type="radio"/> Tripod-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)						
Tribrach: Check one: • <input checked="" type="radio"/> None, • Wild GDF 22, • Topcon, • Other (describe): Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet						
A = Datum point to Top of Tripod (Tripod Height)		2.000	6.562					
B = Additional offset to ARP if any (Tribrach/Spacer)		0.0	0.0					
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		2.000	6.562					
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
	Before	1400	88°	81°	72	30.45	00120	
	Middle	1515	88°	81°	72	30.45	00120	
	After	1630	88°	81°	72	30.45	00120	
	Average of Readings						* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: No Problems								
Data File Name(s): 70092043 70092044 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: JSB	

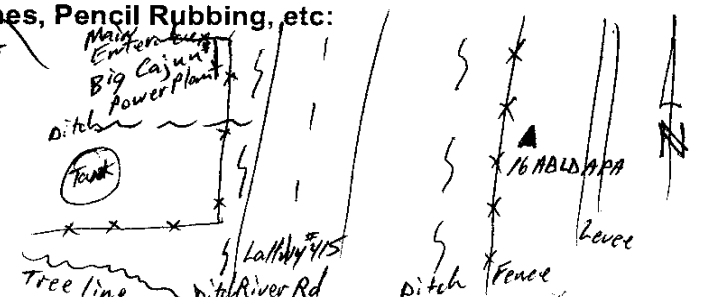
GPS



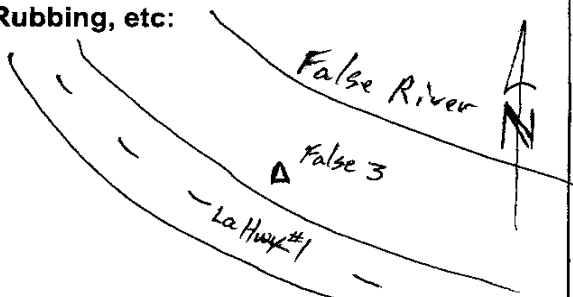
CHANGED Pt. NAME TO STEL, ANT. HT TO 2.000 MT., AND ANT. HT MEAS. TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) Louisiana Population Center Marker	Station PID, if any: DE 5745	Date (UTC): 23 July 03				
	General Location: Civic Center	Airport ID, if any:	Station 4-Character ID: CPOP				
Project Name: GPS CONTROL FALSE RIVER, LA.		Project Number: GPS- Chustz	Station Serial # (SSN): 3				
NAD83 Latitude 30° 41' 55.13019	NAD83 Longitude 91° 27' 27.42343	NAD83 Ellipsoidal Height -19.07 meters	Agency Full Name: CHUSTZ SURVEYING, INC. Operator Full Name: MICHAEL DEGLANDON Phone #: (225)-638-5949 e-mail address: LHines@chustz.com				
Observation Session Times (UTC): Sched. Start 14:00 Stop 16:30	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. Suited 8.0 meters GEOID99 Geoid Height -27.23 meters					
Actual Start 1400 Stop 1630	GPS Receiver: TRIMBLE Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220279027 Firmware Version: • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, <input type="checkbox"/> 110V AC, • Other	GPS Antenna: TRIMBLE Manufacturer & Model: Zepher Geo. P/N: 41249-00 DC 4137 S/N: 1189037 Cable Length, meters: 10 MT Vehicle is Parked 50 meters west (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Yes or No Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) -If no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N) Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby? <input checked="" type="checkbox"/> (Y/N) Vis. form				
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 July 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Before Session Begins: measure and record both Meters AND Feet				
	A = Datum point to Top of Tripod (Tripod Height)	Fixed	After Session Ends: measure and record both Meters AND Feet				
	B = Additional offset to ARP if any (Tribrach/Spacer)	Height					
Tribrach: Check one: <input checked="" type="checkbox"/> None, <input type="checkbox"/> Wild GDF 22, <input type="checkbox"/> Topcon, • Other (describe)	H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)						
Last Calibration date: N/A 21 JULY 03	Note: Meters = Feet X (0.3048); Height Entered Into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21 July 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	1400	88°	81°	72	30.45	00120
	Middle	1515	88	80°	72	30.45	00120
	After	1630	88	80°	72	30.45	00120
Psychrometer: Manufacturer & Model: Bacharach S/N: N/A Sling 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Vertical order - First class I 							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): 90272043 (Standard NGS Format = aaaaddsss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached			Submitted earlier Submitted earlier		LOG CHECKED BY: JOB	

CHANGED Pt NAME TO "CPOP" ANT. Ht. CHANGED TO 2.000 MT. AND ANT HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) 16ABLDAPA		Station PID, if any: N/A	Date (UTC): 23 July 2003			
	General Location: New Roads, La.		Airport ID, if any: N/A	Station 4-Character ID: 16AB			
Project Name: False River GPS		Project Number: CSI# GPS-03-030	Station Serial # (SSN): N/A	Session ID: (A,B,C etc) 3			
NAD83 Latitude	NAD83 Longitude	NAD83 Ellipsoidal Height meters	Agency Full Name: Chutz Surveying				
Observation Session Times (UTC): Sched. Start 14:00 Stop 16:30		NAVD88 Orthometric Ht. meters	Operator Full Name: mark Voinche				
Actual Start 14:07 Stop 16:33		GEOID99 Geoid Height meters	Phone #: (225) 688-5949				
Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees			e-mail address: N/A				
GPS Receiver: Trimble Manufacturer & Model: 4400 w/TDC 1 P/N: 29887-11 S/N: 3614A 15151 Firmware Version: • CamCorder Battery, • 12V DC, • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: Compact L1LZ w/GP P/N: 02020-00 S/N: 0220066028 Cable Length, meters: 10 Vehicle is Parked 30 meters S (direction) from antenna.		Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (N)			
• Tripod-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Antenna radome used? (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? (Y/N) Use Any obstructions above 10'? <input checked="" type="radio"/> (N) Use Radio interference source nearby (Y/N) Vis. form			
Tribrach: Check one: • None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet		After Session Ends: measure and record both Meters AND Feet			
		A = Datum point to Top of Tripod (Tripod Height)		2.000 6.562			
		B = Additional offset to ARP if any (Tribrach/Spacer)		0.0 0.0			
		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		2.000 6.562			
		Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!			
Barometer: Barigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date:	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	Wet Bulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	14:00	88°	81°	72%	30.45	00120
	Middle	15:15	88°	79°	67%	30.45	00120
	After	16:30	88°	78°	64%	30.45	00120
	Average of Readings						* See back of form for codes
Psychrometer: Manufacturer & Model: Bacharach sling S/N: N/A 12-7011							
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Hot, Lt West Breeze, 7-75% Clouds No Problems 							
Note: Entries are Required in <u>all</u> Unshaded areas.							
Data File Name(s): 16AB2043 (Standard NGS Format = aaaaddds.xxx) where aaaa=1-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached		LOG CHECKED BY: SJA	

CHANGED NAME FROM 16AB TO "16ABLDAPA" AND ANT. HT. MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <u>BM</u>) <u>FAL3</u>	Station PID, if any: <u>N/A</u>	Date (UTC): <u>23 July 03</u>
	General Location: <u>False River</u>	Airport ID, if any: <u>N/A</u>	Station 4-Character ID: <u>FAL3</u>
Project Name: <u>GPS Control False River Co.</u>		Project Number: <u>Chaste GPS-03-030</u>	Station Serial # (SSN): <u>N/A</u>
NAD83 Latitude <u>0</u>		NAD83 Longitude <u>0</u>	NAD83 Ellipsoidal Height meters
Observation Session Times (UTC): Sched. Start <u>1400</u> Stop <u>1630</u>		Epoch Interval= <u>15</u> Seconds	Agency Full Name: <u>Chaste Surveying LLC</u>
Actual Start <u>1403</u> Stop <u>1630</u>		Elevation Mask = <u>15</u> Degrees	Operator Full Name: <u>LORNAE P DUPONT</u>
GPS Receiver: <u>Trimble</u> Manufacturer & Model: <u>4400 w/RC-1</u> P/N: <u>29887-11</u> S/N: <u>3705A18589</u> Firmware Version: • CamCorder Battery, • <u>2V DC</u> , • 110V AC, • Other		GPS Antenna: <u>Trimble</u> Manufacturer & Model: <u>micro CENTER 4/2 w/G.P.</u> P/N: <u>33429-00</u> S/N: <u>220102799</u> Cable Length, meters: <u>10m</u> Vehicle is Parked <u>20</u> meters <u>SW</u> (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna radome used? <input type="radio"/> (Y) <input checked="" type="radio"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input type="radio"/> (Y) <input checked="" type="radio"/> (N) Use Any obstructions above 10m? <input type="radio"/> (Y) <input checked="" type="radio"/> (N) Use Radio interference source nearby <input type="radio"/> (Y) <input checked="" type="radio"/> (N) Vis. form
Tripod or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tripod • <input type="radio"/> Slip-Leg Tripod • <input type="radio"/> Fixed Mount Manufacturer & Model: <u>Trimble</u> P/N: <u>N/A</u> S/N: <u>N/A</u> Last Calibration date: <u>21 July 03</u>		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
Tribrach: Check one: <input checked="" type="radio"/> None • <input type="radio"/> Wild GDF 22 • <input type="radio"/> Topcon • <input type="radio"/> Other (describe) Last Calibration date: <u>N/A</u>		Before Session Begins: measure and record both Meters AND Feet	
Barometer: <u>BARI90</u> Manufacturer & Model: <u>Altimeter</u> P/N: <u>5492</u> S/N: <u>43334</u> Last Calibration or check Date: <u>21 July 03</u>		After Session Ends: measure and record both Meters AND Feet	
Psychrometer: Manufacturer & Model: <u>BACHARACH 9110</u> S/N: <u>89050 12-7011</u>		A= Datum point to Top of Tripod (Tripod Height) <u>Fixed</u>	
		B= Additional offset to ARP if any (Tribrach/Spacer) <u>Height</u>	
		H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = <u>2.000</u> meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	
Weather DATA		Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius
Before		14:00	88°
Middle		15:15	88°
After		16:30	88°
Average of Readings			
Rel. % Humidity		Atm. Pressure inches Hg millibar	Weather Codes *
72%		30.40	0011
72%		30.45	0011
72%		30.45	0011
			* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: <u>No Problems</u> 			
Data File Name(s): <u>FAL3 204 4</u> (Standard NGS Format = aaaaddds.xxx) <u>505 # 2040</u> where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached	
		Submitted earlier Submitted earlier	
		LOG CHECKED BY: <u>JAD</u>	

THIS SESSION (4) MATCHES OTHER RECUR SESSIONS (3)
NO EDITS TO THIS FILE

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 24 JULY 03
 Network / Survey SECONDARY / SURVEY 2A Julian Day 205
 Log sheet file 2050 LOG. PDF Session 0
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS COE

Original data Files as logged in the field (without edits)

Recvr / Collector	Operator	Job File	Data File	Station
4400 / TDC-1	VOINCHE	205A	FAL12050	FAL1
4400 / TDC-1	PHILLIPS	205B	FAL22050	FAL2
5700 / 9027	DEGLANDON	—	90272050	90272050
5700 / 7009	OUBRE	—	70092050	70092050
4400 / TSC1	DUPONT	205C	FAL32050	FAL3

Checkin Edits

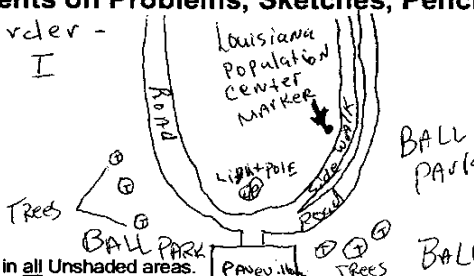
- * POINT NAME FAL1, CHANGED ANT HT MEASURED TO BOTTOM OF MOUNT.
- * POINT NAME FAL2 IS GOOD, CHANGED ANT HT MEASURED TO BOTTOM OF MOUNT.
- * POINT NAME 90272050 CHANGED TO "CENPOP", CHANGED ANT HT MEASURED TO BOTTOM OF MOUNT
- * POINT NAME 70092050 CHANGED TO STEL, ANT HT CHANGED TO 2.000 MT. AND ANT. HT MEASURED TO BOTTOM OF MOUNT.
- * POINT NAME FAL3 GOOD! OK NO EDITS

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="checkbox"/> BM)	Station PID, if any:	Date (UTC):				
	General Location: Airport ID, if any:	Station 4-Character ID:	Day of Year:				
Project Name: GPS Control False River Co.		Project Number: CHUSTY GPS-03030	Station Serial # (SSN): N/A				
NAD83 Latitude	NAD83 Longitude	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTY SURVEYING INC.				
Observation Session Times (UTC): Sched. Start 0639 Stop 0915	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters	Operator Full Name: LONDIE DUPONT				
Actual Start 639 Stop 915		GEOID99 Geoid Height meters	Phone #: (225) 638-5949				
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 WXTX-1 P/N: 29887-11 S/N: 3705A18389 Firmware Version: • CamCorder Battery, • 12V D.C., • 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: MICRO CENTERED 1 1/2 W/B.P. P/N: 33429-00 S/N: 220102799 Cable Length, meters: 10 MT. Vehicle is Parked 30 meters SW (direction) from antenna.					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod • Slip-Leg Tripod • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 July 03		Antenna plumb before session? <input checked="" type="checkbox"/> N Circle Antenna plumb after session? <input checked="" type="checkbox"/> N Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> N -If no, Weather observed at antenna ht. <input checked="" type="checkbox"/> N explain Antenna ground plane used? <input checked="" type="checkbox"/> N Antenna radome used? <input checked="" type="checkbox"/> N If yes, Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> N describe. Any obstructions above 10'? <input checked="" type="checkbox"/> N Use Radio interference source nearby? <input checked="" type="checkbox"/> N Vis. form					
Tribrach: Check one: <input checked="" type="checkbox"/> None • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date:		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
		Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet				
		A = Datum point to Top of Tripod (Tripod Height)	FIXED				
		B = Additional offset to ARP if any (Tribrach/Spacer)	HEIGHT				
		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)					
		Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: BARBO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 July 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	Wet Bulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	0630	76°	73°	85%	30.40	00010
	Middle	0800	80°	74°	75%	30.40	00110
	After	0920	84°	77°	73%	30.60	00110
	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: BM. is LOCATED @ High TOP BANK OF FALSE RIVER approx. 4' FROM EDGE ASPHALT of Hwy 1. MODERATE TRAFFIC False River Hwy 1 ▲ - FAL3 # P.P.							
Note: Entries are Required in <u>all</u> Unshaded areas.							
Data File Name(s): FAL32050.DAT (Standard NGS Format = aaaaddss.xxx) JOB FILE 205C where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached		LOG CHECKED BY: JAD	

OK NO EDITS!

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / GM) STELLA	Station PID, if any: N/A	Date (UTC): 27-July-03																
	General Location: Ventress, La.	Airport ID, if any: N/A	Station 4-Character ID: STEL																
Project Name: False River-GPS		Project Number: CSI# GPS-03-030	Station Serial # (SSN): N/A																
NAD83 Latitude o	NAD83 Longitude o	NAD83 Ellipsoidal Height meters	Agency Full Name: Chutz Surveying																
Observation Session Times (UTC): Sched. Start 06:40 Stop 09:15 Epoch Interval = 15 Seconds Actual Start 640 Stop 915 Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters	GEOID99 Geoid Height meters	Operator Full Name: Kim Dubre'																
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220287009 Firmware Version: • CamCorder Battery, • 12V DC, • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: Zepher 600 P/N: 41249-00 DC 4223 S/N: 12286295 Cable Length, meters: 10 Vehicle is Parked 50 meters S (direction) from antenna.																	
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration) <table border="1"> <tr> <td colspan="2">Before Session Begins: measure and record both Meters AND Feet</td> <td colspan="2">After Session Ends: measure and record both Meters AND Feet</td> </tr> <tr> <td>A = Datum point to Top of Tripod (Tripod Height)</td> <td>2.000</td> <td>6.562</td> <td>2.000</td> </tr> <tr> <td>B = Additional offset to ARP if any (Tribrach/Spacer)</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> </tr> <tr> <td>H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)</td> <td>2.000</td> <td>6.562</td> <td>2.000</td> </tr> </table>		Before Session Begins: measure and record both Meters AND Feet		After Session Ends: measure and record both Meters AND Feet		A = Datum point to Top of Tripod (Tripod Height)	2.000	6.562	2.000	B = Additional offset to ARP if any (Tribrach/Spacer)	0.0	0.0	0.0	H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	2.000	6.562	2.000
Before Session Begins: measure and record both Meters AND Feet		After Session Ends: measure and record both Meters AND Feet																	
A = Datum point to Top of Tripod (Tripod Height)	2.000	6.562	2.000																
B = Additional offset to ARP if any (Tribrach/Spacer)	0.0	0.0	0.0																
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	2.000	6.562	2.000																
Tribrach: Check one: • Mono, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters.																	
Barometer: Barigo Manufacturer & Model: P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *												
	Before	06:45	76	73	85%	30.4	00010												
	Middle	08:00	80	74	75%	30.4	00011												
	After	09:15	84	77	73%	30.6	00111												
Psychrometer: Manufacturer & Model: S/N: N/A	Average of Readings						* See back of form for codes												
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: 																			
Data File Name(s): 70092050 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: JAD												

CHANGED NAME TO STEL; ANT. HT TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) Louisiana Population Center Marker	Station PIP, if any: N/A	Date (UTC): 24 July 03					
	General Location: Civic Center	Station 4-Character ID: CPOP	Day of Year: 205					
Project Name: GPS CONTROL FALSE RIVER, LA.		Project Number: Chustz GPS-03-030	Station Serial # (SSN): CPOP					
NAD83 Latitude o		NAD83 Longitude o	NAD83 Ellipsoidal Height meters					
Observation Session Times (UTC): Sched. Start 6:59 Stop 9:15		Epoch Interval: 15 Seconds	Agency Full Name: Chustz Surveying, Inc.					
Actual Start _____ Stop _____		Elevation Mask = 15 Degrees	Operator Full Name: Michael DeGlandon					
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220279027 Firmware Version: • CamCorder Battery, (12V DC) 110V AC, • Other		GPS Antenna: TRIMBLE Manufacturer & Model: P/N: 41249-00 DC 4137 S/N: 11890377 Cable Length, meters: 10 MT. Vehicle is Parked 50 meters west (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Circle Yes or No Antenna plumb after session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) -If no. Antenna oriented to true North? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) explain Weather observed at antenna ht. <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Antenna radome used? <input type="radio"/> (Y) <input checked="" type="radio"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Use Any obstructions above 10'? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Vis. form Radio interference source nearby? <input checked="" type="radio"/> (Y) <input type="radio"/> (N)					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, <input type="checkbox"/> Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)						
		A = Datum point to Top of Tripod (Tripod Height)	Fixed					
		B = Additional offset to ARP if any (Tribrach/Spacer)	Height					
Tribrach: Check one: <input checked="" type="checkbox"/> None, <input type="checkbox"/> Wild GDF 22, <input type="checkbox"/> Topcon, <input type="checkbox"/> Other (describe) Last Calibration date: 21 July 03		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) Height Entered into Receiver = 2.000 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: Manufacturer & Model: P/N: N/A S/N: N/A Last Calibration or check Date: 21 July 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
	Before	6:45	76°	73°	85%	30.4	00010	
	Middle	8:00	80°	74°	75%	30.4	00111	
	After	9:20	84°	77°	73%	30.6	00111	
Psychrometer: Manufacturer & Model: S/N: N/A	Average of Readings							
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Vertical order - First class I  NO Problems!								
Data File Name(s): 90272050 (Standard NGS Format = aaaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached			LOG CHECKED BY: AB	

PT. NAME "CENPOP" ANT. HT CHANGED TO 2.000MT. AND MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) FALSE 2 NEW	Station PID, if any: NA	Date (UTC): 24 JULY 03					
	General Location: HWY 1 LIGHT HOUSE NA	Airport ID, if any: NA	Station 4-Character ID: FALZ	Day of Year: 205				
Project Name: GPS CONTROL FALSE RIVER LAKE		Project Number: CSI GPS-03-030	Station Serial # (SSN): NA	Session ID:(A,B,C etc) 0				
NAD83 Latitude 0	NAD83 Longitude 0	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTZ SURVEYING INC					
Observation Session Times (UTC): Sched. Start 0642 Stop 0915		Epoch Interval= 15 Seconds	Operator Full Name: JAMES B PHILLIPS					
Actual Start 642 Stop 915		Elevation Mask = 15 Degrees	Phone #: (225) 638 5949					
GPS Receiver: TRIMBLE 4400		GPS Antenna: COMPACT L1 L2	Antenna plumb before session? <input checked="" type="radio"/> (Y/N) Circle Yes or No					
Manufacturer & Model: W/TDC1		Manufacturer & Model: W/GEORADARS	Antenna plumb after session? <input checked="" type="radio"/> (Y/N) -If no, explain					
P/N: 29887-11		P/N: 22020-00	Antenna oriented to true North? <input checked="" type="radio"/> (Y/N)					
S/N: 8742A20788		S/N: 0220081649	Weather observed at antenna ht. <input checked="" type="radio"/> (Y/N)					
Firmware Version:		Cable Length, meters:	Antenna ground plane used? <input checked="" type="radio"/> (Y/N)					
• CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, • 110V AC, • Other		Vehicle is Parked <input checked="" type="checkbox"/> meters NE (direction) from antenna.	Antenna radome used? <input checked="" type="radio"/> (Y/N) If yes, describe.					
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount		** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Before Session Begins: measure and record both Meters AND Feet				
Manufacturer & Model: SECO		A= Datum point to Top of Tripod (Tripod Height)		After Session Ends: measure and record both Meters AND Feet				
P/N: 5115-00-YEL		B=Additional offset to ARP if any (Tribrach/Spacer)						
S/N: NA								
Last Calibration date: 21 JULY 03		H= Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)						
Tribrach: Check one: <input checked="" type="checkbox"/> None , • Wild GDF 22, • Topcon, • Other (describe)		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 20.00 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!				
Last Calibration date: NA								
Barometer: DARCO Manufacturer & Model: ALTIMETER P/N: 5492 S/N: 4333L Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	
		Before	0640	76°	72°	82%	30.4	01000
		Middle	0810	78°	74°	78%	30.4	01000
		After	0925	83°	77°	76%	30.4	01110
Psychrometer: Manufacturer & Model: BACH ARACH S/N: 82050 SUNG 122011	Average of Readings						* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: FALSE 2 - NEW - SESSION - 3 TOTAL								
Note: Entries are Required in <u>all</u> Unshaded areas.								
Data File Name(s): FALZ050 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached		Submitted earlier Submitted earlier		
				LOG CHECKED BY: JAD				

CHANGED ANT AT MEASURED TO BOTTOM OF MOUNT

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 24 July 03
 Network / Survey SECONDARY / SURVEY ZB Julian Day 205
 Log sheet file 205 | LOG.PDF Session 1
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS COE

Original data Files as logged in the field (without edits)

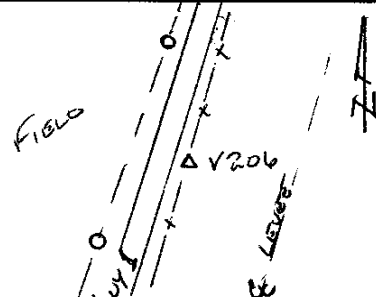
Recvr / Collector	Operator	Job File	Data File	Station
4400 / TDC-1	VOINCITE	205A	16AB2051	16AB
4400 / TDC-1	PHILLIPS	205B	V2062051	V206
4400 / TSC-1	DUPONT	205C	FAL32051	FAL3
5700 / 9027	DEGLANDON	-	90272051	90272051
5700 / 7009	OUBRE	-	70092051	70092051

Checkin Edits

- * PT NAME 16AB CHANGED TO "16ABLD APA" AND ANT HT. MEASURED TO BOTTOM OF MOUNT
- * PT NAME V206 OK! CHANGED ANT. HT MEASURED TO BOTTOM OF MOUNT.
- * PT NAME FAL3 OK! NO OTHER EDITS
- * PT NAME 90272051 CHANGED TO "CENPOA" ANT HT. TO 2.000 MT AND MEASURED TO BOTTOM OF MOUNT
- * PT NAME 70092051 CHANGED TO STEL ANT HT TO 2.000 MT AND MEASURED TO BOTTOM OF MOUNT
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GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) 16 ABLDAPA	Station PID, if any: N/A	Date (UTC): 24 July 2003																																			
	General Location: New Roads La	Airport ID, if any: N/A	Station 4-Character ID: 16 AB																																			
Project Name: False River GPS		Project Number: CSI GPS- 03-030	Station Serial # (SSN): N/A																																			
NAD83 Latitude 30° 40' 18.0		NAD83 Longitude 91° 21' 06.4	NAD83 Ellipsoidal Height meters																																			
Observation Session Times (UTC): Sched. Start 9:45 Stop 12:20 Interval = 15 Seconds Actual Start 9:45 Stop 12:20 Elevation Mask = 15 Degrees		NAVD88 Orthometric Ht. meters	Agency Full Name: Chutz Surveying																																			
GPS Receiver: Trimble Manufacturer & Model: 4400 w/TOC1 P/N: 29887-11 S/N: 3614 A 15151 Firmware Version: • CamCorder Battery, • 12V DC, • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: Compact 1122 P/N: 02020-00 w/G.P. S/N: 0220066028 Cable Length, meters: 10 Vehicle is Parked 15 SW (direction) from antenna.	Operator Full Name: Mark Voinche Phone #: (225) 638-5949 e-mail address: N/A																																			
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, <input type="checkbox"/> Fixed Mount Manufacturer & Model: Trimble P/N: N/A S/N: N/A Last Calibration date: 21 July 2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)																																				
Tribrach: Check one: <input checked="" type="checkbox"/> None, <input type="checkbox"/> Wild GDF 22, <input type="checkbox"/> Topcon, <input type="checkbox"/> Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet																																				
Barometer: Bairinger Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21 July 2003		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 20 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!																																				
Psychrometer: Manufacturer & Model: Bachman S/N: N/A 12-7011		<table border="1"> <thead> <tr> <th>Weather DATA</th> <th>Time (UTC)</th> <th>Dry-Bulb Temp Fahrenheit Celsius</th> <th>WetBulb Temp Fahrenheit Celsius</th> <th>Rel. % Humidity</th> <th>Atm. Pressure inches Hg millibar</th> <th>Weather Codes *</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>9:50</td> <td>87</td> <td>79</td> <td>70%</td> <td>30.6</td> <td>0011</td> </tr> <tr> <td>Middle</td> <td>11:00</td> <td>88</td> <td>80</td> <td>71%</td> <td>30.6</td> <td>0011</td> </tr> <tr> <td>After</td> <td>12:25</td> <td>90</td> <td>81</td> <td>67%</td> <td>30.5</td> <td>0011</td> </tr> <tr> <td colspan="7">Average of Readings</td> </tr> </tbody> </table>		Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *	Before	9:50	87	79	70%	30.6	0011	Middle	11:00	88	80	71%	30.6	0011	After	12:25	90	81	67%	30.5	0011	Average of Readings						
Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *																																
Before	9:50	87	79	70%	30.6	0011																																
Middle	11:00	88	80	71%	30.6	0011																																
After	12:25	90	81	67%	30.5	0011																																
Average of Readings																																						
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Center of pipe cover cap on 12" pipe inside 4" pipe. Used center as point of origin. No obstructions overhead.																																						
Data File Name(s): 16AB2031 (Standard NGS Format = aaaaddds.xxx) Job # 205A where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached																																				
Note: Entries are Required in all Unshaded areas.		LOG CHECKED BY: JTB																																				

CHANGED NAME TO 16 ABLDAPA AND ANT HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / SM) V206 1964	Station PID, if any: BJ0083	Date (UTC): 24 JULY 03				
	General Location: 72 MI NW ALONG HWY 415 FROM DEWALL ELEM.	Airport ID, if any: N/A	Station 4-Character ID: V206	Day of Year: 205			
Project Name: GPS CONTROL FALSE RIVER LAKE		Project Number: CS1 GPS-03-030	Station Serial # (SSN): N/A	Session ID: (A,B,C etc) 1			
NAD83 Latitude 30° 37' 13"	NAD83 Longitude 91° 18' 57"	NAD83 Ellipsoidal Height meters 10.091	Agency Full Name: CHUSTZ SURVEYING INC.				
Observation Session Times (UTC): Sched. Start 1204 Stop 1220	Epoch Interval= 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters 10.091	Operator Full Name: JAMES E PHILLIPS				
Actual Start 1204 Stop 1222		GEOID99 Geoid Height meters -27.23	Phone #: (605) 638-5949				
GPS Receiver: TRIMBLE 4400 Manufacturer & Model: W/TDC1 P/N: 29887-11 S/N: 8742AZ0788 Firmware Version: • CamCorder Battery, <input checked="" type="checkbox"/> 12V DC, • 110V AC, • Other		GPS Antenna: COMPACT 21, 22 Manufacturer & Model: W/GROUND PLATE P/N: 22020-00 S/N: 0220081649 Cable Length, meters: Vehicle is Parked 40 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Circle Yes or No Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) -if no, explain Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N) Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use Any obstructions above 10'? <input checked="" type="checkbox"/> (Y/N) Vis. form Radio interference source nearby (Y/N)				
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: 5115-00-4EL S/N: 2SA Last Calibration date: 21 JULY 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: <input checked="" type="checkbox"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet After Session Ends: measure and record both Meters AND Feet					
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		A = Datum point to Top of Tripod (Tripod Height) B = Additional offset to ARP if any (Tribrach/Spacer)					
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 20.00 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP) 20 6.5616 20 6.5616					
Barometer: BARIGO Manufacturer & Model: ALTIMETER P/N: 5492 N/A S/N: 4333 N/A Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	10 05	83°	78°	79%	30.6	01110
	Middle	11 10	86°	80°	77%	30.6	02100
	After	12 28	89°	79°	64%	30.5	02110
Psychrometer: Manufacturer & Model: PACHAHEH S/N: SLING 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: "V206" FIRST CLASS I 							
Note: Entries are Required in <u>all</u> Unshaded areas.							
Data File Name(s): V2062051 (Standard NGS Format = aaaadddd.xxx) JOB FILE 205B where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached		LOG CHECKED BY: JAD	

PT NAME OK! CHANGED ANT. HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) FAL3	Station PID, if any:	Date (UTC): 24 July 03				
	General Location: False River	Airport ID, if any:	Station 4-Character ID: FAL3				
Project Name: G.P.S. Control False River La.		Project Number: CHUSTA GPS-03030	Station Serial # (SSN): 1				
NAD83 Latitude 0	NAD83 Longitude 0	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTA SURVEYING INC. Operator Full Name: LORNOIE DUPONT Phone #: (225) 638-5449 e-mail address:				
Observation Session Times (UTC): Sched. Start 0930 Stop 1220	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters					
Actual Start 927 Stop 1220		GEOID99 Geoid Height meters					
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 W/TSC-1 P/N: 29887-11 S/N: 3705A18389 Firmware Version: • CamCorder Battery, <input checked="" type="radio"/> 12V DC, • 110V AC, • Other	GPS Antenna: TRIMBLE Manufacturer & Model: MICRO CENTERED 4 1/2 W/G.P. P/N: 33429-00 S/N: 220102799 Cable Length, meters: 10 MT. Vehicle is Parked 30 meters SW (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (N) Antenna plumb after session? <input checked="" type="radio"/> (N) Antenna oriented to true North? <input checked="" type="radio"/> (N) Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (N) Antenna radome used? <input checked="" type="radio"/> (Y) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) Use form Any obstructions above 10'? <input checked="" type="radio"/> (Y) Use form Radio interference source nearby? <input checked="" type="radio"/> (Y) Vis. form					
Tripod or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: P/N: N/A S/N: N/A Last Calibration date: 21 July 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration)		Before Session Begins: measure and record both Meters AND Feet				
	A = Datum point to Top of Tripod (Tripod Height)	Fixed					
	B = Additional offset to ARP if any (Tribrach/Spacer)	Height					
Tribrach: Check one: <input checked="" type="radio"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date:	H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)		After Session Ends: measure and record both Meters AND Feet				
	Note: Meters = Feet X (0.3048) = 2.00 meters. Height Entered Into Receiver = 2.00 meters.		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!				
Barometer: BARISO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 July 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	0945	87°	79°	70%	30.60	0010
	Middle	1100	88°	80°	71%	30.60	0010
	After	1230	90°	81°	67%	30.5	0010
Psychrometer: Manufacturer & Model: BACHARACH S/N: 89050 12-7011	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: Bm LOCATED High TOP BANK FALSE RIVER APPROX. 4' FROM EDGE ASPHALT HWY 1. MODERATE TRAFFIC.							
<p>Note: Entries are Required in all Unshaded areas.</p> <p>NOTE: ★ INDICATES ADDRESS of 6432 HWY 1</p>							
Data File Name(s): FAL3 205 1.DAT (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached		Submitted earlier • Submitted earlier		LOG CHECKED BY: JAH		

NO EDITS REQUIRED!

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) Louisiana Population Center MARKER	Station PID, if any: N/A	Date (UTC): 24 July 03
	General Location: Civic Center	Airport ID, if any:	Station 4-Character ID: C POP
Project Name: GPS CONTROL FALSE RIVER, LA		Project Number: Chustz GPS-03030	Station Serial # (SSN): C POP
NAD83 Latitude o	NAD83 Longitude o	NAD83 Ellipsoidal Height meters	Agency Full Name: Chustz Surveying, INC.
Observation Session Times (UTC): Sched. Start 9:30 Stop 12:21	Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	NAVD88 Orthometric Ht. meters	Operator Full Name: Michael DeGlandon
Actual Start 9:30 Stop 12:21		GEOID99 Geoid Height meters	Phone #: (225) 638-5949
GPS Receiver: Trimble Manufacturer & Model: 5700		GPS Antenna: Trimble Manufacturer & Model:	Antenna plumb before session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Circle Yes or No
P/N: 40406-00		P/N: 41249-00 DC 4137	Antenna plumb after session? <input checked="" type="radio"/> (Y) <input type="radio"/> (N)
S/N: 0220279027		S/N: 11890377	Antenna oriented to true North? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) -if no, explain
Firmware Version:		Cable Length, meters: 10 MT	Weather observed at antenna ht. <input checked="" type="radio"/> (Y) <input type="radio"/> (N)
• CamCorder Battery, <input checked="" type="radio"/> 12V DC, <input type="radio"/> 110V AC, • Other		Vehicle is Parked 50 meters west (direction) from antenna.	Antenna ground plane used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N)
GPS Receiver: Trimble Manufacturer & Model: 5700		GPS Antenna: Trimble Manufacturer & Model:	Antenna radome used? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) If yes, describe.
P/N: 40406-00		P/N: 41249-00 DC 4137	Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Use
S/N: 0220279027		S/N: 11890377	Any obstructions above 10'? <input checked="" type="radio"/> (Y) <input type="radio"/> (N)
Firmware Version:		Cable Length, meters: 10 MT	Radio interference source nearby? <input checked="" type="radio"/> (Y) <input type="radio"/> (N) Vis. form
• CamCorder Battery, <input checked="" type="radio"/> 12V DC, <input type="radio"/> 110V AC, • Other		Vehicle is Parked 50 meters west (direction) from antenna.	
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
P/N: N/A		A = Datum point to Top of Tripod (Tripod Height)	Before Session Begins: measure and record both Meters AND Feet
S/N: N/A		B = Additional offset to ARP if any (Tribrach/Spacer)	After Session Ends: measure and record both Meters AND Feet
Last Calibration date: 21 July 03		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	Fixed
Tribrach: Check one: <input checked="" type="radio"/> None, <input type="radio"/> Wild GDF 22, • Topcon, • Other (describe)		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters.	
Last Calibration date: 21 July 03		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!	
Barometer: Manufacturer & Model:		Weather DATA	Time (UTC)
P/N: N/A			Dry-Bulb Temp Fahrenheit Celsius
S/N: N/A			WetBulb Temp Fahrenheit Celsius
Last Calibration or check Date: 21 July 03			Rel. % Humidity
Psychrometer: Manufacturer & Model:			Altm. Pressure inches Hg millibar
S/N: N/A			Weather Codes *
Average of Readings			
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:		NO PROBLEMS!	
Vertical order - First class I			
Note: Entries are Required in all Unshaded areas.			
Data File Name(s): 90272051		Updated Station Description: • Attached • Submitted earlier	
(Standard NGS Format = aaaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Visibility Obstruction Form: • Attached • Submitted earlier	
		Photographs of Station: • Attached • Submitted earlier	
		Pencil Rubbing of Mark: • Attached	
		LOG CHECKED BY: DAK	

PT NAME CHANGED TO "CENPOP", ANT HT TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="checkbox"/> STA) STELLA	Station PID, if any: N/A	Date (UTC): 24-July-03				
	General Location: Ventress, La.	Airport ID, if any: N/A	Station 4-Character ID: STEL				
Project Name: False River - GPS		Project Number: CSI# GPS- 03-030	Station Serial # (SSN): N/A				
NAD83 Latitude °		NAD83 Longitude °	NAD83 Ellipsoidal Height meters				
Observation Session Times (UTC): Sched. Start 0730 Stop 1220		Epoch Interval = 15 Seconds	Agency Full Name: Chustz Surveying				
Actual Start 930 Stop 1220		Elevation Mask = 15 Degrees	Operator Full Name: Kim Oubre				
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220287009 Firmware Version: • CamCorder Battery, • <input checked="" type="checkbox"/> VDC, • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: ZephyrGeo P/N: 41249-00 DC 4223 S/N: 12286295 Cable Length, meters: 10 Vehicle is Parked 50 meters 5 (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N) Antenna radome used? <input checked="" type="checkbox"/> (Y/N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y/N) Use Any obstructions above 10°? <input checked="" type="checkbox"/> (Y/N) Use Radio interference source nearby <input checked="" type="checkbox"/> (Y/N) Vis. form				
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Strip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: • <input checked="" type="checkbox"/> None, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A		Before Session Begins: measure and record both Meters AND Feet					
		After Session Ends: measure and record both Meters AND Feet					
		A = Datum point to Top of Tripod (Tripod Height)	2.000 6.563				
		B = Additional offset to ARP if any (Tribrach/Spacer)	0.0 0.0				
		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	2.000 6.562				
		Note: Meters = Feet X (0.3048) 2.000 Height Entered Into Receiver = _____ meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: Bairigo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	09:40	87	79	70%	30.6	00111
	Middle	11:00	88	80	71%	30.6	00111
	After	12:26	90	81	67%	30.5	00111
	Average of Readings						* See back of form for codes
Psychrometer: Manufacturer & Model: S/N: N/A Bacharach slings 12-7011							
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc:							
Note: Entries are Required in <u>all</u> Unshaded areas.							
Data File Name(s): 70092051 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached		Submitted earlier Submitted earlier Submitted earlier Submitted earlier	
				LOG CHECKED BY: JAH			

PT NAME CHANGED TO STEL, ANT. HT TO 2.000MT AND MEASURED TO BOTTOM OF MOUNT.

Static GPS Checkin Log

Project: FALSE RIVER GPS Date 24 JULY 03
 Network / Survey SECONDARY / SURVEY 2C Julian Day 205
 Log sheet file 205.2 LOG.PDF Session 2
 CSI Project # 03-030
 Client Project # 03-061 Client NEW ORLEANS COE

Original data Files as logged in the field (without edits)

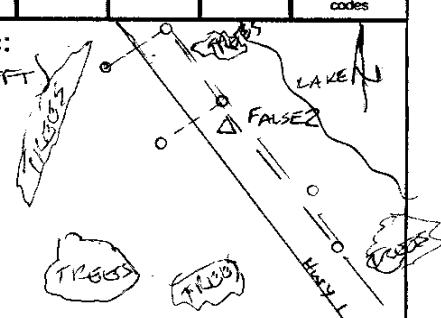
Recvr / Collector	Operator	Job File	Data File	Station
4400 / TDC1	VOINCHE	205A	FAL1 205Z	FAL1
4400 / TDC1	PHILLIPS	205B	FAL2 205Z	FAL2
5700 / 9027	DEGLANDON	—	9027 205Z	9027 205Z
5700 / 7009	OUBRE	—	7009 205Z	7009 205Z
4400 / TSC1	DUPONT	205C	B205 205Z	B205

Checkin Edits

* POINT NAME FAL1 OK!, CHANGED ANT HT. MEASURED TO BOTTOM OF MOUNT.
* POINT NAME FAL2 OK!, CHANGED ANT HT MEASURED TO BOTTOM OF MOUNT.
* CHANGED PT NAME 9027 205Z TO "CENPOP", 2.000 MT ANT HT, MEASURED TO BOTTOM OF MOUNT
* CHANGED PT NAME 7009 205Z TO Z281 ANT HT TO 2.000 MT. AND MEASURED TO BOTTOM OF MOUNT.
* POINT NAME OK!. NO EDITS REQUIRED

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) <i>False 1</i>	Station PID, if any: <i>N/A</i>	Date (UTC): <i>24 July 2003</i>				
	General Location: <i>New Roads La</i>	Airport ID, if any: <i>N/A</i>	Station 4-Character ID: <i>FAL 1</i>				
Project Name: <i>False River GPS</i>		Project Number: <i>LSE GPS-03-030</i>	Station Serial # (SSN): <i>N/A</i>				
NAD83 Latitude <i>30° 40' 29.2"</i>		NAD83 Longitude <i>91° 28' 14.8"</i>	NAD83 Ellipsoidal Height meters				
Observation Session Times (UTC): Sched. Start <i>1:26</i> Stop <i>15:45</i>		Epoch Interval= Seconds	Agency Full Name: <i>Chustz Surveying</i>				
Actual Start <i>1326</i> Stop <i>1546</i>		Elevation Mask = Degrees	Operator Full Name: <i>mark Voiniche</i>				
GPS Receiver: <i>Trimble</i> Manufacturer & Model: <i>4400 w/1001</i> P/N: <i>29887-11</i> S/N: <i>3614A 15151</i> Firmware Version: • CamCorder Battery, • 12V DC • 110V AC • Other		GPS Antenna: <i>Trimble</i> Manufacturer & Model: <i>compact (L1)</i> P/N: <i>02020-00 w/6P (L2)</i> S/N: <i>0220066028</i> Cable Length, meters: <i>10</i> Vehicle is Parked <i>15</i> meters <i>W</i> (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (N) Circle Antenna plumb after session? <input checked="" type="checkbox"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="checkbox"/> (N) -if no, explain Weather observed at antenna ht. <input checked="" type="checkbox"/> (N) Antenna ground plane used? <input checked="" type="checkbox"/> (N) Antenna radome used? <input checked="" type="checkbox"/> (Y) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> (Y) Use Any obstructions above 10°? <input checked="" type="checkbox"/> (N) Use Radio interference source nearby? <input checked="" type="checkbox"/> (Y) Vis. form				
Tripped or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, <input type="checkbox"/> Slip-Leg Tripod, <input type="checkbox"/> Fixed Mount Manufacturer & Model: <i>Trimble</i> P/N: <i>N/A</i> S/N: <i>N/A</i> Last Calibration date: <i>21 July 2003</i>		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
Tribrach: Check one: <input checked="" type="checkbox"/> None, <input type="checkbox"/> Wild GDF 22, <input type="checkbox"/> Topcon, <input type="checkbox"/> Other (describe) Last Calibration date: <i>N/A</i>		Before Session Begins: measure and record both Meters AND Feet					
		After Session Ends: measure and record both Meters AND Feet					
		A = Datum point to Top of Tripod (Tripod Height) <i>Fixed</i>					
		B = Additional offset to ARP if any (Tribrach/Spacer) <i>Height</i>					
		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)					
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = <i>2.0</i> meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: <i>Bair 90 Altimeter</i> Manufacturer & Model: P/N: <i>N/A</i> S/N: <i>N/A</i> Last Calibration or check Date: <i>21 July 2003</i>	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
		Before	<i>13:25</i> <i>90</i>	<i>83</i>	<i>64%</i>	<i>30.5</i>	<i>0011</i>
		Middle	<i>14:40</i> <i>91</i>	<i>81</i>	<i>64%</i>	<i>30.6</i>	<i>0011</i>
		After	<i>15:50</i> <i>90</i>	<i>81</i>	<i>68%</i>	<i>30.5</i>	<i>0011</i>
Psychrometer: Manufacturer & Model: S/N: <i>N/A</i> <i>Bacharach sling 12-7011</i>	Average of Readings						
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: <i>8 sats @ startup</i> <i>Traffic North Bound lane of Hwy 1 I 8 → cars</i> <i>pe/min.</i> <i>False River</i> <i>Hwy 1</i> <i>Bergeron Pecan Co.</i> <i>Bld Bld Bld</i>							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): <i>FAL 1 205 Z</i> (Standard NGS Format = aaaaddss.xxx) Job # <i>205A</i> where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached		Submitted earlier Submitted earlier Submitted earlier	
				LOG CHECKED BY: <i>JAD</i>			

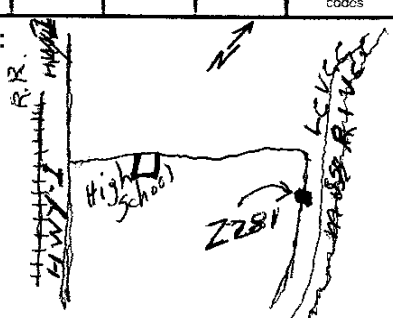
NAME OK! (CHANGED) ANT HT MEASURED TO BOTTOM OF MOUNT

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) FALSE 2 NEW	Station PID, if any: N/A	Date (UTC): 24 JULY 03				
	General Location: HWY 1 LIGHT HOUSE	Airport ID, if any: N/A	Station 4-Character ID: FAL2				
Project Name: GPS CONTROL FALSE RIVER LAKE		Project Number: CS1 GPS-03-030	Station Serial # (SSN): N/A				
Project Number: CS1 GPS-03-030		Station Serial # (SSN): N/A	Session ID:(A,B,C etc) 2				
NAD83 Latitude 0	NAD83 Longitude 0	NAD83 Ellipsoidal Height meters	Agency Full Name: JUSTZ SURVEYING INC Operator Full Name: JAMES E. PHILLIPS Phone #: (225) 638-5749 e-mail address: N/A				
Observation Session Times (UTC): Sched. Start 1252 Stop 1545		NAVD88 Orthometric Ht. meters					
Actual Start 1258 Stop 1546		Epoch Interval = 15 Seconds Elevation Mask = 15 Degrees	GEOID99 Geoid Height meters				
GPS Receiver: TRIMBLE 4400 Manufacturer & Model: W/TDC1 P/N: 29887-11 S/N: 8742AZ0788 Firmware Version: • CamCorder Battery, • 12V DC, • 110V AC, • Other	GPS Antenna: COMPACT L1, L2 Manufacturer & Model: W/GROUND PLANE P/N: 22020-00 S/N: 0220081649 Cable Length, meters: Vehicle is Parked 30 meters NW (direction) from antenna.	Antenna plumb before session? <input checked="" type="checkbox"/> (Y/N) Antenna plumb after session? <input checked="" type="checkbox"/> (Y/N) Antenna oriented to true North? <input checked="" type="checkbox"/> (Y/N) Weather observed at antenna ht. <input checked="" type="checkbox"/> (Y/N) Antenna ground plane used? <input checked="" type="checkbox"/> (Y/N)	Circle Yes or No -If no, explain				
Tripod or Ant. Mount: Check one: <input checked="" type="checkbox"/> Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: P/N: 5715-00-YEL S/N: N/A Last Calibration date: 24 JULY 03	** ANTENNA HEIGHT ** (see back of form for measurement illustration)	Before Session Begins: measure and record both Meters AND Feet	After Session Ends: measure and record both Meters AND Feet				
	A = Datum point to Top of Tripod (Tripod Height)	2.0 6.5616	2.0 6.5616				
	B = Additional offset to ARP if any (Tribrach/Spacer)	0. 0.	0. 0.				
Tribrach: Check one: <input checked="" type="checkbox"/> Trimble, • Wild GDF 22, • Topcon, • Other (describe) Last Calibration date: N/A	H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	2.0 6.5616	2.0 6.5616				
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.0 meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!							
Barometer: BA2100 Manufacturer & Model: P/N: NA ALTI METER S/N: NA Last Calibration or check Date: 21 JULY 03	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	1250	90°	81°	68%	30.5	02110
	Middle	1430	89	78°	61%	30.6	02110
	After	1550	89°	78°	61%	30.6	02110
	Average of Readings						* See back of form for codes
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: A TRUCK PARKED 8 METER SE OF FALSE 2 (1343 TRUCK LEFT) "FALSE" NEW - 1ST SESSION 							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): FAL22052 (Standard NGS Format = aaaaddss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension	Updated Station Description: • Attached • Submitted earlier Visibility Obstruction Form: • Attached • Submitted earlier Photographs of Station: • Attached • Submitted earlier Pencil Rubbing of Mark: • Attached		LOG CHECKED BY: JAL				

NAME OK! CHANGED ANT HT MEASURED TO BOTTOM OF MOUNT

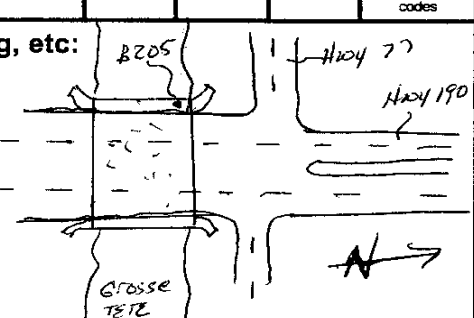
GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) <i>Louisiana Population Center Marker</i>	Station PID, if any: <i>N/A</i>	Date (UTC): <i>24 July 03</i>				
	General Location: <i>Civic Center</i>	Airport ID, if any:	Station 4-Character ID: <i>C POP</i>				
Project Name: <i>GPS CONTROL FALSE RIVER, LA</i>		Project Number: <i>Chustz GPS-03-030</i>	Station Serial # (SSN): <i>C POP</i>				
Project Number: <i>GPS-03-030</i>		Session ID: (A,B,C etc) <i>2</i>					
NAD83 Latitude °	NAD83 Longitude °	NAD83 Ellipsoidal Height meters	Agency Full Name: <i>Chustz SURVEYING, INC.</i>				
Observation Session Times (UTC): Sched. Start <i>13:01</i> Stop <i>15:49</i>	Epoch Interval = <i>15</i> Seconds Elevation Mask = <i>6</i> Degrees	NAVD88 Orthometric Ht. meters	Operator Full Name: <i>MICHAEL DEGLANDON</i>				
Actual Start <i>1300</i> Stop <i>1549</i>		GEOID99 Geoid Height meters	Phone #: <i>(225) 638-5949</i>				
GPS Receiver: <i>TRIMBLE</i> Manufacturer & Model: <i>5700</i>		GPS Antenna: <i>TRIMBLE</i> Manufacturer & Model:					
P/N: <i>40406-00</i>		P/N: <i>41249-00 DC 4137</i>					
S/N: <i>0220279027</i>		S/N: <i>11890377</i>					
Firmware Version:		Cable Length, meters: <i>10 MT</i>					
• CamCorder Battery, <input checked="" type="radio"/> 12V DC, <input type="radio"/> 110V AC, • Other		Vehicle is Parked <i>50</i> meters <i>West</i> (direction) from antenna.					
Antenna plumb before session? <input checked="" type="radio"/> (N) Circle		Antenna plumb after session? <input checked="" type="radio"/> (N) Yes or No					
Antenna oriented to true North? <input checked="" type="radio"/> (N) -if no.		Weather observed at antenna ht. <input checked="" type="radio"/> (Y) explain					
Antenna ground plane used? <input checked="" type="radio"/> (N)		Antenna radome used? <input checked="" type="radio"/> (N) if yes.					
Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (Y) describe.		Any obstructions above 10'? <input checked="" type="radio"/> (Y) Use					
Radio interference source nearby? <input checked="" type="radio"/> (N) Vis. form							
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: <i>SECO</i>		** ANTENNA HEIGHT ** (see back of form for measurement illustration)					
P/N: <i>N/A</i>		Before Session Begins: measure and record both Meters AND Feet					
S/N: <i>N/A</i>		After Session Ends: measure and record both Meters AND Feet					
Last Calibration date: <i>21 July 03</i>		A = Datum point to Top of Tripod (Tripod Height) <i>FIX ED</i>					
		B = Additional offset to ARP if any (Tribrach/Spacer) <i>HEIGHT</i>					
Tribrach: Check one: <input checked="" type="radio"/> None, <input type="radio"/> Wild GDF 22, • Topcon, • Other (describe)		H = Antenna Height = A + B					
Last Calibration date: <i>21 July 03</i>		= Datum Point to Antenna Reference Point (ARP)					
		Note: Meters = Feet X (0.3048) Height Entered Into Receiver = <i>2,000</i> meters. Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!					
Barometer: Manufacturer & Model: P/N: <i>N/A</i> S/N: <i>N/A</i> Last Calibration or check Date: <i>21 July 03</i>	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	WetBulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure inches Hg millibar	Weather Codes *
	Before	<i>13:25</i>	<i>90°</i>	<i>80°</i>	<i>64%</i>	<i>30.5</i>	<i>00121</i>
	Middle	<i>14:45</i>	<i>91°</i>	<i>81°</i>	<i>64%</i>	<i>30.6</i>	<i>00121</i>
	After	<i>15:50</i>	<i>90°</i>	<i>81°</i>	<i>68%</i>	<i>30.5</i>	<i>00121</i>
Psychrometer: Manufacturer & Model: S/N: <i>N/A</i>	Average of Readings						
* See back of form for codes							
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: <i>VERTICAL ORDER - FIRST CLASS I</i> <i>No problems!</i>							
Note: Entries are Required in all Unshaded areas.							
Data File Name(s): <i>90272052</i> (Standard NGS Format = aaaaddss.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension				Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached		Submitted earlier • Attached Submitted earlier • Attached	
				LOG CHECKED BY: <i>JAH</i>			

CHANGED NAME TO "CEN POP", 2,000 MT ANT HT. AND MEASURED TO BOTTOM OF MOUNT.

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / <input checked="" type="checkbox"/> M) Z 281	Station PID, if any:	Date (UTC): 24-July-03					
	General Location: LaBarre, La.	Airport ID, if any: N/A	Station 4-Character ID: Z 281					
Project Name: False River-GAS		Project Number: CST# GPS-03030	Station Serial # (SSN): Z 281					
NAD83 Latitude o	NAD83 Longitude o	NAD83 Ellipsoidal Height meters	Agency Full Name: Christie Surveying					
Observation Session Times (UTC): Sched. Start 13:15 Stop 15:45	Epoch Interval = 15 Seconds	NAVD88 Orthometric Ht. meters	Operator Full Name: Kim Dubre					
Actual Start 1300 Stop 1545	Elevation Mask = 15 Degrees	GEOID99 Geoid Height meters	Phone #: (225) 638-5949					
GPS Receiver: Trimble Manufacturer & Model: 5700 P/N: 40406-00 S/N: 0220287009 Firmware Version: • CamCorder Battery, • <input checked="" type="checkbox"/> DC • 110V AC, • Other		GPS Antenna: Trimble Manufacturer & Model: Zephyr Geo. P/N: 41249-00 DC 4223 S/N: 12286295 Cable Length, meters: 10 Vehicle is Parked 50 meters 5 (direction) from antenna.						
Antenna plumb before session? <input checked="" type="checkbox"/> N		Circle Yes or No						
Antenna plumb after session? <input checked="" type="checkbox"/> N		-If no, explain						
Antenna oriented to true North? <input checked="" type="checkbox"/> N								
Weather observed at antenna ht. <input checked="" type="checkbox"/> N								
Antenna ground plane used? <input checked="" type="checkbox"/> N								
Antenna radome used? <input checked="" type="checkbox"/> N		If yes, describe.						
Eccentric occupation (>0.5 mm)? <input checked="" type="checkbox"/> N		Use						
Any obstructions above 10°? <input checked="" type="checkbox"/> N		Vis. form						
Radio interference source nearby <input checked="" type="checkbox"/> N								
Tripod or Ant. Mount: Check one: • Fixed-Height Tripod, • Slip-Leg Tripod, • Fixed Mount Manufacturer & Model: SECO P/N: N/A S/N: N/A Last Calibration date: 21-July-2003		** ANTENNA HEIGHT ** (see back of form for measurement illustration)						
Before Session Begins: measure and record both Meters AND Feet		After Session Ends: measure and record both Meters AND Feet						
A = Datum point to Top of Tripod (Tripod Height)		2.000	6.562					
B = Additional offset to ARP if any (Tribrach/Spacer)		0.0	0.0					
H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP):		2.000	6.562					
Note: Meters = Feet X (0.3048) Height Entered Into Receiver = 2.000 meters		Please note &/or sketch ANY unusual conditions. Be Very Explicit as to where and how Measured!						
Barometer: Bariqo Manufacturer & Model: Altimeter P/N: N/A S/N: N/A Last Calibration or check Date: 21-July-2003	Weather DATA	Time (UTC)	Dry-Bulb Temp Fahrenheit Celsius	Wet-Bulb Temp Fahrenheit Celsius	Rel. % Humidity	Atm. Pressure Inches Hg millibar	Weather Codes *	
	Before	13:25	90°	80°	64%	30.5	0011	
	Middle	14:45	91°	81°	64%	30.6	0011	
	After	15:50	90°	81°	58%	30.5	0011	
	Average of Readings						* See back of form for codes	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: 								
Note: Entries are Required in <u>all</u> Unshaded areas.								
Data File Name(s): 70092052 (Standard NGS Format = aaaaddds.xxx) where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		Updated Station Description: • Attached Visibility Obstruction Form: • Attached Photographs of Station: • Attached Pencil Rubbing of Mark: • Attached			Submitted earlier Submitted earlier Submitted earlier			LOG CHECKED BY: JAD

CHANGED PT NAME TO Z281, ANT HT TO 2.000MT. AND MEASURED TO BOTTOM OF MOUNT.

GPS STATION OBSERVATION LOG (01-Nov-2000)	Station Designation: (check applicable: FBN / CBN / PAC / SAC / BM) B205	Station PID, if any: BJO749	Date (UTC): 21 July 03
	General Location: LIVONIA La.	Airport ID, if any:	Station 4-Character ID: B205
Project Name: GPS Control False River La.		Project Number: CHUSTY GPS-03-030	Station Serial # (SSN): 2
NAD83 Latitude 0	NAD83 Longitude 0	NAD83 Ellipsoidal Height meters	Agency Full Name: CHUSTY SURVEYING INC. Operator Full Name: LORRINE DUPONT Phone #: (225) 638-5949 e-mail address:
Observation Session Times (UTC): Sched. Start 1253 Stop 1545 Epoch Interval = 15 Seconds Actual Start 1251 Stop 1546 Mask = 15 Degrees		NAVD88 Orthometric Ht. meters	
GPS Receiver: TRIMBLE Manufacturer & Model: 4400 W/TSC-1 P/N: 29887-11 S/N: 3705A18389 Firmware Version: • CamCorder Battery, (12V DC) • 110V AC • Other		GPS Antenna: TRIMBLE Manufacturer & Model: MICRO-CENTERED U/12 W/P.P. P/N: 33489-00 S/N: 220VD 2799 Cable Length, meters: 10 MET. Vehicle is Parked 30 meters E (direction) from antenna.	Antenna plumb before session? <input checked="" type="radio"/> (N) Circle Antenna plumb after session? <input checked="" type="radio"/> (N) Yes or No Antenna oriented to true North? <input checked="" type="radio"/> (N) -If no, explain Weather observed at antenna ht. <input checked="" type="radio"/> (N) Antenna ground plane used? <input checked="" type="radio"/> (N) Antenna radome used? <input checked="" type="radio"/> (N) If yes, describe. Eccentric occupation (>0.5 mm)? <input checked="" type="radio"/> (N) Use Any obstructions above 10°? <input checked="" type="radio"/> (N) Use Radio interference source nearby? <input checked="" type="radio"/> (N) Vis. form
Tripod or Ant. Mount: Check one: <input checked="" type="radio"/> Fixed-Height Tripod • <input type="radio"/> Slip-Leg Tripod • <input type="radio"/> Fixed Mount Manufacturer & Model: P/N: N/A S/N: N/A Last Calibration date: 21 July 03		** ANTENNA HEIGHT ** (see back of form for measurement illustration)	
Tribrach: Check one: <input checked="" type="radio"/> None • <input type="radio"/> Wild GDF 22 • <input type="radio"/> Topcon • <input type="radio"/> Other (describe) Last Calibration date:		H = Antenna Height = A + B = Datum Point to Antenna Reference Point (ARP)	
Barometer: BARIGO Manufacturer & Model: P/N: 5492 S/N: 43334 Last Calibration or check Date: 21 July 03		Weather DATA	
Psychrometer: Manufacturer & Model: BACHARACH S/N: 8905D 12-7011		Time (UTC)	
Remarks, Comments on Problems, Sketches, Pencil Rubbing, etc: HEAVY TRAFFIC AREA. B.M. LOCATED ON BRIDGE CURB APPROX. 4' FROM EDGE OF HWY 190		Dry-Bulb Temp Fahrenheit Celsius	
Data File Name(s): B2052052.DAT (Standard NGS Format = aaaaaddds.xxx) SDP 205C where aaaa=4-Character ID, ddd=Day of Year, s=Session ID, xxx=file dependant extension		WetBulb Temp Fahrenheit Celsius	
Updated Station Description: • Attached • Submitted earlier		Rel. % Humidity	
Visibility Obstruction Form: • Attached • Submitted earlier		Atm. Pressure inches Hg millibar	
Photographs of Station: • Attached • Submitted earlier		Weather Codes *	
Pencil Rubbing of Mark: • Attached		* See back of form for codes	
LOG CHECKED BY: SDA		Name OK! NO EDITS REQUIRED	



Appendix D

NEW DATA AND RESULTS: ENCOS

Installation of Water Quality Sondes for Gulf Engineers and Consultants (GEC) False River Ecosystem Restoration Project

Prepared for:

GEC
9357 Interline Avenue
Baton Rouge, LA 70809

ENCOS Project No. 10-0088

Prepared by:



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August 2010

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1. Specifications and conditions at the time of install for FRN-1
2. Specifications and conditions at the time of install for FRS-2

FIGURES

Figure

1. Map of project area and DCP locations

APPENDIX

Appendix

- A. Report in pdf format

1.0 Introduction

ENCOS, Inc. (ENCOS) was contracted by Gulf Engineers and Consultants (GEC) in July 2010 to provide data collection for a two-month period looking at the diurnal variation in suspended solids and dissolved oxygen at the north and south ends of False River.

2.0 Scope of Work

ENCOS installed and will maintain two (2) data collection platforms (DCPs) and water quality instrumentation measuring water temperature, specific conductivity, salinity, turbidity, level, and dissolved oxygen. Data recovery, sensor cleaning, and calibration of the monitoring instruments is done on a bi-weekly basis. A map of the project area showing the Data Collection Platforms (DCPs) locations is provided in **Figure 1**.

3.0 Equipment

ENCOS installed YSI 6920s at 2 DCPs in the project area designated FRN-1 and FRS-2. ENCOS installed FRN-1 toward the north end of False River and FRS-2 toward the southern end.

The YSI instruments record water level in feet (ft), specific conductance in micro Siemens per centiliter (uS/cm), salinity parts per thousand (ppt), water temperature (C), dissolved oxygen percent saturation (%), dissolved oxygen milligrams per liter (mg/l) and turbidity Nephelometric Turbidity Units (NTU) on an hourly interval set to Central Standard Time (CST).

4.0 Data Collection Platforms

ENCOS designed and fabricated DCPs for the short-term deployment of hydrographic instruments. The station location, exposure to environmental conditions, and boating traffic determined the design and materials used for the construction of each station. The DCPs at FRN-1 and FRS-2 are similar in construction. Each DCP consists of a monopole made from 3 inch schedule 40 aluminum pipe. The monopole is designed to extend below the water bottom approximately 7 feet and extend above the water surface approximately 9 feet depending on installed water depth. The hydrographic instrument is placed inside the aluminum pipe for protection from tampering and boat traffic. Each DCP has milled slots to allow free exchange of water to the hydrographic instrument sensors and each hydrographic instrument takes sensor readings at approximately 1.5 feet above the water bottom.

During the time of installation, ENCOS deployed two (2) red marker buoys approximately 2 feet in diameter at each DCP. The marker buoys float on the water surface and are tethered by concrete anchors placed 10 – 15 feet adjacent to the DCP.

Tables 1 and 2 include specifications at the time of install and WAAS GPS coordinates for the DCPs FRN-1 and FRS-2 respectively.

5.0 Field Activities

The initial site visit was conducted on July 16, 2010, to find optimal locations for placement of the hydrographic instrumentation. GEC asked ENCOS to install one (1) DCP on the north end of False River (FRN-1) and 1 on the southern end (FRS-2). Below is a chronological summary of ENCOS' field activity installing the DCPs.

July 20, 2010 – ENCOS installed DCPs FRN-1 and FRS-2, each sonde set to CST and began logging on an hourly interval.

July 26, 2010 – ENCOS serviced FRN-1 and FRS-2, recovered all data, calibrated sondes and set each sonde to log on an hourly interval.

7.0 Surveys

ENCOS will coordinate with GEC's survey contractor on the requirements needed to adjust water levels to NAVD88 if necessary.

8.0 Conclusion

During July 2010, 2 hydrographic stations were installed to collect two months of concurrent data. The stations require cleaning, calibration, and data recovery, by ENCOS bi-weekly through September 2010. The stations are scheduled for decommissioning upon completion of the data collection and written approval from GEC to remove the stations.

TABLE 1 -Specifications and conditions at the time of install for FRN-1

Station Name:	FRN-1
LOCATION:	North end of False River
DESCRIPTION:	Hydrographic Station
DATE COMPLETED:	7/20/2010
INSTALLED BY:	G. Badon/P. Temple/K. Temple
STATION TYPE:	3" sched. 40 Aluminium Unipole
STOP PLATE TO PRESSURE SENSOR DISTANCE:	0.81'
SURVEY ELEVATION:	TBD
WATER LEVEL AT INSTALLATION:	3.6'
LATITUDE:	N 30°41.204
LONGITUDE:	W91°25.262
MEASURED OVER ALL STATION LENGTH:	16.0'
MARK TO SENSOR DISTANCE:	TBD
DISTANCE OF STATION ABOVE WATER LINE (AT INSTALL):	5.45'
DISTANCE OF STATION BELOW WATER LINE (AT INSTALL):	3.67'
DISTANCE BELOW MUD LINE (UNIPOLE):	6.88'
LOAD PLATE TO TOC (UNIPOLE):	9.12'
STOP PLATE TO TOC:	7.54'

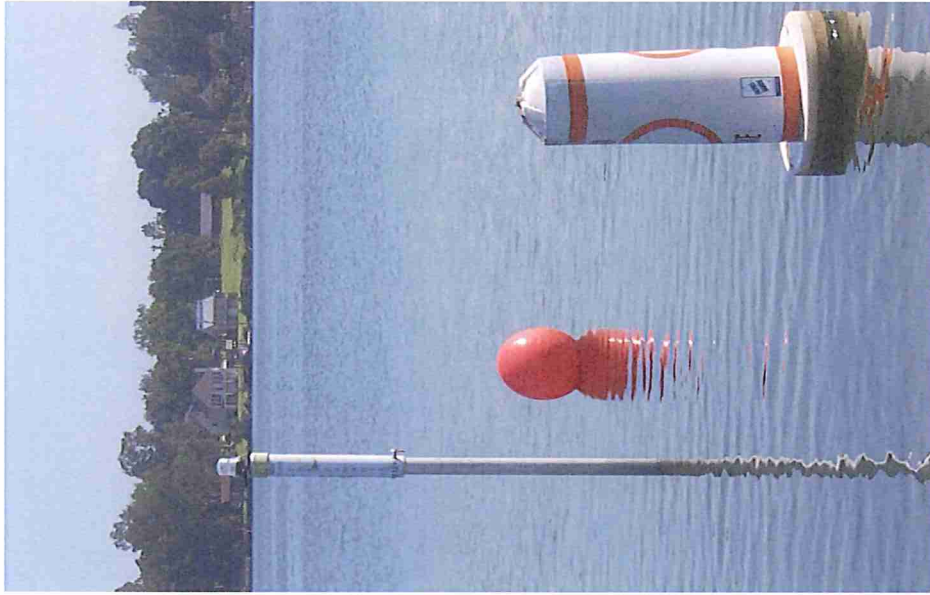
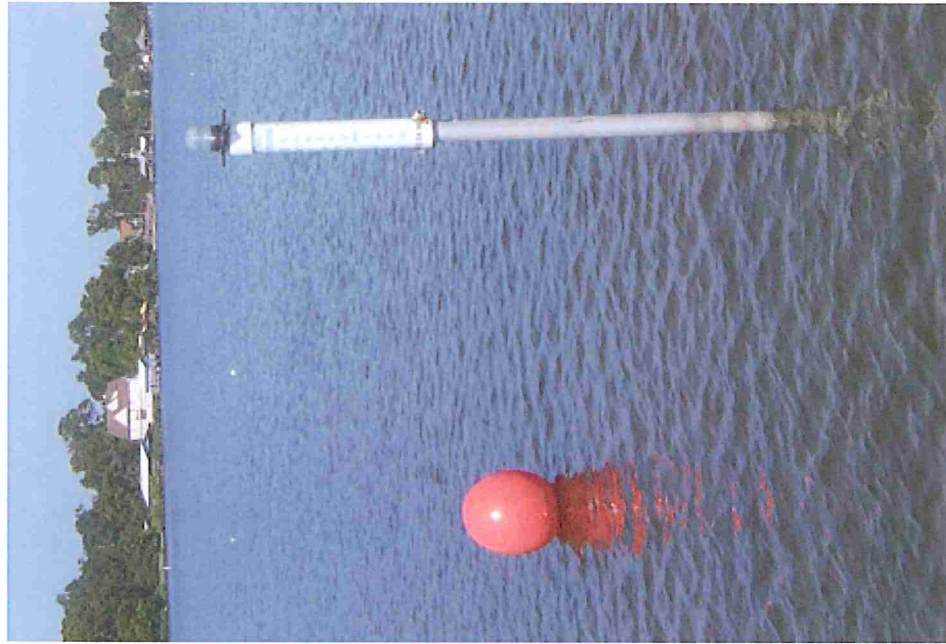


TABLE 2 -Specifications and conditions at the time of install for FRS-2

STATION NAME:	FRS-2
LOCATION:	South end of False River
DESCRIPTION:	Hydrographic Station
DATE COMPLETED:	7/20/2010
INSTALLED BY:	G. Badon/P. Templelet/K. Templelet
STATION TYPE:	3" Schd. 40 Aluminum Unipole
STOP PLATE TO PRESSURE SENSOR DISTANCE:	0.82'
SURVEY ELEVATION:	TBD
WATER LEVEL AT INSTALLATION:	3.5'
LATITUDE:	N 30°36.479
LONGITUDE:	W91°25.584
MEASURED OVER ALL STATION LENGTH:	16.25'
MARK TO SENSOR DISTANCE:	TBD
DISTANCE OF STATION ABOVE WATER LINE (AT INSTALL):	5.60'
DISTANCE OF STATION BELOW WATER LINE (AT INSTALL):	3.5'
DISTANCE BELOW MUD LINE (UNIPOLE):	7.15'
LOAD PLATE TO TOC (UNIPOLE):	9.02'
STOP PLATE TO TOC:	7.64'





**Figure 1. Map of Project area and DCP Locations
False River Monitoring Project
ENCOS Project No. 10-0088**

August 2010

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Imagery: ArcGIS Online World Imagery and USA Topo Maps



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Lafayette Office:
400 E. Kaliste Saloom Rd.
Suite 3100
Lafayette, LA 70508
Phone: 337/456-4674
Fax: 337/504-2031

Project: False River Monitoring Project (10-0088)

Location: False River - New Roads, LA

Purpose: Monthly Dissolved Oxygen Sensor Station Service

Personnel Involved: Greg Badon and Kyle Templet (ENCOS)

Date: July 26, 2010

Conditions: Skies: Partly cloudy, thunderstorms in area. Temperature range: 90-93 °F. Wind: Variable.

Logistical and Personnel:

Gregory Badon and Kyle Templet (ENCOS) arrived at the marina on West Main St. in New Roads, LA to service the instruments monitoring dissolved oxygen (DO) and water levels for the False River Monitoring Project. ENCOS personnel loaded the diagnostic, maintenance, and calibration equipment needed into the boat to service and calibrate the water quality equipment at Data Collection Platforms (DCPs) FRN-1 and FRS-2 for the July 2010 service event.

At each data collection platform (DCP) the field crew downloaded all data and cleaned the specific conductivity and water pressure sensors. ENCOS compared the clean and dirty conductivity and salinity readings for each sonde against a calibration instrument to ensure all sondes were performing within specifications.

Environmental Conditions and Problems Encountered:

ENCOS personnel noticed the DO levels at the north site (FRN-1) were lower than at the time of the DCP installation and the DO levels at the south site (FRS-2) were higher. During the data recovery, ENCOS personnel noticed the clock on the sonde deployed at FRN-1 was two hours past the present Central Standard Time (CST). ENCOS adjusted the sonde clock and set both stations to log once per hour in CST.

Data Information:

All downloaded data is QA/QC to ensure equipment is functioning properly and delivered to GEC with the monthly field trip report. During the QA/QC process ENCOS personnel corrected the time stamp on the data collected from FRN-1 during the period of 07/20/10 to 07/26/10. The sonde clock was set two hours past CST. To correct the data, ENCOS shifted the time series two hours back to CST.

Calibrations:

ENCOS personnel calibrated an YSI 30, serial number 10F100947, with 1,000 $\mu\text{S}/\text{cm}$ calibration solution at the beginning of the day. This instrument served as the calibrated instrument.



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Suite 3100
Lafayette, LA 70508
Phone: 337/456-4674
Fax: 337/504-2031

Project: False River Monitoring Project (10-0088)

Location: False River - New Roads, LA

Purpose: Monthly Dissolved Oxygen Sensor Station Service

Personnel Involved: Greg Badon and Adam Trahan (ENCOS)

Date: August 11, 2010

Conditions: Skies: Mostly cloudy. Temperature range: 80-85 °F. Wind: Little to no wind, direction indiscernible.

Logistical and Personnel:

Gregory Badon and Adam Trahan (ENCOS) arrived at the marina on West Main St. in New Roads, LA to service the instruments monitoring dissolved oxygen (DO) and water levels for the False River Monitoring Project. ENCOS personnel loaded the diagnostic, maintenance, and calibration equipment needed into the boat to service and calibrate the water quality equipment at Data Collection Platforms (DCPs) FRN-1 and FRS-2 for the August 2010 service event.

At each data DCP the field crew downloaded all data and cleaned the specific conductivity and water pressure sensors. ENCOS compared the clean and dirty conductivity and salinity readings for each sonde against a calibration instrument to ensure all sondes were performing within specifications.

Environmental Conditions and Problems Encountered:

ENCOS personnel noticed the DO levels at both sites were lower than during the previous service events. The ENCOS field crew observed both sondes were performing properly and required no specific conductivity calibration. During the service, ENCOS personnel calibrated the sonde's pressure, DO, turbidity sensors and set each sonde to log once per hour in Central Standard Time.

Calibrations:

ENCOS personnel calibrated an YSI 30, serial number 10F100948, with 5,000 $\mu\text{S}/\text{cm}$ calibration solution at the beginning of the day. This instrument served as the calibrated instrument.



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Suite 3100
Lafayette, LA 70508
Phone: 337/456-4674
Fax: 337/504-2031

Project: False River Monitoring Project (10-0088)

Location: False River - New Roads, LA

Purpose: Monthly Dissolved Oxygen Sensor Station Service

Personnel Involved: Greg Badon and Adam Trahan (ENCOS)

Date: August 31, 2010

Conditions: Skies: Overcast. Temperature range: 85-87 °F. Wind: SE 8-10 mph

Logistical and Personnel:

Gregory Badon and Adam Trahan (ENCOS) arrived at the marina on West Main St. in New Roads, LA to service the instruments monitoring dissolved oxygen (DO) and water levels for the False River Monitoring Project. ENCOS personnel loaded the diagnostic, maintenance, and calibration equipment needed into the boat to service and calibrate the water quality equipment at Data Collection Platforms (DCPs) FRN-1 and FRS-2 for the August 2010 service event.

At each data DCP the field crew downloaded all data and cleaned the specific conductivity and water pressure sensors. ENCOS compared the clean and dirty conductivity and salinity readings for each sonde against a calibration instrument to ensure all sondes were performing within specifications.

Environmental Conditions and Problems Encountered:

ENCOS personnel noticed the DO levels at both sites were higher than during the previous service event. The ENCOS field crew observed both sondes were performing properly and required no specific conductivity calibration. During the service, ENCOS personnel calibrated the sonde's pressure, DO, turbidity sensors and set each sonde to log once per hour in Central Standard Time.

Calibrations:

ENCOS personnel calibrated an YSI 30, serial number 10F100947, with 5,000 $\mu\text{S}/\text{cm}$ calibration solution at the beginning of the day. This instrument served as the calibrated instrument.



Corporate Office:
727 Highlandia Drive
Suite A
Baton Rouge, LA 70810
Phone: 225/751-4200
Fax: 225/752-4208

Lafayette Office:
400 E. Kaliste Saloom Rd.
Suite 3100
Lafayette, LA 70508
Phone: 337/456-4674
Fax: 337/504-2031

Project: False River Monitoring Project (10-0088)

Location: False River - New Roads, LA

Purpose: Monthly Dissolved Oxygen Sensor Station Service

Personnel Involved: Greg Badon and Adam Trahan (ENCOS)

Date: September 10, 2010

Conditions: Skies: Overcast. Temperature range: 85-87 °F. Wind: SE 8-10 mph

Logistical and Personnel:

Gregory Badon and Adam Trahan (ENCOS) arrived at the marina on West Main St. in New Roads, LA to service the instruments monitoring dissolved oxygen (DO) and water levels for the False River Monitoring Project. ENCOS personnel loaded the diagnostic, maintenance, and calibration equipment needed into the boat to service and calibrate the water quality equipment at Data Collection Platforms (DCPs) FRN-1 and FRS-2 for the first September 2010 service event.

At each data DCP the field crew downloaded all data and cleaned the specific conductivity and water pressure sensors. ENCOS compared the clean and dirty conductivity and salinity readings for each sonde against a calibration instrument to ensure all sondes were performing within specifications.

Environmental Conditions and Problems Encountered:

ENCOS personnel noticed the DO levels at both sites were higher than during the previous service event. The ENCOS field crew observed both sondes were performing properly and required no specific conductivity calibration. During the service, ENCOS personnel calibrated the sonde's pressure, DO, turbidity sensors and set each sonde to log once per hour in Central Standard Time.

Calibrations:

ENCOS personnel calibrated an YSI 30, serial number 10F100947, with 5,000 $\mu\text{S}/\text{cm}$ calibration solution at the beginning of the day. This instrument served as the calibrated instrument.



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Lafayette, LA 70508
Phone: 337/456-4674
Fax: 337/504-2031

Project: False River Monitoring Project (10-0088)

Location: False River - New Roads, LA

Purpose: Monthly Dissolved Oxygen Sensor Station Service

Personnel Involved: Greg Badon and Adam Trahan (ENCOS)

Date: September 20, 2010

Conditions: Skies: Sunny with few clouds. Temperature range: 90-95 °F. Wind: NA

Logistical and Personnel:

Gregory Badon and Adam Trahan (ENCOS) arrived at the marina on West Main St. in New Roads, LA to service the instruments monitoring dissolved oxygen (DO) and water levels for the False River Monitoring Project. ENCOS personnel loaded the diagnostic, maintenance, and calibration equipment needed into the boat to service and calibrate the water quality equipment at Data Collection Platforms (DCPs) FRN-1 and FRS-2 for the second September 2010 service event.

At each data DCP the field crew downloaded all data and cleaned the specific conductivity and water pressure sensors. ENCOS compared the clean and dirty conductivity and salinity readings for each sonde against a calibration instrument to ensure all sondes were performing within specifications.

Environmental Conditions and Problems Encountered:

The ENCOS field crew observed both sondes were performing properly and required no specific conductivity calibration. During the service, ENCOS personnel calibrated the sonde's pressure, DO, turbidity sensors and set each sonde to log once per hour in Central Standard Time.

Calibrations:

ENCOS personnel calibrated an YSI 30, serial number 10F100947, with 5,000 $\mu\text{S}/\text{cm}$ calibration solution at the beginning of the day. This instrument served as the calibrated instrument.

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name False River Monitoring 10-0088		Station FRN-1	Location False River North	Date & CStime 7/20/10 @ 7:32
Constant Recorder YSI	Serial Number 6920	Dirty Battery Volts 12.9	Sonde Date & Time 7/20/10 @ 7:32	
Calibration Instrument YSI	Serial Number 30	Collected By Badon / Temple / K. Temple	Deployed Date & Time 7/20/10 10:00	
Download Filename CS41209	bytes	File Size	Marsh Elevation (NAVD)	Agency ENCOS
<input type="checkbox"/> Log Successful				

Dirty Reading	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder							
Calibration Instrument							

Clean Reading	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.41	230	0.11	25.8	1.104	105.1	7.75
Calibration Instrument	31.0	227.5	0.1				

	Water Level Difference		Water Level
	% Difference		

	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	1000	N/A	N/A	<input checked="" type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	0	126	N/A	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment			
Station FRN-1	Location False River North	Date & CStime (MM-DD-YY HH:MM) 07-20-10 10:00	
Constant Recorder YSI	Serial Number 6920	Battery Volts 13.0	<input type="checkbox"/> Battery Changed
Deploy Filename FRN172-00	Duration 180 days	Interval 1 hr.	Free Memory 75.1 days
Notes....			

0.81 Bottom to sensor, pressure sensor
5.45 out of water
9.11 Load Plate to TOC

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name False River Monitoring 10-0088		Station FRS-2	Location False River South	Date & CTime 7/20/10 @ 8:51
Constant Recorder YSI	6920	Serial Number 9830915AA	Dirty Battery Volts	Sonde Date & Time 7/20/10 @ 8:52
Calibration Instrument YSI	30	Serial Number 10F100947	Collected By Badon/Tempt/K Tempt	Deployed Date & Time 07/20/10 10:00

Download Filename CS41209	bytes	File Size	Marsh Elevation (NAVD)	Agency ENCOS
<input type="checkbox"/> Log Successful				

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder							
Calibration Instrument							

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	30.57	247	0.12	7.9	1.265	106.3	7.95
Calibration Instrument	30.2	238.8	0.1				

	Water Level Difference		Water Level
	% Difference		

	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	<u>10000</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	<u>0</u>	<u>126</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment				
Station FRS-2	Location False River South	Date & CTime (MM-DD-YY HH:MM) 07/20/10 10:00		
Constant Recorder YSI	6920	Serial Number 9830915AA	Battery Volts 12.8	<input type="checkbox"/> Battery Changed
Deploy Filename FRS-2-7201	Duration 180 days	Interval 1 hr.	Free Memory 226 days	
Notes....				

Bottom of instrument to pressure sensor = 0.82!

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name: False River Monitoring 10-0088 Station: FRN-1 Location: False River North Site Date & CStime: 7/26/10 @ 9:23

Constant Recorder: YSI Serial Number: 6920 Dirty Battery Volts: 12.4 Sonde Date & Time: 7/26/10 @ 11:23

Calibration Instrument: YSI Serial Number: 30 Collected By: G. Badon / K. Templet Deployed Date & Time: 07/20/10 @ 10:00

Download Filename: FRN17201 File Size: 4435 bytes Marsh Elevation (NAVD): Log Successful Agency: ENCOS

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.36	0.250	0.12	12.4	1.390	77.0	5.67
Calibration Instrument	31.2	249.4	0.1				

Out of water 0.135

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.2	246.1	0.1	9.2	1.264	78.1	5.72
Calibration Instrument	31.2	247.0	0.12				

Water Level Difference: **Water Level**
 % Difference:

Conductivity Calibration: Standard (uS/cm) 5000 (1 Point) N/A (2 Point - cal instrument) N/A (3 Point) Calibration Accepted

Turbidity Calibration: Standard (NTU) 0 126 N/A Calibration Accepted

Does wiper park correctly? Yes No

Deployment

Station: FRN-1 Location: False River North Site Date & CStime (MM-DD-YY HH:MM): 7/26/10 @ 9:56

Constant Recorder: YSI Serial Number: 6920 Battery Volts: 12.4 Battery Changed

Deploy Filename: FRN1726 Duration: 180 days Interval: 1 hr. Free Memory: 894 days

Notes....

Sonde time two hours off from CST

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name False River Monitoring 10-0088		Station FRS-2	Location False River South	Date & CStime 7/26/10 @ 10:00
Constant Recorder YSI	Serial Number 6920	Dirty Battery Volts 12.4		Sonde Date & Time 7/26/10 @ 10:00
Calibration Instrument YSI	Serial Number 30	Collected By G. Badon / K. Templet		Deployed Date & Time 07/20/10 @ 10:00
Download Filename FRS27201	4406 bytes	File Size <input checked="" type="checkbox"/> Log Successful	Marsh Elevation (NAVD)	Agency ENCOS

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.91	227	0.11	10.7	1.225	134.6	9.89
Calibration Instrument	32.8	221.2	0.1				

-0.048
~~0.040~~

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	32.18	225	0.1	14	1.237	134.5	9.8
Calibration Instrument	32.3	218.4	0.1				

	Water Level Difference	<input type="text"/>	<i>Water Level</i>
	% Difference	<input type="text"/>	

	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	—	N/A	N/A	<input type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	0	1.06	N/A	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment	
Station FRS-2	Location False River South Site
Date & CStime (MM-DD-YY HH:MM) 7/26/10 @	
Constant Recorder YSI	Serial Number 6920
Battery Volts 12.2	
<input type="checkbox"/> Battery Changed	
Deploy Filename FRS27201	Duration 180 days
Interval 1 hr.	Free Memory 897 days
Notes....	

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name False River Monitoring 10-0088		Station FRN-1	Location False River North Site	Date & CStime 8/11/10 @ 7:14
Constant Recorder YSI	Serial Number 6920	10G100754	Dirty Battery Volts 12.1	Sonde Date & Time 8/11/10 @ 7:15
Calibration Instrument YSI	Serial Number 30	10F100948	Collected By G. Badon / A. Trahan	Deployed Date & Time 07/26/10 @ 9:56
Download Filename FRN1726	bytes	File Size	Marsh Elevation (NAVD)	Agency ENCOS
		<input checked="" type="checkbox"/> Log Successful		

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.45	234.0	0.11	33.7	1.423	50.0	3.61
Calibration Instrument	31.4	225.2	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.38	224	0.10	27.0	1.430	52.6	3.88
Calibration Instrument	31.4	225.5	0.1				

Out of Water Level -0.010 ft.	Water Level Difference 7	Water Level
	% Difference 0.48	

	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	<u>0</u>	<u>126</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment	
Station FRN-1	Location False River North Site
Date & CStime (MM-DD-YY HH:MM) 08/11/10 @ 0800	
Constant Recorder YSI	Serial Number 6920
Battery Volts 12.0	
<input type="checkbox"/> Battery Changed	
Deploy Filename FRNIC	Duration 180 days
Interval 1 hr.	Free Memory 877 days
Notes....	

Temp - 80-85°F; overcast; little to no wind

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name	Station	Location	Date & CStime
False River Monitoring 10-0088	FRS-2	False River South	8/11/10 @ 806

Constant Recorder	Serial Number	Dirty Battery Volts	Sonde Date & Time
YSI	6920	98B0915AA	8/11/10 @ 807

Calibration Instrument	Serial Number	Collected By	Deployed Date & Time
YSI	30	10F10948	7/26/10 @ 11:00

Download Filename	bytes	File Size	Marsh Elevation (NAVD)	Agency
FRS2726	<input checked="" type="checkbox"/>	Log Successful		ENCOS

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.27	234	0.11	22.1	1.277	39.8	2.9
Calibration Instrument	31.3	229.4	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.27	229	0.11	34.6	1.425	46.4	3.44
Calibration Instrument	31.3	229.2	0.1				

Out of Water Level	Water Level Difference	<i>Water Level</i>
<input type="checkbox"/> 0.152 ft.	<input type="checkbox"/> 0.148	
	% Difference	<input type="checkbox"/> 10.38

	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	<u>NO</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	<u>0</u>	<u>126</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		

Deployment			Date & CStime (MM-DD-YY HH:MM)
Station	Location		08/11/10 @ 0900
FRS-2	False River South Site		
Constant Recorder	Serial Number	Battery Volts	<input type="checkbox"/> Battery Changed
YSI	6920	98B0915AA	11.8
Deploy Filename	Duration	Interval	Free Memory
FRS2C	180 days	1 hr.	881 days
Notes....			

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name: False River Monitoring 10-0088 Station: FRN-1 Location: False River North Site Date & CSTime: 08/31/10 @ 944

Constant Recorder: YSI 6920 Serial Number: 10G100754 Dirty Battery Volts: 11.7 Sonde Date & Time: 08/31/10 @ 946

Calibration Instrument: YSI 30 Serial Number: 10F100947 Collected By: G. Badon / A. Trahan Deployed Date & Time: 08/11/10 @ 8:00

Download Filename: 14.177 bytes File Size: Marsh Elevation (NAVD): Agency: ENCOS
 Log Successful

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	29.10	222.0	0.1	10.6	1.484	112.8	8.67
Calibration Instrument	29.1	232.9	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	29.24	222.0	0.10	11.8	1.493	118.0	9.02
Calibration Instrument	29.3	221.9	0.1				

Out of Water Level: ft. Water Level Difference: *Water Level*
 % Difference:

Conductivity Calibration: Standard (uS/cm) 1 Point: 2 Point: N/A 3 Point: N/A Calibration Accepted

Turbidity Calibration: Standard (NTU) 1 Point: 0 2 Point: 126.0 3 Point: N/A Calibration Accepted

Does wiper park correctly? Yes No

Deployment

Station: FRN-1 Location: False River North Site Date & CSTime (MM-DD-YY HH:MM): 08/31/10 @ 1100

Constant Recorder: YSI 6920 Serial Number: 10F100947 Battery Volts: 11.7 Battery Changed

Deploy Filename: FRN1D Duration: 180 days Interval: 1 hr. Free Memory: 856 days

Notes.... *Batt. life: 124 days*

Temp = 87°F
Wind SE 5-10 mph
Cloudy
water clear around sonde

Dirty
Diff - 10.9
% Diff - 4.68%

Clean

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name: False River Monitoring 10-0088 Station: FRS-2 Location: False River South Date & CStime: 08/31/10 @ 855

Constant Recorder: YSI Serial Number: 6920 Dirty Battery Volts: 11.6 Sonde Date & Time: 08/31/10 @ 857

Calibration Instrument: YSI Serial Number: 10F105 947 Collected By: G. Badon / A. Trahan Deployed Date & Time: 08/11/10 @ 9:00

Download Filename: FRS2C File Size: 14,121 bytes Marsh Elevation (NAVD): — Agency: ENCOS
 Log Successful

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	28.52	224.0	0.10	9.9	1.705	63	4.89
Calibration Instrument	28.5	220.8	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	28.62	222.0	0.10	14.7	1.483	71	5.50
Calibration Instrument	28.7	220.1	0.1				

Out of Water Level: 0.235 ft. Water Level Difference: — % Difference: —
dirty SpCond Diff: 4.8
diff %: 2.18
Water Level

Conductivity Calibration: Standard (uS/cm) — 1 Point — 2 Point N/A 3 Point N/A Calibration Accepted
 Turbidity Calibration: Standard (NTU) 0 1 Point 126 2 Point N/A 3 Point N/A Calibration Accepted
 Does wiper park correctly? Yes No

Deployment
 Station: FRS-2 Location: False River South Site Date & CStime (MM-DD-YY HH:MM): 08/11/10 @ 8/31/10 @ 1000
 Constant Recorder: YSI Serial Number: 6920 Battery Volts: 11.5 Battery Changed
 Deploy Filename: FRS2D Duration: 180 days Interval: 1 hr. Free Memory: 859 days
 Notes.... Batt. life: 119

Temp = 85°F
 Wind SE 8-10mph
 Cloudy & overcast skies
 River clear of growth near sonde
 This binder needs lead pencils
 Clean SpCond difference %:

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name: False River Monitoring 10-0088 Station: FRN-1 Location: False River North Site Date & CStime: 09/10/10 @ 9:43

Constant Recorder: YSI Serial Number: 6920 Dirty Battery Volts: 11.5 Sonde Date & Time: 09/10/10 @ 9:46

Calibration Instrument: YSI Serial Number: 10F100998 Collected By: G. Badon / A. Trahan Deployed Date & Time: 08/31/10 @ 1100

Download Filename: 7132 bytes File Size: Log Successful Marsh Elevation (NAVD): ENCOS

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.1	228	0.11	10.1	1.473	163.7	12.15
Calibration Instrument	31.0	209	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	31.04	218	0.10	6.1	1.505	108.0	8.02
Calibration Instrument	31.1	209.4	0.1				

Out of Water Level: 0.002 ft. Water Level Difference: **Water Level**
 % Difference:

Conductivity Calibration: Standard (uS/cm) NO 1 Point N/A 2 Point N/A 3 Point Calibration Accepted
 Turbidity Calibration: Standard (NTU) 0 1 Point 126 2 Point N/A 3 Point Calibration Accepted
 Does wiper park correctly? Yes No

Deployment
 Station: FRN-1 Location: False River North Site Date & CStime (MM-DD-YY HH:MM): 09/10/10 @ 1100
 Constant Recorder: YSI Serial Number: 6920 Battery Volts: 11.5 Battery Changed
 Deploy Filename: FRN1E Duration: 180 days Interval: 1 hr. Free Memory: 845 days
 Notes.... bat life = 100.0 days

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name False River Monitoring 10-0088		Station FRS-2	Location False River South	Date & CStime 09/10/10 @ 8:49
Constant Recorder YSI	Serial Number 6920	Dirty Battery Volts 11.4		Sonde Date & Time 09/10/10 @ 8:52
Calibration Instrument YSI	Serial Number 30	Collected By G. Badon / A. Trahan		Deployed Date & Time 08/31/10 @ 1000

Download Filename FRS2D	File Size 7132 bytes	Marsh Elevation (NAVD)	Agency ENCOS
<input checked="" type="checkbox"/> Log Successful			

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	28.78	221	0.10	10.3	1.222	107.5	8.29
Calibration Instrument	28.9	215	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	27.06	223	0.10	10.0	1.49	108.7	8.33
Calibration Instrument	28.9	213	0.1				

Out of Water Level -0.192 ft.	Water Level Difference		<i>Water Level</i>
	% Difference		

	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	—	N/A	N/A	<input type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	0	126	N/A	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment			
Station FRS-2	Location False River South Site	Date & CStime (MM-DD-YY HH:MM) 09/10/10 @ 1000	
Constant Recorder YSI	Serial Number 6920	Battery Volts 11.5	<input checked="" type="checkbox"/> Battery Changed
Deploy Filename FRS2E	Duration 180 days	Interval 1 hr.	Free Memory 848 days
Notes.... <i>bat life: 16.0 days</i>			

YSI-30 calibrated w/ 5000 u/s

SW wind, calm, 70°F cloudy skies

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name: False River Monitoring 10-0088 Station: FRN-1 Location: False River North Site Date & CStime: 09/20/10 @ 1028

Constant Recorder: YSI Serial Number: 6920 Dirty Battery Volts: 11.3 Sonde Date & Time: 09/20/10 @ 1031

Calibration Instrument: YSI Serial Number: 10F1W 947 Collected By: G. Badon / A. Trahan Deployed Date & Time: 09/10/10 @ 11:00

Download Filename: FRN1E File Size: 7161 bytes Marsh Elevation (NAVD): Agency: ENCOS
 Log Successful

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	29.45	227.0	0.11	9.5	1.347	72.0	5.48
Calibration Instrument	29.7	226.0	0.1				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	30.57	226.0	0.11	2.6	1.372	106.2	7.94
Calibration Instrument	30.5	228.6	0.1				

Out of Water Level <u>0.005</u> ft.	Water Level Difference % Difference	<u>0.025</u>	<u>1.822%</u>	<i>Water Level</i>
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	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	<u> </u>	N/A	N/A	<input type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	<u>0</u>	<u>124</u>	N/A	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment

Station: FRN-1 Location: False River North Site Date & CStime (MM-DD-YY HH:MM): 09/20/10 @ 1200

Constant Recorder: YSI Serial Number: 6920 Battery Volts: 11.3 Battery Changed: Free Memory: 833 days

Deploy Filename: FRN1F Duration: 180 days Interval: 1 hr. Battery Life: 115 days

Notes....

Sunny w/ few clouds
NO wind

CONTINUOUS RECORDER CALIBRATION SHEET

Project & Name: False River Monitoring 10-0088 Station: FRS-2 Location: False River South Date & CStime: 09/20/10 @ 9:37

Constant Recorder: YSI Serial Number: 6920 98B0915AA Dirty Battery Volts: 11.0 Sonde Date & Time: 09/20/10 @ 9:41

Calibration Instrument: YSI Serial Number: 30 10F100947 Collected By: G. Badon / A. Trahan Deployed Date & Time: 09/10/10 @ 10:00

Download Filename: FRS2E File Size: 7161 bytes Log Successful Marsh Elevation (NAVD): Agency: ENCOS

<i>Dirty Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	<u>28.67</u>	<u>230</u>	<u>0.1</u>	<u>8.9</u>	<u>1.495</u>	<u>117.4</u>	<u>8.52</u>
Calibration Instrument	<u>28.9</u>	<u>227.3</u>	<u>0.1</u>				

<i>Clean Reading</i>	Temp (C)	SpCond (uS/cm)	Salinity (ppt)	Turbidity (NTU)	Depth (ft)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)
Constant Recorder	<u>28.85</u>	<u>229</u>	<u>0.11</u>	<u>4.8</u>	<u>1.380</u>	<u>118.9</u>	<u>9.18</u>
Calibration Instrument	<u>29.0</u>	<u>229.1</u>	<u>0.1</u>				

Out of Water Level <u>0.116</u> ft.	Water Level Difference % Difference	<u>-0.115</u> <u>-8.333%</u>	Water Level
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	1 Point	2 Point	3 Point	
Conductivity Calibration: Standard (uS/cm)	<u>—</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Calibration Accepted
Turbidity Calibration: Standard (NTU)	<u>0</u>	<u>126</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Calibration Accepted
Does wiper park correctly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Deployment

Station: FRS-2 Location: False River South Site Date & CStime (MM-DD-YY HH:MM): 09/20/10 @ 11:00

Constant Recorder: YSI Serial Number: 6920 98B0915AA Battery Volts: 11.0 Battery Changed: Free Memory: 838 days

Deploy Filename: FRS2F Duration: 180 days Interval: 1 hr. Battery Life: 115 days

Notes....

*Sunny w/ few clouds
NO wind*

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/20/2010	10:00:16	30.97	241.3	0.11	1.294	118.1	8.77	7.9	12.7
7/20/2010	11:00:50	30.79	239.9	0.11	1.288	110.7	8.25	10.6	12.7
7/20/2010	12:00:50	30.91	241	0.11	1.282	101	7.51	11.4	12.7
7/20/2010	13:00:50	31.55	240.6	0.11	1.251	104.4	7.68	9.5	12.8
7/20/2010	14:00:50	31.32	239.6	0.11	1.254	121.3	8.96	8.8	12.7
7/20/2010	15:00:50	31.2	239.6	0.11	1.248	124.5	9.22	9.5	12.7
7/20/2010	16:00:50	31.21	239.2	0.11	1.214	126.7	9.38	9.1	12.8
7/20/2010	17:00:50	31.24	239.3	0.11	1.233	130.3	9.64	9.8	12.7
7/20/2010	18:00:50	31.36	238.3	0.11	1.21	138.2	10.2	9	12.7
7/20/2010	19:00:50	31.19	239.2	0.11	1.21	136.7	10.12	10.1	12.7
7/20/2010	20:00:50	31.05	240	0.11	1.208	128	9.5	11.5	12.7
7/20/2010	21:00:50	30.92	240.6	0.11	1.232	121.1	9.01	10.8	12.7
7/20/2010	22:00:50	30.85	240.9	0.11	1.228	117.7	8.77	11.4	12.7
7/20/2010	23:00:50	30.7	241	0.11	1.267	115	8.58	10.7	12.7
7/21/2010	0:00:50	30.57	241.2	0.11	1.298	112.2	8.4	12.8	12.7
7/21/2010	1:00:50	30.42	241.4	0.11	1.266	108.4	8.13	10.9	12.7
7/21/2010	2:00:50	30.31	242.7	0.11	1.275	101.7	7.64	9.7	12.7
7/21/2010	3:00:50	30.11	243.1	0.11	1.257	98.4	7.42	10.5	12.7
7/21/2010	4:00:50	30.06	243.9	0.11	1.26	89.4	6.75	11.3	12.7
7/21/2010	5:00:50	29.8	244.4	0.11	1.254	84.1	6.37	11.9	12.7
7/21/2010	6:00:50	29.63	244.7	0.11	1.296	77.2	5.87	10.8	12.7
7/21/2010	7:00:50	29.59	244.6	0.11	1.294	80.1	6.09	11.8	12.7
7/21/2010	8:00:50	29.84	244.4	0.11	1.309	84.6	6.41	10	12.7
7/21/2010	9:00:50	30.23	242.9	0.11	1.313	96.6	7.27	9.8	12.7
7/21/2010	10:00:50	30.64	241.9	0.11	1.316	105.7	7.9	9.7	12.7
7/21/2010	11:00:50	30.93	241.6	0.11	1.327	112.4	8.36	11.3	12.7
7/21/2010	12:00:50	31.45	241.6	0.11	1.292	119.2	8.79	11.1	12.7
7/21/2010	13:00:50	31.53	241.8	0.11	1.272	108.1	7.95	10.4	12.7
7/21/2010	14:00:50	32.1	240	0.11	1.255	103.5	7.54	8.6	12.7
7/21/2010	15:00:50	32.03	239.5	0.11	1.251	89.8	6.55	8.2	12.7
7/21/2010	16:00:50	32.06	239.6	0.11	1.218	78.3	5.71	8.5	12.7
7/21/2010	17:00:50	31.5	239.6	0.11	1.251	97.1	7.15	8.4	12.7
7/21/2010	18:00:50	31.57	239.2	0.11	1.234	102.5	7.54	9.1	12.7
7/21/2010	19:00:50	31.58	239.8	0.11	1.246	99.4	7.31	9.6	12.6
7/21/2010	20:00:50	31.07	242.6	0.11	1.26	66.6	4.94	8.1	12.7
7/21/2010	21:00:50	31.3	240.8	0.11	1.266	86.3	6.38	9.3	12.7
7/21/2010	22:00:50	31.01	241.9	0.11	1.283	66.8	4.96	8.5	12.7
7/21/2010	23:00:50	30.76	242.4	0.11	1.257	62.8	4.68	9.7	12.7
7/22/2010	0:00:50	30.66	242.8	0.11	1.255	59.3	4.43	9.3	12.7
7/22/2010	1:00:50	30.6	242.9	0.11	1.225	64.7	4.83	9.7	12.7
7/22/2010	2:00:50	30.44	242.1	0.11	1.229	73.5	5.51	9	12.6
7/22/2010	3:00:50	30.36	242.4	0.11	1.222	70.6	5.3	10.4	12.6
7/22/2010	4:00:50	30.3	243.5	0.11	1.238	64.4	4.84	12.5	12.6

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/22/2010	5:00:50	30.1	245.2	0.11	1.265	51.5	3.88	8.9	12.6
7/22/2010	6:00:50	29.92	244.5	0.11	1.27	42.8	3.24	7.3	12.6
7/22/2010	7:00:50	29.86	244.4	0.11	1.273	47.4	3.59	6.1	12.5
7/22/2010	8:00:50	30.02	243.4	0.11	1.287	63.5	4.8	6.8	12.6
7/22/2010	9:00:50	30.43	242.6	0.11	1.288	72.8	5.46	8.6	12.6
7/22/2010	10:00:50	30.72	242.4	0.11	1.294	86.1	6.42	8.5	12.5
7/22/2010	11:00:50	31.13	241.9	0.11	1.292	91.9	6.81	9.5	12.7
7/22/2010	12:00:50	31.73	240.2	0.11	1.271	105.4	7.73	9.9	12.6
7/22/2010	13:00:50	31.79	239.2	0.11	1.263	99.5	7.29	9.4	12.6
7/22/2010	14:00:50	31.86	238.4	0.11	1.238	97.5	7.14	9	12.6
7/22/2010	15:00:50	31.76	236.3	0.11	1.232	107.6	7.89	7.3	12.6
7/22/2010	16:00:50	31.55	235.1	0.11	1.191	114.7	8.44	7.2	12.6
7/22/2010	17:00:50	31.33	234.5	0.11	1.188	116	8.56	6.5	12.7
7/22/2010	18:00:50	30.97	234.8	0.11	1.182	109.5	8.14	6.8	12.6
7/22/2010	19:00:50	30.69	235.6	0.11	1.198	99.4	7.42	7.1	12.7
7/22/2010	20:00:50	30.53	236.3	0.11	1.215	92.9	6.96	6.8	12.5
7/22/2010	21:00:50	30.51	236.9	0.11	1.225	87.1	6.52	6	12.5
7/22/2010	22:00:50	30.56	237.6	0.11	1.235	89.9	6.73	5.9	12.5
7/22/2010	23:00:50	30.22	238.9	0.11	1.239	77.9	5.86	5	12.5
7/23/2010	0:00:50	30.18	239.9	0.11	1.222	59.8	4.51	4.9	12.5
7/23/2010	1:00:50	30.31	240.7	0.11	1.207	71.4	5.36	7.2	12.5
7/23/2010	2:00:50	30.13	241	0.11	1.202	63.2	4.77	8	12.5
7/23/2010	3:00:50	30.02	241.1	0.11	1.193	59.6	4.5	6.9	12.4
7/23/2010	4:00:50	29.9	241.5	0.11	1.227	56.3	4.26	6.9	12.5
7/23/2010	5:00:50	29.8	241.7	0.11	1.245	50.7	3.84	7.9	12.5
7/23/2010	6:00:50	29.7	241.6	0.11	1.256	52.7	4	9.3	12.5
7/23/2010	7:00:50	29.68	241.5	0.11	1.282	56.1	4.26	8.6	12.4
7/23/2010	8:00:50	29.65	239.8	0.11	1.29	61.7	4.69	13.3	12.4
7/23/2010	9:00:50	29.86	238.7	0.11	1.283	74.9	5.67	13.2	12.4
7/23/2010	10:00:50	30.39	238.1	0.11	1.293	84.5	6.34	10.6	12.4
7/23/2010	11:00:50	30.88	237.3	0.11	1.29	100.7	7.49	10.9	12.5
7/23/2010	12:00:50	30.97	236.3	0.11	1.265	119.9	8.91	7.9	12.5
7/23/2010	13:00:50	31.27	234.8	0.11	1.249	127.7	9.44	9.4	12.5
7/23/2010	14:00:50	31.28	233.5	0.11	1.233	135.5	10.02	9.8	12.5
7/23/2010	15:00:50	31.41	233.3	0.11	1.216	145.7	10.74	8.6	12.5
7/23/2010	16:00:50	31.47	232.1	0.11	1.204	155.6	11.46	9.2	12.5
7/23/2010	17:00:50	31.91	231.3	0.11	1.202	168.5	12.32	8.1	12.5
7/23/2010	18:00:50	31.92	231.8	0.11	1.202	171.2	12.52	6.2	12.5
7/23/2010	19:00:50	31.68	231.6	0.11	1.21	164.4	12.07	8.4	12.4
7/23/2010	20:00:50	31.52	231.7	0.11	1.223	155	11.41	7.3	12.5
7/23/2010	21:00:50	31.35	232.1	0.11	1.234	149.1	11	7.5	12.5
7/23/2010	22:00:50	31.19	232.8	0.11	1.235	149.1	11.04	5.6	12.5
7/23/2010	23:00:50	31.03	233.1	0.11	1.24	145.8	10.82	5.1	12.4

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/24/2010	0:00:50	30.89	233.1	0.11	1.234	141.9	10.55	5.7	12.5
7/24/2010	1:00:50	30.75	233.9	0.11	1.215	138	10.3	6.1	12.4
7/24/2010	2:00:50	30.86	234.9	0.11	1.198	129.1	9.61	6.1	12.4
7/24/2010	3:00:50	30.71	235	0.11	1.192	121.8	9.09	7.5	12.4
7/24/2010	4:00:50	30.49	235.4	0.11	1.222	114.5	8.58	6.7	12.5
7/24/2010	5:00:50	30.49	235.9	0.11	1.213	109.2	8.18	9	12.4
7/24/2010	6:00:50	30.32	235.6	0.11	1.237	103.2	7.75	9.8	12.4
7/24/2010	7:00:50	30.15	234.4	0.11	1.243	111.5	8.4	8.4	12.5
7/24/2010	8:00:50	30.19	233.6	0.11	1.24	118.8	8.95	8.7	12.4
7/24/2010	9:00:50	30.36	232.8	0.11	1.26	127.8	9.6	8.3	12.5
7/24/2010	10:00:50	31.14	233.5	0.11	1.254	136.3	10.1	7.8	12.5
7/24/2010	11:00:50	31.36	233.3	0.11	1.251	141.5	10.45	6.9	12.4
7/24/2010	12:00:50	31.96	233.1	0.11	1.245	154.3	11.28	8.2	12.4
7/24/2010	13:00:50	32.23	232.2	0.11	1.241	168.2	12.24	7.8	12.4
7/24/2010	14:00:50	32.24	231.7	0.11	1.217	173	12.58	8.6	12.4
7/24/2010	15:00:50	32.33	231	0.11	1.188	177.2	12.86	7.9	12.4
7/24/2010	16:00:50	32.24	230.7	0.11	1.174	174.2	12.67	9.4	12.4
7/24/2010	17:00:50	32.24	230.4	0.11	1.171	179.7	13.07	8.1	12.4
7/24/2010	18:00:50	32.23	229.6	0.11	1.156	181.9	13.23	8.3	12.3
7/24/2010	19:00:50	32.05	230.6	0.11	1.155	174.3	12.71	8.4	12.4
7/24/2010	20:00:50	31.95	230.9	0.11	1.15	170.2	12.43	8.1	12.4
7/24/2010	21:00:50	31.9	231.4	0.11	1.192	161.2	11.79	7.7	12.4
7/24/2010	22:00:50	31.74	231.4	0.11	1.174	158.3	11.61	7.8	12.4
7/24/2010	23:00:50	31.62	232.4	0.11	1.189	148.9	10.94	8	12.4
7/25/2010	0:00:50	31.43	233.4	0.11	1.172	142.5	10.5	8.3	12.4
7/25/2010	1:00:50	31.3	233	0.11	1.182	136.5	10.08	7.5	12.4
7/25/2010	2:00:50	31.17	232.8	0.11	1.185	131.3	9.72	8.2	12.4
7/25/2010	3:00:50	30.99	233.4	0.11	1.151	124.7	9.26	8.1	12.3
7/25/2010	4:00:50	30.86	233.7	0.11	1.158	118.9	8.85	6.4	12.4
7/25/2010	5:00:50	30.8	233.9	0.11	1.159	118.1	8.8	7	12.3
7/25/2010	6:00:50	30.69	233.6	0.11	1.19	110.1	8.22	8.6	12.4
7/25/2010	7:00:50	30.67	234.1	0.11	1.164	107.4	8.02	10.1	12.4
7/25/2010	8:00:50	30.75	233.1	0.11	1.192	113.8	8.49	8.2	12.3
7/25/2010	9:00:50	30.97	232.6	0.11	1.2	120.3	8.94	9.2	12.4
7/25/2010	10:00:50	31.6	231.6	0.11	1.157	135.6	9.97	6.3	12.4
7/25/2010	11:00:50	31.97	230.8	0.11	1.196	142.7	10.43	7.7	12.4
7/25/2010	12:00:50	32.44	230.9	0.11	1.167	148.7	10.78	8	12.4
7/25/2010	13:00:50	32.19	230.1	0.11	1.145	157.5	11.46	10.5	12.4
7/25/2010	14:00:50	32.97	230.1	0.11	1.123	166.3	11.95	9.2	12.4
7/25/2010	15:00:50	33.5	229.7	0.11	1.139	176.2	12.55	10.5	12.4
7/25/2010	16:00:50	32.53	229.5	0.11	1.117	167.7	12.14	7.3	12.4
7/25/2010	17:00:50	32.31	229	0.11	1.094	170.3	12.37	7.2	12.4
7/25/2010	18:00:50	32.57	228.9	0.11	1.103	168.3	12.17	6.8	12.3

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/25/2010	19:00:50	32.06	229.9	0.11	1.12	156.4	11.41	7.5	12.3
7/25/2010	20:00:50	31.82	231	0.11	1.126	149.3	10.93	8.5	12.3
7/25/2010	21:00:50	31.61	231.6	0.11	1.17	138.5	10.18	9.2	12.3
7/25/2010	22:00:50	31.52	232.2	0.11	1.171	133.6	9.83	6.8	12.4
7/25/2010	23:00:50	31.39	231.7	0.11	1.178	122.2	9.02	5.7	12.3
7/26/2010	0:00:50	31.26	232	0.11	1.157	116.8	8.64	6.4	12.3
7/26/2010	1:00:50	31.12	231.5	0.11	1.15	111.4	8.26	6.7	12.4
7/26/2010	2:00:50	31.02	231.3	0.11	1.152	108.8	8.08	6.3	12.4
7/26/2010	3:00:50	30.94	229.9	0.11	1.151	105.9	7.87	4.4	12.3
7/26/2010	4:00:50	30.88	229.3	0.11	1.17	107.5	8	4.7	12.3
7/26/2010	5:00:50	30.83	229.6	0.11	1.178	103.7	7.72	5.1	12.3
7/26/2010	6:00:50	30.76	229.9	0.11	1.161	105.5	7.87	6.2	12.3
7/26/2010	7:00:50	30.81	229.8	0.11	1.221	106.6	7.94	4	12.3
7/26/2010	8:00:50	30.99	228.9	0.11	1.209	114.6	8.51	6.3	12.3
7/26/2010	9:00:50	31.25	227.9	0.11	1.195	113.7	8.4	11.8	12.3
7/26/2010	10:00:50	31.67	226.5	0.11	1.189	132.1	9.7	6.7	12.3

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/26/2010	12:00:50	32.47	225.6	0.1	1.217	15.3	138.8	10.06	12.2
7/26/2010	13:00:50	32.38	226.5	0.11	1.21	13.9	133.5	9.69	12.3
7/26/2010	14:00:50	32.11	225	0.1	1.106	12.8	130.4	9.5	12.3
7/26/2010	15:00:50	31.86	225	0.1	1.245	12.6	126	9.22	12.3
7/26/2010	16:00:50	31.88	224.9	0.1	1.215	12.1	131.8	9.65	12.3
7/26/2010	17:00:50	31.89	224.3	0.1	1.193	13	139.2	10.19	12.3
7/26/2010	18:00:50	31.76	224.1	0.1	1.194	14.9	142	10.41	12.3
7/26/2010	19:00:50	31.61	224.5	0.1	1.215	13.4	139.1	10.22	12.2
7/26/2010	20:00:50	31.47	225.1	0.1	1.184	16.6	134.7	9.92	12.3
7/26/2010	21:00:50	31.3	225.7	0.1	1.234	18	127.9	9.45	12.3
7/26/2010	22:00:50	31.19	226.2	0.11	1.255	16.9	119.7	8.86	12.2
7/26/2010	23:00:50	30.99	226.4	0.11	1.253	17.7	118.3	8.79	12.3
7/27/2010	0:00:50	30.78	225.5	0.1	1.286	17.7	116.3	8.67	12.3
7/27/2010	1:00:50	30.66	226.1	0.11	1.286	18	113.9	8.51	12.3
7/27/2010	2:00:50	30.53	226.6	0.11	1.27	18.3	105.6	7.9	12.3
7/27/2010	3:00:50	30.44	227.8	0.11	1.256	18.1	102	7.65	12.2
7/27/2010	4:00:50	30.26	228.1	0.11	1.245	18.8	95.9	7.21	12.2
7/27/2010	5:00:50	30.13	229	0.11	1.227	21.4	91.3	6.88	12.3
7/27/2010	6:00:50	29.98	231.2	0.11	1.25	21.3	86.6	6.54	12.3
7/27/2010	7:00:50	29.93	230	0.11	1.273	21.1	89.5	6.77	12.3
7/27/2010	8:00:50	30.03	228.1	0.11	1.291	19.9	98.1	7.41	12.3
7/27/2010	9:00:50	30.66	228.5	0.11	1.301	14.9	110	8.21	12.2
7/27/2010	10:00:50	31.35	229.6	0.11	1.298	11.9	110.6	8.16	12.2
7/27/2010	11:00:50	31.28	230.2	0.11	1.344	15.3	108.2	8	12.3
7/27/2010	12:00:50	30.96	230	0.11	1.399	23.9	105.4	7.83	12.2
7/27/2010	13:00:50	31.1	229.5	0.11	1.339	17.5	118.3	8.77	12.2
7/27/2010	14:00:50	31.01	230.3	0.11	1.302	14.3	105.4	7.83	12.3
7/27/2010	15:00:50	30.86	230.1	0.11	1.363	15.6	107.1	7.97	12.2
7/27/2010	16:00:50	30.59	228.6	0.11	1.38	15.6	105.2	7.87	12.3
7/27/2010	17:00:50	30.53	230.1	0.11	1.394	14.5	95.5	7.15	12.2
7/27/2010	18:00:50	30.47	230	0.11	1.569	14	100.6	7.54	12.2
7/27/2010	19:00:50	30.39	229.2	0.11	1.602	15.7	98.6	7.4	12.2
7/27/2010	20:00:50	30.29	230.8	0.11	1.502	16.3	92.2	6.93	12.2
7/27/2010	21:00:50	30.12	230.4	0.11	1.525	14.7	90.8	6.84	12.2
7/27/2010	22:00:50	29.96	230.2	0.11	1.492	15.4	87.4	6.61	12.3
7/27/2010	23:00:50	29.77	231.3	0.11	1.453	13.9	79.3	6.02	12.2
7/28/2010	0:00:50	29.59	233.4	0.11	1.422	12.3	75.2	5.72	12.2
7/28/2010	1:00:50	29.54	235.6	0.11	1.473	16.9	65.5	4.99	12.1
7/28/2010	2:00:50	29.3	235.1	0.11	1.488	14.7	64.4	4.93	12.2
7/28/2010	3:00:50	29.18	235.8	0.11	1.469	16.6	59.3	4.54	12.2
7/28/2010	4:00:50	29.05	237.5	0.11	1.51	14.8	51.3	3.94	12.2
7/28/2010	5:00:50	28.81	236.3	0.11	1.524	14.3	47	3.63	12.1
7/28/2010	6:00:50	28.73	237.6	0.11	1.542	14.8	41.5	3.21	12.1

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/28/2010	7:00:50	28.72	236.4	0.11	1.545	10.8	51.9	4.01	12.1
7/28/2010	8:00:50	28.86	236.6	0.11	1.57	13	61.9	4.77	12.1
7/28/2010	9:00:50	29.12	236.5	0.11	1.58	12.2	74	5.68	12.2
7/28/2010	10:00:50	29.23	232.9	0.11	1.582	14.5	96	7.35	12.1
7/28/2010	11:00:50	29.62	230.6	0.11	1.575	16.5	114.1	8.68	12.2
7/28/2010	12:00:50	30.37	228.9	0.11	1.583	17.8	135.8	10.19	12.2
7/28/2010	13:00:50	32.02	229.8	0.11	1.551	12.8	150.8	11.01	12.2
7/28/2010	14:00:50	33.25	230.9	0.11	1.535	10.9	154.5	11.05	12.2
7/28/2010	15:00:50	33.91	231	0.11	1.527	9.6	161.1	11.39	12.2
7/28/2010	16:00:50	34.3	228.7	0.11	1.518	8.7	183.8	12.91	12.2
7/28/2010	17:00:50	34.05	229.4	0.11	1.519	12.8	175	12.34	12.2
7/28/2010	18:00:50	34.24	228.4	0.11	1.523	12.4	185.8	13.07	12.2
7/28/2010	19:00:50	34.16	228.8	0.11	1.521	10	182.1	12.83	12.2
7/28/2010	20:00:50	34.02	229.6	0.11	1.529	11.7	170.4	12.03	12.2
7/28/2010	21:00:50	33.86	232.2	0.11	1.541	13.4	152.7	10.81	12.2
7/28/2010	22:00:50	33.58	235.4	0.11	1.551	14.7	137.6	9.78	12.2
7/28/2010	23:00:50	33.37	237	0.11	1.547	15.6	121.3	8.66	12.2
7/29/2010	0:00:50	33.13	239.3	0.11	1.54	17.2	115.8	8.3	12.2
7/29/2010	1:00:50	32.9	240.6	0.11	1.534	16.5	108.4	7.8	12.2
7/29/2010	2:00:50	32.61	238.3	0.11	1.53	13.3	125.9	9.1	12.2
7/29/2010	3:00:50	32.42	233.1	0.11	1.537	13.7	121.7	8.82	12.2
7/29/2010	4:00:50	32.14	231.6	0.11	1.548	14.8	119	8.67	12.2
7/29/2010	5:00:50	31.81	231.9	0.11	1.568	15.7	112.3	8.23	12.2
7/29/2010	6:00:50	31.63	232.2	0.11	1.587	17.5	107.6	7.91	12.2
7/29/2010	7:00:50	31.59	233.7	0.11	1.599	17.7	106.8	7.85	12.2
7/29/2010	8:00:50	31.71	232.2	0.11	1.597	17.3	102.7	7.53	12.2
7/29/2010	9:00:50	31.93	230.8	0.11	1.593	17.5	121.7	8.9	12.2
7/29/2010	10:00:50	32.36	229.9	0.11	1.582	15.8	140.1	10.17	12.1
7/29/2010	11:00:50	33.09	229.6	0.11	1.57	16.6	150.3	10.78	12.2
7/29/2010	12:00:50	33.55	229.2	0.11	1.558	16.2	168.4	11.98	12.2
7/29/2010	13:00:50	34.15	228.4	0.11	1.544	15.1	176.8	12.46	12.2
7/29/2010	14:00:50	34.55	227.9	0.11	1.516	13	188.6	13.19	12.2
7/29/2010	15:00:50	34.92	228.3	0.11	1.493	15.7	190.6	13.25	12.2
7/29/2010	16:00:50	34.84	227.3	0.1	1.471	12	202.9	14.13	12.2
7/29/2010	17:00:50	35.03	226.9	0.1	1.455	16.7	201.1	13.96	12.2
7/29/2010	18:00:50	34.64	227.1	0.1	1.436	16.7	199.7	13.95	12.2
7/29/2010	19:00:50	34.52	227	0.1	1.427	14.8	195.6	13.7	12.1
7/29/2010	20:00:50	34.36	226.3	0.1	1.435	17.2	189.3	13.29	12.2
7/29/2010	21:00:50	34.23	232.1	0.11	1.439	15.8	168.2	11.84	12.2
7/29/2010	22:00:50	34.02	240.4	0.11	1.439	16.3	154.2	10.89	12.2
7/29/2010	23:00:50	33.88	232.1	0.11	1.413	18.1	157.1	11.11	12.3
7/30/2010	0:00:50	33.72	231.6	0.11	1.41	18.9	148.4	10.53	12.2
7/30/2010	1:00:50	33.48	230.2	0.11	1.396	17.8	145.1	10.34	12.2

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/30/2010	2:00:50	33.27	229.4	0.11	1.397	18.2	137.6	9.83	12.2
7/30/2010	3:00:50	33.01	229.9	0.11	1.405	20.4	133.2	9.56	12.2
7/30/2010	4:00:50	32.62	232	0.11	1.412	17	122.7	8.86	12.2
7/30/2010	5:00:50	32.31	229.6	0.11	1.412	16.2	119.6	8.69	12.2
7/30/2010	6:00:50	32.01	229.2	0.11	1.432	18.6	119.4	8.71	12.1
7/30/2010	7:00:50	31.92	228.6	0.11	1.434	20.4	117.8	8.61	12.2
7/30/2010	8:00:50	31.96	228	0.11	1.433	20.2	123.8	9.05	12.1
7/30/2010	9:00:50	32.1	228.3	0.11	1.425	16	130.7	9.53	12.2
7/30/2010	10:00:50	32.4	227.9	0.11	1.429	15.5	136.2	9.88	12.2
7/30/2010	11:00:50	32.89	228	0.11	1.412	17.9	143.3	10.31	12.1
7/30/2010	12:00:50	33.42	228.4	0.11	1.405	16.5	149.5	10.66	12.2
7/30/2010	13:00:50	33.98	230.5	0.11	1.372	18.5	152.4	10.77	12.2
7/30/2010	14:00:50	34.49	231.2	0.11	1.339	19.1	159.1	11.14	12.2
7/30/2010	15:00:50	34.93	230.6	0.11	1.325	18.3	165.2	11.49	12.2
7/30/2010	16:00:50	35.17	228.4	0.11	1.299	19	174.9	12.12	12.2
7/30/2010	17:00:50	34.98	227.1	0.1	1.281	18.8	181.4	12.6	12.2
7/30/2010	18:00:50	34.34	223.8	0.1	1.259	15.9	197.1	13.84	12.2
7/30/2010	19:00:50	34.18	223.9	0.1	1.269	16.2	192.1	13.52	12.2
7/30/2010	20:00:50	33.9	223.9	0.1	1.284	14.7	185.1	13.09	12.2
7/30/2010	21:00:50	33.82	226.3	0.1	1.283	14.1	171.3	12.13	12.1
7/30/2010	22:00:50	33.72	227.8	0.11	1.282	14.3	157.8	11.19	12.2
7/30/2010	23:00:50	33.59	233.8	0.11	1.28	17.5	150	10.67	12.2
7/31/2010	0:00:50	33.52	241	0.11	1.269	17.5	134.1	9.55	12.2
7/31/2010	1:00:50	33.35	234	0.11	1.266	18.9	128.7	9.18	12.2
7/31/2010	2:00:50	33.17	228.8	0.11	1.26	18.8	129	9.23	12.2
7/31/2010	3:00:50	33.02	229.8	0.11	1.245	19.9	120.8	8.67	12.2
7/31/2010	4:00:50	32.8	230.9	0.11	1.253	21.1	116.6	8.4	12.1
7/31/2010	5:00:50	32.5	230.8	0.11	1.27	19.9	107.8	7.8	12.1
7/31/2010	6:00:50	32.29	230.3	0.11	1.281	20.5	102.1	7.42	12.2
7/31/2010	7:00:50	32.19	229	0.11	1.288	17.7	101.8	7.41	12.1
7/31/2010	8:00:50	32.27	228.6	0.11	1.28	18.9	111.7	8.12	12.1
7/31/2010	9:00:50	32.57	228.5	0.11	1.283	15.9	123.1	8.9	12.1
7/31/2010	10:00:50	32.99	229.2	0.11	1.27	15.6	133.5	9.59	12.1
7/31/2010	11:00:50	33.58	230.5	0.11	1.269	16.6	148.7	10.57	12.1
7/31/2010	12:00:50	34.13	231.3	0.11	1.256	16.3	160.6	11.32	12.2
7/31/2010	13:00:50	34.76	231.3	0.11	1.242	17.6	171.7	11.98	12.1
7/31/2010	14:00:50	35.34	232.8	0.11	1.223	21.4	187.5	12.96	12.2
7/31/2010	15:00:50	35.75	228.1	0.11	1.207	17.8	190.4	13.07	12.2
7/31/2010	16:00:50	35.82	226.2	0.1	1.19	18.9	193.4	13.26	12.1
7/31/2010	17:00:50	35.78	224	0.1	1.157	20.5	197.1	13.52	12.1
7/31/2010	18:00:50	35.62	221.6	0.1	1.162	18.9	198.9	13.68	12.2
7/31/2010	19:00:50	35.24	220	0.1	1.165	20.3	198.8	13.76	12.1
7/31/2010	20:00:50	35.01	220.8	0.1	1.176	18.4	187	12.99	12.1

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/31/2010	21:00:50	34.68	221.1	0.1	1.183	16.5	180.6	12.61	12.1
7/31/2010	22:00:50	34.55	223.1	0.1	1.192	18	165.2	11.56	12.2
7/31/2010	23:00:50	34.43	229.1	0.11	1.193	19.8	156.3	10.96	12.2
8/1/2010	0:00:50	34.29	227.1	0.1	1.192	15.7	150.2	10.56	12.2
8/1/2010	1:00:50	34.1	222.4	0.1	1.197	15.1	143.7	10.13	12.1
8/1/2010	2:00:50	33.97	228.1	0.11	1.19	17.7	139.2	9.84	12.2
8/1/2010	3:00:50	33.79	225.4	0.1	1.183	17.8	123.3	8.74	12.2
8/1/2010	4:00:50	33.62	228.2	0.11	1.181	22	115.1	8.18	12.2
8/1/2010	5:00:50	33.29	236	0.11	1.205	20.1	103.2	7.37	12
8/1/2010	6:00:50	33.36	235	0.11	1.221	20.5	90.9	6.49	12.1
8/1/2010	7:00:50	33.13	230.7	0.11	1.236	18.1	99.8	7.15	12.1
8/1/2010	8:00:50	33.21	230.8	0.11	1.238	17.2	106.2	7.6	12.1
8/1/2010	9:00:50	33.48	230.6	0.11	1.242	17.2	114.7	8.17	12.1
8/1/2010	10:00:50	33.66	228.8	0.11	1.24	19.6	135.7	9.64	12.1
8/1/2010	11:00:50	34.57	225	0.1	1.234	16.8	153.3	10.72	12.1
8/1/2010	12:00:50	35.42	223.5	0.1	1.222	15.5	169.5	11.69	12
8/1/2010	13:00:50	36.03	221.7	0.1	1.202	17.2	185.1	12.64	12.1
8/1/2010	14:00:50	36.35	221.3	0.1	1.195	12.7	193.7	13.16	12.1
8/1/2010	15:00:50	36.25	218.6	0.1	1.194	13	200.5	13.64	12.1
8/1/2010	16:00:50	36.34	217.1	0.1	1.172	11.1	214.6	14.59	12.1
8/1/2010	17:00:50	36.17	216.3	0.1	1.145	12.5	215.2	14.67	12.2
8/1/2010	18:00:50	35.94	216.5	0.1	1.154	20.4	214.6	14.68	12.1
8/1/2010	19:00:50	35.83	218	0.1	1.171	13.8	206.6	14.16	12.1
8/1/2010	20:00:50	35.65	219.8	0.1	1.19	14.2	195.7	13.45	12.1
8/1/2010	21:00:50	35.44	226.2	0.1	1.225	12.9	171.8	11.85	12.1
8/1/2010	22:00:50	35.23	225	0.1	1.231	15	173.1	11.98	12.1
8/1/2010	23:00:50	34.96	223.5	0.1	1.215	14.4	154.9	10.77	12.1
8/2/2010	0:00:50	34.74	224.2	0.1	1.209	13.9	149.7	10.44	12.1
8/2/2010	1:00:50	34.49	227.4	0.11	1.222	12.6	129	9.03	12
8/2/2010	2:00:50	34.31	225.1	0.1	1.213	15.6	131.6	9.25	12.1
8/2/2010	3:00:50	34.03	223.6	0.1	1.231	15.1	127.3	8.99	12.1
8/2/2010	4:00:50	33.77	222.9	0.1	1.255	16.6	125.4	8.89	12.2
8/2/2010	5:00:50	33.42	222	0.1	1.256	15.2	115.5	8.24	12.1
8/2/2010	6:00:50	33.53	222.9	0.1	1.299	15.3	112.6	8.01	12.1
8/2/2010	7:00:50	33.64	219.8	0.1	1.291	17.5	113.8	8.08	12.1
8/2/2010	8:00:50	33.72	223.5	0.1	1.306	14.4	118.5	8.4	12.1
8/2/2010	9:00:50	33.86	227.9	0.11	1.308	16	100.7	7.13	12.1
8/2/2010	10:00:50	34.06	231.8	0.11	1.321	20	130.3	9.19	12
8/2/2010	11:00:50	34.66	229	0.11	1.319	19.9	153.3	10.71	12.1
8/2/2010	12:00:50	35.41	229.6	0.11	1.312	19.8	166.5	11.49	12.1
8/2/2010	13:00:50	36.33	229.3	0.11	1.299	16.3	182.3	12.39	12.1
8/2/2010	14:00:50	37.18	228.5	0.11	1.282	16.2	198.6	13.31	12.1
8/2/2010	15:00:50	37.62	229.2	0.11	1.262	19	219.4	14.61	12.1

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/2/2010	16:00:50	37.91	230.7	0.11	1.269	13.7	209.7	13.9	12.2
8/2/2010	17:00:50	37.92	227.2	0.1	1.271	13.3	206.2	13.66	12.1
8/2/2010	18:00:50	37.32	224.7	0.1	1.258	15.8	206.7	13.83	12.1
8/2/2010	19:00:50	36.96	229	0.11	1.273	19.1	191	12.85	12.1
8/2/2010	20:00:50	36.69	227.3	0.1	1.273	16.9	171.1	11.56	12.1
8/2/2010	21:00:50	36.42	226.2	0.1	1.301	14	158.7	10.77	12.1
8/2/2010	22:00:50	36.23	228.8	0.11	1.324	16.6	145.6	9.91	12.1
8/2/2010	23:00:50	35.93	230.1	0.11	1.303	16.6	142.9	9.78	12.1
8/3/2010	0:00:50	35.63	232.6	0.11	1.322	18	120.2	8.27	12.1
8/3/2010	1:00:50	35.33	234.8	0.11	1.316	17.5	107.5	7.42	12.1
8/3/2010	2:00:50	35.04	236.3	0.11	1.315	16.8	92.4	6.41	12.1
8/3/2010	3:00:50	34.74	238.4	0.11	1.321	16.9	67.4	4.7	12.1
8/3/2010	4:00:50	34.42	236.4	0.11	1.334	16.8	75.9	5.32	12
8/3/2010	5:00:50	34.12	236.9	0.11	1.34	19.5	62.8	4.42	12.1
8/3/2010	6:00:50	33.89	235.7	0.11	1.348	20.8	72.6	5.13	12.1
8/3/2010	7:00:50	33.79	234.8	0.11	1.374	21	79.9	5.66	12
8/3/2010	8:00:50	33.79	234.2	0.11	1.384	18	91.9	6.51	12.1
8/3/2010	9:00:50	34.07	232.7	0.11	1.396	16.5	93.6	6.6	12.1
8/3/2010	10:00:50	34.45	231	0.11	1.387	16.7	113.9	7.98	12.1
8/3/2010	11:00:50	34.83	232.8	0.11	1.404	18.1	137	9.54	12
8/3/2010	12:00:50	35.28	234.1	0.11	1.381	18.5	153.9	10.64	12.1
8/3/2010	13:00:50	36.08	233.3	0.11	1.354	21.7	195	13.3	12.1
8/3/2010	14:00:50	37.19	234.5	0.11	1.334	14.4	194.6	13.05	12.1
8/3/2010	15:00:50	37.62	231.2	0.11	1.316	10	199.5	13.29	12.1
8/3/2010	16:00:50	37.49	222.3	0.1	1.296	10.5	210.3	14.03	12.1
8/3/2010	17:00:50	37.12	221.4	0.1	1.296	10.9	200.5	13.46	12
8/3/2010	18:00:50	36.87	218.9	0.1	1.293	11	201	13.54	12.1
8/3/2010	19:00:50	36.6	222.2	0.1	1.319	11.3	181.8	12.3	12.1
8/3/2010	20:00:50	36.29	222.5	0.1	1.319	13.1	178.3	12.12	12
8/3/2010	21:00:50	36.1	225.7	0.1	1.321	12.3	148.7	10.15	12.1
8/3/2010	22:00:50	35.76	226.7	0.1	1.31	13.6	132.3	9.07	12.1
8/3/2010	23:00:50	35.43	230.3	0.11	1.28	17.7	112	7.72	12.1
8/4/2010	0:00:50	35.21	229.6	0.11	1.29	20.8	116.4	8.06	12.1
8/4/2010	1:00:50	35.04	230.1	0.11	1.283	17.7	99.4	6.9	12.1
8/4/2010	2:00:50	34.8	229.9	0.11	1.298	18	99.4	6.93	12.1
8/4/2010	3:00:50	34.65	231.5	0.11	1.284	17.8	84	5.87	12.1
8/4/2010	4:00:50	34.46	233.7	0.11	1.271	20.3	82.7	5.8	12.1
8/4/2010	5:00:50	34.24	235.3	0.11	1.312	18.4	78.1	5.49	12
8/4/2010	6:00:50	34.11	236	0.11	1.331	18	75.3	5.31	12.1
8/4/2010	7:00:50	34.1	234.4	0.11	1.333	17.1	78.4	5.53	12.1
8/4/2010	8:00:50	34.08	231.2	0.11	1.367	14.7	89.7	6.32	12
8/4/2010	9:00:50	34.21	225.6	0.1	1.346	14.7	107.9	7.6	12
8/4/2010	10:00:50	34.47	226.9	0.1	1.338	16.4	122.5	8.58	12.1

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/4/2010	11:00:50	34.82	226.3	0.1	1.358	17.3	143.4	9.99	12.1
8/4/2010	12:00:50	35.44	227.1	0.1	1.322	21.8	153.4	10.58	12
8/4/2010	13:00:50	36.25	226.9	0.1	1.287	16.9	182.3	12.41	12.1
8/4/2010	14:00:50	36.56	224.8	0.1	1.258	19.5	204.7	13.86	12
8/4/2010	15:00:50	36.86	221.9	0.1	1.226	15.4	226.8	15.29	12.1
8/4/2010	16:00:50	37.18	218.6	0.1	1.23	10.8	231.8	15.54	12.1
8/4/2010	17:00:50	36.95	215.6	0.1	1.196	17.8	230.6	15.52	12.1
8/4/2010	18:00:50	36.7	214.6	0.1	1.211	11	222.5	15.04	12.1
8/4/2010	19:00:50	36.48	213.3	0.1	1.21	10.1	211.6	14.35	12
8/4/2010	20:00:50	36.18	217.2	0.1	1.224	11.6	193.9	13.21	12.1
8/4/2010	21:00:50	35.92	218	0.1	1.225	11.9	189.5	12.97	12.1
8/4/2010	22:00:50	35.64	214.5	0.1	1.251	12.7	187.9	12.92	12.1
8/4/2010	23:00:50	35.41	218.4	0.1	1.205	13.8	169.7	11.71	12.1
8/5/2010	0:00:50	35.19	218.6	0.1	1.218	12.5	148.6	10.29	12.1
8/5/2010	1:00:50	34.97	216.9	0.1	1.205	14.7	153.5	10.67	12.1
8/5/2010	2:00:50	34.7	218.2	0.1	1.194	13.8	134.6	9.4	12.1
8/5/2010	3:00:50	34.52	219.1	0.1	1.188	18.9	130.2	9.12	12.1
8/5/2010	4:00:50	34.29	221.5	0.1	1.216	14.9	119	8.36	12.1
8/5/2010	5:00:50	34.11	222.2	0.1	1.203	17.3	110.1	7.76	12
8/5/2010	6:00:50	33.82	218.7	0.1	1.172	16.9	116	8.22	12.1
8/5/2010	7:00:50	33.65	221.2	0.1	1.235	17.8	99.7	7.08	12.1
8/5/2010	8:00:50	33.56	220	0.1	1.228	16.6	112.7	8.02	12.1
8/5/2010	9:00:50	33.41	217.6	0.1	1.207	18	111.3	7.94	12.1
8/5/2010	10:00:50	32.75	213.9	0.1	1.41	23.1	108.2	7.8	12.1
8/5/2010	11:00:50	32.26	219.2	0.1	1.363	24.9	84	6.1	12.1
8/5/2010	12:00:50	31.71	219.9	0.1	1.33	25.6	82.7	6.07	12.1
8/5/2010	13:00:50	31.77	218.9	0.1	1.278	22.4	76.9	5.64	12
8/5/2010	14:00:50	31.99	220.3	0.1	1.227	21.7	95.1	6.94	12.1
8/5/2010	15:00:50	32.29	220.2	0.1	1.238	20.8	108.4	7.88	12.1
8/5/2010	16:00:50	32.4	222.2	0.1	1.276	22	108.2	7.85	12
8/5/2010	17:00:50	32.32	220.9	0.1	1.242	48.8	113.8	8.26	12
8/5/2010	18:00:50	32.24	222.7	0.1	1.235	31.9	105.4	7.66	12.1
8/5/2010	19:00:50	32.14	222.7	0.1	1.24	40.2	97.2	7.08	12.1
8/5/2010	20:00:50	31.95	225	0.1	1.276	27.8	84.4	6.16	12
8/5/2010	21:00:50	31.8	225.8	0.1	1.276	23.2	78.4	5.74	12.1
8/5/2010	22:00:50	31.61	225.6	0.1	1.287	21.9	66.4	4.88	12
8/5/2010	23:00:50	31.46	225.6	0.1	1.283	25.6	73.6	5.42	12.1
8/6/2010	0:00:50	31.29	226.5	0.11	1.273	24.1	64.8	4.79	12
8/6/2010	1:00:50	31.09	227.1	0.11	1.247	22.4	57.3	4.25	12
8/6/2010	2:00:50	30.96	227.7	0.11	1.268	24.5	57.7	4.29	12
8/6/2010	3:00:50	30.84	229	0.11	1.25	24.5	46.7	3.48	12
8/6/2010	4:00:50	30.66	228.4	0.11	1.253	21.1	47.3	3.54	12
8/6/2010	5:00:50	30.55	230.1	0.11	1.269	21.5	42.6	3.19	12

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/6/2010	6:00:50	30.45	231.1	0.11	1.288	26.4	42.7	3.2	12
8/6/2010	7:00:50	30.31	231.2	0.11	1.292	23.4	49.5	3.72	12
8/6/2010	8:00:50	30.43	231.2	0.11	1.307	25	58	4.35	12
8/6/2010	9:00:50	30.78	232	0.11	1.337	25	63.4	4.72	12
8/6/2010	10:00:50	31.41	229.8	0.11	1.333	26.8	90.2	6.65	12
8/6/2010	11:00:50	32.03	229.1	0.11	1.33	12.3	105.5	7.7	12
8/6/2010	12:00:50	32.59	228.6	0.11	1.312	10.5	118.3	8.55	12
8/6/2010	13:00:50	32.4	227.2	0.11	1.303	10.6	118.2	8.57	12
8/6/2010	14:00:50	32.5	226.2	0.1	1.251	12.6	138.3	10.01	12
8/6/2010	15:00:50	32.88	226.8	0.11	1.331	10.9	157.4	11.33	12
8/6/2010	16:00:50	33.13	224	0.1	1.226	12.4	149.7	10.73	12
8/6/2010	17:00:50	33.1	224.4	0.1	1.257	13.7	154	11.04	12
8/6/2010	18:00:50	33.01	223.7	0.1	1.289	18.1	153.4	11.01	12
8/6/2010	19:00:50	32.83	224.8	0.1	1.263	16.4	143.8	10.36	12
8/6/2010	20:00:50	32.64	226.3	0.1	1.301	14.8	134.8	9.74	12
8/6/2010	21:00:50	32.5	226.5	0.1	1.305	15.3	125.4	9.08	12
8/6/2010	22:00:50	32.35	227	0.11	1.295	15.8	120.1	8.72	12
8/6/2010	23:00:50	32.23	229.6	0.11	1.285	13.5	112.5	8.18	12
8/7/2010	0:00:50	32.05	228.4	0.11	1.274	14.8	109.8	8.01	12
8/7/2010	1:00:50	31.94	228.3	0.11	1.263	12.5	101.6	7.42	12
8/7/2010	2:00:50	31.8	230.2	0.11	1.265	14.5	65.4	4.79	12
8/7/2010	3:00:50	31.66	227.2	0.11	1.268	16.7	79.1	5.81	12
8/7/2010	4:00:50	31.56	227.4	0.11	1.273	20.4	86.6	6.37	12
8/7/2010	5:00:50	31.42	227.4	0.11	1.286	21.4	88.2	6.5	12
8/7/2010	6:00:50	31.33	226.5	0.11	1.298	18	80.3	5.93	12
8/7/2010	7:00:50	31.34	228.1	0.11	1.31	19	83.2	6.14	12
8/7/2010	8:00:50	31.42	226.2	0.11	1.328	21.8	93.7	6.91	12
8/7/2010	9:00:50	31.67	224.5	0.1	1.327	18.4	110.8	8.14	12
8/7/2010	10:00:50	32.25	223.4	0.1	1.33	16.6	127.7	9.28	12
8/7/2010	11:00:50	32.7	222.4	0.1	1.319	17.4	146.6	10.58	12
8/7/2010	12:00:50	33.55	223.1	0.1	1.319	17.3	161.1	11.46	12
8/7/2010	13:00:50	34.29	223.4	0.1	1.294	16.6	174.3	12.25	12
8/7/2010	14:00:50	34.71	222.3	0.1	1.263	15.5	187.4	13.08	12
8/7/2010	15:00:50	35.03	223.1	0.1	1.234	9.5	194	13.47	12
8/7/2010	16:00:50	35.56	222.7	0.1	1.221	7.9	203.4	14	12
8/7/2010	17:00:50	35.29	223	0.1	1.202	8.8	205.3	14.2	12
8/7/2010	18:00:50	35.41	224.2	0.1	1.237	9.5	194.4	13.41	12
8/7/2010	19:00:50	34.99	222.6	0.1	1.238	13	189.6	13.17	12
8/7/2010	20:00:50	34.71	227.3	0.1	1.26	12.4	179.1	12.5	12
8/7/2010	21:00:50	34.53	225.7	0.1	1.279	16.9	155.5	10.89	12
8/7/2010	22:00:50	34.22	226.5	0.1	1.308	19.1	153.9	10.83	12
8/7/2010	23:00:50	34.08	227.7	0.11	1.303	12.8	143.4	10.11	12
8/8/2010	0:00:50	33.83	228.1	0.11	1.277	12.9	139	9.84	12

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/8/2010	1:00:50	33.64	230.7	0.11	1.278	18.5	117.9	8.38	12
8/8/2010	2:00:50	33.46	227.9	0.11	1.297	13.4	118.5	8.44	12.1
8/8/2010	3:00:50	33.25	229.3	0.11	1.286	12.5	105.2	7.52	12
8/8/2010	4:00:50	33.08	230.8	0.11	1.273	13.6	102.9	7.38	12
8/8/2010	5:00:50	32.93	229.4	0.11	1.297	18	101.8	7.32	12
8/8/2010	6:00:50	32.72	230.3	0.11	1.305	17.7	98.8	7.13	12
8/8/2010	7:00:50	32.54	228.6	0.11	1.312	15.9	103.1	7.46	12
8/8/2010	8:00:50	32.73	226.3	0.1	1.325	13.5	107	7.72	12
8/8/2010	9:00:50	33.02	228.8	0.11	1.334	13.7	111.4	8	12
8/8/2010	10:00:50	33.66	226	0.1	1.358	13.3	132.7	9.42	12
8/8/2010	11:00:50	34.07	226.4	0.1	1.346	14.9	144.5	10.19	12
8/8/2010	12:00:50	34.85	226.1	0.1	1.333	12.4	159	11.07	12
8/8/2010	13:00:50	35.53	225.8	0.1	1.3	12	171.5	11.81	12
8/8/2010	14:00:50	35.96	225.4	0.1	1.278	12.9	182.3	12.46	12
8/8/2010	15:00:50	36.88	225.2	0.1	1.26	11.5	191.4	12.89	12
8/8/2010	16:00:50	37.01	225	0.1	1.251	7.6	200.4	13.48	12
8/8/2010	17:00:50	37.05	225.6	0.1	1.251	10.3	198.3	13.32	12
8/8/2010	18:00:50	36.56	224.4	0.1	1.251	235.2	188.9	12.79	12
8/8/2010	19:00:50	36.22	224.6	0.1	1.256	14.2	187	12.73	12.1
8/8/2010	20:00:50	36	228.3	0.11	1.297	13.8	158	10.8	12
8/8/2010	21:00:50	35.76	231.9	0.11	1.281	16.3	146.9	10.08	12
8/8/2010	22:00:50	35.48	229.8	0.11	1.285	15.5	141	9.72	12
8/8/2010	23:00:50	35.27	231.3	0.11	1.291	16.2	137.2	9.49	12
8/9/2010	0:00:50	35.12	231	0.11	1.275	15.3	121.7	8.44	12
8/9/2010	1:00:50	34.96	233.2	0.11	1.288	13.5	121.3	8.43	12
8/9/2010	2:00:50	34.76	234.2	0.11	1.287	15.3	100.4	7	12
8/9/2010	3:00:50	34.52	232.2	0.11	1.284	15.5	98.9	6.93	12
8/9/2010	4:00:50	34.26	231.3	0.11	1.288	15	97	6.82	12
8/9/2010	5:00:50	34.03	232.4	0.11	1.317	18.1	85.1	6.01	12
8/9/2010	6:00:50	33.81	229.7	0.11	1.323	18	86.5	6.13	12
8/9/2010	7:00:50	33.71	232.5	0.11	1.349	23	75.9	5.39	12
8/9/2010	8:00:50	33.71	230	0.11	1.343	17.4	82.1	5.82	12
8/9/2010	9:00:50	33.9	227.7	0.11	1.357	18.4	101.8	7.2	12
8/9/2010	10:00:50	34.22	228.6	0.11	1.366	16.1	108.3	7.62	12
8/9/2010	11:00:50	34.59	229.1	0.11	1.348	15.3	118.8	8.31	12
8/9/2010	12:00:50	34.98	233	0.11	1.351	22.4	126	8.76	12
8/9/2010	13:00:50	35.96	231	0.11	1.319	14.5	143.2	9.79	12
8/9/2010	14:00:50	36.37	228.3	0.11	1.299	14.3	162.4	11.03	12
8/9/2010	15:00:50	36.64	227.3	0.1	1.326	16.3	164.1	11.1	12
8/9/2010	16:00:50	35.83	225.3	0.1	1.304	15.1	139.3	9.54	12
8/9/2010	17:00:50	35.53	230	0.11	1.312	17.4	130.4	8.98	12
8/9/2010	18:00:50	35.31	230	0.11	1.221	15.3	104.2	7.2	12
8/9/2010	19:00:50	35.01	229.1	0.11	1.256	17.1	106.3	7.38	12

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/9/2010	20:00:50	34.77	231.7	0.11	1.309	18	107.3	7.48	12
8/9/2010	21:00:50	34.54	231.4	0.11	1.31	18.9	92.3	6.46	12
8/9/2010	22:00:50	34.24	231.7	0.11	1.333	17.8	87.3	6.14	12
8/9/2010	23:00:50	34.03	232.3	0.11	1.316	20.2	84.3	5.95	12
8/10/2010	0:00:50	33.81	231.4	0.11	1.323	18.6	77.4	5.49	12
8/10/2010	1:00:50	33.57	230.8	0.11	1.295	18.8	63.2	4.5	12
8/10/2010	2:00:50	33.43	230.7	0.11	1.297	19.5	58.3	4.15	12
8/10/2010	3:00:50	33.11	229.6	0.11	1.27	19.4	58.6	4.2	12
8/10/2010	4:00:50	32.86	228.7	0.11	1.28	20.5	55.7	4.01	12
8/10/2010	5:00:50	32.67	231.3	0.11	1.315	22.4	50.4	3.64	12
8/10/2010	6:00:50	32.54	231.1	0.11	1.304	16.1	40.1	2.9	12
8/10/2010	7:00:50	32.48	229.5	0.11	1.311	18.7	42.1	3.05	12
8/10/2010	8:00:50	32.51	234	0.11	1.344	17.9	45.7	3.31	12
8/10/2010	9:00:50	32.46	231	0.11	1.354	23.1	54.5	3.95	12
8/10/2010	10:00:50	32.58	235.1	0.11	1.341	19.8	43	3.11	12
8/10/2010	11:00:50	32.45	232.8	0.11	1.339	23.2	73.3	5.31	11.9
8/10/2010	12:00:50	32.62	232.1	0.11	1.313	20.5	83	6	12
8/10/2010	13:00:50	32.88	229.8	0.11	1.291	17.5	110.4	7.94	12
8/10/2010	14:00:50	33.09	228.9	0.11	1.266	16.6	121.4	8.7	11.9
8/10/2010	15:00:50	32.82	230.7	0.11	1.244	19.8	104.6	7.53	11.9
8/10/2010	16:00:50	32.72	234	0.11	1.228	25.2	84.7	6.11	12
8/10/2010	17:00:50	32.64	231	0.11	1.23	21.3	68.1	4.92	12
8/10/2010	18:00:50	32.57	235.5	0.11	1.238	17.6	46.1	3.34	12
8/10/2010	19:00:50	32.51	234.5	0.11	1.243	16.4	45.9	3.32	12
8/10/2010	20:00:50	32.47	234.9	0.11	1.249	16.1	39.9	2.89	12
8/10/2010	21:00:50	32.53	237.7	0.11	1.264	17.3	25.7	1.86	12
8/10/2010	22:00:50	32.45	237.7	0.11	1.247	16	39.8	2.89	12
8/10/2010	23:00:50	32.33	238.8	0.11	1.247	17.7	18.1	1.31	11.9
8/11/2010	0:00:50	32.23	239.3	0.11	1.237	16.6	30.6	2.22	12
8/11/2010	1:00:50	32.11	238.7	0.11	1.243	14.9	26.7	1.94	12
8/11/2010	2:00:50	31.98	237.3	0.11	1.236	16.1	17.3	1.26	12
8/11/2010	3:00:50	31.85	238.6	0.11	1.225	17.3	21.2	1.55	12
8/11/2010	4:00:50	31.73	240.3	0.11	1.205	14.6	15.3	1.12	12
8/11/2010	5:00:50	31.55	239.2	0.11	1.251	13.2	16.1	1.19	12
8/11/2010	6:00:50	31.43	239.9	0.11	1.26	14.8	13.6	1	11.9
8/11/2010	7:00:50	31.29	239.3	0.11	1.256	15.8	17.9	1.32	12
8/11/2010	8:00:50	31.3	237.7	0.11	1.276	14.5	23.1	1.71	12

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/11/2010	9:00:50	31.28	229.7	0.11	13.5	32.4	2.4	12	1.442
8/11/2010	10:00:50	31.34	230.3	0.11	10.9	30.6	2.26	11.9	1.426
8/11/2010	11:00:50	31.61	228.4	0.11	12	65.9	4.84	12	1.44
8/11/2010	12:00:50	31.91	227.3	0.11	12	79.1	5.79	12	1.405
8/11/2010	13:00:50	33.2	226.2	0.1	8.7	91.3	6.53	12	1.376
8/11/2010	14:00:50	33.32	224.8	0.1	12.2	112	8	12	1.363
8/11/2010	15:00:50	33.71	224	0.1	10.6	114.4	8.12	12	1.351
8/11/2010	16:00:50	33.44	224.2	0.1	11.2	102.8	7.33	11.9	1.347
8/11/2010	17:00:50	33.1	224.2	0.1	11.9	74.4	5.33	11.9	1.332
8/11/2010	18:00:50	32.67	224.6	0.1	12.5	78.6	5.67	11.9	1.33
8/11/2010	19:00:50	32.49	225	0.1	13.5	61.2	4.43	12	1.323
8/11/2010	20:00:50	32.4	226.4	0.1	14.5	51.6	3.74	12	1.339
8/11/2010	21:00:50	32.44	231	0.11	6.8	31	2.25	12	1.331
8/11/2010	22:00:50	32.27	228.4	0.11	9.6	43.6	3.17	12	1.353
8/11/2010	23:00:50	32.14	228.7	0.11	10	41.1	2.99	11.9	1.343
8/12/2010	0:00:50	31.99	228.9	0.11	7.9	36.6	2.67	12	1.33
8/12/2010	1:00:50	31.91	230.1	0.11	11.9	32.8	2.4	11.9	1.332
8/12/2010	2:00:50	31.74	229.4	0.11	11.3	38.8	2.85	12	1.336
8/12/2010	3:00:50	31.49	226.3	0.11	16.6	76.5	5.63	11.9	1.329
8/12/2010	4:00:50	31.26	228.3	0.11	14.3	71.6	5.29	11.9	1.322
8/12/2010	5:00:50	30.95	228.5	0.11	15.7	68	5.06	11.9	1.33
8/12/2010	6:00:50	30.63	230.9	0.11	12.2	40.3	3.01	11.9	1.334
8/12/2010	7:00:50	30.52	232.2	0.11	9.8	31.8	2.38	11.9	1.346
8/12/2010	8:00:50	30.55	233.8	0.11	6.1	21.5	1.61	11.9	1.349
8/12/2010	9:00:50	31.12	227.1	0.11	6.5	42.7	3.16	11.9	1.353
8/12/2010	10:00:50	31.41	227.1	0.11	6.8	64.1	4.73	12	1.347
8/12/2010	11:00:50	31.85	225	0.1	7.5	100.5	7.35	12	1.365
8/12/2010	12:00:50	32.03	225	0.1	8.4	114	8.32	11.9	1.347
8/12/2010	13:00:50	32.72	228.3	0.11	7.5	105.7	7.62	11.9	1.326
8/12/2010	14:00:50	33.45	224.2	0.1	7.6	124.2	8.85	12	1.307
8/12/2010	15:00:50	33.41	224	0.1	5.7	129.4	9.23	12	1.274
8/12/2010	16:00:50	33.67	222.4	0.1	4.3	141.1	10.02	12	1.289
8/12/2010	17:00:50	33.6	218.5	0.1	4.5	148.7	10.57	11.9	1.236
8/12/2010	18:00:50	33.48	218.7	0.1	3.6	123.9	8.83	12	1.274
8/12/2010	19:00:50	33.32	220.1	0.1	3.2	103.6	7.4	12	1.286
8/12/2010	20:00:50	33.19	219.4	0.1	3.6	98.8	7.07	11.9	1.299
8/12/2010	21:00:50	33.01	219.6	0.1	4.4	104.6	7.51	12	1.325
8/12/2010	22:00:50	32.82	218.2	0.1	5.6	105.7	7.62	12	1.315
8/12/2010	23:00:50	32.68	219.7	0.1	3.1	77	5.56	12	1.333
8/13/2010	0:00:50	32.57	219.7	0.1	3.9	77.2	5.58	11.9	1.303
8/13/2010	1:00:50	32.47	220	0.1	4	90.4	6.55	12	1.315
8/13/2010	2:00:50	32.39	221.3	0.1	2.5	64.4	4.67	11.9	1.294
8/13/2010	3:00:50	32.28	221.6	0.1	3.4	62.6	4.55	11.9	1.302

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/13/2010	4:00:50	32.17	221.5	0.1	5.4	79.3	5.77	12	1.312
8/13/2010	5:00:50	31.66	210.3	0.1	10.5	92.4	6.78	11.9	1.343
8/13/2010	6:00:50	31.13	199.8	0.09	11.4	85.3	6.32	11.9	1.487
8/13/2010	7:00:50	31.27	200.4	0.09	9.4	98.6	7.29	11.9	1.574
8/13/2010	8:00:50	31.24	202	0.09	9.2	96.7	7.15	12	1.59
8/13/2010	9:00:50	31.22	201.7	0.09	9	99.6	7.37	12	1.623
8/13/2010	10:00:50	31.19	196.1	0.09	7.8	105.1	7.78	11.9	1.61
8/13/2010	11:00:50	30.85	196.5	0.09	9.7	94.3	7.02	12	1.652
8/13/2010	12:00:50	31.28	198.8	0.09	9.6	84	6.21	12	1.664
8/13/2010	13:00:50	31.46	203.4	0.09	8.3	99.5	7.34	11.9	1.617
8/13/2010	14:00:50	31.66	200.8	0.09	10	101.2	7.44	11.9	1.616
8/13/2010	15:00:50	31.86	204	0.09	11.2	111.1	8.13	11.9	1.617
8/13/2010	16:00:50	31.65	193.1	0.09	13.3	91	6.68	11.9	1.617
8/13/2010	17:00:50	31.78	201.2	0.09	15	107.1	7.85	11.9	1.594
8/13/2010	18:00:50	31.94	205.6	0.1	12.4	132.1	9.65	11.9	1.596
8/13/2010	19:00:50	31.79	205.8	0.1	13.3	120.8	8.85	11.9	1.619
8/13/2010	20:00:50	31.54	207	0.1	10.5	113.8	8.37	11.9	1.609
8/13/2010	21:00:50	31.38	209.3	0.1	13.8	103.4	7.63	11.9	1.623
8/13/2010	22:00:50	31.18	211.5	0.1	12.6	91.4	6.77	11.9	1.63
8/13/2010	23:00:50	31.03	212.8	0.1	19	79.5	5.9	12	1.632
8/14/2010	0:00:50	30.88	214.2	0.1	11.9	87	6.47	12	1.634
8/14/2010	1:00:50	30.7	214.5	0.1	5.9	70.2	5.24	11.8	1.634
8/14/2010	2:00:50	30.58	213.9	0.1	4.2	34.8	2.61	11.9	1.645
8/14/2010	3:00:50	30.55	217.1	0.1	5.9	31.2	2.34	11.9	1.658
8/14/2010	4:00:50	30.69	215.9	0.1	5.3	26.7	2	11.9	1.668
8/14/2010	5:00:50	30.79	215.9	0.1	5.5	35.7	2.66	12	1.68
8/14/2010	6:00:50	30.89	215.4	0.1	6	42.1	3.14	11.9	1.685
8/14/2010	7:00:50	30.84	217.6	0.1	4.7	34	2.53	12	1.691
8/14/2010	8:00:50	30.29	215.3	0.1	12.6	45.3	3.4	12	1.703
8/14/2010	9:00:50	31.09	213.8	0.1	10	88.3	6.55	12	1.696
8/14/2010	10:00:50	31.51	212.6	0.1	9	109.4	8.05	11.9	1.702
8/14/2010	11:00:50	31.93	211.4	0.1	8.9	131.1	9.58	12	1.693
8/14/2010	12:00:50	32.07	209.6	0.1	11.6	133.6	9.74	12	1.676
8/14/2010	13:00:50	32.29	209.1	0.1	11.2	149	10.82	11.9	1.649
8/14/2010	14:00:50	32.39	208.9	0.1	11.7	154.5	11.21	11.8	1.654
8/14/2010	15:00:50	32.79	207.9	0.1	15.7	170.2	12.26	12	1.636
8/14/2010	16:00:50	32.75	208.6	0.1	14.6	170.6	12.3	11.9	1.627
8/14/2010	17:00:50	33.26	207.8	0.1	13.6	178.9	12.79	11.9	1.62
8/14/2010	18:00:50	33.24	207.6	0.1	17.3	169.7	12.14	11.9	1.598
8/14/2010	19:00:50	33.02	207	0.1	13.4	167.3	12.01	12	1.601
8/14/2010	20:00:50	32.83	207.4	0.1	16.5	154.7	11.14	11.8	1.579
8/14/2010	21:00:50	32.66	215.5	0.1	12.6	118.8	8.58	11.9	1.614
8/14/2010	22:00:50	32.56	218.8	0.1	9.7	82.1	5.94	11.9	1.624

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/14/2010	23:00:50	32.43	215.9	0.1	10.1	91.7	6.65	12	1.617
8/15/2010	0:00:50	32.25	216.5	0.1	10.9	68.9	5.01	12	1.622
8/15/2010	1:00:50	32.06	214.3	0.1	11.3	101.5	7.4	12	1.609
8/15/2010	2:00:50	31.92	215.9	0.1	5.8	49.3	3.61	11.9	1.601
8/15/2010	3:00:50	31.8	217.8	0.1	6.7	58.3	4.27	11.9	1.586
8/15/2010	4:00:50	31.6	218.1	0.1	5.9	21.8	1.6	11.9	1.586
8/15/2010	5:00:50	31.44	219.9	0.1	6.1	11.8	0.87	11.8	1.603
8/15/2010	6:00:50	31.32	222.5	0.1	7	17.6	1.3	11.9	1.601
8/15/2010	7:00:50	31.29	218.6	0.1	10.3	36.1	2.67	11.9	1.634
8/15/2010	8:00:50	31.38	212.2	0.1	16.1	88.7	6.54	11.9	1.647
8/15/2010	9:00:50	31.73	208.9	0.1	28.4	116.4	8.54	12	1.653
8/15/2010	10:00:50	32.06	208.7	0.1	32.8	127.3	9.29	11.8	1.635
8/15/2010	11:00:50	32.47	215.6	0.1	14.8	125.2	9.07	12	1.629
8/15/2010	12:00:50	33.03	222.2	0.1	21.2	131.9	9.47	11.9	1.609
8/15/2010	13:00:50	33.64	222.4	0.1	15.1	145.4	10.33	12	1.572
8/15/2010	14:00:50	34.29	218.4	0.1	21.1	156.2	10.98	11.9	1.55
8/15/2010	15:00:50	34.45	218.5	0.1	23.4	136.9	9.6	12	1.515
8/15/2010	16:00:50	34.71	209.4	0.1	17.4	167.2	11.67	11.9	1.506
8/15/2010	17:00:50	34.98	209.6	0.1	18.5	180.6	12.55	11.8	1.484
8/15/2010	18:00:50	34.52	210.5	0.1	13.5	181.6	12.72	11.8	1.521
8/15/2010	19:00:50	34.34	213.1	0.1	19.8	164	11.51	11.9	1.539
8/15/2010	20:00:50	34.08	217.7	0.1	12.3	147.5	10.4	11.9	1.535
8/15/2010	21:00:50	33.83	216.8	0.1	22.4	123.9	8.77	11.9	1.548
8/15/2010	22:00:50	33.54	219.8	0.1	18.8	112.7	8.02	11.9	1.524
8/15/2010	23:00:50	33.26	218	0.1	16.7	104.7	7.49	11.9	1.546
8/16/2010	0:00:50	33.04	217.6	0.1	13.3	89.1	6.39	11.9	1.54
8/16/2010	1:00:50	32.79	219.7	0.1	17.3	103.3	7.44	11.9	1.506
8/16/2010	2:00:50	32.66	219.5	0.1	17	87.4	6.31	12	1.572
8/16/2010	3:00:50	32.47	217.8	0.1	22.2	94.3	6.83	12	1.591
8/16/2010	4:00:50	32.06	211.3	0.1	32.1	117.4	8.56	12	1.729
8/16/2010	5:00:50	31.84	212.3	0.1	17.3	113.7	8.32	11.9	1.709
8/16/2010	6:00:50	31.72	215.8	0.1	12.7	91.4	6.71	11.8	1.63
8/16/2010	7:00:50	31.69	220.2	0.1	11.8	96.7	7.1	11.8	1.564
8/16/2010	8:00:50	31.75	221.4	0.1	10.9	80.8	5.93	11.9	1.641
8/16/2010	9:00:50	31.92	220.2	0.1	5.6	54.8	4.01	11.9	1.655
8/16/2010	10:00:50	32.54	212.7	0.1	10.3	107.1	7.75	11.9	1.653
8/16/2010	11:00:50	32.91	217.8	0.1	10.4	122.2	8.79	11.9	1.668
8/16/2010	12:00:50	33.63	213.7	0.1	12.8	127.1	9.03	11.9	1.685
8/16/2010	13:00:50	34.3	215.1	0.1	12.8	135.7	9.54	11.9	1.629
8/16/2010	14:00:50	34.3	219.1	0.1	13.5	128.9	9.06	11.9	1.612
8/16/2010	15:00:50	34.13	212.4	0.1	16.5	168.3	11.86	11.9	1.594
8/16/2010	16:00:50	33.8	215.3	0.1	17.7	148	10.49	11.9	1.55
8/16/2010	17:00:50	34.84	211	0.1	13.4	184.2	12.83	11.8	1.59

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/16/2010	18:00:50	34.69	210.9	0.1	16.9	182	12.71	11.9	1.596
8/16/2010	19:00:50	34.28	211	0.1	16.6	163.7	11.51	11.9	1.594
8/16/2010	20:00:50	33.94	215.4	0.1	12.4	134.8	9.53	11.9	1.556
8/16/2010	21:00:50	33.71	219.4	0.1	7.9	113.9	8.08	11.9	1.633
8/16/2010	22:00:50	33.39	217.8	0.1	9	85.1	6.07	11.9	1.65
8/16/2010	23:00:50	33.12	215.6	0.1	11.7	104.8	7.51	11.9	1.608
8/17/2010	0:00:50	32.89	218.8	0.1	10.6	90.6	6.52	11.9	1.611
8/17/2010	1:00:50	32.7	220.9	0.1	8.7	75	5.41	12	1.599
8/17/2010	2:00:50	32.54	222.9	0.1	7.5	52.8	3.82	11.9	1.558
8/17/2010	3:00:50	32.25	213.8	0.1	15	97.6	7.1	11.9	1.561
8/17/2010	4:00:50	32.08	222.7	0.1	4.8	59.5	4.34	11.8	1.59
8/17/2010	5:00:50	31.86	217.5	0.1	7.7	72.5	5.31	11.8	1.573
8/17/2010	6:00:50	31.68	218.4	0.1	8.1	53.4	3.92	11.9	1.563
8/17/2010	7:00:50	31.59	221.5	0.1	2.6	33.3	2.45	11.8	1.608
8/17/2010	8:00:50	31.5	218.2	0.1	5.7	52.2	3.84	11.9	1.59
8/17/2010	9:00:50	31.62	217.8	0.1	5.9	44.4	3.26	11.9	1.581
8/17/2010	10:00:50	31.72	217.3	0.1	10.1	83.6	6.14	11.8	1.612
8/17/2010	11:00:50	31.76	212.7	0.1	13.3	109.1	8	11.8	1.602
8/17/2010	12:00:50	31.69	215.4	0.1	10.8	91	6.68	11.8	1.6
8/17/2010	13:00:50	31.84	218.6	0.1	7.5	73.4	5.37	11.9	1.615
8/17/2010	14:00:50	32.06	208.9	0.1	16.1	131.3	9.58	11.8	1.562
8/17/2010	15:00:50	32.14	211.2	0.1	13.9	117.9	8.59	11.9	1.566
8/17/2010	16:00:50	31.76	205.1	0.09	13.3	106	7.77	11.8	1.61
8/17/2010	17:00:50	31.45	201.2	0.09	17.6	112.2	8.27	11.8	1.872
8/17/2010	18:00:50	31.28	201.7	0.09	15	105.8	7.82	11.8	1.909
8/17/2010	19:00:50	31.21	205.9	0.1	10.9	83.9	6.21	11.8	2.046
8/17/2010	20:00:50	31.06	204.9	0.1	14.8	89.5	6.64	11.9	2.064
8/17/2010	21:00:50	31.02	207.5	0.1	13.6	78.5	5.83	11.9	2.115
8/17/2010	22:00:50	30.92	207.2	0.1	12.2	72.3	5.38	11.8	2.168
8/17/2010	23:00:50	30.84	209.8	0.1	12.3	59.6	4.44	11.7	2.187
8/18/2010	0:00:50	30.86	212	0.1	10.4	30.2	2.25	11.8	2.216
8/18/2010	1:00:50	30.7	212.7	0.1	4.7	32.5	2.43	11.9	2.243
8/18/2010	2:00:50	30.56	213.5	0.1	4	20	1.49	11.8	2.257
8/18/2010	3:00:50	30.47	214.1	0.1	5.9	41.5	3.11	11.8	2.319
8/18/2010	4:00:50	30.45	213.2	0.1	5.2	34.5	2.59	11.9	2.374
8/18/2010	5:00:51	30.38	207.4	0.1	12.3	46.9	3.52	11.9	2.401
8/18/2010	6:00:50	30.31	208.4	0.1	15.6	32.8	2.46	11.7	2.44
8/18/2010	7:00:50	30.23	209.2	0.1	10.5	21	1.58	11.8	2.457
8/18/2010	8:00:50	30.14	209.9	0.1	5.7	15.1	1.14	11.8	2.501
8/18/2010	9:00:50	30.03	209.9	0.1	11.7	21.2	1.6	11.8	2.544
8/18/2010	10:00:50	29.93	209.9	0.1	7.9	19.9	1.51	11.7	2.583
8/18/2010	11:00:50	29.73	207.2	0.1	10.1	41	3.12	11.8	2.623
8/18/2010	12:00:50	29.69	202.4	0.09	9.4	45.3	3.44	11.8	2.653

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/18/2010	13:00:50	29.68	208.6	0.1	10.1	28.2	2.15	11.7	2.641
8/18/2010	14:00:50	29.66	208.9	0.1	10.5	33.7	2.56	11.8	2.63
8/18/2010	15:00:50	29.7	205.9	0.1	13	55.1	4.19	11.8	2.618
8/18/2010	16:00:50	29.74	202.6	0.09	12.3	69.5	5.28	11.7	2.645
8/18/2010	17:00:50	29.67	202.5	0.09	13.5	64.8	4.93	11.8	2.664
8/18/2010	18:00:50	29.77	207.6	0.1	9.8	46.6	3.53	11.8	2.692
8/18/2010	19:00:50	29.66	207.9	0.1	14.5	43.2	3.28	11.8	2.709
8/18/2010	20:00:50	29.63	208.2	0.1	5.5	22.1	1.68	11.7	2.731
8/18/2010	21:00:50	29.64	208.7	0.1	2.5	28.5	2.17	11.9	2.727
8/18/2010	22:00:50	29.64	209.1	0.1	2.5	13.5	1.03	11.7	2.739
8/18/2010	23:00:50	29.68	209.2	0.1	2.1	15.8	1.2	11.8	2.744
8/19/2010	0:00:50	29.64	210.3	0.1	2	14.8	1.13	11.7	2.74
8/19/2010	1:00:50	29.57	211.6	0.1	3.1	15.3	1.17	11.7	2.746
8/19/2010	2:00:50	29.47	210.8	0.1	3.6	15.5	1.18	11.8	2.753
8/19/2010	3:00:50	29.49	210.8	0.1	7.1	20.3	1.55	11.7	2.75
8/19/2010	4:00:50	29.51	209.2	0.1	3.1	6.7	0.51	11.7	2.767
8/19/2010	5:00:50	29.55	209.8	0.1	4.2	3.6	0.28	11.7	2.781
8/19/2010	6:00:50	29.63	211.8	0.1	2.2	14.5	1.1	11.8	2.804
8/19/2010	7:00:50	29.69	212.7	0.1	8.1	19.8	1.51	11.7	2.817
8/19/2010	8:00:50	29.77	213.2	0.1	4.3	21.5	1.63	11.8	2.83
8/19/2010	9:00:50	29.66	205.2	0.1	12.9	61.3	4.66	11.8	2.838
8/19/2010	10:00:50	30.07	204.4	0.09	8.7	91.4	6.9	11.7	2.844
8/19/2010	11:00:50	30.79	206.8	0.1	7.6	112.4	8.38	11.8	2.837
8/19/2010	12:00:50	31.09	205.4	0.1	7.5	133.2	9.87	11.8	2.82
8/19/2010	13:00:50	31.61	205	0.09	7.9	154.4	11.35	11.9	2.793
8/19/2010	14:00:50	32.22	206.7	0.1	8.4	148.2	10.78	11.9	2.771
8/19/2010	15:00:50	32.54	211.7	0.1	6.8	145.4	10.52	11.9	2.798
8/19/2010	16:00:50	32.61	205.6	0.1	8.6	161.7	11.68	11.8	2.894
8/19/2010	17:00:50	32.39	208	0.1	8.2	156.1	11.33	11.9	2.83
8/19/2010	18:00:50	32.21	214.7	0.1	6.1	132.7	9.66	11.9	2.832
8/19/2010	19:00:50	32.08	214.9	0.1	6.7	109.3	7.97	11.9	2.832
8/19/2010	20:00:50	31.97	213.7	0.1	8.3	103.3	7.55	11.9	2.824
8/19/2010	21:00:50	31.84	211.5	0.1	8.6	110.7	8.11	11.7	2.838
8/19/2010	22:00:50	31.77	210.5	0.1	8.2	107.1	7.85	11.8	2.843
8/19/2010	23:00:50	31.66	210.9	0.1	10.1	98.7	7.25	11.9	2.841
8/20/2010	0:00:50	31.47	212.4	0.1	15.4	81.7	6.02	11.8	2.833
8/20/2010	1:00:50	31.36	211.5	0.1	8.5	78.1	5.77	11.8	2.811
8/20/2010	2:00:50	31.3	213.5	0.1	8.3	69.7	5.15	11.8	2.813
8/20/2010	3:00:50	31.21	213.6	0.1	5.8	64.7	4.79	11.8	2.823
8/20/2010	4:00:50	31.11	213.5	0.1	6.4	73.1	5.42	11.8	2.823
8/20/2010	5:00:50	31.03	213.8	0.1	6.5	63.9	4.74	11.9	2.831
8/20/2010	6:00:50	30.89	211.7	0.1	8.4	79.8	5.94	11.9	2.844
8/20/2010	7:00:50	30.85	211.8	0.1	5.7	64.5	4.8	11.8	2.859

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/20/2010	8:00:50	30.89	209.6	0.1	6.7	92.5	6.88	11.9	2.869
8/20/2010	9:00:50	30.91	207.6	0.1	12.5	97.1	7.23	11.8	2.876
8/20/2010	10:00:50	31.24	205.8	0.1	9.5	123.2	9.11	11.8	2.876
8/20/2010	11:00:50	31.55	205.8	0.1	9.4	134.7	9.91	11.8	2.86
8/20/2010	12:00:50	31.95	205.9	0.1	9.2	138.2	10.1	11.9	2.838
8/20/2010	13:00:50	32.12	209.3	0.1	7.6	138.9	10.12	11.8	2.81
8/20/2010	14:00:50	32.59	203.9	0.09	10.1	172.4	12.46	11.9	2.783
8/20/2010	15:00:50	32.69	206.8	0.1	7.2	164.9	11.9	11.9	2.794
8/20/2010	16:00:50	32.68	204.3	0.09	8.8	165.6	11.95	11.8	2.773
8/20/2010	17:00:50	32.53	205.3	0.09	12	158.2	11.45	11.8	2.763
8/20/2010	18:00:50	32.59	205	0.09	11.6	142.9	10.33	11.7	2.75
8/20/2010	19:00:50	32.58	203.7	0.09	9.5	157.3	11.38	11.7	2.764
8/20/2010	20:00:50	32.48	208.4	0.1	6.7	143.5	10.39	11.8	2.78
8/20/2010	21:00:50	32.25	208.3	0.1	7.5	117.4	8.53	11.8	2.783
8/20/2010	22:00:50	32.13	211.1	0.1	7.2	100	7.29	11.9	2.781
8/20/2010	23:00:50	31.98	206.6	0.1	7.4	110	8.03	11.9	2.776
8/21/2010	0:00:50	31.85	208.3	0.1	8.1	101.3	7.42	11.7	2.777
8/21/2010	1:00:50	31.71	207.5	0.1	8.8	104.5	7.66	11.8	2.759
8/21/2010	2:00:50	31.62	208.8	0.1	8.6	100.2	7.37	11.9	2.755
8/21/2010	3:00:50	31.52	208.9	0.1	7.6	91	6.7	11.8	2.751
8/21/2010	4:00:50	31.42	210.5	0.1	9.7	84.9	6.26	11.7	2.768
8/21/2010	5:00:50	31.32	209.6	0.1	7	79.4	5.86	11.7	2.777
8/21/2010	6:00:50	30.96	213.4	0.1	8.6	57	4.23	11.7	2.777
8/21/2010	7:00:50	30.85	210.1	0.1	6.1	54.5	4.06	11.7	2.777
8/21/2010	8:00:50	30.86	208	0.1	9.5	79.4	5.91	11.8	2.793
8/21/2010	9:00:50	30.91	208.8	0.1	10.3	77.2	5.74	11.9	2.803
8/21/2010	10:00:50	31.62	206.3	0.1	10.2	115.4	8.48	11.8	2.801
8/21/2010	11:00:50	32	206.3	0.1	10.4	126.1	9.21	11.7	2.803
8/21/2010	12:00:50	32.27	206.7	0.1	10.6	133.4	9.7	11.7	2.775
8/21/2010	13:00:50	32.73	205.9	0.1	10	149.1	10.75	11.7	2.76
8/21/2010	14:00:50	33.11	205.6	0.09	9.7	159.1	11.4	11.8	2.725
8/21/2010	15:00:50	33.38	204.8	0.09	9.7	167.4	11.95	11.8	2.702
8/21/2010	16:00:50	33.5	202.7	0.09	8.9	180.1	12.82	11.8	2.69
8/21/2010	17:00:50	33.6	201.8	0.09	8.7	194.1	13.8	11.8	2.679
8/21/2010	18:00:50	33.58	201.1	0.09	7.9	198.3	14.1	11.7	2.68
8/21/2010	19:00:50	33.43	202.1	0.09	9.1	179.5	12.8	11.7	2.674
8/21/2010	20:00:50	33.3	202.5	0.09	8.6	156.6	11.19	11.8	2.667
8/21/2010	21:00:50	33.13	202.9	0.09	10	150.3	10.77	11.9	2.679
8/21/2010	22:00:50	32.99	203.2	0.09	10.4	122.7	8.81	11.8	2.668
8/21/2010	23:00:50	32.83	203.4	0.09	12.1	128.5	9.25	11.7	2.664
8/22/2010	0:00:50	32.69	203.7	0.09	10	109.6	7.91	11.7	2.645
8/22/2010	1:00:50	32.54	205.4	0.09	9.4	102.9	7.44	11.7	2.614
8/22/2010	2:00:50	32.43	206.8	0.1	10.2	96.1	6.97	11.7	2.614

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/22/2010	3:00:50	32.26	206.2	0.1	12.3	100.4	7.3	11.8	2.61
8/22/2010	4:00:50	32.14	204.7	0.09	10.5	88.8	6.47	11.8	2.613
8/22/2010	5:00:50	32.01	204.9	0.09	10.3	88.2	6.44	11.7	2.628
8/22/2010	6:00:50	31.9	208.5	0.1	13.6	64.4	4.71	11.7	2.634
8/22/2010	7:00:50	31.74	207.5	0.1	11	59	4.33	11.7	2.629
8/22/2010	8:00:50	31.75	206.5	0.1	15.1	91.6	6.72	11.7	2.627
8/22/2010	9:00:50	31.85	206.9	0.1	14.7	100.5	7.35	11.7	2.626
8/22/2010	10:00:50	32.04	208.4	0.1	11.9	106.2	7.75	11.8	2.618
8/22/2010	11:00:50	32.37	209.6	0.1	12.6	114.9	8.34	11.7	2.592
8/22/2010	12:00:50	32.75	209.8	0.1	12.6	126.6	9.13	11.7	2.574
8/22/2010	13:00:50	33.08	209.4	0.1	12.4	135.4	9.71	11.8	2.539
8/22/2010	14:00:50	33.7	207.3	0.1	11.2	147.5	10.47	11.8	2.502
8/22/2010	15:00:50	34.02	207	0.1	15.3	145.2	10.25	11.8	2.458
8/22/2010	16:00:50	33.87	214	0.1	13.3	121.8	8.62	11.8	2.433
8/22/2010	17:00:50	34.12	203	0.09	13.3	148.6	10.47	11.7	2.413
8/22/2010	18:00:50	34.31	201.8	0.09	10.2	169.9	11.93	11.8	2.406
8/22/2010	19:00:50	33.84	201.8	0.09	12.9	129.2	9.15	11.8	2.411
8/22/2010	20:00:50	33.35	201.4	0.09	10.3	140.5	10.03	11.8	2.396
8/22/2010	21:00:50	33.25	203.1	0.09	12.2	125.8	8.99	11.8	2.42
8/22/2010	22:00:50	33.04	202	0.09	10.9	133	9.54	11.8	2.424
8/22/2010	23:00:50	32.47	201.1	0.09	14.3	121.9	8.83	11.8	2.393
8/23/2010	0:00:50	32.15	205.5	0.1	11	107.3	7.82	11.7	2.385
8/23/2010	1:00:50	31.99	202.6	0.09	9.9	101.5	7.41	11.7	2.313
8/23/2010	2:00:50	31.8	204.7	0.09	10	87.3	6.4	11.7	2.314
8/23/2010	3:00:50	31.61	201.2	0.09	11.8	111.9	8.23	11.8	2.337
8/23/2010	4:00:50	31.46	204.9	0.09	8.5	90.2	6.65	11.7	2.318
8/23/2010	5:00:50	31.31	206	0.1	6.6	62.3	4.6	11.7	2.319
8/23/2010	6:00:50	31.15	204.2	0.09	8.3	73.2	5.42	11.7	2.324
8/23/2010	7:00:50	30.97	204.6	0.09	7.6	54.2	4.03	11.7	2.327
8/23/2010	8:00:50	31.03	202.4	0.09	8.4	68.2	5.06	11.8	2.305
8/23/2010	9:00:50	30.74	208.4	0.1	9.8	59.3	4.42	11.7	2.307
8/23/2010	10:00:50	31.39	206.2	0.1	11.4	89.1	6.57	11.8	2.306
8/23/2010	11:00:50	32.24	205.1	0.09	11.2	108	7.85	11.8	2.289
8/23/2010	12:00:50	32.77	202.6	0.09	11.2	131.4	9.47	11.8	2.249
8/23/2010	13:00:50	32.15	212.7	0.1	12.5	77.7	5.66	11.8	2.23
8/23/2010	14:00:50	32.4	211.1	0.1	10.8	56.8	4.12	11.8	2.191
8/23/2010	15:00:50	32.67	206.7	0.1	11.1	91.9	6.63	11.8	2.146
8/23/2010	16:00:50	33.54	205.7	0.09	11.2	130.8	9.31	11.7	2.116
8/23/2010	17:00:50	32.85	205.9	0.1	14.1	134.2	9.66	11.7	2.144
8/23/2010	18:00:50	32.37	208.1	0.1	17.2	109	7.91	11.6	2.115
8/23/2010	19:00:50	32.16	207.5	0.1	19.2	81.6	5.94	11.7	2.119
8/23/2010	20:00:50	32.1	211.6	0.1	14.8	67.1	4.89	11.7	2.117
8/23/2010	21:00:50	31.88	211	0.1	15.4	53.7	3.93	11.6	2.137

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/23/2010	22:00:50	31.86	212	0.1	14.2	43	3.15	11.7	2.111
8/23/2010	23:00:50	31.81	213	0.1	14.2	26.5	1.94	11.8	2.086
8/24/2010	0:00:50	31.77	214.5	0.1	10.8	13	0.95	11.7	2.062
8/24/2010	1:00:50	31.65	213.3	0.1	9	20.7	1.52	11.7	2.056
8/24/2010	2:00:50	31.53	213.3	0.1	12.2	21.5	1.58	11.7	2.043
8/24/2010	3:00:50	31.39	212.7	0.1	7.5	5.7	0.42	11.7	2.026
8/24/2010	4:00:50	31.27	210.8	0.1	11	25.5	1.89	11.8	2.023
8/24/2010	5:00:50	31.15	212.1	0.1	9.8	17.7	1.31	11.8	2.027
8/24/2010	6:00:50	31.02	210.4	0.1	16	25.7	1.91	11.7	2.033
8/24/2010	7:00:50	30.94	210.4	0.1	11	24.7	1.84	11.7	2.033
8/24/2010	8:00:50	30.87	214.2	0.1	11.5	13	0.97	11.8	2.027
8/24/2010	9:00:50	30.87	213.6	0.1	10.9	19.5	1.45	11.8	2.018
8/24/2010	10:00:50	31.09	212.7	0.1	21.6	50.1	3.71	11.7	2.015
8/24/2010	11:00:50	31.22	212.2	0.1	15.1	55.1	4.07	11.7	2.003
8/24/2010	12:00:50	31.28	208.7	0.1	14.7	60.2	4.45	11.8	1.977
8/24/2010	13:00:50	31.51	209.8	0.1	17.9	67.9	5	11.7	1.959
8/24/2010	14:00:50	32.25	210.5	0.1	25.5	69.8	5.07	11.7	1.926
8/24/2010	15:00:50	32.83	208	0.1	21.4	77.2	5.56	11.6	1.911
8/24/2010	16:00:50	32.85	210.5	0.1	12.2	81.2	5.85	11.7	1.892
8/24/2010	17:00:50	32.73	207	0.1	30.9	106	7.64	11.8	1.883
8/24/2010	18:00:50	32.74	208.9	0.1	29.9	111.6	8.05	11.7	1.869
8/24/2010	19:00:50	32.51	208	0.1	37.2	103.2	7.47	11.7	1.874
8/24/2010	20:00:50	32.31	209.7	0.1	46.9	87.3	6.34	11.7	1.9
8/24/2010	21:00:50	32.09	210.6	0.1	28.9	83.4	6.08	11.7	1.904
8/24/2010	22:00:50	31.89	210.1	0.1	21	82.3	6.02	11.7	1.91
8/24/2010	23:00:50	31.72	211.1	0.1	19.4	75.5	5.54	11.7	1.91
8/25/2010	0:00:50	31.53	210.5	0.1	16.7	65.1	4.79	11.6	1.905
8/25/2010	1:00:50	31.24	211.1	0.1	16.4	34.6	2.56	11.8	1.885
8/25/2010	2:00:50	30.89	213.4	0.1	36	44.6	3.32	11.7	1.865
8/25/2010	3:00:50	30.57	212.4	0.1	14.8	32	2.4	11.7	1.872
8/25/2010	4:00:50	30.21	215.8	0.1	25.3	26.9	2.02	11.6	1.846
8/25/2010	5:00:50	29.76	217.7	0.1	11.7	26.7	2.03	11.6	1.866
8/25/2010	6:00:50	29.52	215.2	0.1	11.5	31.7	2.42	11.6	1.876
8/25/2010	7:00:50	29.41	216.2	0.1	9.8	19	1.45	11.6	1.875
8/25/2010	8:00:50	29.3	218.6	0.1	8.3	23.4	1.79	11.6	1.875
8/25/2010	9:00:50	30.26	208.2	0.1	10.1	83.8	6.3	11.6	1.874
8/25/2010	10:00:50	30.74	209.3	0.1	9.7	92.4	6.89	11.6	1.891
8/25/2010	11:00:50	31.19	208.1	0.1	9.5	104.1	7.71	11.7	1.868
8/25/2010	12:00:50	31.78	205.7	0.1	10.8	126.4	9.27	11.7	1.842
8/25/2010	13:00:50	32.35	205.2	0.09	8.9	137.2	9.96	11.7	1.806
8/25/2010	14:00:50	32.58	206.9	0.1	8.7	153.9	11.13	11.7	1.782
8/25/2010	15:00:50	32.69	205.6	0.1	11.3	155.4	11.22	11.8	1.768
8/25/2010	16:00:50	32.67	207.2	0.1	9.7	155.8	11.25	11.7	1.779

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/25/2010	17:00:50	32.52	203.5	0.09	12.1	152.2	11.02	11.6	1.75
8/25/2010	18:00:50	32.36	202.9	0.09	11.1	153.4	11.14	11.6	1.76
8/25/2010	19:00:50	32.11	203.8	0.09	11.7	137.1	9.99	11.7	1.752
8/25/2010	20:00:50	31.83	207.4	0.1	10.7	116.1	8.5	11.6	1.747
8/25/2010	21:00:50	31.65	208	0.1	8.8	96	7.05	11.6	1.749
8/25/2010	22:00:50	31.48	207.6	0.1	9.7	101.2	7.46	11.6	1.741
8/25/2010	23:00:50	31.29	206.4	0.1	9.4	93.1	6.88	11.7	1.728
8/26/2010	0:00:50	31.13	208.7	0.1	7.3	82.8	6.14	11.7	1.71
8/26/2010	1:00:50	30.87	208.5	0.1	9.7	91.5	6.81	11.6	1.705
8/26/2010	2:00:50	30.68	212	0.1	11.1	80.2	5.99	11.6	1.692
8/26/2010	3:00:50	30.34	211.7	0.1	11.8	69.4	5.21	11.6	1.678
8/26/2010	4:00:50	30.18	212.4	0.1	11.2	69.1	5.21	11.6	1.671
8/26/2010	5:00:50	29.99	211.5	0.1	11.8	69.4	5.24	11.6	1.678
8/26/2010	6:00:50	29.74	212.1	0.1	12.3	51.2	3.88	11.6	1.661
8/26/2010	7:00:50	29.49	213.8	0.1	11.5	49.7	3.79	11.6	1.666
8/26/2010	8:00:50	29.52	213.6	0.1	12.9	72.6	5.53	11.6	1.666
8/26/2010	9:00:50	30.09	208.7	0.1	10.8	90.4	6.82	11.6	1.653
8/26/2010	10:00:50	30.64	208.7	0.1	10.3	108.9	8.14	11.6	1.674
8/26/2010	11:00:50	31.12	212.5	0.1	10.2	120.4	8.92	11.6	1.646
8/26/2010	12:00:50	31.65	210	0.1	10.3	128.7	9.45	11.6	1.635
8/26/2010	13:00:50	31.92	207.1	0.1	10.3	131.9	9.64	11.7	1.596
8/26/2010	14:00:50	32.15	208.6	0.1	10.1	133.7	9.74	11.6	1.562
8/26/2010	15:00:50	32.2	206.3	0.1	10.4	135.2	9.84	11.7	1.547
8/26/2010	16:00:50	32.22	206.5	0.1	10.2	137.2	9.98	11.6	1.538
8/26/2010	17:00:50	32.19	207.5	0.1	10.1	132.7	9.66	11.6	1.536
8/26/2010	18:00:50	31.92	204.2	0.09	13	139.3	10.19	11.6	1.542
8/26/2010	19:00:50	31.72	205.3	0.1	11.1	126.5	9.28	11.6	1.543
8/26/2010	20:00:50	31.57	208.9	0.1	10.9	100.1	7.36	11.6	1.551
8/26/2010	21:00:50	31.39	207.4	0.1	9.7	100.5	7.42	11.6	1.558
8/26/2010	22:00:50	31.18	206.4	0.1	9.6	90	6.66	11.6	1.564
8/26/2010	23:00:50	30.99	205.7	0.1	8.6	90.5	6.72	11.6	1.561
8/27/2010	0:00:50	30.84	206.8	0.1	9.3	77.9	5.8	11.6	1.542
8/27/2010	1:00:50	30.66	206.3	0.1	13.4	91.1	6.8	11.6	1.525
8/27/2010	2:00:50	30.51	206	0.1	13	83.7	6.27	11.6	1.509
8/27/2010	3:00:50	30.24	207.1	0.1	11.2	79.2	5.96	11.6	1.503
8/27/2010	4:00:50	30.03	205.5	0.1	12	80.3	6.06	11.6	1.491
8/27/2010	5:00:50	29.78	208.2	0.1	12.4	72.9	5.53	11.6	1.5
8/27/2010	6:00:50	29.57	208.7	0.1	10.9	69.5	5.29	11.6	1.519
8/27/2010	7:00:51	29.41	206.4	0.1	14.7	77	5.87	11.6	1.516
8/27/2010	8:00:50	29.55	208	0.1	13.9	77.9	5.93	11.6	1.52
8/27/2010	9:00:50	29.57	210.9	0.1	14.2	84.9	6.46	11.6	1.539
8/27/2010	10:00:50	30.38	207.2	0.1	12	102.9	7.73	11.6	1.517
8/27/2010	11:00:50	31	206.1	0.1	11.1	109.8	8.16	11.6	1.506

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/27/2010	12:00:50	31.46	206.6	0.1	9.4	115.3	8.49	11.7	1.504
8/27/2010	13:00:50	31.8	207.2	0.1	9.6	122.1	8.95	11.6	1.478
8/27/2010	14:00:50	31.93	206.9	0.1	10.4	128.5	9.39	11.7	1.438
8/27/2010	15:00:50	32.01	206.4	0.1	10.4	128.4	9.38	11.6	1.435
8/27/2010	16:00:50	31.99	205.4	0.1	11.9	131.8	9.63	11.7	1.422
8/27/2010	17:00:50	31.74	205.5	0.1	12	120.7	8.85	11.6	1.414
8/27/2010	18:00:50	31.37	205.9	0.1	20	127.7	9.42	11.6	1.425
8/27/2010	19:00:50	31.08	208.6	0.1	13.5	112.5	8.34	11.6	1.446
8/27/2010	20:00:50	30.73	209.5	0.1	15.8	100.7	7.51	11.6	1.451
8/27/2010	21:00:50	30.4	212	0.1	14.2	98.7	7.41	11.6	1.483
8/27/2010	22:00:50	30.12	209.6	0.1	14.7	99.1	7.47	11.6	1.446
8/27/2010	23:00:50	29.74	208.5	0.1	15.5	94.3	7.15	11.6	1.449
8/28/2010	0:00:50	29.76	207.2	0.1	12.5	90.1	6.84	11.6	1.434
8/28/2010	1:00:50	29.9	207.3	0.1	11.4	85.3	6.45	11.6	1.428
8/28/2010	2:00:50	29.98	206.8	0.1	11.1	87.1	6.58	11.6	1.412
8/28/2010	3:00:50	30.05	206.9	0.1	11	81.3	6.14	11.6	1.428
8/28/2010	4:00:51	29.98	207.1	0.1	11.1	79.3	5.99	11.6	1.43
8/28/2010	5:00:51	29.86	206.6	0.1	13.3	81.9	6.2	11.6	1.438
8/28/2010	6:00:50	29.82	207.5	0.1	11.9	65.6	4.97	11.6	1.455
8/28/2010	7:00:50	29.75	207.4	0.1	12	69.7	5.29	11.6	1.459
8/28/2010	8:00:50	29.75	208	0.1	15	68.3	5.18	11.6	1.458
8/28/2010	9:00:50	29.85	206.5	0.1	12.5	77.8	5.9	11.6	1.463
8/28/2010	10:00:50	30.02	207.6	0.1	12.8	84.3	6.36	11.6	1.471
8/28/2010	11:00:50	30.27	207.3	0.1	13.2	91.8	6.91	11.6	1.477
8/28/2010	12:00:50	30.52	207.3	0.1	13.3	102.4	7.67	11.6	1.453
8/28/2010	13:00:50	30.86	207.5	0.1	14.4	109.5	8.16	11.6	1.42
8/28/2010	14:00:50	31	206.2	0.1	12.6	116.5	8.65	11.6	1.462
8/28/2010	15:00:50	31.02	206.1	0.1	13.6	119	8.84	11.6	1.438
8/28/2010	16:00:50	30.97	205.7	0.1	14.2	123.1	9.15	11.6	1.442
8/28/2010	17:00:50	30.95	206.4	0.1	13.9	125.2	9.31	11.6	1.468
8/28/2010	18:00:50	30.63	206	0.1	14.5	115.4	8.62	11.6	1.423
8/28/2010	19:00:50	30.27	206.7	0.1	13.1	99	7.45	11.6	1.478
8/28/2010	20:00:50	29.97	210.1	0.1	12.6	86	6.5	11.6	1.454
8/28/2010	21:00:50	29.46	213.8	0.1	11.7	59.9	4.57	11.6	1.467
8/28/2010	22:00:50	29.25	214.2	0.1	11.2	51	3.9	11.6	1.466
8/28/2010	23:00:50	29.17	213.2	0.1	11.9	54.7	4.19	11.6	1.47
8/29/2010	0:00:50	29.03	215.3	0.1	10.1	50.4	3.87	11.6	1.47
8/29/2010	1:00:50	28.82	217.1	0.1	9.8	43.7	3.37	11.6	1.465
8/29/2010	2:00:50	28.59	219.4	0.1	10.3	30.5	2.36	11.6	1.476
8/29/2010	3:00:50	28.41	220.1	0.1	9.3	22.9	1.78	11.6	1.468
8/29/2010	4:00:50	28.27	220.7	0.1	8.6	20.3	1.58	11.6	1.48
8/29/2010	5:00:50	28.17	219.4	0.1	8.9	17.2	1.34	11.6	1.493
8/29/2010	6:00:50	28.08	218.2	0.1	6.7	19.6	1.53	11.6	1.494

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/29/2010	7:00:50	28.02	218.1	0.1	7.2	27	2.11	11.6	1.526
8/29/2010	8:00:50	28.04	216.9	0.1	8.6	39.9	3.12	11.6	1.529
8/29/2010	9:00:50	28.24	212.8	0.1	10	60.4	4.7	11.6	1.598
8/29/2010	10:00:50	28.28	209.8	0.1	10.7	74.6	5.81	11.6	1.597
8/29/2010	11:00:50	28.78	209.8	0.1	10.9	103.8	8.01	11.6	1.592
8/29/2010	12:00:50	29	211	0.1	13.7	108.9	8.38	11.6	1.597
8/29/2010	13:00:50	29.55	211.8	0.1	10.6	110.9	8.45	11.6	1.581
8/29/2010	14:00:50	30.28	216	0.1	9.5	114.3	8.59	11.6	1.591
8/29/2010	15:00:50	30.4	218.2	0.1	13.6	94.3	7.07	11.6	1.558
8/29/2010	16:00:50	30.04	220.9	0.1	9.1	70.3	5.31	11.6	1.595
8/29/2010	17:00:51	29.67	221.5	0.1	9	57.6	4.38	11.5	1.539
8/29/2010	18:00:51	29.4	221.5	0.1	8.9	52.8	4.03	11.6	1.606
8/29/2010	19:00:50	29.2	219.9	0.1	7.8	42	3.22	11.6	1.611
8/29/2010	20:00:51	29.09	220.4	0.1	4.3	31.9	2.45	11.6	1.612
8/29/2010	21:00:50	28.96	220.2	0.1	5.4	36.7	2.82	11.6	1.642
8/29/2010	22:00:50	28.83	220.4	0.1	6.7	34.2	2.64	11.6	1.67
8/29/2010	23:00:50	28.72	220.8	0.1	4.5	30.8	2.38	11.6	1.661
8/30/2010	0:00:50	28.57	221.5	0.1	5.8	30.8	2.38	11.6	1.657
8/30/2010	1:00:50	28.48	222.3	0.1	5.2	29.9	2.32	11.6	1.656
8/30/2010	2:00:50	28.39	223	0.1	5.2	27.2	2.12	11.6	1.651
8/30/2010	3:00:50	28.28	221.3	0.1	9	28.4	2.21	11.5	1.651
8/30/2010	4:00:50	28.15	220.8	0.1	8.9	29.8	2.32	11.6	1.674
8/30/2010	5:00:50	28.14	220.3	0.1	9.8	32.5	2.54	11.6	1.696
8/30/2010	6:00:50	28.22	219.2	0.1	14.1	48.2	3.76	11.6	1.691
8/30/2010	7:00:50	28.19	221	0.1	12.2	46.1	3.59	11.6	1.699
8/30/2010	8:00:50	28.12	221.5	0.1	12.2	44.8	3.5	11.5	1.732
8/30/2010	9:00:50	28.26	222.4	0.1	6.7	36.4	2.84	11.6	1.742
8/30/2010	10:00:50	28.7	222.3	0.1	5.7	43.9	3.4	11.6	1.726
8/30/2010	11:00:51	29.14	221.9	0.1	5.9	55.1	4.22	11.5	1.73
8/30/2010	12:00:50	29.33	223.1	0.1	9.1	50.2	3.84	11.6	1.705
8/30/2010	13:00:50	29.31	222.3	0.1	7.3	59.8	4.57	11.6	1.68
8/30/2010	14:00:50	29.21	221.6	0.1	6.1	58.8	4.51	11.6	1.651
8/30/2010	15:00:51	29.28	222.8	0.1	7.9	67.1	5.14	11.5	1.632
8/30/2010	16:00:50	30.06	220.9	0.1	6.2	78.6	5.93	11.5	1.65
8/30/2010	17:00:50	29.91	221.1	0.1	8.1	82.6	6.25	11.6	1.653
8/30/2010	18:00:50	29.84	221.7	0.1	9	81.5	6.18	11.6	1.696
8/30/2010	19:00:50	29.75	222.9	0.1	5	67.3	5.11	11.5	1.692
8/30/2010	20:00:50	29.79	223.2	0.1	5.8	69.2	5.25	11.6	1.685
8/30/2010	21:00:50	29.62	222.5	0.1	5.9	74.5	5.67	11.5	1.671
8/30/2010	22:00:50	29.37	222.8	0.1	7.5	66.7	5.1	11.6	1.689
8/30/2010	23:00:50	29.12	223.2	0.1	7.8	64.6	4.96	11.6	1.685
8/31/2010	0:00:50	28.96	222.3	0.1	7.9	59.9	4.61	11.5	1.671
8/31/2010	1:00:50	28.81	222.3	0.1	6.4	60.3	4.65	11.6	1.663

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/31/2010	2:00:50	28.7	220.9	0.1	8.7	57.6	4.45	11.5	1.672
8/31/2010	3:00:50	28.64	222.1	0.1	8.8	52.6	4.07	11.6	1.663
8/31/2010	4:00:50	28.43	222.7	0.1	9	55.7	4.32	11.6	1.674
8/31/2010	5:00:50	28.41	222.8	0.1	9.5	48.1	3.73	11.5	1.687
8/31/2010	6:00:51	28.34	222.8	0.1	8.8	53.1	4.13	11.5	1.693
8/31/2010	7:00:50	28.26	223.2	0.1	9	53.8	4.19	11.5	1.712
8/31/2010	8:00:50	28.31	221.8	0.1	10.2	58.2	4.53	11.6	1.726

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
08/31/2010	10:00:50	28.88	221.6	1.489	15.1	0.1	68.1	5.25	11.5
08/31/2010	11:00:50	28.96	222.8	1.479	16.5	0.1	60.6	4.66	11.5
08/31/2010	12:00:50	29.62	222.2	1.448	11.1	0.1	74.6	5.67	11.4
08/31/2010	13:00:50	29.44	222.9	1.43	15.5	0.1	65.4	4.99	11.4
08/31/2010	14:00:50	29.66	223.2	1.386	16.1	0.1	73	5.55	11.4
08/31/2010	15:00:50	29.89	222.2	1.376	15.3	0.1	80.1	6.07	11.5
08/31/2010	16:00:50	30.09	222.3	1.364	12	0.1	91	6.87	11.5
08/31/2010	17:00:50	29.8	222.3	1.393	12.2	0.1	88.3	6.7	11.5
08/31/2010	18:00:50	29.59	223.1	1.384	14	0.1	77.3	5.88	11.6
08/31/2010	19:00:50	29.45	223	1.394	14.4	0.1	74.9	5.71	11.5
08/31/2010	20:00:50	29.27	223.1	1.392	13.6	0.1	68.2	5.22	11.5
08/31/2010	21:00:51	29.08	223.4	1.417	13.8	0.1	63.2	4.85	11.5
08/31/2010	22:00:50	28.91	223.5	1.396	14.7	0.1	62.4	4.81	11.5
08/31/2010	23:00:50	28.79	223.6	1.371	13.7	0.1	60.2	4.64	11.5
09/01/2010	00:00:50	28.7	223.7	1.371	12.8	0.1	59.3	4.58	11.5
09/01/2010	01:00:50	28.59	223.8	1.36	13.6	0.1	56.7	4.39	11.6
09/01/2010	02:00:50	28.44	223.9	1.365	13.6	0.1	57.8	4.49	11.5
09/01/2010	03:00:50	28.26	224.3	1.362	12.9	0.1	53.7	4.18	11.5
09/01/2010	04:00:50	28	224.9	1.373	13.4	0.11	51	3.99	11.5
09/01/2010	05:00:50	28.04	222.5	1.367	15.3	0.1	48.8	3.81	11.6
09/01/2010	06:00:50	28.05	221.9	1.38	11.9	0.1	51.4	4.02	11.5
09/01/2010	07:00:51	28	221.5	1.376	12.2	0.1	60.6	4.74	11.5
09/01/2010	08:00:50	28.09	221.3	1.372	14.1	0.1	70.6	5.52	11.4
09/01/2010	09:00:50	28.39	222.4	1.356	13.1	0.1	73.3	5.69	11.5
09/01/2010	10:00:50	28.88	222.3	1.372	14.4	0.1	84.5	6.51	11.6
09/01/2010	11:00:50	29.2	221.4	1.363	14.7	0.1	93.3	7.15	11.4
09/01/2010	12:00:50	29.63	221	1.338	14.2	0.1	102.5	7.8	11.4
09/01/2010	13:00:50	29.76	221.3	1.318	14.4	0.1	100.7	7.64	11.5
09/01/2010	14:00:50	29.77	222.2	1.288	14.8	0.1	91.6	6.95	11.6
09/01/2010	15:00:50	29.76	222.6	1.267	14.2	0.1	98.1	7.44	11.6
09/01/2010	16:00:50	30.1	221.5	1.257	11.5	0.1	111.3	8.4	11.5
09/01/2010	17:00:50	29.85	221.8	1.258	11.9	0.1	105.1	7.96	11.5
09/01/2010	18:00:50	29.45	223	1.258	12.7	0.1	94.4	7.2	11.6
09/01/2010	19:00:50	29.28	223.2	1.267	13.7	0.1	86.5	6.62	11.5
09/01/2010	20:00:50	29.06	223.4	1.301	14	0.1	76.1	5.85	11.5
09/01/2010	21:00:50	28.95	223.8	1.314	13.3	0.1	73.3	5.64	11.4
09/01/2010	22:00:51	28.9	224.2	1.294	12.7	0.1	67.8	5.22	11.5
09/01/2010	23:00:50	28.75	223.9	1.315	12.8	0.1	64	4.94	11.4
09/02/2010	00:00:50	28.67	223.4	1.305	12.9	0.1	72.5	5.6	11.4
09/02/2010	01:00:50	28.63	223.3	1.296	12.4	0.1	76.5	5.92	11.4
09/02/2010	02:00:50	28.54	223.9	1.266	12.8	0.1	75.8	5.88	11.4
09/02/2010	03:00:50	28.36	224.4	1.277	13.2	0.1	69.5	5.4	11.4
09/02/2010	04:00:50	28.1	224.4	1.252	13.1	0.1	61.6	4.81	11.5

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/02/2010	05:00:50	28.07	222.8	1.284	13.6	0.1	60.4	4.72	11.5
09/02/2010	06:00:50	27.95	222	1.283	11.5	0.1	60.8	4.76	11.5
09/02/2010	07:00:51	27.81	221.6	1.31	13.1	0.1	63.8	5.01	11.5
09/02/2010	08:00:50	28.03	220.9	1.33	11.5	0.1	80.9	6.32	11.5
09/02/2010	09:00:50	28.41	220.3	1.34	11.9	0.1	92.2	7.16	11.5
09/02/2010	10:00:50	28.78	220.1	1.332	13.2	0.1	105.2	8.12	11.4
09/02/2010	11:00:50	29.24	219.1	1.341	12.5	0.1	114.3	8.75	11.4
09/02/2010	12:00:50	29.53	220.1	1.318	15	0.1	126.7	9.65	11.5
09/02/2010	13:00:50	29.59	218.8	1.302	13.5	0.1	135.4	10.31	11.4
09/02/2010	14:00:50	29.52	218.7	1.295	15.7	0.1	110	8.38	11.5
09/02/2010	15:00:50	29.57	217.6	1.281	17.2	0.1	152.4	11.6	11.4
09/02/2010	16:00:50	29.64	216.9	1.269	11.2	0.1	157.1	11.94	11.5
09/02/2010	17:00:50	29.62	219.5	1.28	12.1	0.1	122	9.28	11.5
09/02/2010	18:00:50	29.78	218.8	1.29	12.2	0.1	126.7	9.61	11.4
09/02/2010	19:00:50	29.34	219.5	1.29	13.3	0.1	90.9	6.95	11.5
09/02/2010	20:00:51	29.25	221.1	1.311	12.3	0.1	88.9	6.81	11.5
09/02/2010	21:00:51	29.2	220.3	1.312	13	0.1	87.1	6.67	11.4
09/02/2010	22:00:50	29.04	220.9	1.297	13.3	0.1	93.3	7.17	11.5
09/02/2010	23:00:51	28.96	220.7	1.318	13.3	0.1	99.7	7.67	11.5
09/03/2010	00:00:50	28.99	220.2	1.336	14.1	0.1	106.3	8.17	11.4
09/03/2010	01:00:51	28.94	220.1	1.355	13.6	0.1	102.9	7.92	11.4
09/03/2010	02:00:50	28.89	220.4	1.345	14.3	0.1	96.7	7.45	11.5
09/03/2010	03:00:50	28.77	221	1.361	13.4	0.1	83.7	6.46	11.5
09/03/2010	04:00:51	28.61	221.1	1.352	11.3	0.1	73.7	5.7	11.5
09/03/2010	05:00:50	28.51	221.6	1.366	13.7	0.1	64.2	4.98	11.5
09/03/2010	06:00:50	28.34	221.3	1.372	12.3	0.1	59.8	4.65	11.4
09/03/2010	07:00:50	28.33	221.2	1.356	12.6	0.1	57.9	4.5	11.4
09/03/2010	08:00:50	28.41	220.6	1.383	10.8	0.1	69	5.36	11.5
09/03/2010	09:00:50	28.53	220	1.387	12.1	0.1	85.4	6.62	11.4
09/03/2010	10:00:50	28.79	218.2	1.404	12.5	0.1	121.2	9.35	11.4
09/03/2010	11:00:50	29.42	216.6	1.395	13.4	0.1	163.7	12.49	11.5
09/03/2010	12:00:50	30.55	217.4	1.383	12	0.1	175.2	13.12	11.5
09/03/2010	13:00:50	31.35	216.8	1.365	10.5	0.1	182	13.44	11.5
09/03/2010	14:00:50	31.76	216.2	1.333	8.3	0.1	189.1	13.86	11.5
09/03/2010	15:00:50	32.4	215.8	1.302	11.3	0.1	212.3	15.4	11.5
09/03/2010	16:00:50	33.66	216.8	1.295	6.1	0.1	198.8	14.12	11.5
09/03/2010	17:00:50	33.98	216.1	1.311	7.8	0.1	205.8	14.54	11.5
09/03/2010	18:00:50	33.68	216.3	1.322	8	0.1	209.6	14.88	11.4
09/03/2010	19:00:50	33.39	215.2	1.347	9.4	0.1	222.2	15.85	11.5
09/03/2010	20:00:50	33.13	214.7	1.367	8.6	0.1	206	14.76	11.5
09/03/2010	21:00:50	32.92	214.6	1.377	7.9	0.1	200.2	14.39	11.5
09/03/2010	22:00:50	32.72	214.9	1.39	8.6	0.1	191.3	13.8	11.6
09/03/2010	23:00:50	32.52	214.8	1.378	8.1	0.1	181.5	13.14	11.4

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/04/2010	00:00:50	32.35	214.6	1.393	6.9	0.1	174	12.63	11.5
09/04/2010	01:00:50	32.18	215.4	1.39	7.4	0.1	169.5	12.34	11.4
09/04/2010	02:00:50	32.05	215.4	1.378	7.7	0.1	160.2	11.69	11.4
09/04/2010	03:00:50	31.85	215.5	1.378	8.3	0.1	153.9	11.27	11.4
09/04/2010	04:00:50	31.62	216.2	1.396	8.4	0.1	149	10.95	11.5
09/04/2010	05:00:50	31.27	215.7	1.4	9	0.1	149	11.01	11.5
09/04/2010	06:00:50	30.92	215.2	1.413	9.2	0.1	147.2	10.95	11.5
09/04/2010	07:00:50	30.73	215	1.419	11.4	0.1	149.8	11.18	11.4
09/04/2010	08:00:50	30.59	214.8	1.437	11.2	0.1	147.3	11.02	11.4
09/04/2010	09:00:50	30.56	216.3	1.44	11.7	0.1	149.1	11.16	11.4
09/04/2010	10:00:50	30.66	216.7	1.436	14.8	0.1	140.3	10.48	11.4
09/04/2010	11:00:50	30.71	216.5	1.418	15.9	0.1	142.7	10.65	11.4
09/04/2010	12:00:50	30.82	215.5	1.403	14.5	0.1	152.6	11.37	11.5
09/04/2010	13:00:50	30.9	215.3	1.374	13.7	0.1	165.6	12.32	11.5
09/04/2010	14:00:50	31.07	214.5	1.355	14.3	0.1	173.5	12.87	11.5
09/04/2010	15:00:50	31.3	214.1	1.317	14.4	0.1	179.4	13.26	11.5
09/04/2010	16:00:50	31.4	214	1.329	13.6	0.1	181.2	13.37	11.4
09/04/2010	17:00:50	31.33	213.9	1.316	13.4	0.1	183.6	13.56	11.4
09/04/2010	18:00:50	31.08	213.7	1.311	13.4	0.1	171.9	12.75	11.5
09/04/2010	19:00:50	30.77	213.9	1.331	13.6	0.1	160.8	11.99	11.5
09/04/2010	20:00:50	30.63	214.4	1.346	14.1	0.1	150.5	11.25	11.5
09/04/2010	21:00:50	30.42	214.4	1.349	15.1	0.1	145.8	10.93	11.4
09/04/2010	22:00:50	30.25	215	1.347	15.1	0.1	138.6	10.43	11.4
09/04/2010	23:00:50	30.05	214.9	1.329	15.6	0.1	137.3	10.37	11.5
09/05/2010	00:00:50	29.79	215	1.316	15.5	0.1	132.8	10.07	11.4
09/05/2010	01:00:50	29.58	215.4	1.322	14.2	0.1	124.1	9.44	11.4
09/05/2010	02:00:50	29.4	215.5	1.291	16.9	0.1	121.5	9.28	11.4
09/05/2010	03:00:50	29.1	215.5	1.287	11.8	0.1	122.5	9.4	11.4
09/05/2010	04:00:50	28.93	215.8	1.296	16.1	0.1	116.6	8.97	11.4
09/05/2010	05:00:50	28.74	216	1.307	17.5	0.1	113	8.73	11.4
09/05/2010	06:00:50	28.53	216.1	1.32	16.1	0.1	108.1	8.38	11.4
09/05/2010	07:00:50	28.39	216.4	1.334	15.8	0.1	109.1	8.48	11.4
09/05/2010	08:00:50	28.36	215.9	1.336	14.7	0.1	113.2	8.8	11.4
09/05/2010	09:00:50	28.6	215.7	1.333	15.1	0.1	117.8	9.12	11.4
09/05/2010	10:00:51	29.06	217.8	1.34	14.6	0.1	111.8	8.59	11.4
09/05/2010	11:00:50	29.44	219	1.329	15	0.1	112.4	8.57	11.4
09/05/2010	12:00:50	29.99	218.5	1.297	14.5	0.1	123.2	9.31	11.4
09/05/2010	13:00:50	30.01	218.9	1.284	15.1	0.1	122.5	9.25	11.4
09/05/2010	14:00:50	30.52	217.9	1.261	14.4	0.1	134.3	10.06	11.5
09/05/2010	15:00:50	30.42	217.7	1.241	15.6	0.1	133.3	10	11.4
09/05/2010	16:00:50	30.49	217.3	1.228	15.2	0.1	139.6	10.46	11.5
09/05/2010	17:00:50	30.24	216.9	1.226	16.8	0.1	140	10.53	11.4
09/05/2010	18:00:50	29.94	216.8	1.228	16.7	0.1	135.1	10.22	11.4

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/05/2010	19:00:50	29.64	217.5	1.22	18.6	0.1	122.4	9.3	11.4
09/05/2010	20:00:50	29.34	218.2	1.255	17.7	0.1	111.9	8.55	11.3
09/05/2010	21:00:50	29.09	218.6	1.262	17.3	0.1	103.9	7.98	11.3
09/05/2010	22:00:50	28.95	218.5	1.281	17.6	0.1	100.6	7.74	11.4
09/05/2010	23:00:50	28.77	218.7	1.268	16.7	0.1	96.2	7.43	11.4
09/06/2010	00:00:50	28.6	219.1	1.26	17.3	0.1	90.5	7.01	11.3
09/06/2010	01:00:51	28.42	219.4	1.254	17.2	0.1	84.2	6.54	11.4
09/06/2010	02:00:50	28.24	219.6	1.251	16.4	0.1	81.6	6.36	11.3
09/06/2010	03:00:50	28.02	220	1.258	16.9	0.1	76.8	6.01	11.3
09/06/2010	04:00:50	27.9	220.3	1.268	15.3	0.1	78.1	6.12	11.3
09/06/2010	05:00:50	27.73	220.2	1.279	14.2	0.1	72	5.66	11.3
09/06/2010	06:00:50	27.77	220.2	1.295	13.7	0.1	73.2	5.75	11.3
09/06/2010	07:00:50	27.9	219.7	1.3	13.4	0.1	79.2	6.21	11.3
09/06/2010	08:00:50	28.05	219.7	1.3	13.2	0.1	86.5	6.76	11.3
09/06/2010	09:00:50	28.51	218.7	1.32	14.7	0.1	99.9	7.74	11.4
09/06/2010	10:00:50	28.91	218.2	1.322	17	0.1	110	8.47	11.3
09/06/2010	11:00:51	29.29	218	1.319	15.9	0.1	119.4	9.13	11.3
09/06/2010	12:00:50	29.87	218.8	1.305	14.2	0.1	130.5	9.88	11.3
09/06/2010	13:00:50	29.97	218.7	1.292	15.1	0.1	132.3	10	11.3
09/06/2010	14:00:50	29.4	217.8	1.282	16.1	0.1	114	8.7	11.3
09/06/2010	15:00:50	29.34	216.9	1.304	15	0.1	118.2	9.03	11.4
09/06/2010	16:00:50	29.54	217.1	1.263	14.2	0.1	120.9	9.21	11.3
09/06/2010	17:00:50	29.59	216.8	1.284	13.7	0.1	122.2	9.3	11.3
09/06/2010	18:00:50	29.55	216.5	1.317	13.2	0.1	125.3	9.54	11.3
09/06/2010	19:00:50	29.42	217	1.341	15.3	0.1	115.8	8.84	11.3
09/06/2010	20:00:51	29.54	217.2	1.366	14.6	0.1	118.5	9.03	11.3
09/06/2010	21:00:50	29.42	217.9	1.355	15.3	0.1	113.2	8.64	11.3
09/06/2010	22:00:51	29.23	218.2	1.366	14.9	0.1	107.7	8.24	11.3
09/06/2010	23:00:50	29.17	219.1	1.364	16.9	0.1	101.2	7.76	11.3
09/07/2010	00:00:51	28.98	219.9	1.336	15.8	0.1	92.1	7.08	11.3
09/07/2010	01:00:50	28.88	219.7	1.339	14.2	0.1	87.2	6.72	11.3
09/07/2010	02:00:50	28.76	220.2	1.35	15.5	0.1	83.4	6.44	11.3
09/07/2010	03:00:51	28.64	220.3	1.354	15	0.1	79.7	6.17	11.3
09/07/2010	04:00:51	28.54	220.4	1.361	13.9	0.1	77.2	5.98	11.3
09/07/2010	05:00:50	28.45	220.6	1.38	14.1	0.1	75.1	5.83	11.3
09/07/2010	06:00:50	28.32	220.8	1.405	14.4	0.1	73	5.68	11.3
09/07/2010	07:00:50	28.28	220.9	1.411	15.6	0.1	72.5	5.64	11.3
09/07/2010	08:00:51	28.41	220.2	1.422	14	0.1	77.7	6.03	11.3
09/07/2010	09:00:50	28.68	220.4	1.435	13.3	0.1	80.9	6.25	11.3
09/07/2010	10:00:50	28.88	220.5	1.432	13.4	0.1	87	6.71	11.3
09/07/2010	11:00:50	29.11	220.5	1.407	13.9	0.1	92.1	7.07	11.3
09/07/2010	12:00:50	29.54	220.2	1.4	15.4	0.1	99.3	7.56	11.3
09/07/2010	13:00:50	29.98	220.1	1.39	13.7	0.1	108.7	8.22	11.3

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/07/2010	14:00:50	30.55	219.9	1.341	14.2	0.1	113.4	8.49	11.3
09/07/2010	15:00:50	29.97	219.4	1.4	17.8	0.1	103.7	7.84	11.3
09/07/2010	16:00:50	29.89	218.4	1.369	16.8	0.1	100.9	7.64	11.3
09/07/2010	17:00:50	29.7	218.9	1.463	16.6	0.1	102.6	7.79	11.4
09/07/2010	18:00:50	29.48	219.1	1.506	19.6	0.1	99.3	7.57	11.3
09/07/2010	19:00:50	29.36	219.6	1.411	19.2	0.1	91.6	7	11.3
09/07/2010	20:00:50	29.21	219.5	1.478	18.9	0.1	87.5	6.7	11.3
09/07/2010	21:00:50	29.1	219.8	1.474	17.7	0.1	83.8	6.43	11.3
09/07/2010	22:00:51	29.01	220.8	1.434	17	0.1	80.5	6.19	11.3
09/07/2010	23:00:51	28.93	220.3	1.428	17.3	0.1	81	6.23	11.3
09/08/2010	00:00:51	28.9	220.8	1.435	15.7	0.1	79.8	6.14	11.3
09/08/2010	01:00:50	28.94	220.9	1.411	15.4	0.1	81.1	6.24	11.3
09/08/2010	02:00:51	28.93	220.6	1.398	16.1	0.1	77.9	6	11.3
09/08/2010	03:00:50	28.91	220.9	1.424	16.8	0.1	70.5	5.43	11.4
09/08/2010	04:00:51	28.77	222.1	1.413	18.8	0.1	63.3	4.89	11.3
09/08/2010	05:00:51	28.59	221.6	1.407	19	0.1	56.2	4.35	11.3
09/08/2010	06:00:50	28.38	223.4	1.413	15.6	0.1	46.8	3.63	11.3
09/08/2010	07:00:50	28.33	223.8	1.423	14.2	0.1	48	3.73	11.3
09/08/2010	08:00:50	28.37	223.7	1.413	13.9	0.1	51	3.96	11.3
09/08/2010	09:00:50	28.54	223.9	1.424	13.7	0.1	59.1	4.58	11.3
09/08/2010	10:00:50	28.84	223.8	1.432	14	0.1	68	5.25	11.3
09/08/2010	11:00:50	29.08	224.5	1.42	13.7	0.1	76.1	5.84	11.3
09/08/2010	12:00:51	29.36	224.1	1.397	13.3	0.1	79.3	6.06	11.3
09/08/2010	13:00:50	29.64	223.9	1.367	12.9	0.1	80.5	6.12	11.3
09/08/2010	14:00:50	29.12	224.7	1.35	13.1	0.1	73.7	5.65	11.3
09/08/2010	15:00:50	29.29	225.4	1.308	13.4	0.11	68.6	5.24	11.3
09/08/2010	16:00:50	28.84	225.8	1.302	12.5	0.11	63.2	4.88	11.3
09/08/2010	17:00:50	29.28	223.8	1.303	13	0.1	80.6	6.17	11.3
09/08/2010	18:00:50	30.01	222.8	1.307	12.9	0.1	111.2	8.4	11.3
09/08/2010	19:00:50	29.28	224.2	1.32	13.7	0.1	76.7	5.87	11.3
09/08/2010	20:00:51	29.03	225	1.337	12	0.1	60.4	4.64	11.3
09/08/2010	21:00:51	28.99	225.1	1.347	12.5	0.11	54.4	4.18	11.3
09/08/2010	22:00:51	29.04	225.1	1.351	13.4	0.11	47.8	3.67	11.3
09/08/2010	23:00:51	28.92	225.2	1.342	13.4	0.11	51.3	3.95	11.3
09/09/2010	00:00:51	28.8	225.8	1.34	13.4	0.11	40.3	3.11	11.3
09/09/2010	01:00:51	28.69	225.8	1.322	12.9	0.11	41.3	3.19	11.3
09/09/2010	02:00:51	28.6	225.8	1.311	14.2	0.11	43.3	3.35	11.3
09/09/2010	03:00:50	28.55	226.1	1.309	13.1	0.11	46.6	3.61	11.3
09/09/2010	04:00:50	28.55	226.3	1.308	14.4	0.11	50.3	3.9	11.3
09/09/2010	05:00:50	28.48	226.6	1.314	13.6	0.11	50	3.88	11.3
09/09/2010	06:00:50	28.39	226.4	1.324	13.9	0.11	45.5	3.54	11.3
09/09/2010	07:00:50	28.36	225.8	1.339	12.5	0.11	51.4	4	11.3
09/09/2010	08:00:50	28.42	225.4	1.322	12.2	0.11	56.9	4.41	11.3

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/09/2010	09:00:50	28.61	225.1	1.345	13.2	0.11	69.8	5.4	11.3
09/09/2010	10:00:51	28.81	222.1	1.346	12.9	0.1	82.3	6.35	11.3
09/09/2010	11:00:51	28.96	222.4	1.327	14.7	0.1	85.8	6.6	11.3
09/09/2010	12:00:51	29.31	221.6	1.312	13.8	0.1	100.1	7.65	11.3
09/09/2010	13:00:50	29.91	220.6	1.277	10.8	0.1	109.6	8.29	11.3
09/09/2010	14:00:50	30.07	220.5	1.241	11.5	0.1	113	8.53	11.3
09/09/2010	15:00:50	29.86	219.6	1.199	11.9	0.1	122.1	9.25	11.3
09/09/2010	16:00:50	29.68	219.5	1.209	11.2	0.1	127.9	9.72	11.3
09/09/2010	17:00:50	29.64	219.5	1.206	12.8	0.1	123.9	9.42	11.3
09/09/2010	18:00:50	29.58	221	1.211	11.7	0.1	112.2	8.54	11.3
09/09/2010	19:00:50	29.6	220.2	1.211	11.7	0.1	113.1	8.61	11.3
09/09/2010	20:00:50	29.45	221.1	1.225	11.6	0.1	104.2	7.95	11.3
09/09/2010	21:00:50	29.33	220.7	1.232	11.9	0.1	100.7	7.7	11.3
09/09/2010	22:00:50	29.21	220.5	1.217	11.5	0.1	100.5	7.7	11.3
09/09/2010	23:00:51	29.1	221	1.237	13.1	0.1	97.4	7.48	11.3
09/10/2010	00:00:51	28.98	221.4	1.228	11.4	0.1	95.5	7.35	11.3
09/10/2010	01:00:50	28.84	221.2	1.222	11.2	0.1	94.4	7.28	11.3
09/10/2010	02:00:50	28.77	221.5	1.225	12.3	0.1	90	6.94	11.3
09/10/2010	03:00:51	28.65	221.4	1.224	11	0.1	88.1	6.82	11.3
09/10/2010	04:00:50	28.55	222	1.234	11.2	0.1	85.6	6.63	11.3
09/10/2010	05:00:50	28.46	221.8	1.236	11.2	0.1	82.3	6.39	11.3
09/10/2010	06:00:50	28.35	221.8	1.265	11.9	0.1	80.9	6.29	11.3
09/10/2010	07:00:50	28.29	221.4	1.279	12.3	0.1	82	6.38	11.3
09/10/2010	08:00:50	28.51	221.1	1.283	10	0.1	93.9	7.28	11.3

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/10/2010	10:00:50	29.13	224	0.1	1.483	8.4	115.2	8.83	11.3
09/10/2010	11:00:50	29.13	223.1	0.1	1.476	5.9	129.8	9.96	11.3
09/10/2010	12:00:50	29.63	223.5	0.1	1.449	6.7	145.3	11.05	11.2
09/10/2010	13:00:50	30.86	223.4	0.1	1.438	5.1	161.6	12.03	11.3
09/10/2010	14:00:50	31.95	223.6	0.1	1.418	4.1	164.7	12.03	11.3
09/10/2010	15:00:50	32.41	223.7	0.1	1.387	2.4	166.8	12.1	11.3
09/10/2010	16:00:50	32.71	222.4	0.1	1.374	2.1	171	12.34	11.3
09/10/2010	17:00:50	32.73	221.9	0.1	1.372	2.2	174.7	12.6	11.3
09/10/2010	18:00:50	32.71	222.6	0.1	1.368	2.9	176.1	12.7	11.3
09/10/2010	19:00:50	32.27	222.9	0.1	1.379	2.5	170.6	12.4	11.3
09/10/2010	20:00:50	32.16	222.5	0.1	1.397	3.6	162.8	11.85	11.2
09/10/2010	21:00:50	31.94	223.8	0.1	1.397	11.1	147.5	10.78	11.3
09/10/2010	22:00:50	31.74	224	0.1	1.42	5.4	148.7	10.91	11.3
09/10/2010	23:00:50	31.46	224.1	0.1	1.417	5.3	141	10.39	11.3
09/11/2010	00:00:50	31.14	224.1	0.1	1.431	5.7	130.8	9.69	11.3
09/11/2010	01:00:50	30.97	225.1	0.1	1.413	6.7	128.2	9.53	11.3
09/11/2010	02:00:50	30.78	225.3	0.1	1.417	6	126.2	9.41	11.3
09/11/2010	03:00:50	30.59	225.5	0.1	1.424	6.3	120.7	9.03	11.3
09/11/2010	04:00:50	30.45	226	0.11	1.445	6	113.9	8.54	11.3
09/11/2010	05:00:50	30.34	226.4	0.11	1.444	7.4	104.3	7.83	11.3
09/11/2010	06:00:50	30.24	227.3	0.11	1.468	7.6	100.2	7.54	11.3
09/11/2010	07:00:50	30.21	227.3	0.11	1.499	6.3	99.4	7.48	11.3
09/11/2010	08:00:50	30.25	227.2	0.11	1.5	7.8	107	8.05	11.3
09/11/2010	09:00:51	30.63	225.9	0.11	1.503	6.7	126.1	9.43	11.3
09/11/2010	10:00:50	30.94	225	0.1	1.513	6.7	138.4	10.29	11.3
09/11/2010	11:00:50	31.37	224	0.1	1.511	7.6	148.9	10.99	11.3
09/11/2010	12:00:50	31.86	223.6	0.1	1.482	7.9	155.7	11.4	11.3
09/11/2010	13:00:50	32.45	223.7	0.1	1.475	7.5	163	11.81	11.3
09/11/2010	14:00:50	32.88	224.5	0.1	1.442	7.2	165.8	11.93	11.3
09/11/2010	15:00:50	32.86	222.7	0.1	1.424	4.2	177.8	12.8	11.3
09/11/2010	16:00:50	33.05	220.9	0.1	1.438	5.2	196.7	14.11	11.3
09/11/2010	17:00:50	33.13	219.5	0.1	1.431	5.3	221.5	15.87	11.3
09/11/2010	18:00:50	33.07	219.4	0.1	1.418	3.7	243.1	17.43	11.3
09/11/2010	19:00:50	32.85	218.8	0.1	1.43	4	242.6	17.47	11.3
09/11/2010	20:00:50	32.69	217.9	0.1	1.457	3.9	239.3	17.27	11.3
09/11/2010	21:00:50	32.57	217.8	0.1	1.483	5.1	226	16.34	11.3
09/11/2010	22:00:50	32.42	217.7	0.1	1.499	4.8	215.9	15.65	11.3
09/11/2010	23:00:50	32.26	217.4	0.1	1.49	4.7	207.5	15.09	11.3
09/12/2010	00:00:50	32.13	218.5	0.1	1.493	5.7	195.2	14.23	11.3
09/12/2010	01:00:50	31.98	218.1	0.1	1.506	5.3	187.9	13.73	11.3
09/12/2010	02:00:50	31.84	218	0.1	1.519	6.2	184	13.47	11.3
09/12/2010	03:00:50	31.71	217.8	0.1	1.502	6.4	175	12.84	11.3
09/12/2010	04:00:50	31.57	217.8	0.1	1.522	6.9	172.9	12.72	11.3

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/12/2010	05:00:50	31.44	218.2	0.1	1.531	7.6	169.9	12.52	11.3
09/12/2010	06:00:50	31.3	218.5	0.1	1.558	6.8	159.9	11.82	11.3
09/12/2010	07:00:50	31.23	220.5	0.1	1.567	7	165.7	12.26	11.3
09/12/2010	08:00:50	31.2	220.4	0.1	1.573	6.8	165.3	12.23	11.3
09/12/2010	09:00:50	31.33	219.8	0.1	1.58	7.5	182.9	13.51	11.3
09/12/2010	10:00:50	31.71	219.4	0.1	1.585	6.8	199.1	14.61	11.3
09/12/2010	11:00:50	31.94	220.2	0.1	1.578	7	212.4	15.53	11.3
09/12/2010	12:00:50	32.3	218.8	0.1	1.57	5.8	222.9	16.2	11.3
09/12/2010	13:00:50	32.87	219.2	0.1	1.544	5.4	220.5	15.86	11.3
09/12/2010	14:00:50	33.21	219	0.1	1.529	5.7	222.3	15.9	11.3
09/12/2010	15:00:50	33.28	218.9	0.1	1.51	6.2	221.4	15.82	11.3
09/12/2010	16:00:50	33.23	218.6	0.1	1.495	7.6	217.2	15.53	11.3
09/12/2010	17:00:50	33.05	218.3	0.1	1.525	8.1	213.3	15.3	11.3
09/12/2010	18:00:50	32.84	218.8	0.1	1.537	9.5	201.2	14.48	11.3
09/12/2010	19:00:50	32.61	218.6	0.1	1.555	7.5	190.6	13.78	11.3
09/12/2010	20:00:50	32.35	218	0.1	1.54	8.2	183	13.29	11.3
09/12/2010	21:00:50	32.22	218.4	0.1	1.551	8.4	173	12.59	11.3
09/12/2010	22:00:50	32.11	218.9	0.1	1.541	8	163.3	11.9	11.3
09/12/2010	23:00:50	31.96	219.5	0.1	1.536	7.7	158.2	11.56	11.3
09/13/2010	00:00:50	31.79	219	0.1	1.536	7.4	152.5	11.17	11.3
09/13/2010	01:00:50	31.61	219	0.1	1.535	7.9	150.5	11.06	11.2
09/13/2010	02:00:50	31.5	219.6	0.1	1.537	7.7	146.9	10.82	11.3
09/13/2010	03:00:50	31.21	219.6	0.1	1.54	7	144.6	10.7	11.3
09/13/2010	04:00:50	30.95	219.6	0.1	1.541	8	141.2	10.5	11.3
09/13/2010	05:00:50	30.79	219.9	0.1	1.557	7.3	130.3	9.71	11.3
09/13/2010	06:00:50	30.65	220.3	0.1	1.581	7.5	136	10.16	11.3
09/13/2010	07:00:50	30.62	220.4	0.1	1.585	8	133.4	9.97	11.3
09/13/2010	08:00:50	30.65	220.6	0.1	1.596	8.6	142.8	10.67	11.2
09/13/2010	09:00:50	30.58	219.8	0.1	1.616	8.4	148.7	11.12	11.3
09/13/2010	10:00:50	30.76	219.6	0.1	1.597	7.3	155.6	11.6	11.2
09/13/2010	11:00:50	31.1	218.9	0.1	1.579	8	168	12.46	11.3
09/13/2010	12:00:50	31.52	218.8	0.1	1.557	7.2	175.9	12.95	11.3
09/13/2010	13:00:50	31.67	219.6	0.1	1.542	7.3	173.8	12.76	11.2
09/13/2010	14:00:50	31.87	220.8	0.1	1.515	7.5	179.6	13.14	11.3
09/13/2010	15:00:50	32.23	220.8	0.1	1.502	8.1	188.4	13.7	11.3
09/13/2010	16:00:50	32.36	219.4	0.1	1.492	7.2	199	14.44	11.2
09/13/2010	17:00:50	32.25	219	0.1	1.488	6.7	204.8	14.89	11.2
09/13/2010	18:00:50	32.03	217.7	0.1	1.489	6.5	204.7	14.94	11.2
09/13/2010	19:00:50	31.83	219.4	0.1	1.496	7.3	190.7	13.96	11.3
09/13/2010	20:00:50	31.65	218.8	0.1	1.515	7.3	189.2	13.89	11.2
09/13/2010	21:00:50	31.45	219.8	0.1	1.516	8.1	180.5	13.31	11.2
09/13/2010	22:00:50	31.24	219.1	0.1	1.523	8.3	176.5	13.06	11.2
09/13/2010	23:00:50	30.98	219.4	0.1	1.509	8	162.3	12.06	11.2

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/14/2010	00:00:50	30.72	219.3	0.1	1.5	8.1	162.5	12.13	11.2
09/14/2010	01:00:50	30.53	221	0.1	1.504	8.5	154.8	11.59	11.2
09/14/2010	02:00:50	30.28	220.5	0.1	1.508	8.3	152.6	11.47	11.2
09/14/2010	03:00:50	30.01	220.4	0.1	1.505	7.9	145.9	11.02	11.2
09/14/2010	04:00:50	29.78	220.7	0.1	1.517	8.6	141.1	10.7	11.2
09/14/2010	05:00:50	29.57	220.8	0.1	1.531	8.8	131.3	10	11.2
09/14/2010	06:00:50	29.31	221.6	0.1	1.511	8.3	129.5	9.9	11.2
09/14/2010	07:00:51	29.2	220.9	0.1	1.543	8.1	127.5	9.77	11.2
09/14/2010	08:00:51	29.19	220.7	0.1	1.539	7.3	140.2	10.74	11.2
09/14/2010	09:00:51	29.32	220.5	0.1	1.553	7.4	147.1	11.25	11.2
09/14/2010	10:00:51	29.55	220.9	0.1	1.547	5.5	158.6	12.08	11.2
09/14/2010	11:00:50	30.03	219.8	0.1	1.547	8.3	167.6	12.66	11.2
09/14/2010	12:00:50	30.09	221.2	0.1	1.528	10.2	183.8	13.86	11.2
09/14/2010	13:00:50	31.32	222	0.1	1.5	11.1	194.2	14.35	11.2
09/14/2010	14:00:50	32.09	221.6	0.1	1.482	9	196.7	14.34	11.2
09/14/2010	15:00:50	32.59	221.3	0.1	1.459	8	205.3	14.84	11.2
09/14/2010	16:00:50	32.76	221.8	0.1	1.44	8.6	208.6	15.04	11.3
09/14/2010	17:00:50	33.04	222.4	0.1	1.444	7.2	212	15.21	11.3
09/14/2010	18:00:50	32.83	220.3	0.1	1.465	7.9	206.7	14.88	11.2
09/14/2010	19:00:50	32.55	222	0.1	1.471	8.9	196.1	14.18	11.3
09/14/2010	20:00:50	32.26	220.9	0.1	1.481	8.3	190.4	13.84	11.2
09/14/2010	21:00:50	32	219.8	0.1	1.509	9	183.8	13.42	11.2
09/14/2010	22:00:50	31.77	220.1	0.1	1.5	8.4	171.9	12.6	11.2
09/14/2010	23:00:50	31.49	220.9	0.1	1.496	9	164.5	12.12	11.3
09/15/2010	00:00:50	31.25	220.5	0.1	1.488	9.8	157.7	11.66	11.2
09/15/2010	01:00:50	30.9	221.2	0.1	1.482	8	152.5	11.34	11.3
09/15/2010	02:00:50	30.73	221.6	0.1	1.479	12.5	141.4	10.55	11.2
09/15/2010	03:00:50	30.42	220.9	0.1	1.495	10.8	141	10.57	11.2
09/15/2010	04:00:50	30.14	221.6	0.1	1.491	10.6	133.7	10.07	11.3
09/15/2010	05:00:50	29.73	222.2	0.1	1.499	10.8	131	9.94	11.2
09/15/2010	06:00:50	29.33	221.4	0.1	1.509	11.2	126.4	9.66	11.2
09/15/2010	07:00:50	29.03	222.5	0.1	1.517	10.5	125.7	9.66	11.2
09/15/2010	08:00:50	29.02	223.5	0.1	1.53	12.5	115.1	8.84	11.2
09/15/2010	09:00:50	29.35	221.6	0.1	1.546	9.7	138.8	10.61	11.3
09/15/2010	10:00:50	29.34	223.5	0.1	1.549	11.6	145.7	11.14	11.2
09/15/2010	11:00:50	30.34	220.6	0.1	1.534	8.7	173.1	13	11.2
09/15/2010	12:00:50	30.42	219.3	0.1	1.509	9.9	181.3	13.6	11.2
09/15/2010	13:00:50	30.81	219.8	0.1	1.477	9.1	191.6	14.28	11.2
09/15/2010	14:00:50	30.84	218	0.1	1.451	8.4	196.1	14.61	11.2
09/15/2010	15:00:50	30.85	218	0.1	1.437	8.1	197.6	14.71	11.2
09/15/2010	16:00:50	30.73	218.7	0.1	1.411	9.9	182.9	13.65	11.2
09/15/2010	17:00:50	30.78	220.5	0.1	1.421	9.3	159.7	11.9	11.3
09/15/2010	18:00:50	30.96	220	0.1	1.427	10.1	151.9	11.29	11.2

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/15/2010	19:00:50	30.82	219.8	0.1	1.437	11.6	138.2	10.3	11.2
09/15/2010	20:00:50	30.55	221.5	0.1	1.45	12.6	143.8	10.76	11.1
09/15/2010	21:00:50	30.35	221.5	0.1	1.455	15.5	131.2	9.85	11.1
09/15/2010	22:00:50	30.19	221.2	0.1	1.452	13.2	128.4	9.67	11.2
09/15/2010	23:00:51	30.06	221.4	0.1	1.457	12.2	119.4	9.01	11.1
09/16/2010	00:00:50	29.92	221.1	0.1	1.453	10.4	123.4	9.33	11.1
09/16/2010	01:00:51	29.83	221.5	0.1	1.468	12.4	123.5	9.36	11.1
09/16/2010	02:00:51	29.71	222.9	0.1	1.469	12.6	121.4	9.22	11.2
09/16/2010	03:00:50	29.52	223.1	0.1	1.455	12	115.9	8.83	11.2
09/16/2010	04:00:50	29.32	221.8	0.1	1.445	12.3	121.7	9.3	11.2
09/16/2010	05:00:50	29.17	221.5	0.1	1.471	12.5	124.4	9.54	11.1
09/16/2010	06:00:50	28.83	223.8	0.1	1.47	14.6	118.5	9.13	11.1
09/16/2010	07:00:50	28.67	225	0.11	1.474	15.1	111.6	8.63	11.1
09/16/2010	08:00:50	28.85	223.1	0.1	1.488	14.2	122	9.4	11.1
09/16/2010	09:00:50	29.28	221.5	0.1	1.511	10.6	133.3	10.2	11.1
09/16/2010	10:00:50	29.53	222.4	0.1	1.49	10.3	125.9	9.59	11.1
09/16/2010	11:00:50	29.75	221.4	0.1	1.481	12.3	114.7	8.7	11.1
09/16/2010	12:00:50	29.58	226.6	0.11	1.44	6.2	70.6	5.37	11.1
09/16/2010	13:00:50	29.54	227.9	0.11	1.425	3.4	58.7	4.47	11.2
09/16/2010	14:00:50	29.68	226.7	0.11	1.372	4.3	74.4	5.65	11.2
09/16/2010	15:00:50	29.62	227.7	0.11	1.393	3.9	56.5	4.3	11.1
09/16/2010	16:00:50	29.55	229.7	0.11	1.384	3.2	47.4	3.61	11.1
09/16/2010	17:00:50	29.96	226.1	0.11	1.376	4.7	74.2	5.61	11.2
09/16/2010	18:00:50	29.59	228.9	0.11	1.401	5	38.4	2.92	11.1
09/16/2010	19:00:50	29.58	227	0.11	1.409	5.7	63.3	4.82	11.1
09/16/2010	20:00:51	29.66	228.2	0.11	1.422	7.5	55.7	4.23	11.1
09/16/2010	21:00:50	29.55	229.7	0.11	1.436	9.2	59.6	4.54	11.1
09/16/2010	22:00:50	29.57	228.2	0.11	1.445	10.1	56.8	4.32	11.1
09/16/2010	23:00:50	29.44	228.8	0.11	1.438	11.1	49.4	3.77	11.1
09/17/2010	00:00:50	29.29	229.6	0.11	1.437	9.5	52.1	3.98	11.2
09/17/2010	01:00:50	29.15	228.8	0.11	1.44	8.8	47.4	3.63	11.1
09/17/2010	02:00:51	29.05	229.7	0.11	1.411	10.7	41.9	3.22	11.1
09/17/2010	03:00:50	28.87	229	0.11	1.409	8.7	43.1	3.32	11.1
09/17/2010	04:00:50	28.75	229.6	0.11	1.412	8.1	39.1	3.02	11.1
09/17/2010	05:00:51	28.65	229	0.11	1.414	9.2	40.1	3.1	11.1
09/17/2010	06:00:51	28.43	228.6	0.11	1.427	10.3	39.7	3.08	11.1
09/17/2010	07:00:51	28.3	229.1	0.11	1.475	10.1	44.6	3.47	11.1
09/17/2010	08:00:50	28.19	228	0.11	1.462	19.6	45.8	3.57	11
09/17/2010	09:00:50	28.1	229.3	0.11	1.483	12	64	5	11.1
09/17/2010	10:00:50	28.9	229	0.11	1.485	8.1	70.5	5.43	11.1
09/17/2010	11:00:50	29.61	228.1	0.11	1.465	6.1	82.7	6.29	11
09/17/2010	12:00:50	29.57	228.6	0.11	1.449	9.7	89.9	6.84	11.1
09/17/2010	13:00:50	29.65	230.3	0.11	1.44	8.1	88.1	6.7	11.1

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/17/2010	14:00:50	29.78	229.7	0.11	1.416	5.7	86.9	6.59	11
09/17/2010	15:00:50	30.04	229	0.11	1.4	6.2	99.2	7.49	11.2
09/17/2010	16:00:50	29.89	229.6	0.11	1.411	6.3	98.7	7.47	11.1
09/17/2010	17:00:50	29.78	229.7	0.11	1.409	7.2	100.7	7.63	11.1
09/17/2010	18:00:51	29.67	230.4	0.11	1.433	7.4	93.3	7.09	11.1
09/17/2010	19:00:50	29.58	229.7	0.11	1.439	7.2	89.2	6.78	11.1
09/17/2010	20:00:50	29.71	230.3	0.11	1.473	7	102.1	7.75	11.1
09/17/2010	21:00:50	29.49	230.3	0.11	1.48	7.2	91.7	6.99	11.1
09/17/2010	22:00:51	29.39	231	0.11	1.464	9.9	78.3	5.98	11.1
09/17/2010	23:00:51	29.21	232.1	0.11	1.456	10.1	59.6	4.56	11.1
09/18/2010	00:00:50	28.91	230.8	0.11	1.448	9.1	52.7	4.06	11.1
09/18/2010	01:00:50	28.72	230.8	0.11	1.454	6	43.2	3.33	11.1
09/18/2010	02:00:50	28.65	230.5	0.11	1.434	7.5	43.2	3.34	11
09/18/2010	03:00:51	28.5	230	0.11	1.458	6.4	43.3	3.36	11.1
09/18/2010	04:00:50	28.42	230.4	0.11	1.464	6.9	41.2	3.2	11.1
09/18/2010	05:00:50	28.31	230.3	0.11	1.468	4.9	36.1	2.81	11.1
09/18/2010	06:00:50	28.13	230.5	0.11	1.476	4.9	39	3.04	11
09/18/2010	07:00:50	28.04	230.3	0.11	1.502	5	42.3	3.31	11.1
09/18/2010	08:00:50	28.12	230.3	0.11	1.503	5.7	46.4	3.62	11.1
09/18/2010	09:00:51	28.45	229.5	0.11	1.521	7.4	73.8	5.73	11.1
09/18/2010	10:00:50	28.76	230.9	0.11	1.5	8.2	94.8	7.32	11.1
09/18/2010	11:00:51	29.27	228.7	0.11	1.501	6.7	107.3	8.21	11.1
09/18/2010	12:00:50	29.8	228.4	0.11	1.473	7.2	114.9	8.71	11.1
09/18/2010	13:00:50	30.28	228.7	0.11	1.444	7.8	120.3	9.05	11
09/18/2010	14:00:50	29.84	228	0.11	1.432	8.8	104.7	7.93	11.1
09/18/2010	15:00:50	30.07	227.1	0.11	1.402	9.1	102.8	7.76	11.1
09/18/2010	16:00:50	29.65	228.2	0.11	1.417	6.2	98.1	7.46	11.1
09/18/2010	17:00:51	29.6	229.9	0.11	1.41	7.6	89.7	6.82	11
09/18/2010	18:00:50	29.9	229.1	0.11	1.443	7.8	96.3	7.29	11.1
09/18/2010	19:00:50	29.67	230.4	0.11	1.453	6.3	89.4	6.79	11.1
09/18/2010	20:00:50	29.62	231.4	0.11	1.481	6.2	82.9	6.3	11.1
09/18/2010	21:00:50	29.49	231.5	0.11	1.496	5.9	80.6	6.15	11.1
09/18/2010	22:00:51	29.4	231.2	0.11	1.508	6	76	5.81	11.1
09/18/2010	23:00:50	29.29	231.6	0.11	1.492	6.2	74.7	5.72	11.1
09/19/2010	00:00:50	29.18	232	0.11	1.496	5.8	69.9	5.36	11
09/19/2010	01:00:51	29.1	232.2	0.11	1.482	5.8	68.8	5.28	11.1
09/19/2010	02:00:50	29.02	232.4	0.11	1.468	6	67.9	5.21	11.1
09/19/2010	03:00:51	28.97	232	0.11	1.462	8	69.8	5.37	11
09/19/2010	04:00:50	28.96	232.6	0.11	1.486	7.4	64.8	4.99	11
09/19/2010	05:00:51	28.82	231.4	0.11	1.488	8.6	84.5	6.52	11.1
09/19/2010	06:00:51	28.51	231.3	0.11	1.488	9.5	84.5	6.55	11.1
09/19/2010	07:00:51	28.5	231.1	0.11	1.512	8.3	82.1	6.36	11
09/19/2010	08:00:50	28.47	231.5	0.11	1.516	9	84.8	6.58	11

Continuous Data for South Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/19/2010	09:00:50	28.85	228.3	0.11	1.529	7.1	112	8.64	11
09/19/2010	10:00:50	29.07	229	0.11	1.521	9.3	112.9	8.67	11
09/19/2010	11:00:50	29.39	228.2	0.11	1.532	7	114.4	8.73	11
09/19/2010	12:00:50	29.6	228.7	0.11	1.509	8.1	122.6	9.33	11
09/19/2010	13:00:50	30.03	227.9	0.11	1.493	7.2	132.5	10	11
09/19/2010	14:00:50	29.82	228.1	0.11	1.466	9	135.1	10.24	11
09/19/2010	15:00:50	30.05	229	0.11	1.449	8.5	131.5	9.93	11.1
09/19/2010	16:00:51	30.08	228.4	0.11	1.453	7.5	122.5	9.24	11
09/19/2010	17:00:50	30.03	228.6	0.11	1.444	10.1	108.8	8.22	11
09/19/2010	18:00:50	30.28	229.4	0.11	1.465	7.2	130.8	9.84	11
09/19/2010	19:00:50	30.01	229.6	0.11	1.462	7.9	131.3	9.92	11
09/19/2010	20:00:50	30.01	230.3	0.11	1.498	9.7	120.2	9.08	11
09/19/2010	21:00:50	29.86	230.9	0.11	1.488	11.2	117.8	8.92	11
09/19/2010	22:00:50	29.76	231.8	0.11	1.494	12.5	111.4	8.45	11
09/19/2010	23:00:50	29.6	232.7	0.11	1.478	12.2	117.8	8.97	11
09/20/2010	00:00:50	29.4	233.8	0.11	1.437	9.9	115.4	8.81	11
09/20/2010	01:00:50	29.18	232.2	0.11	1.438	9	104	7.97	11
09/20/2010	02:00:51	29.06	232.2	0.11	1.419	10.6	96.5	7.41	11
09/20/2010	03:00:51	28.96	232	0.11	1.409	7.2	90.1	6.93	11
09/20/2010	04:00:51	28.77	231.8	0.11	1.415	6.8	80.2	6.19	11
09/20/2010	05:00:51	28.68	232.8	0.11	1.45	5.3	73.1	5.65	11
09/20/2010	06:00:50	28.54	232.7	0.11	1.452	6.7	78.5	6.09	11
09/20/2010	07:00:51	28.48	232.1	0.11	1.475	6	81.5	6.33	11
09/20/2010	08:00:50	28.49	230.1	0.11	1.482	6.1	92.6	7.18	11
09/20/2010	09:00:51	28.39	231.5	0.11	1.495	6.5	97.4	7.57	11

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/20/2010	8:00:52	31.34	223.3	0.1	1.416	23.1	105.9	7.82	12.9
7/20/2010	9:00:52	31.82	222.9	0.1	1.421	12.5	112.2	8.22	12.9
7/20/2010	10:00:52	31.97	225.8	0.1	1.428	11.9	97.9	7.15	12.9
7/20/2010	11:00:52	31.87	229.5	0.11	1.421	14.2	81.8	5.99	12.8
7/20/2010	12:00:52	31.75	230.3	0.11	1.42	16.9	74.7	5.47	12.8
7/20/2010	13:00:52	31.83	230.6	0.11	1.417	17.7	81.3	5.95	12.9
7/20/2010	14:00:52	32.12	230.5	0.11	1.427	14.4	106.4	7.75	12.8
7/20/2010	15:00:52	31.91	231.4	0.11	1.412	14.8	95.8	7.01	12.9
7/20/2010	16:00:52	31.93	231.5	0.11	1.412	18.3	93.4	6.83	12.8
7/20/2010	17:00:52	31.61	234.3	0.11	1.411	23.2	68.1	5.01	12.8
7/20/2010	18:00:52	31.91	233.5	0.11	1.426	16.6	82.1	6.01	12.8
7/20/2010	19:00:52	31.72	235.4	0.11	1.414	14	98.2	7.2	12.8
7/20/2010	20:00:52	31.45	237.5	0.11	1.451	12.1	76.8	5.66	12.8
7/20/2010	21:00:52	31.34	239.4	0.11	1.435	11.9	65.3	4.82	12.8
7/21/2010	22:00:52	31.24	239.8	0.11	1.417	13	63.7	4.71	12.8
7/21/2010	23:00:52	31.16	240.7	0.11	1.414	16.6	54.9	4.06	12.8
7/21/2010	0:00:52	31.01	241.3	0.11	1.414	17.7	51.6	3.83	12.8
7/21/2010	1:00:52	30.91	241.6	0.11	1.397	17.4	46.5	3.46	12.8
7/21/2010	2:00:52	30.76	243.3	0.11	1.412	16.4	41	3.06	12.7
7/21/2010	3:00:52	30.63	243.3	0.11	1.419	16.9	37.7	2.81	12.7
7/21/2010	4:00:52	30.4	244.4	0.11	1.416	15	33.3	2.5	12.7
7/21/2010	5:00:52	30.26	244.2	0.11	1.42	12.3	29.3	2.21	12.7
7/21/2010	6:00:52	30.15	244.8	0.11	1.417	12.3	27.2	2.05	12.7
7/21/2010	7:00:52	30.09	243	0.11	1.42	8.3	33.3	2.51	12.7
7/21/2010	8:00:52	30.35	244.2	0.11	1.417	10.8	46.5	3.49	12.7
7/21/2010	9:00:52	30.89	240.6	0.11	1.414	14.7	75.1	5.59	12.7
7/21/2010	10:00:52	31.3	245.3	0.11	1.417	12.7	83.9	6.2	12.7
7/21/2010	11:00:52	31.55	246.2	0.11	1.421	8.7	72.9	5.37	12.7
7/21/2010	12:00:52	31.67	245.8	0.11	1.423	8.5	68.8	5.05	12.7
7/21/2010	13:00:52	31.48	245.6	0.11	1.435	7.4	51.4	3.79	12.7
7/21/2010	14:00:52	31.49	244.7	0.11	1.435	5.9	37.5	2.76	12.7
7/21/2010	15:00:52	31.91	244	0.11	1.419	7.2	30.5	2.23	12.7
7/21/2010	16:00:52	31.72	244.4	0.11	1.42	7.4	29.8	2.19	12.7
7/21/2010	17:00:52	31.83	242.6	0.11	1.418	7	53.1	3.89	12.7
7/21/2010	18:00:52	31.41	242.8	0.11	1.441	6.7	57.8	4.26	12.7
7/21/2010	19:00:52	31.19	242.3	0.11	1.429	6.1	54.7	4.05	12.7
7/21/2010	20:00:52	30.97	242.8	0.11	1.419	7	60.4	4.49	12.7
7/21/2010	21:00:52	30.81	243.6	0.11	1.421	6.4	50.2	3.74	12.7
7/22/2010	22:00:52	30.71	244.6	0.11	1.414	8.6	38.4	2.87	12.7
7/22/2010	23:00:52	30.59	244.6	0.11	1.408	8.3	38.3	2.86	12.7
7/22/2010	0:00:52	30.48	244.3	0.11	1.408	18.6	37.1	2.78	12.7
7/22/2010	1:00:52	30.33	245.1	0.11	1.421	11.2	31.6	2.38	12.7
7/22/2010	2:00:52	30.22	245.2	0.11	1.41	12.6	31.9	2.4	12.7

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/22/2010	3:00:52	30.13	244.8	0.11	1.419	13.2	30.3	2.28	12.7
7/22/2010	4:00:52	30.05	245.3	0.11	1.412	13	30.9	2.33	12.7
7/22/2010	5:00:52	29.98	246.2	0.11	1.415	14.8	34.2	2.58	12.7
7/22/2010	6:00:52	29.99	246.6	0.12	1.413	19.9	35.5	2.68	12.7
7/22/2010	7:00:52	29.97	251.8	0.12	1.418	9.8	32.7	2.47	12.7
7/22/2010	8:00:52	30.19	263.5	0.12	1.415	10.7	43.5	3.27	12.7
7/22/2010	9:00:52	30.59	250.5	0.12	1.424	9.7	65.8	4.92	12.7
7/22/2010	10:00:52	31.23	247.6	0.12	1.427	8.7	82.2	6.08	12.7
7/22/2010	11:00:52	31.62	246.2	0.11	1.428	9.4	94	6.91	12.7
7/22/2010	12:00:52	31.83	244.3	0.11	1.428	11.5	83.7	6.13	12.7
7/22/2010	13:00:52	31.04	244.1	0.11	1.432	10.5	43.6	3.24	12.7
7/22/2010	14:00:52	30.82	240.5	0.11	1.425	7.6	46.3	3.45	12.6
7/22/2010	15:00:52	30.89	238	0.11	1.422	6.5	55.6	4.14	12.7
7/22/2010	16:00:52	30.95	237.1	0.11	1.415	6.4	68.2	5.07	12.7
7/22/2010	17:00:52	31.48	235.7	0.11	1.427	6.3	91.9	6.77	12.7
7/22/2010	18:00:52	31.48	235.9	0.11	1.421	6.7	99.9	7.35	12.6
7/22/2010	19:00:52	31.28	235.9	0.11	1.428	6.5	107.5	7.95	12.6
7/22/2010	20:00:52	31.05	236.8	0.11	1.422	7.9	99.2	7.36	12.7
7/22/2010	21:00:52	30.97	237.5	0.11	1.422	9.9	89.8	6.68	12.7
7/23/2010	22:00:52	30.86	238.6	0.11	1.422	14.2	81.3	6.05	12.7
7/23/2010	23:00:52	30.71	238.2	0.11	1.419	17.5	74.5	5.56	12.6
7/23/2010	0:00:52	30.67	241	0.11	1.416	18.5	67.3	5.03	12.6
7/23/2010	1:00:52	30.56	234.8	0.11	1.42	11.9	78.7	5.89	12.7
7/23/2010	2:00:52	31	227.5	0.11	1.42	8	111.1	8.25	12.6
7/23/2010	3:00:52	31.46	224.6	0.1	1.423	6.7	131.3	9.67	12.6
7/23/2010	4:00:52	31.6	223.7	0.1	1.426	8	132.3	9.72	12.6
7/23/2010	5:00:52	31.63	223.5	0.1	1.425	9	126.4	9.29	12.6
7/23/2010	6:00:52	31.65	223.4	0.1	1.423	11.5	120.5	8.85	12.6
7/23/2010	7:00:52	31.75	222.8	0.1	1.422	9.1	129.9	9.53	12.7
7/23/2010	8:00:52	31.86	222.3	0.1	1.428	11.4	131.3	9.61	12.6
7/23/2010	9:00:52	32.09	221.7	0.1	1.425	9.1	149.5	10.9	12.6
7/23/2010	10:00:52	32.06	223.4	0.1	1.431	10.5	135.3	9.87	12.6
7/23/2010	11:00:52	32.73	222.1	0.1	1.428	9.2	166.6	12.02	12.6
7/23/2010	12:00:52	32.73	221.6	0.1	1.432	6.4	187.4	13.51	12.6
7/23/2010	13:00:52	32.86	219.8	0.1	1.432	7	201.9	14.53	12.6
7/23/2010	14:00:52	32.94	218.9	0.1	1.43	7.6	213.3	15.33	12.6
7/23/2010	15:00:52	33.43	215.9	0.1	1.426	5.8	234.3	16.7	12.6
7/23/2010	16:00:52	33.96	214.8	0.1	1.431	5.1	245.6	17.36	12.7
7/23/2010	17:00:52	34.5	216.8	0.1	1.432	5.3	243.8	17.07	12.6
7/23/2010	18:00:52	34.69	217.6	0.1	1.425	5.7	239	16.68	12.6
7/23/2010	19:00:52	34.46	216.4	0.1	1.428	6.8	235.8	16.52	12.6
7/23/2010	20:00:52	34.19	215.7	0.1	1.434	6.2	227	15.98	12.6
7/23/2010	21:00:52	33.91	216.7	0.1	1.432	7.2	214.8	15.19	12.5

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/24/2010	22:00:52	33.68	216.3	0.1	1.431	9.1	197.7	14.03	12.6
7/24/2010	23:00:52	33.57	215.9	0.1	1.433	10.7	189.8	13.5	12.6
7/24/2010	0:00:52	33.39	215.8	0.1	1.424	11.4	178.9	12.76	12.6
7/24/2010	1:00:52	33.24	215.1	0.1	1.414	10.8	172.7	12.35	12.6
7/24/2010	2:00:52	33.15	213.9	0.1	1.427	10.2	164.9	11.81	12.6
7/24/2010	3:00:52	33.04	214.1	0.1	1.445	11.3	154.7	11.1	12.6
7/24/2010	4:00:52	32.88	213.8	0.1	1.421	10.7	151.2	10.88	12.5
7/24/2010	5:00:52	32.86	215.3	0.1	1.433	11.5	146.1	10.51	12.6
7/24/2010	6:00:52	32.75	215.5	0.1	1.441	13.4	139.6	10.07	12.6
7/24/2010	7:00:52	32.63	215.9	0.1	1.433	15	137.9	9.96	12.6
7/24/2010	8:00:52	32.57	216.4	0.1	1.419	12.9	143	10.34	12.5
7/24/2010	9:00:52	32.69	216.4	0.1	1.422	12.5	152.8	11.03	12.6
7/24/2010	10:00:52	33.07	217.1	0.1	1.422	11.1	167.6	12.02	12.5
7/24/2010	11:00:52	33.2	216.3	0.1	1.416	10.5	175.3	12.54	12.5
7/24/2010	12:00:52	33.53	215.7	0.1	1.418	10.3	183.5	13.06	12.6
7/24/2010	13:00:52	33.62	217.8	0.1	1.397	9.6	190.6	13.54	12.6
7/24/2010	14:00:52	33.8	217.4	0.1	1.425	9.6	188.8	13.37	12.6
7/24/2010	15:00:52	33.66	221.2	0.1	1.415	13.7	174.2	12.37	12.5
7/24/2010	16:00:52	33.5	223.4	0.1	1.412	12.8	160.6	11.44	12.5
7/24/2010	17:00:52	33.39	223.5	0.1	1.439	14.9	151.8	10.83	12.5
7/24/2010	18:00:52	33.14	223.3	0.1	1.425	17.2	157.5	11.29	12.5
7/24/2010	19:00:52	32.99	223.7	0.1	1.419	21.5	149.4	10.73	12.5
7/24/2010	20:00:52	32.83	223.4	0.1	1.426	19.1	143.5	10.33	12.6
7/24/2010	21:00:52	32.72	224	0.1	1.412	19.2	135.4	9.77	12.5
7/25/2010	22:00:52	32.63	225	0.1	1.413	19	129.3	9.34	12.5
7/25/2010	23:00:52	32.41	227.1	0.11	1.414	18.1	121.3	8.8	12.5
7/25/2010	0:00:52	32.22	228.5	0.11	1.418	20.5	114.7	8.35	12.5
7/25/2010	1:00:52	32.03	224.7	0.1	1.407	18.4	113.3	8.27	12.5
7/25/2010	2:00:52	31.87	227.9	0.11	1.413	21.6	106.5	7.79	12.6
7/25/2010	3:00:52	31.69	231.3	0.11	1.41	22.3	108.6	7.97	12.5
7/25/2010	4:00:52	31.6	231.5	0.11	1.41	19.5	106.3	7.81	12.5
7/25/2010	5:00:52	31.5	226.8	0.11	1.434	19.5	96.7	7.12	12.5
7/25/2010	6:00:52	31.35	230.8	0.11	1.406	15.8	67.8	5	12.5
7/25/2010	7:00:52	31.18	233.2	0.11	1.403	13.1	58.8	4.36	12.5
7/25/2010	8:00:52	31.13	233.4	0.11	1.408	14.1	61.3	4.54	12.5
7/25/2010	9:00:52	31.26	233.2	0.11	1.407	12.6	71.1	5.26	12.5
7/25/2010	10:00:52	31.76	233.5	0.11	1.393	11.2	84.4	6.19	12.5
7/25/2010	11:00:52	32.1	235.5	0.11	1.416	10.9	86.6	6.31	12.5
7/25/2010	12:00:52	32.2	238.9	0.11	1.414	9.4	77.8	5.66	12.5
7/25/2010	13:00:52	32.02	243.2	0.11	1.413	7.7	55.6	4.06	12.4
7/25/2010	14:00:52	31.85	241.1	0.11	1.413	5.7	64.7	4.74	12.4
7/25/2010	15:00:52	31.29	242.7	0.11	1.411	5.9	42	3.1	12.5
7/25/2010	16:00:52	31.97	242	0.11	1.392	7	44.7	3.26	12.5

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/25/2010	17:00:52	31.23	243.7	0.11	1.391	7.3	23	1.7	12.4
7/25/2010	18:00:52	31.56	242.6	0.11	1.397	7.2	46.3	3.4	12.5
7/25/2010	19:00:52	31.71	240.4	0.11	1.392	8.4	60.8	4.46	12.5
7/25/2010	20:00:52	31.48	240.7	0.11	1.4	7.2	59	4.35	12.4
7/25/2010	21:00:52	31.33	241.7	0.11	1.411	4.7	56.3	4.15	12.5
7/26/2010	22:00:52	31.17	242.7	0.11	1.401	5	45.1	3.34	12.4
7/26/2010	23:00:52	31.02	242	0.11	1.383	8.9	41.7	3.1	12.5
7/26/2010	0:00:52	30.9	241.5	0.11	1.402	9.4	35.7	2.65	12.4
7/26/2010	1:00:52	30.79	242.7	0.11	1.416	9.5	33.4	2.49	12.5
7/26/2010	2:00:52	30.72	240.3	0.11	1.381	11.7	46.9	3.5	12.4
7/26/2010	3:00:52	30.85	239.2	0.11	1.387	6.5	55.5	4.13	12.4
7/26/2010	4:00:52	30.74	240.6	0.11	1.401	11.9	38.2	2.85	12.4
7/26/2010	5:00:52	30.66	241.6	0.11	1.39	15.9	32.5	2.43	12.4
7/26/2010	6:00:52	30.55	240.5	0.11	1.371	22.8	35.6	2.67	12.4
7/26/2010	7:00:52	30.54	244.3	0.11	1.392	21.5	41.7	3.12	12.4
7/26/2010	8:00:52	30.75	245.5	0.11	1.397	20.3	50.7	3.78	12.4
7/26/2010	9:00:52	31.21	252.1	0.12	1.395	14.4	65.4	4.84	12.4

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/26/2010	10:00:16	31.55	247.1	0.12	1.265	10.1	74.3	5.46	12.4
7/26/2010	11:00:16	31.61	246	0.11	1.272	9.5	57.5	4.23	12.4
7/26/2010	12:00:51	31.42	244.5	0.11	1.269	9.7	37.5	2.77	12.4
7/26/2010	13:00:51	31.71	244.2	0.11	1.338	9.7	67.7	4.96	12.3
7/26/2010	14:00:51	31.54	244.4	0.11	1.249	16.8	72.6	5.34	12.4
7/26/2010	15:00:51	31.52	244.5	0.11	1.231	14.4	81.1	5.97	12.3
7/26/2010	16:00:51	31.52	243.9	0.11	1.226	15.2	90.9	6.69	12.3
7/26/2010	17:00:51	31.45	243.7	0.11	1.21	14.5	96.4	7.11	12.4
7/26/2010	18:00:51	31.43	242.8	0.11	1.226	15.6	102.3	7.54	12.3
7/26/2010	19:00:51	31.4	241.6	0.11	1.248	14.1	103.7	7.65	12.3
7/26/2010	20:00:51	31.28	241.2	0.11	1.26	13.4	97.4	7.2	12.4
7/26/2010	21:00:51	31.19	241.3	0.11	1.279	15.3	91.3	6.76	12.4
7/26/2010	22:00:51	30.95	241.6	0.11	1.265	14.7	85.3	6.34	12.3
7/26/2010	23:00:51	30.74	241	0.11	1.254	21.5	83.6	6.24	12.3
7/27/2010	00:00:51	30.69	237.8	0.11	1.245	17.5	85.7	6.4	12.3
7/27/2010	01:00:51	30.54	237.4	0.11	1.239	12.6	90.1	6.74	12.3
7/27/2010	02:00:51	30.28	235.7	0.11	1.218	20.1	83.1	6.24	12.4
7/27/2010	03:00:52	30.29	235	0.11	1.245	20.8	66.5	5	12.3
7/27/2010	04:00:52	30.2	233.8	0.11	1.248	11.9	73.9	5.56	12.3
7/27/2010	05:00:52	30.13	234.8	0.11	1.245	11.6	67	5.05	12.3
7/27/2010	06:00:52	30.03	234.9	0.11	1.242	14.4	55.6	4.2	12.4
7/27/2010	07:00:52	29.99	234.3	0.11	1.252	19.8	50.4	3.81	12.3
7/27/2010	08:00:52	30.14	232.3	0.11	1.244	17.8	72	5.43	12.3
7/27/2010	09:00:51	30.7	228.9	0.11	1.247	14.4	106.8	7.97	12.3
7/27/2010	10:00:51	31.6	225.9	0.1	1.257	10.6	135.7	9.98	12.3
7/27/2010	11:00:51	32.14	224.7	0.1	1.275	9	151.5	11.04	12.3
7/27/2010	12:00:51	31.38	220.9	0.1	1.257	11	129.3	9.54	12.3
7/27/2010	13:00:51	31.61	219.6	0.1	1.238	10.9	141.4	10.39	12.3
7/27/2010	14:00:51	31.72	216	0.1	1.414	9.6	141.6	10.39	12.3
7/27/2010	15:00:51	31.87	216.2	0.1	1.554	8.7	140	10.24	12.3
7/27/2010	16:00:51	31.71	215.7	0.1	1.498	9.2	138.8	10.18	12.3
7/27/2010	17:00:51	31.56	215.3	0.1	1.412	11.2	136.9	10.07	12.3
7/27/2010	18:00:51	31.43	215.2	0.1	1.406	11.2	134.3	9.9	12.3
7/27/2010	19:00:51	31.32	215.4	0.1	1.353	13.1	125	9.24	12.3
7/27/2010	20:00:51	31.18	216.1	0.1	1.353	11.2	118.5	8.77	12.3
7/27/2010	21:00:51	31.05	215.6	0.1	1.391	16	116.1	8.62	12.3
7/27/2010	22:00:51	30.86	216.3	0.1	1.459	14.5	107.4	8	12.3
7/27/2010	23:00:51	30.76	215.9	0.1	1.441	20.8	107.6	8.03	12.3
7/28/2010	00:00:51	30.43	214.6	0.1	1.444	22.1	108.3	8.12	12.3
7/28/2010	01:00:51	30.22	213.4	0.1	1.452	26.2	103.8	7.81	12.3
7/28/2010	02:00:51	30.07	213.2	0.1	1.427	32.2	98.3	7.42	12.3
7/28/2010	03:00:51	29.97	214.2	0.1	1.407	29.7	91.4	6.91	12.3
7/28/2010	04:00:52	29.85	215.6	0.1	1.403	31.6	81.6	6.18	12.3

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/28/2010	05:00:51	29.77	221.2	0.1	1.415	29.1	71.2	5.4	12.3
7/28/2010	06:00:51	29.62	218.7	0.1	1.415	30	68.3	5.19	12.3
7/28/2010	07:00:51	29.62	219.9	0.1	1.423	26.2	69.8	5.31	12.3
7/28/2010	08:00:51	29.85	218.7	0.1	1.43	21.5	91.1	6.9	12.3
7/28/2010	09:00:52	30.26	219.8	0.1	1.432	14.7	113.1	8.5	12.3
7/28/2010	10:00:51	30.61	220.4	0.1	1.428	13.6	119.5	8.93	12.3
7/28/2010	11:00:51	31.3	213.5	0.1	1.429	19.8	143.2	10.58	12.3
7/28/2010	12:00:51	32.04	217.1	0.1	1.439	16.5	156.7	11.43	12.3
7/28/2010	13:00:51	32.76	219.4	0.1	1.436	10.9	172.8	12.46	12.3
7/28/2010	14:00:51	33.94	222.4	0.1	1.438	7.8	184.6	13.05	12.3
7/28/2010	15:00:51	35.2	222.9	0.1	1.45	5.3	194.1	13.44	12.3
7/28/2010	16:00:51	35.38	223.6	0.1	1.446	5.2	209.6	14.47	12.3
7/28/2010	17:00:51	35.07	223	0.1	1.442	6.1	209.5	14.54	12.3
7/28/2010	18:00:51	34.8	222.4	0.1	1.448	7.3	209.4	14.59	12.3
7/28/2010	19:00:51	34.52	221.8	0.1	1.441	8.1	203.6	14.25	12.3
7/28/2010	20:00:51	34.22	222.4	0.1	1.436	8.7	191.7	13.49	12.3
7/28/2010	21:00:51	33.94	224.8	0.1	1.44	10.5	176.8	12.5	12.3
7/28/2010	22:00:51	33.67	224.2	0.1	1.441	8.3	168.7	11.98	12.3
7/28/2010	23:00:51	33.46	225.1	0.1	1.436	8.3	156.7	11.17	12.3
7/29/2010	00:00:51	33.26	224.9	0.1	1.433	11.1	163.2	11.67	12.3
7/29/2010	01:00:51	32.93	226.9	0.11	1.437	10	158.3	11.38	12.3
7/29/2010	02:00:51	32.84	225.4	0.1	1.429	9.4	150.1	10.81	12.3
7/29/2010	03:00:51	32.8	223.7	0.1	1.425	10.3	159	11.46	12.3
7/29/2010	04:00:51	32.73	231.6	0.11	1.427	10.1	142.3	10.27	12.3
7/29/2010	05:00:52	32.59	225.5	0.1	1.414	17.3	142.7	10.32	12.3
7/29/2010	06:00:52	32.46	232.7	0.11	1.422	13.5	134.8	9.77	12.3
7/29/2010	07:00:51	32.28	223.7	0.1	1.424	15	140.9	10.24	12.3
7/29/2010	08:00:51	32.3	225.1	0.1	1.425	11.1	145.4	10.56	12.3
7/29/2010	09:00:51	32.46	224.2	0.1	1.429	12.6	154.7	11.2	12.3
7/29/2010	10:00:51	32.88	224.1	0.1	1.432	12.6	167.2	12.03	12.3
7/29/2010	11:00:51	33.58	223.6	0.1	1.434	10.5	182.8	13	12.3
7/29/2010	12:00:51	34.23	222.5	0.1	1.436	10.8	199.6	14.04	12.3
7/29/2010	13:00:51	34.63	221.4	0.1	1.436	10.2	216.6	15.14	12.3
7/29/2010	14:00:51	34.87	219.6	0.1	1.436	9.7	228.5	15.9	12.3
7/29/2010	15:00:51	35.02	218.6	0.1	1.436	11.2	234.7	16.3	12.3
7/29/2010	16:00:51	35.07	217.7	0.1	1.443	11.5	234	16.24	12.3
7/29/2010	17:00:51	35.02	216.5	0.1	1.43	14.1	234.6	16.29	12.3
7/29/2010	18:00:51	34.79	215.7	0.1	1.427	14.8	227.3	15.84	12.3
7/29/2010	19:00:51	34.6	216.5	0.1	1.425	17	218.5	15.28	12.3
7/29/2010	20:00:51	34.42	214.7	0.1	1.426	13.3	201.7	14.15	12.3
7/29/2010	21:00:51	34.25	228.4	0.11	1.423	14	185.6	13.05	12.3
7/29/2010	22:00:51	34.05	217.1	0.1	1.421	14.2	187.4	13.22	12.3
7/29/2010	23:00:51	33.78	224.4	0.1	1.427	15.8	172.1	12.2	12.3

Continuous Data North Flat									
Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/30/2010	00:00:51	33.55	227.9	0.11	1.423	17	167	11.88	12.3
7/30/2010	01:00:51	33.25	218.8	0.1	1.42	14.1	153.1	10.94	12.2
7/30/2010	02:00:51	33.05	217.2	0.1	1.413	20	156.1	11.2	12.3
7/30/2010	03:00:51	33.02	216.5	0.1	1.414	17.8	157.7	11.32	12.3
7/30/2010	04:00:51	32.78	215	0.1	1.415	20.3	152.2	10.96	12.3
7/30/2010	05:00:51	32.51	215.9	0.1	1.412	17.9	144	10.43	12.3
7/30/2010	06:00:51	32.18	215.8	0.1	1.417	17	135.1	9.83	12.3
7/30/2010	07:00:51	31.94	216.5	0.1	1.416	15.5	131.7	9.63	12.3
7/30/2010	08:00:51	31.95	215.1	0.1	1.424	15.3	136.1	9.95	12.3
7/30/2010	09:00:51	32.09	216.1	0.1	1.418	13.6	146	10.64	12.2
7/30/2010	10:00:51	32.49	218.2	0.1	1.408	12.5	161.4	11.69	12.3
7/30/2010	11:00:51	32.92	217.5	0.1	1.412	13.3	173.3	12.46	12.3
7/30/2010	12:00:51	33.54	217.3	0.1	1.418	12.7	188.9	13.44	12.3
7/30/2010	13:00:51	33.95	216.9	0.1	1.422	15.3	191.6	13.54	12.2
7/30/2010	14:00:51	34.41	216.8	0.1	1.415	13.3	204.8	14.36	12.3
7/30/2010	15:00:51	34.81	215.8	0.1	1.417	13.4	217.6	15.16	12.3
7/30/2010	16:00:51	35.02	213.7	0.1	1.431	12.9	228.6	15.87	12.3
7/30/2010	17:00:51	35.02	211.7	0.1	1.423	13.7	233.6	16.22	12.3
7/30/2010	18:00:51	34.86	210.3	0.1	1.417	14.9	226	15.74	12.3
7/30/2010	19:00:51	34.7	207.7	0.1	1.414	17.9	220.6	15.4	12.3
7/30/2010	20:00:51	34.55	211.6	0.1	1.412	15.2	207.8	14.54	12.2
7/30/2010	21:00:51	34.39	217.5	0.1	1.408	14.2	189.6	13.3	12.3
7/30/2010	22:00:51	34.19	211.8	0.1	1.412	13.3	188.1	13.24	12.3
7/30/2010	23:00:51	34.04	212.4	0.1	1.411	16	182.2	12.86	12.3
7/31/2010	00:00:51	33.77	222.1	0.1	1.406	12.6	167.9	11.9	12.3
7/31/2010	01:00:51	33.61	221.1	0.1	1.411	16.3	162.9	11.58	12.3
7/31/2010	02:00:51	33.43	213.1	0.1	1.408	17.7	162	11.55	12.3
7/31/2010	03:00:51	33.25	216.8	0.1	1.409	20.2	139.8	9.99	12.3
7/31/2010	04:00:51	32.93	219.8	0.1	1.407	17.3	133	9.56	12.3
7/31/2010	05:00:51	32.71	216.4	0.1	1.397	16	139.1	10.03	12.3
7/31/2010	06:00:51	32.52	216.5	0.1	1.398	16.9	130.2	9.42	12.3
7/31/2010	07:00:51	32.43	221.3	0.1	1.4	15.1	126.9	9.2	12.3
7/31/2010	08:00:51	32.42	218.4	0.1	1.407	13.8	135.3	9.81	12.2
7/31/2010	09:00:51	32.63	217.4	0.1	1.4	15.1	146.8	10.61	12.2
7/31/2010	10:00:51	33.04	218.3	0.1	1.403	13.3	162.3	11.64	12.3
7/31/2010	11:00:52	33.56	217.1	0.1	1.405	12.3	179.4	12.76	12.2
7/31/2010	12:00:51	34.14	216.6	0.1	1.418	12.7	186.1	13.11	12.3
7/31/2010	13:00:51	34.64	216.8	0.1	1.418	12.7	197.6	13.81	12.3
7/31/2010	14:00:51	35.02	214.8	0.1	1.405	13.9	207.5	14.41	12.2
7/31/2010	15:00:51	35.38	213	0.1	1.418	13.9	216.6	14.95	12.3
7/31/2010	16:00:51	35.44	213.9	0.1	1.408	16.2	220.1	15.18	12.3
7/31/2010	17:00:51	35.4	213.6	0.1	1.407	15.3	223.8	15.44	12.2
7/31/2010	18:00:51	35.28	215.1	0.1	1.404	16.7	220	15.21	12.3

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
7/31/2010	19:00:51	35.13	213.1	0.1	1.407	16.7	211.5	14.66	12.3
7/31/2010	20:00:51	35	212.2	0.1	1.405	16.7	201.2	13.98	12.2
7/31/2010	21:00:51	34.83	212.9	0.1	1.403	17.1	190.9	13.3	12.3
7/31/2010	22:00:51	34.66	214.3	0.1	1.404	22.1	178.6	12.48	12.2
7/31/2010	23:00:51	34.58	219.9	0.1	1.401	17.5	161.1	11.27	12.3
8/1/2010	00:00:51	34.42	222.8	0.1	1.4	19.7	145.8	10.22	12.3
8/1/2010	01:00:51	34.21	218.8	0.1	1.4	18.9	146.1	10.28	12.2
8/1/2010	02:00:51	33.94	222.6	0.1	1.403	20.1	131.4	9.29	12.3
8/1/2010	03:00:51	33.52	230.7	0.11	1.391	18.9	118.4	8.43	12.2
8/1/2010	04:00:51	33.27	230.2	0.11	1.398	20.8	120.8	8.63	12.2
8/1/2010	05:00:51	33.13	229.2	0.11	1.399	22.1	111.6	7.99	12.2
8/1/2010	06:00:51	33.04	225.8	0.1	1.401	20.3	102.3	7.34	12.3
8/1/2010	07:00:51	32.93	226.5	0.1	1.395	17	104.5	7.51	12.3
8/1/2010	08:00:52	33.01	224.1	0.1	1.395	14.5	116.4	8.35	12.2
8/1/2010	09:00:51	33.23	221.8	0.1	1.396	13.8	139	9.94	12.3
8/1/2010	10:00:51	33.72	219.4	0.1	1.399	11.4	175.8	12.47	12.2
8/1/2010	11:00:51	34.46	220.1	0.1	1.407	11.4	188.4	13.2	12.2
8/1/2010	12:00:51	35.47	221.2	0.1	1.405	9	206.2	14.22	12.2
8/1/2010	13:00:51	35.99	221.4	0.1	1.417	9.8	214.4	14.65	12.2
8/1/2010	14:00:51	36.28	221.1	0.1	1.41	9.8	222.7	15.15	12.3
8/1/2010	15:00:51	36.08	221.3	0.1	1.415	10.4	227	15.49	12.2
8/1/2010	16:00:51	36.28	219.7	0.1	1.409	10.2	233.9	15.91	12.2
8/1/2010	17:00:51	36.14	218.6	0.1	1.403	10.8	235.1	16.03	12.2
8/1/2010	18:00:51	35.83	218.2	0.1	1.4	10.8	234	16.04	12.2
8/1/2010	19:00:51	35.56	218.2	0.1	1.402	12.6	225.4	15.51	12.2
8/1/2010	20:00:51	35.24	218.8	0.1	1.39	11.9	212.2	14.68	12.2
8/1/2010	21:00:51	35.11	228.3	0.11	1.398	10.9	199.2	13.81	12.2
8/1/2010	22:00:51	34.94	229	0.11	1.398	12.4	184.8	12.85	12.2
8/1/2010	23:00:51	34.92	230.8	0.11	1.398	13.9	172.7	12.01	12.2
8/2/2010	00:00:51	34.77	222.7	0.1	1.4	15.6	158.3	11.04	12.2
8/2/2010	01:00:51	34.55	223.6	0.1	1.399	17.5	151.9	10.63	12.2
8/2/2010	02:00:51	34.28	224.3	0.1	1.392	16.4	145.3	10.22	12.3
8/2/2010	03:00:51	34.11	226.7	0.1	1.399	16	134.1	9.45	12.2
8/2/2010	04:00:51	33.92	230.7	0.11	1.395	20.5	127.8	9.04	12.2
8/2/2010	05:00:51	33.74	232.5	0.11	1.39	20.5	116.9	8.29	12.2
8/2/2010	06:00:51	33.46	231.4	0.11	1.381	21.1	112.1	7.99	12.2
8/2/2010	07:00:51	33.42	226.1	0.1	1.39	20.6	111.9	7.98	12.2
8/2/2010	08:00:51	33.43	227.9	0.11	1.383	18.9	116.8	8.33	12.2
8/2/2010	09:00:51	33.74	225.1	0.1	1.395	14.6	150.2	10.66	12.2
8/2/2010	10:00:51	34.22	222.9	0.1	1.399	13.1	170.7	12.01	12.2
8/2/2010	11:00:51	34.7	221.7	0.1	1.396	11.9	201.2	14.05	12.3
8/2/2010	12:00:51	35.58	225	0.1	1.393	10.7	217.9	14.99	12.2
8/2/2010	13:00:51	36.04	222.2	0.1	1.402	11.3	228.7	15.62	12.2

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/2/2010	14:00:51	36.63	222.4	0.1	1.406	7.9	247.6	16.75	12.2
8/2/2010	15:00:51	37.45	222.9	0.1	1.403	6.7	259	17.29	12.2
8/2/2010	16:00:51	37.52	220.9	0.1	1.403	7	266.7	17.78	12.2
8/2/2010	17:00:51	37.2	223.6	0.1	1.402	8.4	258.2	17.31	12.2
8/2/2010	18:00:51	37.02	221	0.1	1.393	8.5	253.3	17.03	12.2
8/2/2010	19:00:51	36.59	220.6	0.1	1.397	10.8	245.6	16.62	12.2
8/2/2010	20:00:51	36.48	222	0.1	1.391	10.9	225.6	15.3	12.2
8/2/2010	21:00:51	36.34	222.7	0.1	1.393	11.2	204.9	13.92	12.3
8/2/2010	22:00:51	36.1	223.8	0.1	1.394	11	189	12.89	12.2
8/2/2010	23:00:51	35.89	228.1	0.11	1.376	10.7	180	12.32	12.1
8/3/2010	00:00:51	35.54	224.6	0.1	1.374	12.4	159.9	11.01	12.1
8/3/2010	01:00:51	35.31	229.8	0.11	1.387	14	142.4	9.84	12.2
8/3/2010	02:00:51	35.18	228	0.11	1.377	17.2	133.8	9.27	12.2
8/3/2010	03:00:51	34.92	227.9	0.11	1.384	17.7	134.7	9.37	12.2
8/3/2010	04:00:51	34.66	226.6	0.1	1.386	17.1	119.3	8.34	12.2
8/3/2010	05:00:51	34.44	225.5	0.1	1.381	21.2	113.7	7.97	12.2
8/3/2010	06:00:51	34.25	226.3	0.1	1.379	22	105.4	7.41	12.2
8/3/2010	07:00:51	34.04	228.2	0.11	1.377	18.5	101.3	7.15	12.2
8/3/2010	08:00:51	33.96	229.6	0.11	1.389	13.6	115.5	8.16	12.2
8/3/2010	09:00:51	34.17	228.9	0.11	1.377	13.9	127.3	8.96	12.2
8/3/2010	10:00:51	34.36	227.4	0.11	1.374	23	114.9	8.06	12.2
8/3/2010	11:00:51	35.02	222.5	0.1	1.377	12.5	174.6	12.12	12.1
8/3/2010	12:00:51	35.79	218.5	0.1	1.388	9.2	214.8	14.73	12.2
8/3/2010	13:00:51	36.57	217.6	0.1	1.389	8.1	239	16.18	12.1
8/3/2010	14:00:51	36.77	218.1	0.1	1.402	9.8	250.5	16.91	12.2
8/3/2010	15:00:51	37.37	218.4	0.1	1.396	7.5	259.6	17.35	12.2
8/3/2010	16:00:51	37.53	217.8	0.1	1.387	8.8	257.7	17.18	12.2
8/3/2010	17:00:51	37.1	217.7	0.1	1.393	8.2	251.4	16.88	12.2
8/3/2010	18:00:51	36.7	216.1	0.1	1.39	8.9	238.1	16.09	12.2
8/3/2010	19:00:51	36.31	216.6	0.1	1.364	10.8	221	15.03	12.2
8/3/2010	20:00:51	36.02	215.7	0.1	1.37	9.8	204.7	13.99	12.2
8/3/2010	21:00:51	35.85	216.6	0.1	1.377	10.3	194.8	13.35	12.2
8/3/2010	22:00:51	35.68	216.1	0.1	1.376	11.6	185.7	12.76	12.2
8/3/2010	23:00:51	35.43	216.1	0.1	1.385	11.9	178.5	12.31	12.2
8/4/2010	00:00:51	35.19	216.7	0.1	1.382	14.3	163.8	11.34	12.2
8/4/2010	01:00:51	35.01	218.1	0.1	1.381	14.8	151.8	10.54	12.2
8/4/2010	02:00:51	34.77	218.5	0.1	1.385	14.3	145.7	10.16	12.1
8/4/2010	03:00:51	34.6	219.7	0.1	1.368	19.1	134.9	9.43	12.2
8/4/2010	04:00:51	34.35	220.8	0.1	1.368	17.8	131	9.19	12.2
8/4/2010	05:00:51	34.18	219.9	0.1	1.372	16.7	124.2	8.75	12.2
8/4/2010	06:00:51	34.05	221.2	0.1	1.362	18.4	114.4	8.07	12.2
8/4/2010	07:00:51	33.95	220.9	0.1	1.362	18.9	111.4	7.87	12.2
8/4/2010	08:00:51	33.94	219	0.1	1.371	20.6	120.3	8.51	12.2

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/4/2010	09:00:51	34.19	219.1	0.1	1.368	15.9	141.7	9.97	12.2
8/4/2010	10:00:51	34.54	224.7	0.1	1.366	15.9	135.9	9.51	12.2
8/4/2010	11:00:51	34.88	221.3	0.1	1.369	14	166.5	11.59	12.2
8/4/2010	12:00:51	35.68	219.2	0.1	1.375	10.9	195.1	13.4	12.2
8/4/2010	13:00:51	36.07	218.6	0.1	1.364	10	222.2	15.17	12.2
8/4/2010	14:00:51	35.76	221.1	0.1	1.377	13.7	210.9	14.47	12.1
8/4/2010	15:00:51	35.51	222.6	0.1	1.383	17.5	205.4	14.15	12.1
8/4/2010	16:00:51	36.42	220.2	0.1	1.382	12.2	198.2	13.45	12.1
8/4/2010	17:00:51	36.64	219	0.1	1.376	10.4	228.7	15.47	12.2
8/4/2010	18:00:51	36.3	217.7	0.1	1.379	10.3	230.6	15.68	12.2
8/4/2010	19:00:51	35.95	216.4	0.1	1.367	10.1	216.5	14.8	12.2
8/4/2010	20:00:51	35.62	216.1	0.1	1.37	10.3	201.7	13.87	12.2
8/4/2010	21:00:51	35.25	215.6	0.1	1.371	11	187.3	12.96	12.2
8/4/2010	22:00:51	35.05	214.2	0.1	1.365	11.2	182.7	12.68	12.1
8/4/2010	23:00:51	34.89	214.1	0.1	1.368	11.9	171.9	11.96	12.2
8/5/2010	00:00:51	34.71	213.9	0.1	1.372	11.7	162.9	11.37	12.2
8/5/2010	01:00:51	34.51	213.6	0.1	1.375	13.3	159.6	11.18	12.2
8/5/2010	02:00:51	34.36	211.1	0.1	1.341	11.3	156	10.95	12.1
8/5/2010	03:00:51	34.11	212.3	0.1	1.359	14.4	144.4	10.18	12.2
8/5/2010	04:00:51	33.86	215	0.1	1.363	17.7	132.5	9.38	12.1
8/5/2010	05:00:51	33.81	220.8	0.1	1.362	16.4	122.5	8.68	12.1
8/5/2010	06:00:51	33.82	223.6	0.1	1.358	14.9	113.5	8.04	12.2
8/5/2010	07:00:51	33.66	224.6	0.1	1.384	17.4	108.8	7.73	12.2
8/5/2010	08:00:51	33.52	230.2	0.11	1.377	18.5	96.3	6.85	12.1
8/5/2010	09:00:51	33.34	223.6	0.1	1.338	20.1	103.2	7.37	12.2
8/5/2010	10:00:51	32.86	229.3	0.11	1.42	21.6	78	5.61	12.1
8/5/2010	11:00:51	32.61	223.9	0.1	1.387	16.8	88.4	6.39	12.1
8/5/2010	12:00:51	32.39	225	0.1	1.444	17.7	86.2	6.25	12.1
8/5/2010	13:00:51	32.52	224	0.1	1.48	15.2	88	6.37	12
8/5/2010	14:00:51	32.61	219	0.1	1.482	16.1	107.5	7.77	12.1
8/5/2010	15:00:51	32.77	216.5	0.1	1.481	12	137.2	9.89	12.1
8/5/2010	16:00:51	32.65	215.1	0.1	1.467	12.9	144	10.4	12.1
8/5/2010	17:00:51	32.57	214.9	0.1	1.447	14.7	143.3	10.36	12.2
8/5/2010	18:00:51	32.51	214.5	0.1	1.436	13.8	142.9	10.35	12.1
8/5/2010	19:00:51	32.33	212.7	0.1	1.426	16.1	133.8	9.72	12.1
8/5/2010	20:00:51	32.17	212.7	0.1	1.423	20.9	124.1	9.03	12.1
8/5/2010	21:00:51	32.12	213.6	0.1	1.425	22.8	111.7	8.14	12.1
8/5/2010	22:00:51	32.13	215.6	0.1	1.424	18.3	112.4	8.19	12.1
8/5/2010	23:00:51	32.04	215.1	0.1	1.444	19.1	109.2	7.97	12.1
8/6/2010	00:00:51	31.78	216.9	0.1	1.448	20.2	91.7	6.72	12.1
8/6/2010	01:00:51	32.19	217.9	0.1	1.442	13.9	76.4	5.56	12.1
8/6/2010	02:00:51	32.22	217.2	0.1	1.438	14.1	71.5	5.2	12.1
8/6/2010	03:00:51	32.18	218.8	0.1	1.436	16.2	54.1	3.94	12.1

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/6/2010	04:00:51	32.16	221.5	0.1	1.43	12.6	46.8	3.41	12.1
8/6/2010	05:00:51	32.08	222.5	0.1	1.437	11.9	42.2	3.08	12.1
8/6/2010	06:00:51	31.91	222.6	0.1	1.437	11.6	39	2.85	12.1
8/6/2010	07:00:51	31.87	223.3	0.1	1.437	11.4	35.7	2.61	12.1
8/6/2010	08:00:51	32.05	222.2	0.1	1.444	9.6	48.8	3.56	12.1
8/6/2010	09:00:51	32.14	219.2	0.1	1.43	11.9	72.8	5.3	12.1
8/6/2010	10:00:51	32.75	218.1	0.1	1.441	10.5	94.7	6.83	12.1
8/6/2010	11:00:51	33.22	218	0.1	1.431	9.3	122.3	8.75	12.1
8/6/2010	12:00:51	33.2	216.3	0.1	1.456	12	142.7	10.21	12.1
8/6/2010	13:00:51	33.58	214.6	0.1	1.437	9.2	170.2	12.1	12.1
8/6/2010	14:00:51	33.63	213.3	0.1	1.451	9.9	177.5	12.61	12.1
8/6/2010	15:00:51	33.85	213.3	0.1	1.429	9	179.6	12.71	12.1
8/6/2010	16:00:51	33.63	213.2	0.1	1.455	10.8	168.8	12	12.1
8/6/2010	17:00:51	33.55	212.6	0.1	1.459	11.9	169.3	12.04	12.1
8/6/2010	18:00:51	33.43	212.7	0.1	1.467	11.2	168.8	12.04	12.1
8/6/2010	19:00:51	33.26	212.8	0.1	1.438	11.7	163.9	11.72	12.1
8/6/2010	20:00:51	33.16	213.7	0.1	1.425	10.4	149	10.67	12.1
8/6/2010	21:00:51	32.96	214.1	0.1	1.446	12.2	143.4	10.3	12.1
8/6/2010	22:00:51	32.84	214.7	0.1	1.431	15.9	136.2	9.81	12.1
8/6/2010	23:00:51	32.66	215.5	0.1	1.448	16.2	133.4	9.63	12.1
8/7/2010	00:00:51	32.37	218.6	0.1	1.456	23.4	117.4	8.52	12.1
8/7/2010	01:00:51	32.32	216.5	0.1	1.45	21.4	113.4	8.24	12
8/7/2010	02:00:51	32.35	217.3	0.1	1.443	17.9	104.7	7.6	12.1
8/7/2010	03:00:51	32.24	224.8	0.1	1.444	21.7	101.5	7.38	12
8/7/2010	04:00:51	32.26	222.2	0.1	1.434	19.3	93.6	6.81	12
8/7/2010	05:00:51	32.24	221.9	0.1	1.442	26.3	78.9	5.74	12.1
8/7/2010	06:00:51	32.22	222.4	0.1	1.45	27.9	65.8	4.79	12.1
8/7/2010	07:00:51	32.07	218.7	0.1	1.446	27.4	85.9	6.26	12
8/7/2010	08:00:51	32.09	220.4	0.1	1.445	19.2	90.9	6.63	12.1
8/7/2010	09:00:51	32.39	223.1	0.1	1.448	16.8	105.8	7.67	12.1
8/7/2010	10:00:51	32.91	220.2	0.1	1.441	14.3	132	9.49	12.1
8/7/2010	11:00:51	33.27	218.8	0.1	1.445	14.1	153.1	10.95	12.1
8/7/2010	12:00:51	33.87	214.9	0.1	1.451	13.2	194.6	13.78	12
8/7/2010	13:00:51	34.47	213.8	0.1	1.448	8.3	202.5	14.19	12.1
8/7/2010	14:00:51	35.28	214.3	0.1	1.452	7.6	217.9	15.07	12.1
8/7/2010	15:00:51	35.96	213.8	0.1	1.457	8.1	228.8	15.65	12.1
8/7/2010	16:00:51	36.29	213.6	0.1	1.463	8.3	231	15.71	12.1
8/7/2010	17:00:51	36.4	213.9	0.1	1.468	7	238.7	16.2	12.1
8/7/2010	18:00:51	35.93	212.6	0.1	1.453	7.4	247.3	16.92	12.1
8/7/2010	19:00:51	35.67	212.8	0.1	1.465	6.8	239.3	16.44	12.1
8/7/2010	20:00:51	34.89	212.3	0.1	1.454	10.9	219	15.24	12.1
8/7/2010	21:00:51	34.65	213	0.1	1.446	17	189.3	13.22	12
8/7/2010	22:00:51	34.49	215.4	0.1	1.445	19.7	180.3	12.63	12.1

Continuous Data North Flat									
Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/7/2010	23:00:51	34.18	215.4	0.1	1.446	19.4	160.3	11.29	12.1
8/8/2010	00:00:51	33.99	216.8	0.1	1.449	17.3	153.3	10.83	12.1
8/8/2010	01:00:51	33.77	220.2	0.1	1.434	13.7	123.5	8.75	12
8/8/2010	02:00:51	33.57	220.8	0.1	1.448	17.7	129.3	9.2	12.1
8/8/2010	03:00:51	33.34	223.5	0.1	1.44	33	115.8	8.27	12.1
8/8/2010	04:00:51	33.08	219.1	0.1	1.436	39.6	115	8.25	12.1
8/8/2010	05:00:51	33.04	222.7	0.1	1.447	40.5	101.9	7.31	12
8/8/2010	06:00:51	33.01	218.9	0.1	1.445	39.7	123.3	8.85	12
8/8/2010	07:00:51	32.93	222.9	0.1	1.443	52.9	118.3	8.5	12.1
8/8/2010	08:00:51	33.24	220.2	0.1	1.446	37.9	147.7	10.56	12.1
8/8/2010	09:00:51	33.61	223.8	0.1	1.452	28.5	152	10.81	12.1
8/8/2010	10:00:51	33.93	221.6	0.1	1.448	31.8	173	12.23	12
8/8/2010	11:00:51	34.34	221.5	0.1	1.445	19.2	192.3	13.51	12.1
8/8/2010	12:00:51	35.24	221.4	0.1	1.445	23.8	213.6	14.78	12
8/8/2010	13:00:51	35.79	219.5	0.1	1.448	21.1	223.6	15.33	12.1
8/8/2010	14:00:51	35.6	219.1	0.1	1.455	15.1	215.6	14.83	12
8/8/2010	15:00:51	36.36	218.5	0.1	1.452	16.2	233.6	15.87	12.1
8/8/2010	16:00:51	36.6	218.1	0.1	1.446	14.8	243.6	16.48	12.1
8/8/2010	17:00:51	36.58	218	0.1	1.453	13	231.3	15.66	12
8/8/2010	18:00:51	36.17	217.4	0.1	1.466	17.4	227.5	15.51	12.1
8/8/2010	19:00:51	35.83	216.8	0.1	1.444	15.7	219.4	15.04	12.1
8/8/2010	20:00:51	35.41	218.2	0.1	1.441	24.3	201	13.87	12.1
8/8/2010	21:00:51	35	219	0.1	1.446	15.4	173.1	12.02	12.1
8/8/2010	22:00:51	34.67	215.6	0.1	1.436	16.4	174.3	12.17	12.1
8/8/2010	23:00:51	34.69	216.9	0.1	1.442	28.8	179.8	12.56	12.1
8/9/2010	00:00:51	34.65	217.4	0.1	1.448	28.6	171.4	11.98	12
8/9/2010	01:00:51	34.29	217.5	0.1	1.438	18.4	137.4	9.66	12.1
8/9/2010	02:00:51	34.02	218.8	0.1	1.442	26.3	133.3	9.41	12.1
8/9/2010	03:00:51	33.9	224.2	0.1	1.43	44.8	122.1	8.63	12.1
8/9/2010	04:00:51	33.81	222.8	0.1	1.437	52	104.1	7.37	12
8/9/2010	05:00:51	33.78	221.2	0.1	1.443	30.3	105.9	7.51	12
8/9/2010	06:00:51	33.69	221.9	0.1	1.434	58.2	105.2	7.46	12.1
8/9/2010	07:00:51	33.75	225.8	0.1	1.435	52.8	89.5	6.35	12
8/9/2010	08:00:51	33.85	222.3	0.1	1.434	41.1	123.8	8.76	12
8/9/2010	09:00:51	34	221.3	0.1	1.433	32.1	133.3	9.41	12.1
8/9/2010	10:00:51	34.27	223.5	0.1	1.435	25.7	132.3	9.3	12
8/9/2010	11:00:51	34.68	221.7	0.1	1.436	26.5	152.8	10.67	12.1
8/9/2010	12:00:51	35.16	224.4	0.1	1.435	26.3	157.7	10.93	12
8/9/2010	13:00:51	35.92	223.4	0.1	1.449	24	182.8	12.51	12
8/9/2010	14:00:51	36.6	222.3	0.1	1.446	25.5	198.3	13.42	12
8/9/2010	15:00:51	36.59	222.6	0.1	1.35	18.1	193.5	13.1	12.1
8/9/2010	16:00:51	35.76	223.1	0.1	1.457	28.1	180.9	12.41	12.1
8/9/2010	17:00:51	34.98	224.6	0.1	1.512	29.2	82.1	5.7	12.1

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/9/2010	18:00:51	33.5	231.3	0.11	1.465	33.1	34.8	2.48	12
8/9/2010	19:00:51	33.7	232.2	0.11	1.437	41.3	29.6	2.1	12.1
8/9/2010	20:00:51	33.64	231.1	0.11	1.423	21.3	67.9	4.82	12
8/9/2010	21:00:51	33.42	233.1	0.11	1.433	38.1	69.4	4.95	12.1
8/9/2010	22:00:51	33.17	232	0.11	1.415	30.9	51.4	3.68	12
8/9/2010	23:00:51	33.06	234	0.11	1.419	32.3	50.3	3.61	12
8/10/2010	00:00:51	32.9	232.6	0.11	1.425	29.2	44	3.16	12
8/10/2010	01:00:51	32.76	234.8	0.11	1.435	33.9	29.4	2.12	12
8/10/2010	02:00:51	32.6	236	0.11	1.43	31.1	26.9	1.95	12.1
8/10/2010	03:00:51	32.45	236.9	0.11	1.418	35.3	30.5	2.21	12.1
8/10/2010	04:00:51	32.2	235.3	0.11	1.43	31.6	25.6	1.86	12
8/10/2010	05:00:51	31.99	237.9	0.11	1.436	35.2	28.4	2.07	12
8/10/2010	06:00:51	31.89	238.3	0.11	1.423	40.2	27.5	2.01	12.1
8/10/2010	07:00:51	31.92	242.7	0.11	1.419	34.9	12	0.88	12
8/10/2010	08:00:51	31.95	240.5	0.11	1.427	27.7	39.1	2.86	12
8/10/2010	09:00:51	32.22	231.7	0.11	1.417	26	48.2	3.51	12
8/10/2010	10:00:51	32.58	230.4	0.11	1.432	41.3	69.1	5	12
8/10/2010	11:00:51	32.7	231.4	0.11	1.428	42.8	64.2	4.64	12
8/10/2010	12:00:51	32.73	237.5	0.11	1.438	40.9	42.2	3.04	12
8/10/2010	13:00:51	32.91	230.2	0.11	1.428	66.9	54.2	3.9	12
8/10/2010	14:00:51	32.82	229.5	0.11	1.425	35.7	67.2	4.84	12.1
8/10/2010	15:00:51	32.78	231.3	0.11	1.43	36.9	70	5.05	12
8/10/2010	16:00:51	32.49	233.1	0.11	1.425	36.6	59.9	4.33	12.1
8/10/2010	17:00:51	32.54	227.9	0.11	1.43	40.5	73.8	5.34	12
8/10/2010	18:00:51	32.41	230.3	0.11	1.428	31.1	68.4	4.96	12
8/10/2010	19:00:51	32.29	232.7	0.11	1.423	82.7	55	4	12
8/10/2010	20:00:51	32.4	234.8	0.11	1.422	25.8	47.5	3.44	12
8/10/2010	21:00:51	32.38	239.2	0.11	1.427	30.5	72.3	5.25	12
8/10/2010	22:00:51	32.27	247.7	0.12	1.42	29	46.3	3.37	12
8/10/2010	23:00:51	32.19	253.5	0.12	1.422	33.5	40.7	2.96	12
8/11/2010	00:00:51	32.1	250.1	0.12	1.421	14.2	39.1	2.85	12
8/11/2010	01:00:51	32.01	250.7	0.12	1.412	22.5	28.2	2.06	12
8/11/2010	02:00:51	31.89	250.4	0.12	1.43	28.2	28.4	2.08	12
8/11/2010	03:00:51	31.88	244	0.11	1.414	26.7	38.6	2.82	12
8/11/2010	04:00:51	31.81	243.6	0.11	1.409	24.5	53.9	3.95	12
8/11/2010	05:00:51	31.53	242.1	0.11	1.425	48.8	50.3	3.7	12
8/11/2010	06:00:51	31.49	241.8	0.11	1.421	45.1	42.8	3.15	12
8/11/2010	07:00:51	31.49	234.3	0.11	1.416	44.4	42.6	3.14	12

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/11/2010	8:00:51	31.43	224.6	0.1	20	47.4	3.49	1.435	12
8/11/2010	9:00:51	31.63	224.3	0.1	12.6	55.6	4.08	1.432	12
8/11/2010	10:00:51	31.79	224.1	0.1	11.9	65.9	4.83	1.428	12
8/11/2010	11:00:51	31.96	223.5	0.1	11.7	82.5	6.03	1.435	12
8/11/2010	12:00:51	32.35	222.7	0.1	11.3	94	6.82	1.442	12
8/11/2010	13:00:52	32.78	222.3	0.1	7	106.2	7.65	1.426	12
8/11/2010	14:00:51	32.97	223	0.1	7.8	107.9	7.75	1.434	12
8/11/2010	15:00:51	32.84	225.3	0.1	9.9	79.4	5.72	1.432	12
8/11/2010	16:00:51	32.8	226.4	0.1	10.5	83.5	6.02	1.426	12
8/11/2010	17:00:51	32.44	227.9	0.11	9.8	66.9	4.85	1.432	12
8/11/2010	18:00:51	32.34	227.2	0.11	9.8	65.6	4.76	1.431	12
8/11/2010	19:00:51	32.24	227.6	0.11	8.2	62.2	4.52	1.428	12
8/11/2010	20:00:51	32.21	228.4	0.11	10.7	64.5	4.69	1.427	12
8/11/2010	21:00:51	32.12	228.8	0.11	15.7	64.8	4.72	1.434	12
8/11/2010	22:00:51	31.96	229	0.11	18	54	3.94	1.428	12
8/11/2010	23:00:51	31.85	229	0.11	32.4	38.8	2.84	1.429	12
8/12/2010	0:00:51	31.67	230.3	0.11	28.8	37	2.72	1.426	12
8/12/2010	1:00:51	31.56	230.5	0.11	16.7	27.6	2.03	1.433	12
8/12/2010	2:00:51	31.41	230.3	0.11	11.8	28.4	2.09	1.435	12
8/12/2010	3:00:51	31.28	229.6	0.11	13.3	31.1	2.3	1.43	12
8/12/2010	4:00:51	31.3	228.4	0.11	26.4	49.1	3.63	1.422	12
8/12/2010	5:00:51	31.31	229.5	0.11	13.4	44.7	3.3	1.422	12
8/12/2010	6:00:51	31.21	229.7	0.11	12.9	38.5	2.85	1.429	12
8/12/2010	7:00:51	31.16	229.9	0.11	10	36.3	2.69	1.422	12
8/12/2010	8:00:51	31.15	230.4	0.11	11	44.9	3.33	1.422	12
8/12/2010	9:00:52	31.26	231.7	0.11	9.4	57.2	4.23	1.419	12
8/12/2010	10:00:51	31.52	228	0.11	8.9	81.4	5.99	1.417	12
8/12/2010	11:00:51	31.78	232.5	0.11	9.2	85	6.23	1.429	12
8/12/2010	12:00:51	32.11	230.5	0.11	9.8	117.8	8.58	1.425	12
8/12/2010	13:00:51	32.78	228.9	0.11	9.4	151.8	10.94	1.428	12
8/12/2010	14:00:51	33.77	224.7	0.1	4.8	149.8	10.62	1.431	12
8/12/2010	15:00:51	33.75	224.8	0.1	7.3	156.4	11.09	1.449	12
8/12/2010	16:00:51	33.44	224.9	0.1	15.4	148.9	10.61	1.419	12
8/12/2010	17:00:51	33.24	223.9	0.1	15.4	148.4	10.61	1.444	12
8/12/2010	18:00:51	33.12	225.3	0.1	12.4	138.6	9.93	1.452	12
8/12/2010	19:00:51	32.93	225.6	0.1	13.4	137.6	9.89	1.439	12
8/12/2010	20:00:51	32.74	224.6	0.1	16.7	131	9.45	1.437	12
8/12/2010	21:00:51	32.61	227.8	0.11	13.7	107.7	7.78	1.414	12
8/12/2010	22:00:51	32.41	226.7	0.11	19.8	117	8.48	1.415	12
8/12/2010	23:00:51	32.23	230.2	0.11	20.3	96.1	6.99	1.41	12
8/13/2010	0:00:51	32.09	232	0.11	23.9	86.8	6.33	1.428	12
8/13/2010	1:00:51	31.95	233.4	0.11	23.3	82.1	6	1.426	12
8/13/2010	2:00:51	31.79	225.6	0.1	24.6	91.1	6.67	1.425	12

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/13/2010	3:00:52	31.64	225.7	0.1	21.1	89.3	6.56	1.427	12
8/13/2010	4:00:51	31.49	225.1	0.1	21.3	84.5	6.22	1.425	12
8/13/2010	5:00:51	31.43	225.5	0.1	17.8	78.3	5.77	1.444	12
8/13/2010	6:00:51	31.29	225.4	0.1	18.9	79	5.84	1.513	12
8/13/2010	7:00:51	31.13	224	0.1	24.6	77.9	5.77	1.557	12
8/13/2010	8:00:51	31.1	224.6	0.1	19.2	76.9	5.7	1.662	12
8/13/2010	9:00:51	31.11	227	0.11	16.1	82	6.08	1.643	12
8/13/2010	10:00:51	31.12	226.1	0.11	11.8	87.7	6.5	1.664	12
8/13/2010	11:00:51	31.13	224.8	0.1	10.5	91.8	6.81	1.687	12
8/13/2010	12:00:52	31.32	222.4	0.1	11.4	101.1	7.47	1.69	12
8/13/2010	13:00:51	31.46	221.8	0.1	13.7	108.7	8.01	1.693	12
8/13/2010	14:00:51	31.95	223	0.1	11.5	127.3	9.3	1.701	12
8/13/2010	15:00:51	32.43	225.3	0.1	7.1	141.7	10.27	1.717	12
8/13/2010	16:00:51	32.39	222.3	0.1	5	145	10.52	1.708	12
8/13/2010	17:00:51	32.35	222.2	0.1	4.7	148.8	10.8	1.711	12
8/13/2010	18:00:51	32.26	221.8	0.1	9.4	142	10.33	1.716	12
8/13/2010	19:00:52	32.21	222.8	0.1	10.9	144.3	10.5	1.707	12
8/13/2010	20:00:51	32.12	227.8	0.11	11.8	128.2	9.34	1.714	12
8/13/2010	21:00:52	32	229.1	0.11	10.3	110.9	8.1	1.713	12
8/13/2010	22:00:51	31.9	228.8	0.11	26.2	108	7.9	1.717	12
8/13/2010	23:00:51	31.79	228.4	0.11	26.9	98.6	7.23	1.714	12
8/14/2010	0:00:51	31.71	229.4	0.11	32.9	92	6.75	1.706	12
8/14/2010	1:00:51	31.61	233.8	0.11	20.7	86.4	6.35	1.703	12
8/14/2010	2:00:52	31.5	235.7	0.11	23.9	79.3	5.84	1.698	12
8/14/2010	3:00:51	31.35	237.9	0.11	22.5	71.5	5.28	1.685	12
8/14/2010	4:00:51	31.2	238.6	0.11	20.2	73.3	5.43	1.683	12
8/14/2010	5:00:51	31.06	239.6	0.11	25	71.6	5.31	1.68	12
8/14/2010	6:00:52	30.85	237	0.11	21.6	69.8	5.2	1.681	12
8/14/2010	7:00:51	30.91	235.5	0.11	21.1	81.7	6.08	1.674	12
8/14/2010	8:00:51	31.11	230.5	0.11	23.9	81.9	6.07	1.67	12
8/14/2010	9:00:51	31.38	222.2	0.1	15.3	99.9	7.37	1.674	12
8/14/2010	10:00:52	31.58	221.3	0.1	14.7	109	8.02	1.655	12
8/14/2010	11:00:51	32	220.9	0.1	14.1	116.7	8.52	1.652	12
8/14/2010	12:00:51	32.2	221	0.1	13.8	116.4	8.47	1.647	12
8/14/2010	13:00:51	32.44	222.2	0.1	9.8	119.6	8.67	1.66	12
8/14/2010	14:00:51	33.22	222.4	0.1	12.8	138.3	9.9	1.658	12
8/14/2010	15:00:51	33.8	221.6	0.1	15.6	141.4	10.02	1.643	12
8/14/2010	16:00:51	33.62	223.6	0.1	7.3	146.2	10.39	1.621	12
8/14/2010	17:00:51	33.64	224.4	0.1	8.3	157	11.15	1.623	11.9
8/14/2010	18:00:51	33.73	223.1	0.1	8.1	167.1	11.86	1.625	12
8/14/2010	19:00:51	33.68	223.2	0.1	12.6	162.9	11.56	1.615	12
8/14/2010	20:00:51	33.43	228.2	0.11	13	146.2	10.42	1.613	12
8/14/2010	21:00:51	33.25	228	0.11	13.4	127.5	9.11	1.608	12

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/14/2010	22:00:51	33.08	229	0.11	14.8	126.7	9.08	1.596	12
8/14/2010	23:00:51	32.9	233.7	0.11	20.2	105.4	7.58	1.595	12
8/15/2010	0:00:51	32.78	237.2	0.11	23.8	108.7	7.83	1.577	12
8/15/2010	1:00:51	32.71	241.7	0.11	19.4	95.5	6.89	1.578	12
8/15/2010	2:00:51	32.59	226.4	0.1	22.3	107	7.73	1.566	12
8/15/2010	3:00:52	32.4	239	0.11	18.3	105.5	7.65	1.568	12
8/15/2010	4:00:51	32.21	240.9	0.11	27.2	101.3	7.37	1.547	12
8/15/2010	5:00:51	32.07	246.3	0.11	28.7	73.5	5.36	1.543	12
8/15/2010	6:00:51	31.96	236.3	0.11	32.5	80	5.84	1.536	12
8/15/2010	7:00:52	31.91	226.9	0.11	29.9	86.3	6.31	1.523	12
8/15/2010	8:00:51	32.01	226.2	0.1	20.4	93.2	6.8	1.536	12
8/15/2010	9:00:51	32.14	222.5	0.1	10.3	108.8	7.93	1.532	12
8/15/2010	10:00:51	32.41	221.7	0.1	11.3	121.1	8.78	1.536	12
8/15/2010	11:00:51	32.75	222.9	0.1	11.5	135.7	9.79	1.531	12
8/15/2010	12:00:51	33.07	221.3	0.1	10.8	150.4	10.78	1.537	11.9
8/15/2010	13:00:51	33.55	222	0.1	14.9	162.8	11.58	1.535	12
8/15/2010	14:00:51	34.08	220.8	0.1	9.2	169.9	11.98	1.54	12
8/15/2010	15:00:51	34.59	223.7	0.1	7.5	181.3	12.68	1.542	12
8/15/2010	16:00:51	34.91	223.7	0.1	11	193.2	13.44	1.548	12
8/15/2010	17:00:51	34.61	225.2	0.1	9.1	189.4	13.24	1.554	12
8/15/2010	18:00:51	34.5	228.8	0.11	11.8	186.1	13.03	1.536	12
8/15/2010	19:00:51	34.36	228.7	0.11	11.7	176.9	12.42	1.563	12
8/15/2010	20:00:51	34.24	232.8	0.11	12.5	161.1	11.33	1.547	12
8/15/2010	21:00:52	34.06	235.3	0.11	11.6	143.9	10.15	1.554	12
8/15/2010	22:00:51	33.85	235.1	0.11	15	148	10.48	1.531	12
8/15/2010	23:00:51	33.61	232	0.11	19.5	139.7	9.93	1.581	12
8/16/2010	0:00:51	33.49	234.1	0.11	18.3	124	8.83	1.539	12
8/16/2010	1:00:52	33.31	234.1	0.11	22.2	116.4	8.32	1.528	12
8/16/2010	2:00:51	33.11	231.1	0.11	25.7	110.8	7.94	1.54	12
8/16/2010	3:00:51	32.92	230.2	0.11	34.1	107.1	7.7	1.503	12
8/16/2010	4:00:51	32.4	229.4	0.11	20.2	105.7	7.67	1.534	12
8/16/2010	5:00:51	32.18	246.8	0.11	23.9	89.2	6.49	1.622	11.9
8/16/2010	6:00:51	31.85	252.4	0.12	22	85.3	6.24	1.618	12
8/16/2010	7:00:51	32.02	250.5	0.12	22.8	98.8	7.21	1.635	12
8/16/2010	8:00:51	32.13	244	0.11	19.8	104.4	7.61	1.686	12
8/16/2010	9:00:51	32.34	237.7	0.11	23	112.9	8.2	1.674	12
8/16/2010	10:00:52	32.66	235.3	0.11	22.4	125	9.03	1.639	12
8/16/2010	11:00:51	33.05	235	0.11	35	136.6	9.8	1.646	12
8/16/2010	12:00:51	33.58	229.9	0.11	32.4	159	11.3	1.634	12
8/16/2010	13:00:51	33.96	226.1	0.1	17.2	175.6	12.41	1.621	12
8/16/2010	14:00:51	34.08	225.1	0.1	15	175.6	12.38	1.634	12
8/16/2010	15:00:51	32.87	236.1	0.11	38.5	129	9.28	1.642	12
8/16/2010	16:00:51	32.92	237.7	0.11	23.5	148.7	10.69	1.648	12

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/16/2010	17:00:51	33.14	232.1	0.11	21.9	135.2	9.69	1.624	12
8/16/2010	18:00:51	32.83	232.8	0.11	35.6	126.6	9.11	1.648	12
8/16/2010	19:00:51	32.69	234.8	0.11	43.7	127	9.16	1.631	12
8/16/2010	20:00:51	32.47	237.9	0.11	41.9	112.1	8.12	1.638	12
8/16/2010	21:00:51	32.3	239.3	0.11	42.1	97.8	7.1	1.637	12
8/16/2010	22:00:51	32.2	240.4	0.11	40.2	104.2	7.58	1.634	12
8/16/2010	23:00:51	31.93	236.5	0.11	45	95.6	6.99	1.632	12
8/17/2010	0:00:51	31.74	238	0.11	51	78.7	5.77	1.635	11.9
8/17/2010	1:00:52	31.62	237.6	0.11	44.1	82.4	6.05	1.643	12
8/17/2010	2:00:52	31.46	237.6	0.11	33.1	82.3	6.07	1.634	11.9
8/17/2010	3:00:51	31.31	236.3	0.11	55.6	63.4	4.68	1.636	12
8/17/2010	4:00:52	31.26	236.8	0.11	49.3	58.8	4.34	1.647	12
8/17/2010	5:00:52	31.21	236.7	0.11	58.8	67.1	4.97	1.641	12
8/17/2010	6:00:51	31.18	238.2	0.11	55.9	65.3	4.83	1.631	12
8/17/2010	7:00:52	31.1	237.7	0.11	49.5	57.4	4.26	1.635	12
8/17/2010	8:00:52	31.03	238.5	0.11	48.9	62.2	4.61	1.634	12
8/17/2010	9:00:52	31.26	235.9	0.11	40.8	94.5	6.99	1.634	12
8/17/2010	10:00:52	31.75	233.8	0.11	20.8	110.2	8.08	1.64	12
8/17/2010	11:00:52	31.81	234	0.11	26.7	107.6	7.88	1.642	12
8/17/2010	12:00:52	31.67	229.9	0.11	30.5	110.2	8.09	1.676	11.9
8/17/2010	13:00:52	31.93	230.2	0.11	25.7	122.3	8.94	1.669	12
8/17/2010	14:00:52	32.32	224.1	0.1	17.9	136.7	9.93	1.669	12
8/17/2010	15:00:51	32.25	225	0.1	23.4	137.6	10	1.641	12
8/17/2010	16:00:51	31.83	219.8	0.1	22.3	123.8	9.07	1.782	11.9
8/17/2010	17:00:51	31.18	207.9	0.1	24.9	109.1	8.08	1.964	12
8/17/2010	18:00:51	30.97	205.1	0.1	21.2	104	7.72	1.997	11.9
8/17/2010	19:00:51	30.85	203.8	0.09	17.3	96.6	7.19	2.026	11.9
8/17/2010	20:00:51	30.74	206.5	0.1	15.9	93	6.94	2.114	12
8/17/2010	21:00:52	30.59	207.9	0.1	17.6	89.4	6.69	2.119	12
8/17/2010	22:00:51	30.48	208.6	0.1	14.9	85.4	6.4	2.17	12
8/17/2010	23:00:51	30.37	209.9	0.1	14.7	80	6	2.215	11.9
8/18/2010	0:00:51	30.31	209.6	0.1	16	75.9	5.7	2.246	11.9
8/18/2010	1:00:52	30.27	211.8	0.1	26.6	69.6	5.24	2.271	12
8/18/2010	2:00:51	30.15	210.6	0.1	15.8	69.6	5.25	2.304	11.9
8/18/2010	3:00:51	30.15	211.3	0.1	23	56.1	4.23	2.32	11.9
8/18/2010	4:00:51	30.04	208.4	0.1	17.2	62.6	4.73	2.334	11.9
8/18/2010	5:00:51	29.89	205.4	0.1	14.3	62.8	4.75	2.373	12
8/18/2010	6:00:52	29.78	202.4	0.09	16.6	60.6	4.6	2.406	12
8/18/2010	7:00:51	29.77	203.1	0.09	16.4	62.4	4.73	2.445	11.9
8/18/2010	8:00:51	29.83	205	0.1	14.7	53.4	4.05	2.46	11.9
8/18/2010	9:00:52	29.93	208.7	0.1	12.2	53.6	4.05	2.475	12
8/18/2010	10:00:51	29.86	211.2	0.1	15.8	56.1	4.25	2.506	11.9
8/18/2010	11:00:52	29.84	212.7	0.1	11	65.2	4.94	2.538	11.9

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/18/2010	12:00:51	29.77	217	0.1	16.4	64.5	4.89	2.558	12
8/18/2010	13:00:51	29.65	220.4	0.1	14.1	58.7	4.46	2.595	11.9
8/18/2010	14:00:51	29.6	220.6	0.1	11.6	62	4.72	2.612	11.9
8/18/2010	15:00:51	29.65	220.7	0.1	9.8	60.4	4.59	2.624	11.9
8/18/2010	16:00:52	29.76	219.3	0.1	7.5	78.3	5.94	2.634	11.9
8/18/2010	17:00:51	29.78	220.9	0.1	9.4	70.1	5.31	2.65	11.9
8/18/2010	18:00:51	29.75	217	0.1	8.7	69.6	5.28	2.665	12
8/18/2010	19:00:52	29.68	216.4	0.1	10	67.2	5.11	2.679	11.9
8/18/2010	20:00:52	29.63	215.5	0.1	12.5	66.9	5.09	2.686	12
8/18/2010	21:00:52	29.6	216	0.1	15.5	64.5	4.91	2.691	12
8/18/2010	22:00:52	29.55	215.3	0.1	17	59.6	4.54	2.702	11.9
8/18/2010	23:00:51	29.5	214.8	0.1	14.8	59.4	4.53	2.713	11.9
8/19/2010	0:00:52	29.44	213.8	0.1	15.4	61.5	4.69	2.718	11.9
8/19/2010	1:00:51	29.43	213.3	0.1	23.1	55.3	4.22	2.729	11.9
8/19/2010	2:00:51	29.4	213.1	0.1	19.4	53.9	4.11	2.733	12
8/19/2010	3:00:52	29.38	212.6	0.1	25.5	48.1	3.68	2.737	11.9
8/19/2010	4:00:51	29.36	212.8	0.1	19.2	46.7	3.57	2.742	11.9
8/19/2010	5:00:52	29.32	213.2	0.1	16	40.3	3.08	2.752	11.9
8/19/2010	6:00:52	29.28	213.2	0.1	20.7	39.8	3.04	2.756	12
8/19/2010	7:00:51	29.23	214.2	0.1	21.9	50.4	3.86	2.753	11.9
8/19/2010	8:00:52	29.15	213.3	0.1	24.4	57.8	4.43	2.758	11.9
8/19/2010	9:00:52	29.44	212.3	0.1	19.2	71.6	5.46	2.763	11.9
8/19/2010	10:00:52	29.89	213.4	0.1	12	80.3	6.08	2.768	11.9
8/19/2010	11:00:52	30.68	218.3	0.1	7.3	89	6.65	2.775	11.9
8/19/2010	12:00:52	31.2	218.2	0.1	6	106.8	7.91	2.775	11.9
8/19/2010	13:00:51	31.83	219.1	0.1	3.7	104.7	7.67	2.775	11.9
8/19/2010	14:00:51	32.08	217.7	0.1	3.5	117.1	8.54	2.776	11.9
8/19/2010	15:00:51	31.98	216.8	0.1	5.5	118.8	8.68	2.776	11.9
8/19/2010	16:00:52	31.68	212.6	0.1	7	113.7	8.34	2.778	11.9
8/19/2010	17:00:52	31.41	211.9	0.1	10	109.9	8.11	2.815	11.9
8/19/2010	18:00:52	31.31	211.9	0.1	10.6	106.4	7.86	2.836	11.9
8/19/2010	19:00:51	31.15	211.8	0.1	9.6	99.2	7.35	2.858	11.9
8/19/2010	20:00:52	31.1	212.9	0.1	10.3	88.6	6.57	2.835	11.9
8/19/2010	21:00:52	31.05	211.6	0.1	11.5	97	7.2	2.828	11.9
8/19/2010	22:00:52	31	211.8	0.1	14.2	88.8	6.6	2.829	11.9
8/19/2010	23:00:52	30.95	212.7	0.1	14.9	90.4	6.72	2.825	11.9
8/20/2010	0:00:52	30.85	212.4	0.1	17	90.2	6.72	2.823	11.9
8/20/2010	1:00:51	30.88	212.9	0.1	27.4	80.8	6.01	2.823	11.9
8/20/2010	2:00:51	30.72	212.9	0.1	14.5	81.8	6.1	2.821	11.9
8/20/2010	3:00:52	30.57	211.8	0.1	25.1	76.5	5.72	2.822	11.9
8/20/2010	4:00:52	30.45	211.1	0.1	23.9	73.4	5.5	2.818	11.9
8/20/2010	5:00:52	30.4	210.7	0.1	18.4	69.1	5.19	2.813	11.9
8/20/2010	6:00:51	30.41	213.7	0.1	21.4	60.4	4.53	2.817	11.9

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/20/2010	7:00:52	30.38	214.3	0.1	17	54.9	4.12	2.815	11.9
8/20/2010	8:00:52	30.29	208.9	0.1	18.6	64.6	4.86	2.806	11.9
8/20/2010	9:00:52	30.3	208.7	0.1	17.4	76.6	5.76	2.807	11.9
8/20/2010	10:00:52	30.66	209.7	0.1	10.9	103.8	7.75	2.801	11.9
8/20/2010	11:00:51	31.44	210.2	0.1	11.9	124.7	9.19	2.797	11.9
8/20/2010	12:00:52	31.74	209.8	0.1	12.8	133.1	9.76	2.803	11.9
8/20/2010	13:00:52	32.2	209.8	0.1	8.7	158.1	11.5	2.797	11.9
8/20/2010	14:00:51	32.69	210.7	0.1	7.8	167.4	12.08	2.79	12
8/20/2010	15:00:52	32.81	210.2	0.1	7.9	177.1	12.76	2.805	11.9
8/20/2010	16:00:51	32.89	210.1	0.1	6.7	184.1	13.24	2.788	11.9
8/20/2010	17:00:52	32.77	209.5	0.1	6.7	182.9	13.19	2.771	11.9
8/20/2010	18:00:52	32.91	210.3	0.1	5.4	183.1	13.17	2.78	11.9
8/20/2010	19:00:52	32.64	210.3	0.1	6.8	180.8	13.06	2.77	11.9
8/20/2010	20:00:52	32.49	210.6	0.1	7.5	172.7	12.51	2.766	11.9
8/20/2010	21:00:52	32.26	211.1	0.1	7.6	170.2	12.37	2.769	11.9
8/20/2010	22:00:52	32.12	211.2	0.1	7.9	164.2	11.97	2.758	11.9
8/20/2010	23:00:52	32	211.2	0.1	11	151.2	11.04	2.754	11.9
8/21/2010	0:00:52	31.87	212	0.1	12.6	142.4	10.42	2.749	11.9
8/21/2010	1:00:52	31.78	212.1	0.1	11.9	132.4	9.7	2.742	11.9
8/21/2010	2:00:52	31.67	212.2	0.1	11	128.2	9.41	2.735	11.9
8/21/2010	3:00:52	31.66	212.4	0.1	11.6	124.7	9.16	2.726	11.9
8/21/2010	4:00:52	31.61	212.4	0.1	13.4	117.5	8.63	2.72	11.9
8/21/2010	5:00:52	31.53	212.5	0.1	15.1	120.7	8.88	2.714	11.9
8/21/2010	6:00:52	31.45	212.9	0.1	12	110.6	8.15	2.711	11.9
8/21/2010	7:00:52	31.42	211.1	0.1	15.7	106.5	7.85	2.708	11.9
8/21/2010	8:00:52	31.48	209	0.1	13.9	117.9	8.69	2.702	11.9
8/21/2010	9:00:52	31.64	209	0.1	13.8	126	9.26	2.699	11.9
8/21/2010	10:00:52	31.99	210.5	0.1	11.4	138	10.08	2.692	11.9
8/21/2010	11:00:52	32.25	210.7	0.1	11.9	145.9	10.61	2.684	11.9
8/21/2010	12:00:52	32.63	210	0.1	9.7	156.6	11.31	2.679	11.9
8/21/2010	13:00:52	32.84	210.3	0.1	8.6	166.6	11.99	2.664	11.9
8/21/2010	14:00:51	33.35	211.5	0.1	6.4	179.8	12.83	2.665	11.9
8/21/2010	15:00:52	33.49	212.2	0.1	6.1	184.2	13.12	2.661	11.9
8/21/2010	16:00:52	33.45	211.6	0.1	8.3	183.1	13.05	2.645	11.9
8/21/2010	17:00:51	33.62	210.5	0.1	14.4	182.4	12.96	2.642	11.9
8/21/2010	18:00:52	33.34	211.5	0.1	5.3	188.2	13.43	2.636	11.9
8/21/2010	19:00:52	33.22	212.2	0.1	7.9	174.5	12.49	2.629	11.9
8/21/2010	20:00:51	33.23	211.8	0.1	8.3	167.6	11.99	2.621	11.9
8/21/2010	21:00:52	33.04	212.3	0.1	7.3	155.4	11.15	2.618	11.9
8/21/2010	22:00:52	32.87	212.2	0.1	6.7	155.4	11.18	2.613	11.9
8/21/2010	23:00:52	32.71	211.8	0.1	7.2	154.7	11.17	2.603	11.9
8/22/2010	0:00:52	32.53	211.8	0.1	9.8	147.6	10.68	2.598	11.9
8/22/2010	1:00:52	32.32	211.4	0.1	12.5	143.9	10.45	2.586	11.9

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/22/2010	2:00:52	32.15	212	0.1	12.6	134	9.76	2.571	11.9
8/22/2010	3:00:52	31.99	212	0.1	13.1	132.1	9.65	2.559	11.9
8/22/2010	4:00:52	31.92	213	0.1	16.6	123.2	9.01	2.554	11.9
8/22/2010	5:00:52	31.82	212.9	0.1	22.2	117.5	8.6	2.546	11.9
8/22/2010	6:00:52	31.7	213.1	0.1	16.9	116.2	8.53	2.538	11.9
8/22/2010	7:00:52	31.62	212.3	0.1	18	117.6	8.64	2.53	11.9
8/22/2010	8:00:52	31.64	212.1	0.1	10.1	123.5	9.08	2.522	11.9
8/22/2010	9:00:52	31.75	212.3	0.1	8.9	120.4	8.83	2.506	11.9
8/22/2010	10:00:52	32.07	212	0.1	9.2	125.3	9.14	2.506	11.9
8/22/2010	11:00:52	32.32	212.2	0.1	10.3	133.7	9.71	2.492	11.9
8/22/2010	12:00:52	32.68	211.9	0.1	11.4	142.6	10.3	2.487	11.9
8/22/2010	13:00:52	32.84	211.7	0.1	9.5	150.8	10.86	2.473	11.9
8/22/2010	14:00:52	33.29	212	0.1	7.3	163.6	11.69	2.469	11.9
8/22/2010	15:00:52	33.43	211.7	0.1	8.2	170.2	12.14	2.457	11.9
8/22/2010	16:00:52	33.53	211.6	0.1	8.1	174.6	12.43	2.454	11.9
8/22/2010	17:00:52	33.64	211.5	0.1	7.6	177.8	12.63	2.445	11.9
8/22/2010	18:00:52	33.55	211.5	0.1	7.8	182.4	12.98	2.434	11.9
8/22/2010	19:00:51	33.5	211.6	0.1	9.8	171.6	12.22	2.429	11.9
8/22/2010	20:00:52	33.39	212.5	0.1	7.2	155.1	11.06	2.417	11.9
8/22/2010	21:00:51	33.31	211.8	0.1	9	162.8	11.63	2.374	11.8
8/22/2010	22:00:52	33.03	209.9	0.1	10.5	158.7	11.39	2.4	12
8/22/2010	23:00:52	32.87	209.2	0.1	10.8	149.5	10.76	2.454	11.9
8/23/2010	0:00:52	32.9	208.7	0.1	10.2	145.1	10.44	2.434	11.9
8/23/2010	1:00:52	32.67	211.3	0.1	17	107.9	7.79	2.395	11.9
8/23/2010	2:00:52	32.31	212	0.1	17.3	101.4	7.36	2.365	11.9
8/23/2010	3:00:52	32.04	212.5	0.1	23.3	94.4	6.89	2.354	11.9
8/23/2010	4:00:52	31.86	209	0.1	36.3	109.1	7.98	2.334	11.9
8/23/2010	5:00:52	31.7	211.9	0.1	36.3	86.4	6.34	2.32	11.9
8/23/2010	6:00:52	31.54	212	0.1	27.3	89	6.55	2.331	11.9
8/23/2010	7:00:52	31.48	212.7	0.1	25.3	83.2	6.13	2.313	11.9
8/23/2010	8:00:52	31.59	213.1	0.1	23.5	86.8	6.39	2.312	11.9
8/23/2010	9:00:52	31.61	211.9	0.1	25.8	79.5	5.84	2.298	11.9
8/23/2010	10:00:52	31.75	211.5	0.1	22	100	7.34	2.288	11.9
8/23/2010	11:00:52	32.35	210.9	0.1	11.8	130.4	9.46	2.278	11.8
8/23/2010	12:00:52	32.73	209.4	0.1	13.4	152.7	11.01	2.263	11.9
8/23/2010	13:00:52	32.43	210.1	0.1	16.5	149.1	10.81	2.254	11.9
8/23/2010	14:00:52	32.1	211	0.1	20.5	132.4	9.65	2.243	11.9
8/23/2010	15:00:52	32.13	212.2	0.1	21.6	125.7	9.16	2.237	11.9
8/23/2010	16:00:52	32.75	209	0.1	18.2	148.9	10.74	2.205	11.9
8/23/2010	17:00:52	32.24	210.8	0.1	17	118.7	8.63	2.213	11.9
8/23/2010	18:00:52	32.06	211.9	0.1	19.5	114.3	8.33	2.206	11.9
8/23/2010	19:00:52	31.83	216.6	0.1	33.8	68.1	4.98	2.188	11.9
8/23/2010	20:00:52	31.67	217.3	0.1	26.7	59.7	4.38	2.175	11.9

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/23/2010	21:00:52	31.32	223	0.1	28.3	20.7	1.53	2.162	11.9
8/23/2010	22:00:52	31.65	216.8	0.1	18.3	35.1	2.58	2.17	11.9
8/23/2010	23:00:52	31.54	216.9	0.1	18.7	62.1	4.57	2.15	11.9
8/24/2010	0:00:52	31.48	215.2	0.1	16.4	62.4	4.6	2.141	11.8
8/24/2010	1:00:52	31.4	215.7	0.1	23.1	60.3	4.45	2.141	11.9
8/24/2010	2:00:52	31.33	216	0.1	23.1	52	3.84	2.123	11.9
8/24/2010	3:00:52	31.24	216.8	0.1	19.2	43.3	3.21	2.114	11.9
8/24/2010	4:00:52	31.13	217.4	0.1	19	34.4	2.55	2.105	11.8
8/24/2010	5:00:52	31.05	218.1	0.1	19.4	34.1	2.53	2.094	11.9
8/24/2010	6:00:51	30.92	217.7	0.1	19.6	32.9	2.45	2.08	11.8
8/24/2010	7:00:52	30.86	217.1	0.1	22.7	35.6	2.65	2.069	11.9
8/24/2010	8:00:52	30.89	217.2	0.1	21.6	35.9	2.67	2.06	11.8
8/24/2010	9:00:52	31.05	217.9	0.1	16.3	41.7	3.09	2.048	11.8
8/24/2010	10:00:51	31.19	218.1	0.1	13.8	60.8	4.5	2.042	11.9
8/24/2010	11:00:52	31.19	218.7	0.1	17.3	56	4.14	2.03	11.8
8/24/2010	12:00:52	31.6	216.8	0.1	15.9	74.3	5.46	2.016	11.8
8/24/2010	13:00:52	31.63	214.8	0.1	14.8	80.4	5.9	2.002	11.9
8/24/2010	14:00:52	31.73	213.1	0.1	15.2	76.6	5.62	1.988	11.9
8/24/2010	15:00:52	31.94	213.4	0.1	12.8	79	5.77	1.985	11.9
8/24/2010	16:00:52	31.92	214.9	0.1	8.6	82.8	6.05	1.971	11.9
8/24/2010	17:00:52	31.69	216.5	0.1	6.9	77.8	5.71	1.965	11.8
8/24/2010	18:00:52	31.48	217	0.1	5.6	70.3	5.18	1.957	11.8
8/24/2010	19:00:52	31.2	217.7	0.1	7.2	66.8	4.95	1.94	11.9
8/24/2010	20:00:52	31.02	218	0.1	9.8	61	4.53	1.928	11.8
8/24/2010	21:00:52	30.81	217.8	0.1	9.6	56.5	4.21	1.918	11.8
8/24/2010	22:00:52	30.59	217.1	0.1	7.7	54.2	4.05	1.902	11.9
8/24/2010	23:00:52	30.55	215.6	0.1	9.9	58	4.34	1.897	11.9
8/25/2010	0:00:52	30.46	216.1	0.1	11.5	57.5	4.31	1.885	11.9
8/25/2010	1:00:52	30.38	215.8	0.1	15.9	54.2	4.07	1.869	11.8
8/25/2010	2:00:52	30.22	215.9	0.1	16.8	50.2	3.78	1.868	11.9
8/25/2010	3:00:52	30.06	215.8	0.1	36.5	46.8	3.54	1.852	11.8
8/25/2010	4:00:52	29.85	216	0.1	18.1	46.2	3.5	1.848	11.8
8/25/2010	5:00:52	29.73	216.3	0.1	22.2	43.8	3.33	1.82	11.9
8/25/2010	6:00:52	29.57	216.6	0.1	25.8	40.2	3.06	1.821	11.9
8/25/2010	7:00:52	29.44	216.7	0.1	21.1	44.6	3.4	1.806	11.9
8/25/2010	8:00:52	29.57	216.1	0.1	17.8	53.9	4.1	1.789	11.8
8/25/2010	9:00:52	29.87	216.3	0.1	11.5	66.3	5.02	1.782	11.8
8/25/2010	10:00:52	30.27	215.5	0.1	8.4	75	5.64	1.769	11.8
8/25/2010	11:00:52	30.59	217	0.1	8.6	78.6	5.88	1.758	11.9
8/25/2010	12:00:52	30.9	217.3	0.1	6.5	81.6	6.07	1.746	11.8
8/25/2010	13:00:52	31.1	216.9	0.1	5.8	88.7	6.58	1.737	11.8
8/25/2010	14:00:52	31.25	216.2	0.1	5.4	94.9	7.02	1.728	11.8
8/25/2010	15:00:52	31.24	216.3	0.1	8.9	92.6	6.85	1.708	11.8

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/25/2010	16:00:52	31.22	217	0.1	9.5	87.7	6.49	1.702	11.9
8/25/2010	17:00:52	30.96	220.3	0.1	11.2	69.5	5.17	1.689	11.8
8/25/2010	18:00:52	30.68	220.2	0.1	13.5	59.6	4.45	1.683	11.8
8/25/2010	19:00:52	30.42	220	0.1	5.8	57.5	4.31	1.68	11.9
8/25/2010	20:00:52	30.22	220.2	0.1	7	52.3	3.94	1.658	11.8
8/25/2010	21:00:52	29.98	219.6	0.1	13.1	51.3	3.88	1.652	11.8
8/25/2010	22:00:52	29.79	219.5	0.1	11.2	47.7	3.61	1.643	11.8
8/25/2010	23:00:52	29.64	218.9	0.1	12.8	45.4	3.46	1.636	11.8
8/26/2010	0:00:52	29.56	219.2	0.1	13.9	39.4	3	1.619	11.9
8/26/2010	1:00:52	29.4	218.6	0.1	11.4	38.7	2.96	1.607	11.7
8/26/2010	2:00:52	29.24	218.8	0.1	19.2	36.3	2.78	1.593	11.8
8/26/2010	3:00:52	29.13	218.5	0.1	13	37.3	2.86	1.583	11.8
8/26/2010	4:00:52	28.92	219.4	0.1	12.8	35.6	2.74	1.571	11.8
8/26/2010	5:00:52	28.76	220.1	0.1	5.9	29	2.24	1.563	11.9
8/26/2010	6:00:52	28.62	220.1	0.1	7.4	24.9	1.93	1.552	11.7
8/26/2010	7:00:52	28.63	220.3	0.1	3.2	23.4	1.81	1.535	11.8
8/26/2010	8:00:52	28.93	219.7	0.1	3.7	32.5	2.5	1.526	11.8
8/26/2010	9:00:52	29.31	219.8	0.1	4.8	38.2	2.92	1.514	11.8
8/26/2010	10:00:52	29.33	219.4	0.1	7	59.8	4.57	1.5	11.8
8/26/2010	11:00:52	29.97	222	0.1	4.8	45.8	3.46	1.495	11.8
8/26/2010	12:00:52	30.36	222.4	0.1	2.9	38.3	2.88	1.476	11.8
8/26/2010	13:00:52	30.58	221.8	0.1	3.6	40.2	3.01	1.47	11.8
8/26/2010	14:00:52	30.71	221.4	0.1	3.1	37.9	2.83	1.454	11.8
8/26/2010	15:00:52	30.66	221.3	0.1	2.9	36	2.69	1.457	11.8
8/26/2010	16:00:52	30.52	221.6	0.1	3.1	33.7	2.52	1.466	11.8
8/26/2010	17:00:52	30.34	222.1	0.1	5.3	36.1	2.71	1.457	11.8
8/26/2010	18:00:52	29.93	221.7	0.1	2.6	34.6	2.62	1.456	11.8
8/26/2010	19:00:52	29.71	219	0.1	4.7	32.1	2.44	1.463	11.8
8/26/2010	20:00:52	29.52	219.6	0.1	4.3	23.5	1.79	1.457	11.8
8/26/2010	21:00:52	29.28	219.3	0.1	2.3	17.6	1.35	1.458	11.8
8/26/2010	22:00:52	29.16	218.8	0.1	2.6	19.8	1.52	1.459	11.8
8/26/2010	23:00:52	29.06	218.4	0.1	3.6	19.1	1.46	1.454	11.8
8/27/2010	0:00:52	28.93	218.3	0.1	3.2	22.4	1.72	1.457	11.8
8/27/2010	1:00:52	28.85	218.6	0.1	4.7	24.9	1.92	1.455	11.8
8/27/2010	2:00:52	28.72	218.6	0.1	4.2	29.2	2.25	1.459	11.8
8/27/2010	3:00:52	28.62	218.9	0.1	4.8	24.1	1.87	1.455	11.8
8/27/2010	4:00:52	28.42	218.3	0.1	5	26.7	2.07	1.46	11.8
8/27/2010	5:00:52	28.3	219.5	0.1	7.2	30.2	2.35	1.461	11.8
8/27/2010	6:00:52	28.17	219.1	0.1	6.8	27.3	2.13	1.455	11.8
8/27/2010	7:00:52	28.24	219	0.1	6.8	27.9	2.17	1.449	11.8
8/27/2010	8:00:52	28.4	219.5	0.1	3.4	26.4	2.05	1.453	11.8
8/27/2010	9:00:52	28.7	220.6	0.1	2.9	23.4	1.81	1.46	11.8
8/27/2010	10:00:52	29.2	220.7	0.1	2.8	28.2	2.16	1.457	11.8

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/27/2010	11:00:52	29.62	220.2	0.1	4.3	43.3	3.3	1.451	11.8
8/27/2010	12:00:52	30.14	220.1	0.1	3.1	42.9	3.23	1.463	11.8
8/27/2010	13:00:52	30.55	220.5	0.1	3.2	44.5	3.33	1.452	11.8
8/27/2010	14:00:52	30.58	220.2	0.1	4.7	54.7	4.09	1.449	11.8
8/27/2010	15:00:52	30.34	219.9	0.1	6.3	70.6	5.3	1.447	11.8
8/27/2010	16:00:52	30.08	220.4	0.1	9.5	65.1	4.91	1.466	11.7
8/27/2010	17:00:52	29.85	221	0.1	10.7	64.2	4.87	1.446	11.8
8/27/2010	18:00:52	29.82	220	0.1	6.8	73	5.53	1.463	11.7
8/27/2010	19:00:52	29.83	220.2	0.1	7.4	72.5	5.49	1.451	11.8
8/27/2010	20:00:52	29.42	221	0.1	9.2	63.2	4.82	1.444	11.8
8/27/2010	21:00:52	29.18	221.3	0.1	11	57.8	4.43	1.453	11.8
8/27/2010	22:00:52	29.07	221.2	0.1	10.3	52.6	4.04	1.468	11.8
8/27/2010	23:00:52	29.06	221	0.1	10.2	53	4.07	1.464	11.8
8/28/2010	0:00:52	28.86	220.6	0.1	10.1	50.2	3.87	1.462	11.8
8/28/2010	1:00:52	28.64	220.9	0.1	11.6	45.3	3.5	1.451	11.8
8/28/2010	2:00:52	28.44	220.4	0.1	13.4	41.6	3.23	1.453	11.8
8/28/2010	3:00:52	28.34	220.2	0.1	12.6	41.4	3.22	1.45	11.8
8/28/2010	4:00:52	28.41	220	0.1	8.8	42.8	3.33	1.45	11.8
8/28/2010	5:00:52	28.35	219.2	0.1	11.6	40.1	3.12	1.442	11.7
8/28/2010	6:00:52	28.35	220	0.1	7.5	35.4	2.75	1.446	11.8
8/28/2010	7:00:52	28.37	220.2	0.1	9	38.4	2.98	1.444	11.8
8/28/2010	8:00:52	28.58	219.9	0.1	10	47.2	3.66	1.443	11.8
8/28/2010	9:00:52	28.94	221.1	0.1	5.3	43.8	3.37	1.447	11.8
8/28/2010	10:00:52	29.12	221.7	0.1	6	44.3	3.4	1.432	11.8
8/28/2010	11:00:52	29.34	222.2	0.1	5.1	53.1	4.06	1.447	11.7
8/28/2010	12:00:52	29.53	223.3	0.1	5.5	52.7	4.02	1.454	11.8
8/28/2010	13:00:52	29.79	224	0.1	5.7	60.6	4.6	1.434	11.7
8/28/2010	14:00:52	30.16	224.5	0.1	7.8	69.1	5.2	1.434	11.8
8/28/2010	15:00:52	29.91	227.8	0.11	4.7	56	4.24	1.443	11.7
8/28/2010	16:00:52	29.95	228	0.11	5.6	63.1	4.77	1.451	11.8
8/28/2010	17:00:52	29.66	229.8	0.11	8.1	54.3	4.13	1.431	11.7
8/28/2010	18:00:52	28.87	233.4	0.11	5.1	32.8	2.53	1.421	11.7
8/28/2010	19:00:52	28.76	231.9	0.11	6.5	39.2	3.03	1.448	11.7
8/28/2010	20:00:52	28.62	231.6	0.11	7.2	30.7	2.37	1.443	11.7
8/28/2010	21:00:52	28.48	230.2	0.11	10.1	28.6	2.22	1.438	11.7
8/28/2010	22:00:52	28.23	229.9	0.11	7.1	21.6	1.68	1.455	11.8
8/28/2010	23:00:52	27.99	267.7	0.13	4.7	13	1.01	1.455	11.7
8/29/2010	0:00:52	27.98	231.9	0.11	4.9	16.1	1.26	1.44	11.7
8/29/2010	1:00:52	28.01	230.9	0.11	4.9	23.7	1.86	1.451	11.7
8/29/2010	2:00:52	27.97	229.2	0.11	4.5	30.9	2.42	1.442	11.7
8/29/2010	3:00:52	27.85	228.4	0.11	4.7	28.3	2.22	1.455	11.7
8/29/2010	4:00:52	27.89	229.7	0.11	5.4	28.2	2.21	1.452	11.7
8/29/2010	5:00:52	27.93	228.5	0.11	7.4	27.1	2.12	1.441	11.7

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/29/2010	6:00:52	27.85	228.7	0.11	6.7	25.4	1.99	1.45	11.7
8/29/2010	7:00:52	27.83	229.3	0.11	6.5	27.7	2.17	1.469	11.7
8/29/2010	8:00:52	27.84	229.6	0.11	5.7	32	2.51	1.461	11.7
8/29/2010	9:00:52	27.93	229.5	0.11	6.5	39.2	3.07	1.485	11.7
8/29/2010	10:00:52	28.12	228.3	0.11	6	52.3	4.09	1.519	11.7
8/29/2010	11:00:52	28.54	227.4	0.11	6.2	71.8	5.57	1.477	11.7
8/29/2010	12:00:52	28.94	227.3	0.11	10.3	81.9	6.3	1.502	11.7
8/29/2010	13:00:52	29.2	229.3	0.11	8.1	76.4	5.85	1.493	11.7
8/29/2010	14:00:52	29.46	230.5	0.11	6.7	73.2	5.58	1.47	11.7
8/29/2010	15:00:52	29.56	230.9	0.11	7.8	66.8	5.09	1.531	11.7
8/29/2010	16:00:52	29.42	230.3	0.11	7.7	63.7	4.86	1.497	11.7
8/29/2010	17:00:52	29.29	229.9	0.11	7.9	69.7	5.33	1.491	11.8
8/29/2010	18:00:52	29.12	229.2	0.11	8.3	69.2	5.31	1.493	11.7
8/29/2010	19:00:52	28.86	229.4	0.11	9.8	63.6	4.9	1.495	11.7
8/29/2010	20:00:52	28.84	229.9	0.11	12.3	65.6	5.05	1.477	11.7
8/29/2010	21:00:52	28.83	229.5	0.11	12.3	71.8	5.54	1.492	11.7
8/29/2010	22:00:52	28.74	228.7	0.11	12.2	74.1	5.72	1.488	11.7
8/29/2010	23:00:52	28.59	228.2	0.11	14.6	74.2	5.74	1.48	11.7
8/30/2010	0:00:52	28.27	227.5	0.11	25.6	56.6	4.4	1.474	11.7
8/30/2010	1:00:52	28.1	227.7	0.11	25.2	53.8	4.2	1.486	11.7
8/30/2010	2:00:52	28.1	228.3	0.11	27.4	49.6	3.87	1.485	11.7
8/30/2010	3:00:52	28.05	228.2	0.11	24.8	48.9	3.82	1.478	11.7
8/30/2010	4:00:52	27.97	227.9	0.11	24.9	51.5	4.03	1.48	11.7
8/30/2010	5:00:52	27.98	228.4	0.11	17.2	49.6	3.88	1.483	11.7
8/30/2010	6:00:52	28.13	228.3	0.11	26.1	49.7	3.88	1.481	11.7
8/30/2010	7:00:52	28.03	228.4	0.11	18	52.1	4.07	1.48	11.6
8/30/2010	8:00:52	28.05	227.3	0.11	15.3	63.7	4.98	1.498	11.7
8/30/2010	9:00:52	28.24	226.8	0.11	13.7	75.1	5.85	1.479	11.7
8/30/2010	10:00:52	28.5	227.2	0.11	13.1	82.8	6.42	1.476	11.7
8/30/2010	11:00:52	29.01	226.6	0.11	13.8	99.1	7.61	1.481	11.7
8/30/2010	12:00:52	28.86	224.8	0.1	18.6	77.3	5.95	1.488	11.7
8/30/2010	13:00:52	28.84	226.4	0.11	20.6	75.2	5.79	1.485	11.7
8/30/2010	14:00:52	28.94	227.1	0.11	14.4	77.4	5.95	1.49	11.6
8/30/2010	15:00:52	29.46	225.8	0.11	13.7	112.1	8.55	1.477	11.7
8/30/2010	16:00:52	29.59	224.7	0.1	14.4	105.6	8.03	1.487	11.6
8/30/2010	17:00:52	29.58	225.2	0.1	14.4	123.5	9.4	1.459	11.7
8/30/2010	18:00:52	29.42	226.5	0.11	13.9	112.7	8.6	1.466	11.7
8/30/2010	19:00:52	29.3	226.4	0.11	18.3	101.6	7.77	1.502	11.7
8/30/2010	20:00:52	29.18	226.5	0.11	17.3	96.2	7.37	1.469	11.7
8/30/2010	21:00:52	29.1	226.7	0.11	17.7	96.5	7.41	1.492	11.7
8/30/2010	22:00:52	28.94	227.4	0.11	16.7	97.1	7.48	1.494	11.7
8/30/2010	23:00:52	28.88	228	0.11	18.2	87.7	6.76	1.487	11.7
8/31/2010	0:00:52	28.71	226.7	0.11	19.1	86.9	6.71	1.478	11.7

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
8/31/2010	1:00:52	28.59	226.1	0.11	17.4	80	6.2	1.485	11.7
8/31/2010	2:00:52	28.55	226	0.11	13.8	78.2	6.06	1.489	11.7
8/31/2010	3:00:52	28.49	225.8	0.11	13.9	75.4	5.85	1.472	11.7
8/31/2010	4:00:52	28.36	224.3	0.1	16.2	79.9	6.21	1.48	11.7
8/31/2010	5:00:52	28.44	224.1	0.1	17.5	84.6	6.56	1.481	11.7
8/31/2010	6:00:52	28.52	224.7	0.1	17.3	79.7	6.18	1.476	11.7
8/31/2010	7:00:52	28.3	223.8	0.1	12.4	84.4	6.57	1.475	11.6
8/31/2010	8:00:52	28.47	223.6	0.1	12.5	90.1	6.99	1.483	11.6
8/31/2010	9:00:52	28.67	223.8	0.1	12.3	99.8	7.71	1.479	11.7

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
08/31/2010	11:00:52	29.68	220.7	0.1	1.486	7.6	131.4	9.98	11.6
08/31/2010	12:00:52	29.61	224.9	0.1	1.495	15	96.7	7.35	11.6
08/31/2010	13:00:52	29.71	224.2	0.1	1.49	11.7	94.6	7.19	11.7
08/31/2010	14:00:52	30.24	222.9	0.1	1.496	8.2	115.7	8.71	11.7
08/31/2010	15:00:52	30.05	222.8	0.1	1.494	7.7	107.2	8.09	11.7
08/31/2010	16:00:52	30.08	221.2	0.1	1.492	6.8	116.5	8.79	11.7
08/31/2010	17:00:52	30.07	221	0.1	1.506	9.2	121.4	9.16	11.7
08/31/2010	18:00:52	29.8	221.7	0.1	1.507	11	112.7	8.55	11.6
08/31/2010	19:00:52	29.57	222.4	0.1	1.491	11.5	102.4	7.79	11.7
08/31/2010	20:00:52	29.37	222.8	0.1	1.488	15.7	97.2	7.42	11.6
08/31/2010	21:00:52	29.08	223.4	0.1	1.495	12.8	82.5	6.33	11.6
08/31/2010	22:00:52	29.03	223.9	0.1	1.499	12.6	80	6.15	11.7
08/31/2010	23:00:52	28.98	224.3	0.1	1.489	15.7	74.9	5.76	11.7
09/01/2010	00:00:52	29.01	223.8	0.1	1.493	15.9	75.8	5.83	11.6
09/01/2010	01:00:52	28.87	224	0.1	1.498	21.9	70.8	5.46	11.7
09/01/2010	02:00:52	28.81	223.8	0.1	1.485	20.8	70.5	5.44	11.6
09/01/2010	03:00:52	28.74	223.1	0.1	1.491	22.6	70.2	5.43	11.7
09/01/2010	04:00:52	28.49	222.9	0.1	1.492	21.8	66.5	5.15	11.6
09/01/2010	05:00:52	28.42	222.6	0.1	1.485	20.8	65.3	5.07	11.6
09/01/2010	06:00:52	28.43	222.4	0.1	1.484	26.7	67.2	5.22	11.7
09/01/2010	07:00:52	28.42	222.1	0.1	1.487	28.6	67.1	5.21	11.6
09/01/2010	08:00:52	28.51	223.4	0.1	1.485	26.9	70.8	5.49	11.7
09/01/2010	09:00:52	28.77	224.8	0.1	1.477	18.4	83.2	6.42	11.7
09/01/2010	10:00:52	28.97	224.9	0.1	1.494	19	91.1	7.01	11.7
09/01/2010	11:00:52	29.56	223.4	0.1	1.494	14.9	98.8	7.52	11.6
09/01/2010	12:00:52	29.85	223.2	0.1	1.485	9.2	100.7	7.63	11.7
09/01/2010	13:00:52	30.12	224.1	0.1	1.48	8.4	95.7	7.22	11.7
09/01/2010	14:00:52	29.92	225.8	0.11	1.483	11.1	93.2	7.05	11.6
09/01/2010	15:00:52	30.02	225.5	0.11	1.492	10.2	94	7.1	11.6
09/01/2010	16:00:52	30.05	224.3	0.1	1.476	10.6	101	7.62	11.7
09/01/2010	17:00:52	29.7	224.4	0.1	1.486	11.9	96.6	7.33	11.6
09/01/2010	18:00:52	29.37	224.7	0.1	1.472	13.2	87.1	6.65	11.7
09/01/2010	19:00:52	29.32	225.4	0.11	1.487	15.2	86.2	6.59	11.7
09/01/2010	20:00:52	29.18	225.6	0.11	1.492	15.7	84.7	6.49	11.6
09/01/2010	21:00:52	29.06	225.6	0.11	1.491	15.1	79.7	6.12	11.6
09/01/2010	22:00:52	28.97	226.8	0.11	1.481	15.6	73.1	5.62	11.6
09/01/2010	23:00:52	28.84	226.9	0.11	1.483	16.5	64.2	4.95	11.6
09/02/2010	00:00:52	28.74	226.8	0.11	1.492	13.4	59.6	4.6	11.6
09/02/2010	01:00:52	28.65	227.5	0.11	1.47	14.7	58.2	4.5	11.7
09/02/2010	02:00:52	28.53	227.1	0.11	1.49	14.5	55	4.27	11.7
09/02/2010	03:00:52	28.39	226.9	0.11	1.48	12.5	55.6	4.32	11.6
09/02/2010	04:00:52	28.32	226.7	0.11	1.494	17.3	55.5	4.32	11.6
09/02/2010	05:00:52	28.24	225.7	0.11	1.483	17.3	54.2	4.22	11.6
09/02/2010	06:00:52	28.18	224.6	0.1	1.484	11.5	59	4.6	11.6

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/02/2010	07:00:52	28.22	223.8	0.1	1.478	10.8	64.2	5.01	11.6
09/02/2010	08:00:52	28.31	223.3	0.1	1.481	12.8	71.1	5.54	11.6
09/02/2010	09:00:52	28.62	222.9	0.1	1.485	10.3	88	6.81	11.6
09/02/2010	10:00:52	29.05	224.1	0.1	1.47	16.6	83	6.38	11.6
09/02/2010	11:00:52	29.23	223.8	0.1	1.48	14.1	108.2	8.28	11.6
09/02/2010	12:00:52	29.1	225.2	0.11	1.482	11.2	96.4	7.4	11.6
09/02/2010	13:00:52	29.17	226.5	0.11	1.476	12.7	81.9	6.28	11.6
09/02/2010	14:00:52	29.24	225.7	0.11	1.48	8.5	77.8	5.96	11.6
09/02/2010	15:00:52	29.38	223.6	0.1	1.485	8.4	94.9	7.25	11.6
09/02/2010	16:00:52	29.54	222.2	0.1	1.475	9.8	105.2	8.01	11.6
09/02/2010	17:00:52	30.13	223.1	0.1	1.471	9	127.3	9.6	11.6
09/02/2010	18:00:52	29.86	223.4	0.1	1.482	11.6	123.1	9.33	11.6
09/02/2010	19:00:52	29.65	225	0.1	1.482	16.8	112.2	8.53	11.6
09/02/2010	20:00:52	29.54	225.6	0.11	1.48	15.5	103.8	7.91	11.6
09/02/2010	21:00:52	29.54	222.6	0.1	1.483	14.4	125.7	9.57	11.6
09/02/2010	22:00:53	29.49	222.3	0.1	1.481	10.4	124	9.45	11.6
09/02/2010	23:00:52	29.37	224.1	0.1	1.478	13.9	112.1	8.56	11.6
09/03/2010	00:00:52	29.25	222.8	0.1	1.485	31.9	105.8	8.1	11.6
09/03/2010	01:00:52	29.04	220.3	0.1	1.475	10.6	81.9	6.29	11.6
09/03/2010	02:00:52	29.03	219.6	0.1	1.477	8.3	78.5	6.03	11.6
09/03/2010	03:00:52	29	220.7	0.1	1.474	10	72.2	5.55	11.6
09/03/2010	04:00:52	29.15	218.3	0.1	1.479	7	97.1	7.45	11.6
09/03/2010	05:00:52	29.1	217.5	0.1	1.481	7.1	94.8	7.28	11.6
09/03/2010	06:00:52	29.18	216.9	0.1	1.477	9.2	94.7	7.26	11.6
09/03/2010	07:00:52	29.18	216.9	0.1	1.486	14.8	90.6	6.95	11.6
09/03/2010	08:00:52	29.4	215.9	0.1	1.47	13	95.7	7.31	11.6
09/03/2010	09:00:52	29.49	215.6	0.1	1.478	12.5	110.1	8.4	11.6
09/03/2010	10:00:52	30.04	214	0.1	1.47	9.9	135.2	10.21	11.6
09/03/2010	11:00:52	31	213.7	0.1	1.474	5.1	166.6	12.37	11.6
09/03/2010	12:00:52	32.41	214.5	0.1	1.476	3.1	180.4	13.08	11.6
09/03/2010	13:00:52	33.29	214.5	0.1	1.486	2.7	186.3	13.32	11.6
09/03/2010	14:00:52	34.07	215.2	0.1	1.488	1.8	193.8	13.67	11.6
09/03/2010	15:00:52	34.55	214.8	0.1	1.489	1	204.8	14.33	11.6
09/03/2010	16:00:52	34.56	213.9	0.1	1.487	1.4	215	15.05	11.6
09/03/2010	17:00:52	34.32	213.3	0.1	1.479	3.7	219.2	15.4	11.6
09/03/2010	18:00:52	34.06	212.7	0.1	1.478	4.5	214.6	15.14	11.6
09/03/2010	19:00:52	33.84	213.1	0.1	1.47	5.8	206.3	14.6	11.6
09/03/2010	20:00:52	33.61	213.4	0.1	1.479	6.4	199.4	14.17	11.6
09/03/2010	21:00:51	33.3	213.9	0.1	1.478	6.3	185.7	13.27	11.6
09/03/2010	22:00:52	32.95	214.9	0.1	1.482	8.3	168.3	12.09	11.6
09/03/2010	23:00:52	32.76	214.3	0.1	1.48	7.3	167.8	12.1	11.6
09/04/2010	00:00:51	32.53	215.1	0.1	1.484	7.3	153.6	11.12	11.6
09/04/2010	01:00:51	32.46	215.4	0.1	1.477	6.2	147.5	10.69	11.6
09/04/2010	02:00:52	32.18	217.8	0.1	1.472	8.3	129.8	9.45	11.6

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/04/2010	03:00:52	31.77	218.9	0.1	1.47	10.2	124.6	9.13	11.6
09/04/2010	04:00:52	31.24	219	0.1	1.463	10.8	111.1	8.22	11.6
09/04/2010	05:00:52	30.66	216.8	0.1	1.46	16.6	112.4	8.39	11.6
09/04/2010	06:00:52	30.34	217.3	0.1	1.459	15.2	110.8	8.32	11.6
09/04/2010	07:00:52	29.98	217.3	0.1	1.466	14.4	114.3	8.64	11.6
09/04/2010	08:00:52	29.83	218	0.1	1.465	10.9	114.7	8.69	11.6
09/04/2010	09:00:52	29.81	217.3	0.1	1.452	10	130.8	9.91	11.6
09/04/2010	10:00:52	30	216.8	0.1	1.447	15	136.5	10.31	11.6
09/04/2010	11:00:52	30.26	217.6	0.1	1.455	14.1	133.3	10.02	11.6
09/04/2010	12:00:52	30.46	218.6	0.1	1.442	15.3	126.7	9.5	11.6
09/04/2010	13:00:52	30.62	217.7	0.1	1.449	12	138.9	10.38	11.6
09/04/2010	14:00:52	30.76	220	0.1	1.449	13.2	128.8	9.6	11.7
09/04/2010	15:00:52	30.84	223.8	0.1	1.442	14.1	102.8	7.65	11.6
09/04/2010	16:00:52	30.98	224.3	0.1	1.447	12.9	97.5	7.25	11.6
09/04/2010	17:00:52	30.63	224.9	0.1	1.446	13	89	6.65	11.6
09/04/2010	18:00:52	30.42	224	0.1	1.433	12.2	93.5	7.01	11.6
09/04/2010	19:00:52	29.97	224.8	0.1	1.441	15.9	82.6	6.25	11.6
09/04/2010	20:00:52	29.94	223.6	0.1	1.44	9.7	101.8	7.7	11.6
09/04/2010	21:00:52	29.71	224.3	0.1	1.439	12.2	89.5	6.8	11.6
09/04/2010	22:00:52	29.46	224.2	0.1	1.442	13.9	87.6	6.68	11.6
09/04/2010	23:00:52	29.34	224.9	0.1	1.439	15.8	81.3	6.22	11.6
09/05/2010	00:00:52	29.12	225.6	0.11	1.44	16.1	78.8	6.05	11.6
09/05/2010	01:00:52	28.95	225.6	0.11	1.437	13.6	85.3	6.56	11.6
09/05/2010	02:00:52	28.84	222.9	0.1	1.436	18.1	89	6.86	11.6
09/05/2010	03:00:52	28.74	224.2	0.1	1.43	16.5	80.4	6.21	11.6
09/05/2010	04:00:52	28.74	225.8	0.11	1.45	9.8	75.7	5.85	11.6
09/05/2010	05:00:52	28.66	225.7	0.11	1.442	11.9	76.2	5.89	11.6
09/05/2010	06:00:52	28.48	225.3	0.11	1.435	14.1	72.9	5.65	11.6
09/05/2010	07:00:52	28.37	225.3	0.11	1.428	16.9	72.6	5.65	11.6
09/05/2010	08:00:52	28.24	222	0.1	1.434	15.3	83.2	6.48	11.6
09/05/2010	09:00:52	28.29	224.3	0.1	1.429	20.3	93	7.24	11.6
09/05/2010	10:00:52	29.05	222.1	0.1	1.423	17.4	97.5	7.49	11.6
09/05/2010	11:00:52	29.39	223.2	0.1	1.432	13.7	99.6	7.61	11.6
09/05/2010	12:00:52	29.7	222.5	0.1	1.436	16.1	117.9	8.95	11.6
09/05/2010	13:00:52	30.33	225	0.1	1.422	8.7	106	7.97	11.6
09/05/2010	14:00:52	30.63	224.2	0.1	1.437	13.1	119.6	8.94	11.6
09/05/2010	15:00:52	30.38	225.6	0.11	1.416	19.4	93.7	7.03	11.6
09/05/2010	16:00:52	30.31	226.5	0.11	1.414	14.6	92.4	6.94	11.6
09/05/2010	17:00:52	29.93	228.9	0.11	1.422	11.9	79.4	6.01	11.6
09/05/2010	18:00:52	29.7	229.1	0.11	1.409	11.7	77.6	5.89	11.6
09/05/2010	19:00:52	29.31	231.1	0.11	1.431	16	63.7	4.87	11.6
09/05/2010	20:00:52	29.23	231	0.11	1.428	13.4	64	4.9	11.6
09/05/2010	21:00:52	29.22	230.4	0.11	1.426	18.6	68.5	5.24	11.6
09/05/2010	22:00:52	29.07	230.3	0.11	1.414	16.8	65.6	5.04	11.6

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/05/2010	23:00:52	28.83	231.4	0.11	1.422	13.1	59.6	4.6	11.6
09/06/2010	00:00:52	28.67	231.6	0.11	1.421	14.2	53.4	4.13	11.6
09/06/2010	01:00:52	28.55	231.4	0.11	1.423	18.5	52.8	4.09	11.6
09/06/2010	02:00:52	28.48	231.3	0.11	1.423	13.1	46.7	3.62	11.6
09/06/2010	03:00:52	28.39	230.3	0.11	1.42	16.9	51.7	4.02	11.6
09/06/2010	04:00:52	28.32	231.2	0.11	1.418	16.2	46.2	3.59	11.6
09/06/2010	05:00:52	28.19	230	0.11	1.416	22.3	45.6	3.56	11.6
09/06/2010	06:00:52	28.07	230.9	0.11	1.414	24.4	41.2	3.22	11.6
09/06/2010	07:00:52	28.05	230.8	0.11	1.412	14.7	46	3.59	11.6
09/06/2010	08:00:52	28.23	230.6	0.11	1.417	13.7	59.7	4.65	11.6
09/06/2010	09:00:52	28.55	231	0.11	1.42	18.8	75.3	5.83	11.6
09/06/2010	10:00:52	29.07	234.1	0.11	1.435	13.6	76.5	5.87	11.6
09/06/2010	11:00:52	29.38	231.7	0.11	1.425	7.4	67.7	5.17	11.6
09/06/2010	12:00:52	29.69	232.2	0.11	1.41	7.6	82.8	6.29	11.6
09/06/2010	13:00:52	29.66	231.8	0.11	1.413	11.2	73.9	5.61	11.6
09/06/2010	14:00:52	29.26	234	0.11	1.447	10.4	77.6	5.94	11.6
09/06/2010	15:00:52	29.47	230.9	0.11	1.478	9.5	96.1	7.33	11.6
09/06/2010	16:00:52	29.69	231.3	0.11	1.476	8.9	110.5	8.39	11.6
09/06/2010	17:00:52	29.93	231	0.11	1.461	10.1	124	9.38	11.6
09/06/2010	18:00:52	29.76	228	0.11	1.439	8	109.1	8.27	11.6
09/06/2010	19:00:52	29.54	230.2	0.11	1.434	11.4	105.9	8.06	11.6
09/06/2010	20:00:52	29.32	231.8	0.11	1.417	8.9	84.5	6.46	11.6
09/06/2010	21:00:52	29.19	232.5	0.11	1.43	10.6	87.6	6.71	11.6
09/06/2010	22:00:52	29.12	232.6	0.11	1.428	15.6	85.1	6.53	11.6
09/06/2010	23:00:52	29.06	230.7	0.11	1.433	12.5	91.2	7.01	11.6
09/07/2010	00:00:52	29.01	230.2	0.11	1.431	12.9	99.4	7.64	11.6
09/07/2010	01:00:52	28.91	230	0.11	1.436	9.5	97.2	7.48	11.6
09/07/2010	02:00:52	28.81	230.7	0.11	1.437	23	85	6.56	11.6
09/07/2010	03:00:52	28.7	230.1	0.11	1.433	33.1	81.1	6.27	11.6
09/07/2010	04:00:52	28.63	231.2	0.11	1.429	21.4	70.4	5.45	11.6
09/07/2010	05:00:52	28.55	231.8	0.11	1.43	21.9	71.1	5.51	11.6
09/07/2010	06:00:52	28.45	232.6	0.11	1.429	21.3	59.1	4.58	11.6
09/07/2010	07:00:52	28.37	234.6	0.11	1.428	15.9	55.2	4.29	11.6
09/07/2010	08:00:52	28.44	231	0.11	1.437	15.2	67	5.2	11.6
09/07/2010	09:00:52	28.7	233.1	0.11	1.44	12.4	83.6	6.46	11.6
09/07/2010	10:00:52	28.93	233.6	0.11	1.429	14.7	98.5	7.58	11.6
09/07/2010	11:00:52	29.29	233.8	0.11	1.43	12.5	101.3	7.75	11.6
09/07/2010	12:00:52	29.03	234.2	0.11	1.428	18.9	71.3	5.48	11.6
09/07/2010	13:00:52	29.9	234.9	0.11	1.42	15.8	87.4	6.62	11.6
09/07/2010	14:00:52	29.43	237.5	0.11	1.431	12.2	81.3	6.2	11.6
09/07/2010	15:00:52	29.66	236.1	0.11	1.494	13	95.7	7.27	11.6
09/07/2010	16:00:52	29.69	234.6	0.11	1.45	9	97.2	7.38	11.6
09/07/2010	17:00:52	29.5	232.4	0.11	1.469	11.5	91.6	6.98	11.6
09/07/2010	18:00:52	29.3	233.6	0.11	1.458	13	90.4	6.91	11.6

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/07/2010	19:00:52	29.2	235.2	0.11	1.443	12.5	80.1	6.14	11.6
09/07/2010	20:00:52	29.1	239.2	0.11	1.455	14.7	78.5	6.02	11.6
09/07/2010	21:00:52	29.02	239.4	0.11	1.497	15.3	71.9	5.53	11.6
09/07/2010	22:00:52	28.95	238.1	0.11	1.476	14.9	75.8	5.83	11.6
09/07/2010	23:00:52	28.81	241	0.11	1.476	13.2	68.6	5.29	11.5
09/08/2010	00:00:52	28.72	241.9	0.11	1.495	15.4	54.9	4.24	11.6
09/08/2010	01:00:52	28.57	242.8	0.11	1.471	18.1	51.7	4.01	11.6
09/08/2010	02:00:52	28.49	243.6	0.11	1.47	21.4	49.1	3.81	11.5
09/08/2010	03:00:52	28.46	243.7	0.11	1.471	15.4	54.4	4.22	11.6
09/08/2010	04:00:52	28.45	245	0.11	1.47	18.4	50.8	3.94	11.5
09/08/2010	05:00:52	28.38	244	0.11	1.466	17	48.3	3.75	11.6
09/08/2010	06:00:52	28.39	245	0.11	1.474	20.9	42.3	3.29	11.6
09/08/2010	07:00:52	28.42	240.6	0.11	1.471	18.1	52.2	4.05	11.6
09/08/2010	08:00:52	28.52	237.5	0.11	1.471	12.5	56.8	4.4	11.5
09/08/2010	09:00:52	28.62	229.9	0.11	1.474	11.6	79.3	6.14	11.6
09/08/2010	10:00:52	28.9	232	0.11	1.469	12.7	88.8	6.84	11.5
09/08/2010	11:00:52	29.41	233.7	0.11	1.469	13.7	103.4	7.89	11.6
09/08/2010	12:00:52	29.88	236.7	0.11	1.474	10.3	113.4	8.59	11.6
09/08/2010	13:00:52	29.07	237.7	0.11	1.474	12.2	85.4	6.56	11.6
09/08/2010	14:00:52	29.03	238.6	0.11	1.47	12.6	65.6	5.04	11.6
09/08/2010	15:00:52	29.21	236.1	0.11	1.47	9	80.8	6.19	11.6
09/08/2010	16:00:52	29.93	236.6	0.11	1.469	8.2	111.3	8.42	11.5
09/08/2010	17:00:52	29.95	233.5	0.11	1.471	8.5	119.7	9.05	11.6
09/08/2010	18:00:52	29.66	236.2	0.11	1.469	8.8	112	8.51	11.5
09/08/2010	19:00:52	29.56	238.9	0.11	1.471	9.4	103.9	7.91	11.6
09/08/2010	20:00:52	29.53	236.2	0.11	1.475	11.3	100.1	7.63	11.6
09/08/2010	21:00:52	29.43	237.5	0.11	1.467	14.7	90.5	6.91	11.6
09/08/2010	22:00:52	29.35	238.5	0.11	1.472	13.3	86.3	6.59	11.6
09/08/2010	23:00:52	29.21	238.3	0.11	1.47	14.1	88.4	6.77	11.6
09/09/2010	00:00:52	29.06	235.7	0.11	1.474	13.7	79.2	6.08	11.5
09/09/2010	01:00:52	28.89	236.4	0.11	1.47	19.5	75.1	5.79	11.5
09/09/2010	02:00:52	28.85	240.7	0.11	1.463	25.4	64.4	4.96	11.6
09/09/2010	03:00:52	28.75	237.6	0.11	1.469	19.2	61.6	4.76	11.4
09/09/2010	04:00:52	28.65	237.1	0.11	1.474	18.9	59.4	4.59	11.5
09/09/2010	05:00:52	28.56	240.5	0.11	1.464	17.9	52.9	4.1	11.6
09/09/2010	06:00:52	28.5	237.8	0.11	1.474	31	48.8	3.78	11.5
09/09/2010	07:00:52	28.4	238.3	0.11	1.466	38.8	49.7	3.86	11.5
09/09/2010	08:00:52	28.47	238.9	0.11	1.469	23.3	59.8	4.64	11.5
09/09/2010	09:00:52	28.63	238.6	0.11	1.47	24.4	71	5.5	11.5
09/09/2010	10:00:52	28.7	241.3	0.11	1.474	20.8	78.7	6.09	11.6
09/09/2010	11:00:52	29.39	235.4	0.11	1.467	18.4	101.7	7.77	11.5
09/09/2010	12:00:52	29.8	225.1	0.1	1.471	8.1	140.5	10.65	11.5
09/09/2010	13:00:52	31.74	225.6	0.1	1.471	5.9	141.8	10.4	11.5
09/09/2010	14:00:52	32.3	225.7	0.1	1.472	4.8	152.3	11.06	11.6

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/09/2010	15:00:52	32.02	227.8	0.11	1.475	5.3	167.8	12.25	11.5
09/09/2010	16:00:51	32.7	229.5	0.11	1.472	4.2	176.2	12.72	11.5
09/09/2010	17:00:52	31.4	229.2	0.11	1.469	5.3	169.6	12.51	11.6
09/09/2010	18:00:52	30.8	235.4	0.11	1.476	12.3	156.5	11.66	11.5
09/09/2010	19:00:52	31.01	236	0.11	1.469	8.4	143.2	10.63	11.5
09/09/2010	20:00:52	31.4	237.8	0.11	1.469	7.5	143.7	10.6	11.5
09/09/2010	21:00:52	31.33	232.8	0.11	1.467	8.4	143.7	10.61	11.5
09/09/2010	22:00:52	31.11	239.4	0.11	1.464	9.8	130.1	9.64	11.5
09/09/2010	23:00:52	30.73	239	0.11	1.469	7.8	141.3	10.54	11.5
09/10/2010	00:00:52	31.04	234.6	0.11	1.47	2.8	180.3	13.38	11.5
09/10/2010	01:00:52	30.91	231.5	0.11	1.47	3.7	174.6	12.98	11.5
09/10/2010	02:00:52	30.72	229.6	0.11	1.465	11.1	171.5	12.8	11.5
09/10/2010	03:00:52	30.88	225.9	0.11	1.474	2.9	173.3	12.9	11.6
09/10/2010	04:00:52	30.92	233.4	0.11	1.462	2.1	168.9	12.56	11.5
09/10/2010	05:00:52	30.79	229.7	0.11	1.467	7.3	165.1	12.31	11.5
09/10/2010	06:00:52	30.68	235.4	0.11	1.464	3.5	148.3	11.07	11.5
09/10/2010	07:00:52	30.68	236.1	0.11	1.466	3.8	151	11.28	11.5
09/10/2010	08:00:52	30.63	234.7	0.11	1.469	13.7	138.2	10.33	11.5
09/10/2010	09:00:52	30.83	230.6	0.11	1.468	7.5	158.3	11.79	11.5

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/10/2010	11:00:52	32.19	216.4	0.1	1.509	2.5	188.5	13.72	11.6
09/10/2010	12:00:52	32.65	215.9	0.1	1.497	2	197.8	14.29	11.5
09/10/2010	13:00:52	33.14	214.2	0.1	1.499	1.8	197.2	14.12	11.6
09/10/2010	14:00:52	33.42	213.6	0.1	1.501	2.1	206	14.68	11.6
09/10/2010	15:00:52	33.9	215.2	0.1	1.502	2	214.3	15.16	11.5
09/10/2010	16:00:52	33.98	216.7	0.1	1.5	2.9	215.7	15.23	11.6
09/10/2010	17:00:51	33.82	214.9	0.1	1.504	4.3	213.8	15.14	11.5
09/10/2010	18:00:51	33.5	214.5	0.1	1.497	5.7	209.8	14.94	11.6
09/10/2010	19:00:52	33.27	214.1	0.1	1.5	4.7	204	14.58	11.5
09/10/2010	20:00:52	33.13	213.5	0.1	1.501	5.3	193.7	13.88	11.5
09/10/2010	21:00:52	32.93	213	0.1	1.502	4.5	194.5	13.98	11.6
09/10/2010	22:00:52	32.78	213	0.1	1.496	6.2	187.7	13.53	11.5
09/10/2010	23:00:52	32.54	215.4	0.1	1.483	7	177.3	12.83	11.5
09/11/2010	00:00:52	32.4	216	0.1	1.492	8.1	160.8	11.66	11.5
09/11/2010	01:00:52	32.21	216.5	0.1	1.488	7.8	154.1	11.21	11.5
09/11/2010	02:00:52	32.06	216.5	0.1	1.483	7.7	150.7	10.99	11.5
09/11/2010	03:00:52	31.9	216.6	0.1	1.489	10.3	142.9	10.45	11.5
09/11/2010	04:00:52	31.8	218.9	0.1	1.489	9.7	132.9	9.73	11.5
09/11/2010	05:00:52	31.84	217.3	0.1	1.487	9.6	146.9	10.75	11.6
09/11/2010	06:00:52	31.82	217.6	0.1	1.488	7.2	147.2	10.78	11.5
09/11/2010	07:00:52	31.75	218	0.1	1.487	7.9	144	10.56	11.5
09/11/2010	08:00:52	31.84	218.5	0.1	1.494	7	145	10.62	11.5
09/11/2010	09:00:52	32.02	218.6	0.1	1.49	9.2	145.6	10.63	11.5
09/11/2010	10:00:52	32.47	218.5	0.1	1.495	6.1	160.5	11.62	11.5
09/11/2010	11:00:52	32.73	218.2	0.1	1.494	6.1	165.7	11.95	11.5
09/11/2010	12:00:52	33.58	218	0.1	1.479	6.2	177.5	12.62	11.5
09/11/2010	13:00:51	34.24	216.2	0.1	1.489	5.1	188.8	13.28	11.5
09/11/2010	14:00:51	34.53	216.1	0.1	1.488	4	202.7	14.18	11.5
09/11/2010	15:00:52	35.09	216.4	0.1	1.484	3.2	216.9	15.05	11.6
09/11/2010	16:00:51	35.21	216.3	0.1	1.487	3.7	224.7	15.55	11.5
09/11/2010	17:00:51	35.09	215.5	0.1	1.491	3	227.2	15.76	11.5
09/11/2010	18:00:52	34.89	215.5	0.1	1.484	4.4	218.7	15.22	11.6
09/11/2010	19:00:52	34.69	215	0.1	1.489	5.2	211.7	14.78	11.6
09/11/2010	20:00:52	34.45	213.9	0.1	1.486	5.2	203.2	14.24	11.6
09/11/2010	21:00:52	34.26	214.5	0.1	1.486	5.1	196.6	13.82	11.5
09/11/2010	22:00:52	34	215.9	0.1	1.482	5.1	174.5	12.32	11.5
09/11/2010	23:00:51	33.76	216.1	0.1	1.486	5.2	177	12.55	11.5
09/12/2010	00:00:52	33.51	216.3	0.1	1.484	5.9	169.3	12.05	11.5
09/12/2010	01:00:52	33.29	217.5	0.1	1.484	5.7	144.7	10.34	11.5
09/12/2010	02:00:52	33.1	217.8	0.1	1.479	6.3	145.9	10.46	11.5
09/12/2010	03:00:52	32.99	217.9	0.1	1.486	8.3	141.4	10.15	11.6
09/12/2010	04:00:52	32.84	218.4	0.1	1.475	7.5	135.8	9.77	11.5
09/12/2010	05:00:52	32.72	219.8	0.1	1.475	11.9	127.3	9.19	11.5

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/12/2010	06:00:52	32.62	220.7	0.1	1.471	14.4	110.9	8.01	11.5
09/12/2010	07:00:52	32.48	218.6	0.1	1.466	12.4	116.7	8.45	11.5
09/12/2010	08:00:52	32.42	219.2	0.1	1.471	12.6	123.8	8.98	11.5
09/12/2010	09:00:51	32.48	219.2	0.1	1.472	10.6	135.3	9.8	11.5
09/12/2010	10:00:52	32.74	221.1	0.1	1.477	10.3	144.3	10.41	11.5
09/12/2010	11:00:51	32.87	221.9	0.1	1.464	10.6	126.2	9.08	11.5
09/12/2010	12:00:52	32.97	224.6	0.1	1.479	9.8	102.9	7.39	11.5
09/12/2010	13:00:52	33.09	227.9	0.11	1.468	9.6	102.4	7.34	11.5
09/12/2010	14:00:52	33.16	229.1	0.11	1.468	11	104.1	7.45	11.5
09/12/2010	15:00:52	33.07	227.2	0.11	1.471	10.8	109	7.82	11.5
09/12/2010	16:00:52	33.03	224.4	0.1	1.472	7.2	124.7	8.95	11.5
09/12/2010	17:00:52	32.87	223.6	0.1	1.47	7.5	127.1	9.15	11.5
09/12/2010	18:00:52	32.56	224.1	0.1	1.456	8.7	115.9	8.38	11.5
09/12/2010	19:00:52	32.41	224.3	0.1	1.454	7.2	111	8.05	11.5
09/12/2010	20:00:52	32.28	224.8	0.1	1.458	8.3	98.7	7.17	11.5
09/12/2010	21:00:52	32.16	225.5	0.1	1.455	8.1	92	6.7	11.5
09/12/2010	22:00:52	31.9	225.8	0.1	1.453	9.9	96.8	7.08	11.5
09/12/2010	23:00:52	31.39	225.8	0.1	1.464	8.3	91.2	6.73	11.5
09/13/2010	00:00:52	30.99	225.2	0.1	1.455	10.1	87.8	6.52	11.5
09/13/2010	01:00:52	30.64	226.7	0.11	1.45	15.5	72.3	5.4	11.5
09/13/2010	02:00:52	30.24	227	0.11	1.45	13.5	62.9	4.73	11.5
09/13/2010	03:00:52	30	227.4	0.11	1.449	15.2	62.1	4.69	11.5
09/13/2010	04:00:52	29.93	228.7	0.11	1.443	15.8	57.1	4.32	11.5
09/13/2010	05:00:52	29.9	229.7	0.11	1.447	12.7	54.2	4.1	11.5
09/13/2010	06:00:52	29.7	230.4	0.11	1.453	12.9	47.2	3.58	11.6
09/13/2010	07:00:52	29.57	230.7	0.11	1.443	16.2	43	3.27	11.5
09/13/2010	08:00:52	29.5	230.6	0.11	1.443	14.5	47.8	3.64	11.5
09/13/2010	09:00:52	29.79	230.4	0.11	1.445	10.1	57.4	4.35	11.5
09/13/2010	10:00:52	30.12	230.8	0.11	1.444	9.9	68.4	5.15	11.5
09/13/2010	11:00:52	30.11	230.5	0.11	1.438	4.8	49.1	3.7	11.5
09/13/2010	12:00:52	30.48	232.1	0.11	1.45	4.3	58.8	4.4	11.4
09/13/2010	13:00:52	31.02	233.9	0.11	1.44	6.4	67.4	5	11.5
09/13/2010	14:00:52	30.9	232.9	0.11	1.444	6.7	64.3	4.78	11.5
09/13/2010	15:00:52	30.97	233.2	0.11	1.44	5.1	65.9	4.89	11.5
09/13/2010	16:00:52	30.89	230.7	0.11	1.441	5.7	67.4	5.02	11.5
09/13/2010	17:00:52	30.7	229.5	0.11	1.442	3.9	72.5	5.42	11.4
09/13/2010	18:00:52	30.45	228.9	0.11	1.438	6.8	69.7	5.23	11.5
09/13/2010	19:00:52	30.28	228.9	0.11	1.44	5.9	70.5	5.3	11.5
09/13/2010	20:00:52	30.25	231.3	0.11	1.433	6.1	71.5	5.38	11.4
09/13/2010	21:00:52	30.25	232.5	0.11	1.438	6.5	58.6	4.41	11.4
09/13/2010	22:00:52	30.08	232.6	0.11	1.435	8.6	60.6	4.58	11.5
09/13/2010	23:00:52	29.89	232.4	0.11	1.432	10.6	59	4.47	11.4
09/14/2010	00:00:52	29.74	231.9	0.11	1.436	12.2	59.6	4.52	11.5

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/14/2010	01:00:52	29.53	232.2	0.11	1.434	15.1	55.6	4.23	11.5
09/14/2010	02:00:52	29.27	232.3	0.11	1.436	12.1	56	4.28	11.5
09/14/2010	03:00:52	29.06	231.7	0.11	1.431	16.5	54.9	4.22	11.4
09/14/2010	04:00:52	28.81	232	0.11	1.442	13.1	46.8	3.61	11.4
09/14/2010	05:00:52	28.58	231.7	0.11	1.429	11.9	38.9	3.01	11.5
09/14/2010	06:00:52	28.4	231.4	0.11	1.423	11.8	35.4	2.75	11.5
09/14/2010	07:00:52	28.34	233.8	0.11	1.429	15.5	28.7	2.23	11.5
09/14/2010	08:00:52	28.4	231.2	0.11	1.431	11.7	32.8	2.55	11.5
09/14/2010	09:00:52	28.92	232	0.11	1.425	5.5	51.1	3.93	11.4
09/14/2010	10:00:52	29.17	231.6	0.11	1.424	7.4	76.5	5.87	11.4
09/14/2010	11:00:52	29.25	229.6	0.11	1.43	3.7	75.3	5.76	11.5
09/14/2010	12:00:52	29.46	231.3	0.11	1.423	9.8	83	6.33	11.5
09/14/2010	13:00:52	30.14	228.9	0.11	1.42	9	93.5	7.04	11.5
09/14/2010	14:00:52	31.16	230	0.11	1.427	12.8	116.4	8.62	11.4
09/14/2010	15:00:52	31.19	228.8	0.11	1.432	13.7	130.3	9.65	11.4
09/14/2010	16:00:51	31.37	229.1	0.11	1.424	17.6	142.1	10.49	11.4
09/14/2010	17:00:52	30.73	229	0.11	1.426	19.1	128.8	9.61	11.4
09/14/2010	18:00:52	30.31	232.1	0.11	1.427	12.8	123.6	9.29	11.4
09/14/2010	19:00:52	30.55	229.8	0.11	1.42	8.7	117.4	8.78	11.5
09/14/2010	20:00:52	30.75	227.9	0.11	1.427	10	137.8	10.28	11.4
09/14/2010	21:00:52	30.15	228.8	0.11	1.426	17.8	109.9	8.29	11.5
09/14/2010	22:00:52	30.04	228.1	0.11	1.421	20.8	108.6	8.2	11.4
09/14/2010	23:00:52	29.93	228.3	0.11	1.411	13.4	92.6	7.01	11.4
09/15/2010	00:00:52	29.72	231.2	0.11	1.423	11.9	80.1	6.08	11.4
09/15/2010	01:00:52	29.49	228.8	0.11	1.414	11.4	88.9	6.77	11.4
09/15/2010	02:00:52	29.33	229.2	0.11	1.411	11.5	83.5	6.38	11.5
09/15/2010	03:00:52	29.03	229.3	0.11	1.415	17.8	86	6.6	11.4
09/15/2010	04:00:52	28.85	229.3	0.11	1.411	26.7	81.2	6.26	11.4
09/15/2010	05:00:52	28.67	229.4	0.11	1.41	30.4	81	6.26	11.4
09/15/2010	06:00:52	28.52	229.8	0.11	1.417	27.7	74	5.74	11.4
09/15/2010	07:00:52	28.55	231.4	0.11	1.422	15.9	74.2	5.75	11.4
09/15/2010	08:00:52	28.66	232.9	0.11	1.409	24.4	69.1	5.34	11.4
09/15/2010	09:00:52	28.81	230	0.11	1.41	22.8	85.8	6.62	11.4
09/15/2010	10:00:52	28.98	230.4	0.11	1.408	30.5	91.6	7.04	11.4
09/15/2010	11:00:52	29.81	231.3	0.11	1.411	23.1	99.8	7.57	11.4
09/15/2010	12:00:52	29.81	230.4	0.11	1.415	22.6	109.9	8.33	11.4
09/15/2010	13:00:52	29.78	229.8	0.11	1.41	26.7	122	9.25	11.4
09/15/2010	14:00:52	29.83	229.2	0.11	1.413	24.9	129.8	9.83	11.4
09/15/2010	15:00:52	29.93	227.2	0.11	1.411	24.6	144.8	10.95	11.4
09/15/2010	16:00:52	29.85	227.4	0.11	1.412	20	140.9	10.68	11.4
09/15/2010	17:00:52	29.72	226	0.11	1.409	17.5	135	10.25	11.4
09/15/2010	18:00:52	29.65	226.5	0.11	1.408	20	129.7	9.86	11.4
09/15/2010	19:00:52	29.6	228.6	0.11	1.401	22.2	106.2	8.08	11.4

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/15/2010	20:00:52	29.53	229.2	0.11	1.401	19.4	103.4	7.88	11.5
09/15/2010	21:00:52	29.42	231.3	0.11	1.407	25.9	84.6	6.45	11.4
09/15/2010	22:00:52	29.3	230.3	0.11	1.409	22.7	86.6	6.63	11.4
09/15/2010	23:00:52	29.23	228.9	0.11	1.404	27.5	93.5	7.16	11.4
09/16/2010	00:00:52	29.2	229.3	0.11	1.398	43.2	89.6	6.86	11.4
09/16/2010	01:00:52	29.09	230.2	0.11	1.406	35.1	85.1	6.53	11.4
09/16/2010	02:00:52	28.84	228.9	0.11	1.404	47.9	74.7	5.76	11.4
09/16/2010	03:00:52	28.75	226.5	0.11	1.397	65.6	73.5	5.67	11.4
09/16/2010	04:00:52	28.69	225.7	0.11	1.398	37.4	74.2	5.73	11.4
09/16/2010	05:00:52	28.62	224.9	0.11	1.397	37.6	65.1	5.04	11.3
09/16/2010	06:00:52	28.6	225.3	0.11	1.4	48.5	56.5	4.37	11.4
09/16/2010	07:00:52	28.57	226.2	0.11	1.384	46.8	57.8	4.48	11.4
09/16/2010	08:00:52	28.64	225.7	0.11	1.392	36.8	62.7	4.85	11.4
09/16/2010	09:00:52	29.02	223.9	0.1	1.39	38.8	76.8	5.9	11.4
09/16/2010	10:00:52	28.94	224.5	0.1	1.395	46.6	74.4	5.73	11.4
09/16/2010	11:00:52	28.96	226	0.11	1.391	38	90.1	6.93	11.4
09/16/2010	12:00:52	29.51	228.9	0.11	1.406	34.7	107.9	8.22	11.3
09/16/2010	13:00:52	29.64	230.7	0.11	1.395	26.7	111.3	8.47	11.4
09/16/2010	14:00:52	30.47	231.5	0.11	1.396	31.5	115.8	8.68	11.4
09/16/2010	15:00:52	30.33	232.1	0.11	1.399	26.9	117	8.79	11.4
09/16/2010	16:00:52	30.08	229	0.11	1.401	35	117.9	8.89	11.3
09/16/2010	17:00:52	29.87	229.8	0.11	1.393	39.6	111.8	8.47	11.4
09/16/2010	18:00:52	29.84	228.6	0.11	1.401	75.2	107.1	8.11	11.4
09/16/2010	19:00:52	29.91	226.4	0.11	1.397	28.2	110.2	8.34	11.4
09/16/2010	20:00:52	29.85	230	0.11	1.384	20.3	112.8	8.55	11.3
09/16/2010	21:00:52	29.74	227.9	0.11	1.397	23.6	111.4	8.46	11.4
09/16/2010	22:00:52	29.62	227.6	0.11	1.398	40	103.7	7.89	11.4
09/16/2010	23:00:52	29.52	227.2	0.11	1.393	26.1	93.3	7.11	11.4
09/17/2010	00:00:52	29.36	225.1	0.1	1.398	27.4	83.5	6.38	11.4
09/17/2010	01:00:52	29.36	223.9	0.1	1.387	22.2	81.2	6.2	11.4
09/17/2010	02:00:52	29.34	224.3	0.1	1.383	19.7	81.9	6.26	11.4
09/17/2010	03:00:52	29.3	225.5	0.11	1.388	16.7	71	5.43	11.4
09/17/2010	04:00:52	29.23	225.2	0.11	1.39	21.9	69.3	5.31	11.3
09/17/2010	05:00:52	29.18	226.4	0.11	1.378	33.4	63.4	4.86	11.4
09/17/2010	06:00:52	29.02	227.3	0.11	1.395	13.6	61.6	4.74	11.3
09/17/2010	07:00:52	28.94	226.9	0.11	1.389	24.5	55.7	4.28	11.4
09/17/2010	08:00:52	28.95	224.5	0.1	1.377	20.6	69.6	5.35	11.3
09/17/2010	09:00:52	29.12	225.8	0.11	1.388	20.8	81.1	6.22	11.4
09/17/2010	10:00:52	29.5	225.8	0.11	1.387	33.6	105.4	8.03	11.3
09/17/2010	11:00:52	29.91	224.4	0.1	1.384	18.3	105.3	7.97	11.3
09/17/2010	12:00:52	30.51	229.4	0.11	1.383	15.6	117.3	8.78	11.4
09/17/2010	13:00:52	30.7	229.4	0.11	1.382	11.3	124.5	9.29	11.4
09/17/2010	14:00:52	31.09	227.1	0.11	1.365	11.6	130.2	9.66	11.4

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/17/2010	15:00:52	30.75	226.4	0.11	1.381	15	126.4	9.43	11.4
09/17/2010	16:00:52	30.49	226.7	0.11	1.384	11.6	121	9.06	11.4
09/17/2010	17:00:52	30.23	227.8	0.11	1.387	23.3	114.4	8.61	11.3
09/17/2010	18:00:52	30.07	227.7	0.11	1.383	15.4	102.5	7.74	11.3
09/17/2010	19:00:52	29.92	226.2	0.11	1.386	12.8	106.1	8.03	11.3
09/17/2010	20:00:52	29.77	229.9	0.11	1.379	15.3	91.2	6.92	11.3
09/17/2010	21:00:52	29.63	226.8	0.11	1.374	18.4	88.3	6.71	11.3
09/17/2010	22:00:52	29.52	228.8	0.11	1.378	23.9	79.2	6.03	11.3
09/17/2010	23:00:52	29.39	228.2	0.11	1.375	20.6	76.1	5.81	11.3
09/18/2010	00:00:52	29.29	226.2	0.11	1.378	18.7	79.6	6.09	11.3
09/18/2010	01:00:52	29.18	229.8	0.11	1.376	19	68.1	5.22	11.3
09/18/2010	02:00:52	29.06	229.1	0.11	1.366	20.3	61	4.68	11.3
09/18/2010	03:00:52	28.97	228.8	0.11	1.367	31	58.9	4.53	11.3
09/18/2010	04:00:51	28.82	228.7	0.11	1.373	33.2	60.2	4.64	11.3
09/18/2010	05:00:52	28.7	229.1	0.11	1.362	28.5	58.7	4.54	11.3
09/18/2010	06:00:52	28.58	228.4	0.11	1.368	30.5	63.3	4.91	11.3
09/18/2010	07:00:52	28.56	229.6	0.11	1.377	25	57.3	4.44	11.3
09/18/2010	08:00:52	28.64	228.3	0.11	1.371	25.4	67.3	5.2	11.3
09/18/2010	09:00:52	29.23	228.8	0.11	1.363	8.5	74.2	5.68	11.3
09/18/2010	10:00:52	29.64	228.6	0.11	1.367	9.2	81.9	6.23	11.3
09/18/2010	11:00:52	30.08	228.3	0.11	1.367	6.4	87.4	6.59	11.3
09/18/2010	12:00:52	30.31	227.8	0.11	1.357	7.2	100.5	7.55	11.3
09/18/2010	13:00:52	30.63	228.7	0.11	1.372	7.9	116.6	8.72	11.3
09/18/2010	14:00:52	30.53	226.9	0.11	1.366	7.6	109.7	8.21	11.3
09/18/2010	15:00:52	29.81	229.2	0.11	1.373	8.8	93.4	7.08	11.3
09/18/2010	16:00:52	30.34	226.8	0.11	1.364	7.9	106	7.96	11.3
09/18/2010	17:00:52	29.8	230.6	0.11	1.38	9.7	69.9	5.3	11.3
09/18/2010	18:00:52	29.94	229.1	0.11	1.366	7.9	73.5	5.56	11.3
09/18/2010	19:00:52	29.86	231.4	0.11	1.371	9.6	59.3	4.49	11.3
09/18/2010	20:00:52	29.77	231.9	0.11	1.361	7.3	71	5.39	11.3
09/18/2010	21:00:52	29.65	230.1	0.11	1.366	11.9	69.1	5.25	11.3
09/18/2010	22:00:52	29.53	231	0.11	1.361	8.4	65.6	5	11.3
09/18/2010	23:00:52	29.43	231.3	0.11	1.365	13.5	61.6	4.7	11.3
09/19/2010	00:00:52	29.35	231.3	0.11	1.357	17	64.1	4.9	11.3
09/19/2010	01:00:52	29.27	230.5	0.11	1.361	12.3	58.7	4.49	11.3
09/19/2010	02:00:52	29.14	231.2	0.11	1.365	15.8	50.2	3.85	11.3
09/19/2010	03:00:52	29.08	231	0.11	1.359	13.1	53.6	4.11	11.3
09/19/2010	04:00:52	29	231.1	0.11	1.361	14.5	48.5	3.73	11.3
09/19/2010	05:00:52	28.89	231.6	0.11	1.362	9.8	49.9	3.85	11.3
09/19/2010	06:00:52	28.81	231.9	0.11	1.354	14.1	45.7	3.52	11.3
09/19/2010	07:00:52	28.69	229.9	0.11	1.354	12.6	57.6	4.46	11.3
09/19/2010	08:00:52	28.86	227.8	0.11	1.366	11.1	70.9	5.46	11.3
09/19/2010	09:00:52	29.53	227	0.11	1.353	8.7	90.8	6.92	11.3

Continuous Data North Flat

Date	Time (hh:mm:ss)	Temp (C°)	SpCond. (uS/cm)	Salinity (ppt)	Depth (ft)	Turbidity (NTU)	ODO%	ODO Conc. (mg/L)	Battery (Volts)
09/19/2010	10:00:52	29.62	226.8	0.11	1.357	11.5	90.6	6.89	11.3
09/19/2010	11:00:52	29.93	227.7	0.11	1.36	9	104.4	7.89	11.3
09/19/2010	12:00:52	30.24	230.6	0.11	1.36	11.1	103.2	7.77	11.3
09/19/2010	13:00:52	30.77	228.5	0.11	1.353	9.2	117.9	8.79	11.3
09/19/2010	14:00:52	30.11	229.2	0.11	1.351	12.5	84.5	6.37	11.3
09/19/2010	15:00:52	30.33	231.2	0.11	1.355	10.1	82	6.16	11.3
09/19/2010	16:00:52	30.12	231.6	0.11	1.361	7.2	62.1	4.68	11.3
09/19/2010	17:00:52	30.01	233.1	0.11	1.353	6.5	57.7	4.36	11.3
09/19/2010	18:00:52	29.98	232.1	0.11	1.352	6.3	61.3	4.63	11.3
09/19/2010	19:00:52	29.9	234.1	0.11	1.355	5.7	59.2	4.48	11.3
09/19/2010	20:00:52	29.75	233.6	0.11	1.347	3.7	53.4	4.05	11.3
09/19/2010	21:00:52	29.64	233.8	0.11	1.344	11.9	48.8	3.71	11.3
09/19/2010	22:00:52	29.48	233.6	0.11	1.344	7.2	44.7	3.4	11.3
09/19/2010	23:00:52	29.41	232.9	0.11	1.351	11.4	50.1	3.83	11.3
09/20/2010	00:00:52	29.33	232.8	0.11	1.349	13.9	52.9	4.05	11.3
09/20/2010	01:00:52	29.25	231.4	0.11	1.347	11.9	58.3	4.47	11.3
09/20/2010	02:00:52	29.32	229.3	0.11	1.355	18	59.4	4.54	11.3
09/20/2010	03:00:52	29.35	228.6	0.11	1.347	16.3	58.2	4.44	11.3
09/20/2010	04:00:52	29.39	228.2	0.11	1.351	11.9	59.7	4.56	11.3
09/20/2010	05:00:52	29.32	228.7	0.11	1.353	11.2	58.6	4.48	11.3
09/20/2010	06:00:52	29.21	229	0.11	1.346	10	55.1	4.22	11.3
09/20/2010	07:00:52	29.16	229.3	0.11	1.34	11	55.7	4.27	11.3
09/20/2010	08:00:52	29.2	229.1	0.11	1.357	10.4	61.3	4.7	11.3
09/20/2010	09:00:52	29.26	230.1	0.11	1.348	12.3	60.4	4.62	11.3
09/20/2010	10:00:52	29.31	227.1	0.11	1.347	9.5	72.2	5.52	11.3

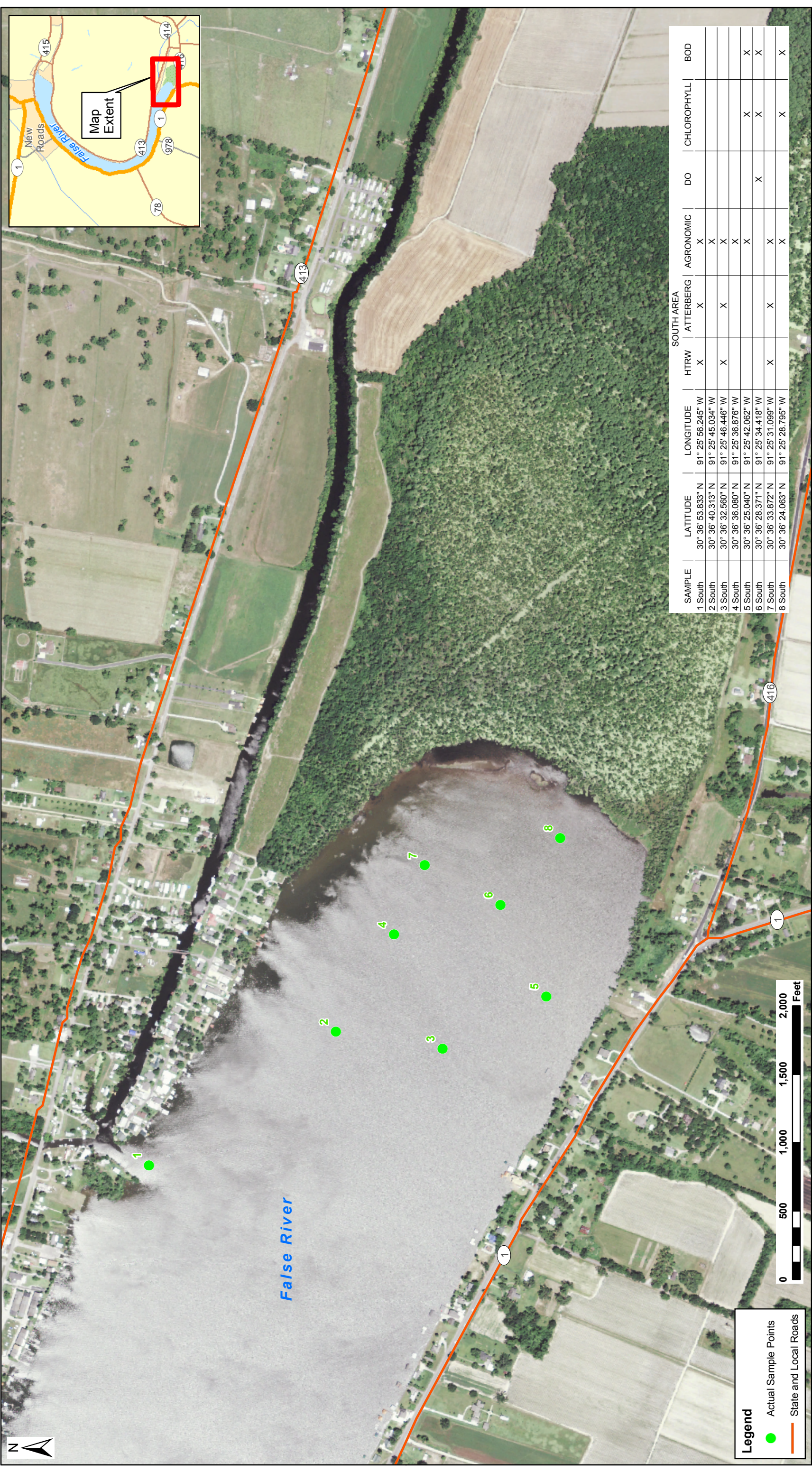
Appendix E

NEW DATA AND RESULTS: GEC SAMPLING

GEC Water Quality Data

Site	Date	Sample Time	Water Depth		In situ Readings					Sample Testing	
			Water Depth (Feet)	Water Depth (Inches)	pH	Conductivity (umhos/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (°C)	BOD (mg/L)	Chlorophyll-a (mg/m ³)
S-1	7/12/2010	11:19 AM	5.1	61	8.42	0.198	4.4	8.8	31.7		
S-1	8/9/2010	10:38 AM	—	—	8.48	0.188	24	8.15	34.4		
S-1	9/8/2010	11:31 AM	—	—	7.87	0.301	23	—	29.5		
S-2	7/12/2010	11:57 AM	3.1	37	8.4	0.191	31	12.2	31.9		
S-2	8/9/2010	10:31 AM	—	—	8.81	0.185	25	11.39	33.9		
S-2	9/8/2010	11:27 AM	—	—	7.9	0.302	14	—	29.2		
S-3	7/12/2010	12:15 PM	5.9	71	8.38	0.193	25	12.03	32.3		
S-3	8/9/2010	10:28 AM	—	—	8.45	0.186	38	8.59	34		
S-3	9/8/2010	11:24 AM	—	—	8.07	0.304	19	—	29.1		
S-4	7/12/2010	—	—	—	8.59	0.192	25	12.55	33.1		
S-4	8/9/2010	10:22 AM	—	—	8.46	0.188	45	7.9	34.1		
S-4	9/8/2010	11:20 AM	—	—	7.97	0.303	19	—	29.2		
S-5	7/12/2010	—	—	—	8.55	0.192	22	12.16	32.8	4.9	58.3
S-5	8/9/2010	10:20 AM	—	—	8.69	0.186	37	9.47	34.2		
S-5	9/8/2010	11:13 AM	—	—	8.34	0.297	29	—	29.3	3.83	35.2
S-6	7/12/2010	—	—	—	8.94	0.193	26	11.7	32.5	5.7	72.8
S-6	8/9/2010	10:12 AM	—	—	8.32	0.187	36	8.28	34		
S-6	9/8/2010	11:10 AM	—	—	7.9	0.303	23	—	29.1	2.73	35.2
S-7	7/12/2010	—	—	—	—	—	—	—	—		
S-7	8/9/2010	10:10 AM	—	—	8.33	0.187	27	8.86	34.1		
S-7	9/8/2010	11:04 AM	—	—	7.99	0.300	32	—	29.3		
S-8	7/12/2010	—	—	—	8.9	0.194	36	11.96	33.2	5.7	23.1
S-8	8/9/2010	10:00 AM	—	—	7.97	0.192	32	6.9	33.4		
S-8	9/8/2010	10:59 AM	—	—	8.09	0.297	30	—	29.7	4.01	42.5
N-1	7/12/2010	5:07 PM	4.25	51	8.76	0.187	22	13.26	32.8	—	—
N-1	8/9/2010	9:27 AM	—	—	8.43	0.181	27	10.97	33.6		
N-1	9/8/2010	10:36 AM	—	—	8.25	0.307	21	—	29.2		
N-2	7/12/2010	1:13 PM	—	—	8.71	0.191	21	12.6	33	5.8	29.1
N-2	8/9/2010	9:21 AM	—	—	8.52	0.180	40	10.11	33.2		
N-2	9/8/2010	10:32 AM	—	—	7.88	0.309	21	—	29.1	2.91	36.4
N-3	7/12/2010	4:05 PM	—	—	8.36	0.191	21	12.78	32.9		
N-3	8/9/2010	9:17 AM	—	—	8.64	0.182	32	10.85	33.8		
N-3	9/8/2010	10:28 AM	—	—	8.15	0.306	16	—	29.2		
N-4	7/12/2010	1:19 PM	—	—	8.72	0.186	24	11.14	32.8		58.3
N-4	8/9/2010	9:11 AM	—	—	8.55	0.182	44	9.48	33.9		
N-4	9/8/2010	10:23 AM	—	—	7.7	0.305	26	—	28.9	2.92	21.8
N-5	7/12/2010	4:08 PM	7.2	86	8.46	0.190	26	13.29	33.2	—	—
N-5	8/9/2010	9:08 AM	—	—	8.41	0.184	29	9.28	34.1		
N-5	9/8/2010	10:19 AM	—	—	8.03	0.304	20	—	29.3		
N-6	7/12/2010	1:24 PM	—	—	8.65	0.192	48	10.88	33	4.6	58.3
N-6	8/9/2010	9:01 AM	—	—	8.46	0.185	35	9.19	34.1		
N-6	9/8/2010	10:13 AM	—	—	7.9	0.303	25	—	29.3	3.49	44.9
N-7	7/12/2010	5:00 PM	—	—	8.24	0.202	47	12.16	33.9		
N-7	8/9/2010	8:56 AM	—	—	8.85	0.184	30	9.81	34		
N-7	9/8/2010	10:00 AM	—	—	8.02	0.304	16	—	29.4		
N-8	7/12/2010	5:05 PM	5.25	63	8.55	0.194	57	12.26	34.1	—	—
N-8	8/9/2010	8:47 AM	—	—	8.7	0.187	40	8.77	34.1		
N-8	9/8/2010	9:45 AM	—	—	7.33	0.315	24	—	29.2		
Lighthouse Canal	7/12/2010	—	1	12	8.9	0.202	12	8.66	32.2	—	—
Lighthouse Canal	7/12/2010	—	4	48	8.72	0.200	11	6.5	30.6	—	—
Lighthouse Canal	7/12/2010	—	9	108	7.67	0.202	5	1.5	29.7	—	—
Lighthouse Canal	7/12/2010	—	15	180	7.55	0.212	5	0.06	29.2	—	—
Lighthouse Canal	7/12/2010	—	21	252	8.69	0.220	5	0.04	28.1	—	—
Lighthouse Canal	7/12/2010	—	33	396	6.39	0.243	12	0.10	22.4	—	—

* Data not retrieved due to calibration error



SAMPLE	LATITUDE	LONGITUDE	SOUTH AREA				CHLOROPHYLL	BOD
			HTRW	ATTERBERG	AGRONOMIC	DO		
1 South	30° 36' 53.833" N	91° 25' 56.245" W	X	X	X			
2 South	30° 36' 40.313" N	91° 25' 45.034" W	X	X	X			
3 South	30° 36' 32.560" N	91° 25' 46.446" W	X	X	X			
4 South	30° 36' 36.080" N	91° 25' 36.876" W			X	X	X	
5 South	30° 36' 25.040" N	91° 25' 42.062" W			X	X	X	
6 South	30° 36' 28.371" N	91° 25' 34.418" W			X	X	X	
7 South	30° 36' 33.872" N	91° 25' 31.099" W	X	X	X			
8 South	30° 36' 24.063" N	91° 25' 28.795" W	X	X	X	X	X	

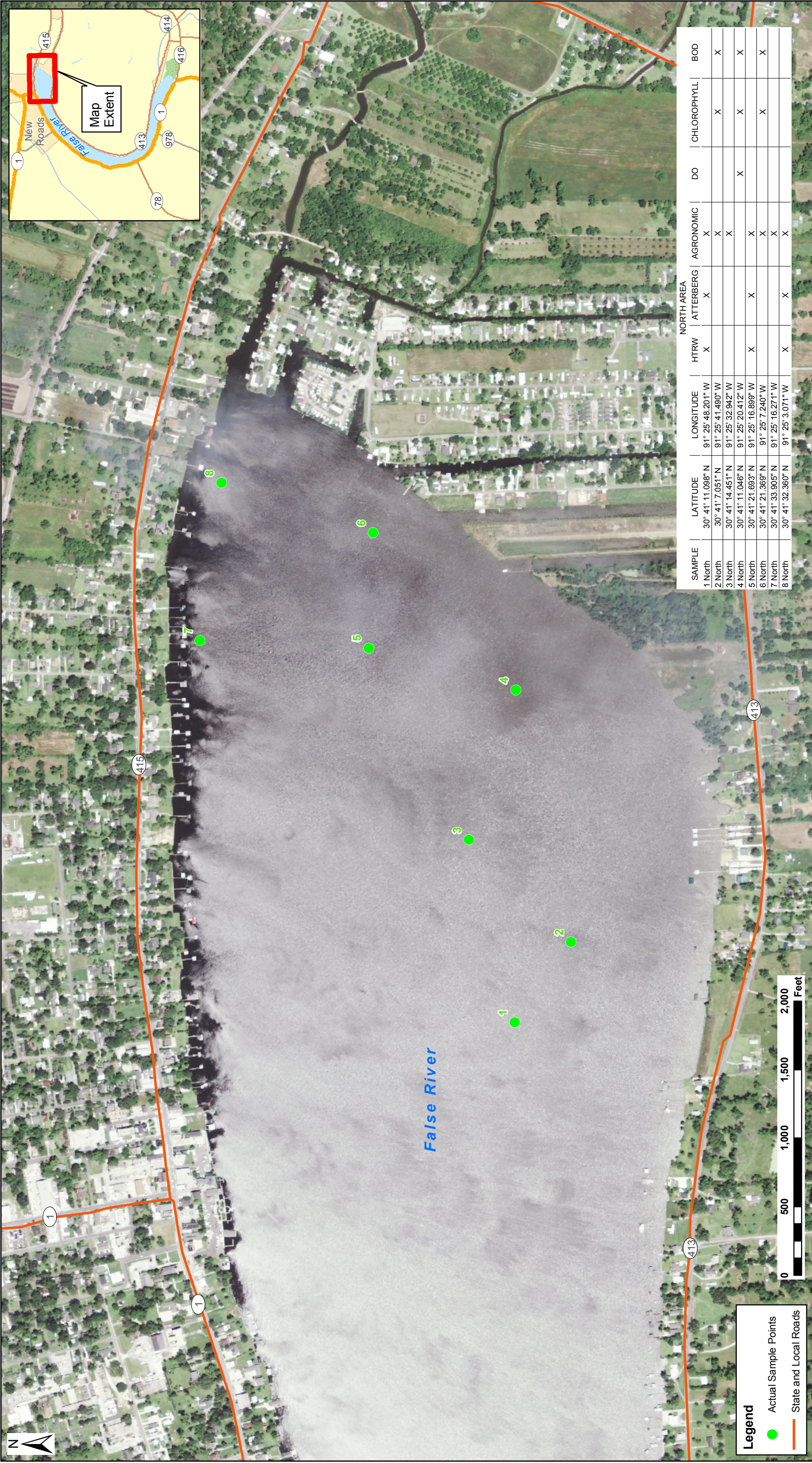
ACTUAL SAMPLE LOCATIONS - SOUTH FALSE RIVER AREA

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee Parish USDA-FSA-APFO NAIP MrSID Mosaic

GEC
 Gulf Engineers & Consultants

Figure: 2B
 Date: July 2010
 Scale: 1:8,000
 Source: USDA/GEC
 Map ID: 273161006-2187



SAMPLE	LATITUDE	LONGITUDE	NORTH AREA					
			HTRW	ATTERBERG	AGRONOMIC	DO	CHLOROPHYLL	BOD
1 North	30° 41' 11.098" N	91° 25' 48.201" W	X	X	X			
2 North	30° 41' 7.051" N	91° 25' 41.490" W			X		X	X
3 North	30° 41' 14.451" N	91° 25' 32.942" W			X			
4 North	30° 41' 11.046" N	91° 25' 20.412" W				X	X	X
5 North	30° 41' 21.693" N	91° 25' 16.899" W	X	X	X			
6 North	30° 41' 21.369" N	91° 25' 7.240" W			X		X	X
7 North	30° 41' 33.905" N	91° 25' 16.271" W			X			
8 North	30° 41' 32.360" N	91° 25' 3.071" W	X	X	X			

ACTUAL SAMPLE LOCATIONS - NORTH FALSE RIVER AREA

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee Parish USDA-FSA-APFO NAIP MrSID Mosaic

GEC
 Gulf Engineers & Consultants

Figure: 2A

Date: July 2010

Scale: 1:8,000

Source: USDA/GEC

Map ID: 273161006-2186

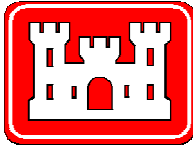
Appendix F

SAMPLING REPORT

October 2010

SEDIMENT SAMPLING AND ANALYSIS
False River Ecosystem Restoration
Pointe Coupee Parish, Louisiana

Prepared for



U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana

Prepared by



Gulf Engineers & Consultants

Baton Rouge, Louisiana



July 2010

**Sediment Sampling and Analysis
False River Ecosystem Restoration
Pointe Coupee Parish, Louisiana**

Contract No. W912P8-09-D-0004
Task Order 006
GEC Project No. 0027.3160106.002

Prepared for

**U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana**

Prepared by

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Attachment A: FIGURES

Attachment B: SEDIMENT LOGS

Attachment C: ANALYTICAL RESULTS

Attachment D: LABORATORY DOCUMENTATION

Attachment E: AGRONOMIC DOCUMENTATION

SEDIMENT SAMPLING AND ANALYSIS

1.0 INTRODUCTION

The Continuing Authorities Program (CAP) and Section 206 of the Water Resources Development Act of 1986 authorize the U.S. Army Corps of Engineers (USACE) New Orleans District to participate in ecosystem restoration. The proposed ecosystem restoration project for False River, Pointe Coupee Parish, Louisiana, is currently in the Feasibility Phase of the Section 206 process, which includes plan formulation and the future development of a Feasibility Report. The sampling and analysis of False River sediments is included within the studies required to evaluate strategies to accomplish restoration of the lake system.

The purpose of this Sediment Sampling and Analysis is to describe sediment samples characteristics where sediment may be removed or reworked during lake restoration activities. Results of the sediment analyses will be used to evaluate potential management options for the dredged material, including beneficial reuse, in accordance with the Inland Testing Manual (USEPA/USACE, 1998). Sediment analytical results will also be used to determine whether any constituents detected in the sediment may adversely affect aquatic life in False River.

2.0 PROJECT DESCRIPTION

False River is located 30 miles northwest of Baton Rouge on Highway 190 and Highway 1 (Figure 1, Attachment A). False River is a 22-mile long oxbow lake formed between 1713 and 1722 when the Mississippi River changed its course.

The sediment sampling and analysis included field sampling and laboratory chemical and geotechnical analysis of sediment samples at six locations and the subsequent data reporting and evaluation. The sediment samples were collected in the shallow flats at the northern and southern ends of the False River lake bottom.

2.1 Current Use

False River is currently used extensively as a recreational lake. Fishing and water sports including boating, water skiing, and swimming are common activities on False River. The False River shoreline is lined with single-family homes, docks, and marinas. Much of the shoreline is protected by bulkheads.

2.2 Past Uses

False River is an oxbow lake of the Mississippi River which formed between 1713 and 1722. In the past, the lake supported native aquatic plants and a healthy bass fishery, both of which have declined in recent years.

2.3 Geology and Hydrology

2.3.1 Geology.

The project area is located in the Coastal Plain province of southeastern Louisiana. The prominent landforms in this region are natural levees, freshwater and brackish swamp and marsh, and point bars. Subsurface sediments in the vicinity of the project area are typically composed of 60-100 feet of Holocene (0.1 million years ago [Ma] to present) sands and silts overlying Pleistocene (2.0-0.1 Ma) clays. Holocene sediments are thickest in point bar deposits

on outside bends of the Mississippi River. Both the Pleistocene and Holocene sediments are typical of deltaic deposition, and represent a progradation over time from a coastal deltaic environment to a more inland coastal plain regime.

2.3.2 Hydrogeology.

The lake overlies the Mississippi River Alluvial Aquifer, a Pleistocene-aged aquifer found in the floodplain of the Mississippi River. The Mississippi River Alluvial aquifer is hydraulically connected with the Mississippi River and its major streams. Recharge is accomplished by direct infiltration of rainfall in the river valley, lateral and upward movement of water from adjacent and underlying aquifers, and overbank stream flooding. The amount of recharge from rainfall depends on the thickness and permeability of the silt and clay layers overlying it. Water levels fluctuate seasonally in response to precipitation trends and river stages. Water levels are generally within 30 to 40 feet of the land surface and movement is downgradient and toward rivers and streams. Natural discharge occurs by seepage of water into the Mississippi River and its streams, but some water moves into the aquifer when stream stages are above aquifer water levels. The hydraulic conductivity varies between 10 and 530 feet/day.

The maximum depths of occurrence of freshwater in the Mississippi River Alluvial range from 20 feet below sea level to 500 feet below sea level. The range of thickness of the fresh water interval in the Mississippi River Alluvial is 50 to 500 feet.

2.3.3 Topography.

Static mean water level of the lake is reportedly maintained at 16 feet above mean sea level (MSL).

2.3.4 Soils.

Soils in the vicinity of False River are of the Commerce-Bruin-Convent series. These are level to gently undulating, somewhat poorly drained and moderately well drained loamy soils.

3.0 CONSTITUENTS OF CONCERN

Constituents of concern (COCs) to be evaluated in the sediment were determined by reviewing existing data and historical land use in the vicinity of False River. COCs include EPA Priority Pollutant metals plus iron, organochlorine pesticides, and chlorinated herbicides. Samples were additionally analyzed for geotechnical properties including grain size, Atterberg limits, and specific gravity.

In addition to the six sediment cores, four sediment grab samples were collected at each end of the lake to be analyzed for agronomic characteristics only. Agronomic characteristics include pH, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, and zinc.

Three surface water samples were collected from each end of the lake for analysis of biochemical oxygen demand (BOD) and chlorophyll *a* (chl *a*).

4.0 SITE INVESTIGATION

Sediment samples were collected on July 12, 2010. Weather conditions were breezy with winds from the northwest in the morning shifting to southeast in the afternoon. Temperatures were in the low 90's F. Each set of six water samples (three from each end of the lake) were collected on three sample dates: July 12, 2010, August 9, 2010, and September 8, 2010.

Sediment cores were collected from a platform supported by two 14-foot boats. Water and grab samples were collected from a 17-foot boat.

4.1 Sampling Program

4.1.1 Sediment Cores

Sediment core samples were collected from six stations, three at each end of the lake, to five feet below sediment surface, where possible, for use in physical, chemical, and agronomic analyses. Sample locations were navigated to via Global Positioning System (GPS). Actual locations were recorded with a WAAS enabled GPS unit. Figure 2, Attachment A depicts each sampling location and lists the latitude and longitude of each point. Water depth at each sampling location was noted. Water quality parameters at ½-foot below the water surface were collected at the time of sampling with a calibrated Horiba U-10 multi-parameter meter. Water quality parameters included pH, conductivity, turbidity, and salinity. Field recorded parameters are tabulated in Attachment B.

Sediment samples were collected with a portable vibracore unit utilizing three-inch diameter, 12 to 20 foot long aluminum sample barrels. Samples were collected to approximately five feet below sediment surface or to refusal. Core depths are recorded on the sediment logs in Attachment B. After advancing each barrel to the appropriate depth into the sediment, the sample barrel was capped and removed from the lake. Vibracore tubes were cut open on the shoreline and the sediment was logged with respect to depth prior to sample collection (Attachment C). Cores that were longer than five feet were logged for the entire depth, but the composite sample was collected from zero to five feet.

Each five-foot core was placed in a clean stainless steel pan and homogenized. The homogenized sediment was then sampled into laboratory-provided containers for chemical analysis, and into plastic bags for geotechnical and agronomic analysis. Samples for chemical analysis were immediately placed into iced coolers for delivery to the laboratory. One duplicate, matrix spike, and matrix spike duplicate sample were collected and analyzed.

4.1.2 Sediment Grab Samples

Sediment grab samples were collected with a ponar dredge from eight locations: four on the north end and four on the south end (Figure 2, Attachment A). Sample locations were navigated to via GPS. Water quality parameters at ½-foot below the water surface were collected at the time of sampling with a calibrated Horiba U-10 multi-parameter meter. At each location the dredge was set and lowered to the lake bottom. Impact with the bottom triggers the spring to close the dredge. The dredge was then pulled up and the sediment was emptied into a stainless steel pan and homogenized. The sediment was then sampled into plastic bags for agronomic analysis. Water depth was recorded at each sampling location.

4.1.3 Water Samples

In situ water quality parameters were collected with a calibrated Horiba U-10 multi-parameter water quality meter. The meter was lowered to approximately ½-foot below the water's surface, and readings were allowed to stabilize before the information was recorded. Water quality parameters included temperature, pH, conductivity, turbidity, and salinity. Time of day was also recorded.

Water samples for laboratory analysis were collected at approximately ½-foot below the water's surface. Unpreserved, laboratory-provided containers were submerged by hand and filled completely. Samples were collected for BOD and chl *a* analyses; chl *a* containers were opaque. Samples for laboratory analysis were immediately placed in iced coolers for delivery to the laboratory within regulatory holding times.

4.2 Holding Times and Chain-of-Custody

All sample containers were immediately labeled with sample identification, date, time and requested analyses. Samples collected for chemical and biological analyses were immediately stored on ice in coolers for delivery to the laboratories. Samples collected for geotechnical and agronomic analyses were not stored on ice. Label information was also recorded on a chain-of-custody record that accompanied the samples at all times. Samples were hand-delivered to TestAmerica for chemical and biological analyses, to Fugro for geotechnical analyses, and to Louisiana State University (LSU) for agronomic analyses. All samples were received intact at the laboratories within regulatory holding times. Chain-of-custodies are included with the laboratory reports in Attachments D and E.

4.3 Decontamination

Decontamination of non-disposable sample equipment and stainless steel tools was performed to prevent the introduction of off-site contaminants into sampling points, to prevent cross contamination of sampling points, and to prevent the removal of contaminants from the site. All tools and sampling equipment were cleaned prior to arrival at the site. Between uses, all sampling instruments, including knives, spoons and bowls, were decontaminated by washing with Liquinox™ and rinsing with distilled water.

5.0 ANALYTICAL METHODS

Samples were analyzed at TestAmerica in Mobile, Alabama, for EPA Priority Pollutant metals plus iron by SW-846 Method 6010 and 7471, for organochlorine pesticides by EPA SW-846 Method 8081, and chlorinated herbicides EPA SW-846 Method 8151. Water samples were analyzed at TestAmerica in Orlando, Florida for BOD by Standard Methods 5210B and for chl *a* by Standard Methods 19 Chlorophyll A. Grain size analysis (ASTM D422) specific gravity (ASTM D854) and Atterberg Limits (ASTM D4318) were conducted at Fugro in Baton Rouge, Louisiana.

Agronomic testing was conducted at LSU AgCenter Soil Testing and Plant Analysis Laboratory (STPAL). Agronomic characteristics include pH, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, and zinc. STPAL conducts analyses in accordance with their own methodologies.

6.0 RESULTS

Results are tabulated in Attachment B. Table B-1 includes water sampling data, Table B-2 includes sediment chemistry data, Table B-3 includes geotechnical data, Table B-4 includes agronomic data, and Table B-5 includes water biological data. Laboratory documentation is included in Attachment D.

7.0 REFERENCES

LSU. AgCenter Soil Testing and Plant Analysis Laboratory (STPAL).

http://www.lsuagcenter.com/en/our_offices/departments/SPESS/Service+Labs/soil_testing_lab/procedures/Procedures+Used+at+the+Laboratory.htm

Standard Methods For The Examination Of Water And Wastewater, 19th Edition. 1995.

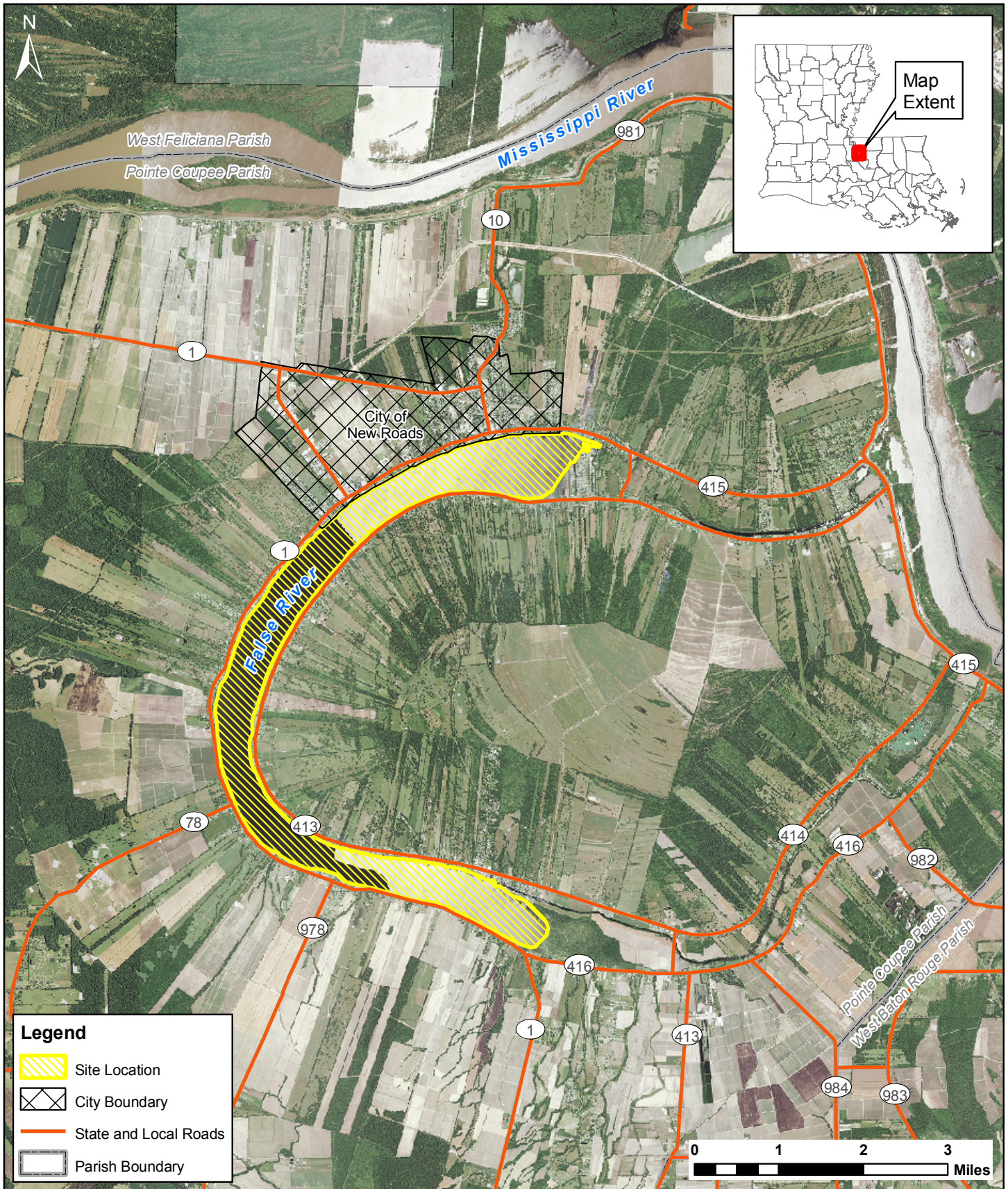
U.S. EPA. *Test Methods for Evaluating Solid Waste*. SW-846, 1986.

Inland Testing Manual:

USEPA/USACE. 1998. "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. Testing Manual (Inland Testing Manual)."

Attachment A

FIGURES



SITE LOCATION

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee and West Feliciana Parishes USDA-FSA-APFO NAIP MrSID Mosaic

Gulf Engineers & Consultants

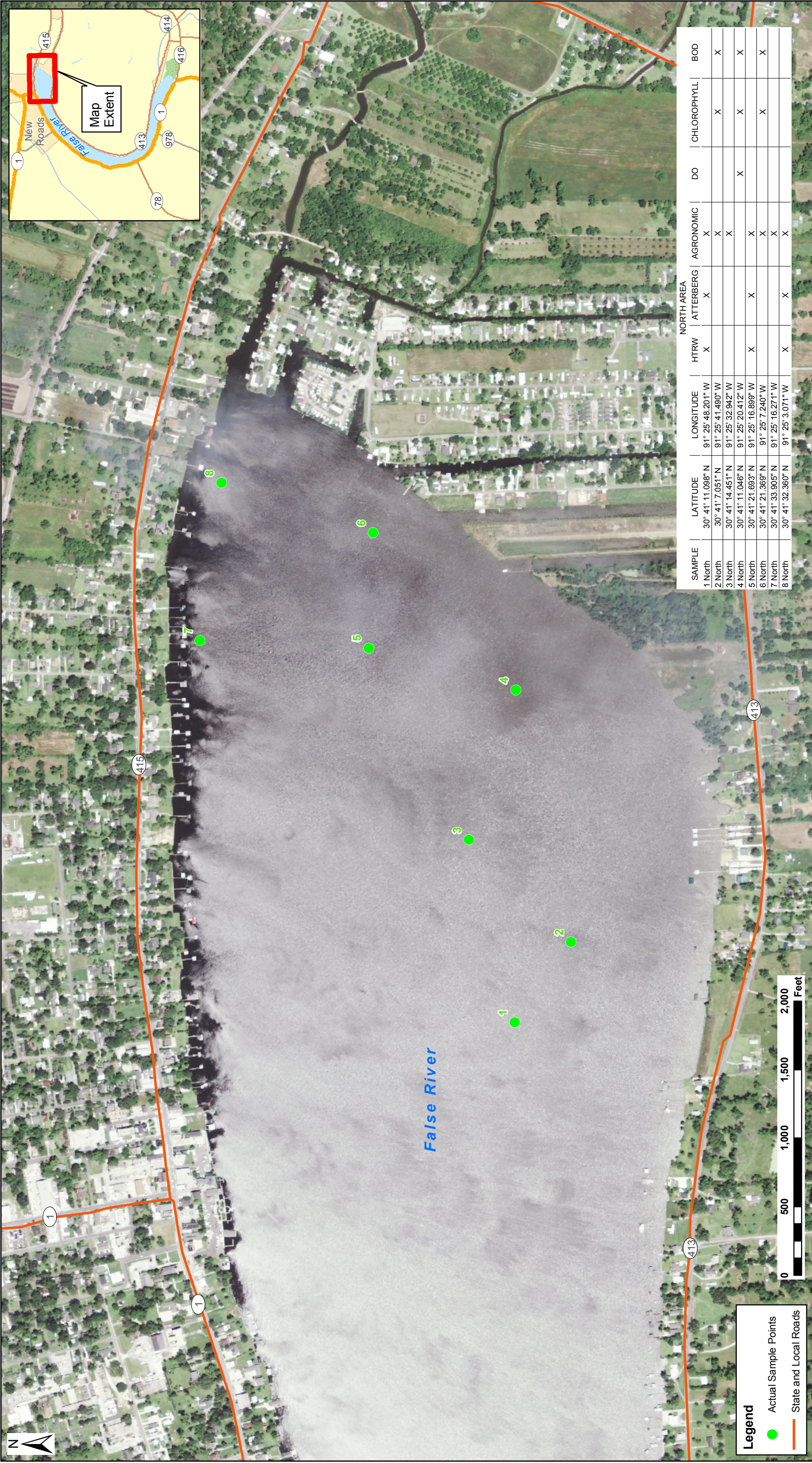
Figure: 1

Date: July 2010

Scale: 1:100,000

Source: USDA/GEC

Map ID: 273161006-2185

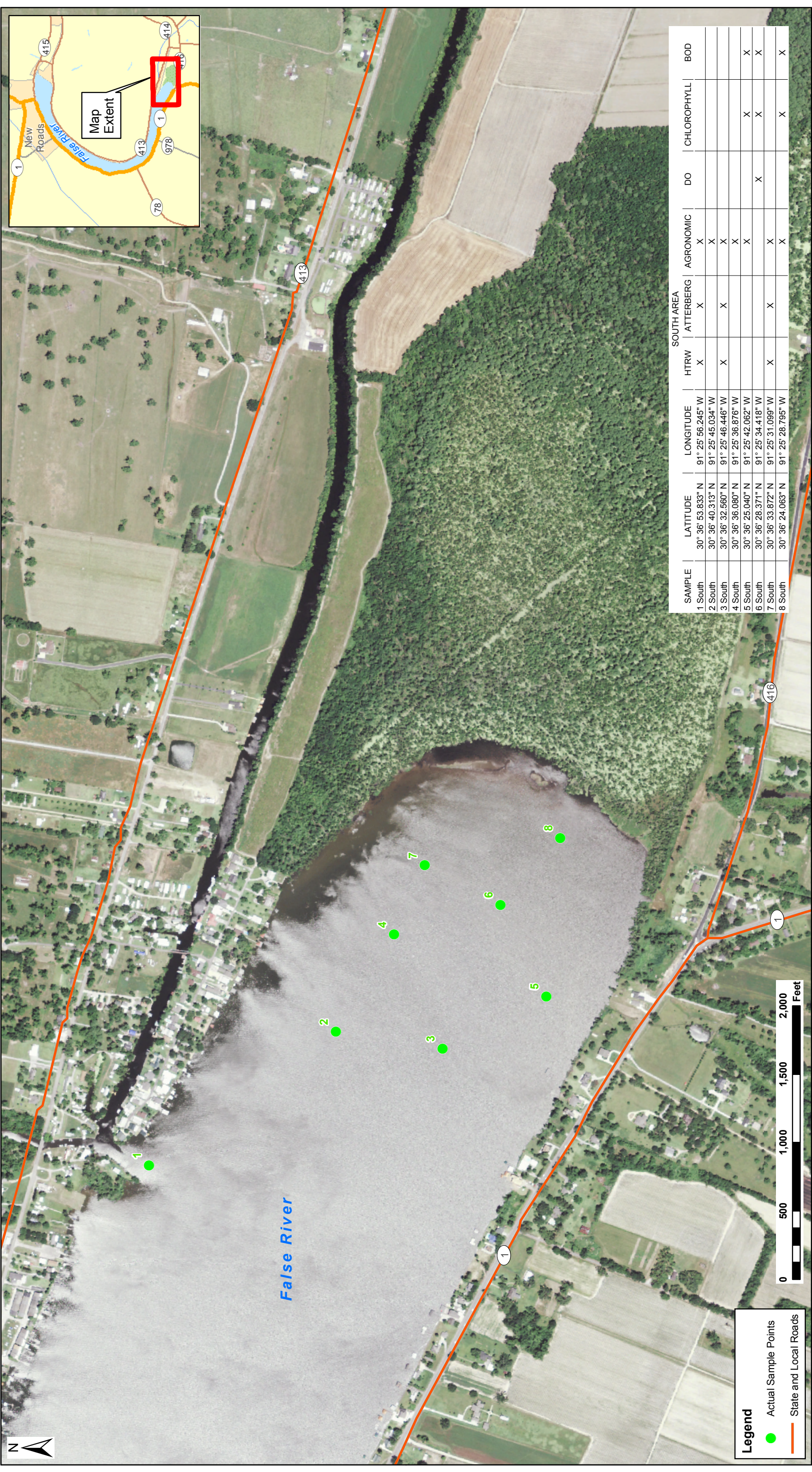


SAMPLE	LATITUDE	LONGITUDE	NORTH AREA					
			HTRW	ATTERBERG	AGRONOMIC	DO	CHLOROPHYLL	BOD
1 North	30° 41' 11.098" N	91° 25' 48.201" W	X	X	X			
2 North	30° 41' 7.051" N	91° 25' 41.490" W			X		X	X
3 North	30° 41' 14.451" N	91° 25' 32.942" W			X			
4 North	30° 41' 11.046" N	91° 25' 20.412" W				X	X	X
5 North	30° 41' 21.693" N	91° 25' 16.899" W	X	X	X			
6 North	30° 41' 21.369" N	91° 25' 7.240" W			X		X	X
7 North	30° 41' 33.905" N	91° 25' 16.271" W			X			
8 North	30° 41' 32.360" N	91° 25' 3.071" W	X	X	X			

ACTUAL SAMPLE LOCATIONS - NORTH FALSE RIVER AREA

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee Parish USDA-FSA-APFO NAIP MrSID Mosaic



SAMPLE	LATITUDE	LONGITUDE	SOUTH AREA				CHLOROPHYLL	BOD
			HTRW	ATTERBERG	AGRONOMIC	DO		
1 South	30° 36' 53.833" N	91° 25' 56.245" W	X	X	X			
2 South	30° 36' 40.313" N	91° 25' 45.034" W	X	X	X			
3 South	30° 36' 32.560" N	91° 25' 46.446" W	X	X	X			
4 South	30° 36' 36.080" N	91° 25' 36.876" W			X	X	X	
5 South	30° 36' 25.040" N	91° 25' 42.062" W			X	X	X	
6 South	30° 36' 28.371" N	91° 25' 34.418" W			X	X	X	
7 South	30° 36' 33.872" N	91° 25' 31.099" W	X	X	X			
8 South	30° 36' 24.063" N	91° 25' 28.795" W	X	X	X	X	X	

ACTUAL SAMPLE LOCATIONS - SOUTH FALSE RIVER AREA

Sampling and Analysis
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

Image: 2009 Pointe Coupee Parish USDA-FSA-APFO NAIP MrSID Mosaic



Figure: 2B
 Date: July 2010
 Scale: 1:8,000
 Source: USDA/GEC
 Map ID: 273161006-2187

Attachment B

TABLES

Table B-1 Water Sampling Results

Site	Date	Time Soil sample taken	Time Water sample taken	Water Depth	pH	Conductivity (µmhos/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Salinity (ppt)	BOD (mg/L)	Chlorophyll-a (mg/m ³)
S-1	7/12/2010	11:19am	—	5' 1"	8.42	0.198	4.4	8.8	31.7	—	—	—
S-1	8/9/2010	10:38 AM	—	—	8.48	0.188	24	8.15	34.4	0	—	—
S-2 - Agro.	7/12/2010	—	—	—	8.67	0.195	29	12.31	33	0	—	—
S-2	8/9/2010	10:31 AM	—	—	8.81	0.185	25	11.39	33.9	0	—	—
S-3	7/12/2010	11:57am	—	37"	8.4	0.191	31	12.2	31.9	0	—	—
S-3	8/9/2010	10:28 AM	—	—	8.45	0.186	38	8.59	34	0	—	—
S-4 Agro.	7/12/2010	—	—	—	8.59	0.192	25	12.55	33.1	0	—	—
S-4	8/9/2010	10:22 AM	—	—	8.46	0.188	—	7.9	34.1	0	—	—
S-5	7/12/2010	—	—	—	8.55	0.192	22	12.16	32.8	0	4.9	58.3
S-5	8/9/2010	10:20 AM	—	—	8.69	0.186	37	9.47	34.2	0	—	—
S-6	7/12/2010	—	—	—	8.94	0.193	26	11.7	32.5	—	5.7	72.8
S-6	8/9/2010	10:12 AM	—	—	8.32	0.187	36	8.28	34	0	—	—
S-7	7/12/2010	12:15pm	—	71"	8.38	0.193	25	12.03	32.3	—	—	—
S-7	8/9/2010	10:10 AM	—	—	8.33	0.187	27	8.86	34.1	0	—	—
S-8	7/12/2010	—	—	—	8.9	0.194	36	11.96	33.2	—	5.7	23.1
S-8	8/9/2010	10:00 AM	—	—	—	0.192	32	6.9	33.4	0	—	—
N-1	7/12/2010	—	—	4' 3"	—	—	—	—	—	—	—	—
N-1	8/9/2010	9:27 AM	—	—	8.43	0.181	27	10.97	33.6	0	—	—
N-2	7/12/2010	—	1:13pm	—	8.71	0.191	21	12.6	33	0	5.8	29.1
N-2	8/9/2010	9:21 AM	—	—	8.52	0.18	40	10.11	33.2	0	—	—
N-3	8/9/2010	9:17	—	—	8.64	0.182	32	10.85	33.8	0	—	—
N-4	7/12/2010	—	1:19pm	—	8.72	0.186	24	11.14	32.8	0	—	58.3
N-4	8/9/2010	9:11 AM	—	—	8.55	0.182	44	9.48	33.9	0	—	—
N-5	7/12/2010	—	—	7' 2"	—	—	—	—	—	—	—	—
N-5	8/9/2010	9:08 AM	—	—	8.41	0.184	29	9.28	34.1	0	—	—
N-6	7/12/2010	—	1:24 PM	—	8.65	0.192	48	10.88	33	0	4.6	58.3
N-6	8/9/2010	9:01 AM	—	—	8.46	0.185	35	9.19	34.1	0	—	—
N-7	8/9/2010	8:56 AM	—	—	8.85	0.184	30	9.81	34	0	—	—
N-8	7/12/2010	—	—	63"	—	—	—	—	—	—	—	—
N-8	8/9/2010	8:47	—	—	8.7	0.187	40	8.77	34.1	0	—	—
J. A. Property	7/12/2010	—	—	33'	6.39	0.243	12	0.1	22.4	0	—	—
J. A. Property	7/12/2010	—	—	21'	8.69	0.22	5	0.04	28.1	—	—	—
J. A. Property	7/12/2010	—	—	15'	7.55	0.212	5	0.06	29.2	—	—	—
J. A. Property	7/12/2010	—	—	9'	7.67	0.202	5	1.5	29.7	—	—	—
J. A. Property	7/12/2010	—	—	4'	8.72	0.2	11	6.5	30.6	—	—	—
J. A. Property	7/12/2010	—	—	1'	8.9	0.202	12	8.66	32.2	—	—	—

Note: " -- " Indicates that data was not analyzed.

Table B-3. Geotechnical Data

Date Tested	Sample Source	Depth (ft.)	ASTM D2216	ASTM D854	ASTM D4318			Classification
			Moisture Content (%)	Specific Gravity	Atterberg Limits			
					LL	PL	PI	
7/15/2010	N-1	0-	43.60	2.64	39	18	21	Lean Clay, gray (CL)
7/16/2010	N-5	0-	104.40	2.67	83	27	56	Fat Clay, gray (CH)
7/17/2010	N-8	0-	97.90	2.61	71	24	47	Fat Clay, gray (CH)
7/18/2010	S-1	0-	67.00	2.63	54	20	34	Fat Clay, gray (CH)
7/19/2010	S-3	0-	66.30	2.64	53	21	32	Fat Clay, gray (CH)
7/20/2010	S-7	0-	110.40	2.63	79	25	54	Fat Clay, gray (CH)

Table B-4. Agronomic Results

Sample	pH (1:1 W)	Phosphorus	Potassium	Calcium	Magnesium	Sodium	Sulfur	Copper	Zinc
N-1	7.96	25.04	197.15	5,098.71	603.93	35.66	21.43	1.07	2.61
N-2	8.06	20.14	198.92	4,264.39	605.97	36.10	12.29	1.59	2.67
N-3	8.12	51.02	231.80	4,459.56	697.55	38.57	21.05	1.14	3.10
N-5	7.90	17.32	327.88	6,257.77	977.01	67.44	22.22	1.37	4.09
N-6	8.05	26.16	196.81	4,955.72	584.98	37.63	15.60	1.21	2.95
N-7	7.72	36.57	313.21	5,269.36	895.80	52.33	39.79	1.05	6.58
N-8	7.62	31.22	237.27	3,863.15	715.94	41.35	31.72	1.07	5.78
Average	7.92	29.64	243.29	4881.23714	725.88	44.15	23.44	1.21	3.97
S-1	7.95	55.67	183.75	4,234.46	578.72	43.76	22.44	1.15	4.39
S-2	7.62	16.48	321.45	5,386.12	926.80	68.53	46.51	0.94	6.59
S-3	7.74	18.38	310.52	6,808.75	835.53	62.76	24.44	1.27	3.78
S-4	7.43	57.37	258.46	4,553.80	806.72	50.35	46.59	0.88	6.13
S-5	7.62	44.35	184.56	3,810.24	628.45	42.66	43.91	0.83	5.13
S-7	7.88	13.39	286.74	6,249.67	845.92	57.90	29.24	1.06	3.87
S-8	7.74	63.65	166.62	9,446.08	729.01	56.77	53.93	1.19	4.54
Average	7.71	38.47	244.59	5784.16	764.45	54.68	38.15	1.05	4.92

* All measurements in parts per million (ppm)

Attachment C

SEDIMENT LOGS



SEDIMENT CORING LOG

PROJECT False River Ecosystem Restoration			SITE South Flat		DATE 7-12-10		LOGGED BY J. Lindquist	
STATION ID S-1			NAV DATUM North American Datum 1983		LATITUDE 25° 45' 38.756" N		LONGITUDE 80° 38' 41.832" W	
CORE # 1	START TIME	FINISH TIME 1119	METHOD vibracore		BARREL SIZE / TYPE 3" aluminum		BARREL LENGTH 20'	
WATER DEPTH 5'1"			TARGET CORE LENGTH 5'			FINAL CORE LENGTH 9'		

DEPTH	SEDIMENT TYPE	ODOR	COLOR	SAMPLE	NOTES
1	fine sandy SILT 0-3", then fine clayey SILT	none	Gray/brown		wet 0-3"
2	fine clayey SILT	none	Gray		
3	fine clayey SILT, with woody debris	none	Gray		
4	fine silty CLAY	none	Gray		
5	fine silty CLAY	none	Gray		
6	fine silty CLAY	none	Gray		
7	fine silty CLAY	none	Gray		
8	fine silty CLAY	none	Gray		
9	fine silty CLAY	none	Gray		
10	fine silty CLAY	none	Gray		

NOTES:

composite 0-5' sampled for analysis of pesticides, herbicides, priority pollutant metals, iron
geotech and agronomic analyses



SEDIMENT CORING LOG

PROJECT False River Ecosystem Restoration			SITE South Flat		DATE 7-12-10		LOGGED BY J. Lindquist	
STATION ID S-3			NAV DATUM North American Datum 1983		LATITUDE 25° 45' 38.756" N		LONGITUDE 80° 38' 41.832" W	
CORE # 1	START TIME	FINISH TIME 1157	METHOD vibracore		BARREL SIZE / TYPE 3" aluminum		BARREL LENGTH 15'	
WATER DEPTH 3'1"			TARGET CORE LENGTH 5'			FINAL CORE LENGTH 5' 10"		
DEPTH	SEDIMENT TYPE		ODOR	COLOR	SAMPLE	NOTES		
1	fine SILT 0-2", then fine clayey SILT		none	Gray/brown		wet 0-2"		
2	fine clayey SILT		none	Gray		to 2.5'		
3	silty CLAY with brown clay lenses		none	Gray				
4	fine silty clay		none	Gray				
5	fine silty clay		none	Gray				
6	fine silty clay		none	Gray		to 5' 11"		
7								
8								
9								
10								
<p>NOTES:</p> <p>composite 0-5' sampled for analysis of pesticides, herbicides, priority pollutant metals, iron geotech and agronomic analyses</p>								



SEDIMENT CORING LOG

PROJECT False River Ecosystem Restoration			SITE South Flat		DATE 7-12-10	LOGGED BY J. Lindquist
STATION ID S-7			NAV DATUM North American Datum 1983		LATITUDE 25° 45' 38.756" N	LONGITUDE 80° 38' 41.832" W
CORE # 1	START TIME	FINISH TIME 1215	METHOD vibracore		BARREL SIZE / TYPE 3" aluminum	BARREL LENGTH 20'
WATER DEPTH 5'11"			TARGET CORE LENGTH 5'		FINAL CORE LENGTH 5' 10"	

DEPTH	SEDIMENT TYPE	ODOR	COLOR	SAMPLE	NOTES
1	fine SILT with organics	none	brown		wet 0-2"
2	fine clayey SILT	none	Gray		
3	fine clayey SILT	none	Gray		to 3.5'
4	fine silty clay	none	Gray		
5	fine silty clay	none	Gray		
6	fine silty clay	none	Gray		to 5' 10"
7					
8					
9					
10					

NOTES:

composite 0-5' sampled for analysis of pesticides, herbicides, priority pollutant metals, iron
geotech and agronomic analyses



SEDIMENT CORING LOG

PROJECT False River Ecosystem Restoration			SITE North Flat		DATE 7-12-10		LOGGED BY J. Lindquist	
STATION ID N-1			NAV DATUM North American Datum 1983		LATITUDE 25° 45' 38.756" N		LONGITUDE 80° 38' 41.832" W	
CORE # 1	START TIME	FINISH TIME 1600	METHOD vibracore		BARREL SIZE / TYPE 3" aluminum		BARREL LENGTH 15'	
WATER DEPTH 4'3"			TARGET CORE LENGTH 5'			FINAL CORE LENGTH 5' 8"		

DEPTH	SEDIMENT TYPE	ODOR	COLOR	SAMPLE	NOTES
1	shells, then fine CLAY	none	Gray		shells 0-1"
2	fine clayey SILT	none	Gray		
3	fine clayey SILT	none	Gray		
4	fine CLAY	none	Gray		
5	fine CLAY	none	Gray		
6	fine CLAY	none	Gray		to 5' 8"
7					
8					
9					
10					

NOTES:

composite 0-5' sampled for analysis of pesticides, herbicides, priority pollutant metals, iron
geotech and agronomic analyses



SEDIMENT CORING LOG

PROJECT False River Ecosystem Restoration			SITE North Flat		DATE 7-12-10		LOGGED BY J. Lindquist	
STATION ID N-5			NAV DATUM North American Datum 1983		LATITUDE 25° 45' 38.756" N		LONGITUDE 80° 38' 41.832" W	
CORE # 1	START TIME	FINISH TIME 1620	METHOD vibracore		BARREL SIZE / TYPE 3" aluminum		BARREL LENGTH 15'	
WATER DEPTH 7'2"			TARGET CORE LENGTH 5'			FINAL CORE LENGTH 4'10"		

DEPTH	SEDIMENT TYPE	ODOR	COLOR	SAMPLE	NOTES
1	SILT with shells & roots, then fine CLAY	none	Brown/gray		silt 0-6"
2	fine CLAY	none	Gray		
3	fine CLAY	none	Gray		
4	fine CLAY	none	Gray		
5	fine CLAY	none	Gray		to 4'10"
6					
7					
8					
9					
10					

NOTES:

composite 0-4'10" sampled for analysis of pesticides, herbicides, priority pollutant metals, iron
geotech and agronomic analyses



SEDIMENT CORING LOG

PROJECT False River Ecosystem Restoration			SITE North Flat		DATE 7-12-10		LOGGED BY J. Lindquist	
STATION ID N-8			NAV DATUM North American Datum 1983		LATITUDE 25° 45' 38.756" N		LONGITUDE 80° 38' 41.832" W	
CORE # 1	START TIME	FINISH TIME 1645	METHOD vibracore		BARREL SIZE / TYPE 3" aluminum		BARREL LENGTH 15'	
WATER DEPTH 5'3"			TARGET CORE LENGTH 5'			FINAL CORE LENGTH 4'		

DEPTH	SEDIMENT TYPE	ODOR	COLOR	SAMPLE	NOTES
1	SILT , then silty CLAY	none	Brown/gray		silt 0-6"
2	silty CLAY, then fine CLAY	none	Gray		silty clay to 1.5'
3	fine CLAY	none	Gray		
4	fine CLAY	none	Gray		refusal
5					
6					
7					
8					
9					
10					

NOTES:

composite 0-4 sampled for analysis of pesticides, herbicides, priority pollutant metals, iron
geotech and agronomic analyses

Attachment D

LABORATORY DOCUMENTATION

ANALYTICAL REPORT

Job Number: 700-48733-1

Job Description: False River pest/herb PP Metals

For:

Gulf Engineers & Consultants
PO BOX Drawer 84010
Baton Rouge, LA 70884-4010

Attention: Ms. Jennifer Lindquist



Approved for release.
Suzy Lindblom
Project Manager I
8/6/2010 4:35 PM

Suzy Lindblom
Project Manager I
suzy.lindblom@testamericainc.com
08/06/2010

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT - E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918).

TestAmerica Laboratories, Inc.

TestAmerica Mobile 900 Lakeside Drive, Mobile, AL 36693

Tel (251) 666-6633 Fax (251) 666-6696 www.testamericainc.com



**Job Narrative
700-48733-1**

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

Method(s) 8081A: Internal standard (ISTD) response for the following sample(s) was outside control limits: N-1 (700-48733-1), N-5 (700-48733-2), N-8 (700-48733-3), S-7 (700-48733-7). The sample(s) was re-analyzed with concurring results. The original set of data has been reported.

Method(s) 8081A: Internal standard (ISTD) response for the following sample(s) was outside control limits: S-7 MS (700-48733-7 MS), S-7 MSD (700-48733-7 MSD). The sample(s) was re-analyzed with concurring results. Both sets of data have been reported.

Method(s) 8081A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for beta-BHC, heptachlor epoxide, 4,4 -DDT were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8151A: Surrogate recovery for the following sample(s) was outside control limits: S-1 (700-48733-4). Sample did not have any target hits. Sample was reanalyzed with similar result. Data reported from the first analysis. All other samples in this batch had passing surrogates.

Method(s) 8151A: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 86283 exceeded control limits for a few analytes. Samples did not have any target hits. data reported advisory.

No other analytical or quality issues were noted.

Metals

Method(s) 6020: The laboratory control sample (LCS) associated with batch 86009 was outside acceptance criteria for zinc. The batch laboratory control sample duplicate (LCSD) and matrix spike/matrix spike duplicate (MS/MSD) were within acceptance limits for zinc; therefore, the data have been reported.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 86009 were outside control limits for antimony. The associated laboratory control samples (LCS/LCSD) recovery met acceptance criteria for antimony.

Method(s) 6020: The method blank for preparation batch 86009 contained iron above the reporting limit (RL). The associated samples contained detects for this analyte at concentrations greater than 300X the value found in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: The method blank for batch 86009 contained zinc above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 7471A: The matrix spike MS recovery for batch 86106 was outside control limits. The associated laboratory control samples (LCS/LCSD) and matrix spike duplicate (MSD) recovery met acceptance criteria.

No other analytical or quality issues were noted.

METHOD SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Organochlorine Pesticides (GC)	TAL MOB	SW846 8081A	
Ultrasonic Extraction	TAL MOB		SW846 3550B
Herbicides (GC)	TAL MOB	SW846 8151A	
Extraction (Herbicides)	TAL MOB		SW846 8151A
Metals (ICP/MS)	TAL MOB	SW846 6020	
Preparation, Metals	TAL MOB		SW846 3050B
Mercury (CVAA)	TAL MOB	SW846 7471A	
Preparation, Mercury	TAL MOB		SW846 7471A
Percent Moisture	TAL MOB	EPA Moisture	

Lab References:

TAL MOB = TestAmerica Mobile

Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Method	Analyst	Analyst ID
SW846 8081A	Ly, Xung C	XCL
SW846 8151A	Pham, Van T	VTP
SW846 6020	Thompson, Cheri D	CDT
SW846 7471A	Mathews, Robert	RDM
EPA Moisture	Hester, Jessica	JH

SAMPLE SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-48733-1	N-1	Solid	07/12/2010 1600	07/14/2010 1200
700-48733-2	N-5	Solid	07/12/2010 1620	07/14/2010 1200
700-48733-3	N-8	Solid	07/12/2010 1645	07/14/2010 1200
700-48733-4	S-1	Solid	07/12/2010 1140	07/14/2010 1200
700-48733-5	S-3	Solid	07/12/2010 1215	07/14/2010 1200
700-48733-6	S-3 Dup	Solid	07/12/2010 1215	07/14/2010 1200
700-48733-7	S-7	Solid	07/12/2010 1245	07/14/2010 1200
700-48733-7MS	S-7 MS	Solid	07/12/2010 1245	07/14/2010 1200
700-48733-7MSD	S-7 MSD	Solid	07/12/2010 1245	07/14/2010 1200

SAMPLE RESULTS

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-1

Lab Sample ID: 700-48733-1

Date Sampled: 07/12/2010 1600

Client Matrix: Solid

% Moisture: 25.2

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID:	SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume:	30.0 g
Dilution:	5.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 1409		Injection Volume:	2 uL
Date Prepared:	07/19/2010 1400		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		2.0	U	2.0	23
beta-BHC		0.16	U	0.16	2.3
alpha-BHC		0.16	U	0.16	2.3
Aldrin		0.39	U	0.39	2.3
4,4'-DDT		0.72	U	0.72	4.4
4,4'-DDE		0.40	U	0.40	4.4
4,4'-DDD		0.45	U	0.45	4.4
delta-BHC		0.33	U	0.33	2.3
Dieldrin		0.35	U	0.35	4.4
Endosulfan I		0.16	U	0.16	2.3
Endosulfan II		0.52	U	0.52	4.4
Endosulfan sulfate		0.45	U	0.45	4.4
Endrin		0.51	U	0.51	4.4
Endrin aldehyde		0.51	U	0.51	4.4
Endrin ketone		0.40	U	0.40	4.4
gamma-BHC (Lindane)		0.15	U	0.15	2.3
Heptachlor		0.25	U	0.25	2.3
Heptachlor epoxide		0.17	U	0.17	2.3
PCB-1016		4.0	U	4.0	44
PCB-1221		2.4	U	2.4	90
PCB-1232		4.9	U	4.9	44
PCB-1242		3.7	U	3.7	44
PCB-1248		5.7	U	5.7	44
PCB-1254		4.1	U	4.1	44
PCB-1260		3.5	U	3.5	44
Toxaphene		15	U	15	230

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	72		30 - 150
Tetrachloro-m-xylene	57		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-5

Lab Sample ID: 700-48733-2

Date Sampled: 07/12/2010 1620

Client Matrix: Solid

% Moisture: 45.0

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID: SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume: 30.0 g
Dilution:	5.0		Final Weight/Volume: 5.0 mL
Date Analyzed:	07/20/2010 1440		Injection Volume: 2 uL
Date Prepared:	07/19/2010 1400		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		2.7	U	2.7	31
beta-BHC		0.22	U	0.22	3.1
alpha-BHC		0.22	U	0.22	3.1
Aldrin		0.53	U	0.53	3.1
4,4'-DDT		0.98	U	0.98	6.0
4,4'-DDE		0.55	U	0.55	6.0
4,4'-DDD		0.62	U	0.62	6.0
delta-BHC		0.45	U	0.45	3.1
Dieldrin		0.47	U	0.47	6.0
Endosulfan I		0.22	U	0.22	3.1
Endosulfan II		0.71	U	0.71	6.0
Endosulfan sulfate		0.62	U	0.62	6.0
Endrin		0.69	U	0.69	6.0
Endrin aldehyde		0.69	U	0.69	6.0
Endrin ketone		0.55	U	0.55	6.0
gamma-BHC (Lindane)		0.20	U	0.20	3.1
Heptachlor		0.35	U	0.35	3.1
Heptachlor epoxide		0.24	U	0.24	3.1
PCB-1016		5.5	U	5.5	60
PCB-1221		3.3	U	3.3	120
PCB-1232		6.7	U	6.7	60
PCB-1242		5.1	U	5.1	60
PCB-1248		7.8	U	7.8	60
PCB-1254		5.6	U	5.6	60
PCB-1260		4.7	U	4.7	60
Toxaphene		20	U	20	310

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	69		30 - 150
Tetrachloro-m-xylene	57		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-8

Lab Sample ID: 700-48733-3

Date Sampled: 07/12/2010 1645

Client Matrix: Solid

% Moisture: 45.5

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID: SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume: 30.0 g
Dilution:	10		Final Weight/Volume: 5.0 mL
Date Analyzed:	07/20/2010 1511		Injection Volume: 2 uL
Date Prepared:	07/19/2010 1400		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		5.5	U	5.5	62
beta-BHC		0.44	U	0.44	6.2
alpha-BHC		0.44	U	0.44	6.2
Aldrin		1.1	U	1.1	6.2
4,4'-DDT		2.0	U	2.0	12
4,4'-DDE		1.1	U	1.1	12
4,4'-DDD		1.2	U	1.2	12
delta-BHC		0.92	U	0.92	6.2
Dieldrin		0.95	U	0.95	12
Endosulfan I		0.44	U	0.44	6.2
Endosulfan II		1.4	U	1.4	12
Endosulfan sulfate		1.2	U	1.2	12
Endrin		1.4	U	1.4	12
Endrin aldehyde		1.4	U	1.4	12
Endrin ketone		1.1	U	1.1	12
gamma-BHC (Lindane)		0.40	U	0.40	6.2
Heptachlor		0.70	U	0.70	6.2
Heptachlor epoxide		0.48	U	0.48	6.2
PCB-1016		11	U	11	120
PCB-1221		6.6	U	6.6	250
PCB-1232		14	U	14	120
PCB-1242		10	U	10	120
PCB-1248		16	U	16	120
PCB-1254		11	U	11	120
PCB-1260		9.5	U	9.5	120
Toxaphene		40	U	40	620

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	81		30 - 150
Tetrachloro-m-xylene	69		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-1

Lab Sample ID: 700-48733-4

Date Sampled: 07/12/2010 1140

Client Matrix: Solid

% Moisture: 40.0

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID:	SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume:	30.0 g
Dilution:	10		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 1542		Injection Volume:	2 uL
Date Prepared:	07/19/2010 1400		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		5.0	U	5.0	57
beta-BHC		0.40	U	0.40	5.7
alpha-BHC		0.40	U	0.40	5.7
Aldrin		0.97	U	0.97	5.7
4,4'-DDT		1.8	U	1.8	11
4,4'-DDE		1.0	U	1.0	11
4,4'-DDD		1.1	U	1.1	11
delta-BHC		0.83	U	0.83	5.7
Dieldrin		0.87	U	0.87	11
Endosulfan I		0.40	U	0.40	5.7
Endosulfan II		1.3	U	1.3	11
Endosulfan sulfate		1.1	U	1.1	11
Endrin		1.3	U	1.3	11
Endrin aldehyde		1.3	U	1.3	11
Endrin ketone		1.0	U	1.0	11
gamma-BHC (Lindane)		0.37	U	0.37	5.7
Heptachlor		0.63	U	0.63	5.7
Heptachlor epoxide		0.43	U	0.43	5.7
PCB-1016		10	U	10	110
PCB-1221		6.0	U	6.0	220
PCB-1232		12	U	12	110
PCB-1242		9.3	U	9.3	110
PCB-1248		14	U	14	110
PCB-1254		10	U	10	110
PCB-1260		8.7	U	8.7	110
Toxaphene		37	U	37	570

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	74		30 - 150
Tetrachloro-m-xylene	72		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3

Lab Sample ID: 700-48733-5

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 37.0

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID: SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume: 30.0 g
Dilution:	5.0		Final Weight/Volume: 5.0 mL
Date Analyzed:	07/20/2010 1613		Injection Volume: 2 uL
Date Prepared:	07/19/2010 1400		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		2.4	U	2.4	27
beta-BHC		0.19	U	0.19	2.7
alpha-BHC		0.19	U	0.19	2.7
Aldrin		0.46	U	0.46	2.7
4,4'-DDT		0.86	U	0.86	5.2
4,4'-DDE		0.48	U	0.48	5.2
4,4'-DDD		0.54	U	0.54	5.2
delta-BHC		0.40	U	0.40	2.7
Dieldrin		0.41	U	0.41	5.2
Endosulfan I		0.19	U	0.19	2.7
Endosulfan II		0.62	U	0.62	5.2
Endosulfan sulfate		0.54	U	0.54	5.2
Endrin		0.60	U	0.60	5.2
Endrin aldehyde		0.60	U	0.60	5.2
Endrin ketone		0.48	U	0.48	5.2
gamma-BHC (Lindane)		0.17	U	0.17	2.7
Heptachlor		0.30	U	0.30	2.7
Heptachlor epoxide		0.21	U	0.21	2.7
PCB-1016		4.8	U	4.8	52
PCB-1221		2.9	U	2.9	110
PCB-1232		5.9	U	5.9	52
PCB-1242		4.4	U	4.4	52
PCB-1248		6.8	U	6.8	52
PCB-1254		4.9	U	4.9	52
PCB-1260		4.1	U	4.1	52
Toxaphene		17	U	17	270

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	63		30 - 150
Tetrachloro-m-xylene	66		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3 Dup

Lab Sample ID: 700-48733-6

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 35.0

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID:	SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume:	30.0 g
Dilution:	5.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 1644		Injection Volume:	2 uL
Date Prepared:	07/19/2010 1400		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		2.3	U	2.3	26
beta-BHC		0.18	U	0.18	2.6
alpha-BHC		0.18	U	0.18	2.6
Aldrin		0.45	U	0.45	2.6
4,4'-DDT		0.83	U	0.83	5.1
4,4'-DDE		0.46	U	0.46	5.1
4,4'-DDD		0.52	U	0.52	5.1
delta-BHC		0.38	U	0.38	2.6
Dieldrin		0.40	U	0.40	5.1
Endosulfan I		0.18	U	0.18	2.6
Endosulfan II		0.60	U	0.60	5.1
Endosulfan sulfate		0.52	U	0.52	5.1
Endrin		0.58	U	0.58	5.1
Endrin aldehyde		0.58	U	0.58	5.1
Endrin ketone		0.46	U	0.46	5.1
gamma-BHC (Lindane)		0.17	U	0.17	2.6
Heptachlor		0.29	U	0.29	2.6
Heptachlor epoxide		0.20	U	0.20	2.6
PCB-1016		4.6	U	4.6	51
PCB-1221		2.8	U	2.8	100
PCB-1232		5.7	U	5.7	51
PCB-1242		4.3	U	4.3	51
PCB-1248		6.6	U	6.6	51
PCB-1254		4.8	U	4.8	51
PCB-1260		4.0	U	4.0	51
Toxaphene		17	U	17	260

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	68		30 - 150
Tetrachloro-m-xylene	69		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-7

Lab Sample ID: 700-48733-7

Date Sampled: 07/12/2010 1245

Client Matrix: Solid

% Moisture: 48.1

Date Received: 07/14/2010 1200

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 700-86961	Instrument ID: SGZ
Preparation:	3550B	Prep Batch: 700-86263	Initial Weight/Volume: 30.0 g
Dilution:	5.0		Final Weight/Volume: 5.0 mL
Date Analyzed:	07/20/2010 1715		Injection Volume: 2 uL
Date Prepared:	07/19/2010 1400		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chlordane (technical)		2.9	U	2.9	33
beta-BHC		0.23	U	0.23	3.3
alpha-BHC		0.23	U	0.23	3.3
Aldrin		0.56	U	0.56	3.3
4,4'-DDT		1.0	U	1.0	6.4
4,4'-DDE		0.58	U	0.58	6.4
4,4'-DDD		0.65	U	0.65	6.4
delta-BHC		0.48	U	0.48	3.3
Dieldrin		0.50	U	0.50	6.4
Endosulfan I		0.23	U	0.23	3.3
Endosulfan II		0.75	U	0.75	6.4
Endosulfan sulfate		0.65	U	0.65	6.4
Endrin		0.73	U	0.73	6.4
Endrin aldehyde		0.73	U	0.73	6.4
Endrin ketone		0.58	U	0.58	6.4
gamma-BHC (Lindane)		0.21	U	0.21	3.3
Heptachlor		0.37	U	0.37	3.3
Heptachlor epoxide		0.25	U	0.25	3.3
PCB-1016		5.8	U	5.8	64
PCB-1221		3.5	U	3.5	130
PCB-1232		7.1	U	7.1	64
PCB-1242		5.4	U	5.4	64
PCB-1248		8.3	U	8.3	64
PCB-1254		6.0	U	6.0	64
PCB-1260		5.0	U	5.0	64
Toxaphene		21	U	21	330

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	73		30 - 150
Tetrachloro-m-xylene	75		30 - 150

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-1

Lab Sample ID: 700-48733-1

Date Sampled: 07/12/2010 1600

Client Matrix: Solid

% Moisture: 25.2

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 1942		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		2.3	U *	2.3	27
2,4-D		3.2	U	3.2	11
2,4-DB		1.5	U *	1.5	11
2,4,5-T		1.2	U	1.2	11
Silvex (2,4,5-TP)		2.0	U	2.0	11
Dalapon		2.7	U *	2.7	2700
Dinoseb		41	U *	41	130
MCP		160	U *	160	2700
Pentachlorophenol		0.96	U	0.96	23
Dichlorprop		1.1	U	1.1	130
MCPA		99	U *	99	2700
Picloram		4.4	U *	4.4	4.4
Chloramben		6.4	U	6.4	130

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	44		10 - 135

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-5

Lab Sample ID: 700-48733-2

Date Sampled: 07/12/2010 1620

Client Matrix: Solid

% Moisture: 45.0

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 2025		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		3.1	U *	3.1	36
2,4-D		4.4	U	4.4	15
2,4-DB		2.0	U *	2.0	15
2,4,5-T		1.6	U	1.6	15
Silvex (2,4,5-TP)		2.7	U	2.7	15
Dalapon		3.6	U *	3.6	3600
Dinoseb		56	U *	56	180
MCP		220	U *	220	3600
Pentachlorophenol		1.3	U	1.3	31
Dichlorprop		1.5	U	1.5	180
MCPA		130	U *	130	3600
Picloram		6.0	U *	6.0	6.0
Chloramben		8.7	U	8.7	180
Surrogate		%Rec	Qualifier	Acceptance Limits	
2,4-Dichlorophenylacetic acid		31		10 - 135	

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-8

Lab Sample ID: 700-48733-3

Date Sampled: 07/12/2010 1645

Client Matrix: Solid

% Moisture: 45.5

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 2109		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		3.1	U *	3.1	37
2,4-D		4.4	U	4.4	15
2,4-DB		2.0	U *	2.0	15
2,4,5-T		1.6	U	1.6	15
Silvex (2,4,5-TP)		2.8	U	2.8	15
Dalapon		3.7	U *	3.7	3700
Dinoseb		57	U *	57	180
MCPD		220	U *	220	3700
Pentachlorophenol		1.3	U	1.3	31
Dichlorprop		1.5	U	1.5	180
MCPA		140	U *	140	3700
Picloram		6.1	U *	6.1	6.1
Chloramben		8.8	U	8.8	180
Surrogate		%Rec	Qualifier	Acceptance Limits	
2,4-Dichlorophenylacetic acid		40		10 - 135	

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-1

Lab Sample ID: 700-48733-4

Date Sampled: 07/12/2010 1140

Client Matrix: Solid

% Moisture: 40.0

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 2152		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		2.8	U *	2.8	33
2,4-D		4.0	U	4.0	14
2,4-DB		1.8	U *	1.8	14
2,4,5-T		1.5	U	1.5	14
Silvex (2,4,5-TP)		2.5	U	2.5	14
Dalapon		3.3	U *	3.3	3300
Dinoseb		52	U *	52	170
MCP		200	U *	200	3300
Pentachlorophenol		1.2	U	1.2	28
Dichlorprop		1.3	U	1.3	170
MCPA		120	U *	120	3300
Picloram		5.5	U *	5.5	5.5
Chloramben		8.0	U	8.0	170
Surrogate		%Rec	Qualifier	Acceptance Limits	
2,4-Dichlorophenylacetic acid		4	X	10 - 135	

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3

Lab Sample ID: 700-48733-5

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 37.0

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 2235		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		2.7	U *	2.7	32
2,4-D		3.8	U	3.8	13
2,4-DB		1.7	U *	1.7	13
2,4,5-T		1.4	U	1.4	13
Silvex (2,4,5-TP)		2.4	U	2.4	13
Dalapon		3.2	U *	3.2	3200
Dinoseb		49	U *	49	160
MCP		190	U *	190	3200
Pentachlorophenol		1.1	U	1.1	27
Dichlorprop		1.3	U	1.3	160
MCPA		120	U *	120	3200
Picloram		5.2	U *	5.2	5.2
Chloramben		7.6	U	7.6	160
Surrogate		%Rec	Qualifier	Acceptance Limits	
2,4-Dichlorophenylacetic acid		54		10 - 135	

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3 Dup

Lab Sample ID: 700-48733-6

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 35.0

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/20/2010 2317		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		2.6	U *	2.6	31
2,4-D		3.7	U	3.7	13
2,4-DB		1.7	U *	1.7	13
2,4,5-T		1.3	U	1.3	13
Silvex (2,4,5-TP)		2.3	U	2.3	13
Dalapon		3.1	U *	3.1	3100
Dinoseb		48	U *	48	150
MCP		180	U *	180	3100
Pentachlorophenol		1.1	U	1.1	26
Dichlorprop		1.2	U	1.2	150
MCPA		110	U *	110	3100
Picloram		5.1	U *	5.1	5.1
Chloramben		7.4	U	7.4	150
Surrogate		%Rec	Qualifier	Acceptance Limits	
2,4-Dichlorophenylacetic acid		58		10 - 135	

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-7

Lab Sample ID: 700-48733-7

Date Sampled: 07/12/2010 1245

Client Matrix: Solid

% Moisture: 48.1

Date Received: 07/14/2010 1200

8151A Herbicides (GC)

Method:	8151A	Analysis Batch: 700-86652	Instrument ID:	SGY
Preparation:	8151A	Prep Batch: 700-86283	Initial Weight/Volume:	50.0 g
Dilution:	4.0		Final Weight/Volume:	5.0 mL
Date Analyzed:	07/21/2010 0000		Injection Volume:	0.5 uL
Date Prepared:	07/19/2010 0815		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Dicamba		3.3	U *	3.3	39
2,4-D		4.6	U	4.6	16
2,4-DB		2.1	U *	2.1	16
2,4,5-T		1.7	U	1.7	16
Silvex (2,4,5-TP)		2.9	U	2.9	16
Dalapon		3.9	U *	3.9	3900
Dinoseb		60	U *	60	190
MCP		230	U *	230	3900
Pentachlorophenol		1.4	U	1.4	33
Dichlorprop		1.5	U	1.5	190
MCPA		140	U *	140	3900
Picloram		6.4	U *	6.4	6.4
Chloramben		9.2	U	9.2	190
Surrogate		%Rec	Qualifier	Acceptance Limits	
2,4-Dichlorophenylacetic acid		30		10 - 135	

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-1

Lab Sample ID: 700-48733-1

Date Sampled: 07/12/2010 1600

Client Matrix: Solid

% Moisture: 25.2

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722376.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.82 g
 Date Analyzed: 07/25/2010 0417 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.080	J	0.0081	0.081
Antimony		0.13	J	0.098	0.41
Arsenic		3.9		0.090	0.41
Beryllium		0.60		0.021	0.41
Chromium		13		0.15	0.41
Iron		15000	B	3.3	20
Lead		11		0.060	0.20
Zinc		52	* B	1.6	3.3

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728160.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.82 g
 Date Analyzed: 07/29/2010 1708 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.41		0.16	0.41
Nickel		24		0.13	0.41

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804041.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.82 g
 Date Analyzed: 08/05/2010 0011 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		37		0.33	0.81
Selenium		0.31	J	0.039	0.41

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805041.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.82 g
 Date Analyzed: 08/05/2010 2216 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.22		0.073	0.081

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-1

Lab Sample ID: 700-48733-1

Date Sampled: 07/12/2010 1600

Client Matrix: Solid

% Moisture: 25.2

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume: 0.61 g

Date Analyzed: 07/16/2010 1906

Final Weight/Volume: 40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.033		0.016	0.018

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-5

Lab Sample ID: 700-48733-2

Date Sampled: 07/12/2010 1620

Client Matrix: Solid

% Moisture: 45.0

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722377.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.73 g
 Date Analyzed: 07/25/2010 0426 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.12		0.012	0.12
Antimony		0.15	J	0.15	0.62
Arsenic		6.7		0.14	0.62
Beryllium		1.1		0.032	0.62
Chromium		22		0.24	0.62
Iron		24000	B	5.0	31
Lead		18		0.092	0.31
Zinc		88	* B	2.5	5.0

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728161.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.73 g
 Date Analyzed: 07/29/2010 1719 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.66		0.25	0.62
Nickel		28		0.20	0.62

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804042.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.73 g
 Date Analyzed: 08/05/2010 0020 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		28		0.50	1.2
Selenium		0.50	J	0.060	0.62

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805042.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.73 g
 Date Analyzed: 08/05/2010 2224 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.32		0.11	0.12

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-5

Lab Sample ID: 700-48733-2

Date Sampled: 07/12/2010 1620

Client Matrix: Solid

% Moisture: 45.0

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume: 0.65 g

Date Analyzed: 07/16/2010 1908

Final Weight/Volume: 40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.048		0.020	0.022

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-8

Lab Sample ID: 700-48733-3

Date Sampled: 07/12/2010 1645

Client Matrix: Solid

% Moisture: 45.5

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722378.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.94 g
 Date Analyzed: 07/25/2010 0434 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.11		0.0098	0.098
Antimony		0.12	U	0.12	0.49
Arsenic		8.3		0.11	0.49
Beryllium		0.65		0.025	0.49
Chromium		15		0.19	0.49
Iron		19000	B	3.9	24
Lead		16		0.072	0.24
Zinc		76	* B	2.0	3.9

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728162.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.94 g
 Date Analyzed: 07/29/2010 1727 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.75		0.20	0.49
Nickel		20		0.16	0.49

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804043.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.94 g
 Date Analyzed: 08/05/2010 0028 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		16		0.39	0.98
Selenium		0.46	J	0.047	0.49

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805043.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.94 g
 Date Analyzed: 08/05/2010 2232 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.24		0.088	0.098

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: N-8

Lab Sample ID: 700-48733-3

Date Sampled: 07/12/2010 1645

Client Matrix: Solid

% Moisture: 45.5

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume: 0.65 g

Date Analyzed: 07/16/2010 1910

Final Weight/Volume: 40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.028		0.020	0.023

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-1

Lab Sample ID: 700-48733-4

Date Sampled: 07/12/2010 1140

Client Matrix: Solid

% Moisture: 40.0

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722379.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.77 g
 Date Analyzed: 07/25/2010 0442 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.099	J	0.011	0.11
Antimony		0.15	J	0.13	0.54
Arsenic		6.9		0.12	0.54
Beryllium		0.73		0.028	0.54
Chromium		16		0.21	0.54
Iron		19000	B	4.3	27
Lead		14		0.080	0.27
Zinc		72	* B	2.2	4.3

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728163.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.77 g
 Date Analyzed: 07/29/2010 1735 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.67		0.22	0.54
Nickel		23		0.17	0.54

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804044.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.77 g
 Date Analyzed: 08/05/2010 0036 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		18		0.43	1.1
Selenium		0.50	J	0.052	0.54

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805044.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.77 g
 Date Analyzed: 08/05/2010 2241 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.27		0.097	0.11

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-1

Lab Sample ID: 700-48733-4

Date Sampled: 07/12/2010 1140

Client Matrix: Solid

% Moisture: 40.0

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume:

0.69 g

Date Analyzed: 07/16/2010 1912

Final Weight/Volume:

40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.039		0.017	0.019

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3

Lab Sample ID: 700-48733-5

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 37.0

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722380.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.92 g
 Date Analyzed: 07/25/2010 0451 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.11		0.0086	0.086
Antimony		0.13	J	0.10	0.43
Arsenic		6.4		0.095	0.43
Beryllium		0.85		0.022	0.43
Chromium		18		0.16	0.43
Iron		21000	B	3.4	22
Lead		15		0.064	0.22
Zinc		74	* B	1.7	3.4

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728164.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.92 g
 Date Analyzed: 07/29/2010 1744 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.55		0.17	0.43
Nickel		23		0.14	0.43

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804045.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.92 g
 Date Analyzed: 08/05/2010 0045 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		20		0.34	0.86
Selenium		0.47		0.041	0.43

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805045.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.92 g
 Date Analyzed: 08/05/2010 2249 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.28		0.078	0.086

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3

Lab Sample ID: 700-48733-5

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 37.0

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume: 0.54 g

Date Analyzed: 07/16/2010 1918

Final Weight/Volume: 40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.037		0.021	0.023

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3 Dup

Lab Sample ID: 700-48733-6

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 35.0

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722381.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.71 g
 Date Analyzed: 07/25/2010 0459 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.11		0.011	0.11
Antimony		0.14	J	0.13	0.54
Arsenic		5.8		0.12	0.54
Beryllium		0.76		0.028	0.54
Chromium		17		0.21	0.54
Iron		19000	B	4.3	27
Lead		14		0.080	0.27
Zinc		68	* B	2.2	4.3

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728165.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.71 g
 Date Analyzed: 07/29/2010 1752 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.57		0.22	0.54
Nickel		23		0.17	0.54

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804046.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.71 g
 Date Analyzed: 08/05/2010 0053 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		19		0.43	1.1
Selenium		0.43	J	0.052	0.54

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805046.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.71 g
 Date Analyzed: 08/05/2010 2257 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.27		0.098	0.11

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-3 Dup

Lab Sample ID: 700-48733-6

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

% Moisture: 35.0

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume: 0.63 g

Date Analyzed: 07/16/2010 1920

Final Weight/Volume: 40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.043		0.018	0.020

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-7

Lab Sample ID: 700-48733-7

Date Sampled: 07/12/2010 1245

Client Matrix: Solid

% Moisture: 48.1

Date Received: 07/14/2010 1200

6020 Metals (ICP/MS)

Method: 6020 Analysis Batch: 700-86550 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0722375.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.96 g
 Date Analyzed: 07/25/2010 0409 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silver		0.11		0.010	0.10
Antimony		0.14	J	0.12	0.50
Arsenic		7.6		0.11	0.50
Beryllium		0.80		0.026	0.50
Chromium		17		0.19	0.50
Iron		21000	B	4.0	25
Lead		16		0.074	0.25
Zinc		74	* B	2.0	4.0

Method: 6020 Analysis Batch: 700-86877 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0728159.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.96 g
 Date Analyzed: 07/29/2010 1700 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.65		0.20	0.50
Nickel		23		0.16	0.50

Method: 6020 Analysis Batch: 700-87296 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0804040.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.96 g
 Date Analyzed: 08/05/2010 0003 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Copper		20		0.40	1.0
Selenium		0.50		0.048	0.50

Method: 6020 Analysis Batch: 700-87348 Instrument ID: ICPMS
 Preparation: 3050B Prep Batch: 700-86009 Lab File ID: 0805040.D#.raw
 Dilution: 10 Initial Weight/Volume: 0.96 g
 Date Analyzed: 08/05/2010 2207 Final Weight/Volume: 50 mL
 Date Prepared: 07/15/2010 1135

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Thallium		0.28		0.090	0.10

7471A Mercury (CVAA)

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Client Sample ID: S-7

Lab Sample ID: 700-48733-7

Date Sampled: 07/12/2010 1245

Client Matrix: Solid

% Moisture: 48.1

Date Received: 07/14/2010 1200

7471A Mercury (CVAA)

Method: 7471A

Analysis Batch: 700-86113

Instrument ID:

LEEMAN HYDRA

Preparation: 7471A

Prep Batch: 700-86106

Lab File ID:

SS86106.CSV

Dilution: 1.0

Initial Weight/Volume: 0.61 g

Date Analyzed: 07/16/2010 1901

Final Weight/Volume: 40 mL

Date Prepared: 07/16/2010 1430

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.045		0.023	0.025

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: N-1

Lab Sample ID: 700-48733-1

Date Sampled: 07/12/2010 1600

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	25		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010 1115					DryWt Corrected: N
Percent Solids	75		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010 1115					DryWt Corrected: N

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: N-5

Lab Sample ID: 700-48733-2

Date Sampled: 07/12/2010 1620

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	45		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010	1115				DryWt Corrected: N
Percent Solids	55		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010	1115				DryWt Corrected: N

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: N-8

Lab Sample ID: 700-48733-3

Date Sampled: 07/12/2010 1645

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	45		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010	1115				DryWt Corrected: N
Percent Solids	55		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010	1115				DryWt Corrected: N

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: S-1

Lab Sample ID: 700-48733-4

Date Sampled: 07/12/2010 1140

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	40		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010		1115			DryWt Corrected: N
Percent Solids	60		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010		1115			DryWt Corrected: N

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: S-3

Lab Sample ID: 700-48733-5

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	37		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010 1115					DryWt Corrected: N
Percent Solids	63		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010 1115					DryWt Corrected: N

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: S-3 Dup

Lab Sample ID: 700-48733-6

Date Sampled: 07/12/2010 1215

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	35		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010 1115					DryWt Corrected: N
Percent Solids	65		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010 1115					DryWt Corrected: N

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

General Chemistry

Client Sample ID: S-7

Lab Sample ID: 700-48733-7

Date Sampled: 07/12/2010 1245

Client Matrix: Solid

Date Received: 07/14/2010 1200

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	48		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010	1115				DryWt Corrected: N
Percent Solids	52		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 700-86107	Date Analyzed: 07/16/2010	1115				DryWt Corrected: N

DATA REPORTING QUALIFIERS

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Lab Section	Qualifier	Description
GC Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate is outside control limits
Metals		
	B	Compound was found in the blank and sample.
	U	Indicates the analyte was analyzed for but not detected.
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

QUALITY CONTROL RESULTS

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Method Blank - Batch: 700-86263

**Method: 8081A
Preparation: 3550B**

Lab Sample ID: MB 700-86263/1-A
 Client Matrix: Solid
 Dilution: 5.0
 Date Analyzed: 07/20/2010 1338
 Date Prepared: 07/19/2010 1400

Analysis Batch: 700-86961
 Prep Batch: 700-86263
 Units: ug/Kg

Instrument ID: SGZ
 Lab File ID: Z072010.D
 Initial Weight/Volume: 30.0 g
 Final Weight/Volume: 5.0 mL
 Injection Volume: 2 uL
 Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Chlordane (technical)	1.5	U	1.5	17
beta-BHC	0.12	U	0.12	1.7
alpha-BHC	0.12	U	0.12	1.7
Aldrin	0.29	U	0.29	1.7
4,4'-DDT	0.54	U	0.54	3.3
4,4'-DDE	0.30	U	0.30	3.3
4,4'-DDD	0.34	U	0.34	3.3
delta-BHC	0.25	U	0.25	1.7
Dieldrin	0.26	U	0.26	3.3
Endosulfan I	0.12	U	0.12	1.7
Endosulfan II	0.39	U	0.39	3.3
Endosulfan sulfate	0.34	U	0.34	3.3
Endrin	0.38	U	0.38	3.3
Endrin aldehyde	0.38	U	0.38	3.3
Endrin ketone	0.30	U	0.30	3.3
gamma-BHC (Lindane)	0.11	U	0.11	1.7
Heptachlor	0.19	U	0.19	1.7
Heptachlor epoxide	0.13	U	0.13	1.7
PCB-1016	3.0	U	3.0	33
PCB-1221	1.8	U	1.8	67
PCB-1232	3.7	U	3.7	33
PCB-1242	2.8	U	2.8	33
PCB-1248	4.3	U	4.3	33
PCB-1254	3.1	U	3.1	33
PCB-1260	2.6	U	2.6	33
Toxaphene	11	U	11	170
Surrogate	% Rec		Acceptance Limits	
DCB Decachlorobiphenyl	84		30 - 150	
Tetrachloro-m-xylene	73		30 - 150	

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 700-86263**

**Method: 8081A
Preparation: 3550B**

LCS Lab Sample ID: LCS 700-86263/2-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 07/20/2010 1237
Date Prepared: 07/19/2010 1400

Analysis Batch: 700-86961
Prep Batch: 700-86263
Units: ug/Kg

Instrument ID: SGZ
Lab File ID: Z072008.D
Initial Weight/Volume: 30.0 g
Final Weight/Volume: 5.0 mL
Injection Volume: 2 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 700-86263/3-A
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 07/20/2010 1308
Date Prepared: 07/19/2010 1400

Analysis Batch: 700-86961
Prep Batch: 700-86263
Units: ug/Kg

Instrument ID: SGZ
Lab File ID: Z072009.D
Initial Weight/Volume: 30.0 g
Final Weight/Volume: 5.0 mL
Injection Volume: 2 uL
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
beta-BHC	137	124	12 - 148	10	40		
alpha-BHC	86	85	20 - 130	1	40		
Aldrin	82	83	25 - 130	2	38		
4,4'-DDT	59	57	24 - 148	4	30		
4,4'-DDE	84	88	20 - 130	5	30		
4,4'-DDD	92	95	13 - 148	3	50		
delta-BHC	84	82	10 - 146	3	47		
Dieldrin	90	93	22 - 145	3	30		
Endosulfan I	95	97	17 - 199	2	40		
Endosulfan II	98	100	10 - 146	3	65		
Endosulfan sulfate	97	98	10 - 166	1	50		
Endrin	98	99	26 - 140	1	32		
Endrin aldehyde	95	91	14 - 135	4	86		
Endrin ketone	91	93	24 - 145	2	31		
gamma-BHC (Lindane)	94	94	20 - 130	0	37		
Heptachlor	85	87	19 - 139	2	38		
Heptachlor epoxide	97	98	38 - 130	1	40		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
DCB Decachlorobiphenyl	82		89		30 - 150		
Tetrachloro-m-xylene	84		81		30 - 150		

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 700-86263

Method: 8081A

Preparation: 3550B

MS Lab Sample ID: 700-48733-7
 Client Matrix: Solid
 Dilution: 5.0
 Date Analyzed: 07/20/2010 1746
 Date Prepared: 07/19/2010 1400

Analysis Batch: 700-86961
 Prep Batch: 700-86263

Instrument ID: SGZ
 Lab File ID: Z072018.D
 Initial Weight/Volume: 15.0 g
 Final Weight/Volume: 5.0 mL
 Injection Volume: 2 uL
 Column ID: PRIMARY

MSD Lab Sample ID: 700-48733-7
 Client Matrix: Solid
 Dilution: 5.0
 Date Analyzed: 07/20/2010 1817
 Date Prepared: 07/19/2010 1400

Analysis Batch: 700-86961
 Prep Batch: 700-86263

Instrument ID: SGZ
 Lab File ID: Z072019.D
 Initial Weight/Volume: 15.0 g
 Final Weight/Volume: 5.0 mL
 Injection Volume: 2 uL
 Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
beta-BHC	266	161	12 - 148	48	40	F	F
alpha-BHC	120	101	20 - 130	16	40		
Aldrin	83	87	25 - 130	5	38		
4,4'-DDT	14	11	24 - 148	28	30	J F	J F
4,4'-DDE	84	85	20 - 130	2	30		
4,4'-DDD	118	106	13 - 148	10	50		
delta-BHC	121	96	10 - 146	22	47		
Dieldrin	87	89	22 - 145	3	30		
Endosulfan I	95	100	17 - 199	6	40		
Endosulfan II	95	92	10 - 146	3	65		
Endosulfan sulfate	96	94	10 - 166	1	50		
Endrin	94	97	26 - 140	4	32		
Endrin aldehyde	121	98	14 - 135	20	86		
Endrin ketone	84	74	24 - 145	13	31		
gamma-BHC (Lindane)	98	100	20 - 130	3	37		
Heptachlor	102	95	19 - 139	6	38		
Heptachlor epoxide	13	49	38 - 130	117	40	J F	F
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
DCB Decachlorobiphenyl	74		82	30 - 150			
Tetrachloro-m-xylene	77		75	30 - 150			

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Method Blank - Batch: 700-86283

Lab Sample ID: MB 700-86283/1-A
 Client Matrix: Solid
 Dilution: 4.0
 Date Analyzed: 07/20/2010 1859
 Date Prepared: 07/19/2010 0815

Analysis Batch: 700-86652
 Prep Batch: 700-86283
 Units: ug/Kg

**Method: 8151A
 Preparation: 8151A**

Instrument ID: SGY
 Lab File ID: Y072008.D
 Initial Weight/Volume: 50.0 g
 Final Weight/Volume: 5.0 mL
 Injection Volume: 0.5 uL
 Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Dicamba	1.7	U	1.7	20
2,4-D	2.4	U	2.4	8.3
2,4-DB	1.1	U	1.1	8.3
2,4,5-T	0.87	U	0.87	8.3
Silvex (2,4,5-TP)	1.5	U	1.5	8.3
Dalapon	2.0	U	2.0	2000
Dinoseb	31	U	31	100
MCPP	120	U	120	2000
Pentachlorophenol	0.72	U	0.72	17
Dichlorprop	0.80	U	0.80	100
MCPA	74	U	74	2000
Picloram	3.3	U	3.3	3.3
Chloramben	4.8	U	4.8	100
Surrogate	% Rec		Acceptance Limits	
2,4-Dichlorophenylacetic acid	49		10 - 135	

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 700-86283**

**Method: 8151A
Preparation: 8151A**

LCS Lab Sample ID: LCS 700-86283/2-A
Client Matrix: Solid
Dilution: 4.0
Date Analyzed: 07/20/2010 1647
Date Prepared: 07/19/2010 0815

Analysis Batch: 700-86652
Prep Batch: 700-86283
Units: ug/Kg

Instrument ID: SGY
Lab File ID: Y072005.D
Initial Weight/Volume: 50.0 g
Final Weight/Volume: 5.0 mL
Injection Volume: 0.5 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 700-86283/3-A
Client Matrix: Solid
Dilution: 4.0
Date Analyzed: 07/20/2010 1731
Date Prepared: 07/19/2010 0815

Analysis Batch: 700-86652
Prep Batch: 700-86283
Units: ug/Kg

Instrument ID: SGY
Lab File ID: Y072006.D
Initial Weight/Volume: 50.0 g
Final Weight/Volume: 5.0 mL
Injection Volume: 0.5 uL
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
2,4-D	80	67	26 - 159	18	47		
2,4-DB	32	16	10 - 181	66	40	J	J *
2,4,5-T	39	34	27 - 168	13	59	J	J
Silvex (2,4,5-TP)	54	44	32 - 134	20	51		
Pentachlorophenol	48	43	16 - 132	11	40	J	J
Dichlorprop	41	33	28 - 100	23	40	J	J
Picloram	9	19	10 - 150	68	40	U *	*
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
2,4-Dichlorophenylacetic acid	29		24		10 - 135		

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 700-86283

Method: 8151A

Preparation: 8151A

MS Lab Sample ID: 700-48733-7
 Client Matrix: Solid
 Dilution: 4.0
 Date Analyzed: 07/21/2010 0042
 Date Prepared: 07/19/2010 0815

Analysis Batch: 700-86652
 Prep Batch: 700-86283

Instrument ID: SGY
 Lab File ID: Y072016.D
 Initial Weight/Volume: 50.0 g
 Final Weight/Volume: 5.0 mL
 Injection Volume: 0.5 uL
 Column ID: PRIMARY

MSD Lab Sample ID: 700-48733-7
 Client Matrix: Solid
 Dilution: 4.0
 Date Analyzed: 07/21/2010 0125
 Date Prepared: 07/19/2010 0815

Analysis Batch: 700-86652
 Prep Batch: 700-86283

Instrument ID: SGY
 Lab File ID: Y072017.D
 Initial Weight/Volume: 50.0 g
 Final Weight/Volume: 5.0 mL
 Injection Volume: 0.5 uL
 Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
2,4-D	14	0	26 - 159	NC	47	J F	U F
2,4-DB	18	12	10 - 181	37	40	J	J
2,4,5-T	21	19	27 - 168	10	59	J F	J F
Silvex (2,4,5-TP)	39	28	32 - 134	30	51	J	J F
Pentachlorophenol	46	28	16 - 132	50	40	J	J F
Dichlorprop	27	23	28 - 100	13	40	J F	J F
Picloram	0	0	10 - 150	NC	40	U F	U F
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
2,4-Dichlorophenylacetic acid	24		28	10 - 135			

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Method Blank - Batch: 700-86009

Lab Sample ID: MB 700-86009/1-A
Client Matrix: Solid
Dilution: 10
Date Analyzed: 07/25/2010 0400
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-86550
Prep Batch: 700-86009
Units: mg/Kg

Method: 6020 Preparation: 3050B

Instrument ID: ICPMS
Lab File ID: 0722374.D#.raw
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Silver	0.010	U	0.010	0.10
Antimony	0.12	U	0.12	0.50
Arsenic	0.11	U	0.11	0.50
Beryllium	0.026	U	0.026	0.50
Cadmium	0.20	U	0.20	0.50
Chromium	0.19	U	0.19	0.50
Copper	0.40	U	0.40	1.0
Iron	31.5		4.0	25
Lead	0.074	U	0.074	0.25
Nickel	0.16	U	0.16	0.50
Selenium	0.048	U	0.048	0.50
Zinc	3.79	J	2.0	4.0

Method Blank - Batch: 700-86009

Lab Sample ID: MB 700-86009/1-A
Client Matrix: Solid
Dilution: 10
Date Analyzed: 07/29/2010 1651
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-86877
Prep Batch: 700-86009
Units: mg/Kg

Method: 6020 Preparation: 3050B

Instrument ID: ICPMS
Lab File ID: 0728158.D#.raw
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Thallium	0.090	U	0.090	0.10

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Method Blank - Batch: 700-86009

Lab Sample ID: MB 700-86009/1-A
Client Matrix: Solid
Dilution: 10
Date Analyzed: 08/04/2010 2338
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-87296
Prep Batch: 700-86009
Units: mg/Kg

Method: 6020 Preparation: 3050B

Instrument ID: ICPMS
Lab File ID: 0804038.D#.raw
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Copper	0.40	U	0.40	1.0
Selenium	0.048	U	0.048	0.50

Method Blank - Batch: 700-86009

Lab Sample ID: MB 700-86009/1-A
Client Matrix: Solid
Dilution: 10
Date Analyzed: 08/05/2010 2142
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-87348
Prep Batch: 700-86009
Units: mg/Kg

Method: 6020 Preparation: 3050B

Instrument ID: ICPMS
Lab File ID: 0805038.D#.raw
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Thallium	0.090	U	0.090	0.10

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 700-86009**

**Method: 6020
Preparation: 3050B**

LCS Lab Sample ID: LCS 700-86009/2-A
Client Matrix: Solid
Dilution: 25
Date Analyzed: 07/25/2010 0209
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-86550
Prep Batch: 700-86009
Units: mg/Kg

Instrument ID: ICPMS
Lab File ID: 0722363.D#.raw
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 700-86009/3-A
Client Matrix: Solid
Dilution: 25
Date Analyzed: 07/25/2010 0218
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-86550
Prep Batch: 700-86009
Units: mg/Kg

Instrument ID: ICPMS
Lab File ID: 0722364.D#.raw
Initial Weight/Volume: 0.5 g
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Silver	106	102	75 - 125	4	20		
Antimony	111	108	75 - 125	2	20		
Arsenic	111	108	75 - 125	3	20		
Beryllium	104	100	75 - 125	4	20		
Cadmium	112	109	75 - 125	3	20		
Chromium	112	107	75 - 125	4	20		
Copper	109	106	75 - 125	3	20		
Iron	119	110	75 - 125	8	20		
Lead	117	112	75 - 125	4	20		
Nickel	108	106	75 - 125	2	20		
Selenium	111	107	75 - 125	4	20		
Thallium	121	117	75 - 125	3	20		
Zinc	130	116	75 - 125	11	20	*	

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 700-86009**

**Method: 6020
Preparation: 3050B**

MS Lab Sample ID: 700-48733-7
Client Matrix: Solid
Dilution: 25
Date Analyzed: 07/25/2010 0226
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-86550
Prep Batch: 700-86009

Instrument ID: ICPMS
Lab File ID: 0722365.D#.raw
Initial Weight/Volume: 0.88 g
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 700-48733-7
Client Matrix: Solid
Dilution: 25
Date Analyzed: 07/25/2010 0235
Date Prepared: 07/15/2010 1135

Analysis Batch: 700-86550
Prep Batch: 700-86009

Instrument ID: ICPMS
Lab File ID: 0722366.D#.raw
Initial Weight/Volume: 0.88 g
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Silver	105	101	70 - 130	3	20		
Antimony	41	42	70 - 130	3	20	F	F
Arsenic	109	104	70 - 130	3	20		
Beryllium	105	102	70 - 130	2	20		
Cadmium	112	108	70 - 130	3	20		
Chromium	111	106	70 - 130	3	20		
Copper	106	101	70 - 130	3	20		
Iron	1080	963	70 - 130	1	20	4	4
Lead	116	112	70 - 130	2	20		
Nickel	106	101	70 - 130	4	20		
Selenium	111	107	70 - 130	3	20		
Thallium	122	120	70 - 130	1	20		
Zinc	120	118	70 - 130	1	20		

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Method Blank - Batch: 700-86106

Lab Sample ID: MB 700-86106/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 07/16/2010 1855
 Date Prepared: 07/16/2010 1430

Analysis Batch: 700-86113
 Prep Batch: 700-86106
 Units: mg/Kg

**Method: 7471A
 Preparation: 7471A**

Instrument ID: LEEMAN HYDRA
 Lab File ID: SS86106.CSV
 Initial Weight/Volume: 0.60 g
 Final Weight/Volume: 40 mL

Analyte	Result	Qual	MDL	RL
Mercury	0.012	U	0.012	0.013

**Lab Control Sample/
 Lab Control Sample Duplicate Recovery Report - Batch: 700-86106**

LCS Lab Sample ID: LCS 700-86106/2-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 07/16/2010 1857
 Date Prepared: 07/16/2010 1430

Analysis Batch: 700-86113
 Prep Batch: 700-86106
 Units: mg/Kg

**Method: 7471A
 Preparation: 7471A**

Instrument ID: LEEMAN HYDRA
 Lab File ID: SS86106.CSV
 Initial Weight/Volume: 0.60 g
 Final Weight/Volume: 40 mL

Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	96	97	80 - 120	1	20		

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48733-1

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 700-86106

Method: 7471A

Preparation: 7471A

MS Lab Sample ID: 700-48733-7
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/16/2010 1903
Date Prepared: 07/16/2010 1430

Analysis Batch: 700-86113
Prep Batch: 700-86106

Instrument ID: LEEMAN HYDRA
Lab File ID: SS86106.CSV
Initial Weight/Volume: 0.58 g
Final Weight/Volume: 40 mL

MSD Lab Sample ID: 700-48733-7
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/16/2010 1905
Date Prepared: 07/16/2010 1430

Analysis Batch: 700-86113
Prep Batch: 700-86106

Instrument ID: LEEMAN HYDRA
Lab File ID: SS86106.CSV
Initial Weight/Volume: 0.58 g
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Mercury	76	89	80 - 120	14	20	F	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt _____
 Drinking Water? Yes No

Chain of Custody Record

TAL-4124 (1007)

Client: **GEC** Chain of Custody Number: **169017**
 Address: **9357 INTERLINE AVE** Date: **7/12/10**
BATON ROUGE LA 70809 Lab Number: _____
 Project Manager: **JENNIFER LINDQUIST** Page **1** of **1**
 Telephone Number (Area Code)/Fax Number: **225-612-4256**

City: **BATON ROUGE LA 70809**
 Project Name and Location (State): **FALSE RIVER, LA**
 Contract/Purchase Order/Quote No.: **273161006**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix						Containers & Preservatives						Special Instructions/ Conditions of Receipt					
			Air	Aqueous	Sed	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH								
N-1	7/12/10	1600			✓															
N-5		1620			✓															
N-8		1645			✓															
S-1	7/12/10	1140			✓															
S-3		1215			✓															
S-7		1245			✓															
S-3 Dup		1215			✓															
S-7 MS		1245			✓															
S-7 MSD		1245			✓															

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: 24 Hours 48 Hours 7 Days 14 Days 21 Days Other _____

QC Requirements (Specify): _____

1. Relinquished By: **Jennifer Lindquist** Date: **7/13/10** Time: **1200**
 2. Relinquished By: **[Signature]** Date: **7/13/10** Time: **1245**
 3. Relinquished By: **[Signature]** Date: **7/14/10** Time: **1200**

Comments: **700.48733**
17C (06-14-38)

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

ANALYTICAL REPORT

Job Number: 700-48652-1

Job Description: False River BOD and Chlorophyll a

For:

Gulf Engineers & Consultants
PO BOX Drawer 84010
Baton Rouge, LA 70884-4010

Attention: Ms. Jennifer Lindquist



Approved for release.
Suzy Lindblom
Project Manager I
7/23/2010 3:13 PM

Suzy Lindblom
Project Manager I
suzy.lindblom@testamericainc.com
07/23/2010

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT - E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918).

TestAmerica Laboratories, Inc.

TestAmerica Mobile 900 Lakeside Drive, Mobile, AL 36693

Tel (251) 666-6633 Fax (251) 666-6696 www.testamericainc.com



Job Narrative
700-48652-1

Receipt

All samples were received in good condition within temperature requirements. Samples for Chlorophyll a were filtered in Mobile and sent to TestAmerica Orlando for analysis.

General Chemistry

Method(s) SM 5210B: The following sample(s) underdepleted: N-6 (700-48652-6), S-5 (700-48652-1). Results have been reported and may be biased high.

METHOD SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
BOD, 5-Day	TAL MOB	SM SM 5210B	
Chlorophyll A	TAL ORL	SM19 Chlorophyll A	

Lab References:

TAL MOB = TestAmerica Mobile

TAL ORL = TestAmerica Orlando

Method References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM19 = "Standard Methods For The Examination Of Water And Wastewater", 19Th Edition, 1995."

METHOD / ANALYST SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

Method	Analyst	Analyst ID
SM SM 5210B	Fowler, Gina M	GMF

SAMPLE SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-48652-1	S-5	Water	07/12/2010 1155	07/13/2010 1000
700-48652-2	S-6	Water	07/12/2010 1158	07/13/2010 1000
700-48652-3	S-8	Water	07/12/2010 1202	07/13/2010 1000
700-48652-4	N-2	Water	07/12/2010 1313	07/13/2010 1000
700-48652-5	N-4	Water	07/12/2010 1319	07/13/2010 1000
700-48652-6	N-6	Water	07/12/2010 1324	07/13/2010 1000

SAMPLE RESULTS

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

General Chemistry

Client Sample ID: S-5

Lab Sample ID: 700-48652-1

Date Sampled: 07/12/2010 1155

Client Matrix: Water

Date Received: 07/13/2010 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Biochemical Oxygen Demand	4.9		mg/L	2.0	2.0	1.0	SM 5210B

Analysis Batch: 700-85908 Date Analyzed: 07/13/2010 1535

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

General Chemistry

Client Sample ID: S-6

Lab Sample ID: 700-48652-2

Date Sampled: 07/12/2010 1158

Client Matrix: Water

Date Received: 07/13/2010 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Biochemical Oxygen Demand	5.7		mg/L	2.0	2.0	1.0	SM 5210B

Analysis Batch: 700-85908 Date Analyzed: 07/13/2010 1535

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

General Chemistry

Client Sample ID: S-8

Lab Sample ID: 700-48652-3

Date Sampled: 07/12/2010 1202

Client Matrix: Water

Date Received: 07/13/2010 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Biochemical Oxygen Demand	5.7		mg/L	2.0	2.0	1.0	SM 5210B

Analysis Batch: 700-85908 Date Analyzed: 07/13/2010 1535

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

General Chemistry

Client Sample ID: N-2

Lab Sample ID: 700-48652-4

Client Matrix: Water

Date Sampled: 07/12/2010 1313

Date Received: 07/13/2010 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Biochemical Oxygen Demand	6.2		mg/L	2.0	2.0	1.0	SM 5210B

Analysis Batch: 700-85908 Date Analyzed: 07/13/2010 1535

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

General Chemistry

Client Sample ID: N-4

Lab Sample ID: 700-48652-5

Client Matrix: Water

Date Sampled: 07/12/2010 1319

Date Received: 07/13/2010 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Biochemical Oxygen Demand	5.8		mg/L	2.0	2.0	1.0	SM 5210B

Analysis Batch: 700-85908 Date Analyzed: 07/13/2010 1535

Analytical Data

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

General Chemistry

Client Sample ID: N-6

Lab Sample ID: 700-48652-6

Client Matrix: Water

Date Sampled: 07/12/2010 1324

Date Received: 07/13/2010 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Biochemical Oxygen Demand	4.6		mg/L	2.0	2.0	1.0	SM 5210B

Analysis Batch: 700-85908 Date Analyzed: 07/13/2010 1535

DATA REPORTING QUALIFIERS

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

Lab Section	Qualifier	Description
General Chemistry	U	Indicates the analyte was analyzed for but not detected.

QUALITY CONTROL RESULTS

Quality Control Results

Client: Gulf Engineers & Consultants

Job Number: 700-48652-1

Unseeded Control Blank - Batch: 700-85908

Method: SM 5210B
Preparation: N/A

Lab Sample ID: USB 700-85908/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/13/2010 1535
Date Prepared: N/A

Analysis Batch: 700-85908
Prep Batch: N/A
Units: mg/L

Instrument ID: BOD1
Lab File ID: N/A
Initial Weight/Volume: 300 mL
Final Weight/Volume: 300 mL

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	2.0	U	2.0	2.0

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 700-85908**

Method: SM 5210B
Preparation: N/A

LCS Lab Sample ID: LCS 700-85908/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/13/2010 1535
Date Prepared: N/A

Analysis Batch: 700-85908
Prep Batch: N/A
Units: mg/L

Instrument ID: BOD1
Lab File ID: N/A
Initial Weight/Volume: 1 mL
Final Weight/Volume: 1 mL

LCSD Lab Sample ID: LCSD 700-85908/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/13/2010 1535
Date Prepared: N/A

Analysis Batch: 700-85908
Prep Batch: N/A
Units: mg/L

Instrument ID: BOD1
Lab File ID: N/A
Initial Weight/Volume: 1 mL
Final Weight/Volume: 1 mL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Biochemical Oxygen Demand	106	99	85 - 115	6.2	30.0		

7/23/2010 12:34:15PM

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693

Work Order: NTG1410
Project Name: Chlorophyll - GEC
Project Number: 700-48652-1
Date Received: 07/16/10

Attn: Suzy Lindblom

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
S-6	NTG1410-01	07/12/10 11:58
S-8	NTG1410-02	07/12/10 12:02
N-2	NTG1410-03	07/12/10 13:13
N-4	NTG1410-04	07/12/10 13:19
N-6	NTG1410-05	07/12/10 13:24
S-5	NTG1410-06	07/12/10 11:55

Samples were received into laboratory at a temperature of 8.40 °C.

Comments: Sample S-5 (700-48652-1) missing from chain. Per suzy Lindblom, should be there and collected at 11:55. Blank is for QC purposes and should not have been on chain.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately.

Results are reported on a wet weight basis unless otherwise noted

The reported results were obtained in compliance with 2003 NELAC standards unless otherwise noted.

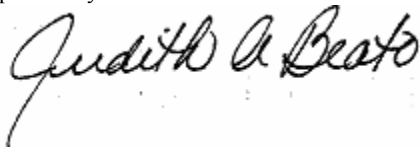
These results relate only to the items tested

Estimated uncertainty is available upon request.

Louisiana Certification Number: 01945

This report has been electronically signed.

Approved By:



TestAmerica Nashville
Judith A Beato
Project Manager

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTG1410
 Project: Chlorophyll - GEC
 Project Number: 700-48652-1

Sampled: 07/12/10
 Received: 07/16/10

LABORATORY REPORT

Sample ID: S-6 - Lab Number: NTG1410-01 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
479-61-8	Chlorophyll-a	72.8	V,A-01	mg/m3	0.500	0.500	1	07/20/10 09:19	MXN	SM 10200H	10G3309
Filtered Date: 7-13-10 14:40											

LABORATORY REPORT

Sample ID: S-8 - Lab Number: NTG1410-02 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
479-61-8	Chlorophyll-a	29.1	V,A-01	mg/m3	0.500	0.500	1	07/20/10 09:21	MXN	SM 10200H	10G3309
Filtered Date: 7-13-10 14:44											

LABORATORY REPORT

Sample ID: N-2 - Lab Number: NTG1410-03 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
479-61-8	Chlorophyll-a	29.1	V,A-01	mg/m3	0.500	0.500	1	07/20/10 09:22	MXN	SM 10200H	10G3309
Filtered Date: 7-13-10 14:49											

LABORATORY REPORT

Sample ID: N-4 - Lab Number: NTG1410-04 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
479-61-8	Chlorophyll-a	58.3	V,A-01	mg/m3	0.500	0.500	1	07/20/10 09:24	MXN	SM 10200H	10G3309
Filtered Date: 7-13-10 14:54											

LABORATORY REPORT

Sample ID: N-6 - Lab Number: NTG1410-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
479-61-8	Chlorophyll-a	58.3	V,A-01	mg/m3	0.500	0.500	1	07/20/10 09:25	MXN	SM 10200H	10G3309
Filtered Date: 7-13-10 14:58											

LABORATORY REPORT

Sample ID: S-5 - Lab Number: NTG1410-06 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
479-61-8	Chlorophyll-a	58.3	V,A-01	mg/m3	0.500	0.500	1	07/20/10 09:27	MXN	SM 10200H	10G3309
Filtered Date: 7-13-10 14:35											

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTG1410
 Project: Chlorophyll - GEC
 Project Number: 700-48652-1

Sampled: 07/12/10
 Received: 07/16/10

SAMPLE EXTRACTION DATA

Parameter	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Method
General Chemistry Parameters	NTG1410-01	1.0 filter	1.0 filter	07/13/2010	MXN	Filtering
General Chemistry Parameters	NTG1410-02	1.0 filter	1.0 filter	07/13/2010	MXN	Filtering
General Chemistry Parameters	NTG1410-03	1.0 filter	1.0 filter	07/13/2010	MXN	Filtering
General Chemistry Parameters	NTG1410-04	1.0 filter	1.0 filter	07/13/2010	MXN	Filtering
General Chemistry Parameters	NTG1410-05	1.0 filter	1.0 filter	07/13/2010	MXN	Filtering
General Chemistry Parameters	NTG1410-06	1.0 filter	1.0 filter	07/13/2010	MXN	Filtering

PROJECT QUALITY CONTROL DATA

Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number
General Chemistry Parameters Chlorophyll-a	14.6	V,A-01	mg/m3	10G3309	10G3309-BLK1

PROJECT QUALITY CONTROL DATA

Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters Chlorophyll-a	58.3	58.3	A-01	mg/m3	0	50	10G3309	NTG1410-05

PROJECT QUALITY CONTROL DATA

LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Q.C. Batch
General Chemistry Parameters Chlorophyll-a	200	170		mg/m3	85	80 - 120	10G3309

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters Chlorophyll-a		170		mg/m3	200	85	0	50	10G3309	

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693
Attn: Suzy Lindblom

Work Order: NTG1410
Project: Chlorophyll - GEC
Project Number: 700-48652-1

Sampled: 07/12/10
Received: 07/16/10

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	A2LA	AIHA	Nelac	Louisiana
SM 10200H	Water			X	

Subcontracted Laboratories

TestAmerica - Orlando, FL Florida Cert #E83012

8010 Sunport Drive Suite 116 - Orlando, FL 32809

Analysis Performed: Chlorophyll-a SM10200H

Samples: NTG1410-01, NTG1410-02, NTG1410-03, NTG1410-04, NTG1410-05, NTG1410-06

DATA QUALIFIERS AND DEFINITIONS

- A-01** Sample received and filtered by client; lab received and analyzed filters. 25mLs of sample filtered.
- V** The analyte was detected in both the sample and the associated method blank.

ADDITIONAL COMMENTS

When insufficient sample volume is received for Matrix Spike and Matrix Spike Duplicate, Laboratory Control Spike and Laboratory Control Spike Duplicate data is used for batch QC.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

4310 East Anderson Road * Orlando, FL 32812 * 407-851-2560 * Fax: 407-856-0886 * 800-851-

Client: TestAmerica Mobile

Project: NTG1410

Shipped By: Fed Ex

Tracking Number: 798854184197

Cooler Received On: 07/16/10 10:08

And Opened On (Date/time): 7-16-10 10:08

Received By: Jennifer Batura

Logged in by: Jennifer Batura

Were custody seals on the outside of cooler? YES NO If Yes # Location

Were custody seals intact? YES NO N/A (no seals present)

Chain of Custody Complete? YES NO

Discrepancy Comments:

please login job # as Project number and Central Time

Cooler Temperature When Opened: 8.40 Degrees Celsius

Temperature Blank Included: YES NO

Packing Material: Bubblewrap NONE Other Plastic bag

Received on Ice: YES NO Other: Total # Of Containers: 8 # Vials

Any Bottles Broken? YES NO If Yes Which One(s)?

Any Missing Samples? YES NO If Yes Which One(s)?

pH Levels: H2SO4 <=2? HNO3 <=2? HCL <=2? NaOH >=10?

Of Containers Unpreserved between 6 and 8? 8

Any Air Bubbles in VOA Vials? YES NO N/A (no VOA vials received)

Was there enough sample shipped in each container? YES NO 7-16-10

Correct Preservatives Used? YES NO If No, see comments: JB 7-16-10

Project Manager: Judith A Beato

Corrective Actions Taken

TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Phone (251) 666-6633 Fax (251) 666-6696

Chain of Custody Record

NT61410

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)
 Client Contact: Lab PVI: Lindblom, Suzy
 Shipping/Receiving: Phone: suzy.lindblom@testamericainc.com
 Company: E-Mail: suzy.lindblom@testamericainc.com

Address: 8010 Sunport Drive, Suite 116, Orlando, FL, 32809
 City: Orlando State, Zip: FL, 32809
 PO #: PO #: Project #: 70004061
 Email: SSOW#: SOW#: Project Name: False River pest/herb PP Metals
 Site: Site:

Due Date Requested: 7/23/2010
 TAT Requested (days):
 Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Anichlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2SO3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - ph 4-5
 Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT	Total Number of Containers	Special Instructions/Note:
S-6 (700-48652-2)	7/12/10	11:58 Central	Water	Water	X	X		1	
S-8 (700-48652-3)	7/12/10	12:02 Central	Water	Water	X	X		1	
N-2 (700-48652-4)	7/12/10	13:13 Central	Water	Water	X	X		1	
N-4 (700-48652-5)	7/12/10	13:19 Central	Water	Water	X	X		1	
N-6 (700-48652-6)	7/12/10	13:24 Central	Water	Water	X	X		2	
S-5 - Blank (700-48652-7)	7/12/10	13:25 Central	Water	Water	X	X		1	

Analysis Requested: Chlorophyll - A

Special Instructions/Note: SUBCONTRACT

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: 7/15/10 Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seal No.: Fed Ex # 9988 5484197
 Cooler Temperature(s) °C and Other Remarks: 8.4°C

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt _____
 Drinking Water? Yes No

Chain of Custody Record

TAL-4124 (1/007)

Client: **GEC** Project Manager: **JENNIFER LINDQUIST** Chain of Custody Number: **169018**
 Address: **9357 INTERLINE AVE.** Telephone Number (Area Code)/Fax Number: **225-612-4256** Date: **7/12/10**
 City: **BATON ROUGE** State: **LA** Zip Code: **70809** Lab Number: _____ Page: **1** of **1**
 Project Name and Location (State): **FALSE RIVER, LA** Lab Contact: _____
 Contract/Purchase Order/Quote No.: **273161006** Carrier/Waybill Number: _____

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
S-5	7/12/10	1155	✓					✓							
S-6		1158													
S-8		1202													
N-2		1313													
N-4		1319													
N-6		1324													

Possible Hazard Identification:
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 24 Hours 48 Hours 7 Days 14 Days 21 Days Other _____

Sample Disposal:
 Return To Client Disposal By Lab Archive For _____ Months
 (A fee may be assessed if samples are retained longer than 1 month)

QC Requirements (Specify):
 1. Relinquished By: **Jennifer Lindquist** Date: **7/12/10** Time: **3:15**
 2. Relinquished By: **Jim Brown** Date: **7/12/10** Time: **3:30**
 3. Relinquished By: _____ Date: _____ Time: _____

1. Received By: **Jim Brown** Date: **7/12/10** Time: **3:20**
 2. Received By: **Jim Brown** Date: **7/12/10** Time: **10:00**
 3. Received By: _____ Date: _____ Time: _____

Comments: **700-48652**
23°C (06-664-38)
 DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy. **1.05**

ANALYTICAL REPORT

Job Number: 700-50074-1

Job Description: False River BOD/chl a

For:

Gulf Engineers & Consultants
PO BOX Drawer 84010
Baton Rouge, LA 70884-4010

Attention: Ms. Jennifer Lindquist



Approved for release.
Suzy Lindblom
Project Manager I
8/18/2010 4:00 PM

Suzy Lindblom
Project Manager I
suzy.lindblom@testamericainc.com
08/18/2010

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT - E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918).

TestAmerica Laboratories, Inc.

TestAmerica Mobile 900 Lakeside Drive, Mobile, AL 36693

Tel (251) 666-6633 Fax (251) 666-6696 www.testamericainc.com



METHOD SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-50074-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
BOD-5	TAL ORL	EPA 5210B	
Chlorophyll A	TAL ORL	SM19 Chlorophyll A	

Lab References:

TAL ORL = TestAmerica Orlando

Method References:

EPA = US Environmental Protection Agency

SM19 = "Standard Methods For The Examination Of Water And Wastewater", 19Th Edition, 1995."

SAMPLE SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-50074-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-50074-1	N 2	Water	08/09/2010 0921	08/10/2010 0900
700-50074-2	N 4	Water	08/09/2010 0911	08/10/2010 0900
700-50074-3	N 6	Water	08/09/2010 0901	08/10/2010 0900
700-50074-4	S 5	Water	08/09/2010 1012	08/10/2010 0900
700-50074-5	S 6	Water	08/09/2010 1020	08/10/2010 0900
700-50074-6	S 8	Water	08/09/2010 1000	08/10/2010 0900

8/18/2010 1:19:19PM

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693

Work Order: NTH0863
Project Name: Chlorophyll - GEC
Project Number: 700-50074-1
Date Received: 08/10/10

Attn: Suzy Lindblom

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
N-2	NTH0863-01	08/09/10 09:21
N-4	NTH0863-02	08/09/10 09:11
N-6	NTH0863-03	08/09/10 09:01
S-5	NTH0863-04	08/09/10 10:12
S-6	NTH0863-05	08/09/10 10:20
S-8	NTH0863-06	08/09/10 10:00

Samples were received into laboratory at a temperature of 0.90 °C.

Comments:

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately.

Results are reported on a wet weight basis unless otherwise noted

The reported results were obtained in compliance with 2003 NELAC standards unless otherwise noted.

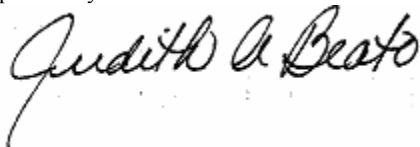
These results relate only to the items tested

Estimated uncertainty is available upon request.

Louisiana Certification Number: 01945

This report has been electronically signed.

Approved By:



TestAmerica Nashville
Judith A Beato
Project Manager

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTH0863
 Project: Chlorophyll - GEC
 Project Number: 700-50074-1

Sampled: 08/09/10
 Received: 08/10/10

LABORATORY REPORT

Sample ID: N-2 - Lab Number: NTH0863-01 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	7.40		mg/L	2.00	2.00	1	08/16/10 09:00	MXN	SM 5210B	10H1929
								Prep Date: 08/11/10 08:30			
479-61-8	Chlorophyll-a	99.5		mg/m3	0.500	0.500	1	08/13/10 09:17	MXN	SM 10200H	10H2601
								Filtered Date: 8-10-10 12:09			

LABORATORY REPORT

Sample ID: N-4 - Lab Number: NTH0863-02 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	5.18		mg/L	2.00	2.00	1	08/16/10 09:00	MXN	SM 5210B	10H1929
								Prep Date: 08/11/10 08:30			
479-61-8	Chlorophyll-a	72.8		mg/m3	0.500	0.500	1	08/13/10 09:20	MXN	SM 10200H	10H2601
								Filtered Date: 8-10-10 12:37			

LABORATORY REPORT

Sample ID: N-6 - Lab Number: NTH0863-03 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	7.23		mg/L	2.00	2.00	1	08/16/10 09:00	MXN	SM 5210B	10H1929
								Prep Date: 08/11/10 08:30			
479-61-8	Chlorophyll-a	85.0		mg/m3	0.500	0.500	1	08/13/10 09:21	MXN	SM 10200H	10H2601
								Filtered Date: 8-10-10 15:10			

LABORATORY REPORT

Sample ID: S-5 - Lab Number: NTH0863-04 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	4.36		mg/L	2.00	2.00	1	08/16/10 09:00	MXN	SM 5210B	10H1929
								Prep Date: 08/11/10 08:30			
479-61-8	Chlorophyll-a	46.1		mg/m3	0.500	0.500	1	08/13/10 09:22	MXN	SM 10200H	10H2601
								Filtered Date: 8-10-10 14:55			

LABORATORY REPORT

Sample ID: S-6 - Lab Number: NTH0863-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	5.60		mg/L	2.00	2.00	1	08/16/10 09:00	MXN	SM 5210B	10H1929
								Prep Date: 08/11/10 08:30			

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTH0863
 Project: Chlorophyll - GEC
 Project Number: 700-50074-1

Sampled: 08/09/10
 Received: 08/10/10

LABORATORY REPORT

Sample ID: S-6 - Lab Number: NTH0863-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters - Cont.											
479-61-8	Chlorophyll-a	76.5		mg/m3	0.500	0.500	1	08/13/10 09:23	MXN	SM 10200H	10H2601
								Filtered Date: 8-10-10 14:27			

LABORATORY REPORT

Sample ID: S-8 - Lab Number: NTH0863-06 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	4.65		mg/L	2.00	2.00	1	08/16/10 09:00	MXN	SM 5210B	10H1929
								Prep Date: 08/11/10 08:30			
479-61-8	Chlorophyll-a	70.4		mg/m3	0.500	0.500	1	08/13/10 09:25	MXN	SM 10200H	10H2601
								Filtered Date: 8-10-10 15:25			

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693
Attn: Suzy Lindblom

Work Order: NTH0863
Project: Chlorophyll - GEC
Project Number: 700-50074-1

Sampled: 08/09/10
Received: 08/10/10

SAMPLE EXTRACTION DATA

Parameter	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Method
General Chemistry Parameters	NTH0863-01	300.0 mL	300.0 mL	08/11/2010	MXN	*** DEFAULT PREI
General Chemistry Parameters	NTH0863-02	300.0 mL	300.0 mL	08/11/2010	MXN	*** DEFAULT PREI
General Chemistry Parameters	NTH0863-03	300.0 mL	300.0 mL	08/11/2010	MXN	*** DEFAULT PREI
General Chemistry Parameters	NTH0863-04	300.0 mL	300.0 mL	08/11/2010	MXN	*** DEFAULT PREI
General Chemistry Parameters	NTH0863-05	300.0 mL	300.0 mL	08/11/2010	MXN	*** DEFAULT PREI
General Chemistry Parameters	NTH0863-06	300.0 mL	300.0 mL	08/11/2010	MXN	*** DEFAULT PREI
General Chemistry Parameters	NTH0863-01	1.0 filter	1.0 filter	08/10/2010	MXN	Filtering
General Chemistry Parameters	NTH0863-02	1.0 filter	1.0 filter	08/10/2010	MXN	Filtering
General Chemistry Parameters	NTH0863-03	1.0 filter	1.0 filter	08/10/2010	MXN	Filtering
General Chemistry Parameters	NTH0863-04	1.0 filter	1.0 filter	08/10/2010	MXN	Filtering
General Chemistry Parameters	NTH0863-05	1.0 filter	1.0 filter	08/10/2010	MXN	Filtering
General Chemistry Parameters	NTH0863-06	1.0 filter	1.0 filter	08/10/2010	MXN	Filtering

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTH0863
 Project: Chlorophyll - GEC
 Project Number: 700-50074-1

Sampled: 08/09/10
 Received: 08/10/10

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number
General Chemistry Parameters					
BOD - 5 Day	2.00	U	mg/L	10H1929	10H1929-BLK1
Chlorophyll-a	0.500	U	mg/m3	10H2601	10H2601-BLK1

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters								
BOD - 5 Day	7.40	7.20		mg/L	3	20	10H1929	NTH0863-01
Chlorophyll-a	99.5	99.5		mg/m3	0	50	10H2601	NTH0863-01

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Q.C. Batch
General Chemistry Parameters							
BOD - 5 Day	198	209		mg/L	106	85 - 115	10H1929
Chlorophyll-a	200	170		mg/m3	85	80 - 120	10H2601

PROJECT QUALITY CONTROL DATA
LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters										
BOD - 5 Day		205		mg/L	198	104	2	20	10H1929	
Chlorophyll-a		170		mg/m3	200	85	0	50	10H2601	

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693
Attn: Suzy Lindblom

Work Order: NTH0863
Project: Chlorophyll - GEC
Project Number: 700-50074-1

Sampled: 08/09/10
Received: 08/10/10

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	A2LA	AIHA	Nelac	Louisiana
SM 10200H	Water			X	
SM 5210B	Water		N/A	X	X

Subcontracted Laboratories

TestAmerica - Orlando, FL Florida Cert #E83012

8010 Sunport Drive Suite 116 - Orlando, FL 32809

Analysis Performed: BOD 5 Day SM 5210B

Samples: NTH0863-01, NTH0863-02, NTH0863-03, NTH0863-04, NTH0863-05, NTH0863-06

Analysis Performed: Chlorophyll-a SM10200H

Samples: NTH0863-01, NTH0863-02, NTH0863-03, NTH0863-04, NTH0863-05, NTH0863-06

DATA QUALIFIERS AND DEFINITIONS

U The compound was analyzed for but not detected

ADDITIONAL COMMENTS

When insufficient sample volume is received for Matrix Spike and Matrix Spike Duplicate, Laboratory Control Spike and Laboratory Control Spike Duplicate data is used for batch QC.

Client: TestAmerica Mobile

Project: NTH0863

Shipped By: Fed Ex

Tracking Number: 798929521004

Cooler Received On: 08/10/10 10:05

And Opened On (Date/time): 8-10-10 1005

Received By: Mariana Nicula

Logged in by: Shawn Victory

Were custody seals on the outside of cooler? YES NO If Yes # Location

Were custody seals intact? YES NO N/A (no seals present)

Chain of Custody Complete? YES NO

Discrepancy Comments:

please login job # as Project number and Central Time

Cooler Tempature When Opened: 0.90 Degrees Celsius

Tempature Blank Included: YES NO

Packing Material: Bubblewrap NONE Other:

Received on Ice: YES NO Other: Total # Of Containers: 12 # Vials

Any Bottles Broken? YES NO If Yes Which One(s)?

Any Missing Samples? YES NO If Yes Which One(s)?

pH Levels: H2SO4 <=2? HNO3 <=2? HCL <=2? NaOH >=10?

Of Containers Unpreserved between 6 and 8? 12

Any Air Bubbles in VOA Vials? YES NO N/A (no VOA vials received)

Was there enough sample shipped in each container? YES NO NO 8-10-10

Correct Preservatives Used? YES NO If No, see comments:

Project Manager: Judith A Beato

Corrective Actions Taken

TestAmerica Mobile

900 Lakeside Drive
 Mobile, AL 36693
 Phone (251) 666-6633 Fax (251) 666-6698

Chain of Custody Record



Client Information (Sub Contract Lab)

Client Contact: Lindblom, Suzy
 Shipping/Receiving
 Company: TestAmerica Laboratories, Inc
 Address: 8010 Sunport Drive, Suite 116,
 City: Orlando
 State, Zip: FL, 32809
 Phone:
 Email:

Lab PW: Lindblom, Suzy
 E-Mail: suzy.lindblom@testamericainc.com

Carrier Tracking No(s):

COC No: 700-9427-1
 Page: Page 1 of 1
 Job #: 700-50074-1

Due Date Requested: 8/20/2010
 TAT Requested (days):

PO #:
 WO #:
 Project #: 70004061
 ISSOW#:

Analysis Requested

Preservation Codes:
 A - HCl
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecahydrale
 U - Acetone
 V - MCAA
 W - ph 4-5
 Z - other (specify)

Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Matrix (W-water, S-solid, O-wast/water)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT BOD	Chlorophyll A	Total Number of Containers	Special Instructions/Note:
N 2 (700-50074-1)	8/9/10	09:21 Central	Water	Water	X	X	X	X	2	
N 4 (700-50074-2)	8/9/10	09:11 Central	Water	Water	X	X	X	X	2	
N 6 (700-50074-3)	8/9/10	09:01 Central	Water	Water	X	X	X	X	2	
S 5 (700-50074-4)	8/9/10	10:12 Central	Water	Water	X	X	X	X	2	
S 6 (700-50074-5)	8/9/10	10:20 Central	Water	Water	X	X	X	X	2	
S 8 (700-50074-6)	8/9/10	10:00 Central	Water	Water	X	X	X	X	2	

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *M. J. Pan* Date: 8/10/10 10:30 Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____

Special Instructions/Note: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Chain of Custody Record

TestAmerica

NT-H0863

Temperature on Receipt _____
 Drinking Water? Yes No

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007) Client **GEC** Chain of Custody Number **172730**

Address **9357 Interline Ave.** Date **8-9-10** Lab Number _____
 City **Baton Rouge** State **LA** Zip Code **70809**

Project Name and Location (State) **False River** Project Manager **Jennifer Lindquist**
 Contract/Purchase Order/Quote No. _____ Telephone Number (Area Code)/Fax Number _____

Site Contact _____ Lab Contact _____ Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives					Special Instructions/ Conditions of Receipt	
			Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH		ZnAc/NaOH
N-2	8-9-10	921	✓			2						
N-4		911	✓			2						
N-6		901	✓			2						
S-15		1012	✓			2						
S-36		1020	✓			2						
S-78		1000	✓			2						

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: 24 Hours 48 Hours 7 Days 14 Days 21 Days Other _____

QC Requirements (Specify): _____

1. Relinquished By **Jennifer Lindquist** Date **8-9-10** Time **12:45**
 2. Relinquished By **My [Signature]** Date **8-9-10** Time **12:45**
 3. Relinquished By _____ Date _____ Time _____

Comments: **MW** **0.9 °C**

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy
 Index # **19892752100Y**

Temperature on Receipt _____
 Drinking Water? Yes No

Chain of Custody Record

TAL-4124 (1007)

Client: **GEC** Chain of Custody Number: **172730**
 Address: **9357 Intertune Ave.** Date: **8-9-10.**
 City: **Baton Rouge** Lab Number: _____
 State: **LA** Zip Code: **70809**
 Project Name and Location (State): **False River**
 Contract/Purchase Order/Quote No. _____

Project Manager: **Jennifer Lindquist** Date: _____
 Telephone Number (Area Code)/Fax Number: _____
 Site Contact: _____ Lab Contact: _____
 Carrier/Waybill Number: _____

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl			NaOH	ZnAc/NaOH
N-2	8-9-10	921	✓											
N-4		911	✓											
N-6		901	✓											
S-45		1012	✓											
S-36		1020	✓											
S-78		1000	✓											

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

QC Requirements (Specify): _____
 Turn Around Time Required: 24 Hours 48 Hours 7 Days 14 Days 21 Days Other _____
 1. Relinquished By: **Jennifer Lindquist** Date: **8-9-10** Time: **12:45**
 2. Relinquished By: **My Drape** Date: **8-9-10** Time: **12:45**
 3. Relinquished By: _____ Date: _____ Time: _____

Comments: **MN** **0.9 °C**

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy
 Index # **700-50074** **198927521007**

ANALYTICAL REPORT

Job Number: 700-51573-1

Job Description: False River

For:

Gulf Engineers & Consultants

PO BOX Drawer 84010

Baton Rouge, LA 70884-4010

Attention: Ms. Jennifer Lindquist



Approved for release.
Suzy Lindblom
Project Manager I
9/20/2010 2:45 PM

Suzy Lindblom
Project Manager I
suzy.lindblom@testamericainc.com
09/20/2010

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT - E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918).

TestAmerica Laboratories, Inc.

TestAmerica Mobile 900 Lakeside Drive, Mobile, AL 36693

Tel (251) 666-6633 Fax (251) 666-6696 www.testamericainc.com



METHOD SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-51573-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
BOD-5	TAL ORL	EPA 5210B	
SM 10200H Chlorophyll-A	TAL ORL	SM18 SM10200H	

Lab References:

TAL ORL = TestAmerica Orlando

Method References:

EPA = US Environmental Protection Agency

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SAMPLE SUMMARY

Client: Gulf Engineers & Consultants

Job Number: 700-51573-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-51573-1	N-2	Water	09/08/2010 1032	09/09/2010 1000
700-51573-2	N-4	Water	09/08/2010 1023	09/09/2010 1000
700-51573-3	N-6	Water	09/08/2010 1013	09/09/2010 1000
700-51573-4	S-5	Water	09/08/2010 1113	09/09/2010 1000
700-51573-5	S-6	Water	09/08/2010 1110	09/09/2010 1000
700-51573-6	S-8	Water	09/08/2010 1059	09/09/2010 1000

9/20/2010 2:19:24PM

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693

Work Order: NTI0630
Project Name: Chlorophyll - GEC
Project Number: 700-51573
Date Received: 09/09/10

Attn: Suzy Lindblom

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
N-2	NTI0630-01	09/08/10 10:32
N-4	NTI0630-02	09/08/10 10:23
N-6	NTI0630-03	09/08/10 10:13
S-5	NTI0630-04	09/08/10 11:13
S-6	NTI0630-05	09/08/10 11:10
S-8	NTI0630-06	09/08/10 10:59

Samples were received into laboratory at a temperature of 1.90 °C.

Comments:

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately.

Results are reported on a wet weight basis unless otherwise noted

The reported results were obtained in compliance with 2003 NELAC standards unless otherwise noted.

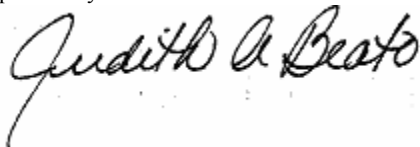
These results relate only to the items tested

Estimated uncertainty is available upon request.

Louisiana Certification Number: 01945

This report has been electronically signed.

Approved By:



TestAmerica Nashville
Judith A Beato
Project Manager

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTI0630
 Project: Chlorophyll - GEC
 Project Number: 700-51573

Sampled: 09/08/10
 Received: 09/09/10

LABORATORY REPORT

Sample ID: N-2 - Lab Number: NTI0630-01 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	2.91		mg/L	2.00	2.00	1	09/14/10 10:00	SXJ	SM 5210B	10I1972
								Prep Date: 09/09/10 15:14			
479-61-8	Chlorophyll-a	36.4		mg/m3	0.500	0.500	1	09/16/10 08:21	SXJ	SM 10200H	10I2519
								Filtered Date: 09-09-10 11:43			

LABORATORY REPORT

Sample ID: N-4 - Lab Number: NTI0630-02 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	2.92		mg/L	2.00	2.00	1	09/14/10 10:00	SXJ	SM 5210B	10I1972
								Prep Date: 09/09/10 15:14			
479-61-8	Chlorophyll-a	21.8		mg/m3	0.500	0.500	1	09/16/10 08:23	SXJ	SM 10200H	10I2519
								Filtered Date: 09-09-10 11:57			

LABORATORY REPORT

Sample ID: N-6 - Lab Number: NTI0630-03 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	3.49		mg/L	2.00	2.00	1	09/14/10 10:00	SXJ	SM 5210B	10I1972
								Prep Date: 09/09/10 15:14			
479-61-8	Chlorophyll-a	44.9		mg/m3	0.500	0.500	1	09/16/10 08:24	SXJ	SM 10200H	10I2519
								Filtered Date: 09-09-10 12:43			

LABORATORY REPORT

Sample ID: S-5 - Lab Number: NTI0630-04 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	3.83		mg/L	2.00	2.00	1	09/14/10 10:00	SXJ	SM 5210B	10I1972
								Prep Date: 09/09/10 15:14			
479-61-8	Chlorophyll-a	35.2		mg/m3	0.500	0.500	1	09/16/10 08:25	SXJ	SM 10200H	10I2519
								Filtered Date: 09-09-10 13:32			

LABORATORY REPORT

Sample ID: S-6 - Lab Number: NTI0630-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	2.73		mg/L	2.00	2.00	1	09/14/10 10:00	SXJ	SM 5210B	10I1972
								Prep Date: 09/09/10 15:14			

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTI0630
 Project: Chlorophyll - GEC
 Project Number: 700-51573

Sampled: 09/08/10
 Received: 09/09/10

LABORATORY REPORT

Sample ID: S-6 - Lab Number: NTI0630-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters - Cont.											
479-61-8	Chlorophyll-a	35.2		mg/m3	0.500	0.500	1	09/16/10 08:26	SXJ	SM 10200H	10I2519
									Filtered Date: 09-09-10 12:40		

LABORATORY REPORT

Sample ID: S-8 - Lab Number: NTI0630-06 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
BOD	BOD - 5 Day	4.01		mg/L	2.00	2.00	1	09/14/10 10:00	SXJ	SM 5210B	10I1972
									Prep Date: 09/09/10 15:14		
479-61-8	Chlorophyll-a	42.5		mg/m3	0.500	0.500	1	09/16/10 08:27	SXJ	SM 10200H	10I2519
									Filtered Date: 09-09-10 14:25		

Client: TestAmerica Mobile
 900 Lakeside Drive
 Mobile, AL 36693
 Attn: Suzy Lindblom

Work Order: NTI0630
 Project: Chlorophyll - GEC
 Project Number: 700-51573

Sampled: 09/08/10
 Received: 09/09/10

SAMPLE EXTRACTION DATA

Parameter	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Method
General Chemistry Parameters	NTI0630-01	300.0 mL	300.0 mL	09/09/2010	SXJ	*** DEFAULT PREF
General Chemistry Parameters	NTI0630-02	300.0 mL	300.0 mL	09/09/2010	SXJ	*** DEFAULT PREF
General Chemistry Parameters	NTI0630-03	300.0 mL	300.0 mL	09/09/2010	SXJ	*** DEFAULT PREF
General Chemistry Parameters	NTI0630-04	300.0 mL	300.0 mL	09/09/2010	SXJ	*** DEFAULT PREF
General Chemistry Parameters	NTI0630-05	300.0 mL	300.0 mL	09/09/2010	SXJ	*** DEFAULT PREF
General Chemistry Parameters	NTI0630-06	300.0 mL	300.0 mL	09/09/2010	SXJ	*** DEFAULT PREF
General Chemistry Parameters	NTI0630-01	1.0 filter	1.0 filter	09/09/2010	SXJ	Filtering
General Chemistry Parameters	NTI0630-02	1.0 filter	1.0 filter	09/09/2010	SXJ	Filtering
General Chemistry Parameters	NTI0630-03	1.0 filter	1.0 filter	09/09/2010	SXJ	Filtering
General Chemistry Parameters	NTI0630-04	1.0 filter	1.0 filter	09/09/2010	SXJ	Filtering
General Chemistry Parameters	NTI0630-05	1.0 filter	1.0 filter	09/09/2010	SXJ	Filtering
General Chemistry Parameters	NTI0630-06	1.0 filter	1.0 filter	09/09/2010	SXJ	Filtering

PROJECT QUALITY CONTROL DATA

Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number
General Chemistry Parameters					
BOD - 5 Day	2.00	U	mg/L	1011972	1011972-BLK1
Chlorophyll-a	0.500	U	mg/m3	1012519	1012519-BLK1

PROJECT QUALITY CONTROL DATA

Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters								
BOD - 5 Day	2.91	2.99		mg/L	3	20	1011972	NTI0630-01
Chlorophyll-a	36.4	34.0		mg/m3	7	50	1012519	NTI0630-01

PROJECT QUALITY CONTROL DATA

LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Q.C. Batch
General Chemistry Parameters							
BOD - 5 Day	198	203		mg/L	103	85 - 115	1011972
Chlorophyll-a	200	194		mg/m3	97	80 - 120	1012519

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters										
Chlorophyll-a		218		mg/m3	200	109	12	50	1012519	

Client: TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693
Attn: Suzy Lindblom

Work Order: NTI0630
Project: Chlorophyll - GEC
Project Number: 700-51573

Sampled: 09/08/10
Received: 09/09/10

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	A2LA	AIHA	Nelac	Louisiana
SM 10200H	Water			X	
SM 5210B	Water		N/A	X	X

Subcontracted Laboratories

TestAmerica - Orlando, FL Florida Cert #E83012

8010 Sunport Drive Suite 116 - Orlando, FL 32809

Analysis Performed: BOD 5 Day SM 5210B

Samples: NTI0630-01, NTI0630-02, NTI0630-03, NTI0630-04, NTI0630-05, NTI0630-06

Analysis Performed: Chlorophyll-a SM10200H

Samples: NTI0630-01, NTI0630-02, NTI0630-03, NTI0630-04, NTI0630-05, NTI0630-06

DATA QUALIFIERS AND DEFINITIONS

U The compound was analyzed for but not detected

ADDITIONAL COMMENTS

When insufficient sample volume is received for Matrix Spike and Matrix Spike Duplicate, Laboratory Control Spike and Laboratory Control Spike Duplicate data is used for batch QC.

Client: TestAmerica Mobile

Project: NTI0630

Shipped By: Fed Ex

Tracking Number: 793893657468

Cooler Received On: 09/09/10 10:00

And Opened On (Date/time): 9-9-10 10:00

Received By: Jennifer Batura

Logged in by: Jennifer Batura

Were custody seals on the outside of cooler? YES NO If Yes # Location

Were custody seals intact? YES NO N/A (no seals present)

Chain of Custody Complete? YES NO

Discrepancy Comments:

please login job # as Project number and Central Time

Cooler Temperature When Opened: 1.90 Degrees Celsius

Temperature Blank Included: YES NO

Packing Material: Bubblewrap NONE Other:

Received on Ice: YES NO Other: Total # Of Containers: 12 # Vials

Any Bottles Broken? YES NO If Yes Which One(s)?

Any Missing Samples? YES NO If Yes Which One(s)?

pH Levels: H2SO4 <=2? HNO3 <=2? HCL <=2? NaOH >=10?

Of Containers Unpreserved between 6 and 8? 12

Any Air Bubbles in VOA Vials? YES NO N/A (no VOA vials received)

Was there enough sample shipped in each container? YES NO 9-9-10

Correct Preservatives Used? YES NO If No, see comments:

Project Manager: Judith A Beato

Corrective Actions Taken

Baton Rouge Service Center
 6113 Benefit Drive
 Baton Rouge, LA 70809-4247
 Phone (225) 755-8200 Fax (225) 755-8002

Chain of Custody Record

NT10630



Client Information		Lab PM: Lindblom, Suzy		Carrier Tracking No(s): 700-18845.1	
Client Contact: Ms. Jennifer Lindquist		Phone: 225-612-4256		Page: Page 1 of 1	
Company: Gulf Engineers & Consultants		E-Mail: suzy.lindblom@testamericainc.com		Job #:	
Address: PO BOX Drawer 84010		City: Baton Rouge		State, Zip: LA, 70884-4010	
Phone:		PO #:		Purchase Order not requir	
Email: jllindquist@gecinc.com		WO #:		Project #:	
Project Name: False River-pestherb-Metals		70004061		SSOW#:	
Site:					
Due Date Requested:					
TAT Requested (days):					
Sample Identification		Sample Date		Sample Time	
N-2		9-8-10		10:32	
N-4				10:23	
N-6				10:13	
S-5				11:13	
S-6				11:10	
S-8				10:59	
Matrix (W=water, S=solid, O=water/oil)		Sample Type (C=comp, G=grab)		Preservation Code:	
Water		G		Water	
Water				Water	
Water				Water	
Water				Water	
Water				Water	
Water				Water	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		5210B - BOD	
N		N		N	
Total Number of Containers					
Special Instructions/Note:				OK Lando -	
Preservation Codes:					
A - HCL					
B - NaOH					
C - Zn Acetate					
D - Nitric Acid					
E - NaHSO4					
F - MeOH					
G - Amchlor					
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Other:					
M - Hexane					
N - None					
O - AsNaO2					
P - Na2O4S					
Q - Na2SO3					
R - Na2S2SO3					
S - H2SO4					
T - TSP Dodecahydrate					
U - Acetone					
V - MCAA					
W - pH 4-5					
Z - other (specify)					
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable	
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B	
<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological			
Empty Kit Relinquished by:		Date/Time:		Date/Time:	
Relinquished by: [Signature]		9/8/10 200		9/8/10 200	
Relinquished by: [Signature]		9/8/10 230		9/8/10 230	
Relinquished by:					
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No		FedEx # 793893659468		1.9c	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client		<input checked="" type="checkbox"/> Disposal By Lab	
Special Instructions/QC Requirements:		Archive For		Months	
Method of Shipment:		Received by: [Signature]		Date/Time: 9/8/10 200	
Company: TR		Received by: [Signature]		Date/Time: 9/8/10 230	
Company: TR		Received by: [Signature]		Date/Time: 9/8/10 230	
Company: TR		Received by: [Signature]		Date/Time: 9/8/10 230	



Fugro Consultants, Inc.
 4233 Rhoda Drive
 Baton Rouge, LA 70816

Letter of Transmittal

To: G.E.C., Inc. _____ 9357 Interline Avenue _____ Baton Rouge, LA 70809 _____ _____	Date: July 22, 2010 _____ Project No.: 04.55107003 PHASE 0002 _____ Attn: Jennifer Lindquist _____ Re: FALSE RIVER SEDIMENT _____ Lab Testing _____
---	--

We are sending you: Enclosed Under separate cover via: _____ the following:

Copies	Date	No.	Description
1	7/22/10	1	Chain of Custody Record
1	7/22/10	1	Laboratory Test Results
1	7/22/10	6	Grain Size Graphs

These are transmitted as checked below:

<input type="checkbox"/> For Your Approval	<input type="checkbox"/> Approved as Submitted	<input type="checkbox"/> Resubmit
<input checked="" type="checkbox"/> For Your Use	<input type="checkbox"/> Approved as Noted	<input type="checkbox"/> Submit
<input type="checkbox"/> As Requested	<input type="checkbox"/> Copies for Approval	<input type="checkbox"/> Return
<input type="checkbox"/> For Review and Comment	<input type="checkbox"/> Copies for Distribution	<input type="checkbox"/> Corrected Prints
<input type="checkbox"/> Returned for Corrections	<input type="checkbox"/> Other:	

Remarks:

Total pages (5), including cover letter.

Copies to: _____

Signed: 
 Karen Allen, CET

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CHAIN OF CUSTODY RECORD
G.E.C., INC.
9357 Interline Ave.
Baton Rouge, LA 70809
225-612-3000

Job No. 0027.3160106.002

Date: 7-13-2010

Project Name: False River

Project Location: Pointe Coupee Parish, LA

Collector's Name: Jennifer Lindquist

Type of Sample: Sediment

<u>Sample ID</u>	<u>Analysis</u>
S-1	Grain Size
S-3	Specific Gravity
S-7	Atterberg Limits for all 6 samples
N-1	
N-5	
N-8 (in 2 bags)	

Relinquished by: *Jennifer Lindquist*
Company: *GEC*

Date: *7-13-10*

Received by: *Halley Hollis Halley*
Company: *Fugro Consultants*

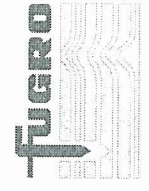
Date: *13 July 10*

FUGRO Project # 04.551071003-0002

LABORATORY TEST RESULTS

Date Tested	Sample Source	Depth (ft.)	ASTM D2216 Moisture Content (%)	Dry Density (pcf)	Volumetric Moisture Content (decimal)	Volumetric Air Content (decimal)	Total Porosity (decimal)	ASTM D864 Specific Gravity	ASTM D5084 Permeability (cm/sec)	ASTM D4572 Soil pH	ASTM D2974 Organic Content (%)	ASTM D4318 Atterberg Limits			ASTM D422 Particle Size Analysis	Classification
												LL	PL	PI		
7/15/2010	N-1	0-	43.6					2.64				39	18	21	*	LEAN CLAY, gray (CL)
7/15/2010	N-5	0-	104.4					2.67				83	27	56	*	FAT CLAY, gray (CH)
7/15/2010	N-8	0-	97.9					2.61				71	24	47	*	FAT CLAY, gray (CH)
7/15/2010	S-1	0-	67.0					2.63				54	20	34	*	FAT CLAY, gray (CH)
7/15/2010	S-3	0-	66.3					2.64				53	21	32	*	FAT CLAY, gray (CH)
7/15/2010	S-7	0-	110.4					2.63				79	25	54	*	FAT CLAY, gray (CH)

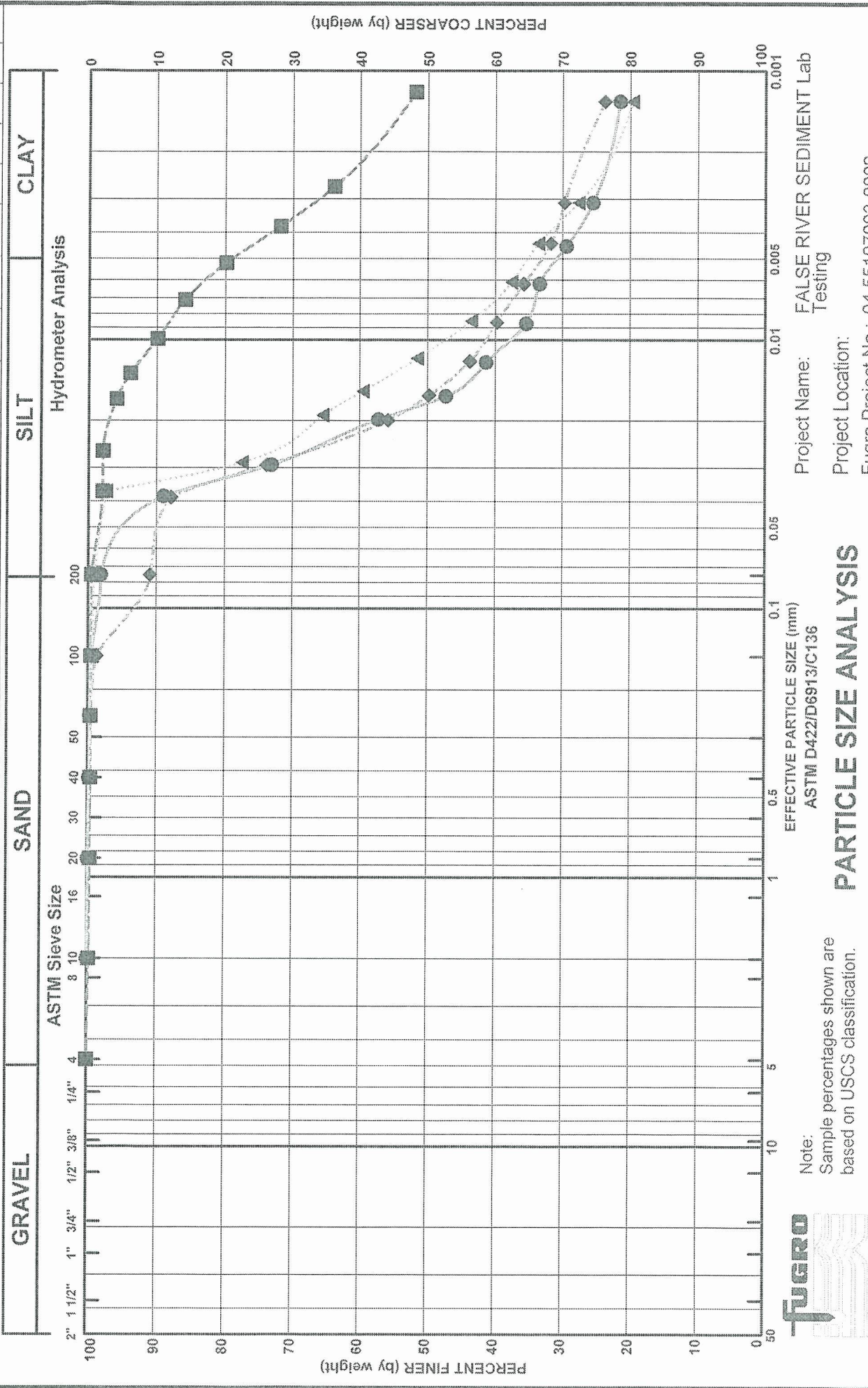
NOTE:
 (1) FOC = Organic Content divided by 174.
 (2) * See Particle Size Analysis Graph.



Project: FALSE RIVER SEDIMENT Lab Testing
 Client: G.E.C., Inc.

File No.: 04.55107003-0002
 Date: 7/22/2010

Boring Number	Sample Number	Depth (ft.)	Material Classification	%Gravel	%Sand	%Silt	%Clay	D100	D60	D30	D10	Cc	Cu	LL	PL	PI
	● N-1	0-	LEAN CLAY, gray (CL)	0.0	1.9	67.4	30.7	2	0.021	0.005				39	18	21
	■ N-5	0-	FAT CLAY, gray (CH)	0.0	0.5	20.6	78.9	4.75	0.002					83	27	56
	▲ N-8	0-	FAT CLAY, gray (CH)	0.0	0.9	63.9	35.1	2	0.016	0.004				71	24	47
	◆ S-1	0-	FAT CLAY, gray (CH)	0.0	9.1	57.7	33.2	2	0.022	0.003				54	20	34

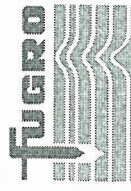
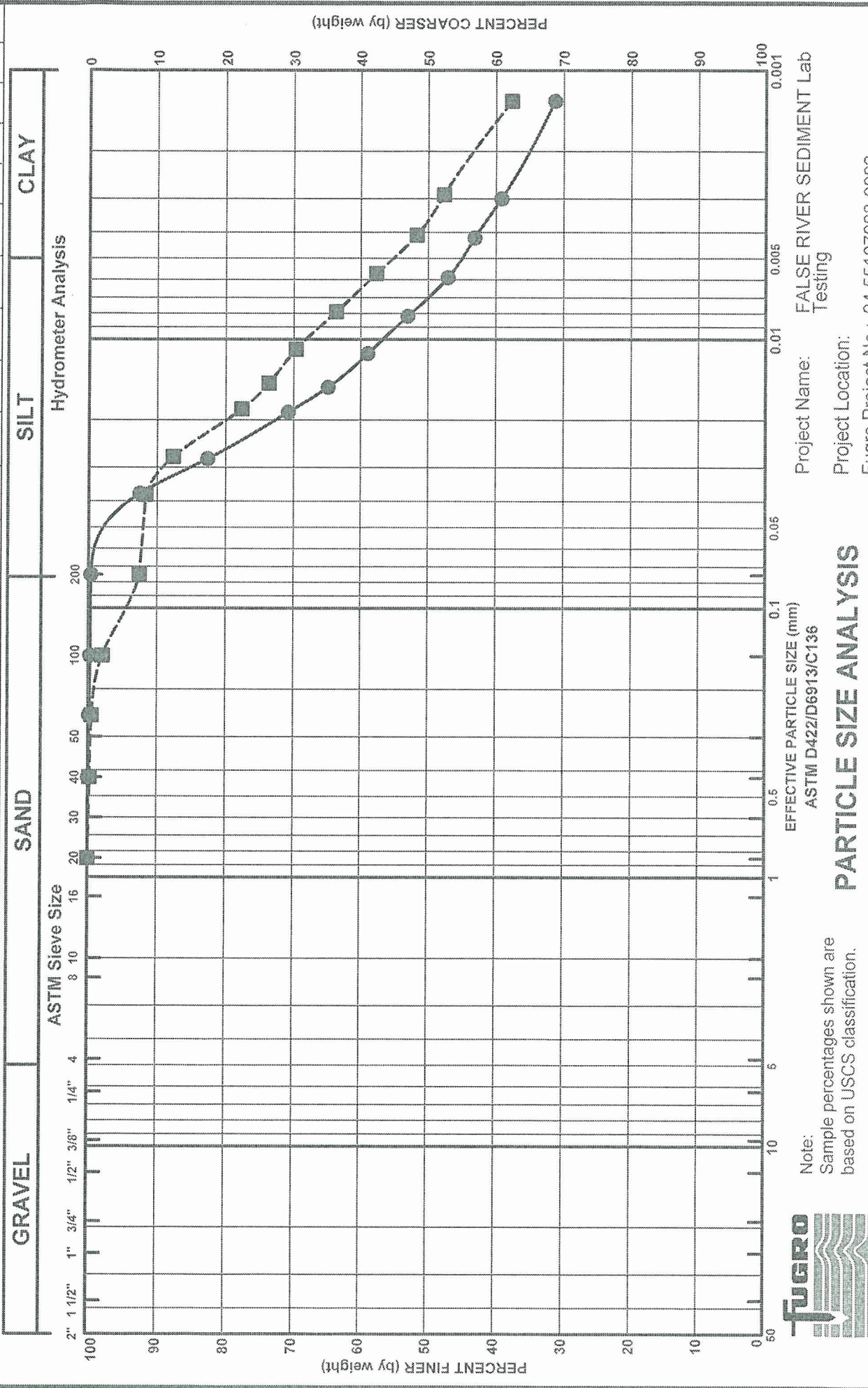


Note:
Sample percentages shown are based on USCS classification.

PARTICLE SIZE ANALYSIS

Project Name: FALSE RIVER SEDIMENT Lab Testing
 Project Location:
 Fugro Project No.: 04.55107003-0002

Boring Number	Sample Number	Depth (ft.)	Material Classification	%Gravel	%Sand	%Silt	%Clay	D100	D60	D30	D10	Cc	Cu	LL	PL	PI
● S-3		0-	FAT CLAY, gray (CH)	0.0	0.4	54.5	45.2	0.85	0.012					53	21	32
■ S-7		0-	FAT CLAY, gray (CH)	0.0	7.4	37.3	55.3	0.85	0.006					79	25	54
▲																
◆																



Note:
Sample percentages shown are based on USCS classification.

PARTICLE SIZE ANALYSIS

Project Name: FALSE RIVER SEDIMENT Lab Testing
Project Location:
Fugro Project No.: 04.55107003-0002

Attachment E

AGRONOMIC DOCUMENTATION



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116010
 Sample ID: N-1
 Soil Texture: clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.96	Very High	Very High
Phosphorus, ppm	25.04	Medium	High
Potassium, ppm	197.15	High	High
Calcium, ppm	5,098.71	Very High	Very High
Magnesium, ppm	603.93	Very High	Very High
Sodium, ppm	35.66	Optimum	Optimum
Sulfur, ppm	21.43	High	High
Copper, ppm	1.07	High	High
Zinc, ppm	2.61	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	23	0	7.31 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	2.25	7.31 Very High	6.93 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116018
 Sample ID: N-2
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	8.06	Very High	Very High
Phosphorus, ppm	20.14	Medium	High
Potassium, ppm	198.92	High	High
Calcium, ppm	4,264.39	Very High	Very High
Magnesium, ppm	605.97	Very High	Very High
Sodium, ppm	36.10	Optimum	Optimum
Sulfur, ppm	12.29	Medium	Medium
Copper, ppm	1.59	High	High
Zinc, ppm	2.67	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
pecan			75	23	0	7.13 Very High	6.73 High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	2.25	7.13 Very High	6.39 High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116017
 Sample ID: N-3
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	8.12	Very High	Very High
Phosphorus, ppm	51.02	Very High	Very High
Potassium, ppm	231.80	Very High	Very High
Calcium, ppm	4,459.56	Very High	Very High
Magnesium, ppm	697.55	Very High	Very High
Sodium, ppm	38.57	Optimum	Optimum
Sulfur, ppm	21.05	High	High
Copper, ppm	1.14	High	High
Zinc, ppm	3.10	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
pecan			75	0	0	7.20 Very High	6.78 High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0	0.75	7.20 Very High	6.45 High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116011
 Sample ID: N-5
 Soil Texture: clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.90	Very High	Very High
Phosphorus, ppm	17.32	Medium	High
Potassium, ppm	327.88	Very High	Very High
Calcium, ppm	6,257.77	Very High	Very High
Magnesium, ppm	977.01	Very High	Very High
Sodium, ppm	67.44	Optimum	Optimum
Sulfur, ppm	22.22	High	High
Copper, ppm	1.37	High	High
Zinc, ppm	4.09	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	23	0	7.34 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	0.75	7.34 Very High	7.01 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116013
 Sample ID: N-6
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	8.05	Very High	Very High
Phosphorus, ppm	26.16	Medium	High
Potassium, ppm	196.81	High	High
Calcium, ppm	4,955.72	Very High	Very High
Magnesium, ppm	584.98	Very High	Very High
Sodium, ppm	37.63	Optimum	Optimum
Sulfur, ppm	15.60	Medium	Medium
Copper, ppm	1.21	High	High
Zinc, ppm	2.95	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
pecan			75	23	0	7.42 Very High	7.01 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	2.25	7.42 Very High	6.78 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116015
 Sample ID: N-7
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.72	Very High	Very High
Phosphorus, ppm	36.57	High	Very High
Potassium, ppm	313.21	Very High	Very High
Calcium, ppm	5,269.36	Very High	Very High
Magnesium, ppm	895.80	Very High	Very High
Sodium, ppm	52.33	Optimum	Optimum
Sulfur, ppm	39.79	High	High
Copper, ppm	1.05	High	High
Zinc, ppm	6.58	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	
pecan			75	0	0	7.07	Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0	0.75	7.07	6.74
						Very High	Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116012
 Sample ID: N-8
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.62	Very High	Very High
Phosphorus, ppm	31.22	Medium	High
Potassium, ppm	237.27	Very High	Very High
Calcium, ppm	3,863.15	Very High	Very High
Magnesium, ppm	715.94	Very High	Very High
Sodium, ppm	41.35	Optimum	Optimum
Sulfur, ppm	31.72	High	High
Copper, ppm	1.07	High	High
Zinc, ppm	5.78	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	23	0	7.02 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	0	7.02 Very High	6.50 High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116007
 Sample ID: S-1
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.95	Very High	Very High
Phosphorus, ppm	55.67	Very High	Very High
Potassium, ppm	183.75	High	Very High
Calcium, ppm	4,234.46	Very High	Very High
Magnesium, ppm	578.72	Very High	Very High
Sodium, ppm	43.76	Optimum	Optimum
Sulfur, ppm	22.44	High	High
Copper, ppm	1.15	High	High
Zinc, ppm	4.39	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	0	0	7.05 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0	0	7.05 Very High	6.63 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

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Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116016
 Sample ID: S-2
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.62	Very High	Very High
Phosphorus, ppm	16.48	Medium	High
Potassium, ppm	321.45	Very High	Very High
Calcium, ppm	5,386.12	Very High	Very High
Magnesium, ppm	926.80	Very High	Very High
Sodium, ppm	68.53	Optimum	Optimum
Sulfur, ppm	46.51	High	High
Copper, ppm	0.94	High	High
Zinc, ppm	6.59	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	23	0	7.08 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	0.75	7.08 Very High	6.79 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116008
 Sample ID: S-3
 Soil Texture: clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.74	Very High	Very High
Phosphorus, ppm	18.38	Medium	High
Potassium, ppm	310.52	Very High	Very High
Calcium, ppm	6,808.75	Very High	Very High
Magnesium, ppm	835.53	Very High	Very High
Sodium, ppm	62.76	Optimum	Optimum
Sulfur, ppm	24.44	High	High
Copper, ppm	1.27	High	High
Zinc, ppm	3.78	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	
pecan			75	23	0	7.23	Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	0.75	7.23	7.04
						Very High	Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

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Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116020
 Sample ID: S-4
 Soil Texture: silty clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.43	Very High	Very High
Phosphorus, ppm	57.37	Very High	Very High
Potassium, ppm	258.46	Very High	Very High
Calcium, ppm	4,553.80	Very High	Very High
Magnesium, ppm	806.72	Very High	Very High
Sodium, ppm	50.35	Optimum	Optimum
Sulfur, ppm	46.59	High	High
Copper, ppm	0.88	High	High
Zinc, ppm	6.13	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>
pecan			75	0	0

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
trees			1.50	0	0.75	6.87 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116019
 Sample ID: S-5
 Soil Texture: very fine sandy loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.62	Very High	Very High
Phosphorus, ppm	44.35	High	Very High
Potassium, ppm	184.56	Very High	Very High
Calcium, ppm	3,810.24	Very High	Very High
Magnesium, ppm	628.45	Very High	Very High
Sodium, ppm	42.66	Optimum	Optimum
Sulfur, ppm	43.91	High	High
Copper, ppm	0.83	High	High
Zinc, ppm	5.13	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	
pecan			75	0	0	6.98	High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u>	
						<u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0	0	6.98	6.51
						Very High	Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116009
 Sample ID: S-7
 Soil Texture: clay loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.88	Very High	Very High
Phosphorus, ppm	13.39	Medium	High
Potassium, ppm	286.74	Very High	Very High
Calcium, ppm	6,249.67	Very High	Very High
Magnesium, ppm	845.92	Very High	Very High
Sodium, ppm	57.90	Optimum	Optimum
Sulfur, ppm	29.24	High	High
Copper, ppm	1.06	High	High
Zinc, ppm	3.87	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	23	0	7.34 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0.75	0.75	7.34 Very High	6.97 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>



Avant, Jason T
 9357 Interline Ave.
 Baton Rouge, LA 70809

Date Received: 07/13/2010
 Lab Number: 1110116014
 Sample ID: S-8
 Soil Texture: very fine sandy loam
 Area: Upland
 Irrigated: No

Soil Test Results

Element (Mehlich3)	Value	Pecan	Trees
pH (1:1 Water)	7.74	Very High	Very High
Phosphorus, ppm	63.65	Very High	Very High
Potassium, ppm	166.62	Very High	High
Calcium, ppm	9,446.08	Very High	Very High
Magnesium, ppm	729.01	Very High	Very High
Sodium, ppm	56.77	Optimum	Excessive
Sulfur, ppm	53.93	High	High
Copper, ppm	1.19	High	High
Zinc, ppm	4.54	High	High

RECOMMENDATION

<u>Crop</u>	<u>Form</u>	<u>Units: lb/Acre/year</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>
pecan			75	0	0	7.23 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/F-580.rtf>)

<u>Crop</u>	<u>Form</u>	<u>Units: oz/year age tree</u>	<u>Nitrogen</u>	<u>Phosphate</u>	<u>Potash</u>	<u>Expected pH / Acre with adding sulfur</u> <u>1000 lbs</u>	<u>2000 lbs</u>
trees			1.50	0	1.50	7.23 Very High	6.95 Very High

For additional crop information please see (<http://www.stpal.lsu.edu/recsheets/H-850.rtf>)

If there are any questions about this report, please contact your local extension service office at (Telephone 225/389-3056). The extension office also receive a copy of this report.

Note: ppm is equivalent to mg/Kg for soil and plant samples and is equivalent to mg/L for water samples. For a description of methods used, please visit our web site at: <http://www.stpal.lsu.edu>

Appendix G

DRAWDOWN MODELING REPORT

Final Report

HYDROLOGIC AND HYDRAULIC ANALYSIS FOR THE PROPOSED DRAWDOWN OF FALSE RIVER, LOUISIANA

as a part of the

FALSE RIVER ECOSYSTEM RESTORATION (SECTION 206) FEASIBILITY STUDY, FALSE RIVER, LOUISIANA

Prepared for



U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana

Prepared by



Gulf Engineers & Consultants
Baton Rouge, Louisiana

August 2011

August 2011

Final Report

HYDROLOGIC AND HYDRAULIC ANALYSIS FOR THE PROPOSED DRAWDOWN OF FALSE RIVER, LOUISIANA

as a part of the

FALSE RIVER ECOSYSTEM RESTORATION (SECTION 206) FEASIBILITY STUDY, FALSE RIVER, LOUISIANA

Prepared for



U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana

Prepared by



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8282 Goodwood Blvd.

Baton Rouge, Louisiana 70806
Telephone 225/612-3000 Fax 225/612-4270

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HYDROLOGIC AND HYDRAULIC ANALYSIS

DRAFT
HYDROLOGIC AND HYDRAULIC ANALYSIS FOR PROPOSED
DRAWDOWN OF FALSE RIVER, LOUISIANA

1.0 INTRODUCTION

1.1 BACKGROUND

The ongoing False River Ecosystem Restoration (Section 206) Feasibility Study is in the process of data collection and identifying potential alternatives to improve the ecosystem habitat of False River.

The Louisiana Department of Wildlife and Fisheries has recommended a drawdown of False River to improve the fisheries habitat. The exact details have not yet been determined, but the general preliminary plan would draw False River down after Labor Day in September, 2010 and the drawdown would end in January, 2011. The lake would need to be back to pool stage before the April fish spawning period. The drawdown would be accomplished by opening the three gates in the water control structure on the False River Outfall Canal (Lighthouse Canal) (Figure 1). The control structure consists of three gates positioned approximately 15 feet in front of three 8-foot by 8-foot box culverts under Louisiana Highway 1. These 8-foot-wide and 6-foot-high gates are generally kept closed to maintain a normal pool elevation of 16 feet. The invert of these gates is 10 feet.

Several questions were raised in a public meeting and by stakeholders at other times about the effects of the proposed drawdown including:

- 1) How long would there be exposed mud flats?
- 2) How long will it take the lake to refill after the control gates are closed?
- 3) What would be the rate of drawdown?

The rate of drawdown is related to potential effects on existing structures, such as bulkheads.

The U.S. Army Corps of Engineers (USACE), New Orleans District, agreed to provide this report to present data and information on the proposed drawdown to assist the decision makers. This report was developed based upon existing information and modeling in an attempt to address the above-mentioned stakeholder's questions.

1.2 SCOPE OF DRAWDOWN ANALYSIS

The scope of this hydraulic and hydrological analysis is to simulate the drawdown during periods of low, average, and high rainfall. The model simulation was run from September 15 to April 1, with the control structure gates opened on September 15 and closed on January 15. The model simulation was run through April 1 to show how False River would return to pool stage after the gates were closed. The USACE Hydrologic Engineering Center (HEC) Hydrologic Modeling System (HEC-HMS) and River Analysis System (HEC-RAS) were used to simulate the lake drawdown.



Figure 1. False River Control Structure gates. False River is behind the photographer and the Louisiana Highway 1 and box culverts are behind these gates.

2.0 MODEL ASSUMPTIONS AND RAINFALL DATA

2.1 MODEL ASSUMPTIONS

The drawdown simulation does not account for ground water inflow or evaporation. Oxbow lakes such as False River are influenced by ground water inflow. The inflow rate and the volume of inflow are dependent on the stage of the Mississippi River and the stage of False River. High stages on the Mississippi River and low stages on False River will increase the rate of ground water flow. Typically during the simulation period (September through March) stages in the Mississippi River are low. Evaporation rates are also low during the simulation period. The losses due to evaporation may be offset by the ground water inflow.

2.2 RAINFALL DATA

Since it would be difficult to predict the future rainfall regime for a given period of time, the modeling was developed for a lower than average rainfall, average rainfall, and a higher than average rainfall periods. This would give the decision makers a full range of what to expect given the inability to predict future rainfall.

Rainfall data were obtained from National Oceanic and Atmospheric Administration (NOAA) Southern Regional Climate Center. Monthly and daily rainfall totals recorded at the Baton Rouge Ryan Airport station were used for the analysis. Monthly rainfall totals can vary significantly from the average monthly rainfall (Table 1). For example, in October 2009 the observed rainfall was 12.82 inches whereas the 30-year (1971-2000) average rainfall for October was 3.46 inches. Selection of periods with lower than average rainfall, average rainfall, and higher than average rainfall was based on the monthly totals from September through

March. Rainfall periods selected for each rainfall level were: average rainfall (September 2003 to March 2004), low rainfall (September 2007 to March 2008), and high rainfall (September 2009 to March 2010) (Table 1).

Table 1. Monthly Rainfall Totals at Baton Rouge (from: NOAA, 2010)

Year	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
1999/2000	4.08	7.04	0.87	5.27	2.78	0.64	3.36	24.04
2000/2001	3.04	1.07	10.71	2.73	4.00	1.83	7.35	30.73
2001/2002	7.11	5.49	0.58	4.25	4.28	1.44	9.43	32.58
2002/2003	6.20	9.30	3.76	7.15	0.52	7.26	2.14	36.33
2003/2004	4.47	1.63	5.49	2.62	3.76	11.44	2.42	31.83
2004/2005	1.47	9.02	6.60	3.14	5.89	3.96	2.06	32.14
2005/2006	11.69	1.17	2.88	4.20	1.77	4.34	0.30	26.35
2006/2007	4.51	9.05	2.86	8.13	7.78	1.83	2.31	36.47
2007/2008	3.63	2.93	3.29	3.49	9.39	2.28	3.74	28.75
2008/2009	8.77	0.26	1.09	6.36	3.33	2.07	6.16	28.04
2009/2010	5.55	12.82	1.53	14.86	2.38	6.51	2.54	46.19
Monthly Average	4.41	3.46	4.17	5.20	5.22	4.79	4.77	32.02

3.0 HYDROLOGIC AND HYDRAULIC ANALYSIS

3.1 HEC-HMS

The watershed was modeled using HEC-HMS. The numerical model simulates the rainfall runoff process. Daily rainfall records observed at the Baton Rouge Ryan Airport station were used for all sub-basins. The Green and Ampt method was used to compute the infiltration losses. The Espey Huston equations were used to calculate the input parameters T_c and R used with the Clark unit hydrograph method. Drainage areas were defined using LIDAR data.

The soils in the watershed are primarily silty clay loam or clay. These soils are somewhat poorly drained and have low infiltration rates. The hydrologic soil group is C and D. Daily rainfall records were used for the drawdown simulation. The Conductivity Parameter used in the Green and Ampt equations measures infiltration rates in inches per hour. Because daily rainfall records were used, the actual storm patterns are unknown, and it was assumed that most of the rainfall events occurred over less than a 24-hour period, the Conductivity (inches/hour) Parameter was adjusted to a lower rate. Adjustments were made to the infiltration parameters until the computed losses for each simulation provided reasonable results. The daily rainfall total and infiltration loss for each simulation (low, average, and high rainfall) are presented in Figures 2 - 4. The infiltration loss is the rainfall the seeps into the ground and does not contribute to surface runoff. The infiltration loss varies depending upon the recent rainfall events and soil moisture. For example, more infiltration would occur when it has not rained recently and the soil is dry and less infiltration would occur if it has recently rained and the soil is wet. The False River drainage area map is presented in Figure 5.

Daily Rainfall 2007-2008

Low Rainfall

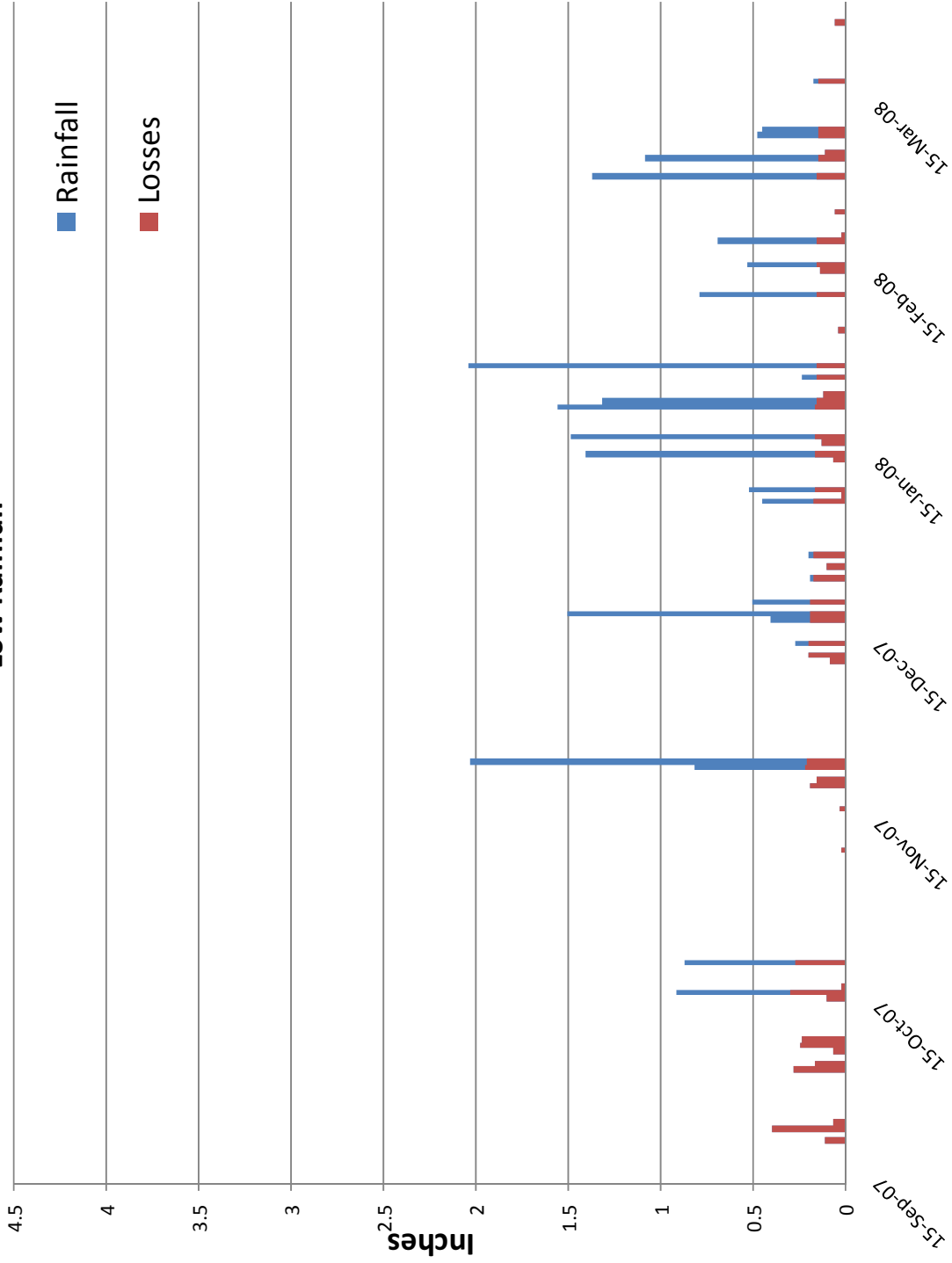


Figure 2. Daily Rainfall 2007-2008

Daily Rainfall 2003-2004

Average Rainfall

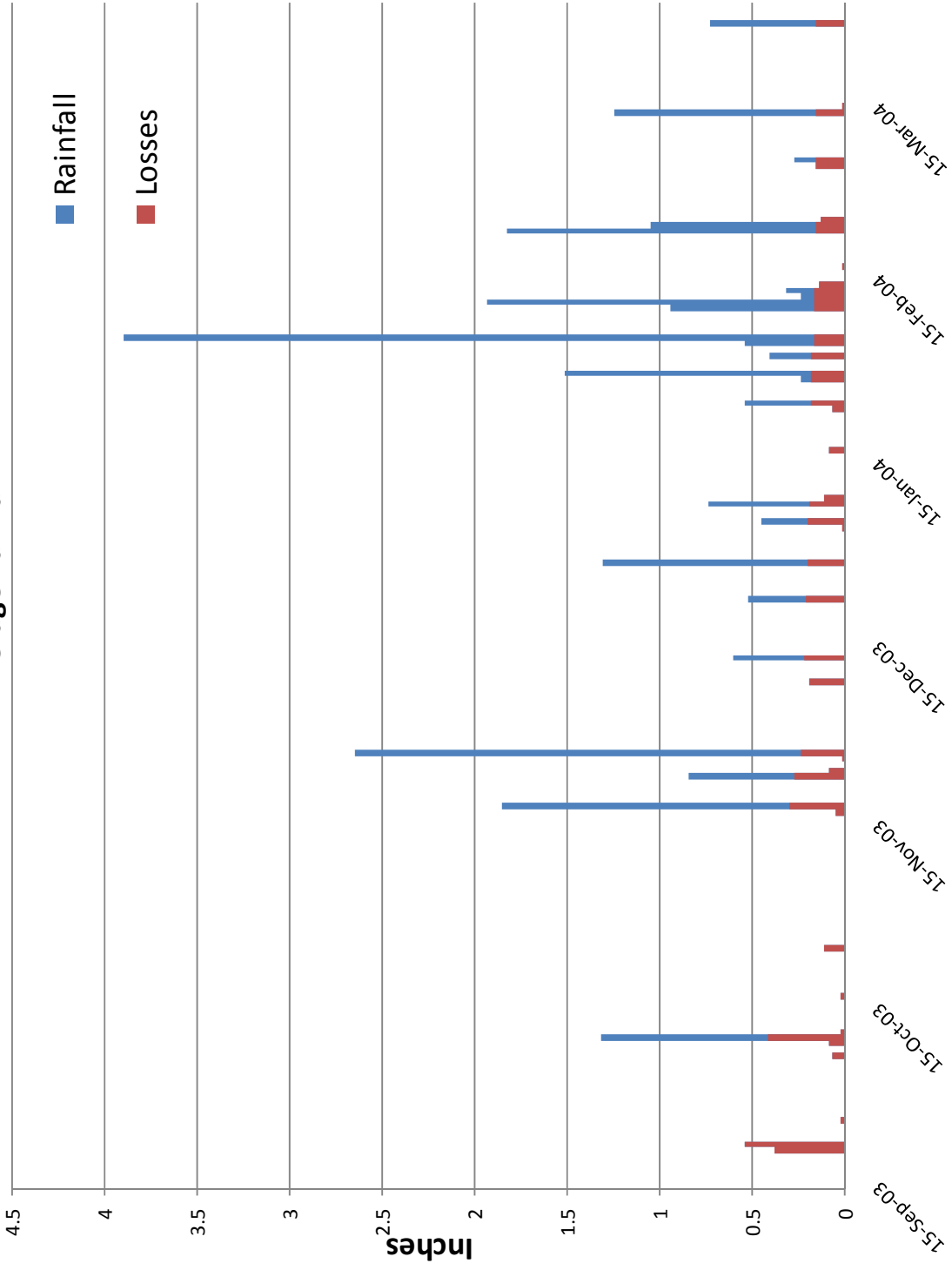


Figure 3. Daily Rainfall 2003-2004

Daily Rainfall 2009-2010 High Rainfall

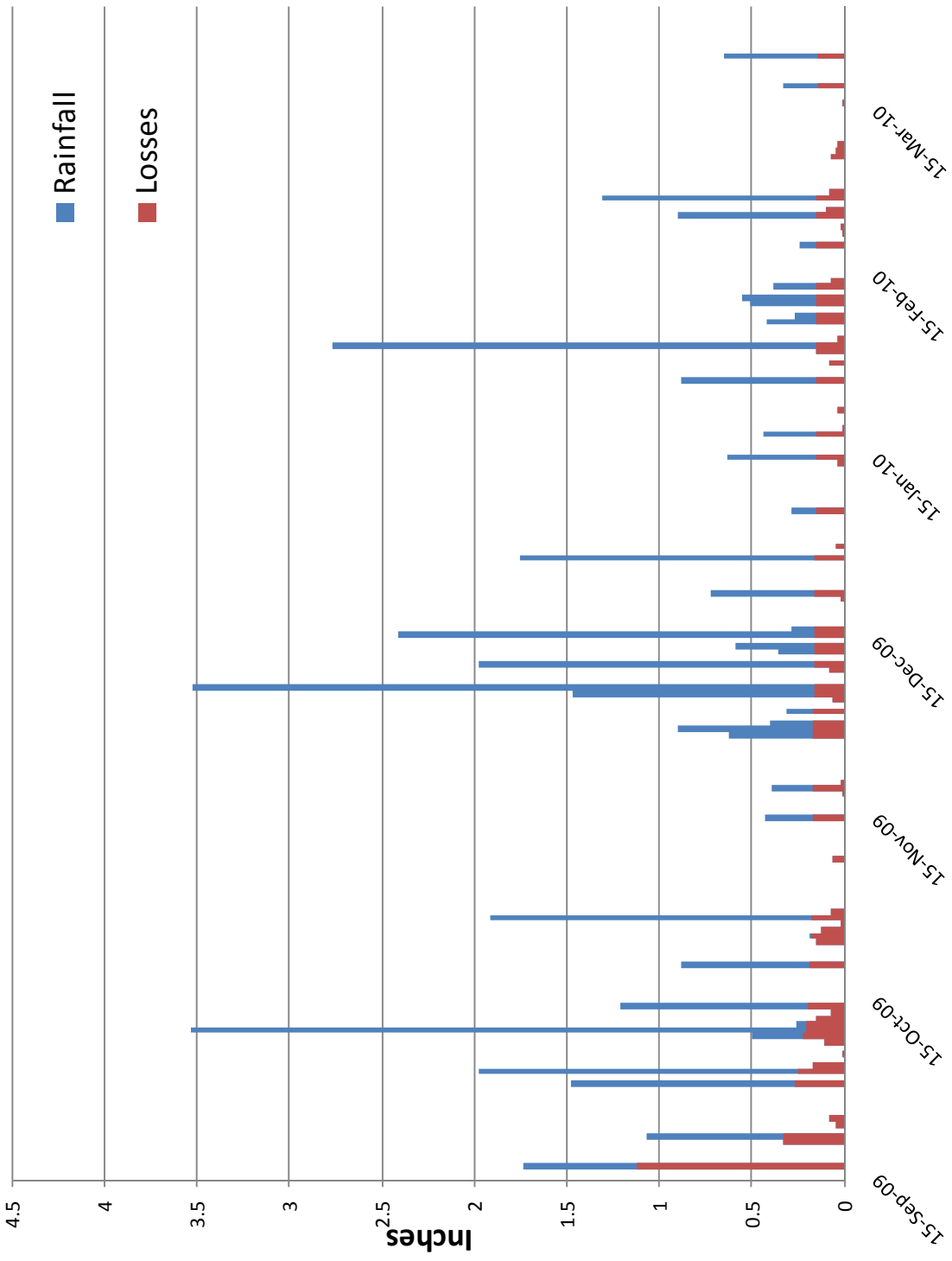


Figure 4. Daily Rainfall 2009-2010

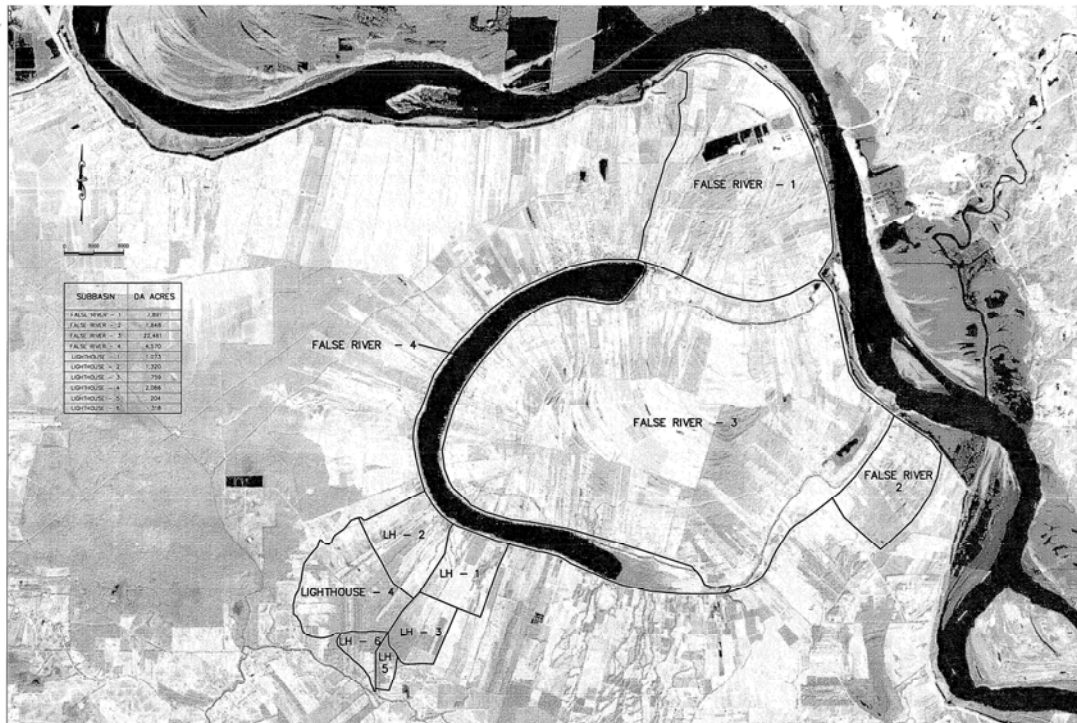


Figure 5. Drainage Area Map

3.2 HEC-RAS

HEC-RAS was used to simulate a drawdown of False River. The inflow hydrographs were computed using HEC-HMS for the periods of September 2003 through March 2004, September 2007 through March 2008, and September 2009 through March 2010. These hydrographs were then input into HEC-RAS for unsteady state simulation.

3.2.1 Model Development and Geometry

False River is modeled as a storage area. The stage volume relationship of False River was obtained from the bathymetric survey performed by the U.S. Geological Survey (USGS) and the Louisiana Department of Transportation (LDOTD) in 1998. The channel geometry of the False River Outfall Channel (Lighthouse Canal) was developed using field survey and LIDAR data. The False River control structure was modeled using the construction plans.

The 2003 False River bathymetric survey by Chustz Surveying, Inc. is on the NAVD 88 datum. This survey recorded a pool elevation of 15.17 feet NAVD 88. The weir elevation of the control was surveyed by the Louisiana Department of Public Works in 1970. The benchmark used to establish the elevation was a National Geodetic Survey (NGS) monument S-204 located near Erwinville, Louisiana. This benchmark has been destroyed. The datum of the NGS monument would have been NGVD29. Based on the 2003 survey, the approximate adjustment for the weir elevation of 16 feet NGVD29 to NAVD 88 is minus 1.0 feet. For the drawdown analysis, the weir and normal pool elevation used 16.0 feet NGVD29.

When stages in False River are near pool stage excess storm water is discharged over the top of the gates at elevation 16 feet. During a flood event the gates are opened to remove excess storm water. The gate configuration allows weir flow over the top of the gate and orifice flow when the gates are opened. When the gates are fully opened the top of the gates is approximately 22 feet in elevation and the bottom of the gates would be approximately 16 feet elevation. HEC-RAS does not allow the user to change the weir (top gate) elevation during the simulation. An inline structure with a high embankment that would not allow weir flow was used to model the gates. During low events the gates are partially opened to match the discharge by weir flow over the top of the gates. Discharge from False River during a flood event begins as weir flow then changes to orifice flow as the gates are opened and finally the discharge is controlled by the three 8-foot by 8-foot box culverts under Louisiana Highway 1. The HEC-RAS geometry file is presented in Figure 6.

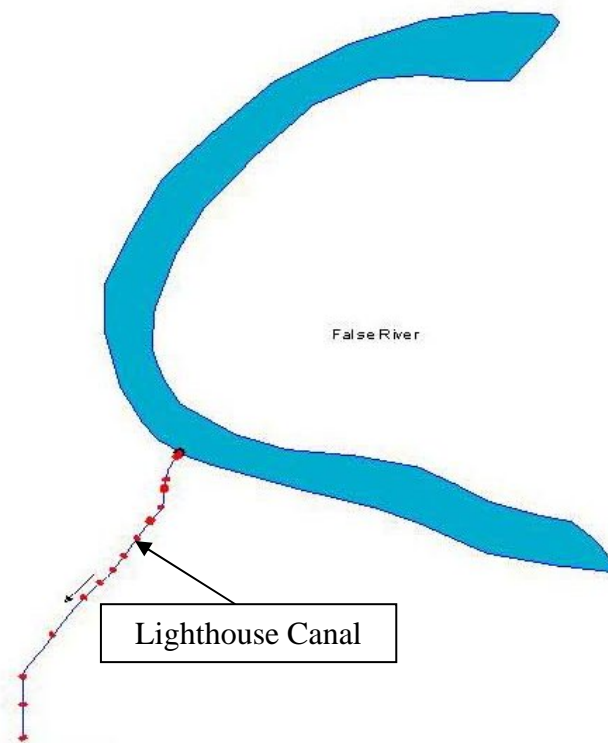


Figure 6. HEC-RAS Geometry File

3.2.2 Boundary Conditions

Normal depth was used for the downstream boundary condition on the False River Outfall Canal. The frictional slope of 0.0001 ft/ft was used in the simulation. False River inflow hydrographs for the simulation period September through March were the upstream boundary conditions in the storage area. Lateral inflow hydrographs were used on the False River Outfall

Canal. For the drawdown simulation the control gates were opened on September 15 and remained open until January 15.

4.0 SUMMARY AND CONCLUSIONS

The prediction of lake levels during a drawdown varies depending whether it is a low, average, or high rainfall period (Figure 7). The simulated events were selected to represent a period of below average, near average, and higher than average rainfall. The rainfall events used in the simulation of a drawdown were observed storm events recorded at the Baton Rouge Ryan Airport weather station.

The maximum drawdown rate determined from the analysis is approximately two inches per day. The time required to refill False River is approximately one month. The simulation shows that for dry to average rainfall periods the stages in False River may fall below 11 feet for two to three weeks, below elevation 12 for six to eight weeks, and 13 feet for approximately three months. During a high rainfall period the stages in False River may fall below 13 feet for less than one month.

Estimated time periods that the mud flats in False River would be exposed can be calculated from Figure 7. Although the actual rainfall during a drawdown will differ from the rainfall events that were simulated, stakeholders can select from a low, average, or high period of rainfall to determine how the drawdown may affect a particular area of interest. For example, if the average water depth at a given dock or bulkhead is 4 feet when the lake is at 16 feet, then the elevation would be 12 feet ($16 - 4 = 12$). For a low to average rainfall period, the stages in False River may fall below elevation 12 for six to eight weeks according to the simulation. Therefore, if the area of interest has an elevation of 12 feet (or a depth of 4 feet when the lake is at 16 feet) the estimated time that the mud flats would be exposed is six to eight weeks.

5.0 REFERENCES

National Oceanic and Atmospheric Administration (NOAA). 2010. Unpublished monthly and daily rainfall data for the Baton Rouge Ryan Airport station. NOAA Southern Regional Climate Center.

U.S. Army Corps of Engineers. 2009. *Hydrologic Engineering Center, Hydrologic Modeling System User's Manual, Version 3.4*, Davis, CA.

U.S. Army Corps of Engineers. 2010. *Hydrologic Engineering Center, River Analysis System User's Manual, Version 4.1*, Davis, CA.

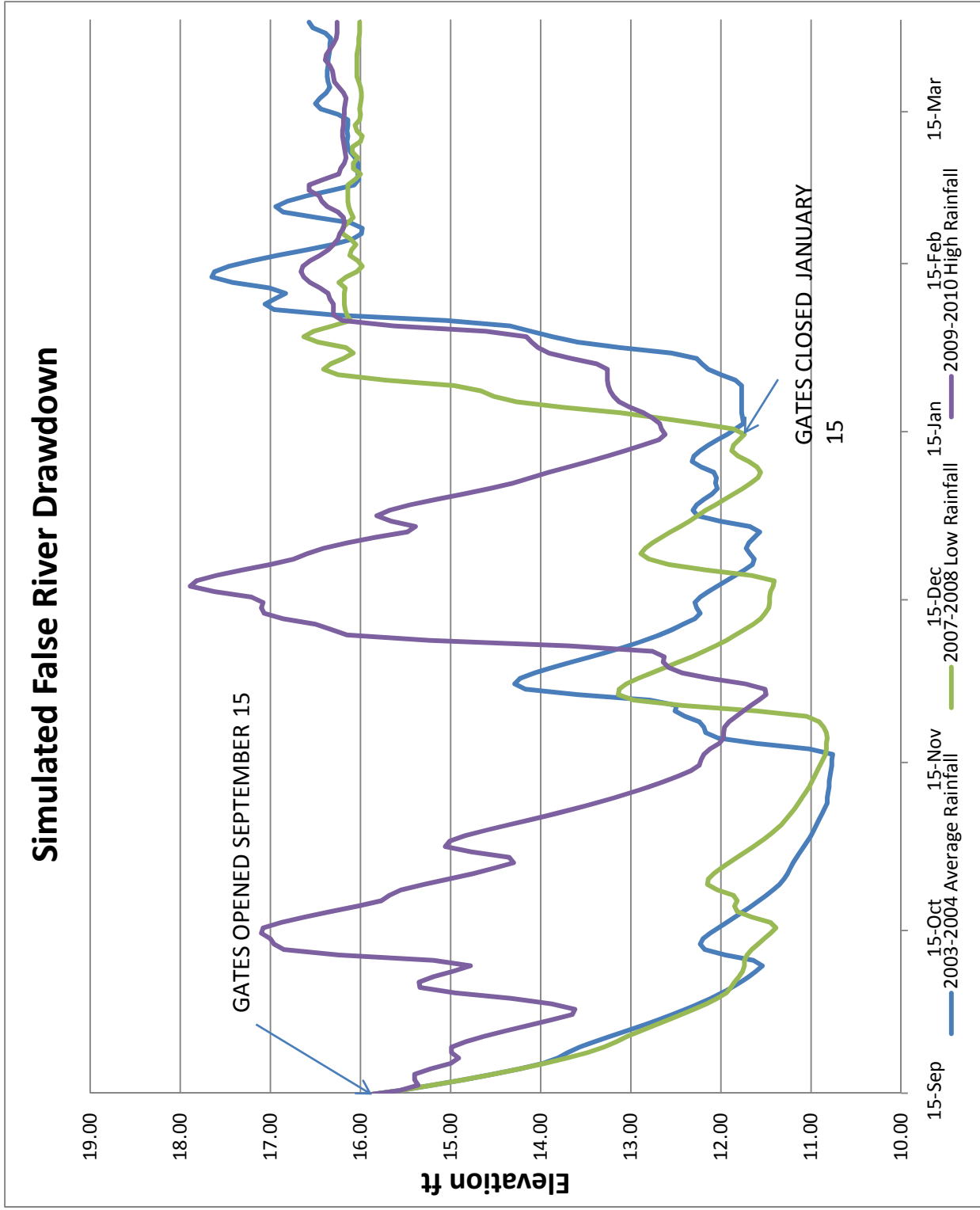


Figure 7. Simulated False River Drawdown

Appendix H

ARTICLES

Results of Geochronological Analysis of False River Vibracores: Accumulation rates from decompacted core depths

Prepared by

Dr. Sam Bentley

**Louisiana State University Coastal Studies Institute
For the US Army Corps of Engineers, New Orleans District**

Revision February 10, 2004

Introduction.

This report summarizes results of ^{210}Pb and ^{137}Cs geochronological analyses of vibracores collected by the US Corps of Engineers in False River in July 2003. The purpose of this study is to constrain sediment-accumulation rates in the upper 1-2 m of the cores. Depth data for this report have been decompacted.

Analytical Methods

Constraints on sediment accumulation rates were estimated using ^{210}Pb and ^{137}Cs geochronology. Split vibracores were subsampled at 2-cm intervals, dried at 70°C , then sealed in airtight plastic containers for three weeks prior to analysis (to allow ingrowth of the radionuclides ^{222}Rn , ^{214}Pb , ^{214}Bi , parent isotopes of ^{210}Pb in the ^{238}U decay chain). This step is necessary in order to discriminate the activity of supported ^{210}Pb (produced by ^{226}Ra - ^{222}Rn decay in the crystal lattices of sediment particles) from excess ^{210}Pb (^{210}Pb supplied from the water column, and used for geochronological study).

Activities of ^{210}Pb (natural product of U-series decay; $t_{1/2} = 22$ years) and ^{137}Cs (product of nuclear fission in nuclear reactors and bombs, $t_{1/2} = 30.7$ years) were determined by γ -spectroscopy analysis of dried sediment (46.5 KeV peak for ^{210}Pb and 661 KeV peak for ^{137}Cs). ^{210}Pb activities were corrected for self-absorption by calibration with standards of known activity (Cutshall et al., 1983). Excess activities of ^{210}Pb were determined by comparison with supported activities of parent radionuclides

^{214}Pb (295 and 351 KeV) and ^{214}Bi (609 KeV). The minimum detection limit for ^{137}Cs was 0.04 dpm/g in 17-g samples.

Decompaction

For this report, we have assumed that all compaction in the cores occurred in the upper 1.0 m of the core. For depths below 1.0 m., 100% of the compaction length was added to each sample depth. A linear function was used to correct the upper meter of core, as follows:

$$\text{Corrected depth} = \text{liner depth} + (\text{compaction length} * \text{liner depth} / 100\%) \quad (1)$$

Age Models

Two models are used to infer sediment age from ^{210}Pb and ^{137}Cs data, respectively, based on end-member solutions to the advection-diffusion-reaction equation (Aller and Cochran, 1976; Nittrouer and Sternberg, 1981). In the ^{210}Pb model, apparent accumulation rates (S , cm y^{-1}) are calculated from ^{210}Pb gradients, assuming no sediment mixing (physical or biological) in the core. If accumulation is the dominant process and steady-state conditions are assumed (e.g., Nittrouer and Sternberg, 1981), mixing can be ignored and the accumulation rate (S , cm y^{-1}) can be estimated by a least-squares fit to:

$$A(z) = A_0 e^{\left(\frac{-\lambda z}{S}\right)} \quad (2)$$

where λ is the decay constant for the radionuclide of interest (0.0311 year^{-1} for ^{210}Pb) and A is excess activity (dpm g^{-1}) at depth z . The apparent age of sediment at a particular depth is thus an exponential function of initial surface activity (A_0) and sedimentation rate.

For the ^{137}Cs model, we assume that (Nittrouer and Sternberg, 1981):

1. ^{137}Cs was first introduced into the environment in 1954, and was transferred to depositing sediments, and reached peak activities in the atmosphere in 1963.
2. Bioturbation depth is negligible and requires no depth correction for Cs data.
3. Core compaction is restricted to the upper ~100 cm of the core (this also applies to ^{210}Pb calculations).

4. The accumulation rate based on ^{137}Cs can be calculated from:

accumulation rate (cm/y) = [(depth of maximum ^{137}Cs + depth correction, cm) - (depth of bioturbation, cm)] / (2002-1963, y).

Or, if using maximum penetration depth of Cs-137, the equation would be accumulation rate (cm/y) = [(depth of maximum ^{137}Cs + depth correction, cm) - (depth of bioturbation, cm)] / (2002-1954, y)

Results

Accumulation rates calculated using these two age models are shown on each of the following plots, and in Table 1. Depth axes shown in the accompanying plots are corrected for compaction, using Equation 1. Total combined possible error due to both analytical error and sampling interval/core compaction is ~ 0.25 cm/y for ^{210}Pb rates, although additional uncertainty (up to $\sim 25\%$ of the rate estimate) is introduced by natural scatter in the ^{210}Pb data (due to variations in grain size, for example).

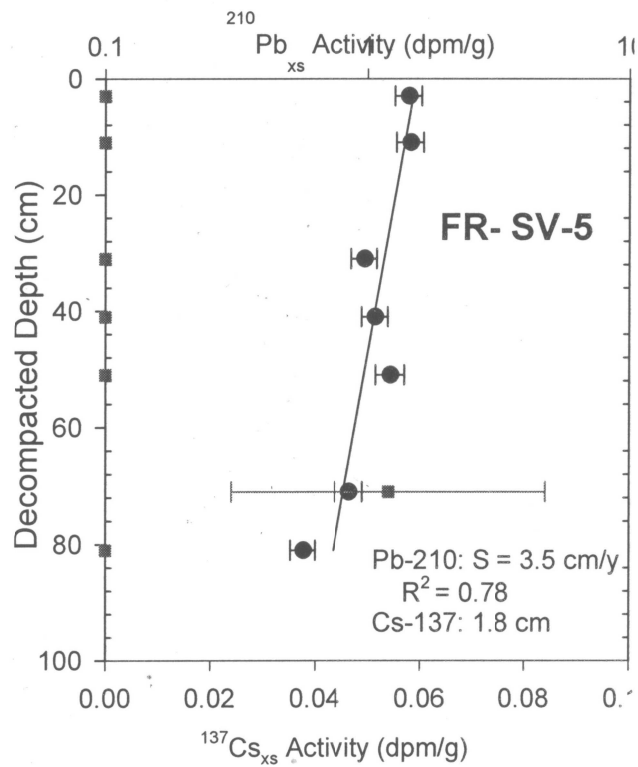
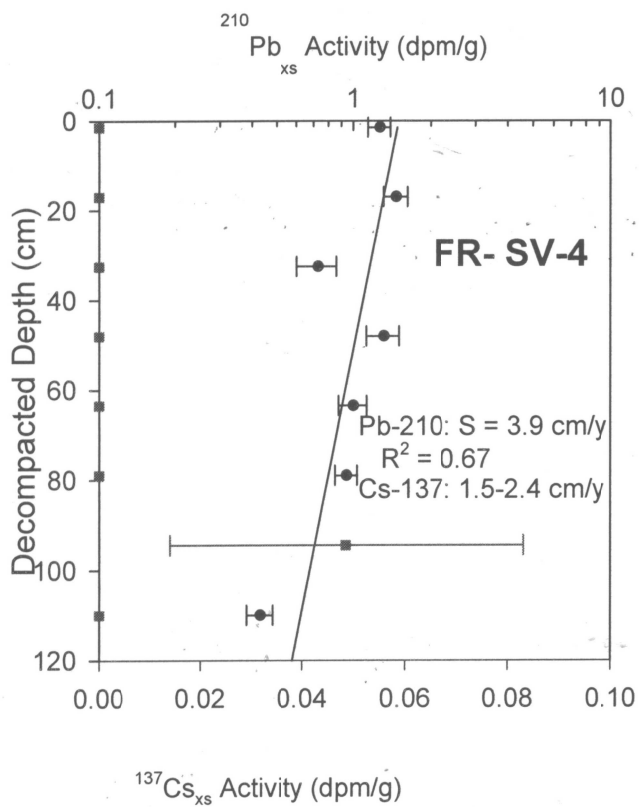
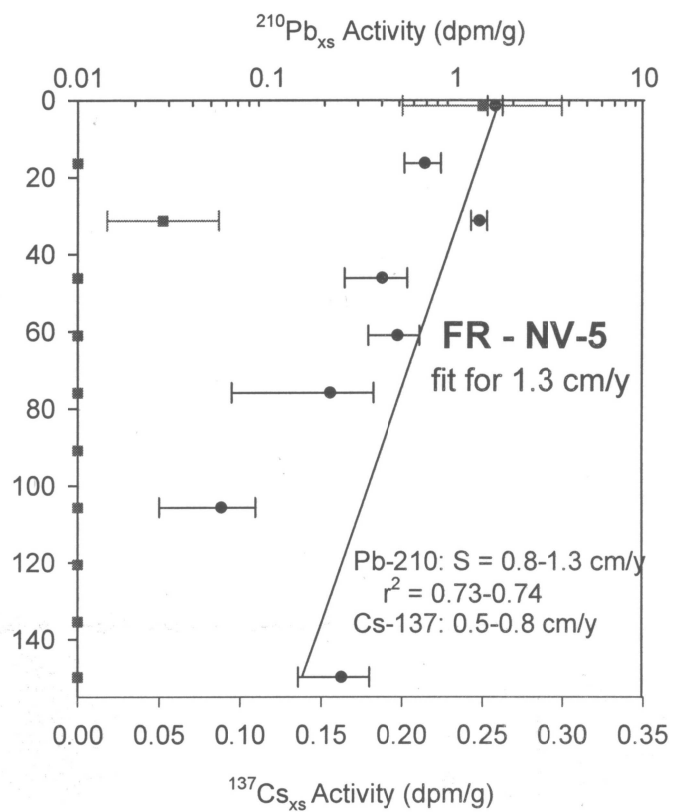
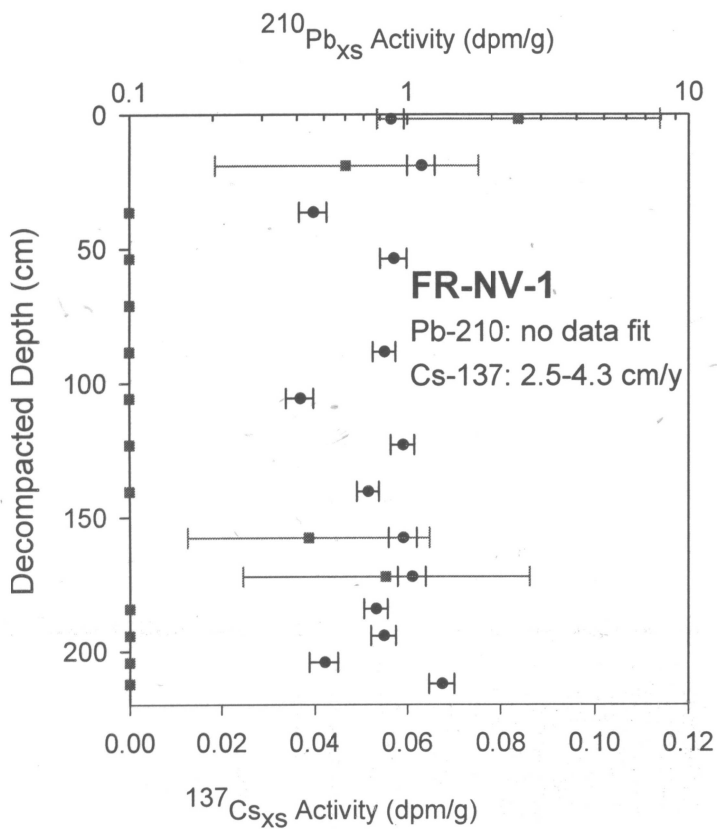
Nearly all ^{137}Cs activities are near the minimum detectable activity of 0.05 dpm/g. As a result, ^{137}Cs accumulation rate estimates for cores NV5, SV4, and SV5 that are based on only one data point could be unreliable. For these cores, accumulation rates from ^{210}Pb distributions are probably more robust. The range of ^{137}Cs rates results from the occurrence of elevated ^{137}Cs in only one sample, thus introducing uncertainty as to whether this depth horizon represents 1954, 1963, or some intermediate time.

Table 1. Accumulation rates and associated measurements from vibracores. Rates are uncorrected for compaction. The ^{210}Pb accumulation rate is calculated from a regression to Equation 1, over the depth interval indicated. The ^{137}Cs accumulation rate is calculated as described above. *Due to low ^{137}Cs activities in these sediments, ^{210}Pb accumulation rates are probably the most reliable, where available.*

<i>Core ID</i>	<i>^{210}Pb Sed Rate (cm/y)</i>	<i>^{137}Cs Sed Rate (cm/y)</i>	<i>Uncorrected/Corrected Depth of Maximum ^{137}Cs Activity (cm)</i>	<i>Total Core Compaction Length</i>
NV1	No data fit	2.5-4.3 cm/y	99/172 cm	73 cm
NV5	0.8-1.3 cm/y	0.5-0.8 cm/y	21/31cm	49 cm
SV4	3.9 cm/y	1.5-2.4 cm/y	61/95 cm	55 cm
SV5	3.5 cm/y	1.8 cm/y	71/71 cm	0 cm

References

- Aller, R.C., and Cochran, J.K., 1976. ^{234}Th - ^{238}U disequilibrium and diagenetic time scales. *Earth and Planetary Science Letters* 29, 37-50.-
- Boudreau, B.P., 1986. Mathematics of tracer mixing in sediments: I. Spatially dependent, diffusive mixing. *American Journal of Science* 296, 161-198.
- Cutshall, N.H., I.L. Larsen, and C.R. Olsen, 1983, Direct analysis of ^{210}Pb in sediment samples: Self absorption corrections: *Nuclear Instruments and Methods*, v. 206, p. 1-20.
- Nittrouer, C.A., and R.W. Sternberg, 1981, The formation of sedimentary strata in an allochthonous shelf environment: the Washington continental shelf: *Marine Geology*, v. 42, p. 201-232.



27 June 2003

False River Vibracores

<u>Core #</u>	<u>Lat/Long</u>	<u>Water Depth (ft)</u>	<u>Compaction (ft)</u>
25 June 2003			
SV-1	30 36 36.6 91 25 32.2	3.4	0.9
SV-2	30 36 45.5 91 25 37.0	3.5	3.8
SV-3	30 36 41.6 91 25 58.1	10.5	1.4
SV-4	30 36 54.6 91 25 58.9	2.3	1.8
SV-5	30 36 48.4 91 26 57.1	6.3	0.0
26 June 2003			
NV-1	30 41 22.8 91 25 03.9	2.4	2.4
NV-2	30 41 23.3 91 25 24.0	11.2	1.3
NV-3	30 41 02.5 91 25 22.3	3.2	2.0

NV-4	30 41 09.6	4.1	3.5
	91 25 46.4		

NV-5	30 41 01.0	4.6	1.6
	91 25 47.3		

False River Vibracores

sample depth x X
 estimated recent fill x erf+compaction

Core #	Length of core (ft)	Compaction (ft)	%Compaction	Estimated Recent Fill (ft)	* Cesium Peak (cm)	* Cesium Peak (ft)	Compaction corrected Cesium Peak (ft)	Cesium Accretion Rate (ft/yr)	Cesium Accretion Rate (cm/yr)	Lead Dating (cm/yr) no ft	Lead Dating (ft/yr) #VALUE!
NV-1	19.70	2.4	0.12	4	99	3.22	5.15	0.13	3.92		
NV-2	10.50	1.3	0.12	4							
NV-3	8.00	2	0.25	5							
NV-4	7.50	3.5	0.47	6.5							
NV-5	16.80	1.6	0.10	5.8	21	0.68	0.87	0.02	0.66	1.05	0.03
SV-1	18.30	0.9	0.05	2.6							
SV-2	15.00	3.8	0.25	2							
SV-3	15.60	1.4	0.09	4.1							
SV-4	17.40	1.8	0.10	3.4	61	1.98	3.03	0.08	2.31	3.90	0.13
SV-5	6.20	0	0.00	0.5	71	2.31	2.31	0.06	1.76	3.50	0.11

* Cesium and Lead analysis was performed by Louisiana State University - Dr. Sam Bentley



SURVEY PROFILE COORDINATES		
STATE PLANE, NAD83, LA. SOUTH-1702		
X-COORDINATE	Y-COORDINATE	
TP1	3252431.863	766151.530
PI1	3245709.506	768937.681
PI2	3240921.649	770378.662
PI3	3237338.710	771075.115
PI4	3234709.440	772899.105
PI5	3232575.217	777475.959
PI6	3232575.217	780775.959
PI7	3235197.464	787266.246
PI8	3240893.662	793164.832
PI9	3247068.709	796243.597
TP2	3254839.280	796923.412

NOTES:

1. GROSS SECTION INTERVALS AT BOTH NORTH AND SOUTH FLATS SHALL BE 400' OR LESS PENDING OCCURRENCE OF SHALLOWS, SHOT INTERVAL EQUAL 200'.
2. PROFILE SHALL BE ONE CONTINUOUS TRVERSEST FROM SHOTS FROM TP TO NEAREST BANK LOCATION, IN LINE WITH GIVEN ALIGNMENT IN ORDER TO LOCATE EDGE OF BANK, SHOT INTERVAL EQUAL 100'

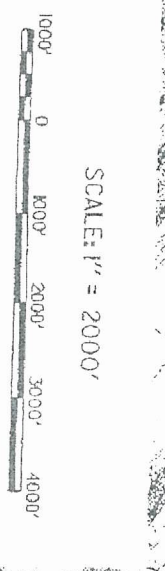
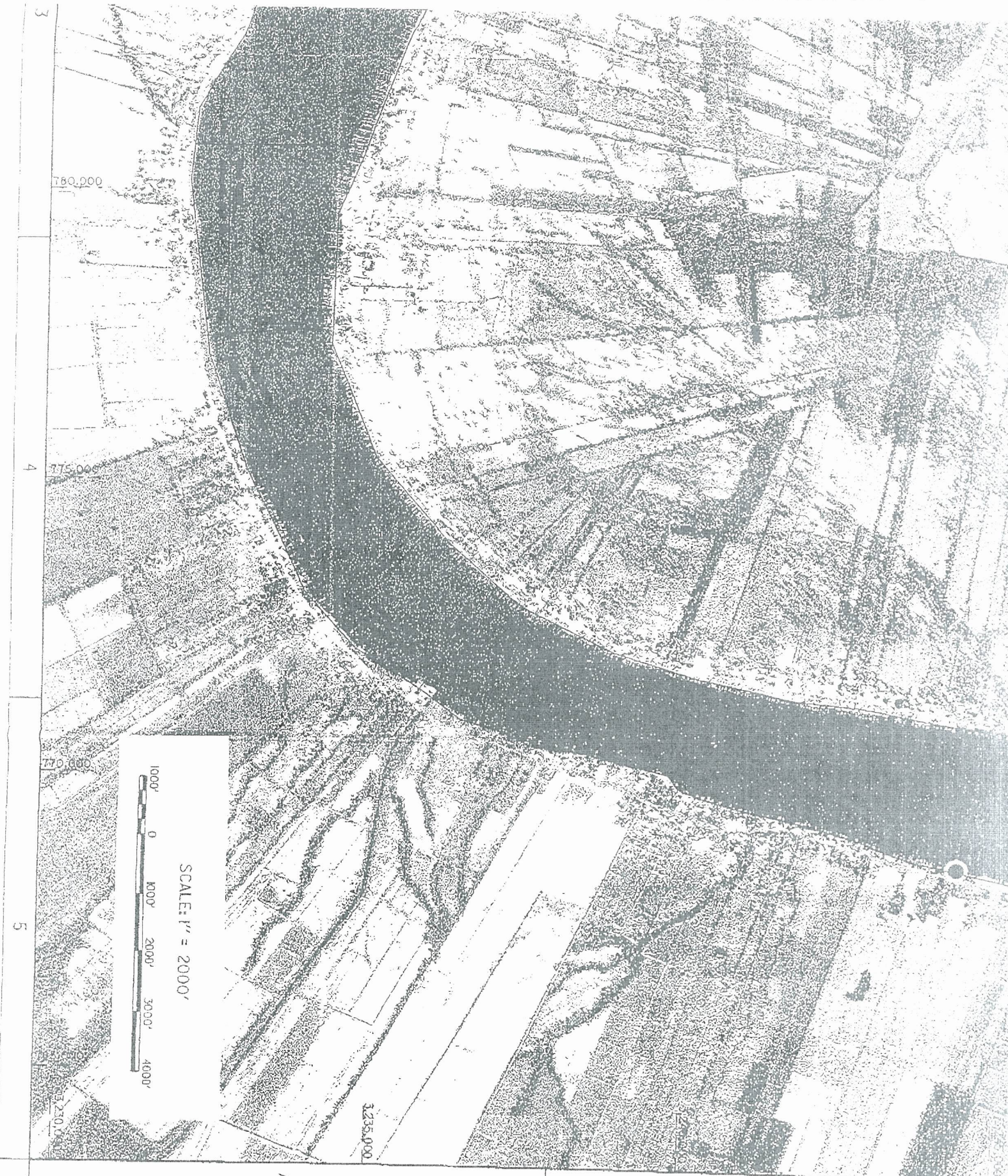
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Confining Authority Program
 Section 206
 False River Ecosystem Restoration
 Pointe Coupee Parish, Louisiana

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
 CORPS OF ENGINEERS
 NEW ORLEANS, LOUISIANA

DESIGNED BY: MSF	PLOT	PLOT	DESIGN FILE NAME:
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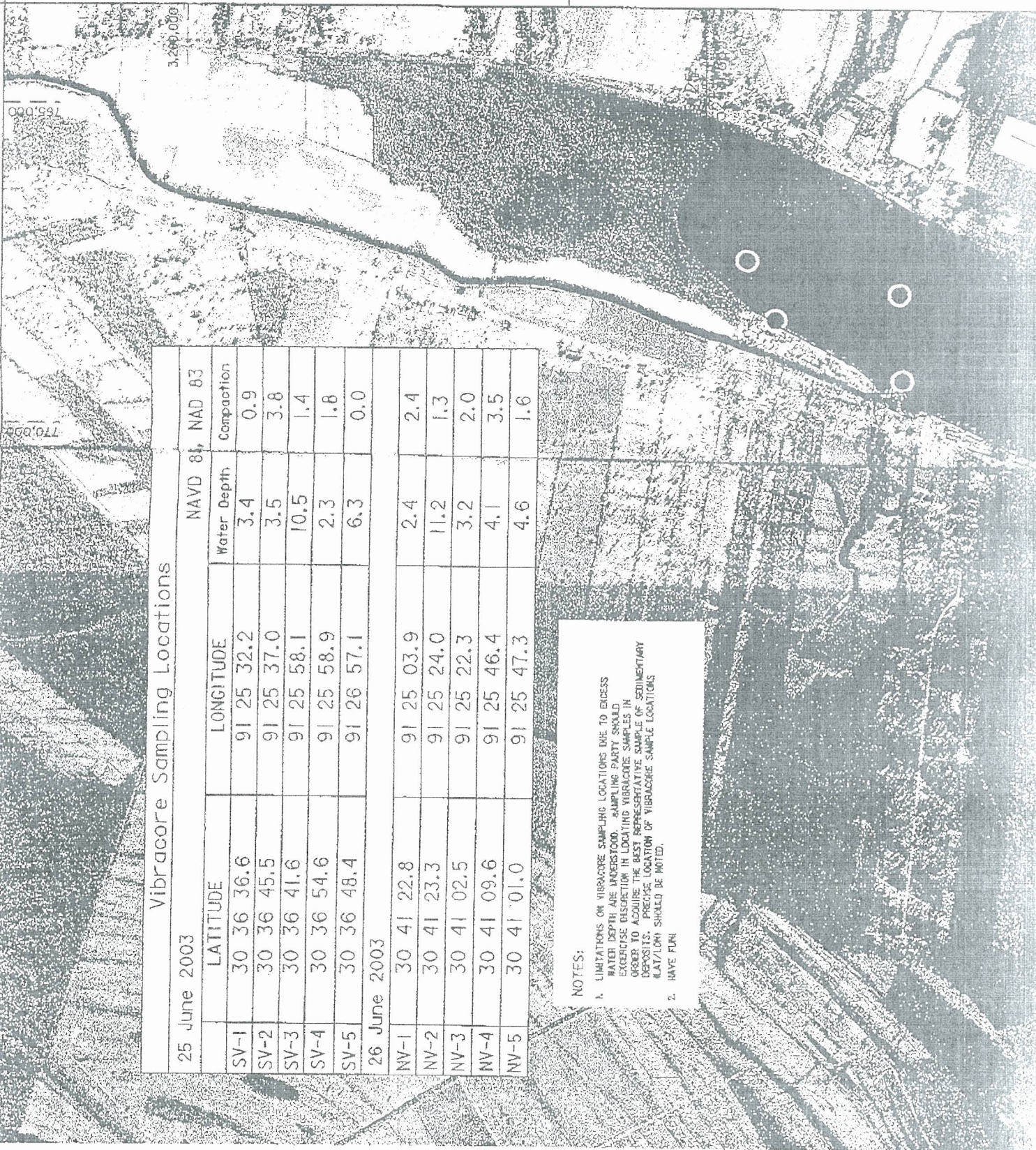
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5

Vibracore Sampling Locations

25 June 2003		NAVD 83, NAD 83	
SV-1	SV-2	SV-3	SV-4
LATITUDE	LONGITUDE	Water Depth	Compaction
30 36 36.6	91 25 32.2	3.4	0.9
30 36 45.5	91 25 37.0	3.5	3.8
30 36 41.6	91 25 58.1	10.5	1.4
30 36 54.6	91 25 58.9	2.3	1.8
30 36 48.4	91 26 57.1	6.3	0.0
26 June 2003			
NV-1	NV-2	NV-3	NV-4
30 41 22.8	91 25 03.9	2.4	2.4
30 41 23.3	91 25 24.0	11.2	1.3
30 41 02.5	91 25 22.3	3.2	2.0
30 41 09.6	91 25 46.4	4.1	3.5
30 41 01.0	91 25 47.3	4.6	1.6

NOTES:
 1. LIMITATIONS ON VIBRACORE SAMPLING LOCATIONS DUE TO EXCESS WATER DEPTH ARE UNDERSTOOD. SAMPLING PARTY SHOULD EXERCISE DISCRETION IN LOCATING VIBRACORE SAMPLES IN ORDER TO ACQUIRE THE BEST REPRESENTATIVE SAMPLE OF SEDIMENTARY DEPOSITS. PRECISE LOCATION OF VIBRACORE SAMPLE LOCATIONS (LAT/LONG) SHOULD BE NOTED.
 2. HAVE FUN



[Print](#)[close window](#)

Biologists plan False River revitalization

By Andy Crawford - February 8, 2010

False River was once officially designated one of Louisiana's quality lakes, giving testament to the potential of the old Mississippi River oxbow to produce stud bass. However, the lake was dropped from the quality-lake system in 1998 largely due to habitat degradation that made it unlikely False River would turn the corner and become a regular producer of lunkers.

"There's a great fishery there, but there are definitely some habitat issues," Louisiana Department of Wildlife and Fisheries biologist Rachel Walley told LouisianaSportsman.com last week.

But Walley said officials are again eyeing the lake, making plans that could result in the re-establishment of aquatic vegetation that all bass anglers know can lead to better fishing.

"There used to be aquatic vegetation on the north and south ends of the lake, as well as around the fringe of the lake," LDWF's Tim Morrison said.

That grass disappeared in the 1990s after the watershed of the lake was expanded dramatically, introducing larger amounts of sediment into the oxbow that essentially smothered vegetation in a layer of loose soil.

New vegetation could not be established because the mud wasn't firm enough to hold roots.

"We tried planting vegetation in 1999-2000, and the soil was just too loose," Morrison said.

At the same time, this layer of muck also decreased spawning habitat for bass, which require a hard bottom on which to create their beds each spring.

Morrison explained that False River's shallow water held even more importance because of the hydrological make-up of the lake.

"False River is stratified, with the thermocline at about 5 feet," he said.

Water below this thermocline is unsuitable for bass to live, meaning False River bass cannot move from shallow water to the depths in the middle of the lake like fish in other water ways do.

The solution to making these shallows again productive sounds almost too simple: Pull the plug on the lake until the water levels drop enough to expose the shallows.

"I proposed this back in the '90s, but the (Pointe Coupee Parish) police jury opposed it," Morrison said.

However, the current crop of parish leaders have expressed interest in taking steps to revitalize the lake, and a drawdown was again on the table.

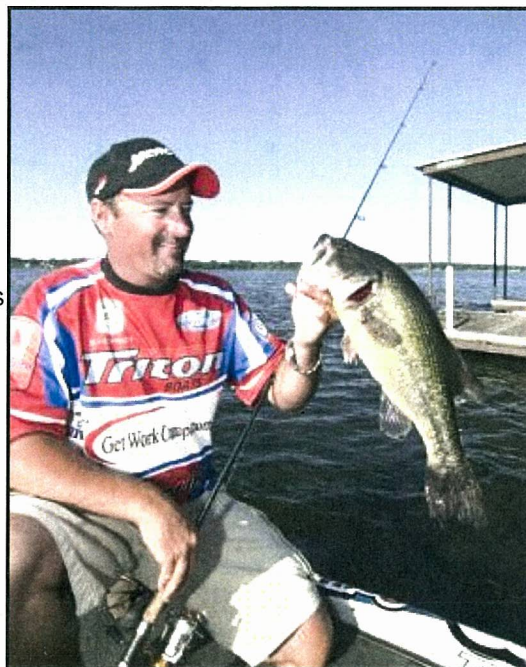


Photo by ANDY CRAWFORD

State biologists are working on a plan they hope will restore False River's reputation as a big-bass mecca.

"It's a fishery-management tool, and we'll use all the tools in our tool box," Walley explained. "We can absolutely improve habitat on the lake."

While there could be some other work added to the plan, she said a drawdown would remove a lot of the negatives of the loose sediment covering False River's shallows.

"You get a compaction of soil, so you end up with a harder bottom," Walley said. "That harder bottom provides nesting grounds (for bass) and allows vegetation to take root."

She said decomposition of organic matter in the sediments also adds nutrients once water is brought back up to pool stage.

Walley said she was in the preliminary stages of planning for any move.

"We're still in the data-collecting stages," she explained. "I'm looking at historical data, and I'm collecting new data."

Once a plan has been developed and approved by departmental leaders, a process Walley said could take two to three months, parish police jurors will have to approve any move.

"The police jury has to vote on it because they control the light-house (water) control structure," she said.

Of course, a drawdown will do nothing to reduce the amount of sediment flowing into the lake, so Walley said she was working on that part of the equation, as well.

"We will have recommendations to reduce the amount of additional sediments introduced into the lake," she said.

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Lake drawdown proposed



Above: Biologist Rachel Walley, of the Louisiana Department of Wildlife and Fisheries, talks about preliminary plans to temporarily draw down the water levels in False River.

Right: Pointe Coupee Parish residents line up to comment on the plan. Police Jury members are seated at right in the Scott Civic Center in New Roads.



Advocate staff photos by **PATRICK DENNIS**

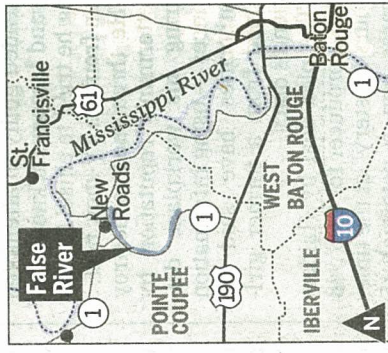
Biologists: False River 'dying,' can revive

front of hundreds of people gathered at the Pointe Coupee Police Jury meeting concerned how the proposal might damage their property and interrupt recreation in the area. She told the crowd that False River has been in a slow decline for decades in terms of water quality. A series of drainage canals

built in the late 1980s and early 1990s dramatically increased sedimentation in the oxbow lake, choking out vegetation on the lakebed and leading to a massive accumulation of organic matter, or muck, in False River, she said. The sediment combined with the organic matter led to the decline of desirable fish, such

as bass, that attracted anglers to the area while at the same time causing populations of less-desirable fish such as grass carp to thrive, she said. "The lake is in a state of decay," Walley said. "We consider it dying." The plans Walley proposed

➤ See **FALSE RIVER**, page 4A



Advocate map



Advocate staff photo by **PATRICK DENNIS**
Rick Falgout, a resident of New Roads, comments Tuesday after listening to a presentation by the Louisiana Department of Wildlife and Fisheries.

FALSE RIVER

Continued from page 1A

call for a slow reduction of water levels at a rate of two inches per day starting after Labor Day and continuing into late January, she said.

When the drawdown is complete, Walley said, the agency would allow nature to run its course by filling the lake back up.

The proposed drawdown, she said, mimics the natural way bodies of water regulate themselves.

The planned drawdown would dry out the lakebed soil, causing muck buildups to decompose, she said.

That in turn would promote vegetation growth and foster

improved conditions for fish to spawn, she said.

Walley acknowledged the state could look into dredging large plumes of sediment out of the lake, but she said that process could cost between \$5 million and \$10 million.

A drawdown, which is common practice in the state, she said, is the easiest and most cost-effective way to restore False River's health.

If the Wildlife and Fisheries plans become reality, Walley said, the lake would not be closed and the agency would work with the Police Jury to ensure that people have access to the water for recreation.

If action isn't taken, sport fishing would continue to decline, the local economy would suffer and property values would plummet, she said.

Before the meeting, police jurors said they had been told proposals call for False River's water levels to be lowered from its current height of 16 feet down to 10 feet.

Biologists who were present, but did not speak during the presentation, said lowering False River 6 feet is not a dramatic drawdown.

The agency is collecting data and anticipates presenting a formal plan to the parish by late April or early May, Walley said.

Police Juror Allen Monk, who supports the agency's proposal, called for public support of the plans.

"We've lost a lot of revenue," he said. "False River used to be one of the top 10 fisheries in the state. Now, we're barely in the top 100."

Following Walley's presenta-

tion, several members of the public expressed reservations about possible unintended consequences of lowering False River water levels.

Several people said they worry that a drawdown would loosen soil around homes and buildings, causing foundations and bulkheads to collapse.

Other people questioned whether Wildlife and Fisheries is moving too fast and called for more time to study the issue.

But most of the public's responses were in support of the proposal, with many saying the project can't wait any longer.

One resident, who received perhaps the loudest applause of the evening, called on his fellow residents to "get out of the way and let the scientists do their jobs."

DWF: False River drawdown waits on corps plan



[Show Caption](#) **BILL FEIG/The Advocate**

- By [KORAN ADDO](#)
- Advocate Westside bureau
- Published: Sep 8, 2010 - Page: 1A

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The planned False River drawdown was supposed to start this week, but federal and state officials said Tuesday it would be at least two years before any action is taken to improve the deteriorating lake's water quality.

Louisiana Department of Wildlife and Fisheries Secretary Robert Barham, who canceled the planned drawdown last month, said he's unwilling to devote resources to what would be only a temporary fix.

Instead, Barham said, plans to wait until the U.S. Army Corps of Engineers finishes an ongoing study into how False River's water quality can be best improved.

Specifically, the corps' study is examining ways of stopping large amounts of sediment from washing into the lake and also is aimed at determining the best way to remove existing sediment from the

lakebed.

“Without that study, we won’t know if we’ll have to repeat the process. We don’t want to do this and have to do it again three years later,” Barham said Tuesday during a Department of Wildlife and Fisheries meeting with corps officials.

Representatives from the corps said they’ll need an extra \$400,000 to finish their study by the fall of 2011.

If the money comes in, it would be at least 24 months, but more likely 30 months, before the corps could transition from studying False River to putting plans into action to correct the lake’s problems, corps project manager Mark Wingate said.

But federal funding can be elusive, Wingate said, adding that the study has been plagued with stops and starts and there’s still no guarantee federal dollars would be allocated to continue the study in 2011.

In 2002, the corps secured \$100,000 to fund a portion of the study. But that money ran out, Wingate said, and the study project stalled between 2003 and 2009. During those years, the corps received zero federal dollars for the study, which was competing against other projects nationwide for funding, he said.

Projects that yield the biggest benefit to habitat get funded, Wingate said.

Now, the corps’ task is to demonstrate that its plans for improving False River are a long-term fix, sustainable over 50 years, or the project won’t be approved, Wingate said.

“We’ve done our piece. We’ve shown that this is a priority and we’ve made our request,” Wingate said. “But it’s anyone’s speculation if monies will come in 2011. It could be another couple of years before we get any more.”

Louisiana’s congressional delegation, Wingate said, could try and get False River funding to the corps through the earmarks process — amending an appropriations bill to include funds for that specific purpose — but that procedure is a long shot.

Nick Sims, a project manager with the corps, said his agency should have a clearer picture of the study’s funding outlook in October.

If the money comes in and the study is finished, the corps still would have to request an additional \$7.7 million to take further action in regard to reviving False River, Sims said.

Some likely solutions to reverse the lake’s decline include building rock weirs to keep sediment from flowing into False River, dredging silt from the lake’s shallow areas, building sediment traps and conducting a drawdown, he said.

Before the corps could act, however, Pointe Coupee Parish government would have to come up with 35 percent matching funds, or about \$2.5 million, an amount of money that parish Administrator Owen “Jimmy” Bello said the parish doesn’t have.

Even if both the corps and the parish could come up with the needed funding, Sims said, it’s likely that

sum of money won't be enough to adequately address False River's problems.

A less expensive option would be to proceed with the drawdown alone. But that proposal has proven divisive, with many recreational lake users in favor and many landowners opposed to the plan.

Both sides agree that a series of drainage canals built in the late 1980s and 1990s dramatically increased sedimentation in False River, choking out native plants and leading to a massive accumulation of muck on the lake bottom and the decline of the lake's water quality.

In March, state Wildlife and Fisheries biologist Rachel Walley told a packed auditorium in New Roads that the state planned to temporarily lower False River's water level two inches per day starting after Labor Day and continuing into January.

Walley said the drawdown would mimic the natural way bodies of water regulate themselves by allowing sunlight to dry out the lakebed's decomposing muck buildup and opening the way for water quality improvement.

Groups in favor and opposed to the plan clashed at a Pointe Coupee Police Jury meeting in July.

At that meeting, LSU engineering professor Roy Dokka warned that drawdowns can cause water to drain from soils underneath shoreline properties, leaving foundations to break, roads to slump and compromising the structural integrity of piers and bulkheads.

Defenders of the drawdown asserted that concerns raised by Dokka were being overstated.

Drawdown backers cited state Wildlife and Fisheries records showing no reports of property damage resulting from hundreds of lake drawdowns conducted during the past 30 years throughout Louisiana.

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