

**EASTERN GULF OF MEXICO  
MARINE HABITAT STUDY**

Prepared for

U.S. Department of the Interior  
Bureau of Land Management  
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VOLUME 3  
OPERATION REPORTS

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## 1.0 INTRODUCTION

The Bureau of Land Management determined that geophysical, bathymetric and ground truth surveys were necessary in 49 of the tracts proposed for Lease Sale 65 in order to identify areas in which the lithotope favors the accumulation of critical biota. The 49 selected tracts are grouped into 10 map areas listed in Table 1-1.

The geophysical and bathymetric survey pattern for each block was designed to supplement the data which had been previously collected by the U.S. Geological Survey for the Geological Hazards Survey. Data from the following geophysical systems was collected along each of the survey lines.

- Precision depth sounder with narrow-beam transducer

- Dual side scan sonar

- High-resolution sub-bottom profiler utilizing a tuned transducer (3.5 to 12 kHz)

- High-resolution seismic sub-bottom profiler, using a mechanical or electrical-mechanical acoustic energy source.

The second phase of this study involved identification of existing marine habitats by means of a ground truth survey. The ground truth survey was conducted along transects which were selected by BLM scientists, based upon the results of the previous geophysical and bathymetric surveys. During the ground truth surveys data were collected from the following systems:

- Towed underwater closed circuit television system, with a video recorder and monitor

- Underwater 35 mm still camera system with strobe unit

- Depth sounder

The final report is presented in three volumes. Volume 1 is the technical report; Volume 2 contains the maps and geologic cross sections produced for each of the 10 study areas; Volume 3 is the Operation Reports. The Operation Reports contain operations and instrumentation logs and is intended for use only by those scientists who will be utilizing the original field data.

TABLE 1-1  
EASTERN GULF OF MEXICO  
MARINE HABITAT STUDY  
SURVEY AREAS

<u>NUMBER</u>	<u>AREA</u>	<u>BLOCK NUMBERS</u>
1	Pensacola (NH 16-5) Destin Dome (NH 16-8)	884, 928, 972 4
2	Destin Dome (NH 16-8)	313, 314, 357, 358
3	Destin Dome (NH 16-8)	529, 573, 574, 618, 661, 662
4	Destin Dome (NH 16-8)	473, 474, 518, 519, 562, 563
5	Tarpon Springs (NH 17-10)	233, 234, 277, 278, 279
6	The Elbow (NG 16-3)	567, 609, 696, 697
7	Saint Petersburg (NG 17-1)	661, 662, 705, 706
8	Saint Petersburg (NG 17-1)	753, 754, 797, 798
9	Charlotte Harbor (NG 17-4)	143, 144, 145, 187, 188, 231
10	Charlotte Harbor (NG 17-4)	583, 584, 627, 628, 671, 672, 715, 716

NOTE: Blocks 715 and 716 of Area 10, Charlotte Harbor are not included in the 49 blocks to be surveyed under this contract. However, interpretation of data from these blocks is presented because they are included in Lease Sale 65 and are contiguous with the remaining blocks in Area 10.

## 2.0 PROJECT MANAGER'S REPORT

### 2.1 Summary of Field Operations

The field operations were divided into two cruises; Cruise I, Geophysical Survey; and Cruise II, Ground Truth Survey. This section provides a brief review of the field operations and a description of the equipment utilized in the surveys. Further details of the field operations are given in the Chief Scientist's Logs, Daily Operations Logs, and Instrumentation Logs. These reports are presented in Sections 3 and 4.

Field operations for the geophysical cruise began with the mobilization of the equipment aboard the survey vessel, M/V Sea Transporter, in Port Arthur, Texas, on 10 July 1978. Mobilization was completed and the boat departed Port Arthur on 13 July and arrived at the first survey area, offshore Pensacola, on 15 July. Survey operations continued on a 24-hour-per-day basis through 14 August 1978. The geophysical cruise was demobilized in St. Petersburg, Florida on 15 August. Details of the operation are presented in Section 3.

The geophysical survey program covered 49 blocks which have been proposed for lease in OCS Lease Sale 65. The 49 blocks which have been surveyed were selected by the BLM. These blocks are grouped into 10 survey areas. For each block the primary survey lines were run at a spacing of 0.8 km with cross lines at 2.4 km intervals. The survey lines equally interspace the existing U.S. Geological Survey Hazard Data. In each block a total of 38.6 km of survey data were collected. The survey vessel utilized for this study was the M/V Sea Transporter, a 40.5 m converted U.S. Navy YF. Further specifications of the Sea Transporter are given in Volume 1.

The geophysical operations included simultaneous data collection from the following systems along each survey line.

Decca Hi-Fix Navigation System with Autocarta Plotting System

EDO Model 4034CM Precision Survey Depth Recorder or Raytheon Model DE719B Precision Depth Recorder

Klein Model 530 Side Scan Sonar/3.5 kHz Sub-Bottom Profiler

EG&G UNIBOOM System

The geophysical equipment is described in Section 3 and Appendix A of Volume 1.

The Ground Truth Survey was designed to provide a permanent videotape and underwater camera record of the marine habitat in selected areas of the 49 blocks covered by the geophysical survey. Unlike the geophysical survey which covered all of the blocks, there was a fixed amount of time available for the ground truth survey; therefore, prior to sailing on Cruise II a firm schedule was prepared to determine the order of the areas to be studied and the length of time to be utilized at each area.

The preliminary results of the geophysical survey were reviewed at a meeting in St. Petersburg on August 14 and 15 by personnel from the BLM, Woodward-Clyde Consultants and TerEco, the biological consultants. Based on this review, 20 TV and underwater camera transects were laid out for the ground truth survey. Three additional transects were chosen at a later time by the Chief Scientist of Cruise II in order to further delineate side scan sonar targets in Area 3.

The locations selected for the ground truth survey were almost exclusively hard bottom areas or areas that were suspected of having a hard bottom. As such, they represent anomalous areas in considering the overall distribution of bottom sediment characteristics on the Florida Shelf. The hard bottom areas are of particular interest because they provide a suitable substratum for the attachment of benthic epifauna and attract large numbers of demersal fishes.

Cruise II began with a mobilization of the equipment aboard the M/V Sea Transporter in St. Petersburg on 15 August. The cruise terminated 28 August in Pensacola. During this cruise the following equipment was aboard the ship.

Decca Hi-Fix Navigation System

Raytheon Model DE719B Fathometer

Hydro Products Underwater TV System with Video Recorder and Monitor

Benthos Underwater 35 mm Camera

During this cruise approximately 33 h of videotape recordings from the underwater TV system and 2,500 color transparencies from the underwater camera were made. The color transparencies were developed aboard ship to insure that the camera system was working properly. The underwater equipment is described in Section 4 and Appendix A of Volume 1.

## 2.2 Data Reduction, Interpretation and Distribution

In order to minimize delay between the two cruises and to insure a draft report by 1 October 78 the mapping and data interpretation proceeded concurrently with the field work.

The Autocarta system on-board ship insured a post-plot shiptrack map was available at the completion of each survey area. Preliminary data interpretation was accomplished by the Project Geophysicist on board ship. These procedures resulted in preliminary interpretational maps being available for review within 24 hours of the completion of Cruise I.

The following records and maps were obtained in the field or as a result of processing data.

1. Navigation post plots at a scale of 1:48,000. These maps are presented in Volume 2.
2. Computer listing of grid coordinates for each shot point from both the geophysical survey cruise and the ground truth survey cruise.
3. Analog records from the following geophysical systems:  
Depth Sounder  
EG&G UNIBOOM  
Klein Deeptow Side Scan Sonar/3.5 kHz Sub-Bottom Profiler
4. 33 videotapes from the 23 TV transects
5. Approximately 2,500 35 mm color transparencies
6. Bathymetry and Sea Floor Sediment Characteristic Maps at a scale of 1:48,000. These Maps are presented in Volume 2.
7. All daily operations logs and instrument logs. These logs are included in this volume.

Upon completion of the final report all original field records and logs were sent to the Bureau of Land Management, New Orleans OCS Office, Hale Boggs Federal Building, 500 Camp Street, New Orleans, Louisiana. Copies of the data are not being retained by Woodward-Clyde Consultants and all requests for the data should be directed to the Bureau of Land Management.

One microfilm copy of all the geophysical records was sent to the National Geophysical and Solar Terrestrial Data Center, EDS/NOAA in Boulder, Colorado.



### 3.0 GEOPHYSICAL SURVEY REPORTS

These are four logs which summarize the geophysical survey cruise.

- Chief Scientist's Log (Geomarine Field Log)
- Time Allotment Summary
- Daily Field Report
- Instrumentation Log

The Chief Scientist's Log is a summary of the days events. It is kept on a time basis for a 24 hour day. The Time Allotment Summary is a table which summarizes the time spent on various work tasks. It is derived directly from the Chief Scientist's Log. The Daily Field Report lists the crew, equipment and subcontractors employed on the project for each day. The Instrumentation Log lists the recording parameters for each of the instruments. This log is necessary for reduction and interpretation of the analog geophysical records.

### 3.1 Chief Scientist's Log



WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-12-78  
Supervisor Beer

Time

All Day      Sea transporter at H & H dock - MOB boat/equipment  
Ready to sail by 2200 hrs  
Waiting on repair of EDO depth recorder

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Project 41069A

Client BLM Rep Kran

Date 7-13-78

Work Area Eastern Gulf of Mexico

Supervisor Beer

Time

000-0800 Sea transporter alongside dock. EDO depth recorder repaired by 0800

800-1000 Final preparations to get underway

000 Depart H & H dock

140 Arrive Shell fuel dock in Port Arthur

600 Depart Shell dock for sea

820 Past outer channel marker, enter Gulf of Mexico

400 Enroute to survey area

WCC          Client

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Project 41069A

Client BLM Rep Kran

Date 7-14-78

Work Area Eastern Gulf of Mexico

Supervisor Beer

**Time**

0000

Enroute to survey area

0940

Stop to test equipment, calibrate fathometer

1140

Enroute to survey area running at 7 kts. Working problems out of gear

1200

Enroute to survey area - Sky clear - Seas calm

2400

Enroute to survey area - Sky clear - Seas calm

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-15-78  
 Supervisor Beer

Time	
0000	Enroute to survey area
0730	Arrive main pass block 289 to calibrate Hi-Fix at Shell platform 289B. Platform does not exist. Shore stations not up yet. Standing by
0900	Hi-Fix chain up. Attempting to verify if Shell 290B is indeed correct platform. Cannot board rig due to adverse weather - Winds 15-20 kts, sea state 2 - And currents. Decca shore man is contacting Houston for info if obtainable (today is Saturday)
1030	No verification - Departing for Pensacola Bay to calibrate - Weather picking up
2000	Off Pensacola at outer channel marker, proceeding to calibration buoy
2020	Off #6 channel buoy; light rain, lightning to West. Seas 2
2037	Calibrate on #15 channel buoy; Head for work area
2200	Enroute, rain increasing
2315	Arrive vicinity of area #1 to set nav reference buoy. Raining
2330	Nav buoy over side - Resetting necessary
2355	Reset nav buoy, proceeding with fathometer calibration and laying gear

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-16-78  
 Supervisor Beer

Time	
0000	Fathometer calibration in progress. Seas 2, light rain, moderate currents precluded bar checks. Fathometer cal based on lead line readings.
0030	Completed calibration w/set (inst) velocity of 1420 m/set - seems unreal, but checks w/lead line and line out on nav buoy. Depth 48'
0045	Seismic gear over the side, final checkout in progress
0228	Begin Line 1-106, S.P. -3
0514	End Line 1-106, S.P. 138
0603	Begin Line 1-105, S.P. 138
0853	End Line 1-105, S.P. 1
0913	Begin Line 1-104, S.P. 1
1111	End Line 1-104, S.P. 134
1125	Begin Line 1-103, S.P. 134
1155	Abort to work on 3.5 system, S.P. 116
1435	Begin Line 1-103, S.P. 134
1700	Break Line 1-103, S.P. 35 - Nav problems - Returning to buoy to recal
1800	Cannot locate ref. buoys. Expect they were picked up by a private boat. (This is Sunday)
1805	Returning to Pensacola to calibrate
2100	Arrive at #15 channel buoy to calibrate Nav. Sky scattered clouds, winds 5-10 kts, Seas 1'-2'

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



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WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-16-78  
Supervisor Beer

Time  
2155 Enroute to work area about 8 mi. out, Nav transmitter down aboard

boat. Must return to Pensacola for recal, will repair enroute

2240 Arrive at #15 buoy. Transmitter repaired, which now requires a  
frequency shift in shore stations. Estimate 2 hours for shore  
personnel to drive to stations and complete tuning

2400 Standing by to calibrate Hi-Fix. Shore station frequencies adjusted.  
Bay calm, sky overcast 50%, extensive lightning activity to the West

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-17-78  
 Supervisor Beer

Time	
0000	Standing by #15 buoy
0010	Calibration complete, heading back to #1 work area
0300	Arrive work area #1. Cal. fathometer with lead line. Deploy nav reference buoy
0330	Deploy gear over side
0352	Begin Line 1-103, S.P. 53 to complete this line
0455	End Line 1-103, S.P. -1
0508	Begin Line 1-102, S.P. -1
0700	Break Line 1-102, S.P. 125, Nav problems. Recal on reference buoy
0746	Continue Line 1-102, S.P. 123
0756	End Line 1-102, S.P. 134 - Encountering nav problems
0915	Nav down. Repairs require equipment to be flown in from Houston. Departing for Pensacola
1400	Arrive city dock, Pensacola, ship's cook quit; one Decca navigator quit. Replacements will arrive Tuesday a.m. Decca nav equipment will also be here by mid a.m. Tuesday
2400	Alongside city dock, Pensacola

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-18-78  
 Supervisor Beer

Time	
0000	Alongside city dock, Pensacola, crew ashore
1000	Replacement cook and navigator aboard. Nav crew must check gear. Replacement gear not yet here
1115	Replacement Decca gear arrived
1200	Nav system checked and ready
1300	Depart Pensacola dock
1345	Calibrate navigation at #15 buoy and head for work area
1620	Arrive at work area, run Lead Line
1640	All gear over the side. Begin checkout comparison of Klein system - wet vs dry paper
1700	Checkout complete; steaming to start of Line
1750	Begin Line 1-101, S.P. -1
2036	End Line 1-101, S.P. 134
2106	Begin Line 1-208, S.P. 38
2335	End Line 1-208, S.P. 1 - Sea state 2, Short chop boat rolling heavily, confused sea
2357	Begin Line 207, S.P. 1
2400	On Line 207

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-19-78  
 Supervisor Beer

Time	
0000	On Line 207
0035	End Line 207, S.P. 39
0105	Begin Line 206, S.P. 38
0149	End Line 206, S.P. 1
0218	Begin Line 205, S.P. 1
0301	End Line 205, S.P. 38
0350	Begin Line 204, S.P. 38
0429	End Line 204, S.P. 1
0456	Begin Line 203, S.P. 1
0538	End Line 203, S.P. 38
0605	Begin Line 202, S.P. 38
0645	End Line 202, S.P. 1
0706	Begin Line 201, S.P. 1
0753	End Line 201, S.P. 38
0832	Begin Line 106A, S.P. #1
0852	Abort Line 106A, S.P. 8 - Nav problems due to weather
0910	Lost all nav due to weather - Heavy rain passing
1015	Seismic gear aboard, steaming to nav reference buoy to the lane count. OK
1045	Depart buoy location for platform 289B, then to area #2 or #3.
	Area #1 completed
1830	Arrive Shell platform 289B to calibrate Hi-Fix. Signals weak

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

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WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-19-78  
Supervisor Beer

Time  
2000 Standing off 289B. Signals weak, Sky waves; Thunderheads and  
rain/lightning storms above 10 miles off, heading toward our location  
2400 Standing by on weather

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-20-78  
 Supervisor Beer

Time	
0000	Standing by on weather
0800	Moving into deep water to check and cal Klein system in deep water, and check EDO system. EDO fathometer usable only to 100 meters
0900	Moving back to 289B to attempt nav cal. Seas 2, Many rain squalls in area
0950	Calibration run very bad, cannot use
1130	Testing out Klein system
1200	Attempt Hi-Fix cal, rain squalls moving in from N.E. Cannot get cal
1220	Set course for Pensacola/Mobile area. Seas and winds increasing
1400	Past squall line, established contact w/Decca shoreman. Shore stations off frequency. Reset stations and transmitter. Returning to 289B to cal
1545	Arrive main pass block 289B
1620	Complete nav calibration. Winds 20-25 kts, Seas 2, Skies 50% overcast w/thunderheads
1700	Leave 289B area, Nav checks ok. v/w on CSE 360 <sup>0</sup> T, Seas, 1'-2', Chop, 5'-6' swell, Winds 30-40 kts. Boat rolling heavily
1915	One shore station down. Continue present CSE/SPD to maintain Lane count. Station dead
1935	Buoy over the side, standing by
2105	Established contact with shoreman, who will check on station

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

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WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-20-78  
Supervisor Beer

Time

2400 Standing by reference buoy

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Kran Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-21-78  
 Supervisor Beer

Time	
0000	Standing by reference buoy. Seas moderate, swell heavy, boat rolling badly. Squalls in area
0115	Nav shore station up. Standing by reference buoy to confirm Lane count
0200	Lane count confirmed; leaving for Area 2
0900	Arrive Area 2. Deploy gear and check. Seas 5'-6'. Winds 20-25 kts. Squalls scattered throughout area, primarily N.E.
0922	Begin Line 2-112, S.P. 70. Using multielectrode sparker. Seas too rough for uniboom. Seas confused, 1'-2' chop on 5'-6' swell from South. Extensive thunderstorm activity to the North, affecting navigation
1027	End Line 2-112, S.P. 1
1122	Begin Line 2-111, S.P. 1
1246	End Line 2-111, S.P. 70
1323	Begin Line 2-110, S.P. 70
1419	End Line 2-110, S.P. 1
1430	Lost nav. Both channels on turn. Squall line North of the location. Lost Lane count. Heading to Southend of Area 2 to locate reference nav
1745	Arrive vicinity of buoy using marginal Loran navigation. Loran signals erratic. Heavy seas and dark clouds prevail
1825	Unable to locate reference buoy; Departing for Pensacola. Require calibration on #15 buoy
2320	Arrive #15 buoy; proceeding on into port

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



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WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Project 41069A

Client BLM Rep Kran

Date 7-21-78

Work Area Eastern Gulf of Mexico

Supervisor Beer

Time

2400

Underway to City Dock

WCC \_\_\_\_\_ Client \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep None Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-23-78  
 Supervisor Beer

Time

0000 Standing by City Dock

0600 Depart City Dock

0645 Arrive #15 buoy, calibrate navigation system

1210 Arrive Area #2

1220 Drop nav reference buoy, with light and radar reflector

1245 Calibrate depth recorder with lead line - ok

1300 Navigation down to weather. Heavy squalls moving into area. Extensive water leakage in boat. Heavy in instrument room, some in living quarters, some in nav area of bridge. Instrument area tarped over to prevent damage

1405 Rain ceases, waiting for electrical storm interference to dissipate so we can re-establish lane count

1415 Standing off reference buoy

1430 Lost sight of buoy in heavy seas. Unable to get I.D. on radar

1500 Sighted reference buoy

1508 Established lane count

1515 Seismic gear over the side, Seas still very rough, 5'-6', Boat rolling heavily

1545 Lost nav signals due to heavy squall activity, just prior to starting line

1550 Pick up seismic gear. Weather worsening

1700 Established navigation

1730 Stream seismic gear

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep None Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-24-78  
 Supervisor Beer

Time	
0000	On Line 2-107
0021	End Line 2-107, S.P. 1
0150	Start Line 2-106, S.P. 1
0324	End Line 2-106, S.P. 70
0336	Start Line 2-105, Nav down, thunderstorms throughout area
0426	Restart Line 2-105, S.P. 70
0529	End Line 2-105, S.P. 1
0551	Start Line 2-104, S.P. 1
0727	End Line 2-104, S.P. 70
0732	Start Line 2-103, S.P. 70
0827	Break Line 2-103, S.P. 20, nav down to weather. Heavy thunderstorm activity, rain. Bad weather with rain squalls and extensive thunderstorms throughout the afternoon. Standing off reference buoy
1645	Navigation established.
1700	Seismic gear over the side
1717	Start Line 2-103, S.P. 30
1749	End Line 2-103, S.P. 1
1838	Start Line 2-102, S.P. 1
1944	End Line 2-102, S.P. 70
2002	Start Line 2-101, S.P. 70
2103	End Line 2-101, S.P. 1

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



Continued

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Project 41069A

Client BLM Rep None

Date 7-25-78

Work Area Eastern Gulf of Mexico

Supervisor Beer

Time

1802 End Line 3-111, S.P. 70

1817 Start Line 3-110, S.P. 70

1940 End Line 3-110, S.P. 1

2009 Start Line 3-109, S.P. 1

2116 End Line 3-109, S.P. 70

2138 Start Line 3-108, S.P. 70

2248 End Line 3-108, S.P. 1

2306 Start Line 3-107, S.P. 1

2335 Abort Line 3-107, S.P. 20; lost navigation signals

2345 Pull in gear, weather picking up. Lightning to West. Heading  
toward platform to standby

2400 Enroute to MP-254A

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep None Project 41069A  
 Date 7-25-78  
 Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	On Line 2-202
0026	End Line 2-202, S.P. 70
0050	Start Line 2-203, S.P. 70
0149	End Line 2-203, S.P. 1
0215	Start Line 2-204, S.P. 1
0322	End Line 2-204, S.P. 70
0340	Gear aboard. Squalls throught area, intermittent rain
0435	Arrive at Nav reference buoy to check lane count - ok
0445	Very heavy rain and thunderstorm activity. Nav down to weather. Standing off buoy
0900	Recal nav on buoy; depart for Area 3
1100	Arrive vicinity of area. Cannot lead line (too deep), EDO depth sounder down. Depth readings taken with sparker on E.P.C. EDO recorder officially dead. Water too deep and drifting too fast to set buoy. Waves 4'-5', some rain. Heading for platform S.W. of Block 573 to the navigation for reference
1300	Arrive Chevron platform MP-254A, Calibrate for navigation reference
1330	Stream gear, heading onto line
1426	Start Line 3-112, S.P. 70
1633	End Line 3-112, S.P. 1
1657	Start Line 3-111, S.P. 1

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep None Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-26-78  
Supervisor Beer

Time	
0000	Enroute to MP-254A
0100	Standing off Mp-254A, waiting for weather to improve. Navigation down to weather. Increasing squall and thunderstorm activity to the West
1200	Rain, light to very heavy, intermitent throughout the night. Extensive thunderstorm activity. Presently raining. Seas calm, Winds 10-15 kts
1415	Acquire nav signals, still raining lightly
1430	Confirm lane count at platform MP-254A; underway to pick up Line. Stream gear
1536	Start Line 3-107, S.P. 70
1641	End Line 3-107, S.P. 1
1718	Start Line 3-201, S.P. 33
1757	End Line 3-201, S.P. 70
1820	Start Line 3-202, S.P. 70*
1853	End Line 3-202, S.P. 33
1953	Start Line 3-106, S.P. 33
2142	End Line 3-106, S.P. 134
2229	Start Line 3-105, S.P. 134
2359	End Line 3-105, S.P. 33

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep None Project 41069A  
 Date 7-27-78  
 Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	Leading out of Line 3-105
0045	Thunderstorms and squalls in area, nav signals bad. Leaving for reference platform to check lane count. Gear aboard
0220	Acquired lane count at platform
0240	Depart for work area
0310	Frequent squalls, rain moderate to heavy; signals bad; but holding lane count
0354	Nav down - lost lane count; heavy squall activity; Seas 5'-6'; Boat rolling heavily
0700	Decca's SSB radio out. Heading North to establish communication via VHF radio. Raining hard
0900	Signals acquired; Stations unknown since third shore station added to chain today. No communications w/shore
1030	Contacted Decca/Houston
1130	Contacted WCC/Orange
1145	Proceeding to Pensacola to replace communications radio; Fuel/water ship; Drop off data, etc. Rain continues
1600	Arrive City Dock, Pensacola
1700	Decca radio replaced. Received ok to proceed to Area #4. Awaiting fuel and radar repair

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

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WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Project 41069A

Client BLM Rep None

Date 7-27-78

Work Area Eastern Gulf of Mexico

Supervisor Beer

Time

1800 Radar repair and fuel unavailable till Friday a.m. Boat will not

sail without radar

2400 Alongside City Dock, Pensacola

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald  
 Work Area Eastern Gulf of Mexico

Project 41069A  
 Date 7-28-78  
 Supervisor Beer

Time	
0000	Alongside City Dock, Pensacola
1430	Radar repair completed
1700	Fuel truck arrives
1800	All provisions aboard
1845	Fueling completed
1915	Depart Pensacola dock
2005	Calibrate navigation on #15 buoy, enroute to Area 4
2400	Enroute to Area #4

Note: Intermittent heavy rain from 0000 to about 1300 (BLM rep aboard)

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-29-78  
 Supervisor Beer

Time	
0000	Enroute to Area #4
0600	Arrive Area 4, preparing navigation reference buoy
0830	Navigation reference buoy launched and secured following three attempts. Heavy currents
0840	Establish lane count at ref buoy location
0943	Start Line 4-113, S.P. 33
1025	End Line 4-113, S.P. 1
1107	Start Line 4-114, S.P. 1
1139	End Line 4-114, S.P. 38
1200	Nav down; repairing digitizer
1500	Digitizer repaired
1511	Start Line 4-115, S.P. 38 - Skies clear, Winds 15-20 kts, Swells 3'-4'
1600	End Line 4-115, S.P. 1
1614	Start Line 4-116, S.P. 1
1654	End Line 4-116, S.P. 38
1713	Start Line 4-117, S.P. 38
1723	Abort Line 4-4-117, S.P. 28 - Navigation problems
1805	Continue Line 4-117, S.P. 32
1834	End Line 4-117, S.P. 1
1917	Start Line 4-118, S.P. 1
2001	End Line 4-118

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

continued

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-29-78  
Supervisor Beer

Time	
2010	Standing by survey area while nav plots Area 4 preplots
	*(See Note below)
2215	Preplot completed; Heading for Line
2230	Digitizer problems; Circling
2345	Problem corrected; Heading for Line
2400	Coming onto Line

\*Note: Nav computer terminal printer not functioning. Running this area in manual nav mode till replacement terminal is sent down. Plotter and Redbird appear to function correctly. Assuming data onto tape is valid. Cannot verify till replacement printer is installed. Will continue with Area 4 work on assumption data on tape is valid.

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-30-78  
Supervisor Beer

Time	
0000	Heading onto Line
0009	Start Line 4-112, S.P. 1
0230	End Line 4-112, S.P. 102
0301	Start Line 4-111, S.P. 102
0531	End Line 4-111, S.P. 1; Seas 4' Chop, Boat rolling. Appears to be a strong current running crabbing 15 <sup>0</sup> off Line heading to stay on Line. (Steering 345 <sup>0</sup> to run Line 360 <sup>0</sup> )
0551	Start Line 4-110, S.P. 1
0728	End Line 4-110, S.P. 102
0821	Start Line 4-109, S.P. 102
0900	Abort Line 4-109, S.P. 80. Navigation problems
0943	Pick up Line 4-109, S.P. 85
1134	End Line 4-109, S.P. 1
1145	Gear on board
1210	Tie lane count at navigation reference buoy, ok
1215	Depart Area #4 for Panama City to pick up navigation system. Replacement computer terminal
1730	Arrive dock in Panama City; exchange terminals and check out unit. Print head on replacement bad
1830	Terminal repaired. Weather picking up rapidly. Winds 35-40 kts. Depart dock with some difficulty due to onshore winds

Continue

WCC \_\_\_\_\_ Client \_\_\_\_\_





WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 7-31-78  
 Supervisor Beer

Time	
0000	Searching for nav reference buoy
0045	Violent rolling due to high seas. 12 VDC wet-cell batteries for Hi-Fix system broke loose from mounts. One thrown down to deck below. Nav system dead (short-term internal supply maintains hundredths cal) Lost lane count. Doubtful if lane count reference buoy can be found before daylight. Loran signals bad due to storm
0630	Sighted nav reference buoy
0645	Lane count established. During process, buoy snagged. Buoy reset and position marked. Standing by in vicinity of ref buoy till squalls in area clear. Rain intermittent, light to heavy
0745	Stream seismic gear
0800	Nav computer problems; standing by
0921	Start Line 4-108
1037	End Line 4-108. Seas calming down. Sun shining
1110	Start Line 4-107, S.P. 102
1303	End Line 4-107, S.P. 1
1346	Start Line 4-106, S.P. 33
1350	Abort Line 4-106, S.P. 37; Lost nav signals. Pick up gear and head for reference buoy. Raining heavily
1520	arrive buoy location. Spar buoy gone, styrofoam subfloats remain. Establish lane count

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

continued

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 7-31-78  
Supervisor Beer

Time

1540	Set another buoy and check lane count
1600	Depart for work area
1700	Stream seismic gear
1710	Start Line 4-106, S.P. 33
1829	End Line 4-106, S.P. 102. Heavy swells. Boat rolling
1845	Start Line 4-105, S.P. 102
1955	End Line 4-105, S.P. 33
2042	Start Line 4-104, S.P. 33
2143	End Line 4-104, S.P. 102
2200	Start Line 4-103, S.P. 102
2313	End Line 4-103, S.P. 33
2334	Start Line 4-102, S.P. 33
2400	On Line 4-102

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-01-78  
 Supervisor Beer

Time	
0000	On Line 4-102
0045	End Line 4-102
0100	Start Line 4-101, S.P. 102
0212	End Line 4-101, S.P. 33
0405	Start Line 4-201, S.P. 33
0534	End Line 4-201, S.P. 102
0554	Start Line 4-202, S.P. 102
0655	End Line 4-202, S.P. 33
0740	Start Line 4-203, S.P. 1
0901	End Line 4-203, S.P. 70
0923	Start Line 4-204, S.P. 70
1027	End Line 4-204, S.P. 1
1053	Start Line 4-205, S.P. 1
1210	End Line 4-205, S.P. 70
1252	Start Line 4-206, S.P. 70
1401	End Line 4-206, S.P. 1
1415	Pull in seismic gear, head for lane count buoy
1500	Arrive nav reference buoy. Tie lane count. Recover buoy
1515	Depart Area #4 for Crystal River. Shore navigation chain being moved to vicinity of Area #5. Expected arrival 0937, Wednesday
2400	Enroute to Area #5 via nav cal buoy off Crystal River

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-02-78  
 Supervisor Beer

Time	
0000	Enroute to Area #5. Seas calm; Sky clear. Lightning and cloud buildup on eastern horizon
0938	Arrive Withlacoochee River Entrance Buoy #1 for nav calibration. Both stations up, signals strong. Weather good. Incorrect coordinates given (wrong zone); standing by buoy waiting info from Decca in Houston
1215	Data arrived. Completed nav calibration. Enroute to work area
1515	Arrive Area #5 work area
1525	Drop nav lane count reference buoy; lead line depth check
1535	Stream seismic gear. Seas calm 1'-2', Sky clear, Winds 10-15 kts
1607	Start Line 5-201, S.P. 33
1714	End Line 5-201, S.P. 102
1723	Start Line 5-202, S.P. 102
1831	End Line 5-202, S.P. 33
1840	Start Line 5-203, S.P. 33
1943	End Line 5-203, S.P. 102
1953	Start Line 5-204, S.P. 102
2102	End Line 5-204, S.P. 33
2105	Head for reference buoy to check lane count - ok
2222	Start Line 5-205, S.P. 33
2326	End Line 5-205, S.P. 102

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

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WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-02-78  
Supervisor Beer

Time

2357 Start Line 5-206, S.P. 102

2400 On Line 5-206

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-03-78  
 Supervisor Beer

Time	
0000	On Line 5-206
0100	End Line 5-206, S.P. 33
0144	Start Line 5-207, S.P. 1
0321	End Line 5-207, S.P. 102
0333	Start Line 5-208, S.P. 102
0408	Break Lines-208, S.P. 67; Malfunction in 255 seismic recorder
0438	Continue Line 5-208, S.P. 80
0553	End Line 5-208, S.P. 1
0627	Start Line 5-209, S.P. 1
0803	End Line 5-209, S.P. 102
0815	Start Line 5-210, S.P. 102
0944	End Line 5-210, S.P. 1
1007	Start Line 5-211, S.P. 1
1139	End Line 5-211, S.P. 102
1150	Start Line 5-212, S.P. 102
1334	End Line 5-212, S.P. 1
1359	Start Line 5-106, S.P. 70
1426	End Line 5-106, S.P. 33
1507	Start Line 5-105, S.P. 33
1545	End Line 5-105, S.P. 70
1605	Start Line 5-104, S.P. 70

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

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WOODWARD-CLYDE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-03-78  
Supervisor Beer

Time

1712	End Line 5-104, S.P. 1
1735	Start Line 5-103, S.P. 1
1841	End Line 5-103, S.P. 70
1859	Start Line 5-102, S.P. 70
1955	End Line 5-102, S.P. 1
2013	Start Line 5-101, S.P. 1
2119	End Line 5-101, S.P. 1
2154	Start dry paper test run S-208, S.P. 70. Retrieve gear
2210	End test run S-208, S.P. 50 - Head for lane count buoy
2330	Check lane count - ok. Retrieve buoy
2345	Leave for Tampa, St. Petersburg
2400	In transit

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Date 8-04-78  
Work Area Eastern Gulf of Mexico Supervisor Beer

Time

0000 Enroute to Tampa, St. Petersburg. Navigation shore stations being  
moved to southern locations

0800 Arrive outer harbor area

1030 Alongside commercial dock in Manatee

(Switch from Houston to Tampa time)

1800 Food and water aboard. Unable to depart till proper nav coordinates  
are available. Original buoy to be used no longer in the channel.  
Will use another cal point. Waiting for coordinates to be telephoned  
from Decca in Houston

1900 Navigation cal point coordinates arrive

1930 Slave station #1 down. No navigation

2400 Waiting for Slave #1 to be repaired



## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-05-78  
 Supervisor Beer

Time	
0000	Waiting for navigation shore station to be repaired
0400	Station #1 up
0510	Depart dock, Port Manatee
0650	Calibrate navigation at old Quarantine Pier Light. Leave for Area #6
1210	Navigation Station #1 down. Drop buoy and circle area
1405	Nav station #1 up. Check lane count; continue to Area #6
1640	Arrive Work Area #6
1645	Lane count buoy over the side
1710	Establish lane count on calibration buoy
1715	Begin fathometer calibration on Raytheon and EDO units
1745	Lay gear. Weather clear and sunny, sea state 2, winds 5-10 kts
1759	Start Line 6A-101, S.P. 38
1835	End Line 6A-101, S.P. 1
1855	Start Line 6A-102, S.P. 1
1915	Abort Line 6A-102, S.P. 14. Excessive cable noise on sidescan records
2030	Restart 6A-102, S.P. 1
2105	End Line 6A-102, S.P. 38
2146	Start Line 6A-206, S.P. 1
2150	Abort Line 6A-206, S.P. 4. Lost lane count. Weather vicinity Sta 2

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

continued

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-05-78  
Supervisor Beer

Time

2200

Gear aboard. Heading to nav calibration (lane count) buoy. Working  
on side scan during this time. Problem in cable junction on fish  
towing bridal

2315

Establish lane count at buoy

2400

Enroute to work area. Severe thunderstorm activity in vicinity of  
Station #2, Charlotte Harbor, from tropical low off Florida Keys

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-06-78  
 Supervisor Beer

Time	
0000	Enroute to Area 6A
0035	Seismic gear over the side
0046	Start Line 6A-206, S.p. 37
0124	End Line 6A-206, S.P. 1
0136	Start Line 6A-205, S.P. 1
0214	End Line 6A-205, S.P. 38
0226	Start Line 6A-204, S.P. 38
0309	End Line 6A-204, S.P. 1
0320	Start Line 6A-203, S.P. 1
0355	End Line 6A-203, S.P. 38
0408	Start Line 6A-202, S.P. 38
0450	End Line 6A-202, S.P. 1
0501	Start Line 6A-201, S.P. 1
0534	End Line 6A-201, S.P. 38
0601	Start Line 6B-102, S.P. 1
0651	End Line 6B-102, S.P. 38
0705	Nav down, lost lane count. Continued bad weather in area of Station 2. Station down
0805	Pick up seismic gear. Depart for lane count buoy
0915	Nav up. Establish lane count and return to Area 6B
1030	Lay seismic gear

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

continued

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-06-78  
Supervisor Beer

Time	
1047	Start Line 6B-101, S.P. 1
1123	End Line 6B-101, S.P. 38
1148	Start Line 6B-206, S.P. 38
1223	End Line 6B-206, S.P. 1
1235	Start Line 6B-205, S.P. 1
1314	End Line 6B-205, S.P. 38
1345	Start Line 6B-204, S.P. 38
1424	End Line 6B-204, S.P. 1
1455	Start Line 6B-203, S.P. 1
1538	End Line 6B-203, S.P. 38. Wind and seas picking up. Many thunderstorms visible in area. Intermittent rain, moderate to heavy
1549	Start Line 6B-202, S.P. 38
1625	End Line 6B-202, S.P. 1
1647	Start Line 6B-201, S.P. 1
1729	End Line 6B-201, S.P. 38. Storms past; seas calm. Pull gear.
1830	Tie lane count and retrieve buoy
2005	Set lane count reference buoy for Areas 6C and 7. Seas building. Winds increasing. Overcast.
2115	Stream seismic gear
2129	Start Line 6C-206, S.P. 1
2245	End Line 6C-206, S.P. 70

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

ontinued

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-06-78  
 Supervisor Beer

Time

2301 Start Line 6C-205, S.P. 70

2400 On Line 6C-205

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Date 8-07-78  
 Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	On line 6C-205
0006	End line 6C-205, S.P. 1
0019	Start line 6C-204, S.P. 1
0131	End line 6C-204, S.P. 70
0145	Start line 6C-203, S.P. 70
0317	End line 6C-203, S.P. 1 Seas 4' - 6', winds 15-25 kts. Thunderstorm activity in allquadrants. Intermittent rains. Boat rolling heavily
0330	Start line 6C-202, S.P. 1
0434	End line 6C-202, S.P. 70
0445	High seas and very heavy rain. Standing by. Violent rolling
0535	Start line 6C-201, S.P. 70
0723	End line 6C-201, S.P. 1. Heavy rain continues. Seas 6' - 7'. Cannot run north-south lines in area 6C. Departing for 7.
0730	Pull gear aboard
1010	Stream seismic gear, area 7
1022	Start line 7-201, S.P. 1
1134	End line 7-201, S.P. 70
1155	Start line 7-202, S.P. 1
1304	End line 7-202, S.P. 1
1316	Start line 7-203, S.P. 1
1435	End line 7-203, S.P. 70. Seas 2'-3', winds 20-25 kts. Strong currents

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-07-78  
 Supervisor Beer

Time	
1449	Start line 7-204, S.P. 70
1606	End line 7-204, S.P. 1
1647	Start line 7-205, S.P. 1
1810	End line 7-205, S.P. 70
1829	Start line 7-206, S.P. 70
1942	End line 7-206, S.P. 1
1959	Start line 7-207, S.P. 1
2111	End line 7-207, S.P. 70
2123	Start line 7-208, S.P. 70
2235	End line 7-208, S.P. 1
2248	Start line 7-209, S.P. 1
2400	On line 7-209

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Date 8-08-78  
 Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	On line 7-209
0002	End line 7-209, S.P. 70
0014	Start line 7-210, S.P. 70
0140	End line 7-210, S.P. 1
0153	Start line 7-211, S.P. 1
0300	End line 7-211, S.P. 70
0315	Start line 7-212, S.P. 70
0452	End line 7-212, S.P. 1
0540	Start line 7-104, S.P. 70
0655	End line 7-104, S.P. 1
0715	Start line 7-103, S.P. 1
0833	End line 7-103, S.P. 70
0852	Start line 7-102, S.P. 70
0958	End line 7-102, S.P. 1
1021	Start line 7-101, S.P. 1
1139	End line 7-101, S.P. 70
1145	Pull seismic gear, bar check raytheon fathometer
1200	Depart for area 6C to run N-S tie lines
1230	Tie land count to navigation Reference buoy
1340	Stream seismic gear
1357	Start line 6C-104, S.P. 38

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-08-78  
Supervisor Beer

Time	
1431	End line 6C-104, S.P. 1
1455	Start line 6C-103, S.P. 1
1548	End line 6C-103, S.P. 38
1611	Start line 6C-102, S.P. 38
1646	End line 6C-102, S.P. 1
1710	Start line 6C-101, S.P. 1
1749	End line 6C-101, S.P. 38 Seas still 4'-5' swell, winds 15-20 kts. Heavy clouds on horizon - east.
1810	Tie lane count at nav reference buoy and depart for area 8.
2130	Drop buoy at north end of area 8 and lane count. Seas building. Thunderstorm activity very strong to east. Severe storms in progress in vicinity of shore stations.
2210	Steam seismic gear, weather calm, seas 2'-3' sell. Moderate to strong currents.
2225	Start line 8-101, S.P. 1
2344	End line 8-101, S.P. 70
2400	On line change Note: Discoverend error in shooting of area 6A - tie line off $\approx$ 800' west. Informed preplot data for areas 6-10 not delivered to boat in Tampa as planned.

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Date 8-09-78  
 Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	On line change
0003	Start line 8-102, S.P. 70
0100	Break line 8-102, S.P. 20, side scan down.
0230	Side scan repaired
0303	Continue line 8-102, S.P. 24
0330	End line 8-102, S.P. 1
0351	Start line 8-103, S.P. 1
0456	End line 8-103, S.P. 70
0519	Start line 8-104, S.P. 70
0633	End line 8-104, S.P. 1
0658	Start line, 8-201, S.P. 1
0756	End line, 8-201, S.P. 70
0807	Start line, 8-202, S.P. 70
0920	End line, 8-202, S.P. 1
0935	Start line, 8-203, S.P. 1
1030	End line, 8-203, S.P. 70
1043	Start line, 8-204, S.P. 70
1152	End line, 8-204, S.P. 1
1204	Start line, 8-205, S.P. 70
1321	End line, 8-205, S.P. 70
1342	Start line 8-206, S.P. 70
1502	End line 8-206, S.P. 1

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-09-78  
 Supervisor Beer

Time

1514 Start line 8-207, S.P. 1

1626 End line 8-207, S.P. 70 Nav signals marginal due to extensive thunder-  
storm activity. Several visible in area. Standing by.

1746 Start line 8-208, S.P. 1

1908 End line 8-208, S.P. 70

1915 Circling for radio call (cannot transmit while on line due to navigation  
interfearance)

1946 Start line 8-209, S.P. 70

2048 End line 8-209, S.P. 1

2050 Circling for radio call

2147 Start line 8-210, S.P. 1

2302 End line 8-210, S.P. 70

2315 Start line 8-211, S.P. 70

2400 On line 8-211

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Date 8-10-78  
Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	On line 8-211
0015	End line 8-211, S.P. 1
0026	Start line 8-212, S.P. 1
0139	End line 8-212, S.P. 70
0150	Pull in seismic gear
0155	Bar check
0230	Tie land count at navigation reference buoy and depart for Cal point - old quarantine pier light at entrance to Tampa Bay
0940	Tie lane count at old quarantine pier light
1000	Small boat alongside to offload data
1100	Car nav system at old quarantine pier light and depart for Area #9
1815	Arrived Area #9
1830	Nav lane count buoy over the side, proceeding with fathometer calibrations
1915	Underway to first line
2028	Start line 9-201, S.P. 1
2213	End line 9-201, S.P. 102
2224	Start line 9-202, S.P. 102
2400	On line 9-202

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 08-11-78  
 Supervisor Beer

Time	
0000	On line 9-202
0007	End line 9-202, S.P. 1
0021	Start line 9-203, S.P. 1
0208	End line 9-203, S.P. 102
0221	Start line 9-204, S.P. 102
0405	End line 9-204, S.P. 1
0417	Start line 9-205, S.P. 1
0601	End line 9-205, S.P. 102
0612	Start line 9-206, S.P. 102
0759	End line 9-206, S.P. 1
0800	Storms in area, occasional rain. Seas 3'-4', winds 10-15 knots. Sky 100% overcast. Standing by til storms pass.
0943	Start line 9-106, S.P. 38
1019	End line 9-106, S.P. 1
1037	Start line 9-105, S.P. 1
1117	End line 9-105, S.P. 38
1130	Start line 9-207, S.P. 33
1235	End line 9-207, S.P. 102
1251	Start line 9-208, S.P. 102
1413	End line 9-208, S.P. 33
1533	Start line 9-209, S.P. 33

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Date 08-12-78  
Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
0000	On line 9-103
0002	End line 9-103, S.P. 70
0023	Start line 9-213, S.P. 65
0104	End line 9-213, S.P. 102
0115	Start line 9-214, S.P. 102
0151	End line 9-214, S.P. 65
0203	Start line 9-215, S.P. 65
0243	End line 9-215, S.P. 102
0254	Start line 9-216, S.P. 102
0331	End line 9-216, S.P. 65
0342	Start line 9-217, S.P. 65
0420	End line 9-217, S.P. 102
0431	Start line 9-218, S.P. 102
0508	End line 9-218, S.P. 65
0535	Start line 9-102, S.P. 102
0719	End line 9-102, S.P. 1
0739	Start line 9-101, S.P. 1
0912	End line 9-101, S.P. 102
0920	Seismic gear aboard
0930	Fathometer bar check
1050	Lane check at nav reference buoy

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Date 8-12-78  
Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
1100	Depart for Area 10 Seas calm, skie overcast with intermittent light rain.
	Thunderstorm activity and waterspouts 12 miles north.
1530	Deploy nav. lane count buoy, bar check fathometer
1620	Stream seismic gear
1732	Start line 10-201, S.P. 70
1843	End line 10-201, S.P. 1
1857	Start line 10-203, S.P. 1
2003	End line 10-203, S.P. 70
2018	Start line 10-205, S.P. 70
2128	End line 10-205, S.P. 1
2142	Start line 10-207, S.P. 1
2247	End line 10-207, S.P. 70
2303	Start line 10-209, S.P. 70
2400	On line 10-209



WOODWARD-CLYDE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-13-78  
Supervisor Beer

Time	
0030	On line 10-209
0011	End line 10-209, S.P. 1
0025	Start line 10-211, S.P. 1
0129	End line 10-211, S.P. 70
0147	Start line 10-213, S.P. 70
0256	End line 10-213, S.P. 1
0312	Start line 10-215, S.P. 1
0335	Abort line 10-215, S.P. 30 Navigation computer failure
0802	Continue line 10-215, S.P. 28 Running on manual navigation
0837	End line 10-215, S.P. 70
0858	Start line 10-217, S.P. 70
1002	End line 10-217, S.P. 1 Skies clear, seas building slightly from very calm to 1'-2'. Winds 5-10 knots.
1054	Start line 10-104, S.P. 102
1250	End line 10-104, S.P. 1
1310	Start line 10-103, S.P. 1
1446	End line 10-103, S.P. 102
1505	Start line 10-102, S.P. 102
1645	End line 10-102, S.P. 1
1706	Start line 10-101, S.P. 1
1838	End line 10-101, S.P. 102

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
Date 8-13-78  
Work Area Eastern Gulf of Mexico Supervisor Beer

Time	
1935	Start line 10-218, S.P. 70
2045	End line 10-218, S.P. 1
2103	Start line 10-216, S.P. 1
2205	End line 10-216, S.P. 70
2228	Start line 10-214, S.P. 70
2336	End line 10-214, S.P. 1
2400	On line change

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Dewald Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-14-78  
 Supervisor Beer

Time	
0000	On line change
0030	Start line 10-212, S.P. 1
0133	End line 10-212, S.P. 70
0156	Start line 10-210, S.P. 70
0308	End line 10-210, S.P. 1
0324	Start line 10-208, S.P. 1
0433	End line 10-208, S.P. 70
0450	Start line 10-206, S.P. 70
0555	End line 10-206, S.P. 1
0613	Start line 10-204, S.P. 1
0728	End line 10-204, S.P. 70
0752	Start line 10-202, S.P. 70
0859	End line 10-202, S.P. 1
0912	Seismic gear aboard, underway to land-count buoy. Skies clear, seas clam, wind 5-10 knots
0955	Check lane count at nav. reference buoy
1000	Depart for St. Peterstburg
2130	Arrive dock, St. Petersburg End of cruise I

WCC \_\_\_\_\_ Client \_\_\_\_\_

### 3.2 Time Allotment

TABLE OF TIME ALLOTMENT (HOURS)  
CRUISE I GEOPHYSICAL SURVEY

<u>DESCRIPTION:</u> <u>DAY</u>	<u>PORT</u> <u>TIME</u>	<u>TRANSIT</u> <u>TIME</u>	<u>SURVEY</u> <u>TIME</u>	<u>DOWN*</u> <u>TIME</u>
7/13	10	14		
7/14		24		
7/15		24		
7/16			15	5W, 2N, 2E
7/17			5	19N
7/18			8	16N
7/19		10	9	5W
7/20				14W, 10N
7/21			6	16W, 2N
7/22	8			16W
7/23	6		5	13W
7/24			16	8W
7/25		5	15	4W
7/26			9	15W
7/27		4		3W, 10N, 7S
7/28	5	4		15S
7/29		6	11	7N
7/30			12	12N
7/31			14	2W, 8N
8/1		8	16	
8/2		15	9	
8/3			24	
8/4	7	11		6N
8/5		10	5	7N, 2E
8/6		1	20	3W
8/7		2	22	
8/8		3	21	
8/9			21	1W, 2E
8/10		16	8	
8/11			24	
8/12		4	20	
8/13			19	5N
8/14	2	11	11	

\*DOWN TIME SOURCE

E = WCC EQUIPMENT FAILURE  
 N = NAVIGATION EQUIPMENT FAILURE  
 S = SHIP PROBLEMS  
 W = WEATHER EFFECTING NAVIGATION SIGNALS AND/OR  
 DATA QUALITY

### 3.3 Daily Operational Log

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Date 7/11/78  
 Area EASTERN GULF OF MEXICO - PORT ARTHUR, TEXAS Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>BEER</u>	<u>8</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	<u>    </u>
3. <u>BURKE</u>	<u>12</u>	7. <u>    </u>	<u>    </u>
4. <u>GALLARDE</u>	<u>12</u>	8. <u>    </u>	<u>    </u>

Time Start Work Day 0800  
 Time End Work Day 2200

Time Boat Leaves Dock DOCKSIDE  
 Time Boat Ties Up     

WCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                       |
|----------------------------|-----------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u> |
| 2. <u>EDO 4034 CM</u>      | 4. <u>    </u>        |

Expendables/Spares Consumed

- |                |                |
|----------------|----------------|
| 1. <u>    </u> | 3. <u>    </u> |
| 2. <u>    </u> | 4. <u>    </u> |

Equipment Lost

- |                |               |
|----------------|---------------|
| 1. <u>    </u> | <u>Reason</u> |
| 2. <u>    </u> | <u>    </u>   |

Floating Equipment     

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>3</u> |

Rental Vehicles 1. HERTZ CAR 2.     

Personal Vehicles 1.      2.     

Work Accomplished BEER/MEES TRAVEL TO PORT ARTHUR; CONTINUE MOBILIZATION OF SURVEY VESSEL

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1. <u>    </u>	<u>    </u>
2. <u>    </u>	<u>    </u>
3. <u>    </u>	<u>    </u>
4. <u>    </u>	<u>    </u>
5. <u>    </u>	<u>    </u>
6. <u>    </u>	<u>    </u>
7. <u>    </u>	<u>    </u>
8. <u>    </u>	<u>    </u>

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1. <u>    </u>	<u>    </u>	<u>    </u>
2. <u>    </u>	<u>    </u>	<u>    </u>
3. <u>    </u>	<u>    </u>	<u>    </u>
4. <u>    </u>	<u>    </u>	<u>    </u>
5. <u>    </u>	<u>    </u>	<u>    </u>
6. <u>    </u>	<u>    </u>	<u>    </u>
7. <u>    </u>	<u>    </u>	<u>    </u>
8. <u>    </u>	<u>    </u>	<u>    </u>

Total Cash Expenses     

Total Credit Expenses     

Weather SCATTERED SHOWERS

Comments

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Area EASTERN GULF OF MEXICO - PORT ARTHUR, TEXAS Date 7/12/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	
3. <u>BURKE</u>	<u>12</u>	7. _____	
4. <u>GALLARDE</u>	<u>12</u>	8. _____	

Time Start Work Day 0800  
 Time End Work Day 2200

Time Boat Leaves Dock DOCKSIDE  
 Time Boat Ties Up \_\_\_\_\_

NCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 3

Rental Vehicles 1. HERTZ CAR 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished COMPLETE MOBILIZATION OF SURVEY VESSEL

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather THUNDERSTORMS

Comments \_\_\_\_\_



GEOMARINE DAILY FIELD REPORT

Project 41069A  
 Date 7/13/78  
 Supervisor BEER

Client BLM Rep KRAN  
 Area EASTERN GULF OF MEXICO - PORT ARTHUR, TEXAS

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	8	5. McELMAN	8
2. RESTA	8	6. MEES (ON SHORE)	
3. BURKE	8	7. _____	
4. GALLARDE	8	8. _____	

Time Start Work Day 0800  
 Time End Work Day 2200

Time Boat Leaves Dock 1000 (H & H DOCK)  
 Time Boat Ties Up 1140-1600 AT FUEL DOCK

WCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>6</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished DEPART FOR SURVEY AREA

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Date 7/14/78  
 Area EASTERN GULF OF MEXICO Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	8	5. McELMAN	8
2. RESTA	8	6. MEES (ON SHORE)	
3. BURKE	8	7. _____	
4. GALLARDE	8	8. _____	

Time Start Work Day 0700  
 Time End Work Day 2200

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 6

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished ENROUTE TO SURVEY AREA; CHECK OUT ALL EQUIPMENT

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Project 41069A  
 Date 7/15/78  
 Supervisor BEER

Client BLM Rep KRAN  
 Area EASTERN GULF OF MEXICO

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	8	5. McELMAN	8
2. RESTA	8	6. MEES (ON SHORE)	
3. BURKE	8	7. _____	
4. GALLARDE	8	8. _____	

Time Start Work Day 0700  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 6

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished ENROUTE TO SURVEY AREA; CALIBRATE NAVIGATION; CHECK & CAL SEISMIC GEAR

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #1 Date 7/16/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 6

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 45 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Date 7/17/78  
 Area EASTERN GULF OF MEXICO - AREA #1 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 1400

Time Boat Leaves Dock \_\_\_\_\_  
 Time Boat Ties Up 1400

WCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                       |
|----------------------------|-----------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u> |
| 2. <u>EDO 4034 CM</u>      | 4. _____              |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |               |
|----------|---------------|
| 1. _____ | <u>Reason</u> |
| 2. _____ | _____         |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>6</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 15 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Project 41069A  
 Date 7/18/78  
 Supervisor BEER

Client BLM Rep KRAN  
 Area EASTERN GULF OF MEXICO - AREA #1

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	
3. <u>BURKE</u>	<u>12</u>	7. _____	
4. <u>GALLARDE</u>	<u>12</u>	8. _____	

Time Start Work Day 1200  
 Time End Work Day 2400

Time Boat Leaves Dock 1300  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>6</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 15 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1. _____	
2. _____	
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1. _____		
2. _____		
3. _____		
4. _____		
5. _____		
6. _____		
7. _____		
8. _____		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR

Comments \_\_\_\_\_

GEOMARINE DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Date 7/19/78  
 Area EASTERN GULF OF MEXICO - AREA #1 Supervisor BEER

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	<u>    </u>
3. <u>BURKE</u>	<u>12</u>	7. <u>    </u>	<u>    </u>
4. <u>CALLARDE</u>	<u>12</u>	8. <u>    </u>	<u>    </u>

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up     

WCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                       |
|----------------------------|-----------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u> |
| 2. <u>EDO 4034 CM</u>      | 4. <u>    </u>        |

Expendables/Spares Consumed

- |                |                |
|----------------|----------------|
| 1. <u>    </u> | 3. <u>    </u> |
| 2. <u>    </u> | 4. <u>    </u> |

Equipment Lost

- |                |               |
|----------------|---------------|
| 1. <u>    </u> | <u>Reason</u> |
| 2. <u>    </u> | <u>    </u>   |

Floating Equipment     

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>6</u> |

Rental Vehicles 1.      2.     

Personal Vehicles 1.      2.     

Work Accomplished 21 LINE MILES

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1. <u>    </u>	<u>    </u>
2. <u>    </u>	<u>    </u>
3. <u>    </u>	<u>    </u>
4. <u>    </u>	<u>    </u>
5. <u>    </u>	<u>    </u>
6. <u>    </u>	<u>    </u>
7. <u>    </u>	<u>    </u>
8. <u>    </u>	<u>    </u>

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1. <u>    </u>	<u>    </u>	<u>    </u>
2. <u>    </u>	<u>    </u>	<u>    </u>
3. <u>    </u>	<u>    </u>	<u>    </u>
4. <u>    </u>	<u>    </u>	<u>    </u>
5. <u>    </u>	<u>    </u>	<u>    </u>
6. <u>    </u>	<u>    </u>	<u>    </u>
7. <u>    </u>	<u>    </u>	<u>    </u>
8. <u>    </u>	<u>    </u>	<u>    </u>

Total Cash Expenses     

Total Credit Expenses     

Weather FAIR/POOR

Comments

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Date 7/20/78  
 Area EASTERN GULF OF MEXICO Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 6

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished STANDING BY ON WEATHER & NAVIGATION MECHANICALS

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather POOR/MARGINAL

Comments \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep KRAN Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #2 Date 7/21/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>6</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 18 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather MARGINAL/BAD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep \_\_\_\_\_ Project 41069A  
 Area EASTERN GULF OF MEXICO Date 7/22/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	8	5. McELMAN	8
2. RESTA	8	6. MEES (ON SHORE)	
3. BURKE	8	7. _____	
4. GALLARDE	8	8. _____	

Time Start Work Day 0000  
 Time End Work Day 1800

Time Boat Leaves Dock \_\_\_\_\_  
 Time Boat Ties Up 0100

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 6

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished RESUPPLY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather MARGINAL/BAD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep \_\_\_\_\_ Project 41069A  
 Date 7/23/78  
 Area EASTERN GULF OF MEXICO - AREA #2 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0600  
 Time End Work Day 2400

Time Boat Leaves Dock 0600  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 16 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather MARGINAL

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep \_\_\_\_\_ Project 41069A  
 Date 7/24/78  
 Area EASTERN GULF OF MEXICO - AREA #2 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 47 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR/POOR

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep - Project 41069A  
 Date 7/25/78  
 Area EASTERN GULF OF MEXICO - AREAS 2 & 3 Supervisor BEER

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	
3. <u>BURKE</u>	<u>12</u>	7. _____	
4. <u>GALLARDE</u>	<u>12</u>	8. _____	

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                       |
|----------------------------|-----------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u> |
| 2. <u>EDO 4034 CM</u>      | 4. _____              |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |               |
|----------|---------------|
| 1. _____ | <u>Reason</u> |
| 2. _____ | _____         |

Floating Equipment

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished AREA 2 - 15 LINE MILES  
AREA 3 - 32 LINE MILES

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1. _____	
2. _____	
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1. _____		
2. _____		
3. _____		
4. _____		
5. _____		
6. _____		
7. _____		
8. _____		

Total Cash Expenses \_\_\_\_\_ Total Credit Expenses \_\_\_\_\_

Weather FAIR

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep - Project 41069A  
 Date 7/26/78  
 Area EASTERN GULF OF MEXICO - AREA #3 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Loss

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 30 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR - MARGINAL/BAD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Project 41069A  
 Date 7/27/78  
 Supervisor BEER

Client BLM Rep -  
 Area EASTERN GULF OF MEXICO

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 1800

Time Boat Leaves Dock \_\_\_\_\_  
 Time Boat Ties Up 1600

MCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished DOWN TO WEATHER/NAV. MECHANICALS

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather MARGINAL/BAD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEMMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO Date 7/28/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	8	5. McELMAN	8
2. RESTA	8	6. MEES (ON SHORE)	
3. BURKE	8	7. _____	
4. GALLARDE	8	8. _____	

Time Start Work Day 0800  
 Time End Work Day 2400

Time Boat Leaves Dock 1915  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished REPAIR BOAR EQUIPMENT/RESUPPLY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR/BAD

Comments \_\_\_\_\_



WOODWARD-CLOUTIER CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 7/29/78  
 Area EASTERN GULF OF MEXICO - AREA #4 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 18 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #4 Date 7/30/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 36 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR/BAD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #4 Date 7/31/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	_____
3. <u>BURKE</u>	<u>12</u>	7. _____	_____
4. <u>GALLARDE</u>	<u>12</u>	8. _____	_____

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                       |
|----------------------------|-----------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u> |
| 2. <u>EDO 4034 CM</u>      | 4. _____              |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- | Equipment Lost | Reason |
|----------------|--------|
| 1. _____       | _____  |
| 2. _____       | _____  |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 45 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR/BAD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Project 41069A  
 Date 8/01/78  
 Supervisor BEER

Client BLM Rep DEWALD  
 Area EASTERN GULF OF MEXICO - AREA #4

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	
3. <u>BURKE</u>	<u>12</u>	7. _____	
4. <u>GALLARDE</u>	<u>12</u>	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 45 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #5 Date 8/02/78  
 Supervisor BEER

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	
3. <u>BURKE</u>	<u>12</u>	7. _____	
4. <u>GALLARDE</u>	<u>12</u>	8. _____	

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

1. <u>UNIBOOM</u>	3. <u>ONAN GENERATOR</u>
2. <u>MES SYSTEM</u>	4. <u>SUPPORT ELECTORNICS</u>

Rental Equipment

1. <u>KLEIN 530 SYSTEM</u>	3. <u>SEA MAC 500</u>
2. <u>EDO 4034 CM</u>	4. _____

Expendables/Spares Consumed

1. _____	3. _____
2. _____	4. _____

Equipment Lost

	<u>Reason</u>
1. _____	_____
2. _____	_____

Floating Equipment \_\_\_\_\_

Subcontractors

1. <u>DECCA SURVEYORS</u>	No. of Men <u>2</u>
2. <u>M/V SEA TRANSPORTER</u>	No. of Men <u>7</u>

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 30 LINE MILES

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1. _____	
2. _____	
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1. _____		
2. _____		
3. _____		
4. _____		
5. _____		
6. _____		
7. _____		
8. _____		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLIFTON CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #5 Date 8/03/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	<u>    </u>
3. <u>BURKE</u>	<u>12</u>	7. <u>                    </u>	<u>    </u>
4. <u>GALLARDE</u>	<u>12</u>	8. <u>                    </u>	<u>    </u>

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up                     

MCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                                |
|----------------------------|--------------------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u>          |
| 2. <u>EDO 4034 CM</u>      | 4. <u>                    </u> |

Expendables/Spares Consumed

- |                                |                                |
|--------------------------------|--------------------------------|
| 1. <u>                    </u> | 3. <u>                    </u> |
| 2. <u>                    </u> | 4. <u>                    </u> |

Equipment Lost

- |                                |                                    |
|--------------------------------|------------------------------------|
| 1. <u>                    </u> | Reason <u>                    </u> |
| 2. <u>                    </u> | <u>                    </u>        |

Floating Equipment                     

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>7</u> |

Rental Vehicles 1.                      2.                     

Personal Vehicles 1.                      2.                     

Work Accomplished 90 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1. <u>                    </u>	<u>    </u>
2. <u>                    </u>	<u>    </u>
3. <u>                    </u>	<u>    </u>
4. <u>                    </u>	<u>    </u>
5. <u>                    </u>	<u>    </u>
6. <u>                    </u>	<u>    </u>
7. <u>                    </u>	<u>    </u>
8. <u>                    </u>	<u>    </u>

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1. <u>                    </u>	<u>    </u>	<u>    </u>
2. <u>                    </u>	<u>    </u>	<u>    </u>
3. <u>                    </u>	<u>    </u>	<u>    </u>
4. <u>                    </u>	<u>    </u>	<u>    </u>
5. <u>                    </u>	<u>    </u>	<u>    </u>
6. <u>                    </u>	<u>    </u>	<u>    </u>
7. <u>                    </u>	<u>    </u>	<u>    </u>
8. <u>                    </u>	<u>    </u>	<u>    </u>

Total Cash Expenses                     

Total Credit Expenses                     

Weather GOOD

Comments

GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/04/78  
 Area EASTERN GULF OF MEXICO Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0600  
 Time End Work Day 2200

Time Boat Leaves Dock \_\_\_\_\_  
 Time Boat Ties Up 1030

MCC Equipment

- |                      |                               |
|----------------------|-------------------------------|
| 1. <u>UNIBOOM</u>    | 3. <u>ONAN GENERATOR</u>      |
| 2. <u>MES SYSTEM</u> | 4. <u>SUPPORT ELECTORNICS</u> |

Rental Equipment

- |                            |                       |
|----------------------------|-----------------------|
| 1. <u>KLEIN 530 SYSTEM</u> | 3. <u>SEA MAC 500</u> |
| 2. <u>EDO 4034 CM</u>      | 4. _____              |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |                     |
|----------|---------------------|
| 1. _____ | <u>Reason</u> _____ |
| 2. _____ | _____               |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                               |                     |
|-------------------------------|---------------------|
| 1. <u>DECCA SURVEYORS</u>     | No. of Men <u>2</u> |
| 2. <u>M/V SEA TRANSPORTER</u> | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished MAINTENANCE & REPAIR; RESUPPLY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

WOODWARD-CLEVE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep \_\_\_\_\_ Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #6 Date 8/05/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0500 Time Boat Leaves Dock 0510  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

HCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 6 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_



WOODWARD-CLOUTIER CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/06/78  
 Area EASTERN GULF OF MEXICO - AREA #6 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 54 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CASH OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD/FAIR

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/07/78  
 Area EASTERN GULF OF MEXICO Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 78 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather MARGINAL

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/08/78  
 Area EASTERN GULF OF MEXICO - AREAS 6 & 7 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000 Time Boat Leaves Dock AT SEA  
 Time End Work Day 2400 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 60 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/09/78  
 Area EASTERN GULF OF MEXICO - AREA #8 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason

- \_\_\_\_\_
- \_\_\_\_\_

Floating Equipment

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 82 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD/FAIR

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO AREAS 8-9 Date 8/10/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. _____	_____
3. BURKE	12	7. _____	_____
4. GALLARDE	12	8. _____	_____

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- |                        |          |
|------------------------|----------|
| 1. UNIBOOM SYSTEM      | 3. _____ |
| 2. RAYTHEON AFTHOMETER | 4. _____ |

Rental Equipment

- |              |                |
|--------------|----------------|
| 1. KLEIN 530 | 3. SEA MAC 500 |
| 2. EDO 4034  | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYS       | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 26 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD / FAIR

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
 GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #9 Date 8/11/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 90 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather FAIR/MARGINAL

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/12/78  
 Area EASTERN GULF OF MEXICO - AREA 9 & 10 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |               |                        |
|---------------|------------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR      |
| 2. MES SYSTEM | 4. SUPPORT ELECTORNICS |

Rental Equipment

- |                     |                |
|---------------------|----------------|
| 1. KLEIN 530 SYSTEM | 3. SEA MAC 500 |
| 2. EDO 4034 CM      | 4. _____       |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 66 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_

GEGMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA #10 Date 8/13/78  
 Supervisor BEER

Field Personnel

NAME	HOURS	NAME	HOURS
1. BEER	12	5. McELMAN	12
2. RESTA	12	6. MEES (ON SHORE)	
3. BURKE	12	7. _____	
4. GALLARDE	12	8. _____	

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- SUPPORT ELECTORNICS

Rental Equipment

- KLEIN 530 SYSTEM
- EDO 4034 CM

- SEA MAC 500
- \_\_\_\_\_

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished 78 LINE MILES

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather GOOD

Comments \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep DEWALD Project 41069A  
 Date 8/14/78  
 Area EASTERN GULF OF MEXICO Supervisor BEER

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>BEER</u>	<u>12</u>	5. <u>McELMAN</u>	<u>12</u>
2. <u>RESTA</u>	<u>12</u>	6. <u>MEES (ON SHORE)</u>	<u>    </u>
3. <u>BURKE</u>	<u>12</u>	7. <u>                    </u>	<u>    </u>
4. <u>GALLARDE</u>	<u>12</u>	8. <u>                    </u>	<u>    </u>

Time Start Work Day 0000 Time Boat Leaves Dock                       
 Time End Work Day 2200 Time Boat Ties Up 2130

WCC Equipment

1. <u>UNIBOOM</u>	3. <u>ONAN GENERATOR</u>
2. <u>MES SYSTEM</u>	4. <u>SUPPORT ELECTORNICS</u>

Rental Equipment

1. <u>KLEIN 530 SYSTEM</u>	3. <u>SEA MAC 500</u>
2. <u>EDO 4034 CM</u>	4. <u>                    </u>

Expendables/Spares Consumed

1. <u>                    </u>	3. <u>                    </u>
2. <u>                    </u>	4. <u>                    </u>

Equipment Lost

<u>Equipment Lost</u>	<u>Reason</u>
1. <u>                    </u>	<u>                    </u>
2. <u>                    </u>	<u>                    </u>

Floating Equipment                     

Subcontractors

1. <u>DECCA SURVEYORS</u>	No. of Men <u>2</u>
2. <u>M/V SEA TRANSPORTER</u>	No. of Men <u>7</u>

Rental Vehicles 1.                      2.                     

Personal Vehicles 1.                      2.                     

Work Accomplished 36 LINE MILES

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1. <u>                    </u>	<u>                    </u>
2. <u>                    </u>	<u>                    </u>
3. <u>                    </u>	<u>                    </u>
4. <u>                    </u>	<u>                    </u>
5. <u>                    </u>	<u>                    </u>
6. <u>                    </u>	<u>                    </u>
7. <u>                    </u>	<u>                    </u>
8. <u>                    </u>	<u>                    </u>

<u>CREDIT/CHANGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1. <u>                    </u>	<u>                    </u>	<u>                    </u>
2. <u>                    </u>	<u>                    </u>	<u>                    </u>
3. <u>                    </u>	<u>                    </u>	<u>                    </u>
4. <u>                    </u>	<u>                    </u>	<u>                    </u>
5. <u>                    </u>	<u>                    </u>	<u>                    </u>
6. <u>                    </u>	<u>                    </u>	<u>                    </u>
7. <u>                    </u>	<u>                    </u>	<u>                    </u>
8. <u>                    </u>	<u>                    </u>	<u>                    </u>

Total Cash Expenses                     

Total Credit Expenses                     

Weather GOOD

Comments

### 3.4 Instrumentation Log











WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 2  
 CLIENT BLM

DATE 7/24/78  
 OPERATOR RESTA

PAGE 6  
 PROJ. NO. 41069A

LINE NUMBER	FIX	TIME	UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
			SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT FT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
04	1	0551	100	10	3	1/2	400	60	400/3	+	100	160	30/66	5	4'	
	21											270				
	38											310				
	47					3/4										
	61											330				
	70	0727														
03	70	0732	100	10	3	1/2	400	60	400/3	+	100	250	30/66	5	4'	
	69											300				
	67					3/4						350				
	65											460				
	59												60/96			
	52											510				
	31												30/66			
	23					1/2										
	20	0827														Nav down - weather
	30	1717	100	10	3	3/4	400	60	400/4	+	100	410	30/66	5	3'	
	23											360				
	22					1/2										
	17											310				
	1	1749														
02	1	1838	100	10	3	1/2	400	60	400/3	+	100	260	30/66	5	4'	
	21											340				
	32											410				
	34					3/4										
	42											510				
	55												60/96			









WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 3

DATE 7/26/78

PAGE 10

CLIENT BLM

OPERATOR RESTA

PROJ. NO. 41069A

NE BER	FIX	TIME	UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
			SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE	CABLE OUT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
2	70	1820	100	10	3	3/4	600	60	250/1.5	+	100	510	60/96	5	2'	
	33	1853														
5	33	1933	250	10	3	3/4	600	60	250/1.5	+	100	460	60/96	5	2	
	46											510				
	47											570				
	71												90/126			
	74											650				
	76											760				
	89											810				
	91												120/156			
	93											960				
	95											1150				
	96		500										150/186			
	97											1250				
	99											1350				
	101											1450				
	103											1600				
	106											1720	180/210			
	108											1810				
	110											1960				
	113											2070				
	115											2180				
	118											2330				
	120				2							2480				
	122											2600				
	123											2675				
	125											150				



WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 3  
 CLIENT BLM

DATE 7/23/78  
 OPERATOR RESTA  
 PAGE 12  
 PROJ. NO. 41069A

LINE NUMBER	FIX	TIME	UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
			SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT Ft	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
																Remainder of Area 3 surveyed on 8/23 & 8/24
01	33	1326	250	10	2	-	500	20	150/1.5	+	150	410	100/155	4	4'	MES System
	38											560	X2			Raytheon 719B
	42											660				
	43												150/205			
	46										100		X2			
	50											710				
	54											760				
	64											860				
	67											910				
	70					2										Off depth sounder
	73											960				Scale
	77											1180				
	83											1240				
	87											1360				
	89											1480				
	94											1600				
	102											1960				
	110											2480				
	116				3	3						2720				
	120										150					
	130															22 off cable
	134	1528														limit
08	1	1601	250	10	3	3	500	20	175/1	+	150	2900	Off	4	6'	No SS, DS, SP 1-36 deep water



WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 3  
 CLIENT BLM

DATE 7/23 - 7/24/78 PAGE 14  
 OPERATOR RESTA PROJ. NO. 41069A

			UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
NE IBER	FIX	TIME	SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT FT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
5	38	2239	250	10	2	2	500	700	150/1.5	+	150	610	150/205	5	3'	
	36											710	X2			
	29											810				
	23											760				
	12											810				
	5											910				
	1	2326														
14	1	2345	250	10	2	2	500	20	150/1.5	+	150	1050	150/205	5	4'	
	6											1000	X2			
	8											960				
	11				2	1										
	13											860				
	29											810				
	44											860	100/155			
	54											810	X2			
	70	0117														8/24
03	70	0153	250	10	2	1	500	20	150/1.5	+	150	400	100/155	4	4'	
	66										100		X2			
	57											460				
	52											510				
	35											610				
	26											710				
	20											760				
	18												150/205	5		
	1	0314											X2			



WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 3

DATE 7/24/78

PAGE 15

CLIENT BLM

OPERATOR RESTA

PROJ. NO. 41069A

LINE NUMBER	FIX	TIME	UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
			SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT FT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
102	33	0349	250	10	2	1	500	20	150/1.5	+	150	510	100/155	4	4'	
	36											610	X2			
	40											760	150/205	5		
	44											810	X2			
	56											860				
	61											910				
	63											1010				
	70		250	10	2	2						1050				
	77											1160	Off			Depth sounder off scale
	81											1410				
	88											1560				
	94											1910				
	100											2160				
	103											2260				
	105											2610				
	110											2900				SS cable out full
	117		250	10	3	3					200					
	134	0528														
103	134	0544	250	10	3	3	500	620	150/1.5	+	200	2900	Off	4	5'	
	119		250	10	2	2										
	106											2800				
	104											2500				
	100											2350				
	97											2000				
	90											1650				
	82											1250				
	75											1100				
	61											810				
	52											710				





WOODWARD-CLYDE CONSULTANTS

AREA 3DATE 7/24/78PAGE 18EASTERN GULF OF MEXICO  
MARINE HABITAT SURVEYCLIENT BLMOPERATOR RESTAPROJ. NO. 41069A

NE IBER	FIX	TIME	UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
			SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT FT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
2	97	1530	250	10	2	2	500	230	150/1.5	+	150	610		4	8'	
	107											810				
	110											1200				
	113											1510				
	115											1660				
	118											2010				
	121											2260				
	125											2510				
	128				3	3						2660				
	131											2810				
	133											2960				
	134	1619														
10	134	1654	250	10	3	3	500	355	150/1.5	+	200	3000	Off	5	7'	
	126				2	2						2910				
	117											2710				
	115											2510				
	113											2410				
	108											2160				
	105											1910				
	103											1760				
	101											1310				
	97	1739										960				







WOODWARD-CLYDE CONSULTANTS

AREA 4DATE 7/30/78PAGE 22EASTERN GULF OF MEXICO  
MARINE HABITAT SURVEYCLIENT BLMOPERATOR RESTAPROJ. NO. 41069A

LINE NO	FIX	TIME	UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
			SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT FT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
1	102	0301	250	10	2	2	500	20	400/2	-	100	760	90/126	5	4'	Uniboom 4100 Recorder
	101		250	10	2	1										Edge key
	79												60/96			
	70											710				
	66											660				
	61											610				
	60											560				
	54											510				
	13											460				
	11											410				
	1	0531														
0	1	0551	250	10	2	1	500	20	400/2	+	100	460	60/96	5	3'	
	4											510				
	9											560				
	18											610				
	45											660				
	70	0700										760				
	84											820				
	96											890				
	101											940				
	102	0800														
9	102	0821	250	10	2	1	500	20	400/2	+	100	630	90/126	5	2'	
	95												50/96			
	88											560				
	86											610				





WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 4

DATE 7/31 - 8/1/78

PAGE 24

CLIENT BLM

OPERATOR RESTA

PROJ. NO. 41069A

			UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
LINE NUMBER	FIX	TIME	SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT FT	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
105	102	1845	250	10	2	1	500	20/140	400/1.5	+	100	510	60/96	5	3'	4100 Recorder
	101											760				
	33	1955														
104	33	2042	250	10	2	1	500	20/140	400/1.5	+	100	520	60/96	5	2'	
	102	2148														
103	102	2200	250	10	2	1	500	20/140	400/1.5	+	100	760	60/96	5	3'	
	58											695				
	33	2313														
102	33	2334	250	10	2	1	500	20/140	400/1.5	+	100	510	60/96	5	3'	
	79											520				
	102	0045														8/1/78
101	102	0100	250	10	2	1	500	20/140	400/1.5	+	100	510	60/96	5	3'	
	100											560				
	98											610				
	94											660				
	64											610				
	33	0212														
201	33	0405	250	10	2	1	500	20/140	400/1.5	+	100	410	60/96	5	3'	
	38											460				
	40											510				
	44											560		4'		
	72											610				
	87											660				







WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 5  
 CLIENT BIM

DATE 8/3/78 PAGE 28  
 OPERATOR RESTA PROJ. NO. 41069A

			UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES				
LINE NUMBER	FIX	TIME	SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT Ft	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS	
208	102	0333	250	10	1	1	300	20/140	500/2	+	100	70	15/33	5	3'	Uniboom w/ 4100 change to 255 recorder down on line	
	94		100	10	3		300	60									
	67	0408															
	80	0433													2'		
	1	0553															
209	1	0627	100	10	3	0	300	60	500/2	+	100	70	15/33	5	1'		
	102	0803															
210	102	0815	100	10	3	0	300	60	500/2	+	100	70	15/33	5	2'		
	1	0944															
211	1	1004	100	10	3	0	300	60	500/2	+	100	70	15/33	5	1'		
	102	1139															
212	102	1150	100	10	3	0	300	60	500/2	+	100	70	15/33	5	1'		
	1	1334															
106	70	1359	100	10	3	0	300	60	450/2	+	100	70	15/33	5	1'		
	33	1426															
105	33	1507	100	10	3	0	300	60	450/2	+	100	70	15/33	5	1'		
	70	1545															
104	70	1605	100	10	3	0	300	60	450/2	+	100	70	15/33	5	1'		
	1	1712															
103	1	1735	100	10	3	0	300	60	450/2	+	100	70	15/33	5	1'		









WOODWARD-CLYDE CONSULTANTS  
 EASTERN GULF OF MEXICO  
 MARINE HABITAT SURVEY

AREA 6B DATE 8/6/78 PAGE 32  
 CLIENT BLM OPERATOR RESTA PROJ. NO. 41069A

			UNIBOOM / SPARKARRAY								SIDE SCAN SONAR		SEE NOTES			
LINE NUMBER	FIX	TIME	SCALE (MS)	SCALE LINE INTERVAL	SWPS/KEY	PRINT	ENERGY	GAIN	FILTER	TVG	RANGE M	CABLE OUT Ft	ECHO SOUNDER SCALE	VESSEL SPEED	SEA STATE	REMARKS
102	1	0601	100	10	6	3/4	600	60	400/2	+	100	550	200/310	5	1'	
	8											610				
	38	0651														
101	1	1047	100	10	6	3/4	600	60	400/2	+	100	610	200/310	5	1'	
	4											660				
	5											710				
	7					1										
	38	1123														
205	1	1235	100	10	6	1	600	60	400/2	+	100	560	200/310	5	1'	
	4											610				
	11											660				
	38	1314														
204	38	1345	100	10	6	1	600	60	400/2	+	100	610	200/310	5	2'	
	36											660				
	1	1424														
203	1	1455	100	10	6	3/4	600	60	400/2	+	100	610	200/310	5	3'	
	15					1										
	38	1538														
202	38	1549	100	10	6	1	600	60	400/2	+	100	660	200/310	5	3'	
	5					3/4										
	1	1625														
201	1	1647	100	10	6	3/4	600	60	400/2	+	100	560	200/310	5	2'	



































#### 4.0 GROUND TRUTH SURVEY REPORTS

These are four logs which summarize the ground truth survey cruise.

- Chief Scientist's Log (Geomarine Field Report)
- Time Allotment Summary
- Daily Field Report
- Video Log

The Chief Scientists Log is a summary of the days events. It is kept on a time basis for a 24 hour day. The Time Allotment Summary is a table which summarizes the time spent on various work tasks. It is derived directly from the Chief Scientists Log. The Daily Field Report lists the crew, equipment, and subcontractors employed on the project for each day. The Video Log is intended primarily for use as a supplement to the voice track on the video tapes. It is a chronological record of events while the underwater television system was being towed.

#### 4.1 Chief Scientist's Log

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client	<u>BLM</u>	Rep	<u>None</u>	Project	<u>41069A</u>
Work Area	<u>Eastern Gulf of Mexico</u>			Date	<u>8/15/78</u>
				Supervisor	<u>Beer</u>

<u>Time</u>	
<u>0000</u>	<u>In Port, St. Petersburg</u>
<u>0800</u>	<u>Planning meetings for television cruise</u>
<u>1330</u>	<u>Continental Shelf Associates arrive with television and camera system</u>
<u>1730</u>	<u>Mobilization complete</u>
<u>2000</u>	<u>Awaiting spare parts for navigation system</u>
<u>2400</u>	<u>Ready to depart St. Petersburg</u>

## WOODWARD-CLYDE CONSULTANT'S

GEOMARINE FIELD LOG

Client BLM Rep Jim Barkaloo Project 41069A  
 Date 8-16-78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington

## Time:

0012	Leave St. Petersburg dock
0215	Navigation calibration @ pier light
0830	Steering out on vessel
0930	Under way again
1030	Spot radar reflector Area 9 ("Tie into existing buoy")
	Seas ≈ 1 ft. running from SE Current from NE
1230	Head to line 201, S.P. 40 for camera deployment
1255	At line 201 S.P. 40 Turn to 180 heading, cut engines.
1305	Begin camera deployment
1335	Camera at bottom
1418	Camera off bottom
1430	Blew fuse on winch in bringin up cameras
1500	On board
≈1600	Unload camera, adjust and reload camera deployed & drifting
1658	Camera on board Unload and develop film Select camera calibration
1900	Camera over board
1910	Engage engines enroute to get on line 201 S.P. 16-21
1959	On line 201, head west
2002	Lower camera
2011	Begin monitoring, shot point 3
2056	Pass shot point 27

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Jim Barkaloo Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-17-78  
 Supervisor Bennington

## Time:

0320 Arrive Area 7, deploy buoy

0402 Fix on buoy

0405 Shut down, drifting

0950 Camera in water, off bottom

1007 Begin move to line 205

1028 On line 205. Heading east

1047 Begin recording at S.P. 55

1230 Stop engines. S.P. 0 Camera off bottom

1241 Camera aboard

1250 Begin run to 6A

1415 Arrive Area 6A

1509 Camera over side at shot point -3 on a line perpendicular to line 101  
 about 50 m south and parallel to shot point line 5.

1538 Begin transect at Shot Point 0

1558 End transect at Shot Point 10

1601 Camera off bottom. Head to 2nd transect of Area 6A

1714 Begin transect west to east along line perpendicular to line 101 of  
 Area 6A and about 50 m north and parallel to shot point line 32.  
 Begin tow at a shot point 0

1728 End of run at shot pt. 11 Turn 180° Camera in tow

1756 Head E to W along same line from pt 11 to pt 0

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

GEOMARINE FIELD LOG

Client BLM Rep Jim Barkaloo Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-17-78  
 Supervisor Bennington

Time

1820	End transect. Camera off bottom
1835	Camera & sled aboard Heading to Area 6B
1915	Arrive Area 6B
2002	Camera over side maneuver to get on line
2050	Begin transect perpendicular to 101 half way between and parallel to shot point line 25 and 26 running E → W
2121	End transect. Come around 180°
2136	Begin transect along shot point line 25 running W → E
2150	Abort transect. Off course
2158	Begin maneuver to turn 180° and get on east end of shot point line 25
2219	Begin transect along shot point line 25 running E → W across line 101
2243	End transect line Camera off bottom
2258	Camera on deck
2302	Head to Area 7 for land counts

WCC \_\_\_\_\_ Client \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Jim Barkaloo Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-18-78  
 Supervisor Bennington

Time:

0001	Enroute L/C buoy #7
0103	Arrive buoy
0117	Enroute Area #9
0700	Siminole station off air
0840	Siminole station on air Continue maneuver to Area 9
1000	Seas swells < 1 ft. S → N wind E → W
1000	Fix on Area 9 buoy
	Swells < 1 ft. S → N Wind E → W
1002	Camera Buoy over side
1012	Camera over side
1106	Begin transect fixes running W → E on a line 250' N of line 201 from shot pts. 22-15.
1118	End transect line at shot pt. line 15. Increase speed and maneuver to line 100' S of line 201 along shot pts 8-0.
1128	Begin transect of Southern line W → E.
1143	End W → E transect and make 180 <sup>0</sup> turn to rerun transect.
1203	Begin E → W transect along line 0 to 100 ft. south of line 201. Run shot pt. 0 to 8 Running slightly off course so transect meanders
1230	End transect E → W in Area 9 Camera off bottom
1240	Camera & sled aboard Pick up camera buoy
1303	Enroute to Land Count Buoy

continue

GEOMARINE FIELD LOG

Client BLM Rep Jim Barkaloo Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8/18/78 Supervisor Bennington

Time:

1312	Pick up L/C Buoy
1325	Enroute to Calibration check at Old Quarantine Pier Lite
2029	Calibration check at Old Quarantine Pier Lite OK
2030	Enroute Port Manatee
2205	Arrive Port Manatee dock

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Jim Barkaloo Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-19-78  
Supervisor Bennington

Time:

0000 At Port Manatee dock

1145 Leave Port Manatee dock en route to Panama City

2359 Enroute Panama City

WCC \_\_\_\_\_ Client \_\_\_\_\_

GEOMARINE FIELD LOG

Project 41069A

Client BLM Rep Jim Barkaloo

Date 8-20-78

Work Area Eastern Gulf of Mexico

Supervisor Bennington

Time:

0000 Enroute Panama City

TIME ZONE CHANGE TO CDT

1430 Arrive Panama City dock

1500 BLM observer (Jim Barkaloo) leaves ship

1700 BLM observer (Melissa Smith) aboard

1700 Compressor and winch arrive from Louisiana

1930 Computer arrives. Not functional

2359 At Panama City dock

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-21-78  
Supervisor Bennington

Time

1130 Calculator for navigtors arrive. No computer.  
1225 Leave Panama City dock en route to Navy buoy for navigation calibration.  
1330 Navigation calibration at Navy buoy  
1500 Discover error in calibration, return to buoy  
1520 Calibration at buoy, head for Area 4  
1530 Standing by, no station signal for navigation.  
1800 Wind and seas picking up. Choppy 1-3 ft. N → S. White caps  
1835 Navigation signal, recalibrate and head for Area 4  
2330 Drop lane count Buoy in Area 4  
2359 Secure for night in Area 4

GEOMARINE FIELD LOG

Client BLM Rep Mellissa Smith Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-22-78  
 Supervisor Bennington

Time	
0000	Secured for night in Area 4
0600	Seas choppy, 1 ft. SE → NW Wind SE → NW Search for L/C Buoy
	Navigation signal weak
0700	Locate buoy, deploy 2nd L/C Buoy w/radar reflector
0950	Slave station transmitting
1000	Calibrate navigation at L/C Buoy Seas 1 ft. E ↗ W Wind E → W
1025	Navigation lattice run
1051	Begin transect with fathometer Only along W → E line half way between shot point lines 21 and 22 in Area 4 and perpendicular to line 114
1110	Rerun E → W
1131	Camera over side
1222	Begin camera transect run, W → E half way between shot point lines 21 and 22, ⊥ line 114 in Area 4
1248	End camera transect Camera in 70W
1333	Begin transect W → E along shot point line 32, ⊥ line 114 in Area 4
1345	Hang up camera momentarily on outcrop (≈20 ft)
1409	Camera and bent frame on deck
1423	Repair while enroute to line 108 of Area 4
1520	Frame fixed, TV system operatable
1551	Camera over side
1641	Begin transect 60 m N of line 108, Area 4, running N → S
continue	

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith  
Work Area Eastern Gulf of Mexico

Project 41069A  
Date 8-22-78  
Supervisor Bennington

Time

1806	Camera transect end
1823	Camera system on deck
1953	Camera in water at line 104
2023	Begin transect N → S along line 60 m E of line 104 in Area 4
2109	End transect
2128	Camera system on deck
2128	Head for 4C buoys in Area 4, line 114
2245	Calibration at I/C buoy
2255	Retrieve B07s buoys
2258	Head for Area 3
2330	Stop to work on clutch
2340	Underway
2400	Enroute to Area 3

WOODWARD CLIFTON CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-23-78  
Supervisor Bennington

Time	
0000	Enroute to Area 3
0915	Arrive platform in Area 3 for navigation claibration
0938	Head for north end of Area 3 Swells 3-4 ft. E → W whitecaps wind, gusty E → W
1030	Electricity off while work on boat
1050	Arrive north end Area 3
1100	Electricity on
1130	Deploy side scan sonar fish
1135	Deploy sparker; malfunction on board to fix.
1140	Deploy sparker again
1601	Begin E → W transect (Geophysical) of line 208 Area 3
1715	End transect
1749	Begin W → E transect of line 207
1753	Abort transect & retrieve side scan sonar fish
1810	Deploy fish
1834	Begin transect W → E of line 207 Winds less, W → E Seas 3-4 ft swells, less choppy ENE → WSW
2000	End line 207
2125	Begin line 206, Area 3, E → W points 1-38
2205	End line 206
2239	Begin Area 3 line 205, W → E pts. 38-1

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BIM Rep Melissa Smith Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-23-78  
Supervisor Bennington

Time

2326

End line 205

2345

Begin Area 3 line 204, E → W pts 1-70

2359

Running Geophysical lines

WOODWARD CLINE CONSULTANTS  
GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-24-78  
Supervisor Bennington

Time	
0000	Running geophysical work on Area 3 line 204 E → W
0017	End line 204
0153	Begin Area 3 line 203, W → E pts 70 - 1
0314	End line 203
0349	Begin area 3 line 102 N → S pts 33-134
0528	End line 201
0544	Begin Area 3 line 103 S → N pts 134-33
0723	End line 103
0812	Begin Area 3 line 104 N → S pts 33-134
1000	End line 104
1054	Begin Area 3 line 107 S → N pts 134-97
1141	End line 107
1230	Recalibrate navigation at Chevron platform
1233	Head back to Area
1240	Seas E → W 4-6 ft., wind E → W
1307	Begin Area 3, line 109 N → S points 97-134
1400	End line
1423	Begin Area 3, line 111, S → N points 134-97
1512	End line
1530	Begin Area 3, line 112, N → S points 97-134
1545	Seas 3-5 ft. E → W Winds E → W

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BIM Rep Melissa Smith Project 41069A  
 Date 8-24-78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington

Time

1619

End line

1654

Begin Area 3 line 110 S → N points 134-97

1739

End line

1801

Begin line 108 Area 3, N → S points 97-134

1845

Seas 3-5 ft E → W Winds E → W

1851

End line

1900

End geophysical work Bring up sparker &amp; side scan fish

1915

Sparker &amp; fish aboard Head for Chevron platform for navigation

calibration

1950

Calibrate at platform, Area 3

1955

Maintain boat in area of platform

2359

Maintaining boat in Area 3

WCC

Client

GEOMARINE FIELD LOG

Client BIM Rep Melissa Smith Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-25-78  
 Supervisor Bennington

Time	
0000	Maintaining boat in platform, Area 3
0700	Weak navigation signal from shore station. Contacting shore personnel
0720	Pick up navigation signal Recalibrate and head 70 Area
0730	Seas 1-3 ft, SE → NW Winds SE → NW
0801	Arrive at line 205, shot points 32-34, Area 3 Camera in water
0816	Bottom in view, take navigation fix.
0824	Drifting in area and photographing bottom. Drift 0.75 knots, 210 <sup>0</sup>
0830	Try maintaining headway in low RPM. Camera bouncing due to swells.
0846	Camera off bottom
0907	Camera sled on deck Putting on depressor plates
0933	Plates on
0937	Head to line 205 between shot points 32-34, Area 3.
0955	Camera in water, lowering
1004	Navigation fix
1020	Bottom in view
1030	Begin drift transect, NE → SW @ 210 <sup>0</sup> over line 205, points 32 to 34.
1048	Engage engines to maintain line
1049	Drifting while photographing
1123	Camera off bottom. Head to line 101 of Area 3 with camera in tow.
	To point 67

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BIM Rep Melissa Smith Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-25-78  
 Supervisor Bennington

Time	
1210	Sled and camera on deck. Towing too slow in present seas.
1224	Sled on deck
1225	Navigation fix
1324	Arrive site
1332	Camera in water, lowering
1334	Navigation fix Cable jumps saw
1350	Repaired, but jumps again change saw
1400	Drift is now more than 2 knots Decide to run into drift, W → E
1414	New saw installed Pre plot course
1430	Underway to Area 3, line 103, points 66 to line 101 point 63
1526	Arrive in Transect area
1531	Camera in water
1554	Bottom in view, maneuver to start
1605	Seas 2-4, E → W, white caps Winds E → W
1635	Strong currents preventing us from making headway with one engine at 550 rpm and camera in tow. Make only 1.5 knots Try 2 engines at clutch speed current about 2 knots
1640	Lose station signal momentarily. Take loran fixes
1643	Arrive Area 3. Run W → E along shot point line (50 m North of shot point line 66) and across line 103. Bottom in view.
1711	Camera off bottom

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

GEOMARINE FIELD LOG

Client BIM Rep Mellissa Smith Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-25-78  
 Supervisor Bennington

Time	
1728	Sled aboard, head Chevron platform for calibration
1754	Seas 1-3 ft. ESE → WSW Wind ESE → WSW
1815	Navigation signal on
1820	Calibrate at Chevron platform
1825	Head to lines 108 & 106 of Area 3 Shot lines 37-35.
1920	Winds E → W, seas 1-2, E → W. Current SE → NW
1950	Arrive and deploy sled buoy
1954	Camera in water
1956	Take fix & lower sled
2003	Camera down
2009	Begin maneuver to start of W → E transect $\frac{1}{2}$ way between and parallel to shot lines 37 and 38 and run across line 108
2051	Begin transect Encounter outcrops
2107	End transect, camera in tow
2116	Arrive and begin W → E transect of line between shot points 35 and 36 running across line 106.
2120	TV cable off to starboard side due to strong currents from NE Difficulty to maintain heading.
2122	Try headings 85, 75, 55 <sup>0</sup> to try to straighten camera cable No work
2132	Continental Shelf Associate representative believes sled rudder malfunctioning

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-25-78  
Supervisor Bennington

Time

2132      Camera off bottom

2142      Sled on board

2154      Head to Chevron platform

2247      Calibrate navigation at platform

2248      Maintain boat in Area 3

2359      Maintaining boat in Area 3

## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-26-78  
 Supervisor Bennington

Time	
0000	Maintaining boat in Area 3
0650	Calibrate navigation at Chevron platform
0655	Head for Area 3, line 112, point 97
0720	Seas 1-2 ft., ESE → WNW Winds ESE → WNW
0735	At station, drifting to determine direction and speed OC drift
	Very slow to NW
0800	Seas picking up along with wind From SE
0805	Camera in water
0822	Camera down, begin maneuver
0833	Arrive transect, start. Camera at 250' Pinnacle tops at 320'
0845	Maneuvered to south
0900	Cut engines Drift north very irregular bottom Depth @ 365' w/ pinnacles to 320'
0908	Camera to 300'. Cautious. Watching fathometer to keep above peaks
0920	Camera to bottom between areas of relief.
0927	See pinnacles below w/camera
0940	Camera coming up, end transect
0954	Sled on deck
1005	Head to platform for calibration. Area very hazardous. Fortunate to get good shots from above Have shots of major outcrops from lines 108, 106, 112

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_



## WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BIM Rep Melissa Smith Project 41069A  
 Work Area Eastern Gulf of Mexico Date 8-26-78  
 Supervisor Bennington

Time	
1005	Calibration fix at Chevron platform, Area 3 Head Area 2
1245	Arrive Area 2
1250	Deploy Lane Count Buoy
1305	Seas 1-3 feet, choppy ESE → WNW Drift is to NW, 0.75 to 1 knot
1322	Head to west end of shot line 67 at line 101 of Area 2
1340	Begin W → E fathometer run looking for outcrops
1353	End fathometer run, head back to transect beginning
1400	Camera in water; lowering
1416	Camera at 200 ft., maneuver to start
1437	Arrive, lower sled to bottom
1441	Begin transect W → E along shot point line 67 across line 101 Area 2
1507	Off bottom, end transect
1518	Camera sled aboard Head north to shot point 52 of line 101, Area 2
1550	Rain
1600	Seas 1-2 ft E → W Wind SE → NW
1607	Camera in water
1622	Camera at 200 feet. Maneuver to transect start
1645	Lower camera to 235 feet
1648	Bottom in view. Begin E → W transect of shot point line 52 across line 101 of Area 2
1716	Tow boat dead ahead, camera off bottom

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

GEOMARINE FIELD LOG

Client BLM Project 410695  
 Rep Melissa Smith Date 8-26-78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington

Time	
1725	Camera coming up
1734	Camera on deck; retrieve buoy
1738	Head to Area 2, line 102, shot point 10
1810	Arrive shot point 10 of line 102
1812	Camera over side. Lower to 150' Maneuver to transect start
1831	Arrive & lower camera to bottom
1832	Begin transect W → E along shot point line 10 across line 201
1853	Camera off bottom at 150'
1853	Tow south. Current during W → E transect pulled sled south of boat so that fathometer did not correlate with sled position. Visibility on bottom very bad 3-5 feet
1923	Head north Lower camera
1924	Bottom in view Begin transect 60 meters east and parallel to line 102 across shot points 12-8
1930	Cut engines. Rate of speed too great with engines engaged Drift over shot points 11, 10, 9
1932	Not drifting due north more NE
1946	Begin receiving bad navigation signals from one station
1949	Camera coming up
1956	Sled on deck
2003	Sled buoy on deck slow speed towards Pensacola while developing slides

continue

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BIM Rep Melissa Smith  
Work Area Eastern Gulf of Mexico

Project 41069A  
Date 8-26-78  
Supervisor Bennington

Time

2003 to ensure picture coverage of Area 2

2115 Finished develop Running speed to Pensacola

2359 Enroute Pensacola, Fla.

WCC \_\_\_\_\_ Client \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS

GEOMARINE FIELD LOG

Client BLM Rep Melissa Smith Project 41069A  
Work Area Eastern Gulf of Mexico Date 8-27-78  
Supervisor Bennington

Time

0000 Enroute Pensacola, Fla.

0145 Dock A Pensacola, Fla.

END OF CRUISE

WCC \_\_\_\_\_ Client \_\_\_\_\_

#### 4.2 Time Allotment

TABLE OF TIME ALLOTMENT (HOURS)  
 CRUISE II GROUND TRUTH SURVEY

<u>DESCRIPTION DAY</u>	<u>PORT TIME</u>	<u>TRANSIT TIME</u>	<u>SURVEY* TIME</u>	<u>DOWN TIME</u>
8/15	24			
8/16		11	12	1S
8/17		4	20	
8/18		17	5	2N
8/19	12	12		
8/20	9	15		
8/21	12	12		
8/22		1	23	
8/23		9	13	2S
8/24			24	
8/25			24	
8/26		7	17	
8/27	22	2		
8/28		24 **		
8/29		24 **		
8/30		24 **		

\* Includes calibration time and other steaming time within  
 (but not between) work areas.

\*\* Ship only

DOWN TIME SOURCE

S = SHIP

N = NAVIGATION SYSTEM

#### 4.3 Daily Operational Log

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep BARKALOO Project 41069A  
 Area EASTERN GULF OF MEXICO - ST. PETERSBURG Date 8/15/78  
 Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. RESTA (WCC)	12	5. PETERSON (CSA)	12
2. McELMAN (WCC)	12	6. AYER (CSA)	12
3. BENNINGTON (TerEco)	12	7. _____	_____
4. RUBRIGHT (TerEco)	12	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock DOCKSIDE  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

1. UNIBOOM
2. MES SYSTEM

3. ONAN GENERATOR
4. RAYTHEON DE719

Rental Equipment

1. KLEIN 530 SYSTEM
2. HYDROPRODUCTS TV

3. RENTHOS 35mm CAMERA
4. SEA MAC 500

Expendables/Spares Consumed

1. \_\_\_\_\_
2. \_\_\_\_\_

3. \_\_\_\_\_
4. \_\_\_\_\_

Equipment Lost

1. \_\_\_\_\_
2. \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment

Subcontractors

1. DECCA SURVEYORS No. of Men 2
2. M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished DEMOBILIZE GEOPHYSICAL SURVEY, MOBILIZE GROUND TRUTH SURVEY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep BARKALOO Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA 9 Date 8/16/78  
 Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>RESTA (WCC)</u>	_____	5. <u>PETERSON (CSA)</u>	_____
2. <u>McELMAN (WCC)</u>	_____	6. <u>AYER (CSA)</u>	_____
3. <u>BENNINGTON (TerEco)</u>	_____	7. _____	_____
4. <u>RUBRIGHT (TerEco)</u>	_____	8. _____	_____

Time Start Work Day 0000  
 Time End Work Day 2400

Time Boat Leaves Dock 0012  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

1. <u>UNIBOOM</u>	3. <u>ONAN GENERATOR</u>
2. <u>MES SYSTEM</u>	4. <u>RAYTHEON DE719</u>

Rental Equipment

1. <u>KLEIN 530 SYSTEM</u>	3. <u>RENTHOS 35mm CAMERA</u>
2. <u>HYDROPRODUCTS TV</u>	4. <u>SEA MAC 500</u>

Expendables/Spares Consumed

1. _____	3. _____
2. _____	4. _____

Equipment Lost

Equipment Lost	Reason
1. _____	_____
2. _____	_____

Floating Equipment \_\_\_\_\_

Subcontractors

1. <u>DECCA SURVEYORS</u>	No. of Men <u>2</u>
2. <u>M/V SEA TRANSPORTER</u>	No. of Men <u>7</u>

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished AREA 9 LINE 201, TV AND CAMERA SURVEY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep BARKALOO Project 41069A  
 Date 8/17/78  
 Area EASTERN GULF OF MEXICO - AREAS 7, 6 Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. RESTA (WCC)	_____	5. PETERSON (CSA)	_____
2. McELMAN (WCC)	_____	6. AYER (CSA)	_____
3. BENNINGTON (TerEco)	_____	7. _____	_____
4. RUBRIGHT (TerEco)	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_ Time Boat Leaves Dock AT SEA  
 Time End Work Day \_\_\_\_\_ Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- |               |                   |
|---------------|-------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR |
| 2. MES SYSTEM | 4. RAYTHEON DE719 |

Rental Equipment

- |                     |                        |
|---------------------|------------------------|
| 1. KLEIN 530 SYSTEM | 3. RENTHOS 35mm CAMERA |
| 2. HYDROPRODUCTS TV | 4. SEA MAC 500         |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- | Equipment Lost | Reason |
|----------------|--------|
| 1. _____       | _____  |
| 2. _____       | _____  |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished AREA 7 LINE 205, AREA 6A LINE 101, TV AND CAMERA SURVEY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CASH OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_ Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep BARKALOO Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA 9 Date 8/18/78  
 Supervisor RESTA

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>RESTA (WCC)</u>	_____	5. <u>PETERSON (CSA)</u>	_____
2. <u>McELMAN (WCC)</u>	_____	6. <u>AYER (CSA)</u>	_____
3. <u>BENNINGTON (TerEco)</u>	_____	7. _____	_____
4. <u>RUBRIGHT (TerEco)</u>	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up 2205 PORT MANATEE

WCC Equipment

1. UNIBOOM  
 2. MES SYSTEM

3. ONAN GENERATOR  
 4. RAYTHEON DE719

Rental Equipment

1. KLEIN 530 SYSTEM  
 2. HYDROPRODUCTS TV

3. RENTHOS 35mm CAMERA  
 4. SEA MAC 500

Expendables/Spares Consumed

1. \_\_\_\_\_  
 2. \_\_\_\_\_

3. \_\_\_\_\_  
 4. \_\_\_\_\_

Equipment Lost

1. \_\_\_\_\_  
 2. \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

1. DECCA SURVEYORS No. of Men 2  
 2. M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished AREA 9 LINE 201 TV AND CAMERA SURVEY

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep BARKALOO Project 41069A  
 Area EASTERN GULF OF MEXICO - AT SEA Date 8/19/78  
 Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. RESTA (WCC)	_____	5. PETERSON (CSA)	_____
2. McELMAN (WCC)	_____	6. _____	_____
3. BENNINGTON (TerEco)	_____	7. _____	_____
4. RUBRIGHT (TerEco)	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock 1145 PORT MANATEE  
 Time Boat Ties Up AT SEA

NCC Equipment

1. UNIBOOM  
 2. MES SYSTEM

3. ONAN GENERATOR  
 4. RAYTHEON DE719

Rental Equipment

1. KLEIN 530 SYSTEM  
 2. HYDROPRODUCTS TV

3. RENTHOS 35mm CAMERA  
 4. SEA MAC 500

Expendables/Spares Consumed

1. \_\_\_\_\_  
 2. \_\_\_\_\_

3. \_\_\_\_\_  
 4. \_\_\_\_\_

Equipment Lost

1. \_\_\_\_\_  
 2. \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

1. DECCA SURVEYORS No. of Men 2  
 2. M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished REPLENISH BOAT FUEL, WATER, FOOD. ENROUTE TO PANAMA CITY

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments AYER DEPARTS

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep BARKALOO-SMITH Project 41069A  
 Date 8/20/78  
 Area EASTERN GULF OF MEXICO - PANAMA CITY Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. RESTA (WCC)	_____	5. PETERSON (CSA)	_____
2. McELMAN (WCC)	_____	6. _____	_____
3. BENNINGTON (TerEco)	_____	7. _____	_____
4. RUBRIGHT (TerEco)	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_ Time Boat Leaves Dock AT SEA  
 Time End Work Day \_\_\_\_\_ Time Boat Ties Up 1430 PANAMA CITY

WCC Equipment

- |               |                   |
|---------------|-------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR |
| 2. MES SYSTEM | 4. RAYTHEON DE719 |

Rental Equipment

- |                     |                        |
|---------------------|------------------------|
| 1. KLEIN 530 SYSTEM | 3. RENTHOS 35mm CAMERA |
| 2. HYDROPRODUCTS TV | 4. SEA MAC 500         |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished TRANSIT TO PANAMA CITY, CHANGE BLM REPS, LOAD NEW WINCH & COMPRESSOR

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

MURPHY-BRIDGE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Date 8/21/78  
 Area EASTERN GULF OF MEXICO - AT SEA Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. <u>RESTA (WCC)</u>	_____	5. <u>PETERSON (CSA)</u>	_____
2. <u>McELMAN (WCC)</u>	_____	6. _____	_____
3. <u>BENNINGTON (TerEco)</u>	_____	7. _____	_____
4. <u>RUBRIGHT (TerEco)</u>	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock 1225  
 Time Boat Ties Up AT SEA

WCC Equipment

1. UNIBOOM
2. MES SYSTEM

3. ONAN GENERATOR
4. RAYTHEON DE719

Rental Equipment

1. KLEIN 530 SYSTEM
2. HYDROPRODUCTS TV

3. BENTHOS 35mm CAMERA
4. SEA MAC 500

Expendables/Spares Consumed

1. \_\_\_\_\_
2. \_\_\_\_\_

3. \_\_\_\_\_
4. \_\_\_\_\_

Equipment Lost

1. \_\_\_\_\_
2. \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment

Subcontractors

1. DECCA SURVEYORS No. of Men 2
2. M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished TRANSIT TO AREA 4

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOGRAPHIC DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA 4 Date 8/22/78  
 Supervisor RESTA

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>RESTA (WCC)</u>	_____	5. <u>PETERSON (CSA)</u>	_____
2. <u>McELMAN (WCC)</u>	_____	6. _____	_____
3. <u>BENNINGTON (TerEco)</u>	_____	7. _____	_____
4. <u>RUBRIGHT (TerEco)</u>	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

1. UNIBOOM  
 2. MFS SYSTEM

3. ONAN GENERATOR  
 4. RAYTHEON DE719

Rental Equipment

1. KLEIN 530 SYSTEM  
 2. HYDROPRODUCTS TV

3. RENTHOS 35mm CAMERA  
 4. SEA MAC 500

Expendables/Spares Consumed

1. \_\_\_\_\_  
 2. \_\_\_\_\_

3. \_\_\_\_\_  
 4. \_\_\_\_\_

Equipment Lost

1. \_\_\_\_\_  
 2. \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

1. DECCA SURVEYORS No. of Men 2  
 2. M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished TV AND CAMERA SURVEY AREA 4, TRANSIT TO AREA 3

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA 3 Date 8/23/78  
 Supervisor RESTA

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>RESTA (WCC)</u>	_____	5. <u>PETERSON (CSA)</u>	_____
2. <u>McELMAN (WCC)</u>	_____	6. _____	_____
3. <u>BENNINGTON (TerEco)</u>	_____	7. _____	_____
4. <u>RUBRIGHT (TerEco)</u>	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

1. UNIBOOM  
 2. MES SYSTEM

3. ONAN GENERATOR  
 4. RAYTHEON DE719

Rental Equipment

1. KLEIN 530 SYSTEM  
 2. HYDROPRODUCTS TV

3. RENTHOS 35mm CAMERA  
 4. SEA MAC 500

Expendables/Spares Consumed

1. \_\_\_\_\_  
 2. \_\_\_\_\_

3. \_\_\_\_\_  
 4. \_\_\_\_\_

Equipment Lost

1. \_\_\_\_\_  
 2. \_\_\_\_\_

Reason

\_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

1. DECCA SURVEYORS No. of Men 2  
 2. M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished GEOPHYSICAL SURVEYING OF LINES NOT RUN IN FIRST CRUISE IN AREA 3

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_



WOODWARD-CLYDE CONSULTANTS  
GECMARINE DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA 3 Date 8/24/78  
 Supervisor RESTA

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>RESTA (WCC)</u>	_____	5. <u>PETERSON (CSA)</u>	_____
2. <u>McELMAN (WCC)</u>	_____	6. _____	_____
3. <u>BENNINGTON (TerEco)</u>	_____	7. _____	_____
4. <u>RUBRIGHT (TerEco)</u>	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- RAYTHEON DE719

Rental Equipment

- KLEIN 530 SYSTEM
- HYDROPRODUCTS TV

- RENTHOS 35mm CAMERA
- SEA MAC 500

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished GEOPHYSICAL SURVEYING

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Area EASTERN GULF OF MEXICO - AREA 3 Date 8/25/78  
 Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. RESTA (WCC)	_____	5. PETERSON (CSA)	_____
2. McELMAN (WCC)	_____	6. _____	_____
3. BENNINGTON (TerEco)	_____	7. _____	_____
4. RUBRIGHT (TerEco)	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

MCC Equipment

- |               |                   |
|---------------|-------------------|
| 1. UNIBOOM    | 3. ONAN GENERATOR |
| 2. MES SYSTEM | 4. RAYTHEON DE719 |

Rental Equipment

- |                     |                        |
|---------------------|------------------------|
| 1. KLEIN 530 SYSTEM | 3. RENTHOS 35mm CAMERA |
| 2. HYDROPRODUCTS TV | 4. SEA MAC 500         |

Expendables/Spares Consumed

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Equipment Lost

- |          |              |
|----------|--------------|
| 1. _____ | Reason _____ |
| 2. _____ | _____        |

Floating Equipment \_\_\_\_\_

Subcontractors

- |                        |                     |
|------------------------|---------------------|
| 1. DECCA SURVEYORS     | No. of Men <u>2</u> |
| 2. M/V SEA TRANSPORTER | No. of Men <u>7</u> |

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished TELEVISION AND CAMERA SURVEY AREA 3

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Area EASTERN GULF OF MEXICO - AREAS 3 & 2 Date 8/26/78  
 Supervisor RESTA

Field Personnel

NAME	HOURS	NAME	HOURS
1. RESTA (WCC)	_____	5. PETERSON (CSA)	_____
2. McELMAN (WCC)	_____	6. _____	_____
3. BENNINGTON (TerEco)	_____	7. _____	_____
4. RUBRIGHT (TerEco)	_____	8. _____	_____

Time Start Work Day \_\_\_\_\_  
 Time End Work Day \_\_\_\_\_

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up \_\_\_\_\_

WCC Equipment

- UNIBOOM
- MES SYSTEM

- ONAN GENERATOR
- RAYTHEON DE719

Rental Equipment

- KLEIN 530 SYSTEM
- HYDROPRODUCTS TV

- RENTHOS 35mm CAMERA
- SEA MAC 500

Expendables/Spares Consumed

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

Equipment Lost

- \_\_\_\_\_
- \_\_\_\_\_

Reason  
 \_\_\_\_\_  
 \_\_\_\_\_

Floating Equipment \_\_\_\_\_

Subcontractors

- DECCA SURVEYORS No. of Men 2
- M/V SEA TRANSPORTER No. of Men 7

Rental Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Personal Vehicles 1. \_\_\_\_\_ 2. \_\_\_\_\_

Work Accomplished TELEVISION AND CAMERA SURVEYING IN AREAS 3 AND 2

SUPPLIES AND EXPENSES

CASH ITEM	AMOUNT
1.	_____
2.	_____
3.	_____
4.	_____
5.	_____
6.	_____
7.	_____
8.	_____

CREDIT/CHARGE ITEM	CARD OR FIRM	AMOUNT
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____

Total Cash Expenses \_\_\_\_\_

Total Credit Expenses \_\_\_\_\_

Weather \_\_\_\_\_

Comments \_\_\_\_\_

WOODWARD-CLYDE CONSULTANTS  
GEOMARINE DAILY FIELD REPORT

Client BLM Rep SMITH Project 41069A  
 Area EASTERN GULF OF MEXICO - PENSACOLA Date 8/27/78  
 Supervisor RESTA

Field Personnel

<u>NAME</u>	<u>HOURS</u>	<u>NAME</u>	<u>HOURS</u>
1. <u>RESTA (WCC)</u>	<u>      </u>	5. <u>PETERSON (CSA)</u>	<u>      </u>
2. <u>McELMAN (WCC)</u>	<u>      </u>	6. <u>                          </u>	<u>      </u>
3. <u>BENNINGTON (TerEco)</u>	<u>      </u>	7. <u>                          </u>	<u>      </u>
4. <u>RUBRIGHT (TerEco)</u>	<u>      </u>	8. <u>                          </u>	<u>      </u>

Time Start Work Day                     
 Time End Work Day                   

Time Boat Leaves Dock AT SEA  
 Time Boat Ties Up 0145

WCC Equipment

1. <u>UNIBOOM</u>	3. <u>ONAN GENERATOR</u>
2. <u>MES SYSTEM</u>	4. <u>RAYTHEON DE719</u>

Rental Equipment

1. <u>KLEIN 530 SYSTEM</u>	3. <u>RENTHOS 35mm CAMERA</u>
2. <u>HYDROPRODUCTS TV</u>	4. <u>SEA MAC 500</u>

Expendables/Spares Consumed

1. <u>                          </u>	3. <u>                          </u>
2. <u>                          </u>	4. <u>                          </u>

Equipment Lost

<u>Equipment Lost</u>	<u>Reason</u>
1. <u>                          </u>	<u>                          </u>
2. <u>                          </u>	<u>                          </u>

Floating Equipment                           

Subcontractors

1. <u>DECCA SURVEYORS</u>	No. of Men <u>2</u>
2. <u>M/V SEA TRANSPORTER</u>	No. of Men <u>7</u>

Rental Vehicles 1.                            2.                           

Personal Vehicles 1.                            2.                           

Work Accomplished ENROUTE TO PENSACOLA, DEMOBILIZE SHIP

SUPPLIES AND EXPENSES

<u>CASH ITEM</u>	<u>AMOUNT</u>
1. <u>                          </u>	<u>          </u>
2. <u>                          </u>	<u>          </u>
3. <u>                          </u>	<u>          </u>
4. <u>                          </u>	<u>          </u>
5. <u>                          </u>	<u>          </u>
6. <u>                          </u>	<u>          </u>
7. <u>                          </u>	<u>          </u>
8. <u>                          </u>	<u>          </u>

<u>CREDIT/CHARGE ITEM</u>	<u>CARD OR FIRM</u>	<u>AMOUNT</u>
1. <u>                          </u>	<u>          </u>	<u>          </u>
2. <u>                          </u>	<u>          </u>	<u>          </u>
3. <u>                          </u>	<u>          </u>	<u>          </u>
4. <u>                          </u>	<u>          </u>	<u>          </u>
5. <u>                          </u>	<u>          </u>	<u>          </u>
6. <u>                          </u>	<u>          </u>	<u>          </u>
7. <u>                          </u>	<u>          </u>	<u>          </u>
8. <u>                          </u>	<u>          </u>	<u>          </u>

Total Cash Expenses                   

Total Credit Expenses                   

Weather                           

Comments

#### 4.4 Video Log Sheets

## KEY TO VISUAL REFERENCES

Area	Transect	Video Reference		Date	Time	Color Transparency (pages)	Slide nos.
		Tape no.	Counter range				
9		1	0-1050	8/16/78	1335-1418	1	Camera Calibration Only
9		2	0-1050	8/16/78	1548-1924	2-3	
9		3	0-1050	8/16/78	1927-2031	3	
9		4	0-795	8/16/78	2031-2100	4-6	
7	A-A'	5	364-1045	8/17/78	0950-1117	7-9	( 7-1 )-( 7-11)
7	A-A'	6	0-1053	8/17/78	1118-1223	9-13	( 7-12)-( 7-33)
7	A-A'	7	0-170	8/17/78	1224-1241	13	( 7-34)
6	Block A-A'	7	420-1065	8/17/78	1515-1601	14-15	(6A-1 )-(6A-14)
6	567 A-A'	8	0-1050	8/17/78	1605-1714	-	None
6	B-B'	9	0-1061	8/17/78	1714-1819	15-20	(6A-15)-(6A-27)
6	B-B'	10	0-360	8/17/78	1819-1835	20	None
6	Block C-C'	10	360-1026	8/17/78	2004-2054	21	None
6	609 C-C'	11	0-1063	8/17/78	2054-2159	21-23	(6B-1 )-(6B-12)
6	C-C'	12	0-819	8/17/78	2200-2302	23-26	(6B-13)-(6B-18)
9	A-A'	13	0-1055	8/18/78	1012-1118	27-28	( 9-1 )-( 9-14)
9	B-B'	14	0-1065	8/18/78	1121-1225	28-33	( 9-15)-( 9-38)
9	B-B'	15	0-365	8/18/78	1226-1240	33	None
4	A-A'	15	365-1075	8/22/78	1231-1321	34	None
4	A-A'	16*	0-1068	8/22/78	1322-1427	34-36	( 4-1 )-( 4-9 )
4	B-B'	17	0-785	8/22/78	1428-1509	36-37	( 4-10)-( 4-16)
4	C-C'	17	785-1065	8/22/78	1651-1715	-	None
4	C-C'	18	0-1065	8/22/78	1718-1822	38-39	( 4-17)-( 4-20)
4	C-C'	19	0-1067	8/22/78	1823-2057	39-42	( 4-21)-( 4-28)
4	D-D'	20	0-1080	8/22/78	2100-2202	42-45	( 4-29)-( 4-37)
4	D-D'	21	0-561	8/22/78	2203-2214	45	None

KEY TO VISUAL REFERENCES (Continued)

Area	Transect	Video Reference		Date	Time	Color Transparency (pages)	Slide nos.
		Tape no.	Counter range				
3	A-A'	21	561-1087	8/25/78	0901-0940	46	( 3-1 )
3	A-A'	22	0-122	8/25/78	0942-0946	46	None
3	B-B'	22	564-1092	8/25/78	1055-1135	46-47	( 3-2 )-( 3-6 )
3	B-B'	23	092-1192	8/25/78	1137-1244	47-50	( 3-7 )-( 3-11)
3	C-C'	24	0-1060	8/25/78	1302-1514	-	None
3	C-C'	25	0-1089	8/25/78	1631-1736	50	None
3	C-C'	26	0-887	8/25/78	1740-1828	51-52	( 3-12)-( 3-15)
3	D-D'	26	887-1088	8/25/78	2054-2110	-	None
3	D-D'	27	0-1092	8/25/78	2112-2215	53-54	( 3-16)-( 3-30)
3	E-E'	28	0-575	8/25/78	2216-2254	55	( 3-31)-( 3-33)
3	F-F'	28	575-1095	8/26/78	0905-0943	-	None
3	F-F'	29	0-1098	8/26/78	0945-1054	56-57	( 3-34)-( 3-52)
2	A-A'	30	0-1066	8/26/78	1500-1610	58-61	( 2-1 )-( 2-8 )
2	B-B'	31*	0-1070	8/26/78	1614-1807	62-64	( 2-9 )-( 2-11)
2	B-B'	32	0-208	8/26/78	1809-1816	65-67	( 2-12)-( 2-14)
2	C-C'	32	560-1070	8/26/78	1912-1951	68-70	( 2-15)-( 2-20)
2	C-C'	33	0-145	8/26/78	1953-1958	71-72	( 2-21)-( 2-22)
2	D-D'	33	613-1040	8/26/78	2023-2103	72-75	( 2-23)-( 2-32)

\*Blank tape. Record button improperly engaged.

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069

Date 8/18/78

Client BLM Rep Barkaloo

Work Area Eastern Gulf of Mexico

Supervisor Bennington

Transect Location Area 9 W → E Transect ≈ 250' N of line 201 between SP 21-15

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1012				13	0	Camera off side
1015						Camera in water
1018						Depth ≈ 180'
1026					320	Bottom in view; drifting
1030					406	Begin maneuver to transect line
1056					806	Begin 1 engine
1057					818	Bottom coming in view
1058	27	1	9-1		828	Bottom coarse
1011		1	9-2		866	hole See lots of polychaets; holes close as we pass
1102		2	9-3		887	Fish swim w/camera
1104		3			900	Whole area of black polychaet holes
1104			9-4		910	Crabs & holes
1106			9-5		935	SP 10 = SP 22
1108					961	SP 9
1110		4			972	SP 8
1110			9-6		982	Mound crabs
1111		5			989	Little craters
1111					996	Crabs
1113		6			010	SP 6 = SP 18
1114					021	Algae
1114		7	9-7		023	Starfish
1114			9-8		025	Outcrop
1115	28	1	9-9		034	
1115			9-10		035	Ripple marking
			9-11			
1116		3	9-12		042	Sled
1116			9-13		046	
			9-14			



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069  
 Client BLM Rep Barkaloo Date 8/18/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 9 Moving off line W → E 250' north of line 201 and heading for line 100' south of line 201 (SP 7-0). (W → E)

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE	NOTES
	PAGE	ROW		REEL COUNTER	
				1055	
1117	28	3		13	
1118				end reel 13	Begin turn south
1121		4		14	Begin new reel
1124		5		116	B May be specific target
1126				150	Bottom appears varied w/light sand and maybe algal mat
		6			Much fewer polychaet holes. No crabs
1128		7		194	SP 0
1128				212	Tufts or patches of algae
1129	29	1	9-15	225	Fish, bottom rubble in areas
			9-16		
1129			9-17	236	SP 7
1131		3	9-17	270	Group of black holes
1131				275	SP 6
1132		4	9-18	290	Ripples
			9-19		
1132			9-20	298	Ripples
			9-21		
1134	30	2	9-22 thru 9-32	324	New type Rubble, whips, large sponges
1134		3		339	Fish
				350	Burrow
1135		4	9-33	357	Sponge & fish are less diverse again
				373	Less sand patches, still sandy
1136				380	SP 3

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOGProject 41069Client BLM Rep BarkalooDate 8/18/78Work Area Eastern Gulf of MexicoSupervisor Bennington

Transect Location Area 9 End transect W → E 100' south of line 201 come about and head E → W over same general area. Did meander from 100' south of line 201 and back

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1138	30	4		14	416	Algae matlike area again little diversity
1143					500	Turn to come about & make 1 more run E to W along same line (interest in SP 3-6
1203					800	Cut engines, down. @ SP -3 ie 3 SP beginning of transect
1205					820	Sled on bottom momentarily
1207	30	6			845	Textured area w/some dark mat
1209					876	Depression off to right
1210		7			883	Check object
1210					888	Burrow
1210					892	Burrow
1211	31	1			900	Rivelets?
1211					≈700	SP 2
1213		2			921	Bottom trough
1213					925	SP 3
1214		3	9-34		932	Textured bottom
1214					932	Fish & burrow
1215		4			945	Debris & rubble & fish
1215		5	9-35 9-36		952	Angel fish & outcrops
					961	Another area algae & rubble
1216		7			965	Outcrop w/fish
1216	32	1	9-37			
1217		3			970	SP 5
					974	Area of black tufts
1218	32	5		14	980	Ripples & tufts
					987	Ripples coarse material SP 6
					990	Ripples & sponge
1219		7			1000	Dansel fish
					017	Area again flat w/algae cover Algal cover or mat not on ripples

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Date 8/18/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 9 E → W Transect between line 201 and line 100' S of  
201 continued

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1222	33	2	9-38	14	030	Ripple mount & hole or overhang & fish ripples
1223		4			038	Overhang, group (outcrop) & small fish
1223					042	Ripples
1225		5		End reel	065	
				14		
				Begin reel	0	
				15		
1226		5				Area of algae (photo)
1227		6			034	Fish
1227					051	SP 3, crabs
					78	Turn off light
		7				50% overcast crabs en mass
1230					122	Camera out
						Stop engines
1236-30						Camera out
1240						Camera & sled on Tape and monitor off

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOGProject 41069Client BLM Rep BarkalooDate 8/17/78Work Area Eastern Gulf of MexicoSupervisor BenningtonTransect Location Area 7; Line 205; SP 10-25 and targets at SP 50

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
0950				4	795	Begin descent
1011				end 4		Camera off bottom, head to line 205
1013				start 5		Enrout to line 205
1028					364	On line headed East lower camera w/engines dead
1029					378	One engine on
1033					451	Bottom in site
1034					470	Between SP 61 & 62
1040-10					570	SP 59 Bottom came into view & fathometer shows rise. Bottom fairly barren
1042					596	
1044-30						SP 57
1045					660	Bottom in view because of lower camera
					680	
1047-30						SP 55
1049	7	1			~695	Begin pictures
1051					730	*Gorgonans
1051		2			735	*Dark tufts
1052					744	*Burrow
1053			7-1		756	*Sponge
1053			7-2		762	*Sponge
		3			770	Lots of Bioturbation & wormtubes
1055						51 & 50 coming over low rise
1057		4				Pictures 238' depth
1058		5			821	
1100					846	
1100-20		6	7-3		848	*Big fish at outcrop
			7-4			
1101-30			7-5		865	Starfish
1102		7	7-6		875	*Branching coral, fans on outcrop

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Date 8/17/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 7; Line 205; SP 60-7

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1103	8	1	7-7	884		*Sea whip & fish outcrop
1105		2	7-8	705		*Area of algae (dark)
				906		Outcrop and clumps of rubble
1106				5 924		Dark tuft scattered; not many signs of life
1108		3		940		Fish
				951		Depression
				932		Rock
1109		4		954		Fish
				957		Branching coral, fnas?
				961		Fish (benthic)
				965		Growth
			7-9	969		Sponge in depression may be due to wave action
			7-10	974		Sea urchens?
				979		On bottom medium coarse sand
1112		6		986		Thin sand over coarse sand
				994		Branching corals or algae*
1113				001		Fish moved
				005		Dump of algae?
1114		7		015		SP 41 & 40
1115	9	1		025		SP 40 Very little on bottom; scattered dark clumps; Fathometer shows no relief SP 44-40
1117		3	7-11	45		Sea robin
1117-30				End tape		Fire still shots in between
				5		
1118-30		4		6		
1120-45		6		056		Slightly off bottom
			7-12			Fathometer shows slight rise. Not detectable on camera
1123	9	6	7-13	133		Question as to what tuffs are. If they extend off bottom. Color?
1124-30		7		165		SP 35 Bring camera up slightly

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/17/78  
 Transect Location Area 7; Line 205 SP 60-7 Supervisor Bennington

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1126	10	1		260		See scattered branching coral or algae
1127		2	7-14	222		Sponge w/fish
1129			7-15	260		Branching (basket shape)
1129		3	7-16	284		" "
			7-17			See slight rise
			7-18			beginning at SP 32
			7-19			
1132		5	7-20	340		Sea urchin
1133				363		Area of little change or signs of life
1134-30		6		381		Urchin
1135				400		Raise camera slightly
1137		7	7-21	425		
1141	11	2		497		Bottom sedant shown
			7-22			Still appears medium to fine sand
1143-30		3		533		
1144						SP 25
1144-45			7-23	558		Clump off to right
1146		4	7-24	580		Fish scared off bottom
						SP 24 fathometer shows slight rise
1148-30		5	7-25	614		*Collection of branching organisms
1151		6		651		Holes closing
1155				708		Holes closing
1157		7		745		Rock or shell
			7-26			
1159				764		SP 16
1200	12	1	7-27	6 775		Diadima
1201				790		Look for lump to left
1202				805		Patch of algae & rish
1202		2		812		SP 15
1202			7-28			Scattered patchiness of
			7-29			algae. May be outcropping of hard bottom
1205		3		844		Polychaet holes
						SP 13

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/17/78  
 Supervisor Bennington  
 Transect Location Area 7; Line 205 SP 60-7

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REFL.	COUNTER	
1206				865		Shot of bottom sand Back to barren w/scattered tufts
1208		4		879		SP 12
1209				893		Burrow or depression?
1209-40				900		Scattered dark patches
1210-30		5		909		Fish
1211-30				920		Fish SP 10
1212-30		6		934		Raise continues slightly
1214			7-30	950		Patch of scattered tufts
			7-31			Increase holes & depression may give sense of coarse bottom
1216		7		983		Back in more Homogenous area
1217				989		SP 7
1218-40			7-32	005		Starfish
1219	13	1		011		Rock or shell
1220-30				23		Fish
				30		Bottom Homogenous, black spots close up
1221						SP 5
1221				36		Starfish? Scattered dark organisms? Might be sponges
1223	13	2	7-33	6	53 end	Fish
1224		3		7		
1225-30		4	7-34	25		Sponge
1225-30				26		Fish
1226				56		Hermit crab?
1226		5		60		Sponge?
				67		6 clusts of polychaete
				72		Fish
1227				85		Dark sponge
				105		Bottom homogenous Barren
1229		6		132		Fish
				137		No artificial light good visibility. Can hardly tell difference
1230				156		Sponge





## WOODWARD-CLYDE CONSULTANTS

## UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Date 8/17/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 6A; line 1 line 101 (W → E) approx 50 m S of SP 5 ie  
between 5&6. Transect line w/pts 0-10 w/6 ≈ 80 m W of line 101

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1509						Camera over side SP-3
1515				7	420	Camera decent tape on
1524	14	1			578	Bottom in site
1526					597	Fish
1526			6A-1		606	Fish
1527						Camera down, head to line
1533			6A-2		712	SP -4
1534					728	-3
1538			6A-3		775	Bottom in view SP-7 & 0
1539-40					794	Sea whip
1541			6A-4		817	SP 1
1542		2	6A-5		824	Depression
1543			6A-6			Bottom appears coarse
					833	Molusk
					834	Polychaete
					854	Bottom material not stirred by sled
1544						as much as this morning heavier, coarser
1545		3	6A-7		868	Gastroped
1546					874	Collection of tufts
1547					894	SP 5
1548		4			907	Patchy area of dark material
1549		5			910	SP 6 water may be turbid
1551-30					941	Area of dark patches
1552		6	6A-8		947	Rubble material
			6A-9			About 1 ft
			6A-10			
1553		7			957	Accumulation of rubble
1554	15	1		7	970	Large shell or part of coral
1555			6A-11		978	Outcropping of land substrate
1556		2			995	SP 9-10
1556			6A-12		003	Fish outcrop
1557			6A-13		009	Starfish
1558-30			6A-14		020	End of line
1559-30					034	Bottom slid shows coarse sediment flying up



## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/17/78  
 Supervisor Bennington  
 Transect Location Area 6A; Line 1 to Line 101; between SP Line 31 & 32  
 ( $\approx$ 50 m N of SP line 32) Run W to E

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1714	15	4	6A-15	0		Begin 9
1716			6A-16	9	48	Atop of coral
			6A-17			
			6A-18			
1716			6A-19	67		Star fish
1716						SP 5
1717		5		87		Area of thick growth
1717			6A-20	97		Irregular low relief large rubble
1717-30				119		SP 6
1719		6	6A-21	135		Outcrop w/fish, whips probably living coral
1720				164		SP 7
1721		7		190		Dark collection maybe algae
1722	16	1		206		Bottom less coarse more homogenous
1724				264		Bottom coarser? may be effect of looking down
1725		2		280		Urchin
1725-40				288		?
1726						SP 11
1728		3		342		Fish
1729						Both engines Begin turn to brin us 180° turn and rerun transect E to W Speed took camera off bottom
1714		3		616		Bottom in view
1752		4		731		Just one engine
1754				750		Alcyonarium?
1755		5		763		Fish
			6A-22	765		Urchin



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/17/78  
 Transect Location Area 6B; Line | to 101 half way between 25 & 26. Run  
E to W Supervisor Bennington

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2004				10	360	At Area 6B Camera in water; begin tape
2020	21	2				Begin maneuver to get on line Bottom in site
2025						Fathometer shows bottom coming up to 270 ft
2035- 2046						Fathometer shows two areas of relief 280-270-280-270
2050					026	Both engines out; lower camera start fires
2053						End tape 10
2054						SP-1, Bottom on screen
2054				11	000	Begin tape 11
2055					37	Mud or fine sand bottom
2056		2				w/bioturbation
					50	Fish
					54	Gorgonian
					61	Holes or depressions all over bottom
						Holes soft
2057		3	6B-1		75	Fish along side hole
2057					88	Barren bottom all along
2058					96	Gorgonian
2059		4			144	Sled into bottom, looks soft & fine
2100					159	Fish

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069

Client BLM Rep Barkaloo

Date 8/17/78

Work Area Eastern Gulf of Mexico

Supervisor Bennington

Transect Location Area 6A. Continuation of line line 101; ≈50 m North of  
and parallel to shot point line 32 running E → W

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
			6A-24	9	983	Chunks rubble whips,
18-13-30	18	4	6A-25		992	SP 3
1815	19	2	6A-26		007	Flounder
						Bottom less rubble more
						sound but still sponges
						bottom cam up w/coral
						rubble now dropping off
1816		5			019	Scattered sponges
					0	Rubble & tufts
					024	Holes
1817		7			028	Fish
1817					032	SP 1; fish, sponge
1819	20	1			61	End tape 9
1820		2	6A-27			Begin tape 10
1823					90	Camera off bottom
1833					318	Camera out of water
1835					360	Camera & sled on deck
						head for Area 6B

Greates outcrops between 7 & 5  
 Especially between 3 & 2  
 Fathometer showed rise & then quite  
 steep drop off 225 to 240

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Date 8/17/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 6B; Continuation of E → W line between 25 & 26  
Begin W → E transect along shot pt line 25

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2102				11	201	Fish
2103					229	Sponge
2103	21	5	6B-2		233	SP 3
			6B-3		235	Hermit crab?
2104					257	Big hole
2105		6			266	Crab
2105		7	6B-4		278	Fish
2106					293	Burrow (big)
						sled in bottom
2107					312	Winch blew fuse
						sled in bottom; increase
						speed to get off bottom
2107-40					328	SP 5 Out engines
2109	22	1	6B-5		368	Lots of burrow hills &
						accumulations of
						sediment
2111		2			399	Fish
2112			6B-6		410	SP 7
2116		3	6B-7		492	SP 9 out of area
			6B-8			
2119		4	6B-9		532	Squid, sea robin
2121						Prepotting, complete to
						turn 180° and come down
						SP 25 W to E
2136		Along SP 25 W → E				Begun fixes, on SP line
						25
2139					830	Bottom in site
2140		5			838	Fish
						Depth ≈ 275'
2143		6			878	SP-1 Barren muddy or
						fine sand, holes

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069

Client BLM Rep Barkaloo

Date 8/17/78

Work Area Eastern Gulf of Mexico

Supervisor Bennington

Transect Location Area 6B; Transect W → E along SP line 25. Abort after ½ way  
 Begin E → W Transect along SP line 25

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2144	22	7		11	888	Along SP 25
2146	23	1	6B-10		918	Lines of bioturbation
2148		2	6B-11		936	SP 6
2149					954	Burrow
2150		3			963	Animal jump off bottom
			6B-12			Stop fixes off course
2158					63	Coming about 180° to run E to W
2159		5		End 11		along SP line 25
2200				Begin 12		
2216					382	
2217-40			E → W		409	Fish
					417	Sled shows soft fine sediment
2219		6			429	eel?
2219-30					435	SP 0
						Seem to be eels on bottom
2220		7			455	fish, eel
2221					472	Burrow
2221-30					478	SP 1 crabs
2222	24				488	Fish
2223		2			498	Eel on bottom?
2224					515	Eel swim off bottom
2225		3			539	Sea Whip?
2225		4			545	SP 3
2227		5			571	Whip?



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Barkaloo Project 41069  
 Date 8/17/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 6B; Run line E → W | 101 and along shot point line 25

TIME	TRANSPARENCIES		SLIDE # E → W	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
						Long SP 25
2228				2	582	SP 4
2227-30					591	Mound
2228-45					595	Burrow
2229					606	Crawling on bottom
2230	24	6			625	Fish
2231		7			641	SP 6
2233					665	SP 7
2234	25	1			678	Mound - could be what showed up on side scan. Not a burrow
2237		4			722	Fish along bottom
2238		5	6B-13		731	Mound & hole mound est. up to 3 ft. across
			6B-14			1 ft. high. Most 6" to 1 ft.
2339		6			752	SP 10
2239					757	Hole
2240		7			772	Starfish
2241			6B-15		778	Fish, sea robin
2242	26	1	6B-16		785	Fish & crabs?
2243			6B-17		802	Eel may be algae just before it
			6B-18			
2243						Camera off bottom
2244					819	Camera coming up
2245						Engines killed
2258						Camera up on deck
2302						Head to Area 7 for lane count

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOGProject 41069Client BLM Rep SmithDate 8/22/78Work Area Eastern Gulf of MexicoSupervisor BenningtonTransect Location Area 4, line 114; line 1/2 between SP lines 21 & 22 and  
to line 114. SP 4 = line 114. SP 3 = West side of side scan. Time is EDT

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1231				15	365	Start recorder Are west of line 114
						Camera off side
1237	34	1			468	Lite on
1249					667	Bottom in view
						Soft, bare bottom
					737	Sea whips
1252						Fix for camera deployment
1301					831	Maneuver to beginning of transect
				End 15	1075	
1322			New tape	16	0	SP-3
1326					118	-1
1327		2			136	Bottom
1331		4			228	SP 1
1332		5			254	Sea whips
1332					262	Fish & sea whips
1333-30		6			281	SP 2
1334					289	burrows, whip & fish
1334					298	fish
1335	35	1			303	sled
1336			4-1 thru 4-6		324	SP 3
1337		3	4-7 thru 4-9		348	Outcrop
1338					364	Big Pinnacle
					366	Lot of fish; coarser sand
1339		4			393	finer sediment - holes
1340					412	SP 5
1342					441	Leaving bottom
1344-30					489	SP 7
1348						End transect turn about
1407		5			831	porpoise

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4; Line 114 On Line 32 W → E

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1411	36	1-3		16	881	Porpoises & baby Still enroute to 2nd transect area
1427				End 16	1068	
1428			New tape	17	0	
1433-30					145	SP-2
1434-30					165	Holes (bioturbation)
1435					195	Algae tuft
1435					199	SP-1
		3				Slow rise in bottom
1437					237	mud depression ski
1438		4			248	SP 0
1438					254	Holes in cluster
1438			4-10		258	
1438					262	Organisms
					270	Sea whips
1440		5			291	Urchin
1440					295	SP 1
1441					317	Whips 5/m <sup>2</sup>
1441					321	Hole
					327	Check texture
1442		6	4-11		338	Starfish
1442					346	SP 2
1443		7	4-12		359	Rise begins
1444			4-13		375	Rubble area
			4-14		387	SP 3
1445			4-15		392	Pinnacle, hard
					396	Pinnacle gouge
1445			4-16		400	Pinnacle cut engine
1446	37	1			418	Sled off bottom, bent
1448					455	Camera coming up, drift TV light out
1459					640	Camera out of water
1509					785	On board, recorder off
1510						Fix
1523						Under way to line 108
1625						Arrive line 108

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4; Line 108 Transect line 60 m W of line 108 Run  
N → S SP 59-90

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE REEL COUNTER	NOTES
	PAGE	ROW			
1651				785	Camera over side Recorder on
1656					Deployment Fix 1134 92 1928 67
1712				1037	Maneuvering to start of transect
1715				End tape 1065 17	
1718				18 0	
1741				520	Arrive on line, cut engine lower camera
1743				539	bottom
1743				547	SP 56
1745				577	Depressions & small holes Bare, turbid
1745				583	SP 57 274'
1746				594	Sand \$
1746				600	Sand \$
1747	38	1		619	SP 58
1748				631	Fish
1749		2		640	Fish, Depressions 1 ft in diameter small hills 6" high
1749-45				645	SP 59
1750				662	Humrock appearance
1751-30				675	Skid soft fine bottom
1752-15				683	SP 60
1753		3		697	Very few signs of life
1753-15				704	Sand \$
1754				714	Fish
1754-30				718	SP 61
1755			4-17	725	Sand \$
1756		4		732	Urchin
1756-45				749	SP 62 Still turbid
1758			4-18	767	Fish
1759		6		778	Fish SP 63
1759				783	Fish

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/22/78  
 Supervisor Bennington  
 Transect Location Area 4; Line 60 m W of Line 108 Run N → S SPs 56-90

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1759	38	6		18	788	Fish
1759					792	Sand \$
1801					805	Fish SP 64
1801		7			812	Fish
1801			4-19		814	Starfish
1802					818	Hermit crab
1802					830	Sand \$
1803-30					838	SP 65 Depth 280'
1804					853	Sand \$ Still fine sand looks soft Depression mounds all over
1805-30					866	SP 66 1-2 sand \$ every 100'
1807					885	Sled hit
1808	39	1			895	SP 67
1810		2			922	SP 68
1810-30					925	Fish
1811					937	Sled in sed.
1812					945	Sand \$
1812-15					949	SP 69
1814					975	SP 70
1815		3			978	Sand \$
1816-50					1000	SP 71 humrocky bottom
1817		4			005	Fish
1817-45					011	Fish & rubble
1819			4-20		025	Fish & SP 72
1819					031	Hermit
1820		5			037	Fish
1820					043	Fish & sand \$
1821					051	SP 73
1822		6		End tape	065	

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4; Line 60 m W of line 108 Running N → S SP 50-90

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1823	39	6		0		1 Organism/10 m <sup>2</sup>
				19		
1823				10		SP 74
1825				77		SP 75 ~285'
1827				112		Flounder
1828		7		135		SP 76
1830				190		SP 77
1830				200		
1831				225		
1832	40	1		244		SP 78
1834			4-21	279		Fish
1834-50				293		SP 79
1835-30				304		Burrow w/ fish
1837				342		SP 80 290
1838		3		362		Depressions
						Small pok marks, are larger & becoming more numerous
1839-30				383		Fish SP 81
1839				391		Bottom rough. Check off to left
1841		4		426		SP 82
1841				430		Linear depression
1842				441		Large holes or depression
1843		5		446		Large hole
				456		Tuft?
1843-45				466		SP 83
1846		6		505		SP 84
1847				525		Whip
1847				530		Tuft
1847-45				534		Hole
1848		7		540		SP 85
				563		Another area of increase

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4, Line 60 m W of Line 108 Running N → S SP 50-90

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1849-45				19	567	Fish
	41	1	4-22		544	Hole w/something
1850-30					578	SP 86
1852					597	Numerous projections of sediment
1852-30					613	SP 87
1853		2			619	3 holes
1854					627	Shiny fish,
1854			4-23		637	Outcrop, see bottom
1854		3			643	SP 88
1856-30					669	SP 89
1857		4	4-24		679	Coarse sed.
			4-25		684	Outcrop angel fish
1858-30		6			700	SP 90
					703	Outcrop small
1859		7	4-27		709	Alcyonoim rubble & coarse sand
1859	42	1			714	Coarse sand
1900					718	Bushes, fish & rubble
					728	Bushes, whips
1900		2			730	SP 91 300'
1901		3	4-28		737	Bushes & outcrop
1902		5			748	Fish
1902					751	Bush
1902					754	Outcrop w/algae Bottom coming up
1903					764	SP 92
1903-30		6			767	Outcrop
					779	Finer sand, pok holes, slight depressions
1905-15					794	SP 92
1906					805	Camera coming up
1908						SP 94

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4; Line 60 m E of line 104 SP 75-90 Run N → S

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1916				19	945	Light off
1920					987	Camera break surface
1923					1015	Camera on deck
2053					1018	Camera our side
2057-30			End 19	1067		monitor & recorder on Ship in Area 4, Line 104 engines dead
2100			Start 20	0		Fix
2104					113	
2110						Moving onto line
2123						On line
2123					526	SP 69
2125-45					560	SP 70
2127	43	1			580	Whip
2127-45					589	SP 71 Bottom is fine sediment. Signs of bioturbation
2128					504	Sled on bottom. Small holes & depressions small 6" mounds to give hummocky
2129					618	SP 72
2130-30					628	Sea wip
2130					632	Sand \$ ≈ 260'
2111					648	SP 73
2132		2			653	Worm holes Very few visible life forms
			4-29		673	Eel
			4-30			
2133-30					676	SP 74
2134		3	4-31		683	Eel



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4 Line 60 m E of line 104 SP 75-90 N → S

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2135				20	701	Eel
2135	43	4	4-32		706	SP 75
2137			4-33			Continued hummocky
			4-34			bottom, ie shallow
						depressed
2137					734	SP 76
2139		5			762	SP 77
2140					774	Eel
2140-50					781	Eel straight down
2140-15		6			789	SP 78
2143					816	SP 79
2143					821	Sea whip
2144	44	1			537	Sea whip & crabs
2145		2			842	SP 80
2146		3			860	Object
2147		4			868	SP 81
2147					875	Crab
2147					877	Eel-probably nite
						phenomenon
2149					892	SP 82, Whip, object off
						to left
						fine sand hard bottom
2150					912	Sled on bottom
2151		5			919	SP 83
2151-20			4-35		921	Fish & crab
2151-30		6	4-36		924	Crabs, sand \$
2152-20			4-37		933	Fishes & eels & crabs
2153					942	SP 84
2153					946	? off to right
2154		7			957	Still fine sand little
						mounds 6 x 2" small
						holes & depressions
2155	45	1			968	SP 85

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/22/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 4; Line 60 m E of line 104 SP 75-90 N → S

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2156	45	1		20	976	Sand \$
2157					991	SP 86
2157-50					001	Sea whip
2158-20					006	Tuft & fish
2159		2			015	SP 87
2201					040	SP 88
2202			end reel	20	080	
						lobster
2203		3	Begin reel	20	0	SP 89
2204-50		4		20		Fish
2205		5			061	SP 90
2205-70					070	Off to left
2206					086	Sand \$
2207		6			117	SP 91
2208-10					140	Crab
2209-00		7			140	SP 92
						Camera off bottom
2211						SP 93
2214-30						Engines cut
2228					561	Recorder off sled on deck
				frame		count 105

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/25/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 3, Line ≈ 90 m N of Line 205, W → S SP 34-32

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
				21	561	
0901					562	Camera in water
0916						Fix
0920					≈848	Bottom in view
0924	46	1			≈890	Shots of bottom
						maneuvering into wind
0928					942	" " "
0933					003	into wind, slower speed
2937		2			048	Bottom in view
					075	At lead out
0939		3	3-1			Line, still testing drift
0940		4	End 21		087	
0942		5	Start 22		000	
0943-45		6			052	Sled on bottom
						sed soft fine 6"
						diameter depressions
0946					122	Camera coming off bottom
1007-30					561	Sled on deck for
						compressor plate
1055					564	Tape on camera in water,
						drifting onto target
1101					640	Light on
						Camera lowering
1103					669	345'
1104					681	Fix
1107					725	Lowering
1110					767	"
1113					809	"



## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069  
 Client BLM Rep Smith Date 8/25/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 3, Drift NS - SW  $\approx$  210<sup>0</sup> over line 205 between SP 32-34

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
				23	385	Algae w/growth
1149	48	5			388	Drifting again
1150					406	
1150-35		6			411	Holes
1151					426	Crab
1151-35					438	Crab
1152		7			447	
1152-50	49	1			463	Fish in burrow
1153					467	
1153-30			3-9		474	Fish in burrow
1155-30		2			514	Fish " "
					518	Hole
1156-50					536	? organism
1159					579	Continued hummcky very few organisms fine sand
1200-45		3			607	Starfish
1200-55					160	Fish
1201-45					624	Sled hitting bottom
1202-45					641	Large hole & mound
1203-15		5			649	Whip
					650	crab
1205	Actual interest pt				677	Starfish
1207					708	360'
1207-5		7	3-10		713	Pour of fish and mounds
1207-45					720	Whip
1207-45	50	1			721	Big mound
1209-10					743	Bottle?
1210-15					762	Big hole to right
1210-35					766	Big hole to left
1211		2			771	Whip
1211-30		2			780	Mound 10-12"

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/25/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 3, Drift NE → SW ≈ 210° over line 205 between SP 32-34

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1115				22	837	Lowering camera
1120	46	7			902	" "
1120-30					908	Bottom in view
					912	Soft hummocky bottom, fine sediment, little holes, 6" - 12" depres- sions visibility 3-5"
1122	47	1			927	
1122-30			3-2		933	Fish stays in hole
			3-3			
1125-30					968	Fish in burrow, 12"
1127		2			987	Large hole
1129			3-4		1014	Fish in hole
			3-5			
1130		3			1025	Fix
1130-50		4			1035	Fish in hole
1134					1073	Cloud of sed from sled
			3-6		1079	Starfish
1135		5	End	22	1092	
			3-7			
1137-45		6	Begin	23	92	
1139					136	
1139-30		7			148	Crab
						Bottom shell hummocky w/ depressions & mounds
1139-45	48	1			162	Starfish
1142					221	
1142-15					223	Fish
1143-15		2			250	Whip some mounds w/holes others w/out
1145-35		3	3-8		307	Fish
1147		4			340	Depression w/shell
1148					361	Whip

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069  
 Client BLM Rep Smith Date 8/25/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 3; Line 50 N and across S.P. 66 of line 103, W → E

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1424				24		Arrive site
1432					479	Camera over side
1434						fix
1434						Cable out of shive, stock
1450						okay, lower
1452						out of shive again
						change shiv
1514					60	On board
1514				End 24		Parplotting course
1530						Underway for line 103 SP 66
1630						Arrive, camera over
1631						fix
1631				Begin 25		Tape on, light
1634					090	Camera lowering
1654	50	7			512	Bottom in view
1656					549	Begin maneuvering
1736				End 25	1089	Maneuvering
1740	51	1		Begin 26	0	lose station signal
1743					84	Bottom
1744-30		2	3-12		126	Craters - mound about 6"
1745					146	Mound or outcrop
1746		3			177	Whip, soft sand, fine 3-5' visibility
1749		4			231	sled shows hermit
1751					297	Hidden burrow
1752					306	Whip
1752-30						hermit crab

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/25/78  
 Transect Location Area 3, Line 50 N Supervisor Bennington

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1753				26	336	355' depth
1756		5			378	Fish in burrow Δ to starbord engine
1756-50			3-13		398	Mound
1759		6			444	Whip
1800					472	Fish
1801		7			484	Whip
1802-30		1			499	Whip
1803-45			3-14		520	Mounds & hole
1804-30					535	Fish
1805		2	3-15		543	Lots of 6" craters
1807-10		3			579	Big holes
1809					592	Hummocky appearance
		4				
1811					642	Camera off bottom
1828						Camera on board
					887	Tape off



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/25/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 3 W → E Parallel and ½ way between shot lines 37 & 38  
across line 108

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2054				26	887	Light on, recorder on
2056						Camera in water
					913	Fix
2059					950	Lowering
2103					1000	" 230' water
2109						Begin maneuvering
2110-40				End 26	88	
2112				Begin 27	0	Maneuvering
2117					137	234'
2123					281	Maneuvering
2132					460	
2146					687	Slowing
2147					704	SP-3 245'
2150					746	Lowering
2151-45					767	Bottom
2152	53	1			775	Sled hit bottom
						Coarse sand, harder
2153			3-16		786	Squid & Ink
					794	Eel swims to camera
2154			3-17		802	Crinoid
2154-45		2	3-18		808	SP 1
2156			3-19		832	Hit pinnacle
			thru			
			3-24			
2157		4	3-25		848	Higher pinnacle SP 3
2159					872	Lowering again
2200		5	3-26		882	Algae?
2201		6			894	
2201-30					900	Coarse sand, sled
2204			3-27		934	Rise?

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/25/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 3 W → E parrallel & ½ way between SP 37-38 accross line 108

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2206				27	956	Reef
2207	53	7			969	Begin move to
			3-28			line 106
			3-29			Bring camera off bottom
2209			3-30		993	Moving north
2211					1018	" "
2214					052	Speed tape to Δ
2215			End	27	1092	

WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/25/78  
 Supervisor Bennington  
 Transect Location Area 3 W → E parallel & ½ way between SP 35 & 36 1 106

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2216-30	55	1		Begin 28	0	
2218			3-31		51	Rise or outcrop
2218-20		3			59	Outcrop
2219		4	3-32		80	
			3-33		100	
2220					103	Rise
					115	Off bottom
2222					160	Δ course to run so cable off to Fathometer not in sync w/TV camera
2223		5			185	Outcrop below
					215	Fathometer shows rise (fix)
2224-30						Bring up = Area of Interest
2226					258	Depth 255 ft to 075°
2228					300	Current is very strong was difficult maintaining W → E. That is what is pulling our sled off to side.
2229					320	Running at 2 engines
2229-45					335	60 to 050°
2230-45					345	Cut both engines
2232					378	Camera coming up
2242					563	Lite out
2243					575	Video tape off
						Camera on board Head to platform

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/26/78  
 Supervisor Bennington  
 Transect Location Area 3; Line 112, SP 97-100

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
0905				28		Camera over side
0907					579	Tape on, lowering camera
0916					740	Lowering dub info
0922					788	Begin maneuvering to start
0927					853	≈ area of pinnacles
0933						At area
0935					1000	Slowing
0943					1052	Speed tape to end to Δ
			End	28		
0945			Begin	29	0	Heading to begin draft
0947					75	Camera of 250' enroute to start. Pinnacles on fathometer
0958					332	Trying to stop at southern end of transit 365'
1000					395	Cut engines, drifting N. Camera ≈ 250' bottom 365' waiting for fathometer to indicate pinnacle area
1004					440	Minute fixes
1008						Camera down to 300'
1013	56	1			594	Drifting
1017					660	Going down a bit Bottom 355'
1020		2			700	Bottom
1020-50		3			712	Coarse sand
1021		4			718	Hole w/ white thing
1021-30					724	Sed. kicked up
1022-30					737	Coming off bottom, expecting pinnacles to be coming up



## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOGProject 41069Client BLM Rep SmithDate 8/26/78Work Area Eastern Gulf of MexicoSupervisor BenningtonTransect Location Area 2; Line 101, SP 67 Run W → E

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1500				30	0	Camera over, light on
1516					258	Camera at bottom
1518					300	Maneuvering to start
1524					417	" "
1532					541	" "
1537-15					635	Slow down, lower sled
1537-50					647	SP-3
1540	58	2				
1541		3			695	SP 0 bottom
1541-45					700	Sled on bottom
1542-10		4			707	
			2-1			Visibility 5-6 ft.
1543		5	2-2		721	
1544		6			736	
1544-30					742	Sand dollar fine sand, slight bioturbation
1545-10		7			750	
1547		1	2-3		778	Flounder
1548		3			788	Fish in burrow Bottom ≈ 240' flat
1549		4			804	
1549-40					810	Tufts
1550			2-4		821	Shell fragments
					833	Depression w/crustacion
1551-40		5			836	Hole. Black tufts or blades common 3/m <sup>2</sup>
1552-50		6			835	Sand \$
1553					865	SP 3, fish, depression
1554		7			869	
					877	Sand \$ 1/10 ft.
1555		1			880	



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/26/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 2; Line 101 SP line 52 E → W

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1707				31	112	Camera over, fix Start recorder
1722						Camera @ 200', begin maneuvering, 2 engines
1733					618	
1742					750	
1745					799	Lowering camera to bottom
1748	62	1			829	235'
1748						Begin 1 min fixes
1748-30						See bottom
1749-45					845	Short whips, or pens
1750		2			854	Sled in sed. visibility 5'-6'
1751-30	63	1			874	Sand \$ Sand fine to med. Occasional 6" depression Small holes 2' 40/m <sup>2</sup>
		2				
1753-45		3			901	?
1754					906	
1754-30					912	lft depression, coarser
1755					917	Fish
1756					931	Very poor visibility
1757		5			944	
1757-30					950	Lift camera off a bit
1759		6			967	Lowered a bit, cannot see skid even
1759		7	2-9		974	2 squids
1800-30	64	1			985	SP 4, visibility better
1802-10		3			054	Hit bottom
1803			2-10		"	Starfish SP 3
1804		5	2-11		026	Gentle rise, no difference



WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Work Area Eastern Gulf of Mexico Date 8/26/78  
 Supervisor Bennington  
 Transect Location Area 2; Line 101 SP line 52 E → W

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1804-30				32		Hit bottom, coarser sed.
1805	64	6		40		Flounder
1805-50				45		Passed SP 2
1806-30		7		53		Groove in sed
1807	65	2		59		
1807-30				64		SP 1
		3		END 31	70	
1809		4		BEGIN 32	0	
1810-20		5			44	Fish
1811		7	2-12	60		Outcrop 236-238
1812	66	4	2-13	91		Sled hit bottom
1813		5		119		Still gradual rise
			2-14			in bottom; anemone
1814		6		150		SP-2
1816	67	1		194		
1816-30				208		Off bottom, Tow boat cutting across our bow
1825						Bring sled up
1834				556		Camera on deck
						Tape off
18738						Buoy out; head for line 102, SP 10
						Too much shooting w/no guide, skip SP 31 line 101 & use xerox side scan of Line 102, SP 10

## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Project 41069  
 Client BIM Rep Smith Date 8/26/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 2, Line 102, SP 10 W → E

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
1912				560		Camera over,
				32		tape on, light on
1923				708		Begin Maneuver to start
						of line
1931				818		Arrive; lower camera to
						bottom
1932	68	2		830		See bottom
			2-15			Starfish
1932		3		839		Fish
1935		5		871		
1937	69	1		897		SP 1 sled
1938		2		915		
1939		3	2-16	920		Soft, fine-coarse sed
1940		5		934		
1943		7	2-17	968		Hit bottom SP 3
1945	70	2	2-18	992		Depth 180'
1945				995		Ash
1945				008		Fish
1947-30				020		Shell
1948		4		028		
1950		6		050		Fish
1950			2-19	067		Whip
1951	71	1	2-20	END 32	070	
			2-21			
1953		6	BEGIN	33	000	
1955			2-22		045	Off
1958	72	1			145	Camera unit secured at
						150' of cable (1st hose
						clamp)
2008					350	Dub planned transect



## WOODWARD-CLYDE CONSULTANTS

UNDERWATER TELEVISION AND CAMERA LOG

Client BLM Rep Smith Project 41069  
 Date 8/26/78  
 Work Area Eastern Gulf of Mexico Supervisor Bennington  
 Transect Location Area 2; Line 102 Across SP 11-9

TIME	TRANSPARENCIES		SLIDE #	VIDEO TAPE		NOTES
	PAGE	ROW		REEL	COUNTER	
2023	72			33	613	Headed N
2024		2	2-23			Lower camera to bottom
					630	Begin, fixes
2024					638	Bottom in view
2027		5			680	SP 0, Sled shot
2027-50					685	Swimming affloat
2028-30		7			694	Shell fragments
2028-45					699	Fish
2029	73	1			702	Starfish
2029-50					714	Whiteshell?
2030		2			718	
2030-40						SP 1, cut engines drift
2031					742	
					744	Small school
2032		4	2-24		753	Skid in sed.; fish
2033		6	2-25		761	
2033-30		7			764	Fishes
2034	74	1			772	Hit bottom, seems hard coarse
					775	Flounder
2035			2-26		780	
2035-45		2			796	SP 9 Visibility 5-6 ft
2038					828	
2039		3			864	Fish over bottom, SP 8
			2-27		892	Fish, bottom going down
			2-28;		914	Coming up lot of fish
			2-29			in depression
			2-30			
						Wide depression





### **The Department of the Interior Mission**

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



### **The Minerals Management Service Mission**

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.