RIGHT-OF-WAY  
MICROFICHE
In Reply Refer To: MS 5232

Mr. C. J. Looke, III
Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299

Dear Mr. Looke:

Pursuant to the authority granted by 43 U.S.C. 1334(e) and 30 CFR 250.1000(b) and (d), your application dated August 4, amended by your supplements of August 17 and 28, September 22, November 2 and 6, 2000, for a pipeline right-of-way two-hundred feet (200) in width and 12.35 miles in length, is hereby approved, as proposed.

This right-of-way is approved for the installation, operation and maintenance of a 6 5/8-inch pipeline with an attached 1 11/20-inch umbilical to transport bulk gas from Walter Oil & Gas Corporation's Subsea Well No. 1 in Block 68, Lease OCS-G 15464, across Blocks 67, 66, 65, and 64, to Taylor Energy Company's Platform "A" in Block 20, Lease OCS-G 4935, all being located in the Mississippi Canyon Area.

This approval is subject to the following condition:

Due to the proximity of your proposed operations to shore, please be advised that you will be prepared to implement, within 15 hours of an oil spill, the appropriate shoreline protection methodology identified or referenced in your Oil Spill Response Plan which covers the proposed operations to protect marine and shoreline resources and areas of special economic or environmental importance that could potentially be impacted.

Your request to use navigational positioning equipment to comply with Notice to Lessees and Operators No. 98-20, Section IV.B, is hereby approved.

Also, your request to set the PSH 1 5% above the highest recorded shut-in tubing pressure of Subsea Well No. 1 but not to exceed the maximum allowable operating pressure of the pipeline, is hereby approved.

Based on our analysis of your application, the maximum allowable operating pressure for this pipeline will be 4,883 psig.

Please be reminded that in accordance with 30 CFR 250.1008(a) you must notify the Regional Supervisor at least 48 hours prior to commencing the installation or relocation of a pipeline or conducting a pressure test on the pipeline. Also, in accordance with 30 CFR 250.1008(b) you must submit a report to the Regional Supervisor within 90 days after completion of any pipeline construction.

This pipeline has been assigned Right-of-Way OCS-G 22119, Segment No. 12712.

Sincerely,

(Org.Sgd.) J. R. Hennessey
Donald C. Howard
Regional Supervisor
Field Operations

bcc: 1502-01 Segment No. 12712, ROW OCS-G 22119 (MS 5232)
LS 1502-01 ROW OCS-G 22119 (Microfilm) (MS 5033)
MS 5250 w/flow schematic
MS 5232 Carto

MBarton:amm:11/7/00:Walter Oil 712
United States Government
Memorandum

Thursday, August 31, 2000

To: Chief, Pipeline Section, Field Operations, GOM OCS Region (MS 5232)
From: Chief, Project Management Section, Leasing and Environment, GOM OCS Region (MS 5232)
Subject: Categorical Exclusion Review for P-12712 in MC 68 to MC 20

Ref:
(a) 516 DM 2.3 A
(b) 516 DM 2 Appendix 2
(c) 516 DM 6 Appendix 10
(d) Policy and Guidelines for Categorical Exclusion Reviews (CER) and Environmental Assessments (EA), February 14, 1997

The proposed action is categorically excluded with no further environmental analysis needed as none of the exception criteria in the above references (a) through (d) were met.

Advisories or reminders associated with this proposal are attached.

Terry L. Scholten

Attachments
cc: 102-01a ENV 5-4b (MS 5440)
    Lease OCS-G 15464, 04935 POD File(s) (MS 5032)
    T. Broussard
Operator Name: Walter Oil & Gas Corporation
Control No. P-12712
Type of Plan: ROW PL - 22119
OCS-G No. 15464, 04935
Description of Action: 6 5/8" BG ROW PL w/ Attached Umbilical
Area/Block: MC 68 to MC 20
Shore Base: Venice, LA
Rig Type: Dynamically Positioned Lay Vessel
Distance from Shore: 11 Miles
Water Depth: 480 - 1,330 Feet

I. Preliminary Determination by Unit Supervisor

A. Categorical Exclusion, no analysis required:

B. Categorical Exclusion, analysis required:
   _ T. Scholten  __  8/24/2000

C. Environmental Assessment, Exception Criteria
   None

II. Secondary Determination by Analyst

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<th>Air Quality</th>
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<th>Biology</th>
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<tr>
<td>Name</td>
<td>T. Marse</td>
<td>N/A</td>
<td>D. Moran</td>
<td>T. Broussard</td>
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FO Engineer: M. Barton
NEPA Coordinator: T. Broussard
NEPA Due Date: 9/5/2000
CER Final Date: 8/31/2000

Extension: 2555
Extension: 3245

Surface Location / Notes:
6 5/8" BG ROW PL w/ Attached Umbilical from Sub Sea Well 1 (MC68), through Mississippi Canyon Blocks 67, 66, 65, & 64, to Platform A (MC20).
To: Leasing Activities Section, Adjudication Unit (MS 5421)

From: Petroleum Engineer, Pipeline Unit, Office of Field Operations, Gulf of Mexico OCS Region (MS 5232)

Subject: Adjudication of Application for New Pipeline Right-of-Way

Right-of-Way Number: OCS-G 22119
Applicant: Walter Oil & Gas Corporation
Right-of-Way Length: 12.34 Miles

The subject application is attached for your adjudication. Any questions should be addressed to the undersigned. The pipeline proposed in this application is described as follows:

A 6 5/8-inch pipeline with an attached umbilical to transport bulk Gas from Walter's subsea Well No. 1 in Block 68, Lease OCS-G 15464, across Blocks 67, 66, 65, and 64, to Taylor Energy Company's Platform "A" in Block 20, Lease OCS-G 04935, all being located in the Mississippi Canyon Area.

Michael Barton

Attachment

Application dated August 4, 2000 (received August 7, 2000)

Please verify the following company qualifications:

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<th>Corporation (qualified)</th>
<th>Yes</th>
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<td>On File (N.O Misc. # 00730)</td>
<td>Yes</td>
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<td>Authority of person signing Application</td>
<td>Yes</td>
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<tr>
<td>$300,000 Right-of-Way Grant Bond</td>
<td>Yes</td>
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Initials , Date 8/30/2000
November 6, 2000

Mr. Donald C. Howard  
Regional Supervisor  
Office of Field Operations  
U. S. Department of the Interior  
Minerals Management Service  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton  
Pipeline Unit

Re: Corps of Engineers Permit  
Right-of-Way Pipeline To Be Installed In and/or Through Blocks 68, 67, 66, 65, 64, and 20 in the Mississippi Canyon Area  
Segment No. 12712

Gentlemen:

Please find enclosed a copy of the approved Corps of Engineers Permit for the referenced pipeline to be installed by Walter Oil & Gas Corporation.

If you have any questions, please contact the undersigned at (713) 659-1222.

Very truly yours,

WALTER OIL & GAS CORPORATION

[Signature]

Judy Archer  
Regulatory/Environmental Coordinator

en enclosure
Operations Division  
Eastern Evaluation Section  

SUBJECT: EE-20-000-3978

Walter Oil and Gas Corporation  
1100 Louisiana, Suite 200  
Houston, Texas 77002-5299

Gentlemen:

Enclosed is a permit dated this date, subject as above, authorizing work under the Department of the Army permit program.

You are again reminded that any work not in accordance with the approved plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

Your attention is directed to all the terms and conditions of the approval. In order to have the work approved in accordance with the issued permit, all terms and conditions of the permit and plans shown on the drawings attached thereto must be rigidly adhered to.

It is necessary that you notify the District Engineer, Attention: Eastern Evaluation Section, in writing, prior to commencement of work and also upon its completion. The notification must include the permittee’s name, as shown on the permit, and the permit number. Please note the expiration date on the permit. Should the project not be completed by that date, you may request a permit time extension. Such requests must be received before, but no sooner than six months before, the permit expiration date and must show the work completed and the reason the project was not finished within the time period granted by the permit.

A copy of Page 1 of the permit (ENG Form 1721) must be conspicuously displayed at the project site. Also, you must keep a copy of the signed permit at the project site until the work is completed.

Sincerely,

Ronald J. Ventola  
Chief, Regulatory Branch

Enclosure
DEPARTMENT OF THE ARMY PERMIT

Permittee: Walter Oil and Gas Corporation

Permit No. EE-20-000-3978

Issuing Office: New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Install and maintain a 6.625-inch diameter bulk gas transport pipeline from Subsea Well No. 1 in Block 68, across Blocks 67, 66, 65 and 64, and terminating at Taylor Energy Company's Platform "A" in Block 20, crossing the South Pass to Sea safety fairway in Blocks 20, 21, 64 and 65, in accordance with drawings attached in six sheets, dated 31 July 2000.

Project Location: In Plaquemines Parish, Louisiana, Offshore in OCS Federal Waters, in the Mississippi Canyon Area.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on NOVEMBER 30, 2005. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: Page 4.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
( ) Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.
e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

\[ \text{[Signature]} \quad \text{DATE:} \quad 11-2-00 \]

(_PERMITTEE)  

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

\[ \text{Ronald J. Ventola} \quad \text{DATE:} \quad 3 Nov 2000 \]

Ronald J. Ventola, Chief, Regulatory Branch  

for Thomas F. Julich, District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\[ \text{[Signature]} \quad \text{DATE} \]

-3-
7. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

8. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

9. You must install and maintain, at your expense, any safety lights, signs, and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on your authorized facilities.

If you have any questions, you may contact the Private Aids to Navigation Section of the U.S. Coast Guard, (504) 589-2238.

10. If the proposed project, or future maintenance work involves the use of floating construction equipment in the waterway (pipe-laying vessels, etc.), you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification, with a copy of your permit approval and drawings, should be mailed to the Commander, Eighth Coast Guard District, ATTN: Vessel Traffic Management Branch, 501 Magazine Street, New Orleans, Louisiana 70130-3396, about 1 month before you plan to start work. Telephone inquiries can be directed to (504) 589-4686.

11. The National Ocean Service has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Within 30 days of completion of the pipeline, 'as built' drawings certified by a professional engineer registered in Louisiana or by a registered surveyor shall be furnished to this office, the Commander (m), Eighth Coast Guard District, ATTN: Vessel Traffic Management Branch, 501 Magazine Street, New Orleans, Louisiana 70130-3396, and to the Director, National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Springs, Maryland 20910-3282. The plans must include the location, configuration and actual burial depth of the configuration and actual burial depth of the completed pipeline project.
TOTAL LENGTH = 65,182' = 12.34 statute miles

PROPOSED 6" BULK GAS P/L ROUTE

MC66
OCS-G-16588

MC65
OCS-G-05824

398+20.57' BLOCKLINE CROSSING
X= 1,029,600.00'
Y= 10,494,061.32'
Lat= 28°54'11.875"N
Lon= 88°54'34.094"W

PROPOSED 6" BULK GAS PIPELINE ROUTE

BLOCK 68 to BLOCK 20
MISSISSIPPI CANYON AREA

DATE: 07/31/2000  TIME: 13:17  FILENAME: J:\1356\FERMNT\PRM1356.DWG

WALTER OIL & GAS CORPORATION
1100 Louisiana, Suite 200 - Houston, Texas 77002-5299

C&C Technologies
SURVEY SERVICES
3613 TEXAS 410 ROAD
Yates, TX 77494-9546

JOB No.: 1356  REVISED:  DATE: 07/31/00
FILENAME: PRM1356.DWG

SHEET 4 of 6
PROPOSED 6" BULK GAS P/L ROUTE

MC21
OCS-G-15459

MC20
OCS-G-04835

MC64
OCS-G-15463

MC65
OCS-G-05824

TOTAL LENGTH = 65,182' = 12.34 statute miles

PROPOSED 6" BULK GAS P/L ROUTE

WALTER OIL & GAS CORPORATION
1100 Louisiana, Suite 200 – Houston, Texas 77002-5239

DATE: 07/31/2000  TIME: 13:17  FILENAME: \A\1356\FERMIT\PRM1356.DWG

PROPOSED 6" BULK GAS PIPELINE ROUTE
BLOCK 68 to BLOCK 20
MISSISSIPPI CANYON AREA

C&C Technologies
SURVEY SERVICES
370 C H AUTO SELLING INC CYPRESS, TX 77433

JOB No.: 1356  REVISIONS:  FILENAME: PRM1356.DWG

DATE: 07/31/00  SHEET 6 of 6
November 2, 2000

TO: Michael Barton

FAX NO.: 504/736-2408

MC 68 P/L ...it
SUBJECT: Segment No.: 12712

PAGES: 1

BEST AVAILABLE COPY

COMMENT:

IF YOU HAVE ANY PROBLEMS RECEIVING THIS TRANSACTION PLEASE CALL JUDY ARCHER (713) 659-1222

From the desk of:
Judy Archer
Regulatory/Environmental Coordinator
Water Oil & Gas Corporation
1100 Louisiana Street, Suite 200
Houston, Texas 77002-5259
(713) 659-1222
Engineering Dept. FAX (713) 756-1153
e-mail address: archer@water-oil.com
EXHIBIT "A"
(CONTINUED)

PIPELINE SUMMARY

1. **Line Pipe Specifications:**
   - **O.D.** 6.625"  
   - **W.T.** .432  
   - **Grade** API 5L  
   - **Length** 65,182'  
   - **MAOP** 4883

2. **Riser Pipe Specifications:**
   - **O.D.** 6.625"  
   - **W.T.** .625  
   - **Grade** API 5L  
   - **Length** +/-500'  
   - **MAOP** 4883

3. **Subsea Tie-In Pipe Specifications:**
   - **O.D.** 6.625"  
   - **W.T.** .432  
   - **Grade** API 5L  
   - **Length** +/-30'  
   - **MAOP** 4883

4. **External Coating:**
   - **Line Pipe:**
     - 12-14 mils Thin Film Epoxy
   - **Riser Pipe:**
     - 1/2" Rubber External @ Splash Zone
   - **Subsea Tie-In Assembly:**
     - 12-14 mils Thin Film Epoxy

5. **Cathodic Protection:**
   - 33# Galvalum III or equal tapered semi-cylindrical bracelet anodes every 500 feet.

6. **Name of Product:**
   - **Bulk Gas**
     - **Specific gravity of the natural gas will be** .58 to .60

7. **Class Location:**
   - **Class I**

8. **Governing Code:**
   - Subpart J, Part 250.1000 through 250.1008, Title 30 of the Code of Federal Regulations.

(5)
November 2, 2000

TO: Michael Barton

FAX NO.: 504/736-2408

MC 68 P/L G&G Permit

SUBJECT: Segment No.: 12712

PAGES: 1

COMMENT:

IF YOU HAVE ANY PROBLEMS RECEIVING THIS TRANSACTION PLEASE CALL JUDY ARCHER (713) 659-1222

From the desk of:
Judy Archer
Regulatory/Environmental Coordinator
Water Oil & Gas Corporation
1100 Louisiana Street, Suite 200
Houston, Texas 77002-5269

(713) 659-1222
Engineering Dept. Fax: (713) 756-1155
E-mail address: archerj@walteroil.com
EXHIBIT "A"
GENERAL INFORMATION AND CALCULATIONS

1. The water depth along the proposed pipeline route and in relationship to the natural bottom is (-) 1330' MSL in Block 68 at Walter Oil & Gas Corporation's (Walter) existing Subsea Well No. 1, and (-) 480' MSL at Taylor Energy Company's existing Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana.

2. The description of the pipeline and coating is as follows:
   a. Riser Pipe: 6.625" O.D. x .625" W.T. API 5L Grade X-52 pipe. Bare weight = 40.03# per foot. Coated with .5" spalshtron from the (+)10' to (-)10' elevation. Welded joints will be protected with heat shrinkable pipe sleeves.
   b. Line Pipe: 6.625" O.D. x .432" W.T. API 5L Grade X-52 pipe. Bare weight = 28.57# per foot. Coated with 12 to 14 mls of Scotchkote 206N fusion bonded epoxy. Specific gravity in seawater (empty) = 1.86. Welded joints will be protected with heat shrinkable sleeves.
   c. Subsea Tie-In: 6.625" O.D. x .432 W.T. API 5L Grade X-52. Bare weight = 28.57# per foot. Coated with 12-14 mls of Scotchkote 206N fusion bonded epoxy. Specific gravity in seawater (empty) = 1.86.
   d. Internal Coating: The analysis of transported products will be monitored and preventative measures will be employed as necessary.

3. The proposed pipeline is approximately 65,182-feet (12.34 miles) in length. This does not include the +/-500' of riser piping on the platform. The pipeline will transport natural gas and water.

4. Valves and Flanges: Above and below water valves and flanges will be API 5000# or greater. Working pressure of the valves and flanges is 5000 psi.

5. The design of the proposed pipeline is in accordance with the "Minimum Federal Safety Standards", (Department of the Interior), Title 30, CFR Part 250.1000 through 250.1008, Subpart J.

6. The cathodic protection system for the pipeline will use Galvalum III or Equal tapered semi-cylindrical bracelet anodes. Calculations are as follows:
   a. Anticipated line life is 20 years.
   b. Assumed maximum of 2% bare pipe.
   c. Current 5 MA/Sq. Ft.
   d. 7.62#/Amp. Yr.

(1)
November 2, 2000

TO: Michael Barton

FAX NO.: 504/736-2408

MC 68 P/L CCE Permit Wall test

SUBJECT: Segment No.: 12712

PAGES: 2

COMMENT:

IF YOU HAVE ANY PROBLEMS RECEIVING THIS TRANSACTION
PLEASE CALL JUDY ARCHER (713) 659-1222
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**COFFEL** BRUCE PERSONS  
**READ** MR. W. S. SMITH  
**REMARKS** HOLD SAFETY MEETING BEFORE OPENING WELL.
| TIME (H) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Q (SCF) | 123 | 375 | 80 | 50 | 1236 | 20 | 1248 | 20 | 1250 | 20 | 1252 | 20 | 1254 | 20 | 1256 | 20 | 1258 | 20 | 1260 |
| C (Cu) | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 510 | 540 |
| T (F) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| P (PSI) | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 | 9000 |
| OAS (SCF/MMH) | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 510 | 540 |
| OAS (MMH) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| OAS (MMH) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| OAS (MMH) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| OAS (MMH) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |

**REMARKS:**

Schlumberger pressure recorded on rig floor.

Well testing recorded at manifold on floor is down stream.
# LAFAYETTE WELL TESTING, INC.

## PORTABLE WELL TESTING EQUIPMENT

<table>
<thead>
<tr>
<th>Company</th>
<th>WALTER OIL &amp; GAS</th>
</tr>
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<tbody>
<tr>
<td>Lease</td>
<td>DGS 5 1544</td>
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### Specific Gravity | 0.80 | Prepare Rate | 14.750

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<th>Time</th>
<th>Wellhead</th>
<th>Variable</th>
<th>High-Pressure Operator</th>
<th>Gas Calculations</th>
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### Remarks:
- **SCHLUMBERGER Pressures Are Recorded on 3rd Floor**
- **Total Testing Pressures Are 40 Downstream at 600 psi**

---

**CO. #1:** BRUCE PERSONS

**CO. #2:** JAMES SMITH, ROBERT SPOONER

**Supervisor:** ROBERT SPOONER

**Date:** [Date]
September 22, 2000

Mr. Donald C. Howard
Regional Supervisor
Office of Field Operations
U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton

Re: Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM
Segment No.: 12712

Gentlemen:

Per our telephone conversation on September 13, 2000 requesting additional information that is needed to complete your review of Walter Oil & Gas Corporation’s above referenced pipeline application is as follows:

1. Worst case discharge calculations:
   0 - well is dry gas only

2. Statement that the end of the mats will be jetted below the mudline or revise the pipeline crossing detail schematic as such:
   The edges of the concrete mats at the pipeline crossing in Mississippi Canyon Block 20 will not be jetted down as the crossing is in approximately 525’ of water. Also, enclosed is a drawing depicting the tie-in spool piece from the pipeline to the subsea tree. Please note that on Page 5 of Exhibit "A" of the pipeline permit application, No. 3 should read "Subsea Tie-In Pipe Specifications" not Riser Pipe Specification".
Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM
Segment No.: 12712

Page Two

3. Should Pages 1 and 3 of Exhibit "A" be revised to delete Subsea Tie-In?
   No, the Subsea Tie-In should be made a part of this application. Page No. 3 is being revised
   as stated in Item No. 2 above.

4. Is the W.T of the riser pipe, .625" or .432"?
   .625", see Item No. 2 above

5. Statement indicating the Designated Operator of the pipeline
   Walter Oil & Gas Corporation is the designated operator of the pipeline.

6. Copy of no objection letters and/or green return receipt cards
   Attached

7. COE Permit?
   COE permit sent to CZM on September 21, 2000 for their review. CZM has dated the
   permit for October 3, 2000 and indicate that is the date for the permit to go out for the 20-
   day public notice.

Should you have any additional questions or need additional information, please advise.

Very truly yours,
WALTER OIL & GAS CORPORATION

Judy Archer
Regulatory/Environmental Coordinator

enclosures
**PIPELINE SUMMARY**

1. **Line Pipe Specifications:**
   - O.D.: 6.625"
   - W.T.: .280
   - Grade: API 5L
   - Length: 27,654'
   - MAOP: 2220

2. **Riser Pipe Specifications:**
   - O.D.: 6.625"
   - W.T.: .432
   - Grade: API 5L
   - Length: +/-350'
   - MAOP: 2220

3. **Subsea Tie-In Pipe Specifications:**
   - O.D.: 6.625"
   - W.T.: .432
   - Grade: API 5L
   - Length: +/-10'
   - MAOP: 2220

4. **External Coating:**
   - **Line Pipe:**
     - 12-14 mils Thin Film Epoxy
   - **Riser Pipe:**
     - 1/2" Rubber External @ Splash Zone
   - **Subsea Tie-In Assembly:**
     - 12-14 mils Thin Film Epoxy

5. **Cathodic Protection:**
   - 33# Galvalum III or equal tapered semi-cylindrical bracelet anodes every 500 feet.

6. **Name of Product:**
   - Bulk Gas
   - **Specific gravity of the natural gas will be .58 to .60**

7. **Class Location:**
   - Class I

8. ** Governing Code:**
   - Subpart J, Part 250.1000 through 250.1008, Title 30 of the Code of Federal Regulations.
September 22, 2000

Mr. Donald C. Howard
Regional Supervisor
Office of Field Operations
U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton

Re: Application for 6.625" Bulk Gas Right-of-Way Pipeline
To Be Installed In and/or Blocks 68, 67, 66, 65, 64 and 20
Mississippi Canyon Area, Offshore, Louisiana
OCS Federal Waters, Gulf of Mexico
Segment No.: 12712

Gentlemen:

Reference is made to the above referenced application dated August 4, 2000 concerning Walter Oil & Gas Corporation's proposal to install a right-of-way pipeline as described above.

In accordance with guidelines applicable to the right-of-way application, enclosed please find the following information:

3. Copy of Letter of No Objection dated August 14, 2000 and copy of Green Return Receipt Card dated August 7, 2000 from Taylor Energy Company, as designated operator of Block 20, Mississippi Canyon Area and as operator of the host platform.
4. Copy of the Pipeline Crossing Agreement dated August 28, 2000 and copy of Green Return Receipt Card from Viosca Knoll Gathering Company to cross their 20" pipeline (Segment No. 10711) in Block 20, Mississippi Canyon Area.
Application for 6.625" Bulk Gas Right-of-Way Pipeline
To Be Installed In and/or Blocks 68, 67, 66, 65, 64 and 20
Mississippi Canyon Area, Offshore, Louisiana
OCS Federal Waters, Gulf of Mexico
Segment No.: 12712

Should you have any questions, please contact the undersigned at (713) 659-1222.

Very truly yours,

WALTER OIL & GAS CORPORATION

[Signature]
Judy Archer
Regulatory/Environmental Coordinator

enclosures
SENDERS:
Complete items 1 and/or 2 for additional services.
Complete items 3, 4a, and 4b.
Print your name and address on the reverse of this form so that we can return this
1. Addresssee's Address
2. Restricted Delivery
3. Date of Delivery
4. Addresssee's Address (Only if requested
and fee is paid)
5. Signature (Addresssee or Agent)

Domestic Return Receipt

5. Received By: (Print Name)
6. Signature (Addresssee or Agent)

PS Form 3611, December 1994

Walter Oil & Gas Corporation
1100 Louisiana Suite 200
Houston, Texas 77002-5299
Attn: Judy Archer

(DMC 68 P/L
B1k Crossing
MC 67/66/64)

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Print your name, address, and ZIP Code in this box •

Thank you for using Return Receipt Service.
I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
3. ☐ COD

Consult postmaster for fee.

3. Article Addressed to:
   Ms. Cynthia DeWitt
   BP Exploration & Oil Inc.
   P. O. Box 3092
   Houston, TX 77253

4a. Article Number
   7000 0600 0025 0792 4028

4b. Service Type
   ☐ Registered
   ☑ Certified
   ☐ Express Mail
   ☐ Insured
   ☒ Return Receipt for Merchandise
   ☐ COD

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

United States Postal Service

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

Print your name, address, and ZIP Code in this box

Walter Oil & Gas Corporation
1100 Louisiana Suite 200
Houston, Texas 77002-5299
Attn: Judy Archer
August 21, 2000

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas    77002-5299

-SENT BY FACSIMILE

Re.:   Letter of No Objection
       Pipeline RoW
       Mississippi Canyon Block 65
       Gulf of Mexico

Gentlemen:

Reference is made to Walter Oil & Gas Corporation’s (“Walter’s”) letter dated August 3, 2000, whereby Walter requested BP Exploration & Oil Inc. (BP) to approve Walter’s right-of-way pipeline application with the Minerals Management Service for a 6.25-inch, bulk gas line to be installed in and/or through Blocks 64, 65, 66, 67, 68 & 20 located in Mississippi Canyon. BP has no objection to your right-of-way application, subject to the following conditions:

Walter:

1. Shall obtain permits from all governmental agencies having jurisdiction thereof for the installation, operations and maintenance of Walter’s pipeline.
2. Agrees to furnish BP with two copies of “As Built” surveys drawn to scale of 1" = 1000' showing actual location of Walter’s pipeline within sixty (60) days after completion of construction of referenced pipeline.
3. Will secure permission from all other interested parties.
4. Agrees to indemnify, defend and hold harmless BP and their officers, employees and insurers from and against any and all claims, suits, costs or demands for damages on account of injury to, death of any person or property damage directly or indirectly arising out of its installation, repair maintenance, operation and use of Walter’s pipeline including those claims, suits, costs or demands caused by the sole or concurrent
negligence or fault of Walter and excluding only those claims, suits, costs or demands caused by the sole negligence of BP. This indemnity and agreement to hold harmless shall apply to any liability imposed upon BP or its joint owners as a result of a statute, rule or regulation or theory of strict liability.

5. Will notify BP 30 days prior to any future major construction work on the subject Mississippi Canyon Block 65 right-of-way. BP shall be given as much advanced notice as possible for emergency repairs. Proposed anchor patterns, timing, etc., shall be included in the notification.

If this is agreeable, please sign below and return one executed copy to the attention of the undersigned. If you have any questions please contact me at (281) 366-4774

Very truly yours,

Dianna Stein
Landman

ACCEPTED AND AGREED TO THIS 5th DAY OF Sept, 2000

Walter Oil & Gas Corporation

By: Conest. Manager

Title: Const. Manager
3. Article Addressed to:
   Mr. W. T. Folsom
   Taylor Energy Company
   944 St. Charles
   New Orleans, LA 70130

4a. Article Number
   7000 0600 0025 0792 4011

4b. Service Type
   ☑ Certified
   ☐ Registered
   ☐ Express Mail
   ☐ Insured
   ☑ Return Receipt for Merchandise
   ☐ COD

Date of Delivery
8/7/94

5. Received By: (Print Name)
   Mary M. Holler

6. Signature: (Address of Agent)
   X Mary M. Holler

PS Form 3811, December 1994

Domestic Return Receipt

United States Postal Service

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

Print your name, address, and ZIP Code in this box.

(MC 68 P/L
Blk Crossing
MC 20)

Water Oil & Gas Corporation
1100 Louisiana Suite 200
Houston, Texas 77002-6299

Attn: Judy Archer
August 14, 2000

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, TX  77002-5299

Attention:  Ms. Judy Archer

Re:  Application for a 6.625” Bulk Gas Right-of-Way Pipeline To Be Installed In and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area Offshore, Louisiana, OCS Federal Waters, GOM

Gentlemen:

We acknowledge receipt of your letter dated August 3, 2000 requesting approval to construct the above referenced pipeline from a location on your OCS-G 15464 Mississippi Canyon Block 68 to a tie-in on our OCS-G 4935 Mississippi Canyon Block 20 “A” platform.

Please be advised that Taylor Energy Company, designated operator of OCS-G 4935, Block 20, Mississippi Canyon Area, has no objection to the construction and tie-in of this line to our Platform “A”. We ask that you take the necessary precautions when performing this operation.

Should you have any questions or require any additional information, please contact Bill Folsom, Operations Manager, at (504) 589-0560.

Sincerely,

TAYLOR ENERGY COMPANY

John A. Pope
Vice President Operations

BEST AVAILABLE COPY

JAP/drm
I also wish to receive the following services (for an extra fee):
1. ☐ Addresssee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

---

3. Article Addressed to:

Mr. K. J. Cheramie
Viosca Knoll Gathering Company
Sugar Mill Point
1115 Regal Row
Houma, LA 70360

4a. Article Number
7000 0600 0025 0792 3991

4b. Service Type
☐ Registered
☑ Certified
☐ Express Mail
☐ Insured
☐ Return Receipt for Merchandise
☐ COD

5. Date of Delivery
8-25-92

6. Received By (Print Name)

7. Signature: (Addressee or Agent)

X

PS Form 3811, December 1994

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Domestic Return Receipt

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UNITED STATES POSTAL SERVICE

First Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

---

Print your name, address, and ZIP Code in this box.

---

(MC 68 P/L
Crossing
VKGS 20"

Weiser Oil & Gas Corporation
1100 Louisiana Suite 200
Houston, Texas 77002-5299

Attn: Judy Archer

---

BEST AVAILABLE COPY
August 28, 2000

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299
Attention: Mr. Jack Horton
Construction Manager

Reference: Walter Oil & Gas Corporation Proposed Installation of a 6.625" Bulk Gas Right-of-Way Pipeline to be installed in and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

Dear Jack:

Please find attached two copies of our letter of no objection for the above mentioned Pipeline crossing. You are kindly requested to return one executed copy.

Yours truly,

Bart Heijermans
Vice President Engineering & Operations

Cc: Alex Alvarado
Minerals Management Service
2401 Elmwood Park Blvd.
New Orleans, LA 70243-2394
August 28, 2000

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299
Attn: Jack Horton
Construction Manager

Reference: Walter Oil & Gas Corporation Proposed Installation of a 6.625" Bulk Gas Right-of-Way Pipeline to be installed in and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana

Dear Mr. Horton:

Viosca Knoll Gathering Company (VKGC) was notified by your August 3, 2000 transmittal of Walter Oil & Gas Corporation (WOG) plan to cross over VKGC’s 20” gas pipeline Right of Way (“R.O.W.”) (Segment 10711) in OCS Federal Waters during construction of the above referenced pipeline.

VKGC has no objection to WOG crossing the above VKGC R.O.W. subject to the following conditions:

1. The crossing of the VKGC R.O.W. is to be at the sole expense of WOG.

2. Prior to move in of marine construction equipment, WOG will physically locate and buoy VKGC’s existing pipeline through the potential anchor spread corridors. Such buoys will be set at a maximum of 1,000 foot spacing along the pipeline and will be maintained for so long as the marine construction equipment is in the area. This is not required if a “real time positioning system” is on the marine construction equipment, which includes the anchor handling tug.

3. WOG’s anchor-handling tug will have a satellite positioning system accurate to within five meters. When setting and weighing anchors, anchor position will be plotted to determine the extent of anchor slippage. All anchors placed across the VKGC pipeline will be located a minimum perpendicular distance of 1,000 feet from VKGC’s pipeline, and all anchors not crossing the VKGC pipeline will be located a minimum perpendicular distance 500 feet from VKGC’s pipeline. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally.
4. WOG agrees to notify Pete Luke, VKGC’s authorized representative, a minimum of seven days before construction reaches the crossing site. Mr. Luke can be reached at (504) 857-8002. No construction activity shall take place over or in the vicinity of the VKGC pipeline in the absence of Mr. Luke or his designated alternate.

5. WOG will inspect VKGC’s pipeline for possible damage after installation of the proposed R.O.W. crossing. Depending upon water depths and conditions, WOG shall have either a diving inspector’s log or ROV video to report on the details of the crossing. WOG shall provide copy of log/ROV video to VKGC.

6. In the event of VKGC’s pipeline require repair or removal from under WOG pipeline at this crossing, VKGC and WOG will agree as to the procedures for such activity. WOG AGREES TO RELEASE, INDEMNIFY AND HOLD HARMLESS AND DEFEND EACH OF VKGC, ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AFFILIATES, CONTRACTORS, SUBCONTRACTORS AND REPRESENTATIVES (THE “VKGC INDEMNIFIED PARTIES”) FROM AND AGAINST ANY AND ALL DAMAGES, LOSSES, CLAIMS, DEMANDS, LIABILITIES OR CAUSES OF ACTION OF EVERY KIND AND CHARACTER (“DAMAGES”), IN FAVOR OF ANY PERSON OR PARTY, WHICH ARISE OUT OF OR ARE INCIDENT TO ANY REPAIR OR REMOVAL OF A WOG PIPELINE CAUSED BY OR INCIDENT TO THE CONSTRUCTION, OPERATION OR MAINTENANCE OF WOG’S PIPELINE, EXCEPT TO THE EXTENT SUCH DAMAGE IS A RESULT OF THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF A VKGC INDEMNIFIED PARTY.
7. WOG AGREES TO RELEASE, INDEMNIFY, HOLD HARMLESS AND DEFEND EACH VKGC INDEMNIFIED PARTY FROM AND AGAINST ANY AND ALL DAMAGES IN FAVOR OF ANY PERSON OR PARTY, WHICH ARISE OUT OF OR ARE INCIDENT TO THE CONSTRUCTION, OPERATION AND MAINTENANCE OF WOG PIPELINE, EXCEPT TO THE EXTENT SUCH DAMAGE IS A RESULT OF THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF A VKGC INDEMNIFIED PARTY.

8. WOG and its agents, contractors, employees, representatives, servants, and subcontractors shall observe and comply with all federal, state, and local laws, ordinances, rules, regulations orders, and decrees regarding the environment and cultural resources. Additionally, WOG and its agents, contractors, employees, representatives, servants and subcontractors shall take all necessary steps to prevent cultural, environmental, and natural resource impairment in the vicinity of VKGC’s pipeline.

9. WOG IS RESPONSIBLE FOR THE MANAGEMENT OF ANY HAZARDOUS OR TOXIC WASTE, MATERIAL, OR ANY COMPONENT THEREOF (“WASTE”), WHICH ARISES OUT OF OR INCIDENT TO THE WASTE GENERATED IN CONNECTION WITH THE CONSTRUCTION AND INSTALLATION, MAINTENANCE OR OPERATION OF WOG PIPELINE, AND WOG AGREES TO RELEASE, INDEMNIFY, HOLD HARMLESS AND DEFEND EACH VKGC INDEMNIFIED PARTY FROM ANY AND ALL DAMAGES TO PERSONS OR PROPERTY WHICH ARISES OUT OF WOG ACTIVITIES HEREUNDER.

10. WOG shall carry adequate insurance or shall self-insure in order to support its indemnification obligations hereunder; however, WOG failure to secure the insurance coverages or such endorsements on the policies as may be necessary to carry out the terms and provisions of the Agreement, shall in no way act to relieve WOG from the obligations hereunder, any provisions hereof to the contrary notwithstanding. Notwithstanding anything to the contrary herein, WOG indemnification obligations under this Agreement shall not be limited in amount or scope to coverage provided by insurance which is required of WOG under the terms hereof.

11. WOG agrees to provide as built drawings showing the actual location of the WOG pipeline across VKGC’s R.O.W. as soon as practical after completion of construction of said 6.625-inch pipeline.
12. If any provision of this agreement is adjudicated or otherwise found to be against public policy, void, or otherwise unenforceable, then such provision shall be modified or deleted, in keeping with the express intent of the parties hereto, as necessary to render all the remainder of this letter agreement valid and enforceable. All such modifications or deletions shall be the minimum required to effect the foregoing.

13. No modification to this agreement shall be or become effective unless executed in writing by the duly authorized representatives of both parties.

14. Neither action taken nor inaction by VKGC pursuant to this Agreement, shall be deemed to constitute a waiver of compliance with any representation, warranty, covenant or agreement contained herein. A waiver by VKGC of a particular right, including, without limitation, breach of any provisions of this Agreement, shall not operate or be construed as a subsequent waiver of that same right or a waiver of any other right.

15. TO THE EXTENT THAT THE LAW OF ANOTHER JURISDICTION IS NOT OTHERWISE REQUIRED TO BE APPLIED, (i) THE INDEMNITY PROVISIONS CONTAINED IN SECTIONS 8, 9 AND 11 OF THIS AGREEMENT SHALL BE CONSTRUED, INTERPRETED AND GOVERNED BY THE GENERAL MARITIME LAW OF THE UNITED STATES AND (ii) ALL OF THE OTHER PROVISIONS OF THIS AGREEMENT SHALL BE DEEMED TO BE AN AGREEMENT UNDER AND SHALL BE CONSTRUED, INTERPRETED AND GOVERNED BY AND ACCORDING TO, THE LAWS OF THE STATE OF TEXAS, IN THE CASE OF (i) AND (ii) ABOVE, EXCLUDING ANY CONFLICT OR CHOICE OF LAW PRINCIPLES OR RULES WHICH, IF APPLIED, MIGHT PERMIT OR REQUIRE THE APPLICATION OF THE LAWS OR ANOTHER JURISDICTION.

16. VKGC shall have the absolute right to limit, suspend, terminate or restrict any operations or procedure of WOG in connection with the crossing of VKGC's pipelines, if VKGC makes a good faith determination that such limitation, suspension, termination or restriction is necessary to prevent or mitigate damage to persons or property, environmental harm, or any unsafe operating practice. VKGC shall promptly notify WOG of any such action and the reasons therefor and shall provide WOG a reasonable opportunity to correct the problem.
If WOG is agreeable to the aforementioned provisions, please indicate WOG approval by having an officer of WOG sign in the space provided and returning the duplicate to VKGC, Attn: Mr. Bart Heijermans. Any questions can be directed to Mr. Heijermans at (713) 420-5216. Fax (713) 420-2832.

Sincerely,

VIOSCA KNOLL GATHERING COMPANY

By: 

Printed Name: BART HEIJERMANS

Title: VICE PRESIDENT OPERATIONS & ENGINEERING

Accepted and Agreed to this day of 2000.

WALTER OIL & GAS CORPORATION

By: 

Printed Name: Jack Horton

Title: Construction Manager

cc: Alex Alvarado
Minerals Management Service
2401 Elmwood Park Blvd.
New Orleans, LA 70243-2394
August 28, 2000

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299
Attention: Mr. Jack Horton
Construction Manager

Reference: Walter Oil & Gas Corporation Proposed Installation of a 6.625" Bulk Gas Right-of-Way Pipeline to be installed in and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

Dear Jack:

Please find attached two copies of our letter of no objection for the above mentioned Pipeline crossing. You are kindly requested to return one executed copy.

Yours truly,

[Signature]

Bart Heijermans
Vice President Engineering & Operations

Cc: Alex Alvarado
Minerals Management Service
2401 Elmwood Park Blvd.
New Orleans, LA 70243-2394
August 28, 2000

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299
Attn: Jack Horton
Construction Manager

Reference: Walter Oil & Gas Corporation Proposed Installation of a 6.625" Bulk Gas Right-of-Way Pipeline to be installed in and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana

Dear Mr. Horton:

Viosca Knoll Gathering Company (VKGC) was notified by your August 3, 2000 transmittal of the Walter Oil & Gas Corporation (WOG) plan to cross over VKGC’s 20” gas pipeline Right of Way (“R.O.W.”) (Segment 10711) in OCS Federal Waters during construction of the above referenced pipeline.

VKGC has no objection to WOG crossing the above VKGC R.O.W. subject to the following conditions:

1. The crossing of the VKGC R.O.W. is to be at the sole expense of WOG.

2. Prior to move in of marine construction equipment, WOG will physically locate and buoy VKGC’s existing pipeline through the potential anchor spread corridors. Such buoys will be set at a maximum of 1,000 foot spacing along the pipeline and will be maintained for so long as the marine construction equipment is in the area. This is not required if a “real time positioning system” is on the marine construction equipment, which includes the anchor handling tug.

3. WOG’s anchor-handling tug will have a satellite positioning system accurate to within five meters. When setting and weighing anchors, anchor position will be plotted to determine the extent of anchor slippage. All anchors placed across the VKGC pipeline will be located a minimum perpendicular distance of 1,000 feet from VKGC’s pipeline, and all anchors not crossing the VKGC pipeline will be located a minimum perpendicular distance 500 feet from VKGC’s pipeline. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally.
4. WOG agrees to notify Pete Luke, VKGC's authorized representative, a minimum of seven days before construction reaches the crossing site. Mr. Luke can be reached at (504) 857-8002. No construction activity shall take place over or in the vicinity of the VKGC pipeline in the absence of Mr. Luke or his designated alternate.

5. WOG will inspect VKGC's pipeline for possible damage after installation of the proposed R.O.W. crossing. Depending upon water depths and conditions, WOG shall have either a diving inspector's log or ROV video to report on the details of the crossing. WOG shall provide copy of log/ROV video to VKGC.

6. In the event of VKGC's pipeline require repair or removal from under WOG pipeline at this crossing, VKGC and WOG will agree as to the procedures for such activity. WOG AGREES TO RELEASE, INDEMNIFY AND HOLD HARMLESS AND DEFEND EACH OF VKGC, ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AFFILIATES, CONTRACTORS, SUBCONTRACTORS AND REPRESENTATIVES (THE "VKGC INDEMNIFIED PARTIES") FROM AND AGAINST ANY AND ALL DAMAGES, LOSSES, CLAIMS, DEMANDS, LIABILITIES OR CAUSES OF ACTION OF EVERY KIND AND CHARACTER ("DAMAGES"), IN FAVOR OF ANY PERSON OR PARTY, WHICH ARISE OUT OF OR ARE INCIDENT TO ANY REPAIR OR REMOVAL OF A WOG PIPELINE CAUSED BY OR INCIDENT TO THE CONSTRUCTION, OPERATION OR MAINTENANCE OF WOG'S PIPELINE, EXCEPT TO THE EXTENT SUCH DAMAGE IS A RESULT OF THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF A VKGC INDEMNIFIED PARTY.
7. WOG AGREES TO RELEASE, INDEMNIFY, HOLD HARMLESS AND DEFEND EACH VKGC INDEMNIFIED PARTY FROM AND AGAINST ANY AND ALL DAMAGES IN FAVOR OF ANY PERSON OR PARTY, WHICH ARISE OUT OF OR ARE INCIDENT TO THE CONSTRUCTION, OPERATION AND MAINTENANCE OF WOG PIPELINE, EXCEPT TO THE EXTENT SUCH DAMAGE IS A RESULT OF THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF A VKGC INDEMNIFIED PARTY.

8. WOG and its agents, contractors, employees, representatives, servants, and subcontractors shall observe and comply with all federal, state, and local laws, ordinances, rules, regulations orders, and decrees regarding the environment and cultural resources. Additionally, WOG and its agents, contractors, employees, representatives, servants and subcontractors shall take all necessary steps to prevent cultural, environmental, and natural resource impairment in the vicinity of VKGC’s pipeline.

9. WOG IS RESPONSIBLE FOR THE MANAGEMENT OF ANY HAZARDOUS OR TOXIC WASTE, MATERIAL, OR ANY COMPONENT THEREOF (“WASTE”), WHICH ARISES OUT OF OR INCIDENT TO THE WASTE GENERATED IN CONNECTION WITH THE CONSTRUCTION AND INSTALLATION, MAINTENANCE OR OPERATION OF WOG PIPELINE, AND WOG AGREES TO RELEASE, INDEMNIFY, HOLD HARMLESS AND DEFEND EACH VKGC INDEMNIFIED PARTY FROM ANY AND ALL DAMAGES TO PERSONS OR PROPERTY WHICH ARISES OUT OF WOG ACTIVITIES HEREUNDER.

10. WOG shall carry adequate insurance or shall self-insure in order to support its indemnification obligations hereunder; however, WOG failure to secure the insurance coverages or such endorsements on the policies as may be necessary to carry out the terms and provisions of the Agreement, shall in no way act to relieve WOG from the obligations hereunder, any provisions hereof to the contrary notwithstanding. Notwithstanding anything to the contrary herein, WOG indemnification obligations under this Agreement shall not be limited in amount or scope to coverage provided by insurance which is required of WOG under the terms hereof.

11. WOG agrees to provide as built drawings showing the actual location of the WOG pipeline across VKGC’s R.O.W. as soon as practical after completion of construction of said 6.625-inch pipeline.
12. If any provision of this agreement is adjudicated or otherwise found to be against public policy, void, or otherwise unenforceable, then such provision shall be modified or deleted, in keeping with the express intent of the parties hereto, as necessary to render all the remainder of this letter agreement valid and enforceable. All such modifications or deletions shall be the minimum required to effect the foregoing.

13. No modification to this agreement shall be or become effective unless executed in writing by the duly authorized representatives of both parties.

14. Neither action taken nor inaction by VKGC pursuant to this Agreement, shall be deemed to constitute a waiver of compliance with any representation, warranty, covenant or agreement contained herein. A waiver by VKGC of a particular right, including, without limitation, breach of any provisions of this Agreement, shall not operate or be construed as a subsequent waiver of that same right or a waiver of any other right.

15. TO THE EXTENT THAT THE LAW OF ANOTHER JURISDICTION IS NOT OTHERWISE REQUIRED TO BE APPLIED, (i) THE INDEMNITY PROVISIONS CONTAINED IN SECTIONS 8, 9 AND 11 OF THIS AGREEMENT SHALL BE CONSTRUED, INTERPRETED AND GOVERNED BY THE GENERAL MARITIME LAW OF THE UNITED STATES AND (ii) ALL OF THE OTHER PROVISIONS OF THIS AGREEMENT SHALL BE DEEMED TO BE AN AGREEMENT UNDER AND SHALL BE CONSTRUED, INTERPRETED AND GOVERNED BY AND ACCORDING TO, THE LAWS OF THE STATE OF TEXAS, IN THE CASE OF (i) AND (ii) ABOVE, EXCLUDING ANY CONFLICT OR CHOICE OF LAW PRINCIPLES OR RULES WHICH, IF APPLIED, MIGHT PERMIT OR REQUIRE THE APPLICATION OF THE LAWS OR ANOTHER JURISDICTION.

16. VKGC shall have the absolute right to limit, suspend, terminate or restrict any operations or procedure of WOG in connection with the crossing of VKGC’s pipelines, if VKGC makes a good faith determination that such limitation, suspension, termination or restriction is necessary to prevent or mitigate damage to persons or property, environmental harm, or any unsafe operating practice. VKGC shall promptly notify WOG of any such action and the reasons therefor and shall provide WOG a reasonable opportunity to correct the problem.
If WOG is agreeable to the aforementioned provisions, please indicate WOG approval by having an officer of WOG sign in the space provided and returning the duplicate to VKGC, Attn: Mr. Bart Heijermans. Any questions can be directed to Mr. Heijermans at (713) 420-5216. Fax (713) 420-2832.

Sincerely,

VIOSCA KNOLL GATHERING COMPANY

By: ____________________________
Printed Name: Bart Heijermans
Title: Vice President Operations & Engineering

Accepted and Agreed to this _________ day of ________________ 2000.

WALTER OIL & GAS CORPORATION

By: ____________________________
Printed Name: ____________________
Title: ____________________________

cc: Alex Alvarado
Minerals Management Service
2401 Elmwood Park Blvd.
New Orleans, LA 70243-2394
Segment
12712

Comments on Pockmarks

Natural Hazards:

Comments on Man Made Hazards:

General

Comments:

Possible Hazards Identified in the Shallow Hazards Analysis and/or Maps

<table>
<thead>
<tr>
<th>Possible Hazards</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are fault scarps along pipeline route which may cause pipeline spanning.</td>
<td>The maximum scarp relief is 1 feet.</td>
</tr>
<tr>
<td>There are side-scan sonar contacts near potential anchor locations which could</td>
<td>represent objects that could interfere with anchoring.</td>
</tr>
<tr>
<td>There is a pipeline crossing the proposed pipeline route that could be damaged</td>
<td>during installation.</td>
</tr>
<tr>
<td>There are pipelines near the proposed pipeline route which could be damaged</td>
<td>during pipeline construction.</td>
</tr>
<tr>
<td>There is a pipeline near a potential anchor location that could be damaged</td>
<td>during or after anchor placement.</td>
</tr>
</tbody>
</table>

Recommendations: Approval recommended based on the assumption of accuracy in the company submission.
August 17, 2000

Mr. Donald C. Howard
Regional Supervisor
Office of Field Operations
U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Alex Alvarado
Pipeline Unit Supervisor

Re: Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM

Gentlemen:

Enclosed please find four copies of the pipeline crossing detail that was inadvertently omitted from Walter Oil & Gas Corporation's application dated August 4, 2000.

Should you require additional information or have any questions, please contact the undersigned at (713) 659-1222.

Very truly yours,

WALTER OIL & GAS CORPORATION

[Signature]
Judy Archer
Regulatory/Environmental Coordinator

enclosures
August 4, 2000

Mr. Donald C. Howard  
Regional Supervisor  
Office of Field Operations  
U. S. Department of the Interior  
Minerals Management Service  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Attention: Mr. Alex Alvarado  
Pipeline Unit Supervisor

Re: Application for a 6.625\" Bulk Gas Right-of-Way  
Pipeline To Be Installed In and/or through Blocks  
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area  
Offshore, Louisiana, OCS Federal Waters, GOM

Gentlemen:

Pursuant to the authority granted in 43 U.S.C. 1334(e) and regulations contained in Title 30 CFR Part 250, Subpart J, Walter Oil & Gas Corporation (Walter) is filing this application in quadruplicate for a right-of-way two-hundred (200') in width for the construction, maintenance and operations of a 6.625\" bulk gas right-of-way pipeline to be installed in and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area, Offshore, Louisiana.

Walter proposes to install a new 6.625\" bulk gas pipeline, with umbilical, approximately 65,182 feet (12.34 miles) in length originating at Walter's existing Subsea Well No. 1 in Block 68 and terminating at Taylor Energy Company's existing production Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana. The umbilical will be banded to and laid with the pipeline.

In support of this application and for your review and use, the following maps, drawings and documents have been enclosed herewith and made a part hereof:

1. Non-Discrimination in Employment Certification
2. Pipe Specifications and General Information, Exhibit "A"
3. Designated Operators, Exhibit "B"
4. 6.625\" Bulk Gas Pipeline Vicinity Map - C & C Technologies Survey Services, Sheet 1 of 6
5. 6.625\" Bulk Gas Pipeline Route Maps - C & C Technologies Survey Services, Sheets 2 through 6 of 6.
Walter proposes to commence construction September 15, 2000 or as soon as approval is granted. The time required to lay the proposed pipeline is estimated at two (2) weeks with an overall project time estimated at four (4) weeks.

Walter will utilize an existing on-shore base facility located in Venice, Louisiana.

Walter is aware of the abandoned wells in Blocks 67 and 65, the 20" Viosca Knoll Gathering Company pipeline (Segment No. 10711) that will be crossed and the three pipelines originating at Taylor Energy Company's Platform "A" in Mississippi Canyon Block 20". All of these man-made features are indicated in the Engineering and Hazard Report prepared by C & C Technologies Survey Services dated July, 2000.

Walter's contractor laying the pipeline will avoid any pipelines and/or other manmade or natural hazards as indicated on the Engineering and Hazard Maps included in the Pipeline Prelay Survey Report dated July 2000 performed by C & C Technologies Survey Services.

In accordance with NTL 83-3 dated September 7, 1983 issued by the Minerals Management Services, Walter Oil & Gas Corporation respectfully request the use of a GPS in lieu of buoying the pipeline to be used to locate, identify and avoid any shallow hazards, man-made and/or natural found while laying the pipeline. Anchors will not be utilized during this operation.
U. S. Department of the Interior
Minerals Management Service
Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM

An originally signed copy of Non-Discrimination in Employment Stipulation is attached to each copy of the application. Walter's check in the amount of $2545 of which $2350 covers the application fee and $195 covers the first year's rental on 12.34 miles of right-of-way pipeline is also attached.

The Company contact on technical points or other information is:
Mr. Jack Horton, Engineer
Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299
(713) 659-1222

Please refer to your New Orleans Miscellaneous No. 730 for a copy of resolution approved by the Board of Directors authorizing the undersigned to sign for and on behalf of Walter Oil & Gas Corporation.


If the above information meets with your approval, we would appreciate your rendering the necessary decision for the right-of-way pipeline at your earliest convenience. Inquiries concerning this application should be directed to Judy Archer or Mr. Jack Horton of this office at (713) 659-1222.

Very truly yours,
WALTER OIL & GAS CORPORATION

C. J. Looke, III
Vice President

CJL. III:ja
enclosures
NON-DISCRIMINATION IN EMPLOYMENT

As a condition precedent to the approval of the granting of the subject pipeline right-of-way, the grantee, Walter Oil & Gas Corporation, hereby agrees and consents to the following stipulation which is to be incorporated into the application for said right-of-way.

During the performance of this grant, the grantee agrees as follows:

During the performance under this grant, the grantee shall fully comply with paragraphs (1) through (7) of Section 202 of Executive Order 11246, as amended (reprinted in 41 CFR) 60-1.4(a)), which are for the purpose of preventing discrimination against persons on the basis of race, color, religion, sex or national origin. Paragraphs (1) through (7) of Section 202 of Executive Order 11246, as amended, are incorporated in this grant by reference.

WALTER OIL & GAS CORPORATION

[Signature]
C. J. Looke, III
Vice President

August 4, 2000
Date
EXHIBIT "A"

GENERAL INFORMATION AND CALCULATIONS

1. The water depth along the proposed pipeline route and in relationship to the natural bottom is (-) 1330' MSL in Block 68 at Walter Oil & Gas Corporation's (Walter) existing Subsea Well No. 1, and (-) 480' MSL at Taylor Energy Company's existing Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana.

2. The description of the pipeline and coating is as follows:

   a. Riser Pipe: 6.625" O.D. x .625" W.T. API 5L Grade X-52 pipe. Bare weight = 40.05# per foot. Coated with .5" splashtrons from the (+)10' to (-)10' elevation. Welded joints will be protected with heat shrinkable pipe sleeves.

   b. Line Pipe: 6.625" O.D. x .432" W.T. API 5L Grade X-52 pipe. Bare weight = 28.57# per foot. Coated with 12 to 14 mils of Scotchkote 206N fusion bonded epoxy. Specific gravity in seawater (empty) = 1.86. Welded joints will be protected with heat shrinkable sleeves.

   c. Subsea Tie-In: 6.625" O.D. x .432 W.T. API 5L Grade X-52. Bare weight = 28.57# per foot. Coated with 12-14 mils of Scotchkote 206N fusion bonded epoxy. Specific gravity in seawater (empty) = 1.86.

   d. Internal Coating: The analysis of transported products will be monitored and preventative measures will be employed as necessary.

3. The proposed pipeline is approximately 65,182-feet (12.34 miles) in length. This does not include the +/-500' of riser piping on the platform and caisson. The pipeline will transport natural gas, condensate and water.

4. Valves and Flanges: Above and below water valves and flanges will be API 5000# or greater. Working pressure of the valves and flanges is 5000 psi.

5. The design of the proposed pipeline is in accordance with the "Minimum Federal Safety Standards", (Department of the Interior), Title 30, CFR Part 250.1000 through 250.1008, Subpart J.

6. The cathodic protection system for the pipeline will use Galvalum III or Equal tapered semi-cylindrical bracelet anodes. Calculations are as follows:

   a. Anticipated line life is 20 years.

   b. Assumed maximum of 2% bare pipe.

   c. Current 5 MA/Sq. Ft.

   d. 7.62#/Amp. Yr.
e. Anode Spacing calculations:

\[
\text{Area/Mile} = \frac{5280 \text{ ft/mi.} \times 3.14 \times (6.625")}{12 \text{ ft.}} = 9134 \text{ sq. ft./mi.}
\]

\[
\text{Amps} = 9134 \text{ sq. ft./mi.} \times 0.02 \times 0.005 \text{ A/sq. ft.} = 0.9134 \text{ amps/mi.}
\]

\[
\text{Line Life} = 0.9134 \text{ A/mi.} \times 20 = 18.27 \text{ amp yr./mi.}
\]

\[
\# / \text{mile} = 18.27 \text{ amp yr./mi.} \times 7.62 \# / \text{amp yr.} = 139.22 \# / \text{mi.}
\]

\[
\text{Anode spacing} = \frac{(139.22 \# / \text{mi.})/(33 \#/\text{anode})}{(5280 \text{ ft/mile})/4.22 \text{ anodes/mile}} = 1251 \text{ ft.}
\]

Use one (1) 33# every 500 feet.

7. The design pressure for the line pipe and riser:

a. Riser:

1) \[ t = \frac{PD}{2S} \]

\[
= \frac{4883 \times 6.625"}{(2 \times 52000 \times 0.50)}
= 0.622
\]

Use 6.625" O.D. x 0.625" W.T. API 5L Grade X-52 pipe.

2) Hydrostatic test pressure:

In accordance with API RP 1111

\[
\text{HTP} = 1.5 \times \text{MAOP}
\]

\[
= 1.5 \times 4883 = 7325
\]
EXHIBIT "A"
(CONTINUED)

b. Line Pipe:

1) \[ t = \frac{PD}{2S} \]
   \[ = \frac{4883 \times 6.625"}{(2 \times 52000 \times .72)} \]
   \[ = .432 \]

\[ P = \text{internal design pressure} \]
\[ = 4883 \text{ psig} \]
\[ t = \text{wall thickness, inches} \]
\[ S = 52000 \text{ psi} \]
\[ D = \text{nominal outside diameter} \]
\[ = 6.625" \]

Use 6.625" O.D. x .432 W.T. API 5L Grade X-52 pipe.

2) Hydrostatic test pressure:

In accordance with 30 CFR Part 250
\[ HTP = 1.25 \times MAOP \]
\[ = 1.25 \times 4883 \]
\[ = 6104 \text{ psig} \]

HTP Hoop Stress:
\[ S_{\text{test}} = \frac{(HTP) \times (D)}{(2 \times t \text{ actual})} \]
\[ = \frac{(6104 \times 6.625")}{(2 \times .432)} \]
\[ = 46,804 \]

\[ S_{\text{test/SMYS}} = \frac{46,804}{52000} = .900 \]

Less than 95% of SMYS

c. Subsea Tie-In:

1) \[ t = \frac{PD}{2S} \]
   \[ = \frac{4883 \times 6.625"}{(2 \times 52000 \times .72)} \]
   \[ = .432 \]

\[ P = \text{internal design pressure} \]
\[ = 4883 \text{ psig} \]
\[ t = \text{wall thickness, inches} \]
\[ S = 52000 \text{ psi} \]
\[ D = \text{nominal outside diameter} \]
\[ = 6.625" \]

Use 6.625" O.D. x .432 W.T. API 5L Grade X-52 pipe.

2) Hydrostatic test pressure:

In accordance with 30 CFR Part 250
\[ HTP = 1.25 \times MAOP \]
\[ = 1.25 \times 4883 \]
\[ = 6104 \text{ psig} \]

8. The hydrostatic test will be conducted in accordance with applicable regulations. Test duration will be eight (8) hours. The test medium will be inhibited seawater. The test pressure is less than 95% of the hoop stress using the steel's SMYS.
9. The specific gravity of the line pipe was calculated as follows:
The line pipe weighs 28.57#/ft.

The pipe displaces .785 x 6.625" x 6.625" x 12/1728 x 62.4 x 1.02 = 15.23# water/ft.

Specific gravity pipeline empty = 28.57# / 15.23# = 1.86

The weight of coating, anodes and other materials was not considered in these calculations.

10. The design of the pipeline is approximately 15 MMCFD of natural gas.

11. The proposed pipeline will depart Walter’s existing Subsea Well No. 1 in Block 68 and will proceed in a westerly direction to Taylor Energy Company’s existing Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana.

12. The proposed pipeline has a designed working pressure greater than the maximum pressure of the well so as not to over pressure the pipeline.
EXHIBIT "A"
(CONTINUED)

PIPELINE SUMMARY

1. Line Pipe Specifications:
   O.D.  W.T.  Grade  Length   MAOP
   6.625"  .432  API 5L  65,182'  4883
   Grade X-52

2. Riser Pipe Specifications:
   O.D.  W.T.  Grade  Length   MAOP
   6.625"  .625  API 5L  +/-500'  4883
   Grade X-52

3. Riser Pipe Specifications:
   O.D.  W.T.  Grade  Length   MAOP
   6.625"  .432  API 5L  +/-30'   4883
   Grade X-52

4. External Coating:
   a. Line Pipe:
      12-14 mils Thin Film Epoxy
   b. Riser Pipe:
      1/2" Rubber External @ Splash Zone
   c. Subsea Tie-In Assembly:
      12-14 mils Thin Film Epoxy

5. Cathodic Protection:
   33# Galvalum III or equal tapered semi-cylindrical bracelet anodes every 500 feet.

6. Name of Product:
   Bulk Gas
   a. Specific gravity of the natural gas will be .58 to .60

7. Class Location:
   Class I

8. Governing Code:
   Subpart J, Part 250.1000 through 250.1008, Title 30 of the Code of Federal Regulations.
EXHIBIT "B"

The following Designated Operators have been furnished information regarding the proposed pipeline installation by Certified Mail, Return Receipt Requested (Note: Designated operator status of the blocks listed below are current as of telephone conversation on August 3, 2000 with Ms. Nancy Tetter with the MMS and Judy Archer with Walter Oil & Gas Corporation).

MISSISSIPPI CANYON AREA

**BLOCK 68**
Walter Oil & Gas Corporation  OCS-G 15464  Designated Operator

**BLOCK 67**
Chevron U.S.A. Inc.  OCS-G 14627  Designated Operator

**BLOCK 66**
Chevron U.S.A. Inc.  OCS-G 16586  Designated Operator

**BLOCK 65**
BP Exploration & Oil Inc.  OCS-G 21742  Designated Operator

**BLOCK 64**
Chevron U.S.A. Inc.  OCS-G 15463  Designated Operator

**BLOCK 20**
Taylor Energy Company  OCS-G 4935  Designated Operator
PROPOSED 6" BULK GAS P/L ROUTE

MC67
OCS-G-14827

TOTAL LENGTH = 65,182' = 12.34 statute miles

FLOW

MC68
OCS-G-15464

PROF. R.O.W.

80+62.66'
BLOCKLINE CROSSING
X = 1,061,280.00'
Y = 10,491,836.82'
Lat = 28°53'54.776"N
Lon = 88°48'37.338"W

MATCH

THE RIGHT OF WAY OF THE PROPOSED PIPELINE IS ACCURATELY REPRESENTED.

RALPH A. COLEMAN
REG. No. 4691
REGISTERED PROFESSIONAL LAND SURVEYOR
LOUISIANA REGISTRATION No. 4691

PLAN A

2000' 0' 2000'
SCALE IN FEET

PROFILE A

DATE: 07/31/2000 TIME: 13:17 FILENAME: \1356\PERMIT\PRM1356.DWG

PROPOSED 6" BULK GAS PIPELINE ROUTE
BLOCK 68 to BLOCK 20
MISSISSIPPI CANYON AREA

WALTER OIL & GAS CORPORATION
1100 Louisiana, Suite 200 – Houston, Texas 77002-5299

PREPARED BY:
C&C Technologies Survey Services
731 E.床垫 Saloue Ave., LaPlace, LA (504) 267-6810

JOB No.: 1356 REVISED:
FILENAME: PRM1356.DWG

DATE: 07/31/00 SHEET 2 of 6

WALTER OIL & GAS CORPORATION
1100 Louisiana, Suite 200 – Houston, Texas 77002-5299

PREPARED BY:
C&C Technologies Survey Services
731 E.床垫 Saloue Ave., LaPlace, LA (504) 267-6810

JOB No.: 1356 REVISED:
FILENAME: PRM1356.DWG

DATE: 07/31/00 SHEET 2 of 6
TOTAL LENGTH = 65,182' = 12.34 statute miles

PROPOSED 6" BULK GAS P/L ROUTE

MC66
OCS-G-16586

Best Available COR

PLAN C

SCALE IN FEET

PROFILE C

DATE: 07/31/2000  TIME: 13:17  FILENAME: /\1356\PERMIT\PRM1356.DWG

PROPOSED 6" BULK GAS PIPELINE ROUTE

BLOCK 68 to BLOCK 20

MISSISSIPPI CANYON AREA

WALTER OIL & GAS CORPORATION
1100 Louisiana, Suite 200 - Houston, Texas 77002-5299

PREPARED BY:
C & C Technologies
SURVEY SERVICES
2212 W. Kiest Blvd. PO BOX 8884, CANTERBURY, LA (318) 201-2990

JOB No.: 1356  FILENAME: PRM1356.DWG

REVISED:  DATE: 07/31/00

SHEET 4 of 6
NOTES

1. THIS FLOWLINE COMPLIES WITH DEPARTMENT OF INTERIOR
   SUBPARTS H & J PART 250, TITLE 30, OF THE CODE OF FEDERAL REGULATIONS.
2. PSH1 WILL BE SET AT 5% ABOVE THE SITP BUT SHALL NOT EXCEED THE FLOWLINE MAOP.
   PSH2 AND PSL SENSORS SHALL BE SET NO MORE THAN 15% OR 5 PSIG, WHICHEVER
   IS GREATER, ABOVE AND BELOW THE NORMAL OPERATING RANGE OF THE FLOWLINE.
3. ANODES WILL BE ALUMINUM, 33 LB. BRACELET TYPE, GALVALUM III
4. TOTAL FLOWLINE LENGTHS = 65,182 FEET; 12.34 MILES.
5. FLOWLINE MAOP = 4,883 PSIG.
6. THE UMILICAL WILL BE BANGED TO THE 6" FLOWLINE WITH
   STAINLESS STEEL BANDS.
(1) 1/2" x .049" WALL
316L STAINLESS STEEL TUBE

(2) 3/8" ROPE FILLERS

(5) 3/8" x .049" WALL
316L STAINLESS STEEL TUBES

.150" WALL HDPE JACKET
1.55" DIAMETER
COLOR : BLACK

<table>
<thead>
<tr>
<th>TUBING HYDRAULIC PROPERTIES</th>
<th>MECHANICAL PROPERTIES</th>
</tr>
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<tbody>
<tr>
<td>BURST PRESSURES:</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; x .049&quot; WALL:</td>
<td>18,228 PSI</td>
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<tr>
<td>1/2&quot; x .049&quot; WALL:</td>
<td>13,671 PSI</td>
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<tr>
<td></td>
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<tr>
<td>FINISHED O.D.:</td>
<td>1.55&quot;</td>
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<tr>
<td>WEIGHT IN AIR:</td>
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<td>(TUBING EMPTY)</td>
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<tr>
<td>MAXIMUM WORKING LOAD</td>
<td>5,000 LBS.</td>
</tr>
</tbody>
</table>
August 3, 2000

Chevron U.S.A. Inc.
935 Gravier Street
New Orleans, Louisiana 70112

Attention: Mr. Dale Bourgeois

Re: Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM
Certified Return Receipt: 7000 0600 0025 0792 4035

Gentlemen:

In accordance with regulations contained in title 30 CFR Part 250.1010(c) and 250.1011(c), please be advised that Walter Oil & Gas Corporation (Walter) is in the process of permitting a proposed 6.625" bulk gas right-of-way pipeline to be installed in and/or through Blocks 68, 67, 65, 64 and 20, Mississippi Canyon Area, Offshore, Louisiana.

The routing of the pipeline which will cross a portion of your leases are detailed on the enclosed Profile Route Maps, Sheets 2, 3, 4 and 6 of 6.

Walter proposes to commence installation of the right-of-way pipeline approximately September 1, 2000 or as soon as approval is granted. Therefore, Walter request your earliest review of this project and to prepare a letter of "no objection" as designated operator of Federal Leases OCS-G 14627/16586/15463, Blocks 67/66/64 (respectfully), Mississippi Canyon Area, Offshore, Louisiana.

Should you have any questions or require additional information, please contact the undersigned at (713) 659-1222.

Very truly yours,

WALTER OIL & GAS CORPORATION

[Signature]

Judy Archer
Regulatory/Environmental Coordinator

enclosures
August 3, 2000

BP Exploration & Oil Inc.
P.O. Box 3092
Houston, Texas 77253

Attention: Offshore Operations Manager

Re: Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM
Certified Return Receipt: 7000 0600 0025 0792 4028

Gentlemen:

In accordance with regulations contained in title 30 CFR Part 250.1010(c) and 250.1011(c), please be advised that Walter Oil & Gas Corporation (Walter) is in the process of permitting a proposed 6.625" bulk gas right-of-way pipeline to be installed in and/or through Blocks 68, 67, 66, 65, 64 and 20, Mississippi Canyon Area, Offshore, Louisiana.

The routing of the pipeline which will cross a portion of your lease is detailed on the enclosed Profile Route Maps, Sheets 4, 5 and 6 of 6.

Walter proposes to commence installation of the right-of-way pipeline approximately September 1, 2000 or as soon as approval is granted. Therefore, Walter request your earliest review of this project and to prepare a letter of "no objection" as designated operator of Federal Lease OCS-G 21742, Block 65, Mississippi Canyon Area, Offshore, Louisiana.

Should you have any questions or require additional information, please contact the undersigned at (713) 659-1222.

Very truly yours,
WALTER OIL & GAS CORPORATION

Judy Archer
Regulatory/Environmental Coordinator

enclosures
August 3, 2000

Taylor Energy Company
944 St. Charles
New Orleans, Louisiana 70130

Attention: Mr. W. T Folsom

Re: Application for a 6.625" Bulk Gas Right-of-Way
Pipeline To Be Installed In and/or through Blocks
68, 67, 66, 65, 64 and 20, Mississippi Canyon Area
Offshore, Louisiana, OCS Federal Waters, GOM
Certified Return Receipt: 7000 0600 0025 0792 4011

Gentlemen:

In accordance with regulations contained in title 30 CFR Part 250.1010(c) and 250.1011(c), please be advised that Walter Oil & Gas Corporation (Walter) is in the process of permitting a proposed 6.625" bulk gas right-of-way pipeline to be installed in and/or through Blocks 68, 67, 65, 64 and 20, Mississippi Canyon Area, Offshore, Louisiana.

The routing of the pipeline which will cross a portion of your lease and point of tie-in to your Platform "A" is detailed on the enclosed Profile Route Map, Sheet 6 of 6.

Walter proposes to commence installation of the right-of-way pipeline approximately September 1, 2000 or as soon as approval is granted. Therefore, Walter request your earliest review of this project and to prepare a letter of "no objection" as designated operator of Federal Lease OCS-G 4935, Block 20, Mississippi Canyon Area, and no objection to tie-in to Taylor Energy Company’s Platform "A".

Should you have any questions or require additional information, please contact the undersigned at (713) 659-1222.

Very truly yours,
WALTER OIL & GAS CORPORATION

[Signature]

Judy Archer
Regulatory/Environmental Coordinator

enclosures
August 3, 2000

Viosca Knoll Gathering Company
Sugar Mill Point, 1115 Regal Row
Houma, Louisiana 70360

Attention: Mr. K. J. Cheramie
Sr. Property Rights Specialist

Re: Application for a 6.625" Bulk Gas Right-of-Way Pipeline
To Be Installed In and/or through Blocks 68, 67, 66, 65, 64 and 20
Mississippi Canyon Area, Offshore, Louisiana
OCS Federal Waters, GOM
Certified Return Receipt: 7000 0600 0025 0792 3991

Gentlemen:

Walter Oil & Gas Corporation (Walter) hereby proposes to install a 6.625" bulk gas right-of-way pipeline, approximately 65,182' (12.34 miles) in length, originating at Walter's Subsea Well No. 1 in Block 68, Area and terminating at Taylor Energy Company's existing Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana.

Accordingly, this letter, when accepted and agreed to by Viosca Knoll Gathering Company (VKGC), will constitute an agreement of the parties setting forth the terms and conditions under which Walter may install the proposed 6.625" bulk gas pipeline across VKGC's existing 20" gas pipeline (Segment No. 10711) in Block 20, Mississippi Canyon Area, as depicted on the attached plat, Sheet No. 6 of 6. Therefore, in consideration of the premises and the mutual covenants hereinafter set out, Walter and VKGC agree as follows:

1. Walter shall be liable for any expense, loss or damage of any kind or nature, including but not limited to diver costs, coating repair, pipe replacement and product loss (limited to line fill), sustained by VKGC resulting from the exercise of permission herein granted to Walter.

2. Walter will not object to the installation of future pipelines and cables by VKGC over Walter's proposed pipeline or will Walter object to VKGC lowering the proposed line, after written agreement between the Companies.
3. Walter shall indemnify, defend and hold VKGC, its officers, directors, employees and co-owners harmless from loss, liability, claims or damages arising out of the construction, operations or maintenance of Walter's pipeline, under this agreement, where such loss, liability, claim or damage is caused by Walter or its Contractors or Subcontractors through an act, omission or negligence.

4. Walter will notify VKGC's Houma, Louisiana office at least two days prior to the pipeline crossing.

If the provisions of this letter meet with your Company's approval, please have a duplicate copy countersigned by an authorized agent of your Company and return one (1) executed copy to the undersigned at this office.

Walter would like commence installation of the proposed pipeline approximately September 1, 2000; therefore, your review and acceptance of this "Agreement" would be greatly appreciated as soon as possible.

Very truly yours,
WALTER OIL & GAS CORPORATION

Jack Horton
Construction Manager

JH:ja
enclosures

Accepted and approved this ____________ day of __________, 2000.

By: ________________________
Signature

Title:
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

Public reporting burden for this collection of information is estimated to average 5 hours per response for the majority of cases, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Applications for larger or more complex projects, or those in ecologically sensitive areas, will take longer. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research and Sanctuaries Act. These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary; however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

1. APPLICATION NUMBER (To be assigned by Corps)

2. NAME AND ADDRESS OF APPLICANT

Walter Oil & Gas Corporation
1100 Louisiana, Suite 200
Houston, Texas 77002-5299

Telephone no. during business hours
AOC ( ) (Residence)
AOC ( ) (Office)

3. NAME, ADDRESS, AND TITLE OF AUTHORIZED AGENT

Telephone no. during business hours
AOC ( ) (Residence)
AOC ( ) (Office)

Statement of Authorization: I hereby designate and authorize

SIGNATURE OF APPLICANT

DATE

4. DETAILED DESCRIPTION OF PROPOSED ACTIVITY

4a. ACTIVITY

Install a 6.625" Bulk Gas Right-of-Way Pipeline from Walter Oil & Gas Corporation's Subsea Well No. 1 in Block 68 across Blocks 67, 66, 65, 64 and terminating at Taylor Energy Company's Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana, OCS Federal Waters. A portion of the pipeline will cross into a shipping fairway in blocks 65, 64 and 20, all being located in the Mississippi Canyon Area.

NOTE: PROPOSED ACTIVITY APPROVAL BEING REQUESTED APPLIES ONLY TO SEGMENT OF PIPELINE CROSSING SHIPPING FAIRWAY AS DEPICTED ON SHEET NO. 6 OF 6.

4b. PURPOSE

The pipeline will transport bulk gas from Walter's Subsea Well No. 1, Block 68, to Taylor Energy Company's Platform "A" in Block 20, all being located in the Mississippi Canyon Area, Offshore, Louisiana, OCS Federal Waters. Water depth varies from 1330' at Walter's Subsea Well No. 1 in Block 68 to 400' at Taylor Energy's Platform "A" in Block 20, all being located in the Mississippi Canyon Area.

4c. DISCHARGE OF DREDGED OR FILL MATERIAL

NA

BEST AVAILABLE COPY
WALTER OIL & GAS CORPORATION  OPERATING ACCOUNT  1100 LOUISIANA, STE. 200  PH. 713-659-1221  HOUSTON, TEXAS 77002-5299

DATE: August 4, 2000

PAY: Two Thousand Five Hundred Forty Five and 00/100---------DOLLARS $2,545.00

TO THE ORDER OF: U.S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394


WALTER OIL & GAS CORPORATION  OPERATING ACCOUNT

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<td>$2,350.00</td>
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<td>$2,545.00</td>
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Total $2,545.00

DETACH AND RETAIN THIS STATEMENT
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW. IF NOT CORRECT PLEASE NOTIFY US PROMPTLY AND RECEIPT ISSUED
WALTER OIL & GAS CORPORATION  OPERATING ACCOUNT
ENGINEERING

& HAZARD REPORT

PROPOSED 6" BULK GAS PIPELINE ROUTE

BLOCK 68

to

BLOCK 20

MISSISSIPPI CANYON AREA

prepared by

C&C Technologies
SURVEY SERVICES
730 E. KLUTZIE SALOMON ROAD, LAFAYETTE, LA (318) 261-0660

July 31, 2000

Tony George
Geophysicist

Paul K. Monier
Geologist
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              Instrument Settings
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              Velocimeter Profiles

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Sheet Nos. 1 & 2  Mutibeam Bathymetry Map  1" = 1,000'
Profile View  Horizontal Scale  1" = 1,000'
Vertical Scale  1" = 100'
1.0 INTRODUCTION

Walter Oil and Gas Corporation of Houston, Texas contracted C & C Technologies, Inc. (C&C) of Lafayette, Louisiana to perform an Engineering and Hazard Study along a proposed 6-inch bulk gas pipeline route extending between Block 68 (OCS-G-15464) and Block 20 (OCS-G-04935), Mississippi Canyon Area. The purpose of the survey was to identify any potential hazards or engineering constraints to the pipeline construction and determine the seafloor and subbottom conditions in compliance with the latest guidelines set forth by the Minerals Management Service.

Flow through the proposed pipeline will begin at the Well No. 1 (OCS-G-15464) \((X = 1,069,322.86', Y = 10,491,272.07')\) in Block 68. The western terminus of the route lies at the “A” Platform \((X = 1,010,186.53', Y = 10,506,969.06')\) in Block 20. Route length is calculated at 65,182 feet or 12.34 statute miles. Blockline and pipeline crossings, stationing and other pertinent engineering data are presented on the enclosed study maps.

The field operations were conducted aboard the R/V Ocean Surveyor between July 18 and July 21, 2000. Sea conditions were favorable for quality data acquisition and for geological interpretation. Geophysical instruments utilized for the route survey include a GeoMetrics 880 Cesium Magnetometer, EM 1000 Multibeam Bathymetric System and Seacat 19 CTD Profiler. Datasonics SIS 1000 Deep-Tow System provided high-resolution sonar imagery and subbottom profiles. Horizontal positioning of the survey vessel was accomplished using the SATLOC L-Band Differential GPS Navigation System. Horizontal accuracy of this system is on the order of 1 to 2 meters. Acoustic positioning of the SIS 1000 towfish was accomplished with a transceiver using the Sonardyne Ultra-Short Baseline System (USBL).
Geophysical data reproductions of pertinent features in the area may be observed in Appendix A. Magnetic Anomaly Tables and Nomogram are found in Appendix B. Boat setback diagram, instrument settings, personnel list, equipment descriptions and a copy of the survey logs and daily progress reports are provided in Appendix C. Appendix D contains the tide curves used to correct the bathymetric data. Water column velocimeter data and a profile are presented in Appendix E.

The survey corridor consisted of a 2 sets of primary tracklines (lines 1 – 5 and 6 - 10) spaced 300-meters apart. Additional survey tie lines were run to complement the primary data, to provide additional information along the pipeline alignment, and to provide supplemental coverage at both ends of the proposed pipeline route (lines 11-19). Lines Dev1 and Dev2 were run in order to provide coverage where the towfish was significantly offline by strong bottom currents. The South Pass Navigation Fairway lays to the northwest and south of the Block 20, Mississippi Canyon “A” Platform (Sheet No. 1). Navigational fixes (shot points) were recorded at 150-meter intervals along all survey lines. The survey corridor was designed to provide complete lateral coverage with the sonar system and a representative sampling with the seismic and magnetometer systems.

Geophysical data collected from the remote sensing systems were reviewed for geologic interpretation and for evidence of potential pipeline construction hazards. The survey results pertinent to pipeline construction are projected on the Multibeam Bathymetry Maps and Engineering and Hazard Maps (Sheet Nos. 1 & 2). The study maps are intended to be viewed in conjunction with the following report to provide a comprehensive explanation of the seafloor and subsurface features within the survey corridor.
VICINITY MAP
MISSISSIPPI CANYON AREA
2.0 REGIONAL GEOLOGIC SETTING

The near-surface geology across the Gulf Coast region has been largely influenced by fluctuating sea levels associated with climatic variations during the Pleistocene Epoch. During the low sea level stands, which occurred, when the polar ice sheets expanded, the shelf area was an exposed landmass that was subjected to subaerial weathering and erosional processes. The last major ice age (Late Wisconsin Glacial) peaked 18 to 20 thousand years before present and lowered sea level 300 to 500 feet below its present level. Streams and rivers were common during this time period, downcutting across the exposed shelf to deposit their bedload along the current position of the shelf-break. As the climate warmed and seas transgressed, marine sediments were deposited over the shelf and infilled the erosional cuts left by the rivers and streams. The unconformities and buried erosional cuts are common features on high-resolution seismic profiles collected over the shelf area.

Coleman and Roberts (1988) have analyzed over 450 cores from foundation borings and thousands of kilometers of high-resolution seismic data from across the Louisiana shelf and upper slope region. These data were used to document the sedimentological characteristics, spatial depositional patterns, and seismic/lithofacies response during three complete sea level cycles. Their findings resulted in two types of depositional sequences being defined which they referred to as condensed and expanded sections. Condensed sections are deposited during the periods of high sea level stands and expanded sections are formed during low sea stands. Condensed sections are generally thin, slowly accumulating deposits of hemipelagic clays with a lower unit of a transgressive sequence consisting of calcareous-rich shell hashes. These condensed sections displayed wide lateral continuity and high amplitude acoustic response on seismic profiles. Rapidly accumulated expanded sections were of variable thickness with
abundant coarse-grained clastic deposits (sands and gravels). These units displayed a wide variety of seismic response on high-resolution seismic profiles.

Diapiric intrusions have also influenced the regional geology of the Gulf Coast. Many of these mobile salt bodies have protruded through the thick Pleistocene deposits and exist very near the seafloor. These salt bodies have uplifted, deformed, and faulted the overlying deposits, as well as creating bathymetric highs on the seafloor. These uplifted strata may have been eroded during low sea level stands, exposing hard rock outcrops. When the global climate warmed and sea level rose, these uplifted areas were covered with shallow seas and reef communities may have developed over the hard outcrop zones. When the sea level rise rate outpaced the rate of the reefal growth and/or the water turbidity increased due to changing depocenters, most of the reefs drowned or suffocated. Many of the locations of these reefs, which formed over salt intrusions, are known as named banks across the northwestern Gulf of Mexico. Some of those diapirs, which are found in the deeper portions of the shelf and upper continental slope, consist of authigenic carbonate derived from bacterial reduction of hydrocarbons escaping through the seafloor.

3.0 BATHYMETRY AND SEAFLOOR FEATURES

The EM 1000 Multibeam Bathymetric system was utilized to determine water depths across the survey area. The recorded two-way traveltimes were converted to depths in feet by applying harmonic mean velocities that were calculated from CTD data collected within the survey area. A constant was automatically added in the field to compensate for boat draft and transducer depth. A 10-meter bin size was used to process the multibeam data. The resulting depth values are referenced to Mean Lower Low Water (MLLW) and contoured at ten-foot intervals on the
enclosed maps. The colored Multibeam Bathymetry Maps are presented with an artificial sun elevation of 20° and azimuth of 135°. Seafloor features identified from the geophysical data are also presented on the Multibeam Bathymetry Maps.

Water depths within the survey corridor range between 300 to 1,520 feet MLLW. The water depth along the route alignment varies between 1,330 feet MLLW at the Well No. 1 in Block 68 to 480 feet MLLW at the “A” Platform in Block 20. The seafloor across the survey grid slopes toward the southeast at an average gradient of 235-feet/mile (2.57°). Water depths at points of interest along the route may be viewed on the enclosed maps.

Other features delineated on the side scan sonar data include the “A” Platform in MC20 and various pipelines in the area (Appendix A, Figure No. 1). There are five sonar contacts that did not correlate to known features in the survey area. Sonar Contact No. 1 represents a debris zone, which is located in MC67 at the Well No.1 (OCS-G-02973) location (Sheet Nos. 1). The remaining sonar targets lie in MC65 and are probably related to prior development, construction activities and/or hurricane debris. The locations of the side scan sonar contacts are projected on the Engineering and Hazard Maps and Multibeam Bathymetry Maps and the following table provides the coordinates, description and dimensions of these seafloor targets.

<table>
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<tr>
<th>Sonar Contact</th>
<th>Sheet No.</th>
<th>Block No.</th>
<th>X Coordinate</th>
<th>Y Coordinate</th>
<th>Water Depth</th>
<th>Dimension</th>
<th>Description</th>
<th>Distance From Route</th>
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<td>67</td>
<td>1,050,667'</td>
<td>10,491,561'</td>
<td>1,150'</td>
<td>37' x 10'</td>
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</tr>
<tr>
<td>2</td>
<td>2</td>
<td>65</td>
<td>1,023,969'</td>
<td>10,495,267'</td>
<td>790'</td>
<td>5' x 4'</td>
<td>Debris</td>
<td>1,000'</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>65</td>
<td>1,022,853'</td>
<td>10,495,373'</td>
<td>770'</td>
<td>3' x 3' x 3'</td>
<td>Debris</td>
<td>750'</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>65</td>
<td>1,021,928'</td>
<td>10,494,273'</td>
<td>775'</td>
<td>15' x 15'</td>
<td>Debris</td>
<td>300'</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>64</td>
<td>1,011,892'</td>
<td>10,501,530'</td>
<td>532'</td>
<td>15' x 3' x 2'</td>
<td>Debris</td>
<td>1,700'</td>
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</table>
The positions of the unidentified sonar targets should be avoided during the placement of anchors.

Natural seafloor features within the survey area include fault scarp, pockmarks, outcrops and a bathymetric depression. The nearest outcrops are more than 800 feet to the south of the proposed pipeline in MC68. These outcrops are associated with faulting and probably consist of hardened clay or past fluid expulsion. The bathymetric depression is located approximately 2,300 feet north of the proposed pipeline in the central portion of MC65. The proposed pipeline intersects 2 minor fault scarp, (1 foot of relief) in MC66 and MC65 respectively. Several other faults are located within the survey area, which display seafloor scars of 3 feet or less. The seafloor pockmarks are common features in the Gulf of Mexico and are the result of the expulsion of gas and interstitial water. The proposed route intersects two small zones of pockmarks in MC66 and a relatively larger pockmark zone for the last 11,000 feet.

4.0 SEAFLOOR SOILS AND SUBBOTTOM INTERPRETATION

Side scan sonar data suggest the seafloor sediments consist of deposits of probable silts and clays. The sonar returns of the seafloor were of low reflectivity, which indicates the bottom sediments consist of fine-grained sediments (Appendix A, Figure Nos. 1 - 4). There were no areas identified where the sonar returns were of high reflectivity, which would suggest the presence of coarse-grained sediments. Minerals Management Service Visual No. 3 (1978) depicts the seafloor sediment as silty clay, which corroborates the sonar interpretation.

Gravity piston cores taken along and to the north of the MC20 “A” Platform indicated the near-seafloor sediments consist of very soft, gray clay. Shear strength values for the soil samples did not
exceed more than 150 lbs./ft². Similar geotechnical properties can be anticipated along the entire pipeline route right-of-way.

The near-seafloor seismic stratigraphy, as interpreted from the centerline pinger data, is displayed on the Profile View for the proposed route. Acoustic penetration and resolution of subbottom strata was greater than 100 feet for the length of the proposed route (Appendix A, Figure No. 4). Below the large pockmark zone at the west end of the proposed route, the upper sequence of strata is acoustically transparent to a maximum depth of 75 feet. Biogenic gas saturation, derived from decaying of organic matter deposited in situ with the soils, may have caused the attenuation of the seismic signals within the upper strata. The majority of the sediments deposited across the study area originated from the modern Birdfoot or Balize, which the Mississippi River currently occupies.

Several faults, with a maximum seafloor displacement of 3 feet, were identified across the survey limits. The proposed route crosses two faults with a seafloor scarp of 1 foot or less. Slight variations in the physical and geotechnical properties of the near-seafloor soils may occur across the boundaries of these features.

5.0 EXISTING INFRASTRUCTURE

Public and company file information were reviewed in conjunction with the acquired geophysical data to confirm the positions of the existing platforms, pipelines, and wells in the survey corridor (Appendix A, Figure Nos. 1 - 4). The substructure of the MC20 “A” Platform was recorded very prominently on the sonar images (Appendix A, Figure No. 1). Abandoned well sites exist in the survey corridor for the proposed route. The MC65 Well No. 1 (OCS-G-05824) is within 175 feet of the proposed route. The proposed route crosses a VKGC 20-inch Pipeline in the southeast
corner of MC20. Magnetometer confirmed the location of the crossing position. The three other pipelines in the survey area tie-in to various risers on the MC20 “A” Platform and were confirmed also on the geophysical data collected. The magnetic deflections generated by man-made features are listed in the Identified Magnetic Anomaly Table in Appendix B. Anchor placements used during the construction activities should avoid the positions of the pipelines, platforms and abandoned well sites.

6.0 UNKNOWN MAGNETIC ANOMALIES

The magnetometer recorded only one magnetic deflection that did not correlate to existing features. The position of the anomaly is shown on Sheet 2 of the plan view maps. The anomaly lies 1,000 feet to the southwest of the “A” Platform and is 19 gammas in amplitude and 281 feet in duration. The amplitude and duration of a magnetic anomaly are dependent on several factors such as the ferromagnetic content of the object, its shape, size, and distance from the sensor. The nomogram in Appendix B provides a visual reference between a ferrous source and the amplitude of the magnetic anomaly generated when the distance from the sensor is known. There were no unidentified magnetic anomalies recorded on the centerline. Lay-barge or construction anchors should avoid the unidentified magnetic anomaly locations.
7.0 CHEMOSYNTHETIC COMMUNITY POTENTIAL

On August 10, 1998 the Minerals Management Service released a Notice to Lessees (NTL 98-11) for oil and gas companies operating in greater than 400 meters (1,312 feet) of water depth, implementing measures to detect and protect deep-water chemosynthetic communities. Chemosynthetic communities are biologically unique assemblages of clams, tubeworms, mussels, bacterial mats and associated organisms. Chemosynthetic communities are unusual in that their food chain is based on bacteria, which uses chemical energy obtained by the oxidation of reduced compounds, combined with carbon dioxide to synthesize the organic compounds necessary for life. Chemosynthetic bacteria are then eaten by the higher organisms setting up a food chain (MacDonald, 1992). The animals in a chemosynthetic community, most of which are relatively new to science, live in a biologic system completely separate from most of the life on earth.

Scientist initially identified chemosynthetic communities associated with hydrothermal vents at the mid-ocean ridges in the late 70's. This discovery was widely lauded as the most important finding in marine biology this century. In 1983, functionally similar communities of organisms associated with cold brine seeps were discovered at the base of the Florida Escarpment. Chemosynthetic communities were discovered in the north central Gulf of Mexico in late 1983 and were found to be closely associated with hydrocarbon seeps (Kennicutt et al., 1985, and Callender, et al., 1990). Behrens (1988) documented geologic conditions associated with petroleum seeps and consequently set forth criteria to be used for the identification of chemosynthetic communities using geophysical equipment. He found that the presence of these organisms is closely associated with gas seeps or bubble plumes, seismic "wipe-out" zones, faulting and sediments containing oil, gas, and gas-hydrate.

Outcrops, typically carbonate in composition, also have a strong association with the above geologic conditions. Uplift of carbonate capped salt, diagenic precipitation of secondary carbonates
due to microbial degradation of hydrocarbons and reefal accumulations of chemosynthetic community shells all contribute to an "outcrop" occurrence. From an assessment of the current literature, we have concluded that outcrop areas associated with the above geologic conditions have the highest probability of high-density chemosynthetic communities.

Only a small portion of the western end of the route lies in a water depth exceeding 400 meters (1,312’). There are no areas directly on the route that exhibit characteristics of favorable chemosynthetic community development. There are four small areas of low-relief outcrops found in association with the faults in Block 68. The closest of these outcrop zones to the existing Well No. 1 (OCS-G-15464) is 1,100 feet to the southwest. These outcrop zones display little or any relief and do not appear to be associated with wide spread gas saturation zones. It is suggested that the areas plotted on the Engineering and Hazard Map (Sheet No. 1) as outcrop zones be avoided as mooring positions for construction activities due to the potential for the existence of chemosynthetic communities.
8.0 CONCLUSIONS AND RECOMMENDATIONS

- Water depths along the route range from 1,330 feet MLLW at the MC68 Well No. 1 (OCS-G-15464) to 480 feet MLLW at the MC20 “A” Platform.

- Navigation fairways for Mississippi River shipping interests occur to the north, west and south of the MC20 “A” Platform. Pipeline construction operations should anticipate shipping interests utilizing these fairways.

- There are two faults associated with seafloor scarps of 1-foot relief along the proposed route. Slight variations in the physical and geotechnical properties of the sediments may occur across these features.

- The majority of the near-seafloor sediments are likely composed of very soft silty clay. Some burial of the pipeline may occur over time.

- A debris zone occurs in the immediate vicinity of the MC67 Well No. 1 (OCS-G-02973). Four other sonar contacts were identified that should be easily avoided.

- The proposed pipeline crosses a VKGC 20-inch Pipeline in MC20. This crossing position was confirmed with geophysical data collected.

- No unidentified magnetic anomalies were recorded on the centerline of the proposed route.

- Only one anomaly was recorded 1,000 feet to the southwest of the MC20 “A” Platform.

- The outcrop zones in MC68 should be avoided as mooring positions for construction activities due to the potential for the existence of chemosynthetic communities.
9.0 REFERENCES


Historic Leasing and Infrastructure. Gulf of Mexico, OCS Regional Office. New Orleans, Louisiana.


APPENDIX A

GEOPHYSICAL DATA REPRODUCTIONS
WALTER OIL & GAS
SIDE SCAN SONAR RECORD
PROPOSED 6" BULK GAS PIPELINE
LINE 3B, BLOCK 68
MISSISSIPPI CANYON AREA
Figure No. 3
APPENDIX B

MAGNETIC ANOMALY TABLE
NOMOGRAM
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<tr>
<th>Line No.</th>
<th>Recorded Shotpoint</th>
<th>Corrected Shotpoint (Gammas)</th>
<th>Amplitude</th>
<th>Signature Type</th>
<th>Signature Width (ft)</th>
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To use the nomogram, select a given weight or type of object from among the diagonal lines. Then choose a distance along the bottom line (abscissa) of the graph and follow a vertical line upward from that distance until it intersects the diagonal line selected object. At that point, move horizontally to the left to a value on the vertical axis (ordinate) of the graph and the intensity in gammas.

At a given distance, the intensity is proportional to the weight of the object. Therefore, for an object whose weight is not precisely that of the labeled lines, simply multiply the intensity in gammas by the ratio of the desired weight to the labeled weight on the graph. If the distance desired does not appear on the graph, remember that for a typical object the intensity is inversely to the square of the distance between magnetometer sensor and object. Due to the many uncertainties described herein, the estimates derived from this nomogram may be larger or smaller or larger by a factor of 2 to 5 or perhaps more.
APPENDIX C

BOAT SETBACK DIAGRAM
INSTRUMENT SETTINGS
PERSONNEL LIST
SURVEY LOGS
EQUIPMENT DESCRIPTIONS
WALTER OIL & GAS CORPORATION
PROPOSED 6" BULK GAS PIPELINE ROUTE
BLOCK 68, MISSISSIPPI CANYON AREA
to
BLOCK 20, MISSISSIPPI CANYON AREA
R/V Ocean Surveyor
INSTRUMENT SETTINGS

WALTER OIL AND GAS, INC.
ENGINEERING AND HAZARD STUDY
PROPOSED 6-INCH BULK GAS PIPELINE ROUTE

DATASONICS SIS-1000 SUBBOTTOM PROFILER
Acoustic Source Level = +207 dB re 1μPa @ 1 m, user adjustable
Transducer Radiation = 45° conical, combined transmit and receive
Receiver Gain = User adjustable from 0 to 42 dB in 3 dB increments
Record Length = variable
Record Divisions = 10 meters
Delay = None
Setback = None (acoustically positioned)
Frequency = 2 to 7 kilohertz (Chirped)
Pulse Width = 2 msec.

DATASONICS SIS-1000 SIDE SCAN SONAR
Acoustic Source Level = +207 dB re 1μPa @ 1 m
Transducer Radiation = 0.5° horizontal composite, 70° vertical
Side Lobe Suppression = -20 dB, by shading
Receiver Gain = User adjustable from 0 to 42 dB in 3 dB increments; time varied from -20 to 40 dB in discrete steps
Range = 90 or 187 meters per channel
Record Divisions = 25 meters
Setback = 0 (acoustically positioned)
Swept Frequency = 95 to 105 kHz (Chirped); Starboard and port channels swept in opposite directions.

SIMRAD EM-1000 MULTIBEAM SYSTEM
Setback = 0 feet
Frequency = 95 kHz
Bandwidth = 10 kHz
Total Power = 6 kW
Source Level = 224 dB
Pulse Length = .2 msec.
No. Of Channels Across Swath = 120

GEOMETRICS CESIUM MAGNETOMETER
Sensitivity = .1 gamma
Sampling rate = 1 second
Scales: 100 gammas & 1000 gammas
Setback = None

SURVEY VESSEL
R/V Ocean Surveyor
Average speed during survey = 2.5 - 3 knots
Sea state during the survey = 2 to 4 foot seas
SURVEY PERSONNEL

Field Personnel
David Albright – Geophysical Supervisor
Scott Bighorse – Geophysical Operator
John Grovesnor – Geophysical Operator
Mackey Duos – Geophysical Operator
David Aucoin – Geophysical Operator

Office Personnel
Jay Northcutt – Geophysical Projects Manager
Ralph Coleman – Database Calculations
Tony George – Mgr., Geophysical Interpretation
Paul Monier – Geophysicist
Eddy Lee – Geophysicist
Ave McBride – Draftsperson
Dana Sylvester – Geophysical Assistant
A. VESSEL LOCATION

| Latitude: 28° 15' N | Longitude: 095° 30' W |

**SHIPBOARD PERSONNEL**
- Vessel Crew: 5
- Survey Crew: 5
- CSO Staff: 0
- Others: 0

B. WEATHER (Beaufort Scale)

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<th>SEA STATE</th>
<th>WINDS</th>
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</tr>
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**WEATHER FORECAST:** Winds 10 kts, Seas 2-3 ft.

C. SURVEY OPERATIONS SUMMARY

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<th>PLANNED SURVEY DISTANCE</th>
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<th>CUMULATIVE DISTANCE COVERED</th>
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D. DAILY CHRONOLOGY SUMMARY: (ACTIVITIES LAST 24 HOURS. Times in UTC)

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E. PLANNED ACTIVITIES NEXT 24 HOURS
Calibrate Equipment – Survey Route

F. OPERATIONAL SUMMARY
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### F. ESTIMATED DATE OF COMPLETION FOR THIS SEGMENT:  
22-July-2000

### G. ESTIMATED DATES FOR PLANNING PROJECT RELATED ACTIVITIES  
JUL-2000

### I. CONTACT NUMBERS:

- **VESSEL VOICE** (Cellular) 337-654-7518  
- **VESSEL VOICE** (Satellite) 888-835-7631  
- **VESSEL FAX** (Satellite) N/A

### J. PARTY CHIEF REMARKS / COMMENTS

- Completed instillation of Geovan. Received fuel, water and food in Port Fourchon which was completed at 1800. Enroute to job site.

---

David Albright, P.C.  
Geophysical Consultant  
C&C Representative
A. VESSEL LOCATION

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<td>Others: 0</td>
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B. WEATHER (Beaufort Scale)

<table>
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<th>TIME</th>
<th>BAROMETER</th>
<th>SEA STATE</th>
<th>WINDS</th>
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<td>2-3 ft</td>
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WEATHER FORECAST: Winds 10 kts, Seas 2-3 ft.

C. SURVEY OPERATIONS SUMMARY

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>PLANNED SURVEY DISTANCE</th>
<th>DISTANCE COVERED LAST 24 HRS</th>
<th>CUMULATIVE DISTANCE COVERED</th>
<th>DISTANCE REMAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>77.17 nm</td>
<td>13.61 nm</td>
<td>13.61 nm</td>
<td>63.56 nm</td>
</tr>
</tbody>
</table>

Percentage

|          | 17.6%                  | 17.6 %                     | 82.4 %                     |

D. DAILY CHRONOLOGY SUMMARY: (ACTIVITIES LAST 24 HOURS. Times in UTC)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>0115</td>
<td>Transit to Job Site</td>
</tr>
<tr>
<td>0115</td>
<td>0600</td>
<td>Check In / Waiting for Daylight</td>
</tr>
<tr>
<td>0600</td>
<td>1115</td>
<td>Dropped Velo / Calibrating Equipment</td>
</tr>
<tr>
<td>1115</td>
<td>1615</td>
<td>Deploy and Tune Gear</td>
</tr>
<tr>
<td>1615</td>
<td>2400</td>
<td>Survey Route</td>
</tr>
</tbody>
</table>

E. PLANNED ACTIVITIES NEXT 24 HOURS

Survey Route
F. OPERATIONAL SUMMARY

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>TODAY (HOURS)</th>
<th>BROUGHT FORWARD (HOURS)</th>
<th>TO DATE (HOURS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>10.25</td>
<td>0</td>
<td>10.25</td>
</tr>
<tr>
<td>Coring Operations</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Development</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CTD</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mob/De-mob</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Standby in Port</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Standby Weather</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Survey Operations</td>
<td>7.75</td>
<td>0</td>
<td>7.75</td>
</tr>
<tr>
<td>Transit</td>
<td>1.25</td>
<td>6</td>
<td>7.25</td>
</tr>
<tr>
<td>Travel</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vessel Downtime</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>4.75</td>
<td>0</td>
<td>4.75</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>24</strong></td>
<td><strong>6</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

F. ESTIMATED DATE OF COMPLETION FOR THIS SEGMENT:
22-July-2000

G. ESTIMATED DATES FOR PLANNING PROJECT RELATED ACTIVITIES
JUL-2000

I. CONTACT NUMBERS:

VEssel VOICE (Cellular) 337-654-7518
VEssel VOICE (Satellite) 888-835-7631
VEssel FAX (Satellite) N/A

J. PARTY CHIEF REMARKS / COMMENTS

- Completed calibration of equipment and began survey of route.

David Albright, P.C.
Geophysical Consultant
C&C Representative
A. VESSEL LOCATION

<table>
<thead>
<tr>
<th>Latitude: 28 54 N</th>
<th>Longitude: 088 57 W</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SHIPBOARD PERSONNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Crew: 5</td>
</tr>
<tr>
<td>Survey Crew: 5</td>
</tr>
<tr>
<td>CSO Staff: 0</td>
</tr>
<tr>
<td>Others: 0</td>
</tr>
</tbody>
</table>

B. WEATHER (Beaufort Scale)

<table>
<thead>
<tr>
<th>TIME</th>
<th>BAROMETER</th>
<th>SEA STATE</th>
<th>WINDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>0mb</td>
<td>2-3 ft</td>
<td>10 kts</td>
</tr>
<tr>
<td>0600</td>
<td>0mb</td>
<td>2-3 ft</td>
<td>10 kts</td>
</tr>
<tr>
<td>1200</td>
<td>0mb</td>
<td>2-3 ft</td>
<td>10 kts</td>
</tr>
<tr>
<td>1800</td>
<td>0mb</td>
<td>2-3 ft</td>
<td>10 kts</td>
</tr>
</tbody>
</table>

WEATHER FORECAST: Winds 10 kts, Seas 2-3 ft.

C. SURVEY OPERATIONS SUMMARY

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>PLANNED SURVEY DISTANCE</th>
<th>DISTANCE COVERED LAST 24 HRS</th>
<th>CUMULATIVE DISTANCE COVERED</th>
<th>DISTANCE REMAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>77.17 nm</td>
<td>29.63 nm</td>
<td>43.24 nm</td>
<td>33.93 nm</td>
</tr>
</tbody>
</table>

| SEGMENT | 38.4%                   | 56.0%                       | 44.0%                       |

D. DAILY CHRONOLOGY SUMMARY: (ACTIVITIES LAST 24 HOURS. Times in UTC)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>2400</td>
<td>Survey Route</td>
</tr>
</tbody>
</table>

E. PLANNED ACTIVITIES NEXT 24 HOURS

Complete Survey of Route
### F. OPERATIONAL SUMMARY

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>TODAY (HOURS)</th>
<th>BROUGHT FORWARD (HOURS)</th>
<th>TO DATE (HOURS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>0</td>
<td>10.25</td>
<td>10.25</td>
</tr>
<tr>
<td>Coring Operations</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Development</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CTD</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mob/De-mob</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Standby in Port</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Standby Weather</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Survey Operations</td>
<td>24</td>
<td>7.75</td>
<td>31.75</td>
</tr>
<tr>
<td>Transit</td>
<td>0</td>
<td>1.25</td>
<td>7.25</td>
</tr>
<tr>
<td>Travel</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vessel Downtime</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>4.75</td>
<td>4.75</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>24</strong></td>
<td><strong>13.75</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

### F. ESTIMATED DATE OF COMPLETION FOR THIS SEGMENT:
22-July-2000

### G. ESTIMATED DATES FOR PLANNING PROJECT RELATED ACTIVITIES
JUL-2000

### I. CONTACT NUMBERS:

- **VESSEL VOICE** (Cellular) 337-654-7518
- **VESSEL VOICE** (Satellite) 888-835-7631
- **VESSEL FAX** (Satellite) N/A

### J. PARTY CHIEF REMARKS / COMMENTS

- Continue survey of route.

---

David Albright, P.C.
Geophysical Consultant
C&C Representative
A. VESSEL LOCATION

<table>
<thead>
<tr>
<th>Latitude:</th>
<th>28 54 N</th>
<th>Longitude:</th>
<th>088 57 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Crew:</td>
<td>5</td>
<td>Survey Crew:</td>
<td>5</td>
</tr>
<tr>
<td>CSO Staff:</td>
<td>0</td>
<td>Others:</td>
<td>0</td>
</tr>
</tbody>
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<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>1800</td>
<td>0mb</td>
<td>2-3 ft</td>
<td>10 kts</td>
</tr>
</tbody>
</table>

WEATHER FORECAST: Winds 10 kts, Seas 2-3 ft.

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<td>33.93 nm</td>
</tr>
</tbody>
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Percentage:

| Percentage | 38.4% | 56.0% | 44.0% |

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<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>2400</td>
<td>Survey Route</td>
</tr>
</tbody>
</table>

E. PLANNED ACTIVITIES NEXT 24 HOURS

Complete Survey of Route
### F. OPERATIONAL SUMMARY

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>TODAY (HOURS)</th>
<th>BROUGHT FORWARD (HOURS)</th>
<th>TO DATE (HOURS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>0</td>
<td>10.25</td>
<td>10.25</td>
</tr>
<tr>
<td>Coring Operations</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Development</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CTD</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mob/De-mob</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Standby in Port</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Standby Weather</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Survey Operations</td>
<td>24</td>
<td>7.75</td>
<td>31.75</td>
</tr>
<tr>
<td>Transit</td>
<td>0</td>
<td>1.25</td>
<td>7.25</td>
</tr>
<tr>
<td>Travel</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vessel Downtime</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>4.75</td>
<td>4.75</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>24</strong></td>
<td><strong>13.75</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

### F. ESTIMATED DATE OF COMPLETION FOR THIS SEGMENT:
22-July-2000

### G. ESTIMATED DATES FOR PLANNING PROJECT RELATED ACTIVITIES
JUL-2000

### I. CONTACT NUMBERS:

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- **VESSEL VOICE** (Satellite) 888-835-7631
- **VESSEL FAX** (Satellite) N/A

### J. PARTY CHIEF REMARKS / COMMENTS

- Continue survey of route.

---

David Albright, P.C.
Geophysical Consultant
C&C Representative
<table>
<thead>
<tr>
<th>Time</th>
<th>Heading</th>
<th>Fix Number</th>
<th>Line Number</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:17</td>
<td>144°</td>
<td>42</td>
<td>8</td>
<td>SOL</td>
</tr>
<tr>
<td>17:08</td>
<td></td>
<td>42</td>
<td>8</td>
<td>EOL</td>
</tr>
<tr>
<td>18:00</td>
<td>324°</td>
<td>1</td>
<td>10</td>
<td>SOL</td>
</tr>
<tr>
<td>18:19</td>
<td>144°</td>
<td>42</td>
<td>10</td>
<td>EOL</td>
</tr>
<tr>
<td>19:19</td>
<td>144°</td>
<td>42</td>
<td>9</td>
<td>SOL</td>
</tr>
<tr>
<td>20:09</td>
<td></td>
<td>1</td>
<td>9</td>
<td>EOL</td>
</tr>
<tr>
<td>22:00</td>
<td>324°</td>
<td>1</td>
<td>8A</td>
<td>SOL, Rcvn of C/L</td>
</tr>
<tr>
<td>23:31</td>
<td>144°</td>
<td>42</td>
<td>7</td>
<td>SOL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18</td>
<td></td>
<td>New day: July 19, 2000</td>
</tr>
<tr>
<td>00:18</td>
<td>1</td>
<td>7</td>
<td>EOL</td>
<td></td>
</tr>
<tr>
<td>02:33</td>
<td>324°</td>
<td>1</td>
<td>6</td>
<td>SOL</td>
</tr>
<tr>
<td>03:15</td>
<td>42°</td>
<td>6</td>
<td>EOL</td>
<td></td>
</tr>
<tr>
<td>04:49</td>
<td>234°</td>
<td>12</td>
<td>15</td>
<td>SOL</td>
</tr>
<tr>
<td>05:03</td>
<td>54°</td>
<td>1</td>
<td>15</td>
<td>BOL</td>
</tr>
<tr>
<td>05:33</td>
<td>54°</td>
<td>1</td>
<td>16</td>
<td>SOL</td>
</tr>
<tr>
<td>06:16</td>
<td>234°</td>
<td>12</td>
<td>16</td>
<td>BOL</td>
</tr>
<tr>
<td>06:24</td>
<td>234°</td>
<td>8</td>
<td>17</td>
<td>SOL</td>
</tr>
<tr>
<td>06:34</td>
<td></td>
<td>1</td>
<td>17</td>
<td>BOL</td>
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<td>07:11</td>
<td>54°</td>
<td>1</td>
<td>18</td>
<td>SOL</td>
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<td>07:20</td>
<td></td>
<td>8</td>
<td>18</td>
<td>BOL</td>
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<tr>
<td>07:52</td>
<td>234°</td>
<td>8</td>
<td>19</td>
<td>SOL</td>
</tr>
<tr>
<td>08:01</td>
<td></td>
<td>1</td>
<td>19</td>
<td>BOL</td>
</tr>
<tr>
<td>08:50</td>
<td>115°</td>
<td>10</td>
<td>14</td>
<td>SOL</td>
</tr>
<tr>
<td>08:51</td>
<td></td>
<td>1</td>
<td>14</td>
<td>BOL</td>
</tr>
<tr>
<td>09:41</td>
<td>324°</td>
<td>1</td>
<td>6A</td>
<td>SOL, Rcvn due to positioning</td>
</tr>
<tr>
<td>10:26</td>
<td>234°</td>
<td>42</td>
<td>6A</td>
<td>BOL</td>
</tr>
<tr>
<td>10:59</td>
<td>234°</td>
<td>12</td>
<td>15A</td>
<td>SOL</td>
</tr>
<tr>
<td>11:13</td>
<td></td>
<td>1</td>
<td>15A</td>
<td>BOL</td>
</tr>
<tr>
<td>12:05</td>
<td>115°</td>
<td>10</td>
<td>13</td>
<td>SOL</td>
</tr>
<tr>
<td>12:16</td>
<td></td>
<td>1</td>
<td>13</td>
<td>EOL</td>
</tr>
<tr>
<td>14:48</td>
<td>94°</td>
<td>109</td>
<td>3</td>
<td>SOL</td>
</tr>
<tr>
<td>14:48</td>
<td></td>
<td>100</td>
<td>3</td>
<td>About 1° Too Close</td>
</tr>
<tr>
<td>Time</td>
<td>Heading</td>
<td>Fix Number</td>
<td>Line Number</td>
<td>Remarks</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>------------</td>
<td>-------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>01:16</td>
<td>04°</td>
<td>109</td>
<td>3A</td>
<td>RSL</td>
</tr>
<tr>
<td>06:53</td>
<td>07°</td>
<td>109</td>
<td>3A</td>
<td>About Position on Fish Shoot.</td>
</tr>
<tr>
<td>18:09</td>
<td>04°</td>
<td>09</td>
<td>3A</td>
<td>SSL</td>
</tr>
<tr>
<td>19:16</td>
<td></td>
<td>1</td>
<td>3B</td>
<td>SSL</td>
</tr>
<tr>
<td>21:37</td>
<td>274°</td>
<td>1</td>
<td>1</td>
<td>SSL</td>
</tr>
<tr>
<td>23:45</td>
<td>09°</td>
<td>1</td>
<td>1</td>
<td>SSL</td>
</tr>
<tr>
<td>00:00</td>
<td></td>
<td></td>
<td></td>
<td>New Day July 20</td>
</tr>
<tr>
<td>00:33</td>
<td>04°</td>
<td>109</td>
<td>5</td>
<td>SSL</td>
</tr>
<tr>
<td>02:43</td>
<td>09°</td>
<td>1</td>
<td>5</td>
<td>SSL</td>
</tr>
<tr>
<td>04:10</td>
<td>274°</td>
<td>1</td>
<td>2</td>
<td>SSL</td>
</tr>
<tr>
<td>06:20</td>
<td>09°</td>
<td>1</td>
<td>2</td>
<td>SSL</td>
</tr>
<tr>
<td>07:00</td>
<td>04°</td>
<td>09</td>
<td>4</td>
<td>SSL</td>
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<td>09:12</td>
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<tr>
<td>10:49</td>
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<td>11:01</td>
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SATLOC® DIFFERENTIAL GPS

The United States Department of Defense (DOD) has deployed a satellite based navigation system that incorporates 24 satellites known as the Global Positioning System (GPS). This navigation system allows its users to determine position, velocity and time anywhere on earth 24 hours a day. The basic stand-alone accuracy of GPS is 15-20 meters. The DOD does not want the users of the GPS to be allowed such accurate positioning, so deliberate range degradation, known as Selective Availability (SA) may be applied. This makes GPS's stand alone accuracy 50-100 meters. This performance will not meet the accuracy of the client or the Minerals Management Service for geophysical data acquisition. In order to achieve survey quality accuracy of GPS, differential corrections must be applied.

The pseudo-range errors, which are dithered by DOD and transmitted through the GPS satellites, can be determined by placing a GPS receiver at a known geodetic point, thus determining the required corrections. By determining the range and bearing of the erroneous signal, the error or differential correction can be relayed via satellite or radio telemetry link to users who are located within the base station coverage area. This GPS technique has proven to be particularly effective and accuracies in the sub meter range have been achieved when utilizing a Wide Area Differential GPS network.

The SATLOC® differential GPS system is a wide area differential system which utilizes fourteen base stations scattered across the United States and Canada. The algorithms used for the network were developed and tested at the Jet Propulsion Laboratory (JPL) prior to being used commercially. User position accuracy for single-frequency receiver is at the level of 1 to 3 meters in the dynamic state.
SIMRAD EM 1000

As the shallow to medium depth member of Simrad's family of multibeam echo sounder systems, the EM 1000 Multibeam Echo Sounder harnesses technology from the latest developments in underwater acoustics and signal processing. The EM 1000 design evolved from the well-proven and highly productive EM 100 and EM 12 multibeam echo sounders. The success of the Simrad family of multibeam systems can be attributed to their accuracy, high rate of data acquisition, reliability and ease of operation. Survey teams operating the EM 1000 will benefit from all of these same advantages, achieving data quality and productivity levels to meet the most rigorous project demands.

The EM 1000 operates at a frequency of 95 kHz, and provides a precision swath mapping capability to 1000 meters depth. The EM 1000 is a complementary system to the EM 12, and an upgrade of EM 100.

EM 1000 users will complete survey tasks much faster than is possible with conventional single beam echosounders, with as good or even improved accuracy. By applying advanced signal processing techniques, typical accuracy of 0.3% of water depth or 15 cm (whichever is greater) are achieved across the entire swath.

The introduction of the EM 1000 marks a major leap into the future for digital hydrography utilizing data acquisition of digital bathymetry integrated with position data and computerized map processing techniques. The sheer volume and consistency of the data produced by Simrad's high resolution swath covering systems provide a far better basis for construction of the desired digital terrain model than any earlier generation of equipment. From such terrain models, seabed contour
SIMRAD EM 1000

Maps of any scale, size and shape may be drawn, Profiles may be calculated and plotted and any combination of data may be extracted, computed and presented for planning purposes (volumetric calculations, 3-dimensional views, etc.). The resulting maps offer quality and accuracy far beyond any map produced by conventional methods, and at a significantly lower cost.

The Simrad NEPTUNE post processing system is especially suitable for use with the EM 1000 data, but other systems may also be used. In addition to the bathymetric maps, the EM 1000 measures the strength of the backscattered signal from the seabed inside the swath, with very high resolution. Seabed images similar to those produced by shallow towed side scan sonars can be produced in real time, but with correct geometric registration. The digital sonar image data can be made available for post-processing.

Some of the major benefits of the EM 1000

- Excellent accuracy across the entire swath due to bottom detection by phase measurement (interferometric principle) with very good tolerance to bottom slope.
- A 3 m to 1000 m depth capability (beneath the transducer).
- A large number of beams, with the detection points in the beam centers.
- Increased range due to variable bandwidths, coverage sector and pulse lengths, and bottom detection by phase measurement.
- Full and automatic compensation for ray bending caused by a varying sound velocity profile in the water column.
- Fully automatic operation without operator intervention under almost all conditions.
- Installation of the transducers can be tailored to the ship. Different solutions have been designed for new and retrofitted vessels, and portable solutions are also available. A hull unit with mechanical pitch stabilization may be used.
- Simrad's multibeam technology has been proven through multibeam field operations since 1986.
- High reliability using quality Simrad hardware.
SIMRAD EM 1000

Manufacturer's Specifications:

- Frequency: 95 kHz
- Bandwidth: 10 kHz
- Total Power: 6 kW
- Source Level: 224 dB
- Pulse length: 0.2 ms
- Roll Stabilization: Electronic to +/- 15 degrees
- Beams: 60 each, 3.3 degrees x 3.3 degrees
  120 each/ 2 pings
- Ray Bending: Real Time Corrections
- Heave, Pitch, Roll: Real Time Corrections
- Ping rate: 4 per second to 50 meter
- Range: 7.4 x W.D to 200 meters
  2 X W.D. to 700 meters

Operating modes:

- 150 degree equal angle. 120 beams/2 pings
- 150 degree equal distance. 120 beams/2 pings
- 140 degree equal angle. 120 beams/2 pings
- 140 degree equal spacing.120 beams/2 pings
- 128 degree equal angle. 120 beams/2 pings
- 114 degree equal spacing. 120 beams/ 2 pings
- 75 degree equal spacing. 120 beams/ 2 pings
- 70 degree equal spacing. 120 beams/ 2 pings
- Port bank (170 degrees)
- Starboard bank (170 degrees)
- Channel (190 degrees)
DATASONIC’S SIS MODEL 1000 SEAFLOOR IMAGING SYSTEM

The SIS Model 1000 Seafloor Imaging System is a combined side scan sonar and subbottom profiling system. The system is comprised of two major subsystems, the shipboard processor and tow vehicle electronics. This is a fully integrated Chirp side scan sonar/Chirp subbottom profiling system designed for water depths less than 1000 meters. The SIS-1000 uses Digital Signal Processing (DSP) technology to produce real-time processing of multi-channel Chirp sensor data. The Chirp Link Multiplexor provides for digital sonar and status data uplink, and command and control downlink communications using a coaxial or fiber-optic tow cable. Chirp sonar technology employs swept FM (frequency modulated) transmitted signals along with digital signal processing for matched-filter processing of reflected energy. A greater dynamic range is attained as long FM pulses provide an additional 20 dB to 30 dB over conventional side scan and subbottom sonar systems. In sonar and subbottom systems, higher frequency content is associated with increased resolution. The drawback to using higher frequencies is increased attenuation resulting in reduced penetration of a subbottom signal or a reduction in range of a sonar system.

The hydrodynamic tow vehicle is designed for speeds up to 10 knots and is approximately 5 feet long by 1.5 feet in diameter. The side scan provides a 0.5-degree effective horizontal beam width, and a 70-degree vertical beam width. The side scan sonar operates in the 90 kHz to 110 kHz band with the port and starboard channels sweeping in opposite directions. The system can be operated in ranges varying from 25 to 750 meters. The wide-band Chirp DSP matched filter processing allows for a combination of very high resolution and long range data acquisition.

The subbottom profiler transducer consists of a four-element projector array and an eight-element hydrophone array. The frequency is swept in a bandwidth of 2 kHz to 7 kHz. The operator can apply fixed gain to the subbottom signals. The transmitter transducers are located in the bow section
DATASONIC'S SIS MODEL 1000 SEAFLOOR IMAGING SYSTEM

of the fish in a square formation. These results in a conical transmit beam in that the vertical beam is narrow and the horizontal beam is omni directional.

Optional sensors include a depth sensor, CTD, Motion reference unit, magnetometer, altimeter, and responders/transponders for towfish tracking.

The integrated Sonar Display and Control Workstation is responsible for acquiring, processing and displaying subsea sensor data in a windows software environment. The system consists of a Pentium computer running under the Windows operating system. The display is a waterfall image of the three sonar channels with status and control functions displayed. Control functions include external navigation, tow vehicle pitch, roll, and heading etc. All data is stored on Exabyte 8 mm tape or magneto optical disks in Q-MIPS or SEG-Y format. Recording of the data from all 3 channels has 16-bit resolution, plus status information. Slant range and speed correction of data is also accomplished for true plan view imaging. Hard copy output can be logged either to an inkjet printer or a thermal chart recorder.
SEABIRD SEACAT 19 CTD PROFILER

The Seacat SBE 19-01 Profiler, from Sea-Bird Electronics, Inc., measures electrical conductivity and temperature versus pressure (depth) in marine environments to depths up to 6,800 meters (22,309 feet). The maximum sampling rate is 2 scans per second. Self-powered and self-contained, the SBE 19 features proven Sea-Bird conductivity and temperature sensors and a precision semiconductor strain-gauge pressure transducer. A 64 kilobyte solid-state memory allows 1.5 hours of recording (6 hours with optional 256 kilobyte memory) while sampling at two scans per second. Set-up, check-out, and data extraction are performed without opening the housing. Simultaneous real time monitoring is possible using the Seacat Profiler's two wire RS-232C transmit capability. Sea-Bird's powerful Seasoftware derives salinity, density, sound velocity, and other ocean parameters from stored CTD (conductivity, temperature, depth) and may be used for data analysis, plotting and archival. Small external sensors may be powered and their frequency or voltage outputs acquired by the SBE 19.

Seacat Profiler options include 1) aluminum housings for use to 3,400 or 6,800 meters; 2) 256 kilobyte memory; 3) an extra bulkhead connector for auxiliary inputs; 4) SBE 5 submersible pump for pumped conductivity; 5) an opto-isolated junction box for supplying power and interconnecting Seacat Profiler and a companion computer which is necessary when using the Profiler in real-time mode.

Use of conductivity, temperature, and depth measurement for determination of sound velocity is appealing because these instruments are simpler and more rugged and because resolution, accuracy, and stability lead to better precision than can be obtained with direct sound velocity measuring
SEABIRD SEACAT 19 CTD PROFILER

devices. Three equations are widely used for deriving sound velocity from CTD data (Wilson, 1959; Del Grosso, 1972; Millero and Chen, 1977). Absolute sound velocities derived from these equations differ on the order of .5 meter/second for various combinations of water temperature, salinity, and pressure. The work of Millero and Chen is the most modern and builds upon and attempts to incorporate the work of the earlier investigators. Millero and Chen's 1977 equation is used in the Sea-Bird Seasoft software, and is the one which is endorsed by the Unesco/SCOR/ICES/IASPO Joint Panel on Oceanographic Tables and Standards which comprises the internationally recognized authority for measurements of ocean parameters.
APPENDIX D

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**DAILY TIDES**
Tuesday, Jul 18, 2000
Central Daylight Time

- Port Eads, South Pass, Louisiana
- 29º01'N, 89º10'W
- Sunrise: 06:10, Sunset: 19:56

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**DIALYT SAVING**

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**Worldtide**
(c) 1998 Micronautics, Inc.
Camden, Maine

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(c) 1998 Micronautics, Inc.

Camden, Maine

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- m = mean lower low water
- h = mean high water
- 0 = mean sea level

WORLDtide
(c) 1998 Micronautics, Inc.
Camden, Maine
APPENDIX E

VELOCIMETER DATA
VELOCIMETER PROFILES
SOUND VELOCITY PROFILE

Water Column Velocity (m/sec)

Walter Oil & Gas
Pipeline Route Survey
Block 68 to Block 20,
Mississippi Canyon Area

July 18, 2000
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