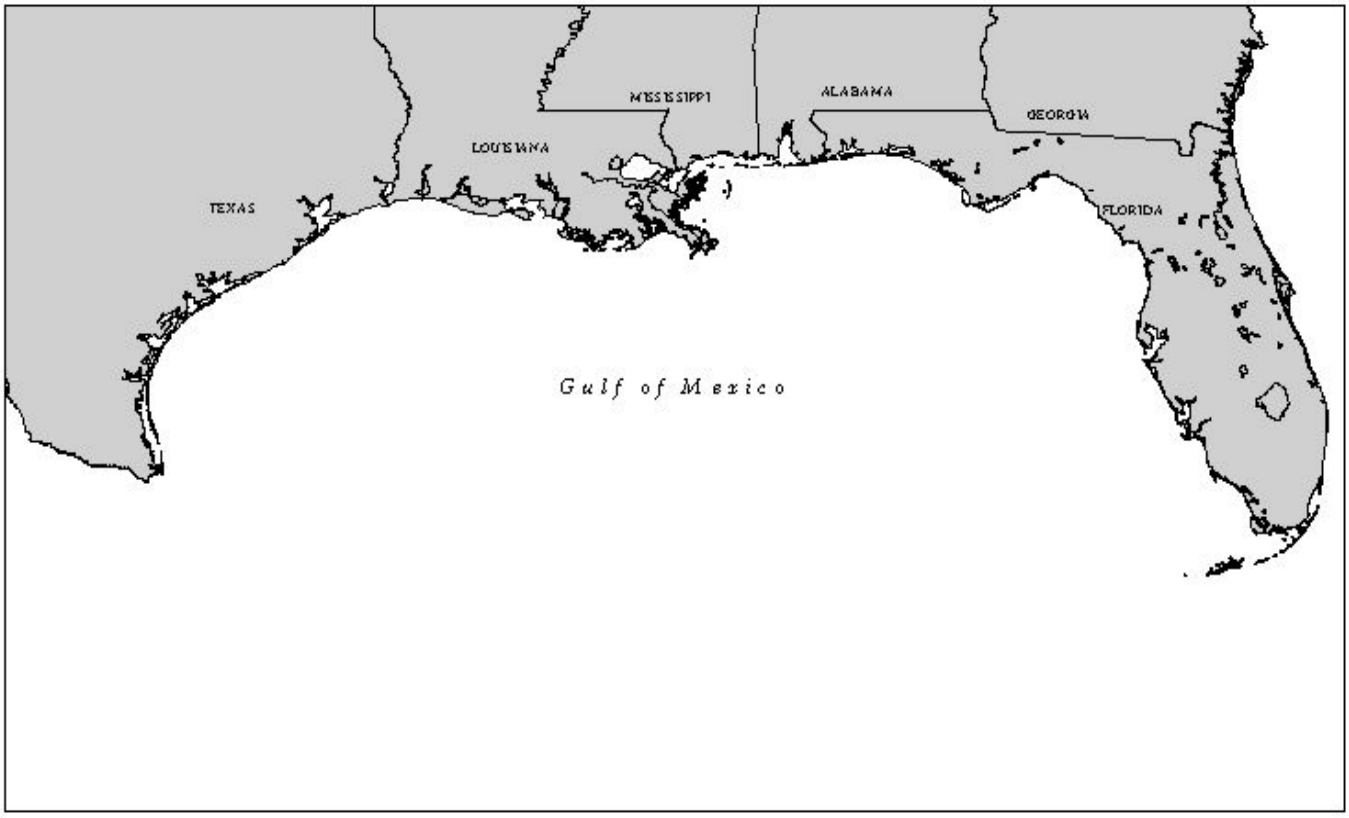
OCS Study
MMS 2001-052

Air Quality: User's Guide for the Gulfwide Offshore Activities Data System (GOADS)

Final Report



U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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MMS 2001-052

Air Quality: User's Guide for the Gulfwide Offshore Activities Data System (GOADS)

Final Report

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TABLE OF CONTENTS

Section **Page**

LIST OF FIGURES

Figure **Page**

1. INTRODUCTION

The Minerals Management Service (MMS) mandated that offshore operators in the Gulf of Mexico participate in an annual survey program for the year 2000, during which time the MMS will collect information regarding offshore operations (see Notice to Lessees # 99-G15). The purpose of these surveys is to assist the MMS in constructing an emission inventory for the entire Gulf of Mexico. MMS funded the development of the Gulfwide Offshore Activities Data System (GOADS) software in order to assist offshore operators in complying with the MMS mandate. GOADS assists users in recording information regarding emissions-related offshore activities and generates computer data files that can be delivered to the MMS.

The Breton Offshore Activities Data System (BOADS) was used as the starting point for GOADS. In fact, GOADS was designed so you can directly import your monthly BOADS files for 2000. The primary differences between BOADS and GOADS is that GOADS covers some additional equipment types, and has an annual survey for fugitive emission sources (the data only need to be entered once, not every month). GOADS has also been modified so you can print a QA Summary Form. The additional GOADS equipment types will be discussed in Section 2.2.3.

1.1 PRINCIPLES OF USE AND SYSTEM REQUIREMENTS

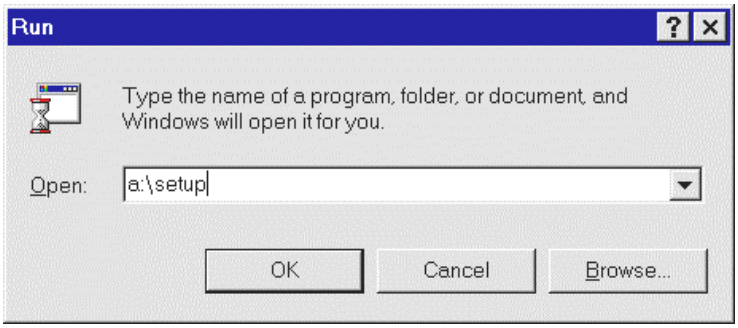
GOADS works on IBM-compatible personal computers (PCs) that are equipped with the Microsoft Windows 95™ or NT™ operating systems. (At a minimum, a 486DX2 Windows 95 platform with 16 Mbyte RAM is needed.) The user should possess a modest familiarity with the Windows operating environment and should understand a few of its common features, such as point-and-click, copy-and-paste, file management, menu-driven selection, and text boxes.

1.2 INSTALLATION

The GOADS distribution pack includes this User's Guide; lookup tables with MMS information such as operator IDs and other structure data, and an Installation CD (labeled GOADS, Version 1.0.0). The lookup tables and Installation CD are necessary to complete the installation of GOADS.

Complete the following steps to install GOADS:

1. Insert the Installation CD into the CD-ROM (assumed here to be the d:\ drive).
2. Click  from the Windows Taskbar, then select  .
3. Type d:\setup (CD ROM) and click OK.



4. Follow the instructions that appear on each successive screen, and click Finish to complete the installation. (The User ID can be found in a separate document stored on the Installation CD. This ID cannot be changed once entered. It is important that you use your previously assigned BOADS ID in GOADS if you have one, particularly if you will be directly importing your BOADS files into GOADS. If you do not have a BOADS ID, enter your MMS operator number as your User ID.)

   During the installation process, the setup program may ask you to reboot your machine one or more times (depending upon the files currently installed on your PC). You should reboot when asked.

5. Remove the Installation CD.

6. The Installation CD should be stored in a safe place.

2. USING THE GULFWIDE OFFSHORE ACTIVITIES DATA SYSTEM (GOADS)

The GOADS software assists users in completing monthly surveys covering air emissions-related activities that are associated with offshore facilities. GOADS queries the user regarding emissions-related operating data, saves the data on the user's PC, and guides the user to create copies of the data on floppy disks or compact disks (CDs) for backup or delivery to the MMS.

- You should run GOADS in order to enter new operating data for each month. For example, if production or throughput volumes change from month-to-month, this new information should be entered for every month. Parameters that remain constant may be copied from the previous month's entries. Variables that typically change from month-to-month are labeled with blue font.
- A saved data set corresponding to one month is called a "survey" or a "monthly survey." Upon creating a survey, you should enter information that represents all offshore facilities belonging to his/her company and all emissions-producing equipment on those facilities. After all facilities have been identified, production/throughput relationships between facilities should be defined. GOADS provides a "fill-in-the-blank" approach in order to generate structure, equipment, and production/throughput data.
- As you enter data, GOADS performs a number of automatic error checks. If an error is suspected, you will be reminded and may be asked to correct the error or provide comments in a text box. After the data are submitted, MMS will attempt to reconcile missing or unusual data by reviewing the comments or contacting you by telephone. GOADS performs the following types of error checks:

  - ☑ Completeness – to identify missing data entries
  - ☑ Range – to determine when data entries fall outside of typical ranges
  - ☑ Consistency – to determine whether data entries are consistent with one another
  - ☑ Month-to-month – to determine whether information that typically varies by month has been reviewed and edited appropriately or to flag items that change radically from one month to the next

2.1 STARTING AND EXITING GOADS

To start GOADS, click Start from the Windows taskbar, then select Programs ▸ | GOADS. Upon starting GOADS for the first time, the "New User" screen will appear. At this point you must fill in the requested contact information in order to proceed. You will only need to complete this screen once. The next time you run GOADS, it will NOT appear. Instead, the Main Window (**Figure 2-1**) will appear.

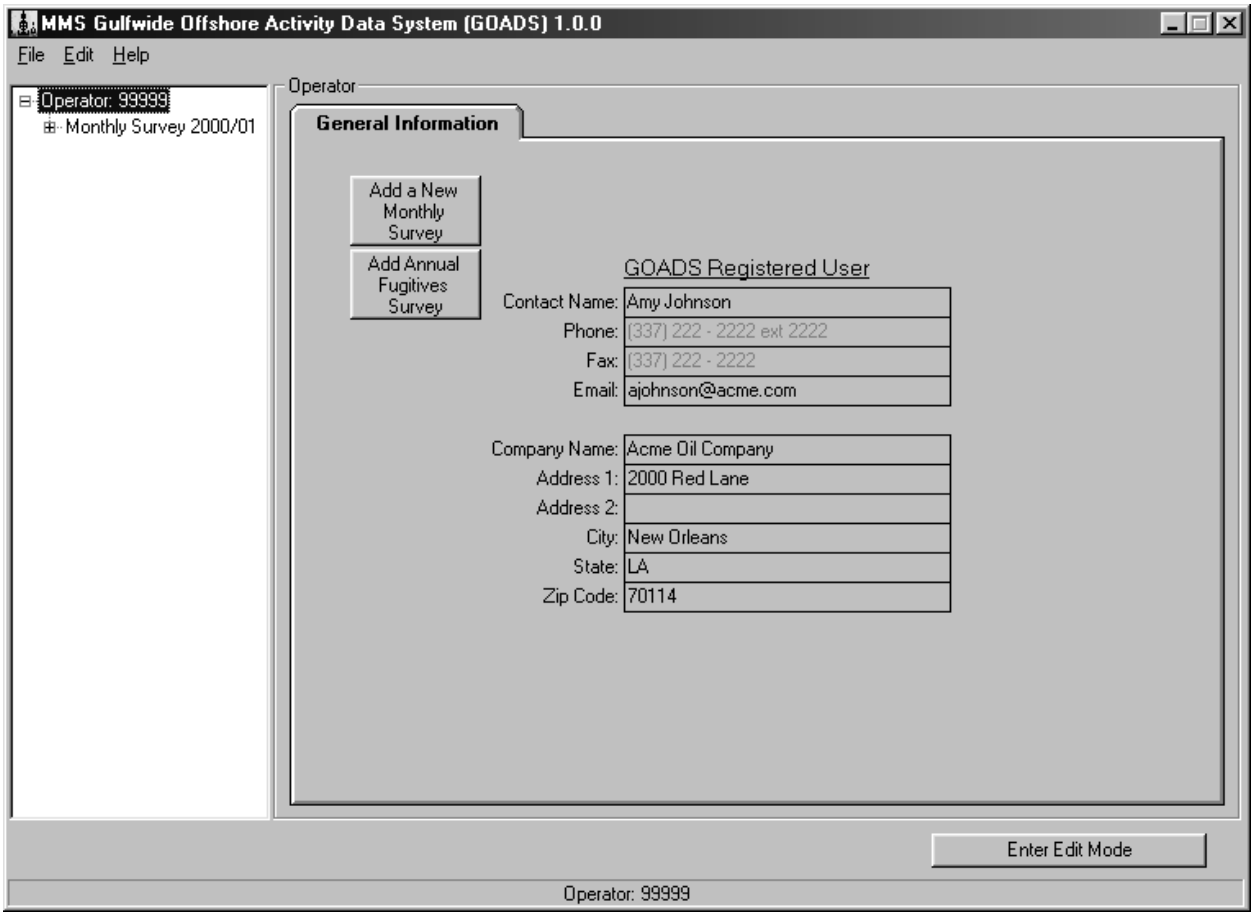


Figure 2-1. GOADS Main Window.

The "New User" screen asks for a "User ID". If you are a BOADS user and plan to import your BOADS files, enter your BOADS User ID. If you are a new user, your User ID (operator ID) can be found on the provided lookup table. It is extremely important that you use the correct User ID.

From the Main Window, the user may perform the following tasks:

- Import monthly BOADS surveys.
- Edit participant identification information (initially entered during program installation).
- View, create new, edit, copy-and-paste, save, or delete data for monthly surveys, facilities, or equipment.
- Set the status of a structure or equipment (e.g., active, inactive, transferred ownership, etc.).
- Edit production/throughput relationships between facilities for a specific survey period.
- Export a saved survey to a floppy disk or CD for backup or delivery to MMS.

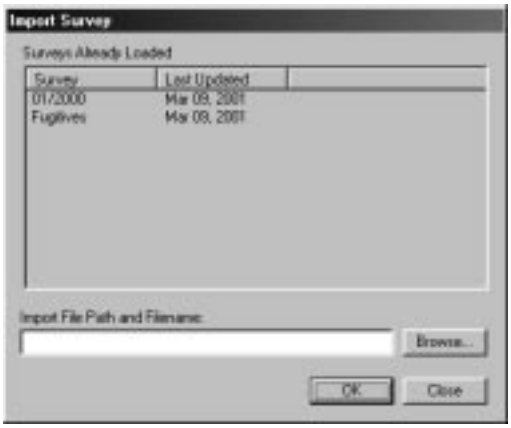
- Print the QA Summary Form (must be printed when file is submitted to MMS; highlights key data that are missing) (see Section 3.3).
- Run QC on the currently selected monthly survey.

Use one of the following techniques to exit the program: (1) click File | Exit Program from the Main Window menu, or (2) click the ☒ symbol at the upper right. When you hit close or select File | Exit Program from the main menu, a message box will appear asking if you would like to compact the database. As you add more data to GOADS, we recommend that you say "YES" when prompted. Over time, the database can grow significantly, especially if you run the QA summary report multiple times.

If you have never used BOADS, you can skip this section and go directly to 2.2.1 "Creating and Editing Survey Data." If you have used BOADS, you must read this section before proceeding.

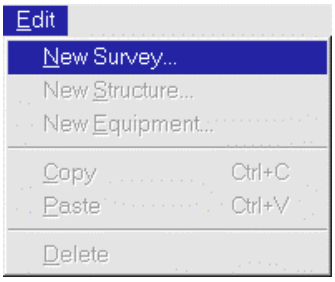
If you are a BOADS user, you should first import your BOADS data into GOADS before proceeding (described below). After importing your BOADS data, you will need to review the your amine unit and glycol dehydrator entries, as new fields have been added to these equipment screens in GOADS. In addition, the following NEW equipment screens have been added to GOADS: Losses from Flashing, Mud Degassing, Pneumatic Pumps, and Pressure/Level Controllers. You must add new data for these equipment types to your existing surveys. Section 2.2.3 discusses creating and editing equipment data.

To import BOADS data, select File|Import BOADS Monthly Survey from the main menu. A dialog box will appear which lists any surveys that have been previously imported. The first time you import a file, this list will be blank. Enter the path and file name of the BOADS file you wish to import in the box labeled "Import File Path and Filename." You can also use the "Browse" button to find the file you wish to import. After you have selected a file, hit "OK." The BOADS file will be imported (this may take a few seconds). When the import process is complete, the survey name and its associated structures and equipment types should appear in the Navigation tree on the left of the screen. You must repeat this import process for all of your BOADS files. (If you have completed 12 months of data, you will need to import 12 files or "surveys.") As each file is imported, its name will appear in the "Surveys Already Imported" list.



2.2 CREATING AND EDITING DATA

2.2.1 Creating and Editing Survey Data



In order to create a new survey, select Edit | New Survey from the Main Window menu.

A New Survey dialog box will appear to request the month and year of the survey period (**Figure 2-2**). Enter the month (1-12) and 4-digit year, then click OK. An icon for the new survey will appear in the Navigation Tree on the left side of the Main Window. Highlight the survey icon to view the Survey Screen (**Figure 2-3**). The Survey Screen contains three tabs: *General Information*, *Relationships*, and *QC Results*. *General Information* shows contact information for the current survey (which may vary from month-to-month or may remain constant). *Relationships* displays inter-structure production/throughput relationships (see Section 2.2.5). *QC Results* tabulates any quality control errors encountered during data entry (see Section 2.3).

The following buttons are available on the Survey Screen:

- Enter Edit Mode launches Edit Mode so that changes or new data may be entered.
- Run QC runs quality control checks on all data saved within the current survey.

Three additional buttons become available only in edit mode:

- Save (only available in Edit Mode) incrementally saves work and returns to Edit Mode.
- Cancel (only available in Edit Mode) discard recent changes and close Edit Mode.
- Save & Leave Edit Mode (only available in Edit Mode) saves changes and exits Edit Mode.

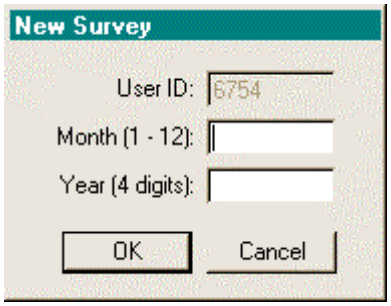


Figure 2-2. New Survey Dialog Box.

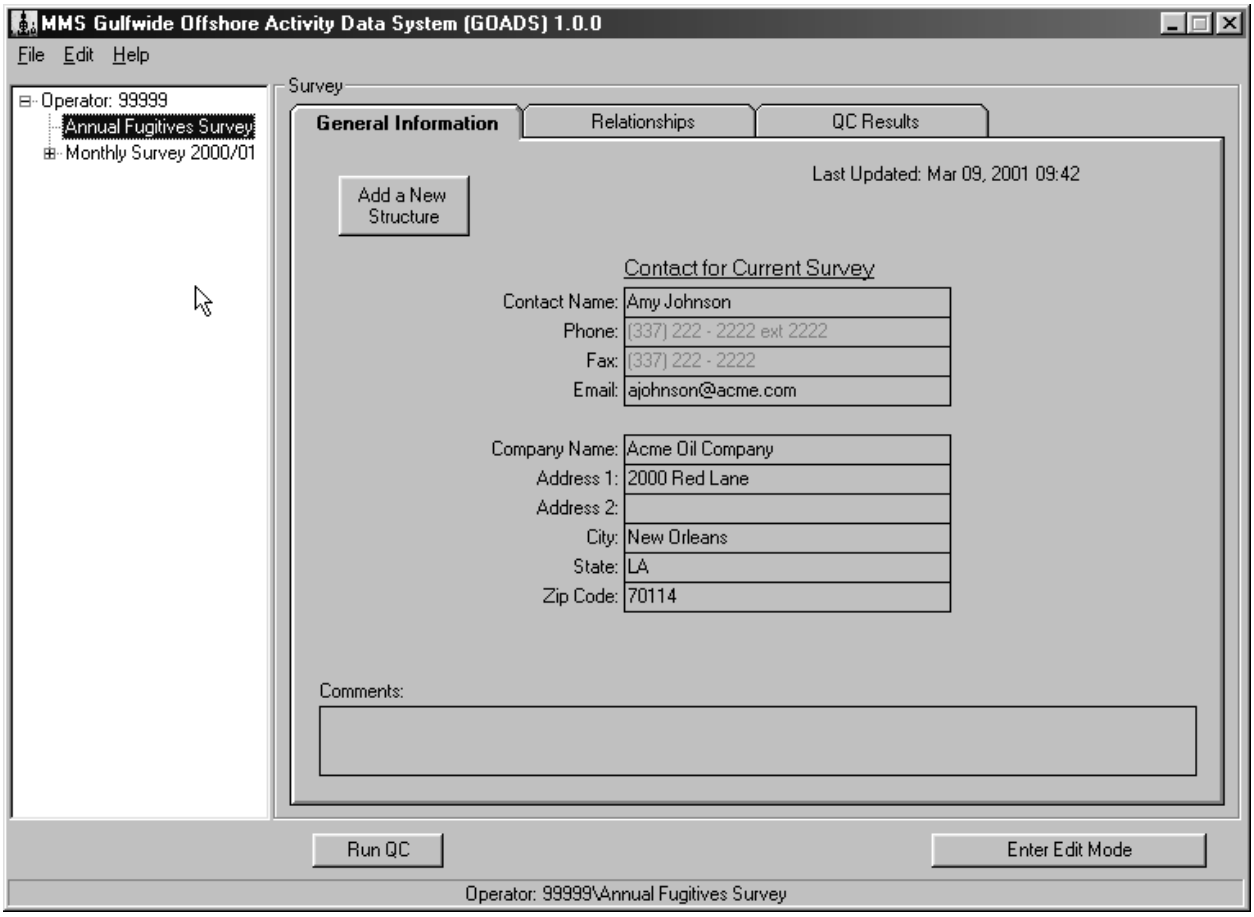


Figure 2-3. Survey Screen.

Annual Fugitives

In GOADS, fugitive emissions are reported only once for the entire year and are entered under a separate survey (i.e., annual fugitive emissions are the 13th survey). You are encouraged to prepare an equipment inventory by making direct counts of your components by service type. Also, because there is a large variation in emissions for compressor seals, you will have to specify the compressor and seal types. See **Figure 2-4** for the fugitives survey screen.

When you start GOADS for the first time, you will notice that there is an additional button on the Operator/General Information form which is labeled "Add Annual Fugitives Survey." Once you have created a fugitives survey, this button will not appear again. We suggest that you create your other data first and return to the fugitives data LAST. By doing so, you should eliminate double entry. All structures must appear in the Annual Fugitives survey. Once you have created your structures under your monthly surveys, you can simply copy/paste these structures into the fugitives survey. (Structure creation is discussed in Section 2.2.2.)

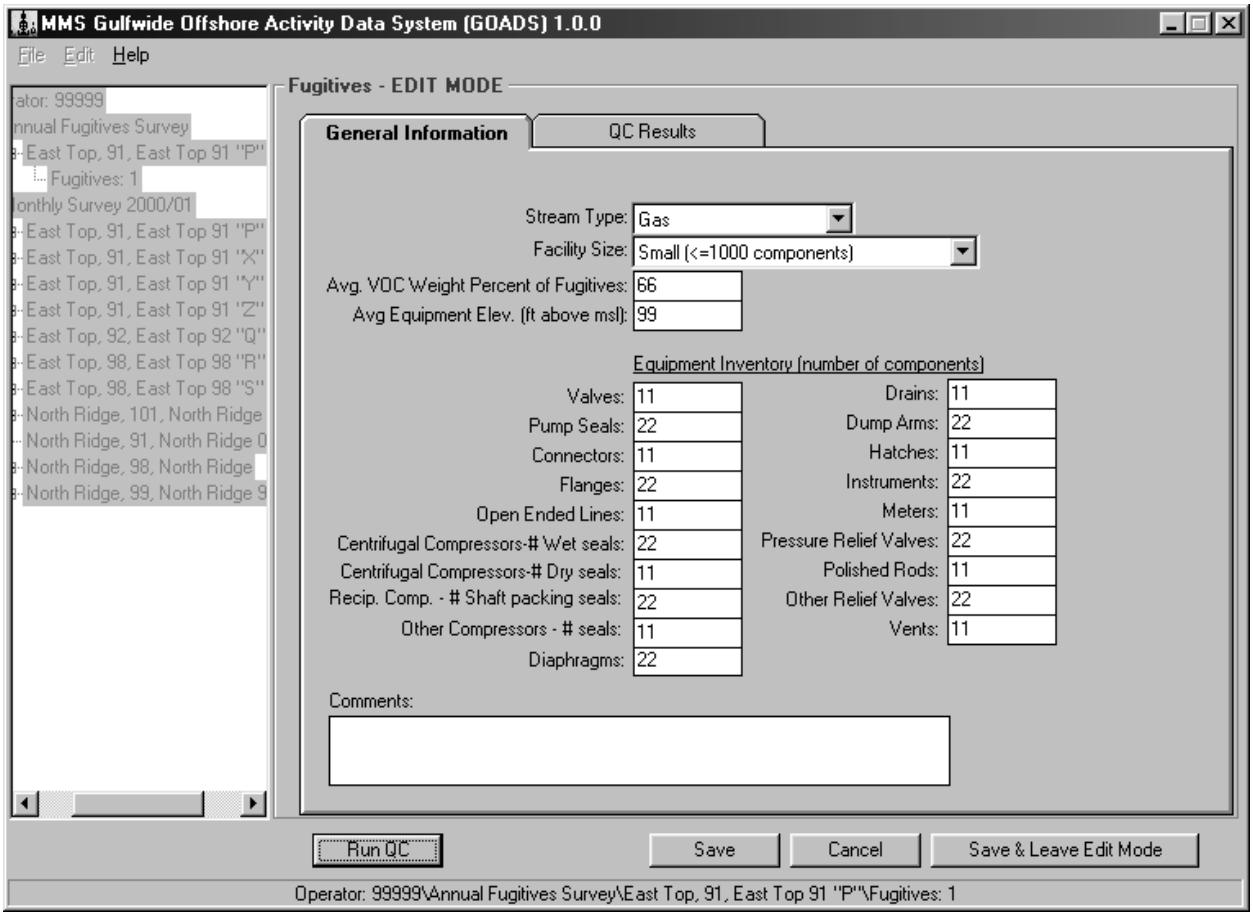
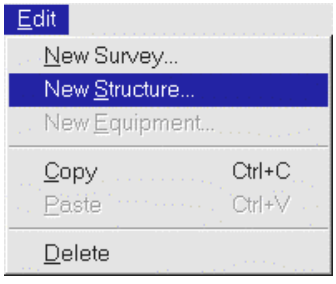


Figure 2-4. Annual Fugitives Survey Screen.

Once you have created a structure under your fugitives survey, you will need to add "Fugitives" as the equipment type. (If you have imported your data from BOADS, when you copy the structures into the Annual Fugitives Survey, the fugitives "equipment" will be copied as well.) A New Equipment Dialog box will appear requesting an equipment ID and equipment type for the fugitives. If you prefer, you can create separate pieces of fugitives "equipment" under one structure, each of which corresponds to a different stream type. You will notice that there is only one type of equipment available in the Equipment Type dropdown box – "Fugitives." Once you assign an ID, select OK. The fugitives screen will appear. This screen is comparable to the equipment screens discussed in Section 2.2.3 (Creating and Editing Equipment Data).

2.2.2 Creating and Editing Structure Data

In order to create new structure data, go to the Navigation Tree on the left side of the Main Window and select the appropriate survey (into which the new structure data will be placed). Select Edit | New Structure from the Main Window menu.



A New Structure Dialog Box will appear to request vital identification data for the structure (**Figure 2-5**). Enter the information and click OK. An icon for the new structure

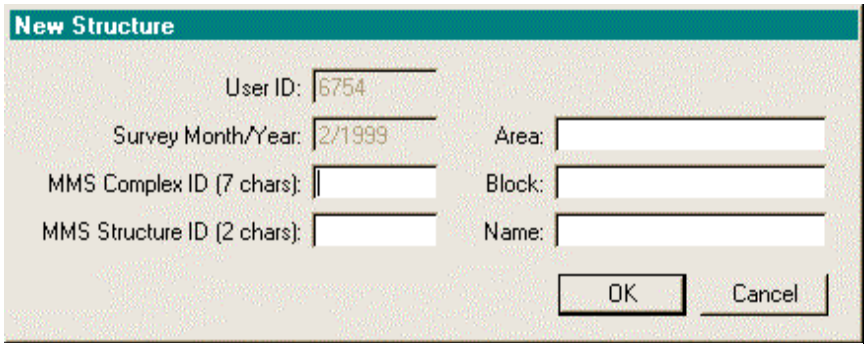


Figure 2-5. New Structure Dialog Box.

will appear in the Navigation Tree on the left side of the Main Window. Highlight the new structure icon to view the Structure Screen (**Figure 2-6**). The Structure Screen contains three tabs: *General Information, Sales Gas,* and *.QC Results*. *General Information* shows contact and other general information for the current structure. *Sales Gas* presents the volumetric composition of the natural gas processed at the structure and transferred off the structure (**Figure 2-7**). *QC Results* tabulates any quality control errors that may be encountered as data are completed for the current structure and its associated equipment (see Section 2.3). (Note that production is the quantity of petroleum that was extracted from the ground *at the structure*; throughput is the total quantity of petroleum handled at the structure, including petroleum extracted at another location and transferred to the structure.)

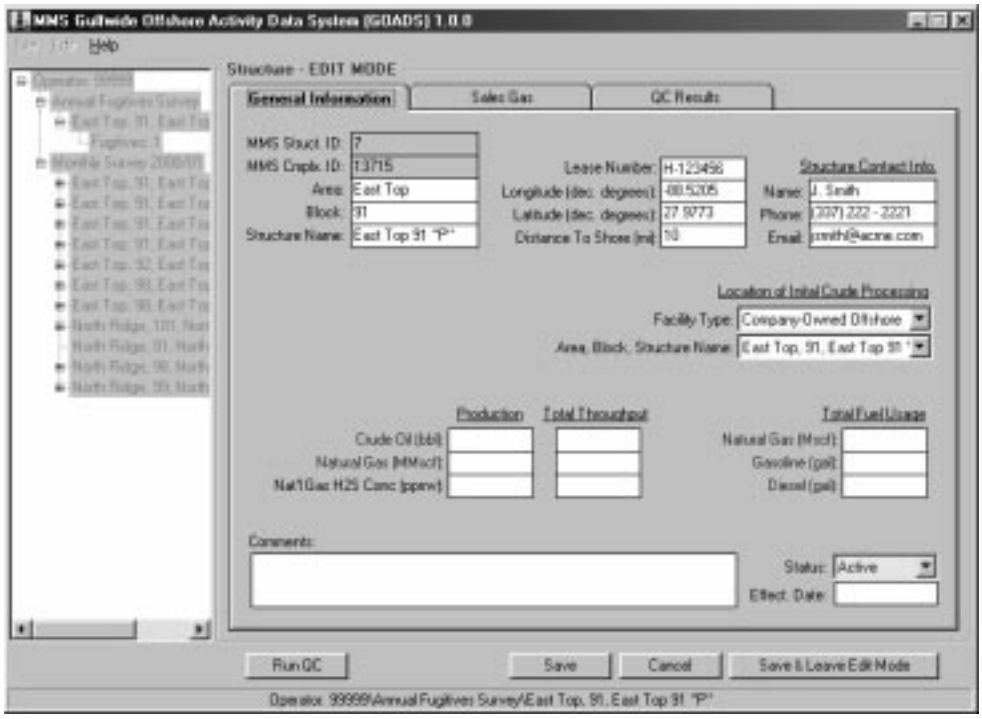


Figure 2-6. Structure Screen.

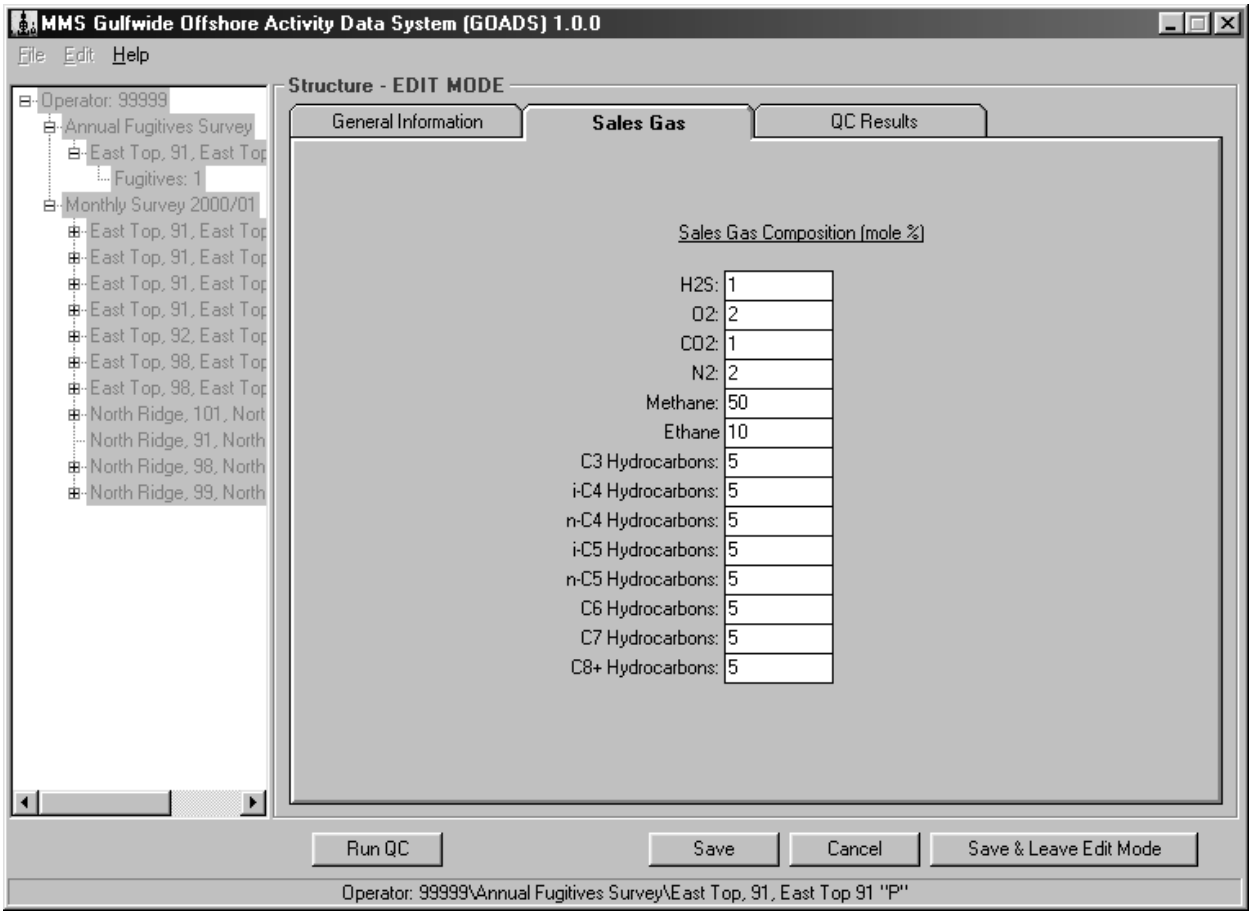


Figure 2-7. Sales Gas Screen.

The following buttons are available on the Structure Screen:

- Enter Edit Mode launches Edit Mode so that changes or new data may be entered.
- Run QC runs quality control checks on all data saved for the current structure and its associated equipment.

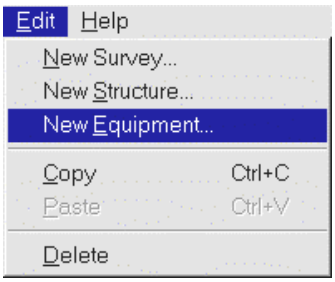
Three additional buttons become available only in edit mode:

- Save (only available in Edit Mode) incrementally saves work and returns to Edit Mode.
- Cancel (only available in Edit Mode) discard recent changes and close Edit Mode.
- Save & Leave Edit Mode (only available in Edit Mode) saves changes and exits Edit Mode.

2.2.3 Creating and Editing Equipment Data

GOADS queries for information regarding the following sources of emissions:

- Amine gas sweetening unit
- Boiler/heater/burner
- Drilling rig
- Flare
- Gasoline/diesel engine
- Glycol dehydrator
- Loading operation
- Losses from flashing
- Mud degassing
- Natural gas engine
- Natural gas turbine
- Pneumatic pumps
- Pressure/level controllers
- Storage tank
- Vent



In order to create new equipment data, go to the Navigation Tree on the left side of the Main Window and select the appropriate structure (into which the new equipment data will be placed). Select Edit | New Equipment from the Main Window menu.

A New Equipment Dialog Box will request vital identification data for the equipment, such as equipment ID number and equipment type (e.g., flares, turbines, etc.) (**Figure 2-8**). Enter the information, then click OK. An icon for the new equipment will appear in the Navigation Tree on the left side of the Main Window and a new screen will automatically open, specific to the equipment type entered. You can return to this equipment screen at any time by highlighting the equipment (**Figures 2-9, 2-10, 2-11**). Depending on the equipment type, the equipment screen will contain two to four tabs: *General Information*, *Exhaust/Ventilation System*, *Control Equipment,* and *QC Results*. *General Information* shows operating parameters for the current equipment. *Exhaust/Ventilation System* presents variables that are related to equipment exhaust systems. *Control Equipment* permits users to describe installed pollution control devices that were not accounted for on the *General Information* tab. **Figures 2-12, 2-13, 2-14, and 2-15** show the edit screens for the new equipment units added to the GOADS. *QC Results* tabulates any quality control errors that may be encountered as data are completed for the equipment (see Section 2.3).

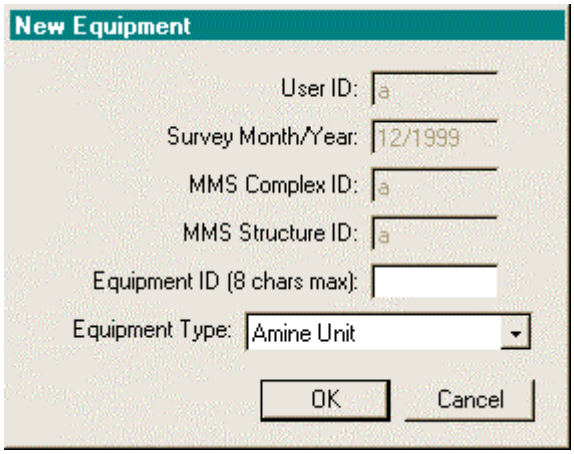


Figure 2-8 New Equipment Dialog Box.

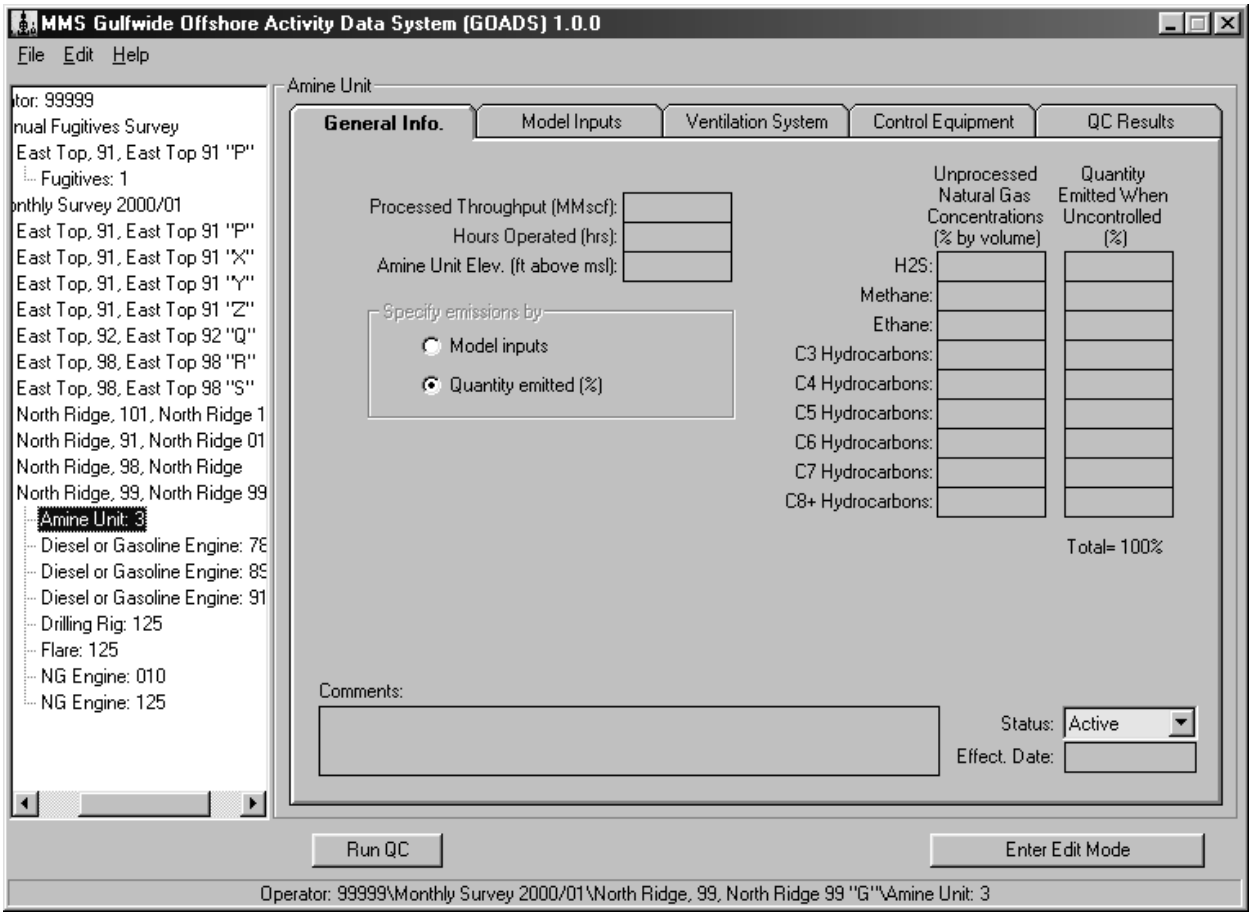


Figure 9. Amine Gas Sweetening Unit Screen.

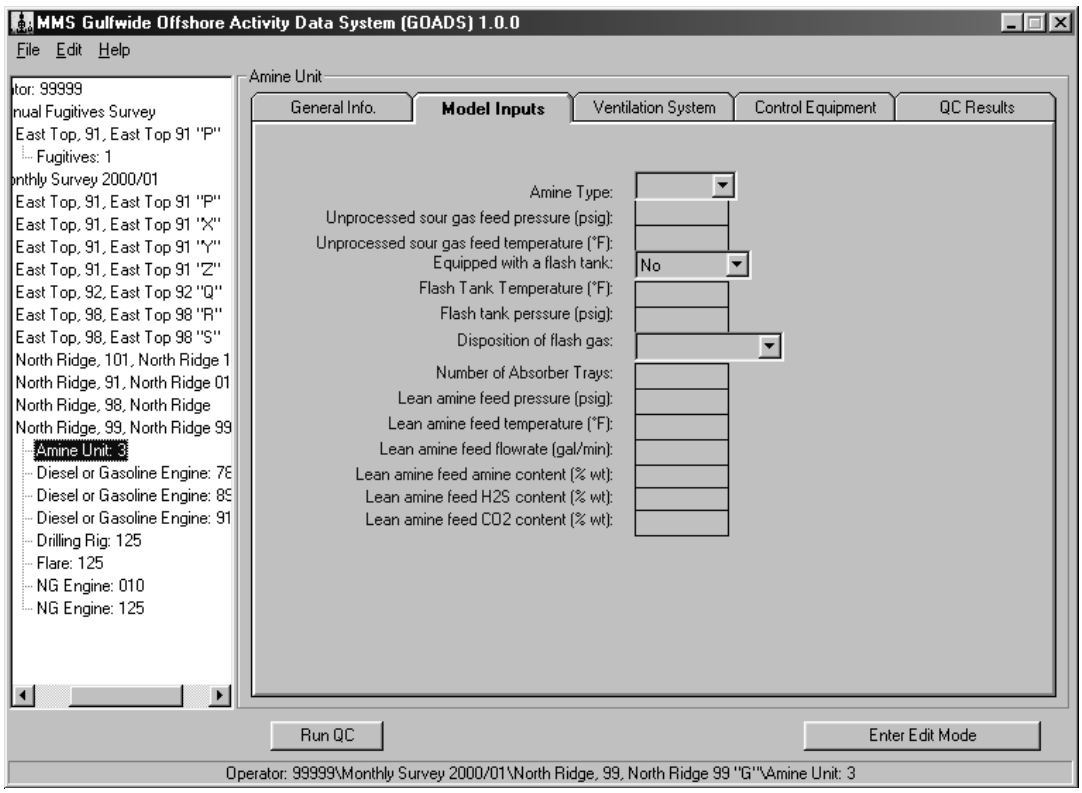


Figure 2-10. Model Inputs Amine Gas Sweetening Unit Screen.

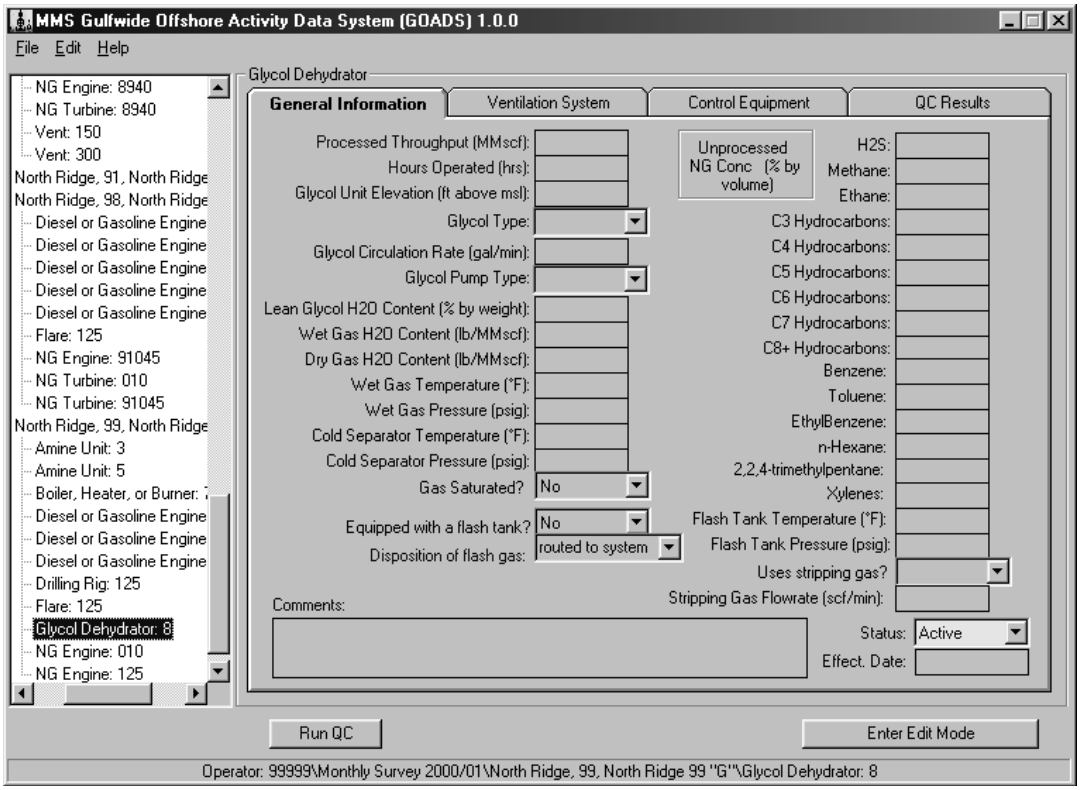


Figure 2-11. Glycol Dehydrator Screen.

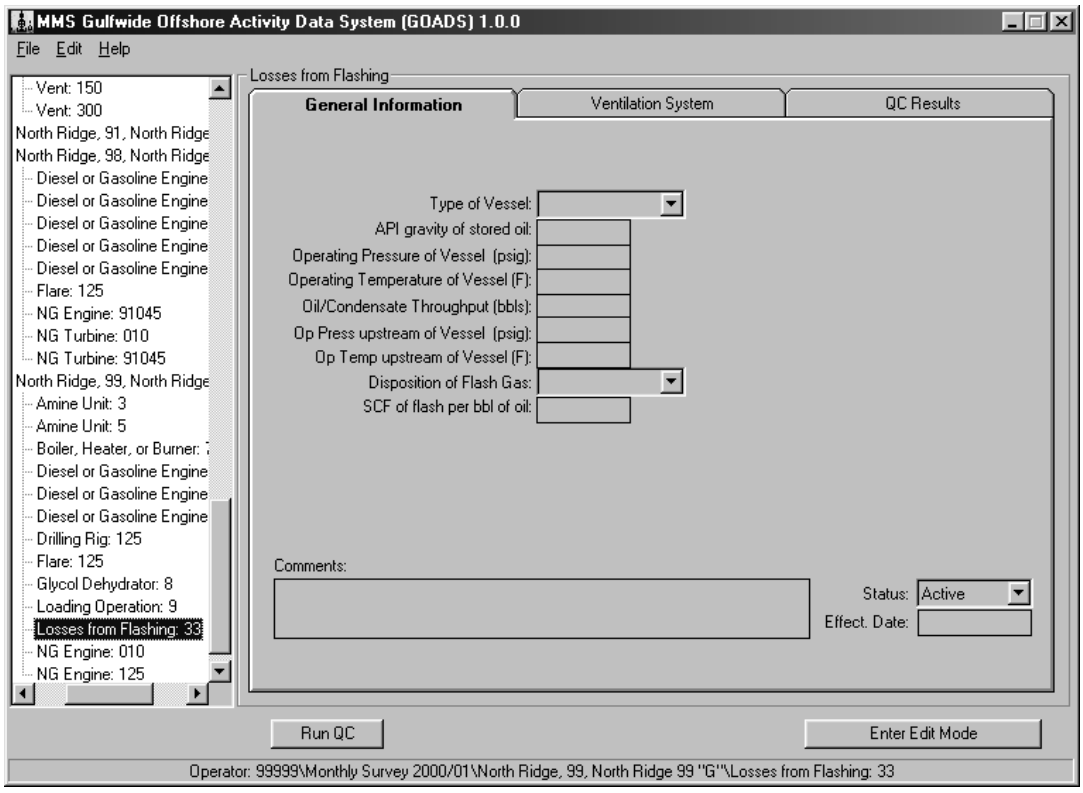


Figure 2-12. Losses from Flashing Screen.

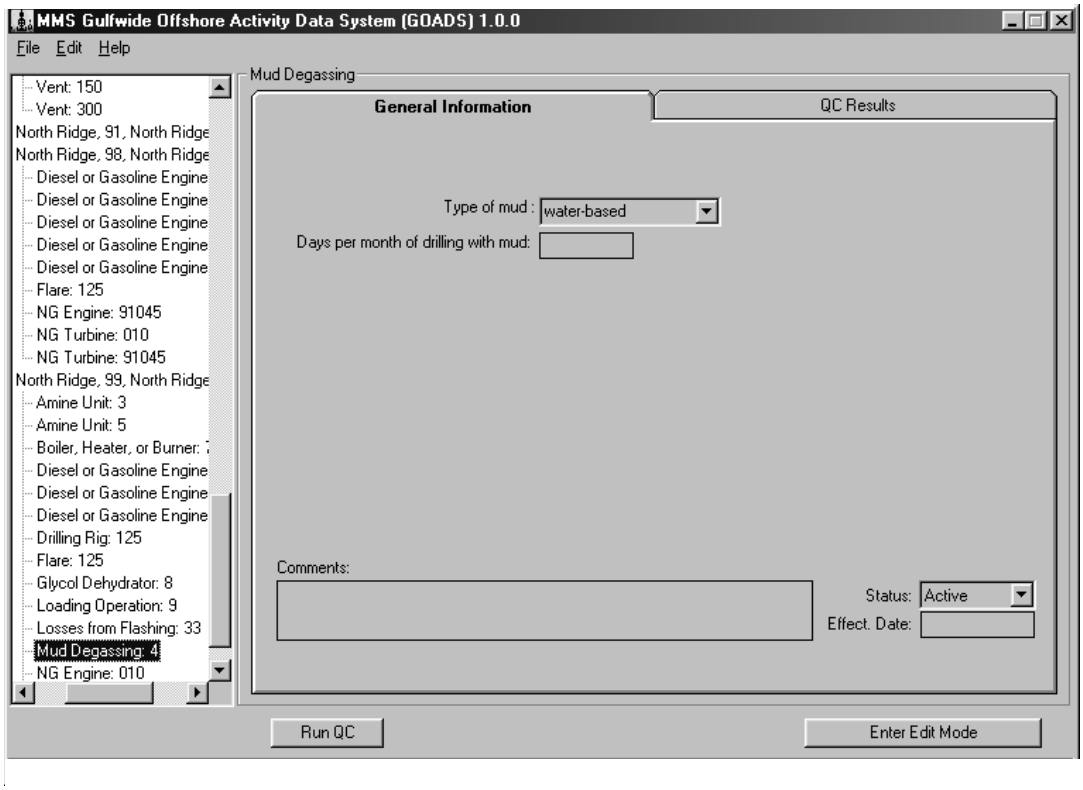


Figure 2-13. Mud Degassing Screen.

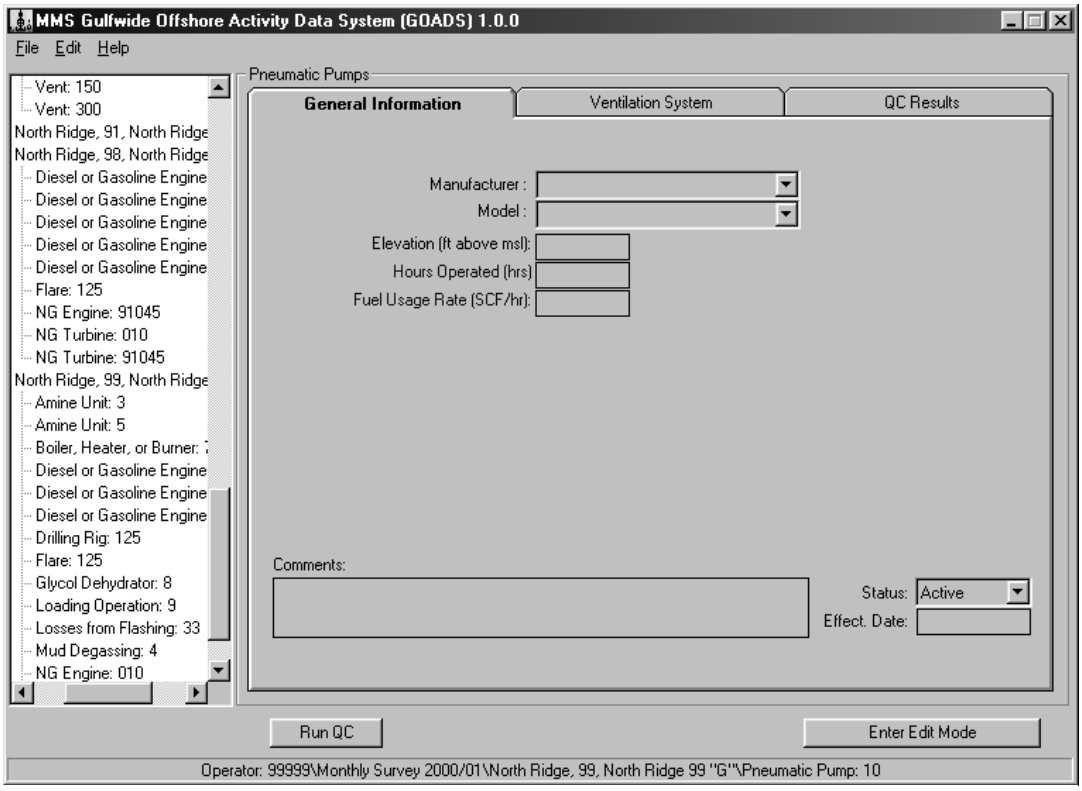


Figure 2-14. Pneumatic Pumps Screen.

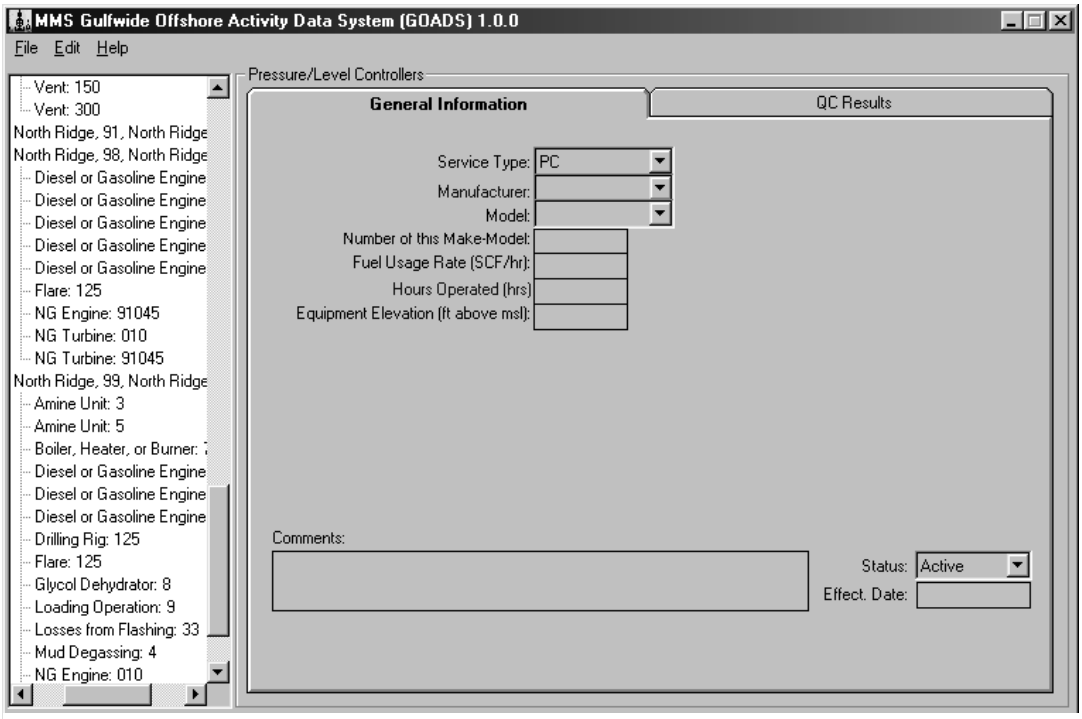


Figure 2-15. Pressure/Level Controllers Screen.

The following buttons are available on the Equipment Screen:

- Enter Edit Mode launches Edit Mode so that changes or new data may be entered.
- Run QC runs quality control checks on data for the current equipment.

Three additional buttons become available only in edit mode:

- Save (only available in Edit Mode) incrementally saves work and returns to Edit Mode.
- Cancel (only available in Edit Mode) discard recent changes and close Edit Mode.
- Save & Leave Edit Mode (only available in Edit Mode) saves changes and exits Edit Mode.

2.2.4 Copying Data

Follow these steps to copy equipment data:

1. In the Main Window, highlight an equipment icon within the Navigation Tree.
2. Select Edit | Copy from the menu.
3. Highlight the icon for the destination structure (into which the copied data will be placed).
4. Select Edit | Paste from the menu.
5. If necessary, indicate the new equipment ID when prompted.

Follow these steps to copy structure data:

1. In the Main Window, highlight the structure to be copied within the Navigation Tree.
2. Select Edit | Copy from the menu.
3. Highlight the icon for the destination survey (into which the copied data will be placed).
4. Select Edit | Paste from the menu.
5. If necessary, indicate the new structure ID when prompted.

Follow these steps to copy survey data:

1. In the Main Window, highlight the survey to be copied within the Navigation Tree.
2. Select File | Copy from the menu.
3. Indicate the month (1-12) and 4-digit year for the new survey.

2.2.5 Defining Production/Throughput Relationships

The last step in completing a survey is to define production/throughput relationships between facilities. Production and initial processing operations may be collocated at a structure, or they may be accomplished at separate locations. MMS will track this information to verify estimates of fugitive and other air emissions.

On an existing Survey Screen, click on the *Relationships* tab to view a matrix of production and throughput data for all existing facilities (**Figure 2-16**). Most information in the matrix is completed automatically as the user creates new structures. In order to edit and complete the matrix, click Enter Edit Mode to launch Edit Mode.

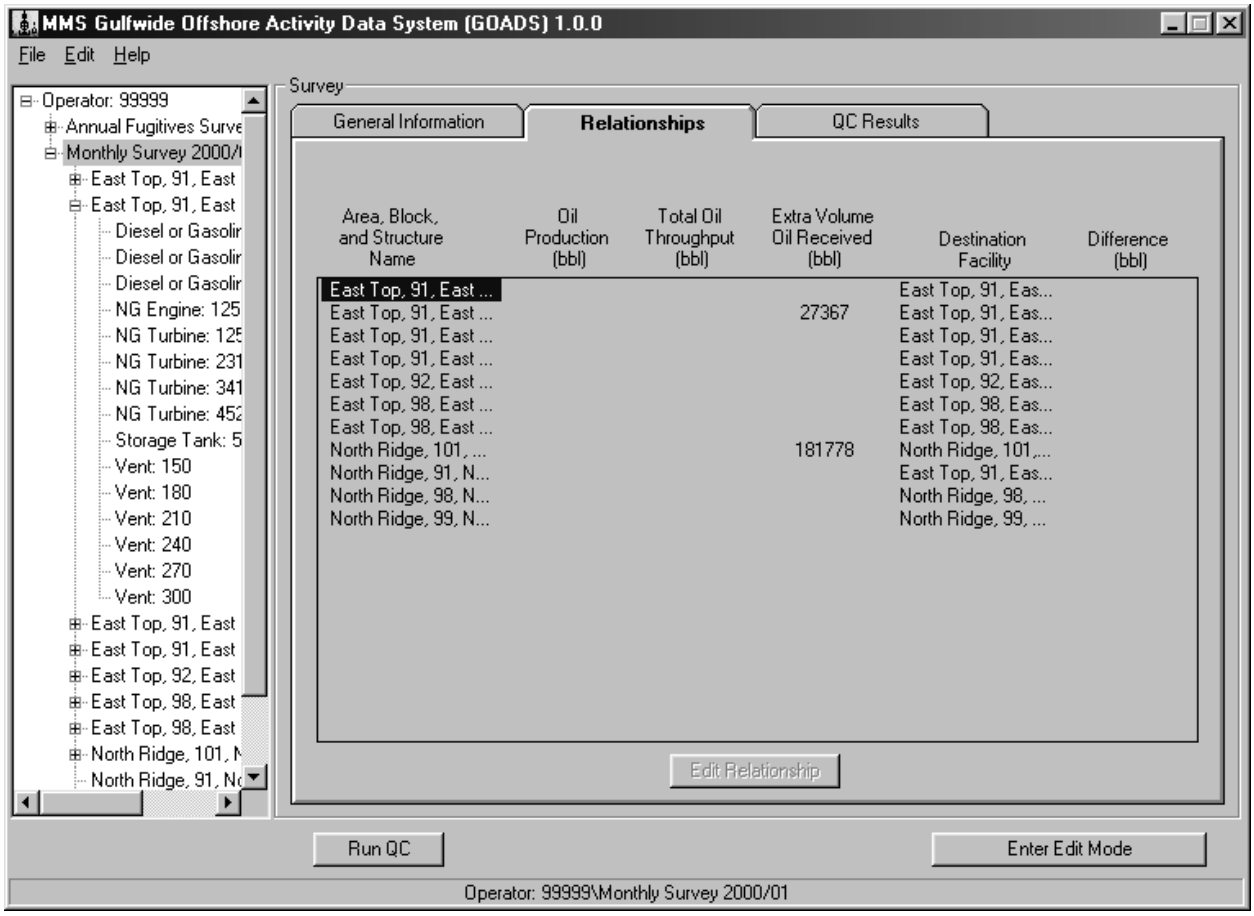


Figure 2-16. *Relationships* Tab.

2.2.6 Changing Identifier Codes

Some of the ID codes for equipment and facilities are editable and may be re-entered, such as the area, block, and name of a structure. However once created, the following ID information may not be re-entered directly: (1) the month and year of an existing survey; (2) the MMS-assigned ID numbers for an existing structure; and (3) the equipment type for an existing piece of equipment. If it is necessary to change or correct one of these parameters,

one may use the "Copy" and "Paste" functions from the Edit menu in order to open the New Survey, New Structure, or New Equipment dialog boxes. Enter the updated identifier codes; then return to the Navigation Tree and delete the out-of-date survey, structure, or equipment.

2.3 QUALITY CONTROL TESTS

After you complete and save data, GOADS automatically runs a series of quality control (QC) checks before saving the data. If any entries are incomplete, atypical, or suspect, a pop-up message will appear, and a list of QC errors will appear on the *QC Results* tab (**Figure 2-17**). You may choose to return and correct the problems, to override QC check(s) (a comment is required), or to ignore message(s) and save changes anyway. If QC problems remain uncorrected and uncommented when the data are submitted, MMS staff members will attempt to reconcile missing, atypical, or suspect data by reviewing the comments or contacting you by telephone.

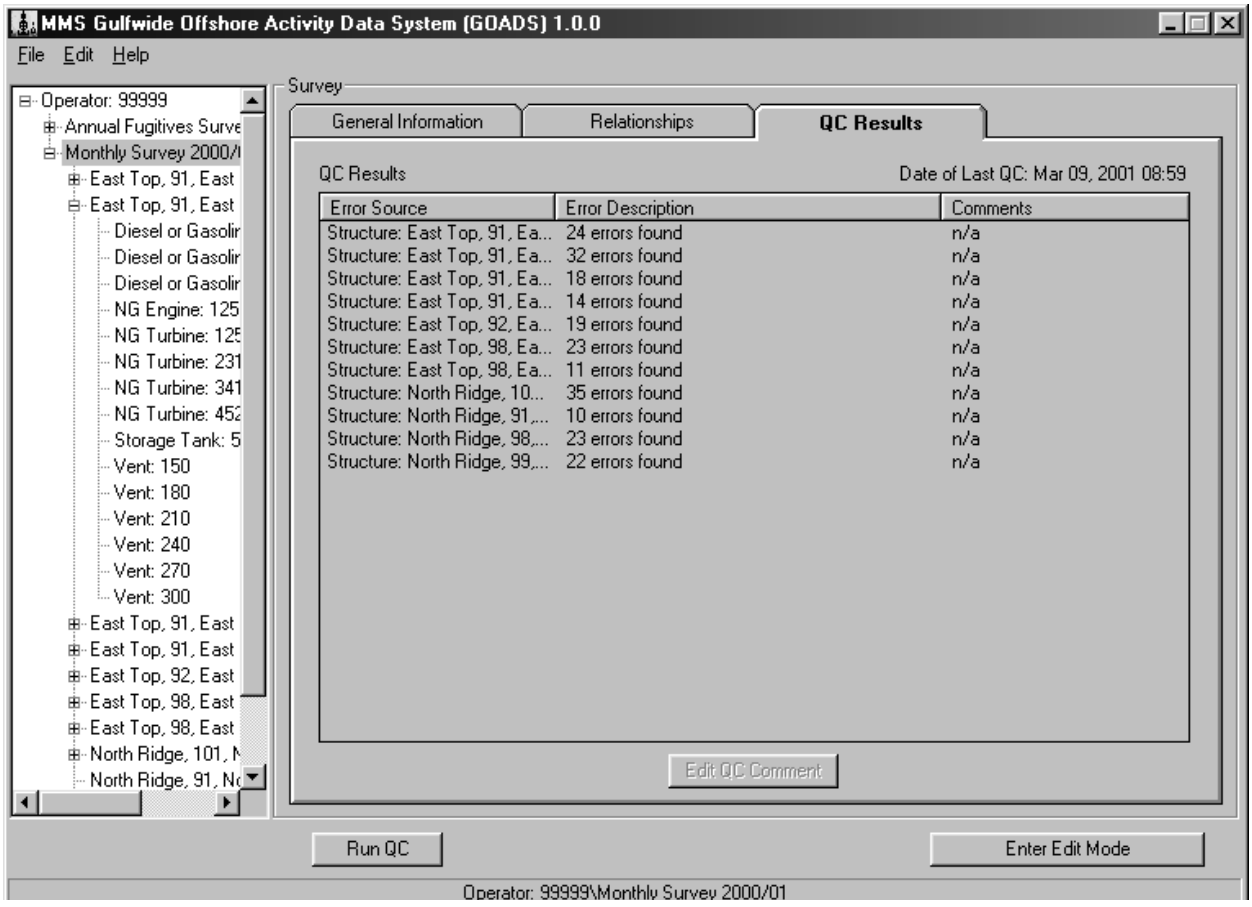
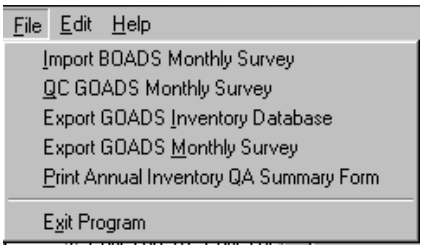


Figure 2-17. *QC Results* Tab.

2.4 SAVING AND BACKING UP WORK

It is very important to periodically store data to a secure location other than the hard drive (such as a floppy disk or CD). This practice minimizes data loss in the event of a computer failure or other mishap.



After you complete and save data, the entries are saved to a working file on the hard drive[1]. (In order to discard changes, click Cancel instead of Save & Leave Edit Mode.) In order to store data in an alternate location, select File|Export GOADS Inventory Database on the main menu. A dialog box will appear which will allow you to enter a File Path and Filename or browse to the location in which you wish to create the file. After entering the path and file name, hit "OK." You can then copy the file you have created to CD, floppy disk or zip disk.

2.5 SETTING STATUS OF FACILITIES AND EQUIPMENT

If equipment or an entire structure becomes inactive for an entire survey period, the change in status should be noted**,** but only for the affected survey period(s). **Note that when a piece of equipment or a structure is active for any part of a survey period, its status should be set to *Active*.**

Open an affected survey in the Navigation Tree on the left side of the Main Window. (Double-click the survey icon, or click the + symbol immediately to its left.) Select the affected structure or equipment, and click Enter Edit Mode in order to launch Edit Mode. Use the Set Status data entry boxes to change the status. Indicate the new status and its effective date and click Save & Leave Edit Mode in order to record the change in status.

2.6 FINDING HELP AND EXTRA INFORMATION

Each screen has an associated help text file that contains technical details about the required data entries, such as definitions, quality control checks, typical values, estimation methods, etc. Access help by pressing the F1 key. You can also go to the Help menu and select "current screen" to view the help file for the current screen or select "other screen" and see a list of all available help files. Help files are reprinted in Appendix A of this User's Guide.

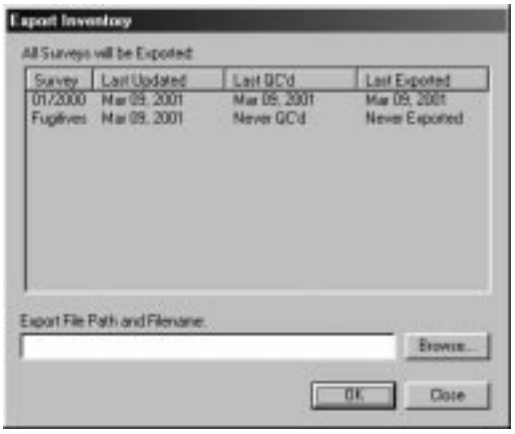
[1] The working file is located at C:\Program Files\GOADS\GOADS.mdb. The working file should be backed up periodically by copying to a secure location.

For technical problems or other difficulties, contact:

Mr. Joe Perryman
Mapping and Automation Unit (MS 5413)
1201 Elmwood Park Blvd.
New Orleans, LA 70123-2394
Phone: (504) 736-2791
E-Mail: joe.perryman@mms.gov

3. UPON SURVEY COMPLETION

3.1 HOW, WHEN, AND WHERE TO DELIVER DATA FILES



Whenever the entire inventory is completed (12 monthly surveys and one annual fugitives survey), it should be exported to your hard-drive and then copied to CD, zip disk, or floppy disk for submittal to MMS. To export the inventory, select File|Export GOADS Inventory Database on the main menu. A dialog box will appear which will allow you to enter a File Path and Filename or browse to the location in which you wish to create the file. After entering the path and file name, hit "OK." You can then copy the file you have created to the appropriate medium.

The MMS anticipates receiving data files April 2001 to June 2001. Floppies or CDs should be placed in cardboard mailing envelopes and mailed to the address below.

Mr. Joe Perryman
Mapping and Automation Unit (MS 5413)
1201 Elmwood Park Blvd.
New Orleans, LA 70123-2394
Phone: (504) 736-2791
E-Mail: joe.perryman@mms.gov

3.2 FAILED QUALITY CONTROL TESTS

When saving data to the floppy drive or CD for delivery to MMS, GOADS stores the results of all QC tests. If the user returns to GOADS in order to address QC problems, the error messages may be reviewed from the *QC Results* tab on the Survey Screen. If you choose to ignore errors and submit the data anyway, MMS staff members will attempt to reconcile the problems by reviewing comments or contacting you by telephone.

3.3 QA SUMMARY FORM

From the Main Window (Figure 2-1), the File | Print QA Summary Form may be selected at any time to view and obtain a hard-copy printout of key missing and inconsistent data elements **(Figure 3-1)**. These data elements are critical if MMS is to develop emission estimates for the equipment listed.

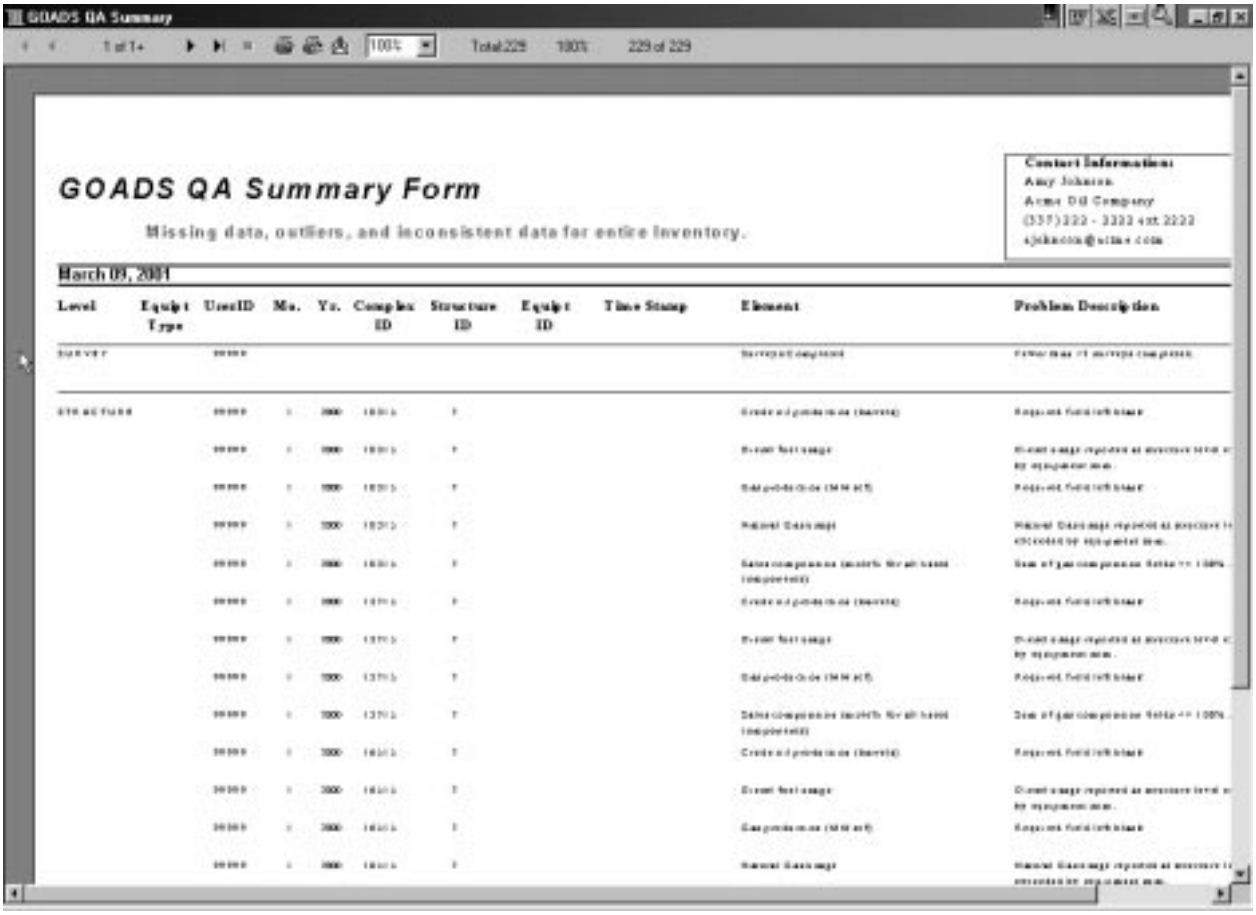


Figure 3-1. QA Summary Form Screen.

In addition, a hard-copy printout of the QA Summary Form must be submitted along with your data files to facilitate review by MMS staff members. The data files may be directly returned to you if the QA Summary Form indicates missing or inconsistent key data elements. Appendix B presents the key data elements in the QA Summary Form.

If you do not own a copy of Word 97, you may download the **Word 97 Viewer** for free from Microsoft in order to view the GOADS User's Guide.

Or you may install it from the GOADS distribution CD.

Viewer for Word 97 on PCs using Windows 95/98 or Windows NT

With the Microsoft Word Viewer 97, Microsoft Word users can share documents with those who do not have Word and users without Word can open and view Word documents. This product also allows users who wish to post rich-formatted Word documents on the Internet to expand their online audience to people who might not have Word. This viewer also allows users to view and print documents created in the Word native field format, even if they do not have Word. Users are allowed to zoom, outline, or view page layout, headers/footers, footnotes, and annotations.

Word Viewer 97 includes the following features:

- Online Layout View for easy reading of online documents, including those with background colors and textures.
- Document Map for point-and-click navigation through longer documents.
- Hyperlink navigation to open any hyperlink in a document with your installed browser.

The viewer does not allow users to edit files. However, it allows them to copy information from a document to other applications.

Microsoft Word Viewer 97 will follow hyperlinks located in Word documents. Word Viewer 97 is built to automatically configure itself as a Helper Application for Netscape Navigator and Microsoft Internet Explorer. This allows users to automatically view Word documents that are linked to Hypertext Markup Language (HTML) pages on a LAN or on the web in the user's default web browser. Word Viewer by itself can follow document hyperlinks on a LAN. This new capability allows users to browse rich document systems on a LAN in much the same way a web browser allows you to explore the Internet.

This product is "freeware." We encourage you to copy and distribute Word Viewer to your friends and co-workers or post it on public electronic bulletin boards. The Word Viewer is also available from the Microsoft Download Service at (425) 936-6735.

System Requirements for Using Word Viewer

- A personal computer with a 486 or higher processor

- Microsoft Windows® 95 operating system or Microsoft Windows NT® Wordstation operating system 3.51 or later
- 4 MB of memory for Windows 95 (8 MB recommended)
- 12 MB of memory for Windows NT Workstation
- 7 MB of hard disk space (9 MB free for installation only)
- VGA or higher-resolution video adapter
- Microsoft Mouse or compatible pointing device

Installation instruction:

1. You may want to print this page to use as a reference when you are offline.
2. Download the Setup program from Office Update. (The file name is wd97vwr32.exe.)
3. Either run the Setup program from its current location or save it to disk.
4. To start the Setup program from a local disk, double-click the wd97vwr32.exe program file on your hard disk.
5. Word Viewer 97 Setup will prompt you for a folder in which to install Word Viewer. The default folder location for Word Viewer is <drive>:\Program Files\WordView on a Windows 95/98 system (<drive>:\WordView on Windows NT 3.51).
6. Click "Install" to install Word Viewer 97.
7. If Word Viewer Setup detects Word version 6.x or later on your system. Setup will prompt you to determine which application should open Word documents by default. The default application is used to open files with .doc file extensions when they are double-clicked in Windows 95.

    - Choosing "Open with Word" means that Word for Windows will be used by default to open Word files.
    - Choosing "Open with Viewer" means that Word Viewer will be used by default to open Word files.

    Note: If you select the "Open with Word" option and you want to restore Word as the default Word document handler, you will have to uninstall Word Viewer and then start Word so that it can restore its Registry information. For more information see "Installation and Maintenance" in the Word Viewer 97 Readme.doc installed with the viewer.

Instructions for use:

Go to the folder where you installed the Word Viewer, and run WordView.exe. The program will prompt you for a Word document to load.

Uninstallation instructions:

1. From the **Start** menu, point to the **Settings** entry, and choose **Control Panel**. Double-click on **Add/Remove Programs**.

2. In the list on the **Install/Uninstall** tab, find the entry **Microsoft Word Viewer 97**, and highlight it. Click **Add/Remove**.

3. When it asks you if you are sure you want to remove the application, click **Yes**.

4. When it finishes removing the program, click **OK** on the confirmation dialog box.

For support of this download:

If you are experiencing problems with this download or the Office Update site, please review our Support Page for assistance.

APPENDIX A

HELP TEXT FILES

A.1 USER INFORMATION

A.1.1 General Information Tab

GOADS Registered User – Identifies the person to whom GOADS is registered, an employee of the company that owns structures in the outer continental shelf. This should be the primary contact person who is responsible for submitting monthly surveys to the MMS. The following contact information should be provided:

- Name
- Phone number
- Fax number
- Email address (optional)
- Company name
- Street address
- City
- State
- Zip code

A.2 SURVEY INFORMATION

A.2.1 General Information Tab

Contact for the current survey – Identifies the person who is responsible for completing the current month's survey. This may be the same individual as the GOADS Registered User, a subordinate, or a consultant. The following contact information should be provided:

- Name
- Phone number
- Fax number
- Email address (optional)
- Company name
- Street address
- City
- State
- Zip code

A.2.2 Relationships Tab

The information on this screen tracks exchanges of crude oil between company-owned offshore structures. Its purpose is to provide a rough double-check of the estimated production and throughput volumes for all company-owned structures. Information on this screen will be filled out automatically as the GOADS user adds new structures to a monthly survey. A review of the Relationships Tab should be the final step in preparing a set of monthly survey data. Click "Edit Relationships" in order to edit or change the displayed data.

Area, Block, Name – List of area/block/name designations for all structures included in the current month's survey.

Production (barrels) – User-input production volumes for each structure in the current month's survey.

Additional Oil Received (barrels) – If any listed structure receives crude oil from unidentified external sources, the user should report the total volume of such oil received during the current survey period.

Total Throughput (barrels) – User-input throughput volumes for each structure in the current month's survey.

Destination Facility – Identifies the facility that is the immediate destination of crude oil generated by each listed producing structure. If the destination facility is a company-owned offshore structure, it is identified by an area/block/name designation. Otherwise, the facility type is listed (e.g., onshore).

Difference (barrels) – Based on the information supplied, GOADS calculates an Estimated Total Throughput volume and subtracts it from the user-input value for Total Throughput. A positive value indicates that the user-input value of Total Throughput is larger than expected (given all other data). A negative value indicates that the user-input value is smaller than expected. Due to errors that are inherent with measuring production at offshore structures, agreement within a 30 percent range passes QC checks.

A.2.3 QC Results Tab

Error Source – List of input variables, structures, and/or equipment for this survey that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.2.4 Fugitives

A.2.4.1 General Information Tab

Stream type – Indicates the type of process stream handled by the set of components to be inventoried. (Components for different process streams at the same structure should be inventoried separately.)

- Light oil (API gravity $\geq$ 20°API)
- Heavy oil (API gravity $<$ 20°API)
- Oil/water mixture
- Oil/water/gas mixture
- Natural gas
- Natural gas liquids

Facility Size – Indicates a rough estimate of the total count of all components at this facility that handle the selected stream type.

Average VOC weight percent of fugitives – The average VOC content of fugitive emissions for the inventoried components and the selected stream type. You may find it beneficial to use the following information as a starting point.

Speciation Fractions for Total Hydrocarbon (THC) Emissions By Stream Type

THC Fraction	Gas	Light Oil (≥ 20 API Gravity)	Heavy Oil (<20 API Gravity)	Water/Oil*
Methane	0.687	0.612	0.942	0.612
Non-methane	0.313	0.388	0.058	0.388
Volatile Organic Compounds (VOC)	0.171	0.296	0.030	0.296

* Water/oil refers to water streams in oil service with a water content greater than 50% from the point of origin to the point where the water content reaches 99%. For water streams with a water content greater than 99%, the emission rate is considered negligible**.**

Source: API, 1996. Calculation Workbook for Oil and Gas Production Equipment Fugitive Emissions.

Average equipment elevation (feet above mean sea level) – A good estimate is half the elevation of the top deck.

Equipment inventory (number of components) – An inventory of each type of component that handles the selected process stream at this structure. You are encouraged to prepare an equipment inventory by making direct counts of your components by service type. You may find it beneficial to use of the following information as a starting point, however. This information was compiled for MMS by the Offshore Operators Committee, and can be adjusted by service type for each component for each part of the production train (i.e., for each skid type). Counts must be reported for each service type (gas, heavy oil, light oil, oil/water).

Summary of Equipment Inventory Data (Number of Components) by Skid Type

Skid Type	Valves	Pump Seals	Threaded Connections	Flanges	Open Ended Lines	Compressor Seals*	Diaphragms	Drains	Dump Arms	Hatches	Instruments	Meters	Pressure Relief Valves	Polished Rods	Other Relief Valves	Vents
Separator Skid	34	0	13	73	0	0	0	2	0	0	15	1	1	0	0	0
Heater Treater Skid	98	0	70	114	0	0	0	3	0	0	25	0	3	0	0	0
LACT Charge Pump Skid	21	3	6	47	0	0	0	1	0	0	9	0	0	0	0	0
LACT Skid	62	1	75	69	0	0	0	1	0	0	34	4	6	0	0	0
Pipeline Pumps Skid	39	3	12	78	0	0	0	2	0	0	70	0	3	0	0	0
Pig Launcher/Receiver Skid	13	0	14	16	0	0	0	0	0	0	9	0	1	0	0	0
Compressor Skid	119	0	113	138	0	4	0	1	0	0	69	0	9	4	0	0
Filter/Separator Skid	30	0	25	37	0	0	0	1	0	0	9	0	1	0	0	0
Gas Dehydration Skid	23	0	14	40	0	0	0	1	0	0	12	0	1	0	0	0
Glycol Regeneration Skid	134	0	110	194	0	0	0	4	0	0	45	1	7	6	1	0
Gas Meter	10	0	11	26	0	0	0	1	0	0	21	2	0	0	0	0
Fuel Gas Skid	62	0	47	85	0	0	0	1	0	0	32	1	4	0	0	0
Flotation Cell Skid	41	1	34	70	0	0	1	1	0	15	8	0	2	0	2	0
Scrubber	13	0	13	18	0	0	0	1	0	0	9	0	1	0	0	0
Amine Unit	226	8	166	391	0	0	1	5	0	0	121	2	12	0	1	0
Line Heater	30	0	46	18	0	0	0	1	0	0	10	0	0	0	1	0
Production Manifold	108	0	31	148	0	0	0	1	0	0	43	0	0	7	0	0
Wellhead	15	0	6	19	0	0	0	0	0	0	11	0	0	0	0	0
Import or Export Pipeline	3	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0

* Because there is a large variation in emissions for compressor seals, you are asked to specify the compressor and seal type:

- Centrifugal- wet seal;
- Centrifugal- dry seal;
- Reciprocating- shaft packing; or Other (specify).

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.2.4.2 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.3 STRUCTURE INFORMATION

A.3.1 General Information Tab

MMS Structure ID - A unique identifier code that is assigned to an offshore structure prior to its construction by the MMS. This identifier code is tracked in the Minerals Management Service's records.

MMS Complex ID - A unique identifier code that is assigned to a group of related structures prior to construction by the MMS. This identifier code is tracked in the Minerals Management Service's records.

Area Name – Designated name of the geographic area in which the structure is located.

Block Number – Designated number of the geographical block in which the structure is located.

Name - A name or identifier that denotes a structure within its Area/Block.

Lease Number - The lease number issued by the Minerals Management Service for the construction and operation of an offshore structure.

Longitude (decimal degrees) – An east-west coordinate that defines the position of an offshore structure. Specify to at least four decimal places.

Latitude (decimal degrees) – An north-south coordinate that defines the position of an offshore structure. Specify to at least four decimal places.

Distance to shore (miles) - The distance to the nearest U.S. shoreline. Specify to the nearest 1/10 mile.

Structure contact information - The name, phone number, and/or email address of an individual who may be contacted with questions regarding the survey data, such as the structure's supervising engineer.

Destination facility - The facility type and, if needed, the area/block/name of the facility that is the immediate destination of crude oil that is extracted at the current structure's location. If crude is piped to another company-owned offshore structure for initial handling (e.g., water separation), then the user should select the structure's associated area/block/name from the available list. It may be necessary to first create the receiving structure (using the Edit|New Structure menu) so that it will appear in the list.

- "This structure" – Indicates that initial processing and extraction occur at the same structure.

- "Company-owned offshore" – Indicates that initial processing occurs at an offshore facility that is owned by the same company as the current structure and is (or will be) named and included in this survey response.
- "Another company's offshore" - Indicates that initial processing occurs at an offshore facility that is owned by another entity and will not be named nor included in this survey response.
- "Onshore" - Indicates that initial processing occurs at an onshore facility.
- "State waters" - Indicates that initial processing occurs at a facility located within state waters.

Production - Describes the natural gas or oil products that were extracted at this structure during the specific survey period.

- Crude Oil Production (barrels): The quantity of crude oil extracted at this structure.
- Natural Gas Production (million standard cubic feet): The quantity of natural gas extracted at this structure, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).
- Produced Natural Gas H2S Concentration (parts per million by volume): The average concentration of hydrogen sulfide in the produced natural gas for the current survey period.

Throughput - The total volume of natural gas or oil products handled at the current structure during the survey period, including production volumes and volumes transferred via pipeline from another location.

- Crude Oil Throughput (barrels): The total quantity of crude oil handled at the current structure.
- Natural Gas Throughput (million standard cubic feet): The total quantity of natural gas handled at the current structure, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).
- Throughput Natural Gas H2S Concentration (parts per million by volume): The average concentration of hydrogen sulfide in the throughput natural gas.

Total fuel usage - The quantity of fuel consumed at this structure during the specific survey period.

- Natural gas fuel usage (thousand standard cubic feet) - The quantity of natural gas consumed at this structure.
- Gasoline usage (gallons) - The quantity of gasoline consumed at this structure.
- Diesel fuel usage (gallons) - The quantity of diesel fuel consumed at this structure.

Status - The status of the structure for the specific survey period.

- "Active" - Indicates that the structure or any of its equipment were active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the structure and all of its equipment were unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.3.2 Sales Gas Data

Sales Composition (mole percent) – The volumetric composition (percent by volume = mole percent) of the natural gas processed at the structure and transferred off the structure. If a constituent is not present, enter 0. The composition should sum to 100%.

A.3.3 QC Results Tab

Error Source – List of input variables and/or equipment for this structure that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.4 AMINE GAS SWEETENING UNIT

A.4.1 General Information Tab

Processed throughput (million standard cubic feet) – The total volume of natural gas processed by this amine unit during the specific monthly survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Hours operated – The total number of hours that this amine unit was in operation during the specific monthly survey period.

Amine unit elevation (feet above mean sea level) – The elevation of the amine unit at its base above mean sea level.

Unprocessed natural gas concentrations (percent by volume) – The volumetric concentrations of constituents present in the unprocessed natural gas stream, including the following:

- Hydrogen Sulfide
- Methane (CH_4)
- Ethane (C_2H_6)
- C3 Hydrocarbons (hydrocarbons with 3 carbon atoms in their molecular structure)
- C4 Hydrocarbons
- C5 Hydrocarbons
- C6 Hydrocarbons
- C7 Hydrocarbons
- C8+ Hydrocarbons (hydrocarbons with 8 or more carbon atoms in their molecular structure)

Specify emissions by model inputs or quantity emitted when uncontrolled (%) - Select model inputs if you do not have information on the uncontrolled quantity emitted. Proceed to the model inputs screen if the data are not available.

Quantity emitted when uncontrolled (percent) – The mass percent emitted to the atmosphere of each constituent in the unprocessed natural gas stream, without accounting for any installed control equipment. Specify to the nearest 1/100 percent, if possible. If the data are not readily available, it is not mandatory that you enter this data.

A.4.2 Model Inputs Tab

Amine type – Indicates the type of amine used in this unit, monoethanolamine (MEA), diethanolamine (DEA), tertiaryethanolamine (TEA), methyldiethanolamine (MDEA), diglycolamine (DGA).

Unprocessed sour gas feed pressure (pounds per square inch gauge) – The pressure of the unprocessed sour gas feed.

Unprocessed sour gas feed temperature (degrees Fahrenheit) – The temperature of the unprocessed sour gas feed.

Equipped with a flash tank? (yes/no) – Indicates whether the system is equipped with a flash tank.

Flash tank temperature (degrees Fahrenheit) – The temperature of the flash tank.

Flash tank pressure (pounds per square inch gauge) – The pressure of the flash tank.

Disposition of flash gas – Indicates if the gas is vented to the atmosphere, routed to a separator, recycled to an absorber, or burned in a flare.

Number of absorber trays – Indicates the number of absorber trays on this amine unit.

Lean amine feed pressure (pounds per square inch gauge) – The pressure of the lean amine feed.

Lean amine feed temperature (degrees Fahrenheit) – The temperature of the lean amine feed.

Lean amine volumetric flowrate (gallons per minute) – The rate of amine circulation through the unit.

Lean amine feed amine content (percent by weight) – The amine content of the lean amine feed.

Lean amine feed H_2S concentration (percent by volume) – The volumetric concentration of H_2S present in the lean amine feed.

Lean amine feed CO_2 concentration (percent by volume) – The volumetric concentration of CO_2 present in the lean amine feed.

Status - The status of the amine unit for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.4.3 Ventilation System Tab for Acid Gas from the Reboiler

Vented into low-pressure vent/flare manifold system? (yes/no) – Indicates whether the emissions from this equipment are gathered into a low-pressure manifold system to be vented or flared at some distance from the equipment.

Low-pressure vent/flare ID – Indicates the destination vent or flare identifier code (if emissions are directed through a low-pressure vent/flare manifold system). It may be necessary to first create a vent or flare before it will appear in the list (using the Edit|New Equipment menu).

Gases vented or flared? (vented/flared) - Indicate whether emissions are vented or flared locally through a process vent/flare (if emissions are not directed through a low-pressure vent/flare manifold system).

Outlet height (feet) – The height at the outlet of a process vent/flare above the amine unit (measured from the base of the amine unit to the top of the outlet).

Outlet inner diameter (inches) – The effective diameter of a process vent/flare.

Exit velocity (feet/second) – The exit velocity of emissions through the outlet of a process vent/flare.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the outlet of a process vent.

Outlet orientation (degrees) – The deviation of the outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Flare feed rate (standard cubic feet per hour) – The volumetric feed rate to a process flare.

Combustion temperature (degrees Fahrenheit) – The combustion temperature of a process flare.

Combustion efficiency (percent) – The combustion efficiency of a process flare, or the completeness of hydrocarbon conversion to carbon dioxide (as CO_2).

Installed control equipment – Indicates which common types of control devices are installed for this equipment.

Condenser temperature (degrees Fahrenheit) – The operating temperature of a condenser installed as a control device.

Condenser pressure (absolute pounds per square inch) – The operating pressure of a condenser installed as a control device.

Sulfur recovery efficiency (percent) – The efficiency for a sulfur recovery unit that is installed as a control device (as a percent of total sulfur).

A.4.4 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Ventilation System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Ventilation System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

A.4.5 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.5 BOILER/HEATER/BURNER

A.5.1 General Information Tab

Equipment elevation (feet above mean sea level) – The elevation of a boiler/heater/burner, measured from mean sea level to its base.

Hours operated – The total number of hours that this boiler/heater/burner was in operation during the specific monthly survey period.

Fuel type – The type of fuel burned by the equipment.

Fuel H_2S content (parts per million by volume) – The concentration of hydrogen sulfide in gaseous fuel types.

Fuel sulfur content (percent by mass) – The sulfur content in liquid fuel types.

Fuel heating value (British thermal units/standard cubic feet) – The energy content of gaseous fuel types.

Fuel heating value (British thermal units per pound) – The energy content of liquid fuel types.

Max rated heat input (million British thermal units per hour) – The manufacturer's maximum rated heat input rate.

Average heat input (million British thermal units per hour) – The average heat input rate during operation this survey period.

Max rated fuel usage (standard cubic feet per hour) – The maximum rate of gaseous fuel usage, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Average fuel usage (standard cubic feet per hour) – The average rate of gaseous fuel usage during operation this survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Max rated fuel usage (pounds per hour) – The maximum rate of liquid fuel usage.

Average fuel usage (pounds per hour) – The average rate of liquid fuel usage during operation this survey period.

Total fuel used (thousand standard cubic feet) – Total gaseous fuel used during this survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere). If you do not monitor actual fuel use for a boiler, heater, or burner, a value may be calculated using:

[Hours operated * average heat input (MMBtu/hr) * (10^6 Btu/MMBtu)]÷[fuel heating value (1,050 Btu/scf) * (1,000 scf/Mscf)].

Total fuel used (pounds) – Total liquid fuel used during this survey period. If you do not monitor actual fuel use for a boiler, heater, or burner, a value may be calculated using:

[Hours operated * average heat input (MMBtu/hr) * (10^6 Btu/MMBtu)]÷[fuel heating value (19,300 Btu/1b].

Note that the fuel heating value shown above is for diesel fuel.

Status - The status of the boiler/heater/burner for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.5.2 Exhaust System Tab

Outlet height (feet) – The height of the exhaust outlet above the boiler/heater/burner (measured from the base of the boiler/heater/burner to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of the exhaust outlet.

Exit velocity (feet/second) – The exit velocity of emissions through the exhaust outlet.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the exhaust outlet.

Outlet orientation (degrees) – The deviation of the exhaust outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Emission controls – Indicates which common types of control devices are installed for this equipment.

A.5.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Exhaust System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Exhaust System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

A.5.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.6 DIESEL OR GASOLINE ENGINE

A.6.1 General Information Tab

Engine elevation (feet above mean sea level) – The elevation of an engine, measured from mean sea level to its base.

Hours operated – The total number of hours that this engine was in operation during the specific monthly survey period.

Fuel type – The type of fuel burned by the equipment.

Fuel sulfur content (percent by mass) – The sulfur content in liquid fuel types.

Fuel heating value (British thermal units per pound) – The energy content of liquid fuel types.

Max rated horsepower (horsepower) – The manufacturer's maximum rated horsepower output.

Operating horsepower (horsepower) – The operating horsepower during operation this survey period.

Max rated fuel usage (British thermal units per horsepower-hour) – The manufacturer's maximum rate of fuel usage.

Average fuel usage (British thermal units per horsepower-hour) – The average rate of fuel usage during operation this survey period.

Total fuel used (gallons) – Total liquid fuel used during this survey period. If you do not monitor actual fuel use for an engine, a value may be calculated using:

[Hours operated * average fuel usage (Btu/hp-hr) * operating horsepower]÷[fuel heating value (19,300 Btu/lb) * (1 gal/7.05 lbs)].

Note that the fuel heating value and fuel density (7.05 lbs/gal) shown above are for diesel fuel.

Status - The status of the engine for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.6.2 Exhaust System Tab

Outlet height (feet) – The height of the exhaust outlet above the engine (measured from the base of the engine to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of the exhaust outlet.

Exit velocity (feet/second) – The exit velocity of emissions through the exhaust outlet.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the exhaust outlet.

Outlet orientation (degrees) – The deviation of the exhaust outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

A.6.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Exhaust System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Exhaust System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

A.6.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.7 DRILLING RIG

A.7.1 General Information Tab

Hours operated – The number of hours that a drilling rig was present and working at this structure.

Total diesel fuel usage (gallons) – The total diesel fuel used by the drilling rig during the survey period.

Total gasoline fuel usage (gallons) – The total gasoline fuel used by the drilling rig during the survey period.

Total natural gas fuel usage (thousand standard cubic feet) - The total natural gas used by the drilling rig during the survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Status - The status of the drilling rig for the specific survey period.

- "Active" - Indicates that the drilling rig was present at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the drilling rig was absent for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.7.2 Control Equipment Tab

Other control device? (yes/no) – Indicates whether controls are installed.

Description – If present, a description of other control devices is required.

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices.

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices.

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices.

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices.

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices.

A.7.3 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.8 FLARE

A.8.1 General Information Tab

Number of upset flare occurrences – The number of incidents of continuous flaring due to plant upset conditions. An incident is a period of continuous flare operation, which may range from minutes to days.

Hours operated, excluding upsets – The total number of hours that the flare was operated during the survey period, excluding periods of upset flaring.

Volume flared (thousand standard cubic feet), excluding upsets – The total volume of gas flared during the survey period, excluding periods of upset flaring, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Flare gas H_2S Concentration (parts per million by volume) – The concentration of hydrogen sulfide present in the flare feed gas.

Is there a continuous pilot? (yes/no) – Indicates whether the flare stack is equipped with a continuos pilot light.

Pilot fuel feed rate (thousand standard cubic feet per day) – The feed rate of natural gas to a continuous pilot light.

Flare combustion efficiency (percent) – The flare combustion efficiency, or the completeness of hydrocarbon conversion to carbon dioxide (as CO_2).

Smoking condition – A qualitative assessment of the level of smoke emitted from the flare

- None (Soot emissions are approximately 0 pounds per million British thermal units of flare gas consumed.)
- Light (Soot emissions are approximately 40 pounds per million British thermal units of flare gas consumed.)
- Medium - (Soot emissions are approximately 177 pounds per million British thermal units of flare gas consumed.)
- Heavy - (Soot emissions are approximately 274 pounds per million British thermal units of flare gas consumed.)

Stack outlet elevation (feet above mean sea level) – The elevation of the flare stack outlet above mean sea level.

Stack inner diameter (inches) – The effective diameter of the flare stack at its outlet.

Average exit velocity (feet per second), excluding upsets – The average exit velocity of flare feed gas at the flare stack outlet during the survey period, excluding periods of upset conditions.

Average combustion temperature (degrees Fahrenheit), excluding upsets – The average flare combustion temperature during the survey period, excluding periods of upset flaring.

Stack orientation (degrees) - The deviation of the stack outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Status - The status of the flare for the specific survey period.

- "Active" - Indicates that the flare was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the flare was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.8.2 Control Equipment Tab

Other control device? (yes/no) – Indicates whether controls are installed.

Description – If present, a description of other control devices is required.

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices.

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices.

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices.

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices.

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices.

A.8.3 Upsets Tab

Time stamp – Lists all flare upset occurrences by the date and time of the beginning of the upset. (To add a flare occurrence, click "Add Occurrence. To delete or edit, select an occurrence in the list and click "Delete Occurrence" or "Edit Occurrence".)

Hours – The duration of each flare upset occurrence.

Average flare feed (thousand standard cubic feet per hour) – The average flare feed rate observed during the upset.

H_2S concentration (parts per million by volume) – The average concentration of hydrogen sulfide in the flare feed gas.

Combustion temperature (degrees Fahrenheit) – The average combustion temperature observed during the flare upset.

Comments - A space for general user comments regarding each flare upset, with a maximum length of 255 characters.

A.8.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.9 GLYCOL DEHYDRATOR UNIT

A.9.1 General Information Tab

Note that the fire tube is considered to be a boiler/heater/burner. Information about the fire tube should be entered on the data entry screen for boiler/heater/burner. Access the boiler/heater/burner data entry screen by selecting Edit|New Equipment from the GOADS main menu. Select "Boiler, Heater, or Burner" as the new equipment type.

Also note that recovered vapors, which are combusted elsewhere at the facility, should be accounted for by the equipment type where they are combusted. Vapors that are vented or flared locally or that are collected into the facility manifold system may be accounted for on the Ventilation System Tab.

Processed throughput (million standard cubic feet) – The total volume of natural gas processed by this glycol unit during the specific monthly survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Hours operated – The total number of hours that this glycol unit was in operation during the specific monthly survey period.

Glycol unit elevation (feet above mean sea level) – The elevation of the glycol unit, measured from mean sea level to its base.

Glycol type (TEG/EG) – Indicates the type of glycol used in this unit, triethylene glycol (TEG) or ethylene glycol (EG).

Glycol circulation rate (gallons per minute) – The actual rate of glycol circulation through the glycol unit.

Glycol pump type (electric/gas) – The type of pump that drives glycol circulation.

Lean glycol H_2O content (percent by weight) – The water content of the lean, or recharged, glycol.

Is the unprocessed gas saturated (yes/no) – Indicates if the unprocessed gas is saturated with water.

Wet gas H_2O content (pounds per million standard cubic feet) – The water content of the natural gas prior to glycol dehydration.

Dry gas H_2O content (pounds per million standard cubic feet) – The water content of the natural gas following glycol dehydration.

Wet gas temperature (degrees Fahrenheit) – The temperature of the natural gas prior to glycol dehydration.

Wet gas pressure (pounds per square inch gauge) – The pressure of the natural gas prior to glycol dehydration.

Cold separator temperature (degrees Fahrenheit) – The temperature of the combined gas and glycol downstream of any refrigeration. If no refrigeration is present, then this is the temperature downstream from the separator.

Cold separator pressure (pounds per square inch gauge) – The pressure of the combined gas and glycol downstream of any refrigeration. If no refrigeration is present, then this is the pressure downstream from the separator.

Unprocessed natural gas concentrations (percent by volume) – The volumetric concentrations of constituents present in the unprocessed natural gas stream, including the following:

- Hydrogen Sulfide
- Methane (CH_4)
- Ethane (C_2H_6)
- C3 Hydrocarbons (hydrocarbons with 3 carbon atoms in their molecular structure)
- C4 Hydrocarbons
- C5 Hydrocarbons
- C6 Hydrocarbons
- C7 Hydrocarbons
- C8+ Hydrocarbons (hydrocarbons with 8 or more carbon atoms in their molecular structure)

In addition, please report concentrations (percent by volume) for the following constituents if the data are readily available. It is not mandatory that you enter this data:

- Benzene
- Toluene
- Ethylbenzene
- Xylenes
- n-Hexane
- 2,2,4-Trimethylpentane

Equipped with a flash tank? (yes/no) – Indicates whether the system is equipped with a flash tank (or separator) that vents to the atmosphere.

Disposition of flash gas – Indicates if the gas is routed back into the system, vented to the atmosphere, or burned in a flare.

Flash tank temperature (degrees Fahrenheit) – The temperature of the flash tank.

Flash tank pressure (pounds per square inch gauge) – The pressure of the flash tank.

Uses stripping gas? – Indicates what type of stripping gas (if any) is used in the regenerator to improve water removal from the rich glycol.

- None
- Dry gas
- Flash gas – Exhaust from the flash tank
- Nitrogen – From a nitrogen supply

Stripping gas flow rate (standard cubic feet per minute) – The flow rate of stripping gas to the regenerator, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Status - The status of the glycol dehydrator for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.9.2 Ventilation System Tab – For Still Column Vent Only

Vented into low-pressure vent/flare manifold system? (yes/no) – Indicates whether the emissions from this equipment are gathered into a low-pressure manifold system to be vented or flared at some distance from the equipment.

Low-pressure vent/flare ID – Indicates the destination vent or flare identifier code (if emissions are directed through a low-pressure vent/flare manifold system). It may be necessary to first create a vent or flare before it will appear in the list (using the Edit|New Equipment menu).

Gases vented or flared? (vented/flared) - Indicate whether emissions are vented or flared locally through a process vent/flare (if emissions are not directed through a low-pressure vent/flare manifold system).

Outlet height (feet) – The height at the outlet of a process vent/flare above the glycol dehydrator (measured from the base of the glycol dehydrator to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of a process vent/flare.

Exit velocity (feet/second) – The exit velocity of emissions through the outlet of a process vent/flare.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the outlet of a process vent.

Outlet orientation (degrees) – The deviation of the outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Flare feed rate (standard cubic feet per hour) – The volumetric feed rate to a process flare.

Combustion temperature (degrees Fahrenheit) – The combustion temperature of a process flare.

Combustion efficiency (percent) – The combustion efficiency of a process flare, or the completeness of hydrocarbon conversion to carbon dioxide (as CO_2).

Installed control equipment – Indicates which common types of control devices are installed for this equipment.

Condenser temperature (degrees Fahrenheit) – The operating temperature of a condenser installed as a control device.

Condenser pressure (absolute pounds per square inch) – The operating temperature of a condenser installed as a control device.

A.9.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Ventilation System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Ventilation System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

A.9.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.10 LOADING OPERATION

A.10.1 General Information Tab

Volume loaded (barrels) – The quantity of liquid hydrocarbon loaded into ships or barges at this structure.

Average elevation (feet above mean sea level) – The approximate elevation of loading operations, measured from mean sea level to the point of dispensing.

Storage tank paint color – The exterior paint color of the dispensing storage tank.

Storage tank paint condition – The exterior paint condition of the dispensing storage tank.

Bulk liquid temperature (degrees Fahrenheit) – The bulk temperature of the liquid contained within the dispensing storage tank.

Product Reid vapor pressure (absolute pounds per square inch) – The Reid vapor pressure of the liquid contained within the dispensing storage tank.

Average percent by weight of VOCs in tank vapor (percent) – The VOC content of vapors in the storage tank headspace, measured as weight percent.

Average molecular weight of VOCs in tank vapor (pounds per pound-mol) – The average molecular weight of VOCs present in the storage tank headspace.

Status - The status of the loading operations for the specific survey period.

- "Active" - Indicates that loading operations occurred at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that no loading operations occurred for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.10.2 Ventilation System Tab

Vented into low-pressure vent/flare manifold system? (yes/no) – Indicates whether the emissions from this equipment are gathered into a low-pressure manifold system to be vented or flared at some distance from the equipment.

Low-pressure vent/flare ID – Indicates the destination vent or flare identifier code (if emissions are directed through a low-pressure vent/flare manifold system). It may be necessary to first create a vent or flare before it will appear in the list (using the Edit|New Equipment menu).

Gases vented or flared? (vented/flared) - Indicate whether emissions are vented or flared locally through a process vent/flare (if emissions are not directed through a low-pressure vent/flare manifold system).

Outlet height (feet) – The height at the outlet of a process vent/flare above the loading operation (measured from the point of dispensing to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of a process vent/flare.

Exit velocity (feet/second) – The exit velocity of emissions through the outlet of a process vent/flare.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the outlet of a process vent.

Outlet orientation (degrees) – The deviation of the outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Flare feed rate (standard cubic feet per hour) – The volumetric feed rate to a process flare.

Combustion temperature (degrees Fahrenheit) – The combustion temperature of a process flare.

Combustion efficiency (percent) – The combustion efficiency of a process flare, or the completeness of hydrocarbon conversion to carbon dioxide (as CO_2).

Installed control equipment – Indicates which common types of control devices are installed for this equipment.

A.10.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Ventilation System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Ventilation System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

A.10.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.11 LOSSES FROM FLASHING

A.11.1 General Information Tab

Type of vessel – Indicates the type of vessel (separator, heater treater, surge tank, storage tank, other) where the flashing occurs.

API gravity of stored oil (degrees API) – The API gravity of the oil/condensate contained within the vessel where the flashing occurs.

Operating pressure of vessel (pounds per square inch gauge)– Indicates the pressure setting of the vessel where the flashing occurs.

Operating temperature of vessel (degrees Fahrenheit) – Indicates the operating temperature of the vessel where the flashing occurs.

Oil/condensate throughput (barrels) – Indicates the actual throughput volume of oil/condensate for each vessel for the specific monthly survey period.

Operating pressure immediately upstream of vessel (pounds per square inch gauge) – Indicates the operating pressure upstream of the vessel.

Operating temperature immediately upstream of vessel (degrees Fahrenheit) – Indicates the operating temperature upstream of the vessel.

Disposition of flash gas – Indicates if the gas is vented to the atmosphere or burned in a flare. Do not report data for flash gas that is routed to the system.

Standard cubic feet of flash per barrel of oil (SCF/barrel) – If data are readily available, indicate the SCF of flash per barrel of oil/condensate specific to your source. It is not mandatory that you that you enter this data.

Status - The status of the vessel for the specific survey period.

- "Active" - Indicates that the vessel was used at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the vessel was empty and unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.11.2 Ventilation System Tab

Vents to low-pressure vent manifold system? (yes/no) – Indicates whether the emissions from this equipment are gathered into a low-pressure system to be vented at some distance from the equipment.

Gases vented to atmosphere - Indicates whether emissions are vented directly to the atmosphere (if emissions are not directed through a low-pressure vent system).

Low-pressure vent ID – Indicates the destination vent identifier code (if emissions are directed through a low-pressure vent system). It may be necessary to first create a vent before it will appear in the list (using the Edit|New Equipment menu).

Outlet height (feet) – The height at the outlet of a process vent above the vessel (measured from the base of the vessel to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of a process vent.

Exit velocity (feet/second) – The exit velocity of emissions through the outlet of a process vent.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the outlet of a process vent.

Outlet orientation (degrees) – The deviation of the outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

A.11.3 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.12 MUD DEGASSING

A.12.1 General Information Tab

Days per month of drilling with mud (i.e., drilling fluid) – The total number of 24-hour days that drilling (with mud) occurred during the specific monthly survey period.

Type of mud – Indicates the type of mud used (drilling fluid) (water-based, oil-based, or synthetic).

Status - The status of the operation for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.12.2 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.13 NATURAL GAS ENGINE

A.13.1 General Information Tab

Engine elevation (feet above mean sea level) – The elevation of an engine, measured from mean sea level to its base.

Hours operated – The total number of hours that this engine was in operation during the specific monthly survey period.

Manufacturer – The company name of the engine manufacturer.

Model No. – The manufacturer's model number of the engine.

Engine stroke – Indicates whether the engine is a 2-stroke design or a 4-stroke design.

Engine burn – Indicates the fuel burn conditions (lean-burn, rich-burn, or clean-burn).

Fuel H_2S content (parts per million by volume) – The concentration of hydrogen sulfide in gaseous fuel types.

Fuel heating value (British thermal units per standard cubic feet) – The energy content of gaseous fuel types.

Max rated horsepower (horsepower) – The manufacturer's maximum rated horsepower output.

Operating horsepower (horsepower) – The operating horsepower during operation this survey period.

Max rated fuel usage (British thermal units per horsepower-hour) – The manufacturer's maximum rate of fuel usage.

Average fuel usage (British thermal units per horsepower-hour) – The average rate of fuel usage during operation this survey period.

Total fuel used (thousand standard cubic feet) – Total gaseous fuel used during this survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere). If you do not monitor actual fuel use for an engine, a value may be calculated using:

[Hours operated * average fuel usage (Btu/hp-hr) * operating horsepower]÷[fuel heating value (1,050 Btu/scf) * (1,000 scf/Mscf)].

Status - The status of the engine for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.

- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.13.2 Exhaust System Tab

Outlet height (feet) – The height of the exhaust outlet above the engine (measured from the base of the engine to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of the exhaust outlet.

Exit velocity (feet/second) – The exit velocity of emissions through the exhaust outlet.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the exhaust outlet.

Outlet orientation (degrees) – The deviation of the exhaust outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

A.13.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed.

Description – If present, a description of other control devices is required.

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices.

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices.

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices.

VOC efficiency (percent) – The total combined reductions in volatile organic compound emissions achieved by all other installed control devices.

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices.

A.13.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.14 NATURAL GAS TURBINE

A.14.1 General Information Tab

Engine elevation (feet above mean sea level) – The elevation of a natural gas turbine, measured from mean sea level to its base.

Hours operated – The total number of hours that this turbine was in operation during the specific monthly survey period.

Manufacturer – The company name of the turbine manufacturer.

Model No. – The manufacturer's model number of the turbine.

Engine purpose of use – The purpose for which this turbine is used.

- Electricity Generation
- Product Pressurization
- Other

Fuel H_2S content (parts per million by volume) – The concentration of hydrogen sulfide in gaseous fuel types.

Fuel heating value (British thermal units per standard cubic feet) – The energy content of gaseous fuel types.

Max rated horsepower (horsepower) – The manufacturer's maximum rated horsepower output.

Operating horsepower (horsepower) – The operating horsepower during operation this survey period.

Max rated fuel usage (British thermal units per horsepower-hour) – The manufacturer's maximum rate of fuel usage.

Average fuel usage (British thermal units per horsepower-hour) – The average rate of fuel usage during operation this survey period.

Total fuel used (thousand standard cubic feet) – Total gaseous fuel used during this survey period, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere). If you do not monitor actual fuel use for a turbine, a value may be calculated using:

[Hours operated * average fuel usage (Btu/hp-hr) * operating horsepower]÷[fuel heating value (1,050 Btu/scf) * (1,000 scf/Mscf)].

Status - The status of the turbine for the specific survey period.

- "Active" - Indicates that the equipment was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.14.2 Exhaust System Tab

Outlet height (feet) – The height of the exhaust outlet above the turbine (measured from the base of the turbine to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of the exhaust outlet.

Exit velocity (feet/second) – The exit velocity of emissions through the exhaust outlet.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the exhaust outlet.

Outlet orientation (degrees) – The deviation of the exhaust outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

A.14.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Exhaust System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Exhaust System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Exhaust System Tab).

A.14.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.15 PNEUMATIC PUMPS

A.15.1 General Information Tab

Manufacturer – The company name of the equipment manufacturer. Examples include: Wilden diaphragm pumps (M-1, M-2, M-4, M-8, M-15); and Texsteam chemical injection and diaphragm pumps.

Model – The manufacturer's model number of the pump. Only include pumps that are in natural gas service. Do not include pumps in compressed air service.

Fuel usage rate (standard cubic feet per hour) – The rate of natural gas usage during operation this survey period. If this information is not readily available, it is not mandatory that you enter this data.

Hours operated – The total number of hours that the pump was in operation during the specific monthly survey period.

Pump elevation (feet above mean sea level) – The approximate elevation of the pump, measured from mean sea level to its base.

Status – The status of the pump for the specific survey period.

- "Active" – Indicates that the pump was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" – Indicates that the pump was unused for the entire month-long survey period.

Effective Date – Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments – A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.15.2 Ventilation System Tab

Vented into low-pressure system? (yes/no) – Indicates whether the emissions from these pumps are gathered into a low-pressure system to be vented at some distance from the pumps.

Gases vented to atmosphere – Indicates whether emissions are vented directly to the atmosphere (if emissions are not directed through a low-pressure vent system).

Low-pressure vent ID – Indicates the destination vent identifier code (if emissions are directed through a low-pressure vent manifold system). It may be necessary to first create a vent before it will appear in the list (using the Edit|New Equipment menu).

Outlet height (feet) – The height at the outlet of a process vent above the loading operation (measured from the point of dispensing to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of a process vent.

Exit velocity (feet/second) – The exit velocity of emissions through the outlet of a process vent.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the outlet of a process vent.

Outlet orientation (degrees) – The deviation of the outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

A.15.3 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.16. PRESSURE/LEVEL CONTROLLERS

A.16.1 General Information Tab

Service Type – Indicates whether the equipment is in pressure control or level control service.

Manufacturer – The company name of the equipment manufacturer. Only include equipment that is in natural gas service. Do not include equipment in compressed air service.

Model – The manufacturer's model number of the equipment.

Number of this make-model – Number of equipment of this exact make and model.

Fuel usage rate (standard cubic feet per hour) – The rate of natural gas usage during operation this survey period. If this information is not readily available, it is not mandatory that you enter this data.

Hours operated – The total number of hours that the equipment was in operation during the specific monthly survey period.

Equipment elevation (feet above mean sea level) – A good estimate is half the elevation of the top deck.

Status - The status of the equipment operations for the specific survey period.

- "Active" - Indicates that the equipment was used at some time during the survey period. Even brief activity qualifies.
- "Inactive" - Indicates that the equipment was unused for the entire month-long survey period.

Effective Date - Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments - A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.16.2 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

A.17. STORAGE TANK

A.17.1 General Information Tab

Product throughput (barrels) – The volume of liquid hydrocarbon turned over through the storage tank during the survey period.

Tank elevation (feet above mean sea level) – The elevation of a storage tank, measured from mean sea level to its base.

Tank orientation (horizontal/vertical) – Indicates whether the tank is elongated and narrow in the horizontal direction (horizontal), or otherwise (vertical).

Tank shape (cylindrical/rectangular) – Indicates whether the tank is cylindrical or rectangular in shape.

Average liquid height (feet) – The average height of stored liquid during the survey period, measured from the bottom of the storage space to the top of the liquid.

Tank shell diameter (feet) – The diameter of a cylindrical tank (either horizontal or vertical).

Tank shell height (feet) – The vertical height of a cylindrical tank (oriented vertically) or of a rectangular tank (oriented vertically or horizontally).

Tank shell length (feet) – The longest horizontal dimension of a horizontal tank.

Tank shell width (feet) – The horizontal width of a rectangular tank (oriented vertically or horizontally).

2nd Tank shell width (feet) – The 2nd horizontal width of a rectangular tank (oriented vertically).

Is the roof fixed (not floating)? (yes/no) – Indicates whether the tank has a fixed or floating roof.

Roof shape – Indicates the shape of a vertical tank's roof.

- Cone –cylindrical tanks
- Dome – cylindrical tanks
- Flat – cylindrical or rectangular
- Peaked – rectangular

Roof height above shell (feet) – The height of a fixed roof measured from the top of the tank shell to the highest point of the roof.

Breather vent pressure setting (pounds per square inch gauge) – The pressure setting of the tank breather valve.

Breather vent vacuum setting (pounds per square inch gauge) – The vacuum setting of the tank breather valve.

Paint color – The exterior paint color of the storage tank.

Paint condition – The exterior paint condition of the storage tank.

Bulk liquid temperature (degrees Fahrenheit) – The bulk temperature of the liquid contained within the storage tank.

Product type (crude/condensate) – Indicates whether the storage tank contains crude oil or condensates. It is not mandatory that you enter data for jet fuel storage tanks.

API gravity (degrees API) – The API gravity of the liquid contained within the storage tank.

Product Reid vapor pressure (absolute pounds per square inch) – The Reid vapor pressure of the liquid contained within the storage tank.

Average percent by weight of VOCs in tank vapor (percent) – The VOC content of vapors in the storage tank headspace, measured as weight percent.

Average molecular weight of VOCs in tank vapor (pounds per pound-mol) – The average molecular weight of VOCs present in the storage tank headspace.

Equipped with a flash tank? (yes/no) – Indicates whether the storage tank is equipped with an upstream flash tank.

Status – The status of the storage for the specific survey period.

- "Active" – Indicates that the tank was used at some time during the survey period. Even brief activity qualifies.
- "Inactive" – Indicates that the tank was empty and unused for the entire month-long survey period.

Effective Date – Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments – A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.17.2 Ventilation System Tab

Vented into low-pressure vent/flare manifold system? (yes/no) – Indicates whether the emissions from this equipment are gathered into a low-pressure manifold system to be vented or flared at some distance from the equipment.

Low-pressure vent/flare ID – Indicates the destination vent or flare identifier code (if emissions are directed through a low-pressure vent/flare manifold system). It may be necessary to first create a vent or flare before it will appear in the list (using the Edit|New Equipment menu).

Gases vented or flared? (vented/flared) – Indicate whether emissions are vented or flared locally through a process vent/flare (if emissions are not directed through a low-pressure vent/flare manifold system).

Outlet height (feet) – The height at the outlet of a process vent above the storage tank (measured from the base of the tank to the top of the outlet).

Outlet inner diameter (inches) – The inner diameter of a process vent or the effective diameter of a flare.

Exit velocity (feet/second) – The exit velocity of emissions through the outlet of a process vent/flare.

Exit temperature (degrees Fahrenheit) – The temperature of gaseous emissions measured at the outlet of a process vent.

Outlet orientation (degrees) – The deviation of the outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Flare feed rate (standard cubic feet per hour) – The volumetric feed rate to a process flare.

Combustion temperature (degrees Fahrenheit) – The combustion temperature of a process flare.

Combustion efficiency (percent) – The combustion efficiency of a process flare, or the completeness of hydrocarbon conversion to carbon dioxide (as CO_2).

Installed control equipment – Indicates which common types of control devices are installed for this equipment.

Condenser temperature (degrees Fahrenheit) – The operating temperature of a condenser installed as a control device.

Condenser pressure (absolute pounds per square inch) – The operating pressure of a condenser installed as a control device.

A.17.3 Control Equipment Tab

Other control device? (yes/no) – Indicates whether additional controls are installed, other than the common control devices listed on the Ventilation System Tab.

Description – If present, a description of other control devices is required (other than those listed on the Ventilation System Tab).

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices (other than those listed on the Ventilation System Tab).

A.17.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

A.18 VENT

A.18.1 General Information Tab

Number of upset vent occurrences – The number of incidents of continuous venting due to plant upset conditions. An incident is a period of continuous vent operation, which may range from minutes to days.

Hours operated, excluding upsets – The total number of hours that the vent was operated during the survey period, excluding periods of upset venting.

Volume vented (thousand standard cubic feet), excluding upsets – The total volume of gas vented during the survey period, excluding periods of upset venting, volume adjusted to standard temperature and pressure (60 degrees Fahrenheit, 1 atmosphere).

Vent type – Indicates whether vent gases are released at high pressure or low pressure.

Vent gas H_2S Concentration (parts per million by volume) – The concentration of hydrogen sulfide present in the vented gas.

Vent gas VOC Concentration (parts per million by volume) – The concentration of volatile organic compounds present in the vented gas.

Average molecular weight of VOCs (lb/lb-mol) – The average molecular weight of VOCs present in the vented gas.

Stack outlet elevation (feet above mean sea level) – The elevation of the vent stack outlet above mean sea level.

Stack inner diameter (inches) – The inner diameter of the vent stack at its outlet.

Average exit velocity (feet per second), excluding upsets – The average exit velocity of vented gas at the stack outlet.

Exit temperature (degrees Fahrenheit), excluding upsets – The average temperature of vented gas at the stack outlet.

Stack orientation (degrees) – The deviation of the stack outlet from vertically upward. 0 indicates an upward pointing outlet; 180 indicates a downward pointing outlet.

Installed control equipment – Indicates which common types of control devices are installed on the vent.

Condenser temperature (degrees Fahrenheit) – The operating temperature of a condenser installed as a control device.

Condenser pressure (absolute pounds per square inch) – The operating pressure of a condenser installed as a control device.

Status – The status of the vent for the specific survey period.

- "Active" – Indicates that the vent was active at some time during the survey period. Even brief activity qualifies.
- "Inactive" – Indicates that the vent was unused for the entire month-long survey period.

Effective Date – Indicates the date that the status changed from Active to Inactive or vice versa. The effective date is only required if the status for the current survey period differs from that of the last survey period, or if the current survey is the first to be completed.

Comments – A space for general user comments regarding this structure, with a maximum length of 255 characters.

A.18.2 Control Equipment Tab

Other control device? (yes/no) – Indicates whether controls are installed.

Description – If present, a description of other control devices is required.

SO_x efficiency (percent) – The total combined reductions in sulfur oxides emissions achieved by all other installed control devices.

NO_x efficiency (percent) – The total combined reductions in nitrogen oxides emissions achieved by all other installed control devices.

CO efficiency (percent) – The total combined reductions in carbon monoxide emissions achieved by all other installed control devices.

VOC efficiency (percent) – The total combined reductions in volatile organics emissions achieved by all other installed control devices.

PM_{10} efficiency (percent) – The total combined reductions in PM_{10} emissions (particulate matter under 10 microns in diameter) achieved by all other installed control devices.

A.18.3 Upsets Tab

Time stamp – Lists all vent upset occurrences by the date and time of the beginning of the upset. (To add a vent occurrence, click "Add Occurrence. To delete or edit, select an occurrence in the list and click "Delete Occurrence" or "Edit Occurrence".)

Hours – The duration of each vent upset occurrence.

Average vent feed (thousand standard cubic feet per hour) – The average vent feed rate observed during the upset.

H_2S concentration (parts per million by volume) – The average concentration of hydrogen sulfide in the vent feed gas.

Exit temperature (degrees Fahrenheit) – The temperature of vented gases observed at the stack outlet during the vent upset.

Comments – A space for general user comments regarding each vent upset, with a maximum length of 255 characters.

A.18.4 QC Results Tab

Error Source – List of input variables for this equipment that have been flagged with QC error messages.

Error Description – List of the reasons that QC error messages were assigned.

Operator Comment – List of user's explanations for unusual or unexpected values that were flagged with QC error messages. An operator comment indicates that the user wishes to override the QC error message. (Select an error message, then click "Add QC Comment" in order to add Operator Comments.)

APPENDIX B

GOADS QA SUMMARY FORM DATA FIELDS

This appendix indicates the data fields that will be flagged in the QA Summary Form if they are missing or inconsistent from month to month. If all of your GOADS entries are complete and the values are within two standard deviations of the average for all values in that field, the QA Summary Form will be blank.

The data fields in the QA Summary Form are critical to developing emission estimates. If an element appears on the QA Summary Form printout, you should re-evaluate your GOADS file and complete or correct the data you entered for the equipment or month shown. If the flagged value is legitimate, you may annotate the QA Summary Form using colored ink, or attach additional sheets which specify why a value is valid and does not need to be changed.

You must print out the GOADS QA Summary Form and submit it with your data files. If any values are flagged as incomplete or inconsistent, MMS will contact you. Please make sure you review the QA Summary Form closely, correct and errors that are flagged, and use the comment field for flagged entries that are valid. The following table lists the type codes used on the QA Summary Form.

GOADS QA Summary Form
Equipment Type Codes

AMI	=	Amine gas sweetening unit
BOI	=	Boiler/heater/burner
DIE	=	Diesel or gasoline engine
DRI	=	Drilling rig
FLA	=	Flare
FLAOCC	=	Flare occurrence (upset)
FUG	=	Fugitives
GLY	=	Glycol dehydrator unit
LOA	=	Loading operation
LOS	=	Losses from flashing
MUD	=	Mud degassing
NGE	=	Natural gas engine
NGT	=	Natural gas turbine
PNE	=	Pneumatic pumps
PRE	=	Pressure/level controllers
STO	=	Storage tank
VEN	=	Vent
VENOCC	=	Vent occurrence (upset)

GOADS QA Summary Form Data Fields

SURVEY LEVEL	Operator Comments
General Operator Information	
User name and phone number	
Company name	
Survey Information	
Operator identified	
12 surveys included	
Structure Information	
Area/Block/Name	
Longitude/latitude	
Distance to shore	
Gas production	
Crude oil production	
Natural gas usage for all 12 months consistent with survey data	
Diesel fuel usage for all 12 months consistent with survey data	
Gasoline usage for all 12 months consistent with survey data	
Number and unique pieces of equipment consistent for all 12 mos.	
Facility type	
Sales gas composition	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Equipment Information	
Amine Gas Sweetening Unit	
Processed throughput	
Hours operated	
Unprocessed natural gas concentration (% by volume)	
Quantity emitted when uncontrolled (%)	
Amine type*	
Equipped with a flash tank (yes/no)*	
Disposition of flash gas*	
Vented into low-pressure system	
Gases vented or flared	
Boilers/heaters/burners	
Fuel type	
Maximum rated heat input	
Hours of operated	
Average heat input	
Control device identified	
Same equipment units reported for each month/survey	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Diesel or Gasoline Engines	
Fuel type	
Maximum rated horsepower	
Hours operated	
Operating horsepower	
Maximum rated fuel usage	
Average fuel usage	
Control device identified	
Same equipment units reported for each month/survey	
Drilling Rig	
Hours operated	
Total diesel fuel usage	
Total gasoline usage	
Total natural gas fuel usage	
Flare	
Volume flared reported for continuous flaring	
Average flare feed rate reported for each upset	
Number of hours for each upset	
Continuous pilot	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Flare (Continued)	
Pilot fuel feed rate	
Annual Fugitives	
Stream type (gas, heavy oil, light oil, or water/oil)	
Average VOC weight %	
Number of components that handle the stream type	
Glycol Dehydrator Unit	
Processed throughput	
Glycol type	
Hours operated	
Gas saturated (yes/no)	
Unprocessed natural gas concentrations	
Equipped with a flash tank (yes/no)	
Disposition of flash gas	
Loading Operations	
Volume loaded to ships and barges	
Tank color	
Tank condition	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Losses from Flashing	
Type of vessel	
API gravity of stored oil	
Operating pressure of each vessel	
Operating temperature of each vessel	
Operating pressure upstream of vessel	
Operating temperature upstream of vessel	
Oil/condensate throughput for each vessel	
Disposition of flash gas	
Mud Degassing	
Number of drilling days (with mud)	
Mud type used (water-based, synthetic, oil-based)	
Natural Gas Turbines	
Hours operated	
Operating horsepower	
Maximum rated fuel usage	
Average fuel usage	
Control device identified	
Same equipment units reported for each month/survey	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Natural Gas Engines	
Engine stroke	
Engine burn	
Hours operated	
Operating horsepower	
Maximum rated fuel usage	
Average fuel usage	
Control device identified	
Same equipment units reported for each month/survey	
Pneumatic Pumps	
Manufacturer	
Model	
Hours operated	
Pressure/level Controllers	
Manufacturer	
Model	
Hours operated	
Service type	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Storage Tank	
Product throughput	
Product type	
Tank color	
Tank condition	
Tank shape	
Tank orientation	
Tank shell height	
Tank shell diameter	
Tank shell width	
Roof shape	
Roof height above shell	
Equipped with a flash tank (yes/no)	
Vent	
Number of upset occurrences	
Hours operated, excluding upsets	
Volume vented, excluding upsets	
Control device identified	
Dates and times of upsets	

GOADS QA Summary Form Data Fields (Continued)

SURVEY LEVEL	Operator Comments
Vent (Continued)	
Duration of upsets	
Average vent feed	

* If the uncontrolled quantity emitted from the amine unit is not completed.

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.