

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240
<http://www.blm.gov>

March 14, 2006

In Reply Refer To:
3160 (310) I

EMS TRANSMISSION 03/23/2006
Instruction Memorandum No. 2006-116
Expires: 09/30/2007

To: All Field Officials

From: Assistant Director, Minerals, Realty and Resource Protection

Subject: Oil and Gas Inspection and Enforcement (I&E) Documentation Requirements

Program Area: Fluid Minerals

Purpose: To provide documentation requirements and procedures for inspection and enforcement (I&E) activities that are essential to the oil and gas I&E program. This memorandum outlines the requirements to document post-approval environmental and technical inspection/monitoring activities and provides the requirements for both hardcopy inspection documentation and the Automated Fluid Minerals Support System (AFMSS).

Policy/Action: These documentation requirements are issued to replace WO IM 2001-127, dated April 16, 2001. Attachment 1 provides the requirements to properly document inspections and maintain the historical hardcopy inspection file data. Attachment 2 outlines the overall inspection documentation requirements for entering information into the AFMSS database. Attachment 3 provides specific instructions for entering AFMSS inspection information by data element. Enforcement documentation requirements for tracking the various types of enforcement actions issued by oil and gas personnel are included in Attachment 4. Accurately determining and documenting volume discrepancies through production inspection and record review activities are contained in Attachment 5. Updated versions of the inspection forms are provided in Attachment 6.

Beginning in Fiscal Year 2006, two new inspection activities were added. Interim Reclamation (IR) has been added to the Environmental Inspection (ES) type, and Production Test (PT) has been added to Drilling Well (DW) and Production Inspection types. The new IR activity within the ES type was added in response to the recommendation from the Government Accountability Office (GAO) Report Number, GAO-05-418, titled, Increased Permitting Activity Has Lessened BLM's Ability to Meet Its Environmental Protection Responsibilities. This new IR inspection activity allows the BLM to now track interim reclamation inspections. Detailed

definitions for these new activity codes are included in Attachment 1.

Time frame: All offices conducting oil and gas I&E activities are required to implement the attached requirements upon issuance. In addition, all State and Field Offices must develop oversight functions to ensure that these requirements are implemented. The definition of an oversight inspection is included in Attachment 2.

Budget Impact: None.

Background: The BLM previously issued inspection documentation policy under WO IM 2001-127 dated April 16, 2001. Since that time documentation and record retention policies have changed, inspection forms have been improved, and modifications were made to AFMSS input screens and fields and to data entry policies. This Instruction Memorandum clarifies and updates policies to reflect current documentation requirements to ensure consistency and quality in the official hardcopy files and in the AFMSS database.

Manual/Handbook: The I&E Strategy Handbook and supporting appendices will be updated to reflect these requirements.

Coordination: This IM was coordinated with the Fluid Minerals Division (WO-310), AFMSS Program Manager (WO-330D), State and Field Office I&E Personnel, and AFMSS users.

Contact: Questions concerning this subject should be directed to Fred Oneyear at 307-261-7569 or Tom Zelenka at 202-452-0334. Questions concerning data entry procedures for AFMSS should be directed to Carol Larson at 406-233-3655.

Signed by:
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6 Attachments

- 1 - Inspection Documentation Requirements (5 pp)
- 2 - Inspection Documentation Requirements and Definitions (19 pp)
- 3 - AFMSS Data Entry Requirements by Inspections Screens (17 pp)
- 4 - Enforcement Action Documentation Requirements (10 pp)
- 5 - Instructions for Determining Volume Discrepancies (9 pp)
- 6 - Inspection Forms (16 pp)

INSPECTION DOCUMENTATION REQUIREMENTS

I. Reasons for Documentation

Documentation gathered during an inspection must be, without exception, incorporated into the official hardcopy BLM files. This information is often used in management control reviews, alternative management control reviews, technical procedural reviews, Office of Inspector General, and Government Accountability Office reviews, as well as congressional committee inquiries, State Director Reviews, and court cases. The official BLM files are reviewed by these groups to verify if the operators, the BLM, and inspection personnel are meeting the requirements established by law, regulations, and orders. It is critical to the inspection personnel, the BLM, and other involved parties that clear, concise, and accurate inspection documentation be developed and maintained in the official records. Without clear and accurate documentation of existing conditions and activities, enforcement actions cannot be taken or decisions upheld if appealed by the operator. Hardcopy inspection documentation is considered the official Bureau record. Automated inspection documentation is a supplement to the hardcopy files, but is also required. Enforcement action and program decisions should be based upon information contained in the official hardcopy files.

A. Documentation Requirements

Precise and clear inspection documentation allows anyone reviewing the file to verify the type of inspection conducted; the specific operational activities conducted or witnessed; when the activities were conducted; what actions were taken by the inspection personnel to ensure operations were conducted as required; and what types of problems and results were observed. Inspection documentation must be concise and not contain materials that are not pertinent to verify inspection activities and results. A brief summary of the inspection activities and results must be included in the hardcopy files and AFMSS. Handwritten notes created by inspection personnel must be included in the hardcopy files, and summarized in AFMSS. These may include, but are not limited to, violations or problems detected that may reoccur, resolution of problems, volume discrepancies, installation of new equipment such as a LACT, gas meter, or tank(s), BOPE failures, and placement of plugs. A summary example follows Item 16 below.

B. Required Inspections Forms

The following inspection forms are mandatory for completion, as applicable to the inspection type, and must be maintained in the historic inspection file:

- 3160-10 Inspection Record - Drilling (October 2003, or AFMSS form).
- 3160-11 Inspection Record - Production (December 7, 2002, or AFMSS form).
- 3160-13 Inspection Record - Abandonment (October 2003, or AFMSS form).
- 3160-27 Inspection Record – Environmental (January 31, 2006, or AFMSS form - Well Surface or Facility Surface).
- 3160-15 Measurement Record - Gas (December 2003)

3160-16 Measurement Record - Oil By Tank Gauging or Alt. Method (December 2003).
3160-17 Measurement Record - Oil by LACT Meter (December 2003).

See Attachment 6 for these forms, and additional forms.

Forms 3160-10, -11, and -13 are required to be completed. Forms 3160-15, -16, and -17 are to be used as applicable, when conducting independent inspection measurement activities or when witnessing product sales, calibrations, or a meter proving. These forms ensure that all areas of the operations are inspected for compliance in our efforts to verify production accountability. Forms must be filled out completely. If a specific item does not apply to the inspection, enter "N/A" in the inspected column. If an N/A column exists, place a check in that column.

The AFMSS form (Form 3160-27 Well Surface or Facility Surface) for environmental inspections should be used by the Environmental Specialist when these inspections are conducted.

The documentation of all inspections must be clear, concise and legible, and provide an accurate description of what was inspected including the findings. The following lists specific items to be documented when performing an inspection:

1. The type of inspection performed.
2. Activities that were performed or witnessed (e.g., tank gauging, meter calibrations, etc.).
3. Who witnessed the activity (including the person representing the company, Tool Pusher, service company representative, etc.).
4. Specific times and dates when critical activities were witnessed.
5. Note any problems encountered during the inspection process, and how they were resolved.
6. Deviations from the approved plan and reasons for the changes.
7. Telephone or personal conversations or verbal requests critical to the operation or inspection where agreements or decisions were made.
8. The results of the inspection or operation witnessed.
9. Any violations or problems (potential future violations) are identified and Written Orders, Shut Down Notices, Verbal Warnings, or Incidents of Noncompliance (INCs) are issued.

10. Other information pertinent to the inspection.
11. Worksheets or checklists developed by offices, or other sources used to document inspection results.
12. Personal notes; independent calculations performed to verify drilling and abandonment cement, spacer, and displacement volumes; and oil or gas volumes must be documented in the official hardcopy file. The purpose of these calculations is to verify to the inspection personnel, as well as anyone reviewing the file, that independent confirmation of volumes was performed.
13. Job logs, service company reports, or any other information available either from the operator or its contractors should be requested, if applicable, to documenting operations witnessed. These documents should be requested from the operator, not the service company.
14. Photographs taken to document violations need to contain a brief, accurate description of what is being photographed, including the location, as well as the date and time of the photo.
15. Telephone conversations relating to an inspection can be documented in several different ways. It must contain a description of what was discussed, who was contacted (name, position, and company name), and the time and date of the contact.
16. Each inspection must contain a summary of the results of the inspection, any problems encountered and resolved, all other pertinent information, including notes that may aid future inspections, and included in both the hardcopy file and into the AFMSS database. Document only facts, not unverified assumptions or personal opinions.

Example of a typical PI Inspection Summary:

“PI inspection activities were conducted <time and date(s)>. Identified seal violations during a <inspection activity>. INC #(s), were issued <if corrected, state date>. <Indicate the gravity of any violations – major or minor>. No environmental or health and safety issues identified. Witnessed meter calibrations and oil sales, production measurement and handling operations, no problems found (if problems were found, summarize the issue and actions taken). Records review of production information from <timeframe> indicates accurate reporting of production and no reporting discrepancies.” (If discrepancies were discovered and a PR activity was conducted, state the timeframe and results of activity, along with volumes gained, lost, and/or recovered).

Examples of notes to help future inspection personnel could include:

“Another inspection will be conducted on seal violations in a few months since this appears to be a reoccurring problem with the operator.”; or add helpful hints such as “operator mentioned plans of adding additional tanks and separation equipment to facility, will re-inspect and verify a new facility diagram when completed”; or “the combination to the locked gate across private land is xx-xx-xx.”

C. Environmental and Workover Inspection Documentation

The Surface Inspection form (Form 3160-27 - Well Surface or Facility Surface) should be utilized when documenting Environmental Inspections. This form is new as of January 31, 2006. Previously there was an optional form available through AFMSS.

There is currently no official form to document Workover Inspections. Workover Inspection documentation requirements, as described above, are required, along with the completion of all applicable information in AFMSS such as: Case Number, Inspector, Open and Close Dates, Inspection Type, Inspection Activity, Well No., Facility ID., Travel Time, Inspection Time, Office Time, and Inspection Remarks.

II. Retention of Inspection Data - Record Maintenance Regulations

A. BLM Records Schedule Requirements

The BLM Records Schedule contains specific requirements for maintaining records. Premature destruction of these records carries a fine of \$2,000 and/or 2 years in prison. However, the schedule does not specifically address forms or information that are obtained or generated during an inspection. The intent is to maintain a sufficient amount of data to support the inspection. The following procedures must be adhered to for the maintenance of records:

1. All inspection forms used to document inspections (Forms 3160-10, -11, -13, -15, -16, and -17, including the Environmental Inspection form (Form 3160-27); Notice of Incidents of Noncompliance form (Form 3160-9); Notice of Written Order form (Form 3160-18) or letter, and Notice to Shut Down Operation form (Form 3160-12) must be maintained in conformance with the BLM's Disposition Authority (refer to BLM Manual, Section 1220) Schedule 4, Item 27. The BLM Records Schedule can be found on the following website: <http://www.blm.gov/nhp/records/blmgrs/toc.html>

2. Inspection data gathered or documented on Indian cases must be retained and disposed of in accordance with the BLM's Disposition Authority identified in Item 1 above, as well as any new policy developed by the BLM as a result of ongoing litigation. Always check with the Records Management Specialist on the proper disposition of Indian-related documents.
3. All inspection data gathered or documented on Federal cases must also be retained and disposed of in accordance with the BLM's Disposition Authority identified in Item 1 above, as well as any new policy developed by the BLM. Always check with the Records Management Specialist on the proper disposition of inspection records.

INSPECTION DOCUMENTATION REQUIREMENTS AND DEFINITIONS

I. Production Inspection (PI)

Only one PI inspection type is recorded per case/operator per FY. Hardcopy documentation of the PI inspection must include the Form 3160-11 and additional measurement forms as applicable and other supplemental documentation as outlined in Attachment 1. If several trips were made to conduct the PI, the inspection personnel will adjust the 'Inspection Activities', 'Open' and 'Close' Dates, 'Office', 'Travel', and 'Inspection' Times, and Number of 'Trips' accordingly. Subsequent PI(s) may be conducted if requested by MMS, BIA, or a Tribe, however, only one PI inspection type at a time may be opened. If a subsequent PI is requested, an existing PI must be closed before recording the second PI.

A. Documenting Production Inspection Activities in AFMSS

1. Non-measurement activities are documented once per PI and associated to all wells/facilities for the Inspection 'Activity'. Edit the 'Open' and 'Close' Dates, the associated wells/facilities, and 'Office', 'Travel' and 'Inspections' Times appropriately. Do not create a separate Inspection 'Activity' code for every well or facility that receives a non-measurement activity on different trips under a PI. (Activity codes: HS, RR, RD, PR, SP, SS, WS. See Section H of this Attachment for code definitions. See Item 5. below for guidance on entering activities for multiple inspection personnel.)
2. Measurement activities are documented once per PI unless a volume discrepancy is discovered. Document one Inspection 'Activity' code for measurement activities and indicate the number conducted in the corresponding 'Count' field in AFMSS. For example, enter one TG Inspection 'Activity' code and the number 10 in the 'Count' field for that activity line instead of entering 10 separate tank gauge activity lines. Then select the applicable wells/facilities associated with the activity. Measurement activities conducted by different inspection personnel on large cases would be accounted for separately unless it was a joint inspection. (See further guidance in Item 5. below for entering activities with multiple inspection personnel. Activity Codes: TG, MC, MP, LV, CV, TV, TR, T. See Section H of this Attachment for code definitions.)

Each activity line has its own 'Count' field in AFMSS to specify the number of activities conducted. The 'Count' field defaults to 1. The field must be updated if a measurement activity is selected.

3. Volume discrepancies If a measurement activity results in a volume discrepancy determination, the activity must be documented separately and associated to the applicable facility or well. The 'Count' field in this case would be set to 1. Record specific remarks to each volume discrepancy discovered.

4. Update Existing Activity Lines When inspection personnel conduct additional measurement activities on a case/operator throughout the year on a Production Inspection (PI), update the existing activity line to reflect the total count of measurement activities. Do not enter separate activity lines to account for different trips. For example, if inspection personnel conducted 5 meter calibrations (MC) for a PI, and later in the FY they conduct an additional 5 meter calibration inspection activities, the MC Inspection 'Activity' code is entered once and the 'Count' field, Activity 'Close' Date, 'Office', 'Travel', and 'Inspections' Times, and Number of 'Trips' are updated accordingly.
5. Multiple inspection personnel who conduct activities on the same case/operator to complete the PI should record their Inspection Activities on separate activity lines in AFMSS. If inspection personnel and/or supervisors conduct a particular Inspection Activity together, the names should be recorded in the 'Inspector' field for that Inspection Activity (e.g., Smith/Jones). It may be necessary to abbreviate both names to fit in the 'Inspector' name field. The time spent for both inspection personnel should be recorded under the Inspection Activity if an inspection is conducted jointly. If a supervisor or State I&E Coordinator conduct an oversight inspection while accompanying inspection personnel, the supervisor would code the inspection as an Oversight (OV) Inspection Type with the appropriate Inspection Activity code.
6. Production Records Review (PI/PR) If a complete production records review is conducted by inspection personnel, enter the Inspection Activity code of PR only once per PI (PI/PR). Enter the 'Inspector' Name, appropriate 'Open' and 'Close' Dates, and total 'Office' hours for this activity. The PI/PR activity may be opened before the first field visit and closed when all paperwork review is complete.

If the Production Accountability Technician (PAT) conducts a production records review in conjunction with the PET performing fieldwork, enter the PI/PR with the PAT name in the 'Inspector' field. The PAT may initiate the PI and enter the PR activity before the PET begins the fieldwork. The PAT will initiate the PI and enter the 'Open' Date the PR activity is started by the PAT. The PET must take care to enter field activities in the same PI that has been started by the PAT. It is critical that duplicate PIs are not created for the same case/operator during the FY.

For those case/operators where only a PR activity is planned, without conducting any field inspection activities, the PET or PAT may Open and Close the PI as appropriate. These inspections must be in accordance with the strategy requirements for low FOGRMA criterion.

7. Partial Records Reviews (PI/RR) that are conducted as part of an ongoing Production Inspection must be coded as PI/RR with the appropriate name listed in the 'Inspector' field. Enter one RR Inspection Activity per case/operator. If the RR Inspection Activity results in a full Production Records Review (PR), change the RR Inspection Activity in AFMSS to a PR and continue editing the 'Office' Time spent conducting the activity.

B. Drilling, Abandonment, and Workover Inspections

Drilling, Abandonment, and Workover inspections must be recorded by well to ensure an accurate inspection count. For example, if a Drilling Inspection is conducted on 50 wells for the same case/operator, 50 Drilling Inspections (DW) will be entered into AFMSS, and 50 Drilling Inspection forms (Form 3160-10) will be completed and filed. The same procedure applies to the Abandonment and Workover Inspections.

1. Documenting Drilling (DW), Abandonment (PD), and Workover (WK) Inspection Activities

Inspection Activities for Drilling, Abandonment, and Workover Inspections should be entered once instead of creating numerous entries of the same Inspection Activity (unless conducted by different inspection personnel). For example, if over the course of several months, three Health and Safety Inspection Activities are conducted on the same drilling well. Instead of creating three separate HS Activity codes, edit the first 'Activity' code created and adjust the 'Office', 'Travel', and 'Inspection' Times, 'Open' and 'Close' Dates and Number of 'Trips' accordingly. The 'Open' Date for the activity would be the first date that the activity was conducted and the 'Close' Date would be the last date that an HS inspection activity was conducted. The total time spent on that Inspection Activity would be reflected in the appropriate 'Office', 'Travel', and 'Inspection' Time fields.

2. If more than one inspector conducts an Inspection Activity on the well, the activities conducted would be recorded on separate activity lines under one Inspection Type.

C. Environmental Inspections (ES)

Environmental Inspections occur throughout the life cycle of a well or facility. Surface Construction (SC), Surface Drilling (SD) and Surface Abandonment (SA) Inspection Activities must be documented by well. For Surface Inspection Activities conducted on producing oil and gas operations (SP-surface production), the Inspections can be recorded on a well or facility basis. They may also be conducted on a case/operator basis if they are planned for (counted) on the I&E Strategy Matrix in that manner. The ES/SP inspections must be documented consistently with the way they are counted in the I&E Strategy Matrices developed each FY.

1. Documenting Environmental/Surface Production Inspection (ES/SP) Activities:

There are two options for entering Surface Production Inspections. Each office must choose an option and consistently document inspections as appropriate. The two options are:

- a. OPTION ONE: If a Field Office chooses to document Surface Production Inspections (ES/SP) by individual wells or facilities, the matrix must reflect a count of well and facility inspections instead of case/operator inspections. The high and low priority production related Environmental Inspections are counted in

Table 4 of the matrix in the Production column. AFMSS counts the number of cases rated high and low priorities in the case/operator Inspection Priority records each FY and inserts that number into the matrix. If Environmental Inspections are documented separately for each well or facility in a Field Office, edit the number in the matrix so that it reflects the high priority wells and facilities to be inspected instead of the high and low priority case/operator combinations.

NOTE: When documenting Environmental Surface Inspections in AFMSS, if the ES Inspection is by well, then 'Well Surface' must be used. If the ES Inspection is conducted on a facility, then 'Facility Surface' must be used. Do not combine wells and facilities on the same ES Inspection.

- b. **OPTION TWO:** Record an ES/SP under one ES Inspection Type per case/operator and associate the appropriate wells or facilities to the SP Inspection Activity. If multiple inspection personnel conduct Inspection Activities on a case/operator, record the Inspection Activities separately. Associate the additional well(s) to the activity, adjust 'Open' and 'Close' Dates, and 'Office', 'Travel', and 'Inspection' Times as needed. See the NOTE above.
 - c. **Documenting Multiple Completions:** To record Environmental Inspection information on wells with multiple completions (for example, D1, D2, or T1, T2, T3, etc.) that are committed to different case/operator combinations, you can associate the Inspection Activity to all active well completions. This can be accomplished by using the 'Copy Surface Inspection' feature on the *Inspection List (GLB.92)* screen. For example, if a well with S1 and S2 completions is committed to different agreements, and perhaps even different operators, enter the ES Inspection Type and SP Inspection Activity code for the S1 completion. Then use the 'Copy Surface Inspection' feature to copy the inspection information to other well completion.
2. **Documenting Surface Drilling (ES/SD) and Construction (ES/SC) Activities:** These inspections are documented on a well basis. If 10 Surface Drilling Inspections are conducted on 10 wells on the same case/operator during the FY, 10 surface Drilling Inspection Types are recorded (each associated to the well being inspected). This also applies to the ES/SC (Surface Construction - prior to spud) inspections.
 3. **Documenting Surface Abandonment (ES/SA) Activities:** These inspections are documented on a well basis. If 10 Surface Abandonment/Reclamation Inspections are conducted on 10 wells on the same case/operator case during the FY, 10 Surface Abandonment/Reclamation Inspection Types are also recorded (each associated to the well being inspected).
 4. **Documenting Surface Interim Reclamation (ES/IR) Activities:** In FY 2006, it is required to document protection of the surface after drilling operations. After drilling operations are completed, a portion of the pad location is reclaimed (reseeded, recontoured, etc.). Inspections must be documented relating to the reclaimed area to ensure the environment is protected and the area is being properly revegetated. These inspections are documented on a well basis. The Interim Reclamation (IR)

Activity should be conducted by an Environmental Specialist and will be ongoing during the life of the well. The initial inspection must occur within 6 months after the area is reclaimed and every 3 years thereafter. The Environmental Specialist should determine acreage reclaimed and document that in the remarks of the initial inspection on the hardcopy inspection sheet as well as in AFMSS.

Examples of coding these inspections:

The Inspection Type of ES is used with an Inspection Activity code of SP (Surface Production) for the general surface review. The IR Inspection Activity code will also be recorded to indicate the Interim Reclamation portion of the location was inspected as well (ES/SP, IR). The IR Inspection Activity code must also be used with the Surface/Environmental Reclamation Inspections after the well has been abandoned and surface reclamation is ongoing (ES/SA, IR).

D. Records Verification Inspections (RV)

An RV Inspection Type consists of an inspection of one specific type of production record (for example, run ticket, meter calibration report, well test report, meter proving report, etc.) that is not part of an Inspection Activity conducted during the course of a production inspection.

1. Documenting Records Verification Inspection

- a. An RV Inspection Type is recorded once for each type of record reviewed on a case/operator each FY. If a production records review (PR) Inspection Activity (a review of all operator production records) is conducted, do not record it under the RV inspection. Record one RV Inspection Type with the appropriate Inspection Activity conducted. See the Valid Inspection Type / Activity Code Cross Reference Table, Attachment 2, pages -11 through -14, for a list of valid Inspection Activity codes.
- b. The RV Inspection Type is only used when one type of production or measurement-related document is reviewed to ensure that the document is filled out properly and the calculations are correct. This document is not reviewed during the course of a field-witnessed measurement activity.
- c. A review of the Minerals Management Service (MMS) Form 4054, the Oil and Gas Operations Report (OGOR) not associated with a PI may be recorded as a Records Verification/Records Review (RV/RR) Inspection.

E. Inspection Open and Close Dates

1. The 'Open' Date of an inspection should be the date that initial work was started on the inspection. This can be when paperwork is initiated as part of the records review, or it can be the first trip to the field to conduct an Inspection Activity. The 'Close' Date for the inspection must be the last 'Close' Date of all of the Inspection Activities recorded. By clicking the 'Close' button on the AFMSS inspection screen(s), the 'Close' Date will populate with the last Inspection

Activity 'Close' Date of all of the Inspection Activities recorded. The 'Open' and 'Close' Dates may be edited as needed, due to additional Inspection Activities or Enforcement Action follow-up.

2. Inspections are not to remain open while Enforcement Actions are pending. Enforcement Action dates (follow-up, extensions, etc.) are to be entered in the individual *Incident of Noncompliance (INC) (IEP.43)* screen. The amount of time spent conducting follow-up(s) inspections must be added to the 'Office', 'Travel', and/or 'Inspection' Time(s) for the original Inspection Activity where the violation occurred.
3. If a volume discrepancy is discovered during the inspection, the 'Close' Date for the Inspection and/or Inspection Activity should be the date the discrepancy is resolved with the operator, OR the date the MMS has been notified that amended reports from the operator are necessary. Once the MMS has been notified, the discrepancy is considered resolved by BLM.

F. Wells and/or Facilities Inspected

1. When recording inspection information in AFMSS, the well(s) and/or facility(s) inspected must be selected. For each Inspection Activity performed, select the appropriate wells and/or facilities on the 'Wells and Facilities' tab of the Inspection screen(s).

G. Office, Travel, and Inspection Time

1. It is critical that the amount of time it takes to complete an inspection is accurately recorded. This information is used to plan the workload requirements and determine the number of personnel needed to complete quality inspections. Inspection time must be tracked by each Inspection Activity. The inspection times are to be recorded to the nearest one-tenth (1/10) of an hour. For example, if an Inspection Activity took 5 minutes of office time to complete, the time will be recorded as 0.1 hours for the activity. (Refer to AFMSS Data Entry Requirements By Inspection Screens in Attachment 3 for details.)

H. Inspection Type Codes and Definitions

1. Production Inspection Type Codes

PI - Production Inspection: An inspection that, at a minimum, includes measurement, environmental, site security, and health and safety Inspection Activities, and a partial records review of monthly production data.

RV - Records Verification Review: An office-only review of an individual production record--not a complete review of all of the production records for a case/operator.

OV - Oversight Inspection: An inspection performed independently to verify results of previous inspections by local or remote inspection personnel. This may be an office review of inspection documentation or field inspection.

TH - Alleged Theft Inspection: An inspection that is triggered by a report of alleged theft of production.

2. Well Specific Inspection Type Codes

DW - Drilling Well: An inspection related to drilling operations prior to well completion up through cementing of the production casing/liner.

ES - Environmental Inspection: An inspection of the surface environment of a well or facility location. Environmental Inspections are documented for all post-approval activities such as pad construction, drilling, production, or abandonment operations. Pre-approval "onsite" inspections are recorded under the *Surface Review (GLB.80)* screen in AFMSS and not under this Inspection Type.

NU - Undesirable Event Inspection: An inspection conducted as a result of a reported undesirable event in accordance with *Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-3A)*.

PD - Plugging Operations Inspection: An inspection of plugging operations of dry holes or depleted producers.

WK - Workover Inspection: An inspection of operations conducted on a wellbore subsequent to cementing production casing/liner and prior to plugging operations.

I. Inspection Activity Codes and Definitions

BO - Blowout Prevention Equipment (BOPE) Inspection: (Well specific) A drilling, workover, or plugging activity to witness BOPE tests. Coded as DW/BO, PD/BO, WK/BO or OV/BO.

C - Cementing Well Inspection: A drilling or workover activity consisting of witnessing cementing activities. Coded as DW/C, WK/C, or OV/C.

CS - Casing Test Inspection: A drilling or workover activity consisting of witnessing a casing test in any type of well. This includes pressure tests (mechanical integrity tests), mud weight equivalency tests, or any tests for temporarily abandoned or injection/disposal well approvals. Coded as DW/CS, WK/CS, or OV/CS.

CV - Gas Chart/EFM Verification: Field observations used to calculate reasonableness of reported volumes on the OGOR and to verify that the recorder or electronic flow meter (EFM) is functioning properly and recording correctly; OR

An office review of gas meter charts or EFM configuration and/or integration reports not associated with a PR or RR activity that includes calculating the volume from the charts or integration statements and comparing the volume to the OGOR. Coded as PI/CV, RV/CV, OV/CV, or TH/CV.

DI - Detail Drilling/Workover: A detailed activity of all ongoing drilling well operations, and completion of all applicable sections of the Drilling Inspection Record (Form 3160-10), including the General and Surface Use portions of the form. Coded as DW/DI, WK/DI, or OV/DI.

DS - Drill Stem Test: An activity related to witnessing DST operations. Coded as DW/DS or OV/DS.

FA - Fires/Accident: An activity of an Undesirable Event of a fire or a reportable accident involving personnel per NTL-3A. Coded as NU/FA or OV/FA.

HS - Health and Safety Inspection: An activity required for health and safety concerns (e.g., H₂S or hazardous materials). Coded as DW/HS, ES/HS, PI/HS, PD/HS, WK/HS, or OV/HS.

IR - Surface/Environmental - Interim Reclamation: An activity for the surface/environment of the reclaimed area of a pad location after drilling operations are completed, and during the production phase of the well. Coded as ES/IR.

LV - LACT Run Ticket Verification: An activity to witness a LACT meter calibration which includes S&W grind out, gravity determination, meter readings, and/or preparation of run tickets associated with that sale. Coded as PI/LV, TH/LV, or OV/LV.

MC - Meter Calibration: An activity to witness a meter calibration, including the evaluation of the calibration report for completeness and meter accuracy; OR

An office review of meter calibration report(s) that includes calculating percent of meter error (see Attachment 5 for determining volume discrepancy or calculating meter error). Coded as PI/MC, RV/MC, TH/MC, or OV/MC.

MP - Meter Proving: An activity to witness a meter proving, including the evaluation of the proving report for completeness and meter accuracy; OR

An office review of meter proving report(s). Coded as PI/MP, RV/MP, OV/MP, or TH/MP.

NI - Nondetailed Drilling/Workover Inspection: At a minimum, an activity for, and completion of the first two sections of the drilling/workover inspection record, Form 3160-10. Includes inspection of any drilling/workover operations that have not progressed to the point where the applicable section can be completed entirely. Coded as DW/NI, WK/NI, or OV/NI.

PD - Plugging of a Depleted Producer/Service Well: An activity to witness the plugging operations of a depleted producer or service well. Coded as PD/PD or OV/PD.

PN - Plugging of a Dry Hole: An activity to witness the plugging operations of a nonproductive well. Coded as PD/PN or OV/PN.

PR - Production Records Review: An office review of all production records associated with a case (including but not limited to: OGORs, run tickets, gas charts, integration statements, calibration/proving reports, volumes calculations, flaring/venting approvals, etc.) **for a given reporting period.** If a volume discrepancy is detected during a PR, the specific record should be identified in the remarks section. Coded as PI/PR, TH/PR, or OV/PR.

PT - Production Test: An activity conducted on a well basis. This activity is to verify test production and ensure proper reporting of these volumes to MMS. This activity is required during or after drilling operations, but prior to the completion of the well. Coded as DW/PT.

RD - Variable Royalty Rate Determination: An activity to verify well status and determine well count; OR

An office-determination of well count and royalty rate based on OGOR information. Coded as PI/RD, RV/RD, TH/RD, or OV/RD.

RR - OGOR Review: An office or field review of the OGORs as part of a PI or RV. If a complete records review is conducted under a PI, as defined under the PR activity, this code is not used. Coded as PI/RR, RV/RR, TH/RR, or OV/RR.

SA - Surface/Environmental - Abandonment: An activity of the surface/environment of abandoned well site reclamation in progress or completed. Coded as ES/SA, PD/SA, or OV/SA.

SC - Surface/Environmental - Construction: A post-approval environmental activity of a well location prior to well spud. This includes well pad construction activities. Coded as ES/SC or OV/SC.

SD - Surface/Environmental - Drilling: An activity of the surface/environment of a well being drilled. Coded as DW/SD, ES/SD, or OV/SD.

SP - Surface/Environmental - Producing: An activity of the surface/environment of a producing, shut-in, temporarily abandoned, or service well and/or facility. Coded as PI/SP, ES/SP, or OV/SP.

SS - Site Security: An activity of seals, valves, meter bypasses, and site facility diagram for a production facility(s); OR

An office review of the site facility diagram for completeness. Coded as PI/SS, RV/SS, TH/SS, or OV/SS.

SV - Spill/Venting: An activity of an Undesirable Event involving spills or venting of gas as a result of equipment failure or other accidents. Includes blowout inspection or loss of control of a well per NTL-3A. Coded as NU/SV or OV/SV.

T - Well Test Inspection: An activity related to witnessing or reviewing records of a well test. Coded as DW/T, PI/T, RV/T, or OV/T.

TG - Tank Gauge: An activity to witness or independently perform a tank gauge for sales, including run ticket verification; OR

Conducting an independent tank gauge to establish a production rate to determine reasonableness as compared to the OGORs. Coded as PI/TG, TH/TG, or OV/TG.

TR - Transporter and/or Manifest Inspection: An activity to review the transporter's manifest. Coded as PI/TR, TH/TR or OV/TR.

TV- Run Ticket Verification: An office review of run tickets that includes calculating the volume and comparing to the OGOR. Coded as PI/TV, RV/TV, TH/TV, or OV/TV.

WS - Well Status Check: An activity to verify the actual status of a well compared to the reported status. This activity is used when the primary purpose of the inspection is to check a well status, which may be part of the idle/orphan well initiative. Do not record as a separate inspection activity if a status check is conducted in conjunction with other inspection activity types. Coded as PI/WS, ES/WS, TH/WS, or OV/WS.

J. Valid Inspection Type / Activity Code Cross Reference Table

| Valid Inspection Type and Activity Codes | | |
|---|-----------------------------|---------------------------------|
| Production Inspection | Inspection Type Code | Inspection Activity Code |
| Tank Gauge | PI | TG |
| Meter Proving | PI | MP |
| Meter Calibration | PI | MC |
| Site Security | PI | SS |
| Environmental | PI | SP |
| Gas Chart Verification | PI | CV |
| Run Ticket Verification | PI | TV |
| Production Records Review | PI | PR |
| LACT Run Ticket Verification | PI | LV |
| Health and Safety | PI | HS |
| Transporter &/or Manifest | PI | TR |
| Well Test | PI | T |
| Variable Royalty Rate Det. | PI | RD |
| OGOR Review | PI | RR |
| Well Status Check | PI | WS |
| Drilling Inspections | Inspection Type Code | Inspection Activity Code |
| Detailed Drilling Inspection | DW | DI |
| Non-detailed Drilling Inspect. | DW | NI |
| BOPE Test | DW | BO |
| Cementing | DW | C |
| Casing Test | DW | CS |

| Valid Inspection Type and Activity Codes | | |
|---|-----------------------------|---------------------------------|
| Drill Stem Test | DW | DS |
| Environmental | DW | SD |
| Production Test | DW | PT |
| Health and Safety | DW | HS |
| Plugging Inspections | | |
| | Inspection Type Code | Inspection Activity Code |
| Environmental | PD | SA |
| Plugging - Dry Hole | PD | PN |
| Plugging - Depleted Producer | PD | PD |
| BOPE Test | PD | BO |
| Health and Safety | PD | HS |
| Workover Inspections | | |
| | Inspection Type | Inspection Activity |
| Detailed Inspection | WK | DI |
| Non-detailed Inspection | WK | NI |
| BOPE Test | WK | BO |
| Cementing | WK | C |
| Casing Test | WK | CS |
| Environmental | WK | SP |
| Health and Safety | WK | HS |
| Environmental/Surface Inspection | | |
| | Inspection Type Code | Inspection Activity Code |
| Drilling | ES | SD |
| Producing | ES | SP |
| Abandonment | ES | SA |
| Health and Safety | ES | HS |

| Valid Inspection Type and Activity Codes | | |
|--|-----------------------------|---------------------------------|
| Surface Construction | ES | SC |
| Interim Reclamation | ES | IR |
| Well Status Check | ES | WS |
| Records Verification Inspection | | |
| | Inspection Type Code | Inspection Activity Code |
| Run Ticket Verification | RV | TV |
| Gas Chart Verification | RV | CV |
| Meter Proving | RV | MP |
| Meter Calibration | RV | MC |
| Site Security | RV | SS |
| Variable Royalty Rate Det. | RV | RD |
| OGOR Review | RV | RR |
| Well Test | RV | T |
| Undesirable Event Inspection | | |
| | Inspection Type Code | Inspection Activity Code |
| Spill/Venting | NU | SV |
| Fire/Accident | NU | FA |
| Oversight Inspection | | |
| | Inspection Type Code | Inspection Activity Code |
| ** | OV | All Activity Codes may be used |
| ** Oversight inspection type activity codes include: BO, C, CS, DI, DS, HS, NI, SC, SD, T, WS, CV, LV, MC, MP, PR, RD, RR, SP, SS, T, TG, TV, TR, SA, PN, PD, SC, FA, SV | | |

| Valid Inspection Type and Activity Codes | | |
|---|-----------------------------|---------------------------------|
| Alleged Theft Inspection | Inspection Type Code | Inspection Activity Code |
| Tank Gauging | TH | TG |
| Meter Proving | TH | MP |
| Meter Calibration | TH | MC |
| Site Security | TH | SS |
| Environmental | TH | SP |
| Production Records Review | TH | PR |
| Run Ticket Verification | TH | TV |
| Gas Chart Verification | TH | CV |
| LACT Run Ticket Verification | TH | LV |
| Transporter &/or Manifest | TH | TR |
| Variable Royalty Rate Det. | TH | RD |
| Records Review | TH | RR |
| Well Status Check | TH | WS |

K. Well Status Codes for Wells in Shut-In and Temporarily Abandoned Wells

Shut-In (SI) Well: A well that is physically and mechanically capable of producing oil and/or gas in paying quantities or capable of service use but had no volumes of oil and/or gas produced or fluids injected during the month.

Temporarily Abandoned (TA) Well: A well that is physically or mechanically incapable of producing oil and/or gas of sufficient value to exceed direct operating costs but may have value as a service completion for enhanced recovery or water disposal.

Orphan Well: A well that is not associated with a responsible or liable party nor has sufficient bond coverage for plugging and surface restoration costs. It is important to designate an Orphan Well in AFMSS for tracking purposes. AFMSS contains a “flag” (check box) in the *Well Header (GLB.90)* screen to designate a well as an Orphan Well. Once the “flag” has been associated with a well, the flag should not be removed after the well has been plugged.

L. Well Status Codes for Well Abandonment and Recompletions

Proper procedures for coding and tracking Fee and Federal abandoned or re-completed wells in agreements, or on a lease basis, through final abandonment, are outlined below. Although many of the steps necessary to track these wells properly fall under operational functions, inspection personnel who witness plugging and abandonment operations need guidance on the proper well status coding for the hardcopy files and in AFMSS remarks.

Well Status Requirements: The well status code of P+A is entered into the ‘Well Status’ field in AFMSS if surface clearance by BLM is not required after well abandonment.

The ABD code is used when, 1) a well is plugged and BLM surface clearance is required, or 2) a completion of a well bore is plugged but the well continues to produce from other zones. **Well status codes are not to be changed based upon case status.** If BLM terminates a case, the well status should reflect the actual status on the ground. Do not change the status to P+A or ABD on terminated cases unless the wells are actually plugged and abandoned.

FEE Wells Within a Communitization Agreement (CA)

Note: Applies to wells where the BLM is not the Surface Management Entity (SME) and does not have surface reclamation responsibility (SME is FEE, State, FS, BIA, etc.).

1. If a Sundry Notice is received, the Sundry Notice data is entered into AFMSS with “Plug and Abandon” as the type. The disposition under the Subsequent Report (SR) *Approval (GLB.81)* screen is entered as “Accepted.” The disposition

date is the date the Notice was signed as accepted by the BLM Authorized Officer.

2. The Well status is changed to P+A. The Effective Date is the actual date the well was plugged. If that date is unknown, this date is entered as the day the Notice is accepted.
3. In the *Well Insp Maintenance (IEP.59)* screen, "X1" is entered into the 'No. of Completions' field. (This does not change the completion code at the end of the API number. That code remains the same; for example, S1, etc.) There are two date fields related to plugging. The 'Cmpl ABD Dt' and 'Well Plug Dt' fields should both be populated to indicate that the entire wellbore has been plugged. If the actual plugging date is known, that date is entered into both fields. If it is unknown, the date notification was received is entered into both fields. Remove any connection to a facility by deleting the "X" in the product column(s).

Note: If there are producing wells remaining on this agreement, skip steps 4 and 5. They apply only if there are no producing wells left on the agreement.

4. If this is the last producing well on this agreement/operator combination, the *Agreement Maintenance (GLB.63)* screen is updated to show an "I" (Inactive) in the 'Status Code' field. The actual plug date of the last well is entered into the 'Status Date' field, if known. If unknown, it is the date that the notification was accepted.
5. Also, if this is the last producing well on this agreement/operator combination, the 'Status' in the *Inspection Priority (IEP.46)* screen is set to "I" (Inactive). This prevents the creation of inspection priorities records for the next FY.

Federal Wells Within an Agreement (CAs, Units, PAs, etc.)

Note: Applies to wells where BLM is the SME and has surface restoration responsibility.

1. When a Sundry Notice is received, the Sundry Notice data is entered into AFMSS with "Plug and Abandon" as the type. The disposition under the Subsequent Report (SR) *Approval (GLB.81)* screen is entered as "Approved." The disposition date is the date the Notice was signed as approved by the BLM Authorized Officer.
2. The Well Status is changed to ABD. The Effective Date is the actual date the well was plugged.
3. In the *Well Insp Maintenance (IEP.59)* screen, "X1" is entered into the 'No. of Completions' field. (This does not change the completion code at the end of the API number. That code remains the same, for example, S1, etc.) There are two date fields related to plugging. The 'Cmpl ABD Dt' and 'Well Plug Dt' fields

should both be populated to indicate that the entire wellbore has been plugged. If the actual plugging date is known, that date is entered into both fields. If it is unknown, the date notification was received is entered into both fields. Remove any connection to a facility by deleting the "X" in the product column(s).

Note: If there are producing wells on this agreement, skip steps 4 and 5.

4. If this is the last producing well on this agreement/operator combination, the *Agreement Maintenance (GLB.63)* screen is updated to show an "I" (Inactive) in the 'Status Code' field. The actual plug date of the last well is entered into the "Status Date" field.
5. Also, if this is the last producing well on this agreement/operator combination, The Inspection Priority 'Status' is set to "A" (Abandoned). This will allow an inspection priority to be created for subsequent environmental inspections, until final restoration.

It is suggested that the well remain under the agreement/operator combination until final restoration for consistency in tracking. However, the well may revert back to the lease and tracked until final restoration.

- a. If this is the last producing well for this agreement/operator, 'Status Code' is set to "I" (Inactive) on the *Agreement Maintenance (GLB.63)* screen. The actual plug date is entered into the 'Status Date' field. If there are still producing wells on the agreement, the status will remain changed. The *Lease Maintenance (GLB.60)* screen is also updated to show an "A" (Abandoned) in the 'Status Code' field. The actual plug date of the last well is entered into the 'Status Date' field.
 - b. Also, if this is the last producing well on this agreement/operator, the Inspection Priority 'Status' is set to "I" (Inactive). This will prevent subsequent priority records from being created. If there are still active wells on this agreement, the status will remain unchanged. If the well is to be tracked on the lease basis, an Inspection Priority should be created with the 'Status' set to "A." This will allow an inspection priority to be created for subsequent environmental inspections, until final restoration.
6. When a Final Abandonment Notice (FAN) is received for a well:
 - a. When the Final Abandonment Notice is received, a Sundry Notice is entered with "Final Abandoned Notice" as the type. After a surface inspection has verified that all surface restoration work has been completed and the site is ready to be released, the disposition under the Subsequent Report (SR) *Approval (GLB.81)* screen is set to "Approved." The disposition date will be the date the Notice was approved. If additional restoration work is necessary, the FAN document will remain pending until all restoration work is completed.

- b. The well status is changed to P+A. The 'Change Effective Date' is the actual date the FAN was approved.
- c. In the *Well Insp Maintenance (IEP.59)* screen, the FAN date is entered into the 'Surf Rest Date' field. If this well was "connected" to a facility record, the connection is removed by deleting the "X" in the product column(s).
- d. If this is the last producing well on this agreement or lease/operator combination, an "I" (Inactive) is entered in the 'Status Code' field in the lease or agreement maintenance screens. The FAN date of the last well is entered into the 'Status Date' field. If there are still producing wells on the agreement, the status will remain changed.
- e. If this is the last producing well on this agreement or lease/operator combination, the Inspection Priority 'Status' is set to "I" (Inactive) to prevent subsequent priority records from being created. If active wells are on this agreement, the status remains unchanged.

Federal Wells on a Lease

The steps outlined above also apply to Federal wells on a lease. All steps relating to "Lease Maintenance" are followed, including the FAN steps.

Recompletions

When a certain completion of a well is being abandoned, but not the entire wellbore:

1. Sundry Notice is entered with "Recompletion" as the type and the disposition under the Subsequent Report (SR) *Approval (GLB.81)* screen is "Approved." The disposition date will be the date the Notice was approved by the Authorized Officer.
2. The well status is changed to ABD. The Effective Date is the actual date the well was recompleted. A second well record is added with a new "Completion Code" for the API number (for example, S1 now becomes S2, etc.).
3. In the *Well Insp Maintenance (IEP.59)* screen, the 'No. of Completions' is changed to X1, X2, etc., as appropriate, for the first completion. (This does not change the API number - the API number remains S1, etc.). The 'Cmpl ABD Dt' is the date the well was recompleted. If this completion was connected to a facility record, the connection is removed by deleting the "X" in the product column(s).

On the new completion, the 'No. of Completions' is changed to the appropriate completion code, for example, S2. If the well had been connected with a facility record, be sure to connect this completion to the facility.

When the entire wellbore has been plugged, all completion records are updated in the *Well Insp Maintenance (IEP.59)* screen to show the appropriate dates in 'Well Plug Dt,' as well as 'Cmpl ABD Dt.' When a Final Abandonment Notice (FAN) is approved; all completion records are updated to show the 'Surf Rest Date.'

AFMSS DATA ENTRY REQUIREMENTS BY INSPECTION SCREENS

The following are the requirements for correctly entering oil and gas inspection information into AFMSS. The information is categorized by inspection related-topics and provides detailed data entry requirements by data field.

- I. Establishing Inspection Priority Records** A priority record can be created as soon as an inspection is required (usually during pad construction or drilling operations). Although drilling, abandonment and environmental inspections can be entered without establishing an inspection priority record, all case/operators must have a current fiscal year priority record before the system will allow entry of production inspection information. Priority records are associated to a specific case and operator. The case/operator combination constitutes an inspection item.

A. Inspection Priority (IEP.46) Screen Data Entry Requirements:

1. **Case No:** Required entry when adding a new inspection priority record; system edit.
2. **Type:** System-generated display field. This field will populate with the 'Case Type' for the case number.
3. **Operator:** Required entry when adding a new inspection priority record; system edit.
4. **Year:** System-generated display field. May be edited if necessary.
5. **Rank:** Optional entry field. Each office may determine a priority order that inspections are conducted if desired, or leave the field blank.
6. **Frequency:** Select the appropriate frequency for the inspection item:
 - A = Annually
 - B = Every Other Year
 - C = Every Three Years

The codes for all priority ratings for **Prod, Env, H&S, Legal, Other, and Oper** are **H**=High and **L**=Low. The default settings for these ratings are all **L**=Low and must be reviewed and edited as necessary for the case/operator. The exception is the rating for **Oper** which defaults to blank. This rating must be edited for this case/operator combination.

7. **Overall Priority:** Required entry. The overall priority codes are as follows:
 - W = **FOGRMA High and Other High**
 - X = **FOGRMA High and Other Low**

Y = **FOGRMA** Low and **Other** High

Z = **FOGRMA** Low and **Other** Low

Note: **FOGRMA** represents the production and/or operator compliance priorities.

Other represents environmental, health and safety, legal, and other priorities.

A case/operator is rated **FOGRMA High** if the average monthly oil production is 12,000 bbls or more, or average monthly gas production is 120,000 MCF or more. Operator compliance is rated as High if the operator had a noncompliance history of two major violations, or a total of six **FOGRMA**-related violations within the preceding 24-month period.

8. **Status:** Required entry. The inspection priority status code for the priority record reflects the need for an inspection. 'Inspection Priority Status' codes are:
 - **'H'** = active case/operator and an inspection is necessary. (For case/operator combinations that are inspected on a 3-year rotation, it is necessary to record the status as **H** for each FY, even if the case/operator will not be inspected in a particular FY.
 - **'A'** = case/operator wells have all been plugged and awaiting surface restoration (environmental inspection still necessary).
 - **'I'** = case/operator no longer needs an inspection but is maintained for historical purposes. It is only necessary to record an inactive case/operator record for one FY. (This includes all terminated agreements regardless of well status and/or cases that contain only P+A wells.)
9. **Monthly Avg Oil and Gas:** Required entry; System-generated at beginning of each FY. For new case/operator, enter the average oil and gas production amounts using information contained in the Oil & Gas Operations Report (OGOR) Production Averages Report if available. At the beginning of each FY, a priority rollover function is performed to establish priority records for the coming year. The system automatically calculates and populates these fields based on information contained in OGORs.
10. **Remarks:** Optional for Low priority; Required for High priority ratings. Enter remarks related to the 'Other' priority, or remarks pertinent to the case. If a case is rated High priority for Environmental concerns, or for other rating categories, identify the reason for the High priority rating in the remarks field.
11. **Hazard:** Required entry. The default is set to "N" for no existing hazard on the location. If H₂S is present, the hazard code must be set to "Y" to notify the inspection personnel of the potential for hazardous conditions on location.

II. Case Status versus Inspection Status Codes

‘Case Status’ codes and ‘Inspection Priority Status’ codes are often confused due to the similarities in code designation. However, their use is for different purposes as described below:

A. Case Status Codes: This code is used in the Case (Lease/Agreement) information in AFMSS to identify the current status of the overall Case. Valid codes are:

- A** Abandoned (that is, all Federal/Indian wells on Case plugged and awaiting restoration.
- E** Extended Term
- H** Held by Production - Actual
- I** Inactive (1. All wells plugged and sites restored; historical record only; or, 2. Case is terminated, expired, relinquished, canceled, etc.)
- L** Held by Production - Allocated
- P** Primary Term
- R** Renewal
- T** Indian Lease Recommended for Termination

B. Inspection Priority Status Codes

There is no direct correlation between the ‘Inspection Priority Status’ Code and the ‘Case Status’ Code. It may appear that a correlation exists because many times the codes will be the same for producing, abandoned or inactive cases.

C. Distinction Between Case And Inspection Priority Status Codes

Cases entered into AFMSS include lease and agreement records. A ‘Case Status’ code is entered for each lease record, even if the lease is in an agreement. The ‘Case Status’ code for the agreement takes precedence over the individual lease status code. The ‘Case Status’ code indicates the actual case status. ‘Case Status’ codes are entered once for a case regardless of the number of operators. The ‘Case Status’ code does not affect the need for inspections of that Case.

‘Inspection Priority Status’ codes are associated to a case AND operator combination. The ‘Inspection Priority Status’ code is a critical field in AFMSS used in the development of the Inspection Strategy Plan Matrices. The ‘Inspection Priority Status’ code indicates to inspection personnel the case/operator combinations that need inspections during an FY, or if the case/operator is no longer active and an inspection is no longer necessary. If these codes are not set correctly, all workload estimates and resource needs projected for an upcoming FY may be inaccurate.

III. DOCUMENTING AFMSS INSPECTION INFORMATION

A. **Inspection Activities:** Refer to the list of valid inspection type codes and the related inspection activity code to ensure correct entry procedures.

1. **Production Inspection Type Codes:** Required entry. Valid codes are:

| | |
|----|-----------------------------|
| PI | Production Inspection |
| RV | Records Verification Review |
| OV | Oversight Inspection |
| TH | Alleged Theft Inspection |

2. **Well Specific Inspection Type Codes:** Required entry. Valid Codes are:

| | |
|----|--------------------------------|
| DW | Drilling Well |
| ES | Environmental Inspection |
| NU | Undesirable Event Inspection |
| PD | Plugging Operations Inspection |
| WK | Workover Inspection |

3. **Inspection Type Open Date:** System-generated, entry is optional. The Inspection Type Open Date will populate when the inspection record is saved.

4. **Inspection Type Close Date:** Required data entry when inspection is complete. The date may be entered, or will populate using the last activity date from all activities when the 'Close' button is used. Additional activities may be entered after the inspection is closed. The activity close dates should be modified and the overall Inspection Type Close Date will be adjusted accordingly when the 'Close' button is used. Do not hold inspections open based upon pending enforcement actions.

5. **Inspector:** Required entry; system edit. Enter the name of the inspector who conducted the inspection activity or use the pick list to make the proper selection. If there are two inspectors with the same last name, a first initial may be used with no punctuation, (for example, Smith J or Smith K). **NOTE:** If multiple inspection personnel conduct the inspection, separate the names with a forward slash (/). Also refer to Item 5. on Attachment 2-2 of the Inspection Documentation Requirements for specifics regarding documentation of inspection activities by multiple inspection personnel.

6. **Inspection Activity Code:** Required entry; system edit. Valid activity codes are:

| | |
|----|--|
| BO | Blowout Prevention Equipment (BOPE) Inspection |
| C | Cementing Well Inspection |
| CS | Casing Test Inspection |

| | |
|----|--|
| CV | Gas Chart Verification |
| DI | Detail Drilling/Workover Activity |
| DS | Drill Stem Test |
| FA | Fires/Accident |
| HS | Health and Safety Inspection |
| IR | Interim Reclamation |
| LV | LACT Run Ticket Verification |
| MC | Meter Calibration |
| MP | Meter Proving |
| NI | Nondetailed Drilling/Workover Inspection |
| PD | Plugging of a Depleted Producer/Service Well |
| PN | Plugging of a Dry Hole |
| PR | Production Records Review |
| PT | Production Test |
| RD | Variable Royalty Rate Determination |
| RR | OGOR Review |
| SA | Surface/Environmental – Abandonment |
| SC | Surface/Environmental – Construction |
| SD | Surface/Environmental – Drilling |
| SP | Surface/Environmental – Producing |
| SS | Site Security |
| SV | Spills/Venting |
| T | Well Test Inspection |
| TG | Tank Gauge |
| TR | Transporter and/or Manifest Inspection |
| TV | Run Ticket Verification |
| WS | Well Status Check |

7. **Activity Open Date:** Required entry; system edit. Enter the date the activity was initiated. This could be the date a request for information goes to the operator, inspection preparation begins in the office, or when the first trip is made to conduct a field inspection.
8. **Activity Close Date:** Required entry. Enter the date this particular activity is completed. This is the last trip made to the field, or when paperwork associated with the activity has been received and reviewed.
9. **Wells:** System-generated. The field displays a count of the number of wells tied to the inspection activity from the Wells/Facilities tab. If the activity does not pertain to well(s), such as measurement activities, do not associate wells to the activity.
10. **Facs:** System Generated. The field displays a count of the number of facilities associated to the inspection activity from the Wells/Facilities tab.

11. **Count**: Required for Production measurement activities only. This field is only displayed when entering a Production Inspection. Enter the total number of measurement activities conducted for the inspection activity. If volume discrepancies are discovered during a measurement activity, that activity must be recorded separately and associated to the well/facility where the discrepancy was found. All other measurement activities should be recorded on one activity line with the total number of measurement activities conducted entered in the 'Count' field. The 'Count' field is not applicable to non-measurement activities conducted on a Production Inspection. Non-measurement activities do not require an activity 'Count'; leave the 'Count' field at '1'.
12. **Purchaser/Contractor**: Optional, enter if applicable. Enter the name of the product purchaser or the name of the drilling/workover/plugging contractor that relates to a specific inspection activity.
13. **Office Time**: Required entry. Enter the total amount of office time required to review files, prepare for, or complete the specific inspection activity.
14. **Travel Time**: Required entry. Enter the amount of time required to travel from the office to the location to perform the activity and return.
15. **Inspection Time**: Required entry. Enter the amount of time required to conduct the field portion of the activity. If a joint inspection activity is conducted by two inspection personnel, the inspection time should account for both inspection personnel time.

Note: ALL times are to be entered to the nearest tenth of an hour increments (0.1 = nearest 5 minutes; 0.3 = nearest 15 minutes; 0.5 = ½ hour, etc). Include any time for the writing of violations or any other follow-up time when a violation is found for the specific activity. AFMSS format has one place after the decimal.

16. **Trips**: Optional entry. Enter the number of trips that were required to complete the activity.
17. **Agency Referral**: Optional for Production Inspections only, enter if applicable. Select a code to identify the agency that requested an inspection. If the inspection was conducted as a result of Strategy requirements, leave blank. Valid codes are:

| | |
|--------------------------------|-----------------------------------|
| BLM - BLM Law Enforcement | or similar agency |
| BIA - Bureau of Indian Affairs | TRB - Tribe |
| STC - State Tax Commission | USFS - U.S. Forest Service |
| | MMS - Minerals Management Service |

18. **Oil/Gas Over-Reported**: Required for Production Inspections only, enter if applicable. If the oil volume was over-reported, enter the volume in whole numbers, with no commas, in the appropriate column. If the gas volume was over-reported, enter the volume in MCF in whole numbers with no commas, in the appropriate column. Use a negative number with a minus sign, (e.g., -100) as over-reported volumes are a loss to the BLM.
19. **Oil/Gas Under-Reported**: Required for Production Inspections only, enter if applicable. If the oil volume was under-reported, enter the volume in BBLs in whole numbers, with no commas, in the appropriate column. If the gas volume was under-reported, enter the volume in MCF in whole numbers, with no commas, in the appropriate column. Do not count under-reported volumes for missing production reports that MMS has on hold. If MMS receives production reports that are not accepted and forwarded to BLM, it is not an under-reported volume. However, if an operator fails to report production and it is discovered during our inspection activities, that volume may be counted as an under-reported volume. Under-reported volumes are a gain to the BLM.
20. **Oil/Gas Accounted For**: Required for Production Inspections only, enter if applicable. If the inspection results in volumes being accounted for, enter that volume in MCF or BBLs in whole numbers, no commas, in the appropriate column. If over-reported volumes are discovered, enter a negative number, using a minus sign, i.e., -100. Over-reported volumes are a loss to the BLM. Under-reported volumes are recorded as positive numbers because they are a gain to the BLM. If over- and under-reported volumes are discovered on the same case, the net result of the volumes would be recorded in the 'Accounted For' column. In the 'Remarks' section for the PI inspection indicate that both over-reported and under-reported volumes were discovered during the inspection.

All volume discrepancies should be associated to the specific activity being performed and the well/facility being inspected when a discrepancy is discovered. Do not count missing production report volumes as a recovered volume unless the operator has failed to report it to the MMS. If the MMS has reports on file that have not been accepted, it is not a lost/gained volume. Refer to Appendix 5 of this document for details on documenting volume discrepancies.

21. **Remarks**: Required entry for each inspection type. Select the 'Remarks' button. Enter a concise summary of the results of the inspection. Include any problems encountered, actions taken to correct them, and other pertinent information regarding the case.

B. Wells/Facilities

Each inspection activity created must be associated to well(s), facility(s), or both types of records, depending upon the inspection activity, before an inspection can be saved as a record. Associations to well/facility records are accomplished using the Wells/Facilities tab. The number of wells/facilities associated to the Inspection Activity display on the Inspection Activity. Well/Facility Inspection Dates, setting Next Inspection Dates for environmental inspections, and access to the *Well Inspection Maintenance (IEP.59)*, *Production Facility (IEP.29)*, *Enforcement (IEP.43)*, and *Sundry Notice/Approval (SNT.38)* screens are provided from the Wells/Facility tab. Data entry fields on the Wells/Facilities tab include:

1. **Sel:** Required entry. This is the Selection box. A record is selected by double clicking in the field. An “X” in the Sel field denotes selected records tied to the inspection activity. At least one record must be selected and tied to each inspection activity.
2. **Insp Date:** Required entry for selected records. Enter the most recent date the well/facility was inspected. **Helpful Hint:** Use the “Set Insp Date To” feature to update numerous records with the same inspection date (see Item 4. below).
3. **Next ES Insp:** Optional entry for selected records on ES inspections only. When documenting ES inspections, enter the future date that you want to visit the well/facility location. **Helpful Hint:** Use the “Set NEXT Insp Date To” feature to update numerous records with the same next inspection date (see item 5. below).
4. **Set Insp Date To:** Optional feature. Enter the most recent inspection date for the selected records in the field next to the ‘Set Insp Date To’ button. Click the button and the system will tie the inspection date to all of the selected records for the active inspection activity line. This field may be used instead of entering one inspection date at a time in the ‘Insp Date’ field for all selected records (see Item 2. above).
5. **Set NEXT Insp Date To:** Optional feature. Enter the future date that you want to next visit the well/facility location in the field next to the ‘Set NEXT Insp Date To’ button. Click the button and the system will tie the next inspection date to all selected records on the active inspection activity line. This feature is available only when entering ES inspections on the *Well Surface Inspection (IEP.5)* screen or the *Facility Surface Inspection (IEP.12)* screen. This field may be used instead of entering one inspection date at a time in the “Next ES Insp” field for all selected records (see Item 3. above).

C. Well Inspection Maintenance (IEP.59) Screen

The *Well Inspection Maintenance (IEP.59)* screen contains miscellaneous well completion, production/disposal method, date fields, and associated facility information. Some of the fields on the screen (Well Status and Status Chg Date) may or may not be available for editing purposes depending on individual security clearance granted to the user. Data entry fields on the *Well Inspection Maintenance (IEP.59)* screen include:

1. **Well Status:** Optional editing capability (if security clearance allows). Edit the well status if necessary by selecting the applicable code from the well status picklist. Please refer to additional guidance beginning on Attachment 2-17 for instructions on proper use of the ABD and P+A codes. Valid codes are:

| | |
|-------|---|
| APD | Application for Permit to Drill |
| AAPD | Approved Application for Permit to Drill |
| ABD | Plugged (Surface Restoration has not been completed) |
| DRG | Drilling Well |
| DSI | Shut in Drilling Well |
| GSI | Shut in Gas Well |
| GIW | Gas Injection Well |
| GIWSI | Shut in Gas Injection Well |
| LOC | Well Location Pad Construction |
| MW | Monitoring Well |
| NOS | Notice of Staking |
| OSI | Shut in Oil Well |
| P+A | Plugged and Abandoned (Surface Restoration is complete) |
| PGW | Producing Gas Well |
| POW | Producing Oil Well |
| RLOC | Restored Well Location (Well was not drilled) |
| SIW | Steam Injection Well |
| SIWSI | Shut in Steam Injection Well |
| TA | Temporarily Abandoned |
| WDW | Water Disposal Well |
| WDWSI | Shut in Water Disposal Well |
| WIW | Water Injection Well |
| WIWSI | Shut in Water Injection Well |
| WSW | Water Source Well |
| WSWSI | Shut in Water Source Well |

NOTE: It is not recommended that the well status be changed from producing to shut-in based on a field observation. Additional research should be completed to ensure that the well status has changed, and the well was not just shut-in only at the time of the field visit.

2. **Status Change Date**: Required if Well Status is changed. Enter the effective date of the well status change, not the date the data is entered in AFMSS.

3. **Well Type Code**: Required entry; system edit. Select the appropriate type of well. Valid codes are:
 - G Gas injection
 - H Steam Injection (known as Huff and Puff)
 - N Other/None (system default)

4. **Number of Completions (# Cmpl)**: Optional entry. Enter the number of completions for the well. This code may or may not match the completion code at the end of the API well number. Valid codes are:
 - S1 Single well completion
 - X1 A well with no completion (used for drilling well)
 - D1 1 of 2 of a dually completed well
 - D2 2 of 2 of a dually completed well
 - T1 1 of 3 of a triply completed well
 - T2 2 of 3 of a triply completed well
 - T3 3 of 3 of a triply completed well

Q and V are for Quadruple and Quintuple well completions, respectively.

5. **Production Method**: Required selection. From the picklist, select the method used by the operator for well production. Valid selections are:
 - Electric Pumping Unit
 - Electric Pump Subsurface
 - Flows from Well
 - Gas Pumping Unit
 - Gas Lift
 - Hydraulic Pump Subsurface
 - Plunger Lift
 - Progressive Cavity Pump
 - Other
 - Not Specified
 - Not Applicable

6. **Commingling/Multiple Zones**: Required entry if applicable. If commingling of production from two or more wells or formations is occurring, select from:
 - Commingling Downhole
 - Multiple Zones not Commingled
 - Surface Commingling
 - Not Specified

7. **Disposal Method**: Required entry. From the picklist, select the method for storing, handling, or disposing of water produced from the well. If this disposal

site is not physically on the case, the code should reflect how water is transported off the case. Valid codes are:

- Lined Pit
- Unlined Pit
- Trucked off site
- Valley waste (mainly used in historical records in California)
- Disposal Well
- NPDES
- Injection
- Other Method
- Not Specified
- Not Applicable

8. **Inspection Date:** This field may already be populated from the Wells/Facilities tab window or the date the well was inspected may be entered.
9. **Completion ABD Date (Cmpl ABD Date):** Required entry if well completion abandoned. Enter the date the well completion was abandoned. (If the well has been recompleted, the ABD date should be entered. If the entire well bore is abandoned, the ABD date and Well Plug Date should both be filled in).
10. **Well Plug Date:** Required entry if wellbore is plugged. Enter the date the well was physically plugged.
11. **Surface Restoration Date (Surf Rest Date):** Required entry if surface restoration clearance is granted. Enter the date the Final Abandonment Notice (FAN) is approved.
12. **Facilities for Gas; Oil; Water; CO₂:** Required entry. The purpose of the product data fields is to tie the various products produced from the well to the actual production facility where each product is stored and/or sold. Production facilities are identified using the Facility ID (from the facility record). Select from the picklist the appropriate Facility ID. To indicate the product associated to the facility from this well, enter an "X" into the Gas, Oil, Water, and/or CO₂ fields. If a well does not produce a particular product, leave that product field blank.

D. Production Facility (IEP.29) Screen

The *Production Facility (IEP.29)* screen contains information regarding each oil and gas facility site and is used to associate facility information to a Case (or Cases). The purpose of the automated facility record is to document equipment that meets oil and gas program policy objectives (that is production accountability, protection of the environment, public health and safety, and conservation of resources) and is within the scope of "Onshore Oil and Gas Order No. 3, Site Security", Site Facility Diagrams.

1. **Case Number**: This is a required entry when adding facility record; system edit. Enter the case number for the facility. If it is a common facility or production is commingled at the facility, enter each case number that has production at the site.
2. **Operator**: Required entry when adding facility record; system edit. Select the operator from the *Customer Selection (GLB.11)* screen by clicking on the 'Window' button next to the 'Operator' field. The *Production Facility (IEP.29)* screen allows for the entry of multiple case numbers, but they must all have the same operator. Only one operator is allowed per facility record.
3. **Rights-of-Way (ROW)**: Optional entry. Enter the Rights-of-Way Case No., if a ROW is required.
4. **Fac ID**: Required entry; system edit. Enter a unique number assigned to each facility record. This field is user-defined. Each Field Office should be consistent in the way IDs are assigned. Examples of Facility ID designations range from letters of the alphabet to using the well number attached to the facility if it is a one-to-one ratio.
5. **Facility Name**: Required entry. Enter the name by which the operator recognizes this facility location. The facility name will appear on Written Order, Incident of Noncompliance (INC), or Notice to Shut Down forms generated by AFMSS.
6. **Storage Type**: Required entry; system edit. Select one of the following:
 - Sales (Sales Point-BLM approved point of measurement)
 - Storage only (sometimes referred to as satellite batteries)
 - N/A (not applicable)
 - Not Inspected
7. **Plant Name**: Optional. Enter the company or location name of gas plant if applicable.
8. **Last Insp Date**: Required entry. Enter the date this facility was inspected.
9. **Diag. Verif**: Required entry, if diagram applicable. Enter the date the site facility diagram was reviewed/verified on the ground during the inspection process.
10. **Seal Review Date**: Required entry if applicable. Enter the date the operator seal records are reviewed either during a field inspection or in conjunction with a Production Records (PR) activity.

11. **H₂S Info Dt**: Optional. Enter the date of the most current Gas Analysis report if H₂S is present at the facility. If no H₂S is present, it is recommended to enter the date that was verified.
12. **H₂S**: Optional. Enter the parts-per-million (ppm) of H₂S in the gas stream for the facility location if applicable. If no H₂S is present, enter a zero (0).
13. **H₂S Stv**: Optional. Enter the ppm of H₂S in the storage tank vapors for the facility location if applicable. If no H₂S is present, enter a zero (0).
14. **H₂S Radius**: Optional. Enter the ppm of H₂S at a designated distance from the tanks if applicable. This is the radius of exposure as identified per Onshore Order No. 6 requirements. If no H₂S is present, enter a zero (0).
15. **Rectangular Survey**: Required entry. The default is Rectangular Survey, other selections include:
 - Longitude/Latitude
 - Carter Coordinates
 - Metes and Bounds
 - Other
16. **NAD83**: Required; system edit. This field refers to the year of the survey of this geographic reference. Defaults to NAD83 (measured in 1983). The other selection is NAD27 (measured in 1927). To be used with Longitude/Latitude.
17. **Survey**: Optional. If applicable, enter the survey number, letter, or name assigned to an area of land as the result of a survey.
18. **State**: Required entry; system edit. Enter the state where the facility is located.
19. **County**: Required entry; system edit. Enter the county (or parish/borough) of the facility location, or use the picklist to choose the appropriate county name.
20. **Mer**: Required entry for rectangular survey; system edit. Enter the meridian for the facility location, or use the picklist to choose the appropriate meridian.
21. **Twp**: Required entry for rectangular survey; system edit. Enter the township for the facility location. Note: Enter the township without zero fill, e.g., 7N, 8S, etc.
22. **Rge**: Required entry for rectangular survey; system edit. Enter the range for the facility location. Note: Enter the range without zero fill, e.g., 54E, 107W, etc.
23. **Sec**: Required entry for rectangular survey; system edit. Enter the section for the facility location. Note: Enter the section without zero fill, e.g., 2, 36, etc.
24. **Aliquot (1/4^{1/4})**: Optional. Enter the quarter/quarter in which the facility is located

if applicable. If in a Lot or Tract, enter the number into the Lot or Tract field, not the Aliquot field.

25. **Latitude**: Optional. If applicable, enter the degrees north and south from the equator. For use by offices whose land descriptions are something other than rectangular survey (township, range, section, etc.)
26. **Longitude**: Optional. If applicable, enter the degrees east and west from the prime meridian. For use by offices whose land descriptions are something other than rectangular survey (township, range, section, etc.)
27. **Lot**: Optional. If applicable, enter the lot where the facility is located.
28. **Tract**: Optional. If applicable, enter the tract where the facility is located.
29. **Location Description**: Optional. Enter a brief narrative regarding the location. This is especially useful in areas not using rectangular surveys or other hard-to-find locations.
30. **Active?**: Required entry. The system default is set to Yes to indicate the facility is still in use. Change the setting to No if the facility no longer exists. This will maintain the facility record for historical purposes.
31. **Qty**: Required entry. Enter the quantity for each specific piece of equipment (listed below). Each equipment may be listed only once and include the quantity in this field, or document each oil tank or gas meter separately so that tank numbers and/or station number can be identified. For example, equipment may be entered as 2 Oil Tanks, 1 Water Tank, 4 gas-orifice meters, etc., or enter each oil tank and gas-orifice meter on separate lines with 1 in the quantity column. Some offices also like to specify both the primary and secondary elements for each gas meter in AFMSS.

The display for the list of equipment is limited on the screen. To add additional equipment, place the cursor on the bottom line of the quantity field and press enter. Another line will be added to the equipment listing in which you can enter information.

32. **Equipment Type**: Required and optional entry as specified below. Valid equipment types are outlined below. List all pieces of equipment that are on the location.

Amine Unit: Scrubber equipment used to remove hydrogen sulfide (H₂S) and carbon dioxide (CO₂). Coded as AU.

Chart or Dry Flw Rec: Chart or Dry Flow Recorder is a circular chart recorder used to record static pressure, differential pressure, and temperature for gas measurement. Coded as CM.

Compressor: A device that raises the pressure of a compressible fluid such as air or gas. Identify only those compressors located at the facility. Do not include compressors located downstream of the point of measurement. Coded as COMP.

Coriolis Meter: A Coriolis Meter is used for oil measurement. Identify the Coriolis Meters on location. Coded as CRDF.

Dehydrator: Includes all types of dehydration equipment used to remove water or water vapor from an oil and/or gas stream. Coded as DHY.

Disposal Pit: Includes lined pits and unlined pits (see Onshore Order No. 7). Do not include emergency pits. Coded as DSPP.

Drip Pot: A device used to collect liquid hydrocarbons that condense out of a wet gas traveling through a pipeline. Coded as DP.

Electric Service: Electric Service Meter or panel. Coded as ES.

Electronic Flow Mtr: The measurement of natural gas flow in a pipeline by the use of electronic devices, including computers. This is a secondary gas measurement device. Primary device must be designated by GASO or VM. Coded as GASE.

Emergency Pit: A pit used only for emergency situations where contents must be removed in a certain timeframe as outlined in Onshore Order No. 7 and/or specific Field Office Conditions of Approval. Coded as EMRP.

Farm Tap: A farm tap includes any gas line running from upstream of a gas meter used to provide fuel for a non-lease related activity in which royalties must be paid. Coded as FT.

Flare Stack: A system of piping and burners used to dispose (by burning) of surplus combustible vapors usually situated near a gasoline plant, refinery, or producing well. Coded as FS.

Free Water Knockout: A vertical or horizontal vessel into which oil or emulsion is run to allow any water not emulsified with the oil (with free water) to drop out. Must be documented as a separator if not selected. Coded as FWKO.

Gun Barrel: A settling tank used to separate settling oil and water in the field. Must be documented as a separator if not selected. Coded as GUNB.

Heater Treater: A separation vessel that heats emulsion to separate water and gas from oil. It is basically a combination of a heater, free-water knockout, and oil and gas separator. Coded as HTRT.

Intermitter: A regulation device used in production of a flowing well. (Well flows full open or through a choke for short periods, several times a day, and then is closed in.) Also used in some gas lift installations. Coded as INTR.

Line Heater: A natural gas pipeline vessel used to maintain elevated pipeline temperatures to prevent the formation of hydrates and possible freezing of the pipeline. Must be documented as a separator if not selected. Coded as LH.

Lease Automatic Custody Transfer Meter: (Lse Auto Cust Xf Mtr). An automated system for measuring, sampling, and transferring oil from a lease gathering system into a pipeline using a mechanical fluid measuring device that measures by filling and emptying chambers of a specific volume. Includes all positive displacement meters except Roots meters. Coded as LACT.

Methonal Tanks: Coded as MT.

Oil Tank: Coded as OT.

Orifice (meter): Primary gas measurement device. Coded as GASO.

Other: Coded as OTHR.

Pos Displacement Mtr: A mechanical fluid-measuring device that measures by filling and emptying chambers of a specific volume. Coded as PDM.

Propane Tanks: Coded as PT.

Recirculating Pump: Recycle Pump. Coded as RP.

Roots Meter: A meter that is used to measure either fluid or gas vapor. Coded as RM.

Separators: A cylindrical or spherical vessel used to isolate the components in mixed streams of fluids. Coded as SEP.

Sep/Dehydrator CMB: Dehydrator used to remove water or water vapor from oil or gas. Coded as SDC.

Solid Dessicant Dehy: A device for removing water from gas in which two or more packages, or beds, of solid desiccant are used. Coded as SDD.

Tin Horn: A fluid collection device installed vertically in the ground and is normally constructed of corrugated steel. Coded as TH.

Turbine (meter): A velocity-measuring device for fluids in which the flow is parallel to the motor axis and the speed of rotation is proportional to the rate of flow. Coded as GAST.

Ultrasonic Meter: Flow meter used (1) to meter transit times of an acoustic pressure wave with and against the flow (time-of-flight-type meter) to infer pipeline velocity, or (2) to reflect sonic energy from the scatters in fluid back to a receiver. Coded as UM.

Venturi: A flow meter used to determine the rate of flow and employing a venturi tube as the primary element for creating differential pressures in flowing gases or liquids. Coded as GASV.

V-Cone Meter: A differential pressure meter that measures flow over a wide range of Reynolds numbers, and under all kinds of conditions, and for a variety of fluids. Coded as VM.

Water Tank: Coded as WT.

33. **Capacity**: Enter the total capacity of the equipment named in 'Equipment Type'.

34. **UOM**: Describe the measurement capacity of the equipment. Select from the following:

| | |
|------|------------------|
| BBS | Barrels |
| CUFT | Cubic Feet |
| GALS | Gallons |
| MCF | 1,000 Cubic Feet |

35. **Equipment ID No**: Optional. Enter the number associated with a piece of equipment on the facility, for example, tank number, gas meter station number, etc.

36. **Facility Equipment Other Description**: Optional. Enter pertinent remarks to describe the equipment that is listed as OTHER in 'Equipment Type' field.

37. **Remarks**: Optional. Click on the 'Remarks' button to record comments about the facility. For example, gas meter Beta Ratio, additional H₂S information, or other information pertinent to the facility location.

ENFORCEMENT ACTION DOCUMENTATION REQUIREMENTS

All enforcement actions, including Written Orders and Verbal Warnings must be documented in AFMSS. Documenting enforcement data in AFMSS allows staff personnel to determine program direction and focus on critical noncompliance areas. The information is used to set the FOGRMA compliance rating for each case/operator, and to provide statistical information on the overall effectiveness of the program on a State and National level.

I. Written Orders

A. All Written Orders must be documented in AFMSS using the *INC/Shut Down Order Input (IEP.43)* screen.

1. Documentation: The “Notice of Written Order” (Form 3160-18) generated from AFMSS may be used, or may be issued in letter format. If a letter format is used, the information must be entered into AFMSS for tracking purposes. Verbal Warnings must be followed up in writing and subsequently documented in AFMSS as a Verbal Warning.
2. Notice of Written Order Form (Form 3160-18): If the “Notice of Written Order” form in AFMSS is used, document the order completely in the ‘INC Text’ field. Use the “Notice of Written Order” form to: 1) document a common problem on one or more wells/facilities on one case/operator that has the same abatement date for correction; or 2) document multiple problems on one well or facility that have the same abatement date for correction. Do not use the form to: 1) document regulatory violations (use the INC form); 2) document a common problem on multiple cases even if the operator is the same; or 3) document problems with more than one abatement date on the same order.
3. Written Order Letter: Written Orders issued in letter format must be documented in AFMSS with a summary of the Order requirements. The letter format Written Orders do not have to be entered verbatim in the ‘Remarks’ section of AFMSS. However, there should be enough information in the enforcement record to determine the particular wells/facilities involved and work required, and be tied to a specific abatement timeframe.
4. Multiple Cases or Abatement Dates: If the Written Order Letter involves more than one case/operator, you must document the requirements for each case/operator as a separate record in AFMSS for tracking purposes. If a Field Office issues one Written Order Letter that contains one abatement date for a common problem involving one or more wells/facilities, the Written Order may be documented as one enforcement record in the system for tracking purposes. Make sure that the ‘Remarks’ field contains a summary of all the required work. If multiple requirements with varied abatement dates and/or multiple case/operators are involved, document the Written Order requirements under separate enforcement action records based on the different case/operator,

abatement dates, etc., given for correction by the operator to assist in future follow up tracking purposes.

5. Copy Features: The 'Copy' button on the INC window may be used to quickly create another enforcement record and modify it to reflect the correct remarks, violation type, etc. If a Written Order letter is created in a software application, such as Microsoft Word, use the copy (CTRL-C) and paste (CTRL-V) features to easily enter the requirements previously recorded in your word processing document to the 'Remarks' field in AFMSS.

II. Verbal Warnings

A. All Verbal Warnings must be documented in AFMSS.

1. Each Verbal Warning must be documented as a separate record in AFMSS. If the Verbal Warning is corrected by the operator while on location, include the violation correction date when documenting the violation in AFMSS.

III. Incidents of Noncompliance

A. All Incidents of Noncompliance (INCs) must be documented in AFMSS.

1. Each INC or regulatory violation must be documented in AFMSS as a separate enforcement record. The Federal Oil and Gas Royalty Management Act (FOGRMA) related INCs are used to determine operator compliance ratings each fiscal year.
2. The 'INC Text' field must be filled out completely to describe the actual violation. The 'INC Text' displays on the form generated from AFMSS that is sent to the operator.
3. Review the INC 'Category' field to ensure that it defaults correctly to FOGRMA, Non-FOGRMA or Environmental. Refer to the INC Category Codes section of this attachment for further guidance.
4. Use the Copy feature as described in the Written Order section I.A.5. above to document numerous violations on a case.

IV. Notice to Shut Down Operation

A. All Notice to Shut Down Operation must be documented in AFMSS.

1. Each Notice to Shut Down Operation (Form 3160 -12) must be documented as a separate enforcement record after the issuance of an INC.

AFMSS ENFORCEMENT ACTION DATA ENTRY REQUIREMENTS

I. Documenting AFMSS Enforcement Information

The following requirements outline the correct procedures for entering oil and gas enforcement information into AFMSS on the *INC/Shut Down Order Input (IEP.43)* screen. The information is categorized by enforcement-related topics as listed on the *IEP.43* screen tabs and provides detailed entry requirements by field.

A. ISSUED BY Tab: Upon entering the enforcement window, the system displays the default Field Office address and surface management entities related to the wells attached to the enforcement record.

1. **Oper Contact Person:** Optional entry. Click the 'Oper Contact Person' button above the display field and select the applicable operator contact point for the enforcement action. AFMSS allows for multiple entries of operator address and contact names under various "types" of address, such as LOC-local, GEN-general, INC-Incident of Non-Compliance, etc. If the contact person is not in the database, contact the Local User Support person in the office to add the name to AFMSS.
2. **BLM Office:** Required entry; system edit. AFMSS ties the default Field Office address to the enforcement record. To change the Field Office, click on the BLM Office button and select the applicable Field Office.
3. **SME Contact Person:** Optional entry. If applicable, select the SME contact for the enforcement action. Click the button above the display field to select the SME contact point.

B. WELLS AND FACILITIES Tab: The Wells and Facilities tab is used to identify those wells and facilities included in the enforcement action. When entering the *INC/Shut Down Order Input (IEP.43)* screen from one of the inspection screens, the well/facility records attached to the Inspection Activity are selected and attached to the enforcement action. When entering the *INC/Shut Down Order Input (IEP.43)* screen from the *Pending INC (IEP.60)* screen, the wells and facilities must be selected for the enforcement action. Query fields are available under the well and facility data columns to refine record selection. Entry is only required in the "Sel" column. Other fields on this tab are display only or record query options.

1. **Sel:** Required entry; system edit. Ensure that at least one well/facility is selected. This column is used to select the well/facility record(s) that need to be attached to the enforcement action. Double click in the column to select the record. An 'X' in the 'Sel' field indicates that the record is attached to the enforcement action. To detach a well/facility record from the enforcement action, double click on the 'X' in the 'Sel' field. At least one well or facility record must be attached to the enforcement action before the record can be saved.

C. INC INFO Tab:

1. **INC Number**: Required entry; system edit. A unique number must be assigned to each INC. There is no standard format for this field. Each Field Office should develop a consistent numbering method. A suggested format is: inspector initials, fiscal year, and sequential numbers (for example, JD-03-001, 002, etc.).

When issuing a second INC with an assessment for an uncorrected violation, it is suggested that the same INC number as the first violation notice is used, and an "A" is placed at the end to indicate that this is an assessment. If the violation goes to civil penalties, again use the original INC number, but add a "C" at the end to indicate that this is for civil penalties. This will allow for tracking and recall of all the actual enforcement actions taken for a particular violation.

2. **Certified Mail/Hand Delivered**: Required selection. The system default is set to Certified Mail. Select the appropriate option.
3. **CM RRR #/Delivered to**: Required entry. This corresponds to the selection in Item 2. above. Enter the Certified Mail receipt number or the name of the person to whom the enforcement action was delivered.
4. **Inspector**: Required entry; system edit. To select an inspector name, click the down arrow at the end of the 'Inspector' field to get a list of inspector names. (Note: It is suggested that the Local User Support person enter the full names of each person who may issue Written Orders or violations to the list of inspector names in AFMSS. Normally, only the last names are used for inspections, however, full names are preferred for the issuance of violations.)
5. **Type**: Required entry; system edit. Select the appropriate 'Type' of INC by clicking on the down arrow at the end of the field. Select Operative or Administrative.
6. **INC Action Type**: Required entry; system edit. Select the appropriate option. Choices are: INC, Written Order, Verbal Warning, or Shut-Down Notice.
7. **INC Id Date**: Required entry; system edit. Enter the date the violation is identified.
8. **Time**: Optional entry. Enter the time the violation was identified (AFMSS format: 0800 for 8 a.m., 1300 for 1 p.m.).
9. **INC Eff. Date**: Required entry; system edit. Enter the date as 7 business days after the INC is or will be mailed, or the date the operator receives the notice if the violation is hand delivered.

10. **Shut Down Date**: Required entry if 'INC Action Type' is set to "Shut Down Notice"; system edit. If appropriate, enter the date operations are shut down.
11. **Authority Reference**: Required entry; system edit. Enter the appropriate CFR, Onshore Order reference, or Condition of Approval item number. Be as specific to the nature of the violation as possible.
12. **Act Type**: Required entry; system edit. Select the Type of Inspection or Inspection Activity code that describes the action being conducted when the violation was discovered.
13. **INC Type**: Required entry; system edit. Select the appropriate description for the type of violation that has been identified. For example, if a well sign is missing, select the description "Location is not properly identified."
14. **Description**. System-generated. The description of the 'INC Type' selected will display in the Description box.
15. **Category**. Required selection; system default. Review the default 'Category' code to ensure that it reflects the nature of the violation or order. This information is used to determine the operator compliance rating:
 - F - FOGRMA (production related)
 - N - NON-FOGRMA (well signs, etc.)
 - E - Environmental

Refer to the recommended INC Type/Category codes provided at the end of this Attachment, **Section II. Enforcement Action Category Default Codes**, Attachment 4, pages -19, -20, and -21.

16. **Gravity**: Required entry; system edit. Select the appropriate code:
 - 1- Major (noncompliance that causes or threatens immediate, substantial, and adverse impacts on public health and safety, the environment, production accountability, or royalty income.)
 - 2- Minor (noncompliance that does not meet the "major" violation definition).
17. **Abatement Date**: Required entry. Enter the date the corrective action is to be completed. This must be entered before printing and mailing the enforcement action to inform the operator of the date compliance is required.
18. **Term Lease?**: If termination of the lease is considered appropriate, select the option that indicates the authorized officer's action.
 - Y - Yes
 - N - No
 - BLANK - not applicable (default)

D. INC TEXT Tab:

1. **INC Text:** Required entry. The INC Text field is used to inform the operator of a violation, Written Order requirement, Verbal Warning, or Notice to Shut Down information. The text will appear on the Notice of Written Order (Form 3160-18), Notice of Incidents of Noncompliance (Form 3160-9), or Notice to Shut Down Operation (Form 3160-12). For example, “No well sign on location. Install well sign in accordance with 43 CFR 3162.6.” Proofread your remarks before sending to the operator.

E. ASSESSMENT/PENALTY Tab:

If an assessment or civil penalty is incurred by the operator, the information is documented on this tab as follows:

1. **Amount Assessed:** Required entry, if applicable. Enter the assessment amount to be paid by the operator in whole dollars, for example, \$250; not \$250.00
2. **Amount of Penalty:** Required entry, if applicable. Enter the amount of the civil penalty to be paid by the operator in whole dollars. Do not enter administrative fees or interest that result from an assessment.
3. **Assessment Schedule:** Required entry, if applicable. Select from the list:
 - Single (one payment)
 - Payment (multiple payments)
4. **Assmt Reference:** Required entry, if applicable. Select the appropriate 43 CFR 3163 reference that applies to the violation:
 - 43 CFR 3163.1 (b)
 - 43 CFR 3163.1 (a)(1)
 - 43 CFR 3163.1 (a)(2)

F. RESOLUTION Tab:

The Resolution tab is used to document the enforcement action correction date, extension date(s), follow-up, and appeal information. Entry requirements are:

1. **Date Corrected:** Required entry. Enter the date the enforcement action is corrected. If issuing another INC for an uncorrected violation, close the first INC record by entering a correction date that corresponds to the issuance date of the second INC.
2. **Extension Dates:** Required entry if extension granted. The Authorized Officer (AO) may extend the abatement date for a violation. Enter the extension date(s) for the violation.

3. **Follow-Up Date:** Required entry. Enter the initial follow-up date that is conducted on enforcement action. If a field visit occurred, enter the field visit date. If a field visit was not made, enter the date paperwork was reviewed or self-certification was received and reviewed in the office. NOTE: If more than one follow-up is conducted on the enforcement action, only the first follow-up is documented on the Resolution tab. All subsequent 'Follow-Up Dates' must be documented in the *Remarks (IEP.43r)* screen by adding new follow-up records. The most recent follow-up information will be displayed on the Resolution tab for the enforcement action.

4. **Follow-Up Remarks:** Required entry. Enter the initial follow up information regarding the enforcement action in the 'Follow-Up Remarks' field on the Resolution tab. NOTE: If more than one follow up is conducted on the enforcement action, you must document subsequent 'Follow-Up Remarks' using the *Remarks (IEP.43r)* screen by adding new follow-up records. The most recent 'Follow-Up Remark' will be displayed on the Resolution tab for the enforcement action. All other 'Follow-Up Remarks' must be reviewed from the *Remarks (IEP.43r)* screen.

5. **Trips:** Optional entry. Document the number of follow-up field trips conducted on the enforcement action. If an office review was used as a follow up, leave this field blank.

6. **SDR Filed:** Required entry, if applicable. Enter the date that the operator filed a request for a State Director Review (SDR).

7. **SDR No:** Required entry, if applicable. Enter the number assigned to the SDR.

8. **Appeal Date:** Required entry, if applicable. Enter date the operator filed an appeal with the Interior Board of Land Appeals (IBLA).

9. **IBLA No:** Required entry, if applicable. Enter the number assigned to the appeal by IBLA.

G. *INC REMARKS (IEP.43r)* SCREEN

The *INC Remarks (IEP.43r)* screen may be used to enter 'General' or Follow-Up Remarks', 'Follow-Up Dates', or as a review screen for all follow-up information for the enforcement action. The data elements on the screen are:

1. **Remark Category:** Required entry. There are two categories: 'General' and 'Follow-Up'. If you did not add the enforcement action language using the 'INC Text' tab, click the 'Add New' button in the *INC Remarks (IEP.43r)* screen. The default is set to 'General' category. Enter remarks which will print on the Notice of Written Order (Form 3160-18), Notice of Incidents of Noncompliance (Form 3160-9), or Notice to Shut Down Operation (Form 3160-12). Click the 'Add

New' button and select the 'Follow-Up' category to enter additional 'Follow-Up Remarks'.

2. **Follow-Up Date**: Required entry. Enter additional 'Follow-Up Dates' on the enforcement action after clicking the 'Add New' button and selecting the 'Category' of 'Follow-Up'. If only one follow-up is conducted, enter the 'Follow-Up Date' on the 'INC Resolution' tab.
3. **Trips**: Optional. Enter the number of follow-up field trips conducted on the enforcement action. Number of trips may also be entered on the Resolution tab.
4. **Remarks Date**: System generated. The system enters the date the remarks are saved in AFMSS.
5. **Remarks field**: Required entry for 'General' Remarks if not using the 'INC Text' field. Enter the 'General' or 'Follow-Up' Remarks associated with the enforcement action. If the remarks have been entered on the 'INC Text' tab and 'Follow-Up' Remarks on the Resolution tab, you do not need to enter remarks in this screen.
6. **INC Remark Options**: Optional. System defaults to display the remarks for the following options Even though the options refer to only INCs, these options apply to the type of violation that is currently displayed. Options available are:

*This INC Only – displays the remarks specific to this INC.

All INCs for Case and Operator – displays the remarks that pertain to all violations for the specific case and operator.

All INCs for Same Wells/Facilities - remarks that pertain to all violations for multiple wells or facilities.

II. Enforcement Action Category Default Codes

The following list of violation types contains the recommended 'INC Category' default. Refer to this listing to ensure consistent application of the category for operator compliance rating purposes.

AFMSS defaults the 'INC Category' code to the appropriate classification. However, you may edit the 'INC Category' field to meet site specific conditions. The Category tables are sorted by Production, Drilling, and Plugging violations.

Category Codes are: F = FOGRMA-related;
N = Non-FOGRMA;
E = Environmental

Production Violations:

**AFMSS
Category Default**

| | |
|---|-----|
| 1. Site is not properly identified. | N |
| 2. Well equipment is not satisfactory. | N |
| 3. Environmental protection is not satisfactory. | E |
| 4. Temporary or emergency pits are not approved. | E |
| 5. Pits are not satisfactory. | E |
| 6. Surface use is not in accordance with approved plan. | E |
| 7. <i>Monthly Report of Operations is not complete and current.</i> | N* |
| 81. <i>MRO confirms the reasonableness of Production vs. Sales.</i> | N* |
| 82. <i>MRO confirms the reasonableness of Tank capacity vs inventory.</i> | N* |
| 83. <i>MRO confirms the reasonableness of Well status vs actual status.</i> | N* |
| 10. Off-lease measurement is not approved. (Oil) | F** |
| 12. Other method of measuring oil and condensate is not approved. | F** |
| 13. Method of measuring oil and condensate is not satisfactory. | F |
| 14. Valves are not sealed in accordance with minimum standards. | F |
| 15. Site Facility diagram is not satisfactory. | N |
| 17. Off-lease storage of oil and condensate is not approved. | F** |
| 18. Liquid handling equipment is not satisfactory. | F** |
| 20. Commingling is not approved. | F |
| 23. Flaring or venting or other is not approved. | F |
| 24. Off-lease measurement is not approved. (Gas) | F** |
| 27. Method of measurement (other than orifice meter) of natural gas not approved. | F** |
| 28. Method of measuring natural gas is not satisfactory. | F |
| 29. Natural gas handling/treating equipment is not satisfactory. | F |
| 31. Collection of liquids is not satisfactory. | F |
| 33. Water disposal method is not approved. | N |
| 35. Disposal of water is approved but not satisfactory. | N |
| 37. Tank batteries are not properly equipped. | F** |
| 38. Warning signs are not properly installed. | N |
| 39. If required, the contingency plan is not available. | N |
| 40. Personnel are not properly protected. | N |
| 41. Sales & mgmt. of oil and condensate are not documented according to standards. | F |
| 42. Operator has not established a site security plan in accordance with standards. | F |
| 43. Operator does not maintain a seal record. | F |
| 44. Operator does not have a self-inspection program. | N |
| 50. Failed to comply with a notice, written order, or instruction of the AO. | F** |
| 51. Operator is required to submit requested paperwork. | N |
| 52. Prepared, maintained or submitted false, inaccurate or misleading reports, etc. | F |
| 53. Failure to obtain approval for specific operations. | F |

*The Monthly Report of Operations (MRO) items remain on this list for historical tracking purposes only. They should not be selected for current violations because production reporting is the responsibility of the Minerals Management Service (MMS).

**Those categories with two asterisks next to them may be FOGRMA- or non-FOGRMA-related based on site specific conditions. The system will default to the category indicated and the user must review to ensure the category is correct for the actual violation. The user will have the capability of editing the field if it is actually a non-FOGRMA-related violation or order. Those items classified as FOGRMA in the listing are related to the proper production handling and measurement of a product as well as items 50 and 52, which are specifically addressed in the Act itself.

| <u>Drilling Violations:</u> | <u>AFMSS Category Default</u> |
|--|--|
| 1D. Approved drilling permit and plan are not on location. | N |
| 2D. Drill site is not properly identified. | N |
| 3D. Operations are not conducted in a workmanlike manner. | N |
| 4D. Operator failed to report spills. | E |
| 5D. Drill-stem test was not conducted according to minimum standards. | N |
| 6D. Hole deviation is not within approved tolerance. | N |
| 7D. Surface use is not in accordance with approved plan. | E |
| 8D. Well control and assoc. equip. is not installed, used, etc., to maintain well control. | N |
| 23D. Casing or cementing operations were not conducted according to the approved plan. | N |
| 28D. Mud system is not according to approved plan. | N |
| 33D. Air and gas drilling ops are not according to approved plan or minimum standard. | N |
| 37D. Hydrogen sulfide ops do not meet minimum standards or approved plan. | N |
| 50D. Failed to comply with a notice, written order, or instruction of the AO. | N |
| 51D. Operator is required to submit requested paperwork. | N |
| 52D. Prepared, maintained or submitted false, inaccurate or misleading reports, etc. | N |
| | |
| <u>Plugging Violations:</u> | |
| 1P. Plugging/Abd. operations are not conducted according to approved plan. | N |
| 2P. Rehabilitation does not meet approved plan. | E |
| 50P. Failed to comply with a notice, written order, or instruction of the AO. | N |
| 51P. Operator is required to submit requested paperwork. | N |
| 52P. Prepared, maintained or submitted false, inaccurate or misleading reports, etc. | N |

INSTRUCTIONS FOR DETERMINING VOLUME DISCREPANCIES

The volume discrepancies to be recorded are those identified by the BLM. All volume discrepancies must be recorded in AFMSS. However, do not include volumes resolved independently between purchaser and operator. If a combination of inspections results in a volume discrepancy, list the volume once in the most applicable measurement inspection activity category. This will eliminate duplicate counting and inflated volume discrepancies.

To ensure consistency, use the requirements described below when entering volume discrepancies.

1. When an under-reported volume is detected, enter the volume amount in the appropriate Under-reported column.
2. When an over-reported volume is detected, enter the volume amount in the appropriate Over-reported column. This volume must be entered as a negative number, such as, -100.
3. When a volume is recovered, enter the volume in the appropriate Accounted For column. Volumes accounted for that are over-reported are entered as a negative value; those associated with an under-reported volume are recorded as a positive value. If both over-reported and under-reported volumes are discovered on a lease during a production records review (PI / PR), or any other type of inspection activity, account for both volumes in the over- and under-reported columns in the AFMSS inspection record. The Accounted For column would reflect the net accounted volumes as indicated above.

Example:

| | <u>Over-reported</u> | <u>Under-reported</u> | <u>Accounted For</u> |
|-----------|----------------------|-----------------------|----------------------|
| Lease "A" | 100 bbls | | -100 bbls |
| Lease "B" | 100 bbls | 250 bbls | 150 bbls |
| Lease "C" | 200 bbls | 100 bbls | -100 bbls |
| Lease "D" | | 100 MCF | 100 MCF |

A volume is considered recovered when MMS is notified by the BLM that a volume correction is required.

The following information provides examples of measurement discrepancies and requirements to be followed when determining the volume associated with the discrepancy.

1. TANK GAUGE

When comparing volumes, always use the net volumes. If there is a quality difference, such as temperature or sediment and water (S&W), calculate the actual under-/over-reported volume discrepancies of oil, in barrels.

A. Sediment and Water Discrepancy

For excessive sediment and water (S&W) determination, multiply the volume shipped times the S&W difference. For example:

| | |
|---------------------------|----------|
| Purchaser | 1.1% S&W |
| BLM | 0.3% S&W |
| Difference | 0.8% S&W |
| Volume shipped = 160 bbls | |

$$\text{Volume Difference} = 0.008 \times 160 = 1.28 \text{ bbls}$$

In this example, the operator lost 1.28 bbls due to excessive S&W determination. Enter the volume in the oil under-reported column.

B. Gravity Discrepancy

Discrepancies found in the reported gravity shall be brought to the operator's attention. Once the correct gravity for the reporting period has been resolved, a request for amended reports shall be submitted to MMS. No volumes under- or over-reported shall be documented in AFMSS.

C. Measurement Comparison

a. Open and Closing Inventory

If the on-hand inventory independently determined is different from the operator's, list the difference.

It may be necessary to make adjustments in the volumes between tank gauging(s) for differences attributed to time. If there is a difference of several hours between your gauge and the operator's, subtract or add, as appropriate, adjusting for the oil produced during the time interval.

b. Meter Proving

Onshore Order No. 4 outlines the procedure to determine the corrected volume that flowed through the LACT meter in the event that the meter malfunctioned. When applying this requirement, to determine if the operator is in noncompliance, consideration must be given to when the meter was found to be malfunctioning. For instance, when witnessing a meter proving in the presence of the operator, it is determined that the meter has malfunctioned; the operator must be given an opportunity to correct the volume. The operator is in noncompliance if he fails to make the correction required by the Written Order within the designated time period.

However, if a review of past meter proving reports reveals that the meter had malfunctioned and the volumes were not adjusted as required by the Order, the operator is in noncompliance and an Incident of Noncompliance (INC) must be issued.

The allowable meter factor deviation since the last proving is .0025. If the meter factor deviation is within .0025 of the previous meter factor, a volume difference would not be recorded. However, if the meter factor deviation is more than .0025, the following procedure shall be used to determine the corrected volume:

D. Determining the Corrected Meter Volume (Following Meter Proving)

The corrected gross meter volume can be obtained by using the following formula:

$$\left(\frac{\text{Previous Meter Factor} + \text{New Meter Factor}}{2} \right) = \text{Average Meter Factor}$$

Current totalizer reading
 - Previous totalizer reading
 Gross volume metered since the previous proving.

Average meter factor
 X Gross volume metered since the previous proving
 Adjusted volume.

Adjusted volume (volume determined using average meter factor)
 - Incorrect volume (volume determined using the new factor)
 Volume over-reported or under-reported

The following is an example of a required meter adjustment:

| | |
|-------------------------------|-----------------------------------|
| Previous meter factor | 1.0002 |
| New factor (with malfunction) | 1.0145 (factor deviation = .0143) |

$$\left(\frac{1.0002 + 1.0145}{2} \right) = 1.0074 \text{ (Average Meter Factor)}$$

| | |
|-----------------------------|---------------------|
| Current totalizer reading: | 12379895 |
| Previous totalizer reading: | (-) <u>12248982</u> |
| Gross volume sold | 130913 (Difference) |

| | | | | | |
|--------|---|--------|---|---------------------|--------------------------------|
| 1.0074 | x | 130913 | = | 131881.8 | (adjusted volume) |
| 1.0002 | x | 130913 | = | (-) <u>130939.2</u> | (incorrect gross meter volume) |
| | | | | 942.6 | (volume under-reported) |

Please note that applicable S&W must be deducted from the 942.6 bbls for settlement purposes. For

gravity and S&W that is over- or under-reported by the operator, use the method outlined under TANK GAUGE, above.

E. Determining Volumes Under- or Over-Reported

a. If the difference is a positive number, the meter volume is understated and the operator/Government is entitled to a credit. In the above example, the operator should receive an additional 942.6 bbls (less the S&W). This volume is entered in the oil under-reported column.

b. If the difference is a negative number, the meter volume is overstated. This means the operator's volume will be reduced; therefore, enter the volume in the oil over-reported column.

2. GAS METER CALIBRATION

Onshore Order No. 5 requires, in part: "If the inaccuracy in the measuring equipment results in a volume calculation more than 2 percent in error, the volume measured since the last calibration shall be corrected in addition to adjusting the meter to zero error. Also the operator shall submit a corrected report adjusting the volumes of gas measured, and showing or discussing all calculations made in correcting the volumes. The volumes shall be corrected back to the time the inaccuracy occurred, if known. If this time is unknown, volumes shall be corrected for the last half of the period elapsed since the date of the last calibration."

When applying this requirement, as to whether the operator is in noncompliance, consideration must be given to when the meter was found to be malfunctioning. For instance, when witnessing a meter calibration in the presence of the operator, if it is determined that the volume error is greater than 2 percent, the operator must be given an opportunity to correct the volume. The operator is not in noncompliance until he fails to make the correction required by the Order. However, if reviewing past meter calibration reports that were submitted reveal that a volume error greater than 2 percent exists and the volumes were not adjusted as required by the Written Order, then the operator is in noncompliance and an incident of noncompliance should be issued.

A. Determining the Corrected Meter Volume

The following formulas may be used to determine volume errors from the calibration report. Please refer to the Error Calculation Worksheet provided on Attachment 6-15 for use in determining and documenting percent of error for gas volumes.

1TOTAL VOLUME ERROR

Using the values of differential pressure, flowing pressure, and temperature, applied from the calibration equipment, solve Eq. 20 for flow rate. Now, using the “as found” values, solve Eq. 20 again for flow rate. The total volume error is the difference between the flow rates.

If the difference is more than 2%, then the operator should correct the volume for half the time since the last calibration, and submit an amended report. The formula for volume correction is as follows:

$$E_v = \frac{Q_{af} - Q_{appl}}{Q_{appl}} \times 100 \dots\dots\dots \text{Eq. 27}$$

where:

- E_v = Volume error, %
- Q_{af} = Flow rate at the “as found” readings, scf/hr
- Q_{appl} = Flow rate at the “applied,” or input readings, scf/hr

Substituting Equation 16 in for flow rate gives:

$$E_v = \frac{C_{af} \sqrt{h_{w,af} P_{f,af}} - C_{appl} \sqrt{h_{w,appl} P_{f,appl}}}{C_{appl} \sqrt{h_{w,appl} P_{f,appl}}} \times 100 \dots\dots\dots \text{Eq. 28}$$

Where the subscript “af” means at the “as found” readings, and the subscript “appl” means the “applied,” or input readings from the calibration equipment.

To simplify the above equation, we can assume that the only variable in C that will be significantly affected by the calibration is the flowing temperature factor (F_{tf}). All the other variables that make up C are approximately equal at both the “as found” conditions and the “applied” conditions and, therefore, will cancel out. This leaves the following equation for calculating volume error:

$$E_v = \frac{F_{tf,af} \sqrt{h_{w,af} P_{f,af}} - F_{tf,appl} \sqrt{h_{w,appl} P_{f,appl}}}{F_{tf,appl} \sqrt{h_{w,appl} P_{f,appl}}} \times 100 \dots\dots\dots \text{Eq. 29}$$

Example 17 - Volume error determination from calibration

From the calibration report on Attachment 5-7 on the following page, determine if there was 2% or more of volume error. If there was, then determine the volume correction necessary.

1 Excerpts from *Natural Gas Measurement Theory and Practice, Second Edition, Richard Estabrook, BLM, California State Office, May 2004.*

GAS MEASUREMENT CALIBRATION AND CHANGE REPORT

CALIBRATION CHANGE

FEDERAL LEASE NO. **NDM 70640**

SEC. TOWNSHIP RANGE SURVEY:

STATION/METER NUMBER **9062**

DATE **11-19-90** TIME AM PM

MEASURING GAS FROM **Tefaco**

TO **(Tioga) Gas Plant**

WELL NAME **Silurian 27-1x**

PLANT DELIVERING TO

METER TYPE(S) PRESSURE RECORDER TEMP. RECORDER

WELL FLOWING WELL SHUT IN ORIFICE METER AMP. RECORDER ORIFICE WELL TESTER

MAKE OF METER(S) **(Barton)**

DIFF. RANGE **0-100** STATIC RANGE **0-60** TEMP. REC. RANGE **0-150** TYPE CHART **Log. Kt.** ATMS. PRESS. **13.5** SERIAL NO. **320933** CLOCK ROTATION **8 day** LINE SIZE **4.006** ORIFICE SIZE **2.250**

METER READINGS AT START OF TEST: DIFF. **6.0** STATIC **9.2** FLOWING TEMP. **8.85** OVER RANGE **4"** UNDER RANGE **4"** DIFF. PEN ARC **OK** TIME LAG O.K. CORRECTED

| DIFFERENTIAL TEST | | | | | | STATIC TEST | | | | | |
|-------------------|---------------|------|---------|-----|------|--|--------------|----------|-------|---------|-------|
| AS FOUND | | | AS LEFT | | | TESTED BY: <input type="checkbox"/> D. W. <input type="checkbox"/> GAUGE | | AS FOUND | | AS LEFT | |
| W.C. | UP | DOWN | W.C. | UP | DOWN | D.W. | METER | D.W. | METER | D.W. | METER |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 20.3 | 20.3 | 20 | 20 | 20 | 12 | 14 | 12 | 12 | | |
| 40 | 40.8 | 40.8 | 40 | 40 | 40 | 24 | 26 | 24 | 24 | | |
| 60 | 61 | 61 | 60 | 60 | 60 | 36 | 38 | 36 | 36 | | |
| 80 | 81.3 | 81.3 | 80 | 80 | 80 | 48 | 50 | 48 | 48 | | |
| 100 | 100+ | 100+ | 100 | 100 | 100 | 60 | 60+ | 60 | 60 | | |
| | Avg. 5.74 r/s | | | | | | Avg. 9.0 r/s | | | | |
| 33 | 33.5 | 33.5 | 33 | 33 | 33 | 35 | 37 | 35 | 35 | | |

| RECORDING THERMOMETER TEST | | | | GRAVITOMETER | |
|----------------------------|--------------|---------|----------|------------------|---------|
| AS FOUND | | AS LEFT | | SPECIFIC GRAVITY | |
| TEST | RECORDER | TEST | RECORDER | AS FOUND | AS LEFT |
| 32 | 42 | 32 | 32 | | |
| 65 | 75 | 65 | 65 | | |
| 110 | 120 | 110 | 110 | | |
| | Avg. 8.2 r/s | | | | |
| 100 | 118 | 100 | 100 | | |

DEWPOINT _____ °F @ PSIG # / MMC

LEAK TESTS PERFORMED: RECORDER YES NO INSTRUMENT MANIFOLD YES NO METER TUBE YES NO ASSOCIATED PIPING YES NO

LEAKS REPAIRED: YES NO YES NO YES NO YES NO

IF NO EXPLAIN _____

ERRORS BEFORE CALIBRATION:

| (TYPES) | (L. 10 SQ. ROOT READING) | (L. 10 SQ. ROOT ERROR) | (ERROR (%) EQUIPMENT) | (ERROR (%) VOLUMERIC) |
|-------------|--------------------------|------------------------|-----------------------|-----------------------|
| ZERO | | | | |
| HYSTISRESIS | | | | |
| SPAN | | | | |
| LINEARITY | | | | |
| TOTAL ERROR | | | | |

*ZERO ERRORS SHOULD BE REFERENCED REGARDING THEIR RELATION TO THE ZERO BASELINE.
NOTE: ALL OTHER ERRORS SHOULD BE REFERENCED REGARDING THEIR AFFECT ON MEASUREMENT AT THE POINT OF MEASUREMENT
IF REFERENCING PROBLEMS EXIST (EXPLAIN)

SAMPLE CAUGHT YES NO SAMPLING METHOD VACUUM PURGE, FILL AND EMPTY PURGE CONT. RATE

HEATING VALUE DETERMINED BY FRACTIONAL ANALYSIS CALORIMETER

REMARKS EXCESSIVE LIQUID IN METER TUBE PIPING PLUGGED IMPROPER INSTALLATION BAD VALVE ON MANIFOLD MERCURY METER NOT LEVEL EXCESSIVE VIBRATION OTHER:

| CHANGES | FROM | TO |
|--------------------|------|----|
| CLOCK CYCLE | | |
| PRESSURE RANGE | | |
| DIFFERENTIAL RANGE | | |
| TEMPERATURE RANGE | | |

AHC SIGNATURE **Dale Foreman** WITNESS SIGNATURE _____

COMMENTS **Present spec. grav. 0.962**

WHITE: PLANT OR MASTER FILE YELLOW: FIELD FILE PINK: TULSA GAS MEASUREMENT DEPT. GOLDENROD: WITNESS COPY

Figure 37

The first step is to identify the “as found” readings taken at the normal operating values. Fortunately, this calibration report includes these points.

At the bottom of the “Differential Test,” “Static Test,” and “Recording Thermometer Test” columns, you can see that the calibrator made a special effort to test the various elements at average flowing conditions. These are the numbers that we will use to determine how much volume error exists.

The next step is to convert the average readings in “roots” to actual units of measure. This is done in essentially the same way as we did for reading the charts previously. From the report:

$$\begin{aligned} \text{Average } h_w &= 5.74 \text{ roots} \\ \text{Average } p_f &= 9.0 \text{ roots} \\ \text{Average } T_f &= 8.2 \text{ roots} \end{aligned}$$

Converting to actual units of measure:

$$\begin{aligned} h_w : 5.74^2 &= 32.95\% \text{ of } 100'' = 32.95'' \\ p_f : 9.0^2 &= 81.0\% \text{ of } 60 \text{ psia} = 48.6 \text{ psia} \\ T_f : 8.2^2 &= 67.2\% \text{ of } 150^\circ\text{F} = 100.9^\circ\text{F} \end{aligned}$$

Because this was identified as a square root chart, we are assuming that the static pen was offset to account for atmospheric pressure and is reading in units of psia. The calibration equipment reads in psig, so we have to subtract atmospheric pressure to obtain the normal operating point in psig. The proper pressure to apply is 48.6 psia – 13.5 psia = 35.1 psig.

Now that we know our normal operating values of differential pressure, flowing pressure, and flowing temperature, we check to see that “as found” readings were taken close to these points. From the report, differential pressure was checked at 33", which is within 5" of the 32.95"; flowing pressure was checked at 35 psig, which is within 5 psi of 35.1 psig; and temperature was checked at 100°F, which is within 10°F of 100.9°F. The “as found” errors in these three values (33", 35 psig, and 100°F) will be used to calculate volume error. The following table summarizes the results of the calibration:

| | Applied | As Found |
|-----------------------|---------|----------|
| Differential pressure | 33" | 33.5" |
| Flowing pressure | 35 psig | 37 psig |
| Flowing temperature | 100°F | 110°F |

In order to use Equation 29, we have to calculate p_f in psia by adding atmospheric pressure (13.5 psi), and F_{tf} from Table D3 in AGA Report No. 3, 1985:

| | Applied | As Found |
|-----------------------|-----------|-----------|
| Differential pressure | 33" | 33.5" |
| Flowing pressure | 48.5 psia | 50.5 psia |
| F_{tf} | 0.9636 | 0.9551 |

The total volume error at average operating conditions can now be calculated using Equation 29:

$$E_v = \frac{0.9551\sqrt{33.5 \times 50.5} - 0.9636\sqrt{33 \times 48.5}}{0.9636\sqrt{33 \times 48.5}} \times 100 = + 1.90\%$$

At average flowing conditions, the meter is reading 1.90% higher than it should. However, since 1.90% is less than 2%, corrections to the reported volume are not required.²

² *End of Excerpts from Natural Gas Measurement Theory and Practice, Second Edition, Richard Estabrook, BLM, California State Office, May, 2004*

3. GAS VOLUME DETERMINATION

Volume comparison discrepancies detected are entered in the applicable under- or over-reported column. When differences are resolved because of the BLM involvement, enter the appropriate positive or negative volumes in the Accounted For column.

4. RUN TICKET VOLUME VERIFICATION

Volume comparison discrepancies detected are entered in the applicable over- or under-reported column. When differences are resolved because of the BLM involvement, enter the appropriate positive or negative volumes in the Accounted For column.

5. SITE SECURITY

Normally, this inspection will not result in volume differences.

6. PRODUCTION TESTS

Differences between the BLM and Company test figures are entered in the appropriate column. If differences are resolved, enter the appropriate positive or negative volume in the Accounted For column.

7. PROVER/MASTER METER CERTIFICATION

Not applicable unless volume corrections are made back to leases. Reference Onshore Oil and Gas Order No. 4, III, D, 3, a, (2).

8. PRODUCTION ACCOUNTABILITY INSPECTIONS

Do not report volume differences here if the differences have already been listed under another inspection or activity.

9. RECORDS COMPARISON

Volume comparison discrepancies detected are entered in the applicable column. When differences are resolved because of the BLM involvement, enter the appropriate positive or negative volumes in the Accounted For column.

10. PRODUCTION VERIFICATION

Volume errors detected are entered in the applicable column. When differences are resolved because of the BLM involvement, enter the appropriate positive or negative volumes in the Accounted For column.

11. TRANSPORTER MANIFEST VERIFICATION

Report the total volume (truck volume) of oil improperly documented on the transporter's manifest. If oil is returned to the tank, enter that volume as Accounted For.

3160-10
(October 2003)

UNITED STATES
DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
INSPECTION RECORD – DRILLING

| Case Number | | State | Field Office | Field Area | <input type="checkbox"/> Detailed <input type="checkbox"/> Non-Detailed | | | | |
|--|---------------|--------------------|--------------|--------------------------------|--|-------------|------------------|-----------|------------------|
| Well No./API No. | | Location (¼ S-T-R) | | Spud Date | Status | | | | |
| Operator/Representative | | | | Rig/Contractor//Representative | | | | | |
| Inspection Type | Activity Code | Inspector | Open Date | Closed Date | Office Time | Travel Time | Inspection Time | Trips | |
| | | | | | | | | | |
| | | | | | | | | | |
| GENERAL | | | | | | | Inspected | NA | Violation |
| 1. Is approved drilling permit and plan on location? | | | | | | | | | |
| 2. Is drill site properly identified? | | | | | | | | | |
| 3. Are operations being conducted in a workmanlike manner? <i>(Detailed list in handbook)</i> | | | | | | | | | |
| 4. Did Operator report all spills? | | | | | | | | | |
| 5. Are drill-stem tests conducted as required? | | | | | | | | | |
| 6. Is hole deviation within approved tolerances? | | | | | | | | | |
| SURFACE USE | | | | | | | | | |
| 7. Is surface use in accordance with approved plan? | | | | | | | | | |
| a. Well site lay-out; | | | | | | | | | |
| b. Pits, sumps, and other ancillary facilities; | | | | | | | | | |
| c. Containment and disposal of solid, liquid, and gaseous wastes; | | | | | | | | | |
| d. Failure to implement dust control; | | | | | | | | | |
| e. Failure to obtain prior approval for additional surface disturbance. | | | | | | | | | |
| BLOWOUT PREVENTER AND ASSOCIATED EQUIPMENT | | | | | | | | | |
| 8. Is BOP pressure rating and arrangement at least that approved? Rating _____ | | | | | | | | | |
| 9. Are choke lines and manifold, kill lines, and fill lines properly installed and operable? | | | | | | | | | |
| 10. Are Master controls installed and functional? | | | | | | | | | |
| a. Remote control installed and functional? | | | | | | | | | |
| b. Hand wheels or autolock? <i>(Circle appropriate item)</i> | | | | | | | | | |
| c. Valve installed in closing line of annular preventer? | | | | | | | | | |
| 11. Is pressure accumulator system adequate to activate BOP? Psi rating _____ Fluid Volume _____ | | | | | | | | | |
| a. Nitrogen precharge pressure? Date last checked _____ | | | | | | | | | |
| b. Will reservoir hold two times the usable fluid volume? | | | | | | | | | |
| c. Is power available and turned on to the accumulator pumps? | | | | | | | | | |
| 12. Are ram-type preventers tested to stack working pressure if isolated by test plug or 70 percent of internal yield pressure or casing if BOP Stack is not isolated from casing? _____ psi test pressure | | | | | | | | | |
| 13. Are annular-type preventers tested to 50 percent of working pressure? _____ psi Date Recorded | | | | | | | | | |
| 14. Are BOPE tests run and recorded in drillers log? _____ psi | | | | | | | | | |
| a. When initially installed? | | | | | | | | | |
| b. Whenever a seal subject to test pressure is broken? | | | | | | | | | |
| c. Following related repairs? | | | | | | | | | |
| d. 30-day intervals? | | | | | | | | | |
| 15. Are BOP drills conducted weekly and recorded in drillers log? Time: _____ | | | | | | | | | |
| 16. Is annular preventer activated weekly and recorded in driller's log? | | | | | | | | | |

| BLOWOUT PREVENTER AND ASSOCIATED EQUIPMENT (CONTINUED) | | Inspected | NA | Violation |
|---|---------------|-----------|----|-----------|
| | Date Recorded | | | |
| 17. Are pipe rams activated each trip and recorded in driller's log? | | | | |
| 18. Are blind rams activated each trip? | | | | |
| 19. Is the slow pump speed recorded each tour? | | | | |
| 20. Are drill string safety valves and/or inside BOP valves readily available? | | | | |
| 21. <input type="checkbox"/> Is upper kelly cock installed? <input type="checkbox"/> Is lower kelly cock installed? <input type="checkbox"/> Are appropriate kelly cock wrenches available? | | | | |
| a. BOPE shall be installed, used, maintained and tested in a manner necessary to assure well control and shall be in place prior to drilling the surface casing shoe. | | | | |
| CASING AND CEMENTING | | | | |
| 22. Was casing and cement in accordance with approved APD (size weight grade depth <input type="checkbox"/> New? <input type="checkbox"/> Used?) | | | | |
| 23. When setting surface casing, did cement circulate to surface? If not, was remedial action taken? | | | | |
| a. Centralizers as required? | | | | |
| 24. When setting casing was cement job conducted as approved? (Circle applicable type) Surface Intermediate Production Liner | | | | |
| 25. Were all casing strings pressure tested prior to drill out? _____ psi. | | | | |
| a. Was remedial action taken if test indicated need? Action: _____ | | | | |
| b. Were all pressure tests recorded in drillers log? Date recorded _____ | | | | |
| 26. Were all waiting on cement (WOC) times adequate to achieve a minimum of 500 psi compressive strength at the shoe? | | | | |
| 27. Are casing shoe pressure integrity tests (mud weight equivalency test) performed and recorded in log book? Date recorded _____ Mud weight _____ Depth _____ Pressure _____ | | | | |
| 28. All indications of usable water reported to the authorized officer? | | | | |
| 29. Are wiper plugs used as required? | | | | |
| MUD PROGRAM | | | | |
| 30. Is mud system in accordance with approved APD? | | | | |
| 31. Are appropriate quantities of mud on hand? | | | | |
| 32. Is mud monitoring equipment in accordance with approved APD? | | | | |
| a. Electronic/mechanical mud monitoring equipment alarms set and turned on? | | | | |
| 33. Is gas detection equipment installed and operational as per APD? | | | | |
| 34. Are acceptable well control practices being followed while tripping? | | | | |
| 35. Are tourly mud tests (weight & viscosity) recorded in the drillers log? | | | | |
| 36. Is flare system installed? | | | | |
| SPECIAL OPERATIONS-AIR/GAS DRILLING | | | | |
| 37. Is rotating head in operating condition? | | | | |
| 38. Is the blooie line installed and the pilot light and igniter installed and operating as per APD? | | | | |
| 39. Is deduster equipment installed? | | | | |
| 40. Is mud circulation equipment available for rapid use (including mud, reserve pits, and steel tanks)? | | | | |
| 41. Are engines equipped with spark arresters or water cooled exhaust? | | | | |
| HYDROGEN SULFIDE OPERATIONS (500' above or 3 days prior to expecting H2S) | | | | |
| 42. Are the H ₂ S Drilling Operations Plan and Public Protection Plan, if required, available at the well site? | | | | |
| 43. Are the locations of safe briefing areas as approved, are they designated, and is safe access provided to them? | | | | |
| 44. Is a secondary means of egress available and passable? | | | | |

| HYDROGEN SULFIDE OPERATIONS (CONTINUED) | Inspected | NA | Violation |
|---|------------------|-----------|------------------|
| 45. Is required safety equipment for essential personnel available and operable? | | | |
| a. Portable H ₂ S and SO ₂ detectors? | | | |
| b. Self-contained breathing apparatus? | | | |
| c. Explosion proof ventilation fans? | | | |
| d. Other equipment as approved in drilling operations plan? | | | |
| 46. Are initial and weekly training and H ₂ S/well control drills held and recorded on the driller's log? | | | |
| 47. Is permanent H ₂ S detection and monitoring equipment installed, tested, and operable? | | | |
| 48. Is the wind direction equipment installed and visible? | | | |
| 49. Are the caution/danger signs legible, visible, and posted a safe distance from the location? | | | |
| 50. Are the warning flags, flare gun and flares available? | | | |
| 51. Is the equipment H ₂ S trimmed as required? | | | |
| 52. Is the remote kill line installed and tested? | | | |
| 53. Is the flare system designed to safely gather and burn H ₂ S? | | | |
| a. Is the flare system equipped with a safe and suitable means of ignition? | | | |
| b. Is the flareline mouth at least 150' from wellbore? | | | |
| c. If noncombustible gas is to be flared, is supplemental fuel available? | | | |
| 54. Are the mud-gas separator, degassers, and rotating head installed and operational (exploratory wells only)? | | | |
| 55. Is the remote controlled choke installed, tested, and operable? | | | |
| 56. Is the pH of freshwater mud 10.0 or above unless otherwise approved? | | | |
| a. Are sufficient quantities of mud additives to scavenge H ₂ S available at the well site (exploratory wells only)? | | | |
| OTHER | | | |
| 57. Other special requirements per approved APD and lease terms. | | | |
| 58. Description of operations witnessed. | | | |
| HIGH PRIORITY INSPECTION REMARKS | | | |

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

INSPECTION RECORD – ABANDONMENT

| | | | | | | | | | |
|-------------------------|-------------------------------------|-------------------|--------------|-------------------------------|-------------|-------------|-------------|-----------------|-------|
| Case Number | | State | Field Office | | Field Area | | | | |
| Well Name: | | | | Well Number: | | Hazard? | | | |
| API No. | Location 1/4, 1/4, S-T-R (Lat/Long) | | | | Spud Date | | Status | | |
| Operator/Representative | | | | Rig/Contractor/Representative | | | | | |
| Well Type: (Circle One) | | | | | | | | | |
| Dry Hole | | Depleted Producer | | Service Well | | Water Well | | Other (explain) | |
| INSP. TYPE | ACT. CODE | INSPECTOR | | OPEN DATE | CLOSED DATE | OFFICE TIME | TRAVEL TIME | INSPECT. TIME | TRIPS |
| | | | | | | | | | |
| | | | | | | | | | |

| PLUGGING OPERATIONS | WITNESSED | | |
|--|-----------|----|-----|
| | YES | NO | N/A |
| 1. Plugs spotted across perforations or perforations isolated as approved if casing set? | | | |
| 2. Plugs spotted at casing stubs? | | | |
| 3. Open hole plugs spotted as approved? | | | |
| 4. Retainers, bridge plugs, or packers set as approved? | | | |
| 5. Cement quantities as approved? | | | |
| 6. Method of verifying and testing plugs as approved? | | | |
| 7. Pipe withdrawal rate satisfactory after spotting plugs? | | | |
| 8. All annular spaces isolated to surface? | | | |
| 9. Surface Cap Witnessed? (Circle one) Above Ground Below Ground | | | |
| 10. INC issued? | | | |

Remarks:

Cement and mechanical plug placement data (attach service company report, if available):

BALANCE PLUG PROGRAM

Wellbore Information

| | Size | Weight | cft/lft | lft/cft | bbf/ft | ft/bbl |
|----------------------------------|------|--------|---------|---------|--------|--------|
| Open Hole | | | | | | |
| Casing | | | | | | |
| Tubing/D.P. (Workstring) | | | | | | |
| Annular Volume (pipe in hole) | | | | | | |
| Annular Volume (pipe in pipe) | | | | | | |

Helpful Hints: Number of sacks cement (x) yield of cement = cubic feet of cement
 Cubic Feet (cf) x .1781 = BBls.
 Sacks of cement (x) H2O required (gal/sk) ÷ 42 gals = BBls.

Mix H2O required

Plug # 1: Approved depth: _____ to _____ Actual Depth: _____ to _____
 Sacks cement _____ Tagged Top of Cement at _____
 Yield cement _____ Pressured tested cement plug to _____ psi ?

Plug # 2: Approved depth: _____ to _____ Actual Depth: _____ to _____
 Sacks cement _____ Tagged Top of Cement at _____
 Yield cement _____ Pressured tested cement plug to _____ psi ?

Plug # 3: Approved depth: _____ to _____ Actual Depth: _____ to _____
 Sacks cement _____ Tagged Top of Cement at _____
 Yield cement _____ Pressured tested cement plug to _____ psi ?

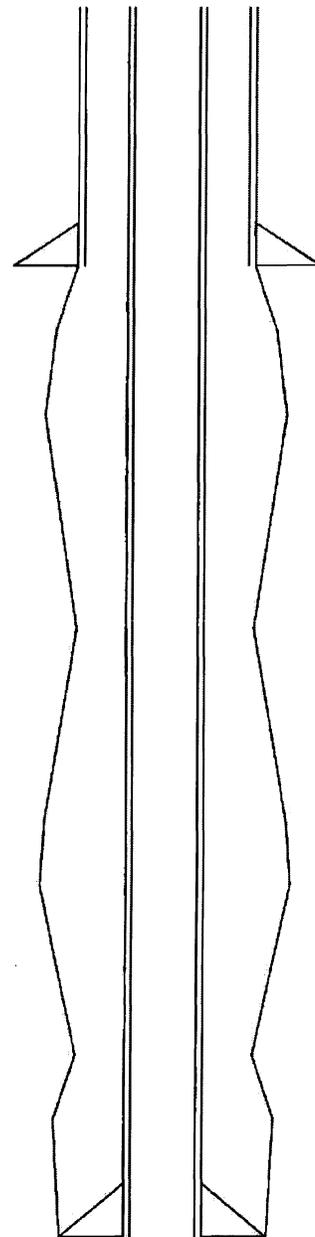
Plug # 4: Approved depth: _____ to _____ Actual Depth: _____ to _____
 Sacks cement _____ Tagged Top of Cement at _____
 Yield cement _____ Pressured tested cement plug to _____ psi ?

Plug # 5: Approved depth: _____ to _____ Actual Depth: _____ to _____
 Sacks cement _____ Tagged Top of Cement at _____
 Yield cement _____ Pressured tested cement plug to _____ psi ?

Surface Plug : Length of Plug ? From _____ ft. to surface

Sacks cement _____

Yield cement _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
INSPECTION RECORD-PRODUCTION

| Case/Unit PA/CA Contract No. | | | | Unit Name | | | | Operator | | | | |
|---|-----------|-----------|-----------|-----------------|-----------------|-----------------------|--------------------------------------|-------------|--------------|------------|-----------|-----------------------------|
| PR Year | | | | Inspection Type | | | | Open Date | | Close Date | | |
| Insp No. | Inspector | ACT. Code | Open Date | Close Date | Wells Inspected | Facility ID Inspected | Office Time | Travel Time | Inspect Time | Trips | Referrals | Oil/Gas Gain/Loss Recovered |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Purchaser Oil _____ Purchaser Gas _____ | | | | | | | __ Oil __ Gas (check as appropriate) | | | | | |
| GENERAL | | | | | | | | | | Inspected | Violation | N/A |
| 1. Identification Satisfactory (per 43 CFR 3162.6) | | | | | | | | | | | | |
| A. Tanks | | | | | | | | | | | | |
| B. Facilities | | | | | | | | | | | | |
| C. Wells | | | | | | | | | | | | |
| 2. Well Equipment Satisfactory | | | | | | | | | | | | |
| 3. Environmental Protection Satisfactory (per 43 CFR 3162.3-1,3162.5-1, 3162.7-5, OO No. 7 and NTL3-A) | | | | | | | | | | | | |
| A. Water Disposal | | | | | | | | | | | | |
| 1. Pit | | | | | | | | | | | | |
| 2. Subsurface | | | | | | | | | | | | |
| B. Surface Use | | | | | | | | | | | | |
| C. Undesirable Event | | | | | | | | | | | | |
| Liquid Hydrocarbons Production (per Order No. 4) | | | | | | | | | | | | |
| 4. Liquid Handling Equipment Satisfactory | | | | | | | | | | | | |
| A. Bypass Around Measurement Point | | | | | | | | | | | | |
| 5. Measurement Satisfactory (attach Run Ticket, Proving Report, 3160-16, 3160-17 and Volume Calculations) | | | | | | | | | | | | |
| A. Tank Gauging: Bottom Gauge Temp | | | | | | | | | | | | |
| 1. Performed (attach volume calculations) | | | | | | | | | | | | |
| 2 Witnessed | | | | | | | | | | | | |
| B. LACT Proving Witnessed: Previous Factor New Factor (attach proving report) | | | | | | | | | | | | |
| Natural Gas Production (per order No. 5) | | | | | | | | | | | | |
| 6. Gas Handling Equipment Satisfactory | | | | | | | | | | | | |
| A. Bypass Around Measurement Point | | | | | | | | | | | | |
| 7. Type of Production: (check one) Gas Well Casing Head | | | | | | | | | | | | |
| 8. Measurement Satisfactory (attach appropriate forms 3160-15 or independent calculations) | | | | | | | | | | | | |
| A. Orifice Pipe ID Beta Ratio | | | | | | | | | | | | |

Site Security (per 43 CFR3162.7-5, Order No. 3)

| | | | | | | | | | | | Inspected | Violation | N/A |
|---|--|--|--|--|--|--|--|--|--|--|-----------|-----------|-----|
| 9. No Bypass | | | | | | | | | | | | | |
| 10. Facility Diagram (Onsite Verification) | | | | | | | | | | | | | |
| A. Diagram Accurate | | | | | | | | | | | | | |
| B. Facilities Adequately Sealed: Sales Phase Production Phase | | | | | | | | | | | | | |
| 11. LACT | | | | | | | | | | | | | |
| A. Components Complete | | | | | | | | | | | | | |
| B. Sealed to Minimum Standards | | | | | | | | | | | | | |

| | | | | | |
|--|----------|------|---------------------|---------------|--|
| 12. Seal Records | Facility | LACT | | | |
| A. Maintained by Operator | | | | | |
| B. Current | | | | | |
| Safety (per 43 CFR 3162.5-3 Order No. 6) | | | | | |
| 13. H2S | | | | | |
| A. Hazard | | | | | |
| 1. PPM | Ambient | STV | Gas Stream | | |
| B. Operating Requirements Met | | | | | |
| C. Public Protection Plan | | | | | |
| | | | Required | Available | |
| 14. General Safety- Are all operations performed in a safe and workmen like manner?. | | | | | |
| Records Review | | | Review Dates | | |
| 15. Production Measurement Records (per Order No. 4&5) | | | From / / | To / / | |
| A. Internal Records(attach any independent calculations) | | | | | |
| 1. MMS OGOR Forms | | | | | |
| 2. LACT Meter Proving Report | | | | | |
| 3. Gas Meter Calibration Report | | | | | |
| B. External Records(attach any independent calculations) | | | | | |
| 1. Run Tickets/LACT print outs | | | | | |
| 2. Pipeline Run Statements | | | | | |
| 3. Pumpers Log | | | | | |
| 4. Seal Records | | | | | |
| 5. Purchasers Gas volume Sales Report | | | | | |
| 6. Chart Integration Reports | | | | | |
| 7. Methods Used to Estimate Volumes of Gas Flared/Vented | | | | | |
| 8. Method Used to Estimate Volumes of Gas or Oil Lost/ on Lease | | | | | |
| Other | | | | | |
| 16. Royalty Rate Determination (per 43 CFR 3162.7-4) Effective Royalty Rate | | | | | |
| 17. Transporter Manifest Review (per 43 CFR 3162.7-1) | | | | | |

Remarks:

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MEASUREMENT RECORD - OIL

By Tank Gauge or Alternative Method
(Onshore Order No. 4)

Date: _____ Case No.: _____
 Field/Unit: _____ Field Office: _____
 PA/CA: _____ Operator: _____
 County/State: _____ Purchaser: _____
 Facility ID.: _____ Location: ¼¼ _____ S _____ T _____ R _____
 Inspector: _____ Tank No.: _____

TANK GAUGE

| | Yes | No | N/A |
|---|-----|----|-----|
| 1. Does tank have a pressure-vacuum thief hatch and/or vent-line valve? III.C.1.a. | | | |
| 2. Is tank set level? III.C.1.b. | | | |
| 3. Does tank have a gauging reference point height stamped on a fixed bench mark plate or stenciled on tank near the Gauging hatch? III.C.1.c. | | | |
| 4. Are strapping tables available for each tank? III. C.2. c. | | | |
| 5. Is the tank free of dents or damage? III.C.2.b. | | | |
| 6. Were oil samples taken prior to gauging tank? III.C.3. | | | |
| 7. Was gauge tape of proper type and quality used? III.C.4.a. | | | |
| 8. Were two identical gauges obtained? III.C.4.b. | | | |
| 9. Were tests for gravity taken acceptable? III.C.5.a. & f. | | | |
| 10. Was hydrometer of proper type and quality? III.C.5.b, c, d. | | | |
| 11. Were tests for tank temperature acceptable? III.C.5.e.. | | | |
| 12. Was thermometer of proper type and quality? III.C.6.a. & b. | | | |
| 13. Were tests for BS&W content acceptable? III.C.7. | | | |
| 14. Is tank/facility in conformance with applicable Site Security Regulations? (Self Inspection, Records, Site Sec. Plan, Fac. Diag) OO #3, III.F, G, H, and I. | | | |
| 15. Copy of run ticket attached? OO #3, III.C.1.a. | | | |
| 16. Gravity: Data _____ @ _____ °F Corrected API Gravity _____ | | | |
| 17. Sediment & Water Content: Tube # 1 _____ % Tube # 2 _____ % _____ %BS&W | | | |
| 18. Opening Tank Temperature: Data _____ °F Closing Tank Temperature Data _____ °F | | | |
| 19. Opening Gauge: Data _____ Closing Gauge: Data _____ | | | |
| 20. Do fill lines enter: Top of Tank _____ Bottom of Tank _____ | | | |
| 21. Method of Shipment By: Pipeline _____ Truck _____ | | | |
| 22. Load Line Seal Numbers: Off _____ (OO #3, III.A.1.b.) On _____ Fill Line Seal Numbers: On _____ Equalizer Line Seal Numbers: On _____ Drain/Circulating Line Seal Numbers: On _____ | | | |

Alternate Method

23. Date of Alternative Measurement Method Approval: _____
 24. Method Type: Turbine Metering _____ Calibrated Tank Truck _____
 Net Oil Computer _____ Measurement by Weight _____
 Other (describe) _____
 25. Does this method accurately meet or exceed the minimum API Standard for:
 Gross Volume Measurement _____ API Oil Gravity _____
 Sediment & Water _____ Temperature _____
 Net Volume Calculations _____

REMARKS

TANK GAUGING REQUIREMENTS

III.C.3. - Oil Sampling (API Chapter 8.1 and 10.4)

- a. Isolate and settle tank for 30 minutes before sampling or gauging.
- b. Two-way sample.
 - On tanks larger than 1,000 barrel capacity which contain between 10 and 15 feet of oil, take 2 equal volume samples, one in the middle of the upper 1/3 of the tank content and one in the lower 1/3 or at the sales outlet.
- Three-way sample.
 - On tanks larger than 1,000 barrel capacity which contain 15 feet or more of oil, take 3 equal volume samples, one in the middle of upper 1/3 of the tank content, one in the middle of the tank content, and one in the middle of the lower 1/3 or at the sales outlet.

NOTE: Either method may be used on tanks up to and including 1,000 barrel capacity.

III.C.4. - Sales Tank Gauging (API Standard 2545)

- a. Tapes shall be made of steel or corrosion-resistant material, not kinked or spliced, traceable to standards of the National Bureau of Standards (NBS) and certified accurate by either the manufacturer or an independent testing facility. Working tapes when checked against a NBS certified tape are acceptable.
- b. Two identical gauges shall be taken to the nearest ¼ inch for tanks with a capacity of less than 1,000 barrels, and 2 identical gauges shall be taken to the nearest 1/8 inch for tanks of 1,000 barrels or more. Use the proper bob for innage or outage gauging.

III.C.5. - Oil Gravity (API Chapter 9)

- a. Gravity test shall be performed on a representative sales tank oil sample following API Ch. 8.1.
- b. Test shall be complete before oil sales are made.
- c. Accuracy of the instruments shall be traceable to NBS and certified accurate by either the manufacturer or an independent testing facility.
- d. Hydrometer shall be clean, free of shot weights, or detached gravity scale.
- e. Hydrometer shall be calibrated for a gravity range that includes the observed gravity of the sample being tested.
- f. Gravity shall be measured to the nearest 0.1E API gravity, and shall be corrected to 60 EF using API Tables 5A and 6A.
- g. Temperature of sample shall be measured to the nearest 1.0 EF.

III.C.6. - Tank Temperatures (API Standard 2543)

- a. All thermometers shall be traceable to NBS and certified as accurate by either the manufacturer or an independent testing facility. Working thermometers checked against a thermometer certified as accurate to NBS standards shall be permitted.
- b. Thermometers shall be kept clean and free of mercury separation.
- c. Temperature should be taken:
 - > 15' liquid: 3' below surface, middle of tank, 3' above bottom of tank.
 - 10' - 15' liquid: 3' below surface of oil, 3' above bottom of tank.
 - < 10' liquid: middle of tank.

NOTE: For crude tanks over 10 ft in height, having a capacity of less than 5,000 bbl, one temperature measurement at the middle of the oil may be used.
- d. Immerse thermometer not less than 12" from shell of tank, for at least 5 minutes, and read to the nearest 1.0 EF.

III.C.7. - Sediment & Water (S&W) (API Chapter 10)

- a. Use solvent of Toluene, Xylene, Kerosine, or White Gasoline. (Toluene, and Xylene must be water saturated.)
- b. Thoroughly mix oil sample-solvent combination (50 ml solvent & 50 ml sample), stopper tubes and shake vigorously.
- c. Heat samples in bath to 140 EF (minimum 10 min.); vapor pressure @ 140 EF is double that @ 100 EF.
- d. Invert tubes to assure oil and solvent are mixed.
- e. Whirl heated sample tubes in the centrifuge not less than 5 minutes, with the temperature at the end of centrifuging a minimum of 115 EF without water-saturated diluent (125 EF with water-saturated diluent.)
- f. Volume of S&W at the bottom of 100 ml tube shall be read:
 1. estimated to nearest 0.025 if volume < 0.1 ml.
 2. to nearest 0.05 ml range from 0.1 - 1 ml.
 3. to nearest 0.1 ml if above the 1 ml mark.
- g. Multiply the reading obtained by 2 = S&W.

Innage - Height of oil level from tank bottom or fixed datum plate upward to surface of oil in tank.

Outage - Measurement from fixed reference point at top of tank downward to surface of oil in tank.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MEASUREMENT RECORD – OIL By LACT Meter
(Onshore Order No. 4)

Date: _____ Case No.: _____
 Field/Unit: _____ Field Office: _____
 PA/CA: _____ Operator: _____
 County/State: _____ Purchaser: _____
 Facility ID.: _____ Location: ¼¼ _____ S _____ T _____ R _____
 Inspector: _____

PROVER

1. Prover Type _____ Prover Serial No. _____
2. Certified date of last prover calibration: _____ Unique Certification No. _____
3. Runs Made _____ Runs Used _____ Tolerance _____
 Master Meters: Certified operating factor within 0.9900 to 1.0100, and 5 consecutive runs have been matched within a tolerance of 0.0002.
 Pipe or Tank Provers: Certified volume as determined by the water draw method – D.3.a(1)(2)

METER

4. What is the normal Meter Proving Frequency (Per Operator) – (circle one) Monthly Quarterly Other _____
 (Max. 100,000 Bbls. Throughput between provings)
5. Meter Type _____ Serial No. _____
6. Meter Mfr. _____ Size _____
7. Meter replaced: Yes _____ No _____ Reason _____
8. Previous Meter Factor _____ New Meter Factor _____

| | Yes | No | N/A |
|---|-----|----|-----|
| a. At least 6 runs, 5 consecutive runs within a tolerance of 0.0005 between highest and lowest reading – D.3.c.(1) | | | |
| b. Arithmetic average of the 5 consecutive runs used – D.3.c.(2) | | | |
| c. Meter Factor computations use all correction factors – D.3.c.(3) | | | |
| d. Initial meter factor for a new or repaired meter between 0.9950-1.0050 – D.3.c.(4). | | | |
| e. Meter factor deviation does not exceed ± 0.0025 since last proving - D.4.(1) | | | |
| f. Meter factor shall not exceed ± 1% above or below unity - D.4.(2) (outside range from 0.9900 – 1.0100) | | | |
| 9. Does each LACT contain the following Units? – D.1.a.(1)-(10) | | | |
| a. Charging Pump and Motor | | | |
| b. Sampler, composite sampler, container, and mixing system | | | |
| c. Strainer | | | |
| d. Positive Displacement Meter | | | |
| e. Meter Proving Connections | | | |
| f. Meter Backpressure Valve and Check Valve | | | |
| g. Air Eliminator | | | |
| h. Diverter Valve or Shut-off Valve | | | |
| i. Sediment and Water Monitor | | | |
| j. Automatic Temperature/Gravity Compensator <input type="checkbox"/> ATC <input type="checkbox"/> ATG | | | |
| 10. Are all components of LACT unit accessible for inspection? - D.1.b. | | | |
| 11. Are the tests done on the oil samples conducted in accordance with Onshore Order #4 subparts C.5., 6., and ?? –D.1.d. | | | |
| 12. Is there a By-pass around meter? - OO #3, III.D.1. | | | |
| 13. Are all Meter Seals in place? - OO #3, III.B.1. | | | |
| 14. Are all Meter Proving Reports filed with the Authorized Office within 10 working days following the meter proving? – D.5. | | | |

LACT Unit Component Requirements:

- A. **Charging Pump and Motor** - LACT unit shall include an electrically driven pump rated for a discharge pressure and rate that are compatible with rating of the meter used and sized to assure turbulent flow in the LACT main stream piping (major) - D.2.a.
- B. **Sampler**
 - 1. Probe shall extend into center 1/3 of the flow piping in a vertical run, at least 3 pipe diameters downstream of any pipe fitting, always in a horizontal position (major) - D.2.b.
 - 2. Composite Sample Container shall be capable of holding sample under pressure and shall be equipped with a vapor proof top closure and operated to prevent the unnecessary escape of vapor, and the container shall be emptied upon completion of sample withdrawal (major) - D.2.c.
 - 3. Mixing system shall completely blend the sample into a homogeneous mixture before and during the withdrawal of a portion of the sample for testing (major) - D.2.d.
- C. **Strainer** - Shall be constructed so that it may be depressurized, opened, and cleaned, be located upstream of the meter, and be made of corrosion resistant material of a mesh size no later than 1/4 inch (minor) - D.2.e.
- D. **Positive Displacement Meter** - Shall register volumes of oil passing through said meter determined by a system which constantly and mechanically isolated the flowing oil into segments of known volume, and be equipped with a non-resettable totalizer (major) - D.2.f.
- E. **Meter Proving Connections** - Shall be installed downstream from the LACT meter, with the line valve(s) between the inlet and outlet of the prover loop having a double block and bleed design feature to provide for leak testing during proving operations (major) - D.2.g.
- F. **Meter Backpressure Valve and Check Valve** - Shall be installed downstream from the LACT meter (major) - D.2.h.
- G. **Air Eliminator** - Shall be installed and prevent air/gas from entering the meter (minor) - D.2.i.
- H. **Divertor Valve or Shut-off Valve** - Shall be activated by the Sediment and Water Monitor so that the valve moves to divert flow to the clean oil discharge only when it receives a positive signal, or provide a shut-off valve configured to shut off oil delivery upon failure to receive a positive signal from the Sediment and Water Monitor (minor) - D.2.j.
- I. **Sediment and Water Monitor** - An internally plastic coated capacitance probe, no smaller in diameter than the skid piping, and shall be mounted in a vertical pipe located upstream from the diverter valve and the meter (minor) - D.2.k.
- J. **Automatic Temperature/Gravity Compensator** - Shall be sized according to the fluid characteristics being measured (major) - D.2.l.

LACT Unit Seal Requirements:

Sample probe, Sampler volume control, valves on all lines entering/leaving sampler excluding pop-off valve, meter assembly, ATC, ATG, Temperature Recorder, Back Pressure Valve downstream of meter, any Drain Valves, and the Manual Sampling Valves.

Abatement Periods:

Minor: Generally 30 days.

Major: Prior to Sales or removal.

MEASUREMENT RECORD - OIL By Truck Mounted Coriolis Meter

| | |
|---------------------|---------------------|
| DATE: _____ | LEASE NO.: _____ |
| FIELD/UNIT: _____ | FIELD OFFICE: _____ |
| PA/CA: _____ | OPERATOR: _____ |
| COUNTY/STATE: _____ | PURCHASER: _____ |
| BATTERY NO.: _____ | TANK NO.: _____ |
| WELL NO.: _____ | LOCATION: _____ |
| | TECHNICIAN: _____ |

TRUCK MOUNTED CORIOLIS METER

| | | |
|-----------------------------|---------------------------------------|-------------|
| Truck Number: _____ | Meter Mfr.: _____ | Size: _____ |
| Meter Serial No.: _____ | Normal Meter Proving Frequency: _____ | |
| Date of Last Proving: _____ | Meter Factor: _____ | |

| | YES | NO | N/A |
|---|-----|----|-----|
| Are all Meter Proving Reports filed with the Authorized Officer within 10 working days following the meter proving? | | | |
| Does the Meter contain the following Units? | | | |
| Divert Valve | | | |
| Automatic Sampler | | | |
| Temperature well and probe for verifying meter temperature readings during meter proving | | | |
| Automatic Air Eliminator (vented into the tank) with provisions to prevent liquid from passing | | | |
| Block Valves upstream and downstream of meter (for zeroing meter prior to meter proving and/or when meter is repaired) | | | |
| Back Pressure Control Valve on divert line to check the integrity of the divert valve. | | | |
| Prover Loop | | | |
| Heat tracing (only if meter is used to haul high pour point crude oil) | | | |
| Is the Coriolis Meter protected from pressure surges as well as excessive pressures caused by thermal expansion of the fluid when the system is not in operating? | | | |
| Is there a By-Pass around the Meter? | | | |
| Was the test for B.S.&W done in accordance with Onshore Order #4,III,C,7 ? | | | |
| Does oil tank have a pressure-vacuum thief hatch and vent-line valve? | | | |
| Is oil tank/facility in conformance with applicable Site Security Regulations? | | | |
| Copy of run ticket attached? | | | |

Seal Numbers and Oil Measurement data:

| | | |
|---------------------------------|---|---------------|
| Meter Module seal number: _____ | Meter Flange seal numbers: inlet: _____ | outlet: _____ |
| Divert Valve seal number: _____ | Load Line seal numbers: off: _____ | on: _____ |

Gravity: _____ @ _____ °F BS&W: _____ % Avg. Temp.: _____ °F Gross Meter Vol.: _____ bbls.

REMARKS

Gas Meter Volume Error Worksheet

Well: _____ Lease: _____ Date: _____
 (a) Elevation: _____ (feet MSL) (b) Atmospheric Pressure: _____ (psi)

$$\frac{14.73 - 0.496x(a)}{1.000}$$

A. Find "Normal" Operating Range

| Chart Recorder Data: | | | Chart Type: | | | |
|----------------------|-----|----------------|-------------|----------------|---------------|---------------|
| DP Range | (c) | (inches water) | Scale: | _____ Sq. Root | _____ Percent | _____ Direct* |
| LP Range | (d) | (psi) | Scale: | _____ Sq. Root | _____ Percent | _____ Direct* |
| Temp. Range | (e) | (°F) | Scale: | _____ Sq. Root | _____ Percent | _____ Direct* |

| Chart Readings: | Roots | Squared = | Percent | x Range = | Direct |
|--------------------|-------|-----------|---------|---------------|-----------|
| Average DP (red) | | Squared = | | x (c) _____ = | (f) (in) |
| Average LP (blue) | | Squared = | | x (d) _____ = | (g) (psi) |
| Average Temp. (gm) | | Squared = | | x (e) _____ = | (h) (°F) |

Is atmospheric pressure included in LP reading?

_____ Yes ---> Gauge LP = Average LP (g) = _____ - atmos. press. (b) _____ = (j) (psig)
 _____ No ---> Gauge LP = Average LP (g) = _____

B. Get "As Found" Readings at Normal Operating Range

| | Applied | Indicated (As Found) |
|----------------------------------|--|--|
| Diff. Press. (h _w) | (k*) (in.) | (p) (in.) |
| Line Press. (P _f) | (m)* (psig) | (q) (psig) |
| Temperature | (n)* (°F) | (r) (°F) |
| F _{tf} (Table D3) | (s) | (t) |
| Line Press. (P _f) | = (m) _____ + (b) _____ = (u) _____ (psia) | = (q) _____ + (b) _____ = (v) _____ (psia) |
| F _{tf} $\sqrt{h_w P_f}$ | (s) _____ $\sqrt{(k) \times (u)}$ _____ = (w) | (t) _____ $\sqrt{(p) \times (v)}$ _____ = (x) |

*These points should be close to the "normal" values found in part A: (f), (j), and (h), respectively

C. Calculate % Error

$$\text{Error} = \frac{(x) \text{-----} - (w) \text{-----}}{(w) \text{-----}} \times 100 = \text{-----} \%$$

UNITED STATES
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MEASUREMENT RECORD – GAS

IID _____ Date _____
Well/Facility ID _____
Location: ¼ ¼ _____ S _____ T _____ R _____ County & State _____
Operator _____ Purchaser/Processor _____
Inspector _____ Office _____

GENERAL METER INFORMATION (Orifice, or differential meter)

Method of Measurement: _____
Meter Station No.: _____ Specific gravity: _____
Atmospheric Pressure _____ or Elevation _____

PRIMARY METER INFORMATION

Meter Manufacturer: _____ Meter Serial No.: _____
ID of meter run: _____ Device size: _____ Beta ratio: _____
Does the meter have a temperature recorder? Yes _____ No _____
Length of pipe upstream: _____, downstream _____ of device
Required pipe upstream: _____, downstream _____ of device
Figure from AGA No. 3 used to determine pipe length: 4 _____ 5 _____ 6 _____ 7 _____ 8 _____
Does the meter have straightening vanes? Yes _____ No _____
Type of taps: Flange _____ Pipe _____ Static pressure tap: Upstream _____ Downstream _____
Type of plate holder: Flange _____ Simplex _____ Junior _____ Senior _____

SECONDARY ELEMENT INFORMATION

DRY FLOW

Type of Chart: _____
Is DP pen recording in the outer 2/3 of chart? _____
Is SP pen recording in the outer 2/3 of chart? _____

EFM

Self Contained _____ Component _____
Manufacturer _____
Model _____
S/N _____
URL DP _____ URL SP _____

Static range: _____ Differential range: _____ Temp range: _____

Recorder Readings:

DP _____ SP _____ psig/psia T _____ Flowrate _____ scf/hr | mcf/day

RECORDER CALIBRATION INFORMATION

- 19. Calibration frequency: _____ Witnessed? Yes ___ No ___ Reports attached: Calibration report ___ EFC Event log ___
- 20. Was a leak test performed? Yes ___ No ___
- 21. Was the differential pen arc checked? Yes ___ No ___
- 22. Was the differential linearity check at 0, 100% and 1 point within the normal range of the differential recording? Yes ___ No ___
- 23. Was the static linearity check at 0, 100% and 1 point within the normal range of the static recording? Yes ___ No ___
- 24. Was the static time lag check? Yes ___ No ___ N/A ___
- 25. Was meter calibration performed as per the requirements of 00 No. 5? Yes ___ No ___
- 26. Does the calibration report contain all of the information required by 00 No. 5? Yes ___ No ___
- 27. Date of the last meter calibration: _____

Remarks: _____

NOTE: This form is not necessary if all of the gas produced is either used on site or flared/vented.

Sketch of the meter facility and associated piping. (Optional)

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SURFACE INSPECTION FORM

| | | | | | | | |
|---|--------------|------------------|---------------------------|---------------|-------------|--------------|--------|
| Well Name: | | Well #: | | API #: | | Well Status: | |
| Footage: | Aliquot: | Lot/Tract: | Section: | Township/Lat: | Rng/Long: | County: | State: |
| Case: | Facility ID: | | Associated Rights of Way: | | | | |
| Lease: | H2S Date: | H2S Gas Stream: | | H2S Vapors: | H2S Radius: | | |
| Hazard: | | | | | | | |
| SME: | | Operator Name: | | | | | |
| Please be sure to complete for inspection | | | | | | | |
| Inspector: | | Company/SME Rep: | | | | Phone #: | |
| Date: | Type: | Activity: | Office: | Travel: | Insp: | | |
| General Remarks: | | | | | | | |

Follow-up Requirements: (circle any that apply) NONE VERBAL LETTER INC NOTIFY PET
Follow-up Remarks:

CORRECT PROBLEM BY: NEXT INSPECTION: