

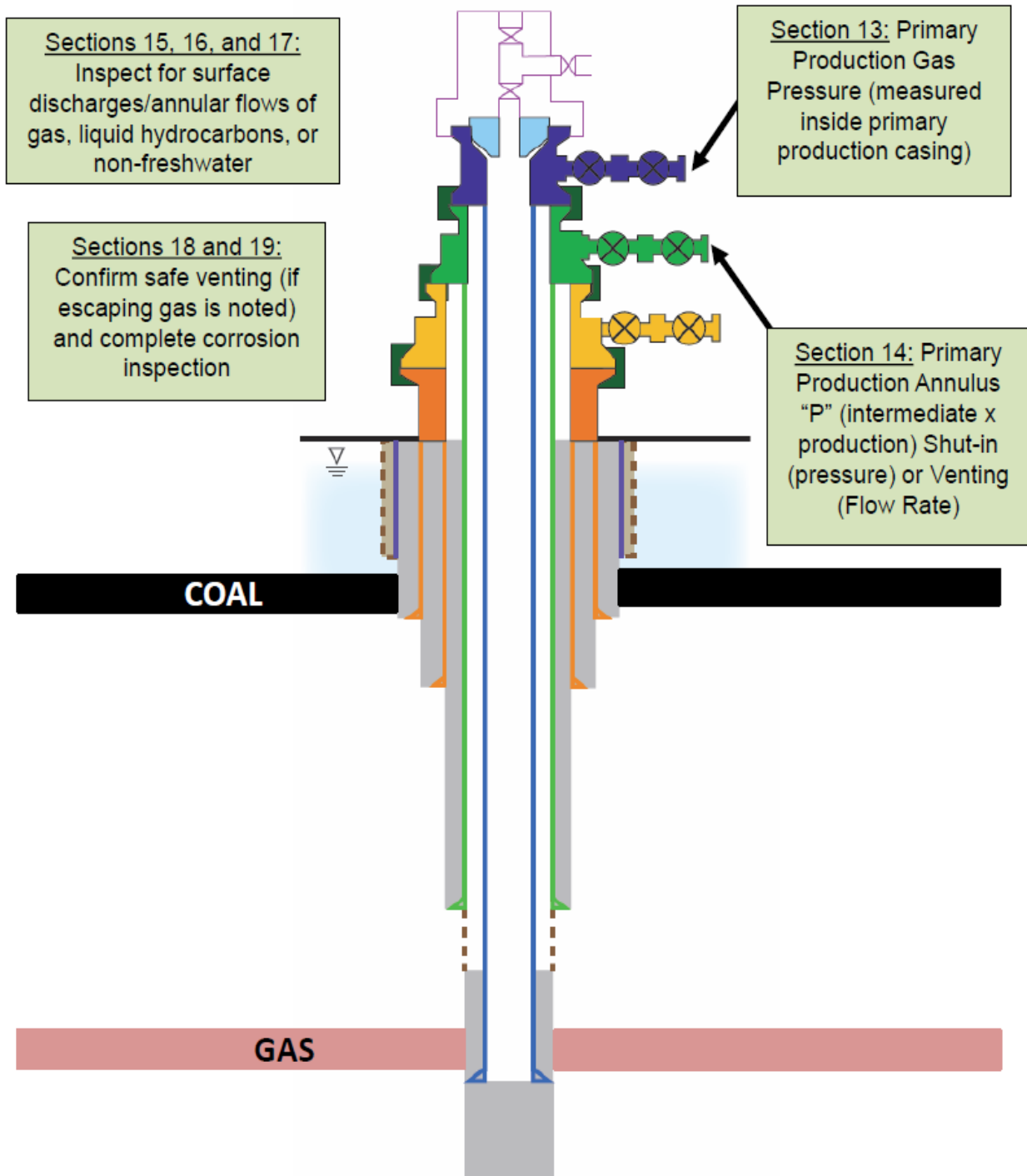
## **MIA Training Example (Form B)**

As an operator, you have “profiled” your well inventory and noted that your company’s wells can be divided into two (2) distinct groups. First, your company operates ten (10) relatively new 4-string gas wells drilled in an area where active underground coal mining is taking place. These wells are cased-hole completions and the production string is anchored with cement below the intermediate casing shoe. The wells are equipped with two freshwater casing strings – one to isolate a shallower coal seam, and a second, deeper string to protect the fresh groundwater interval. The wells also have intermediate and production strings and are being produced through a tubing assembly.

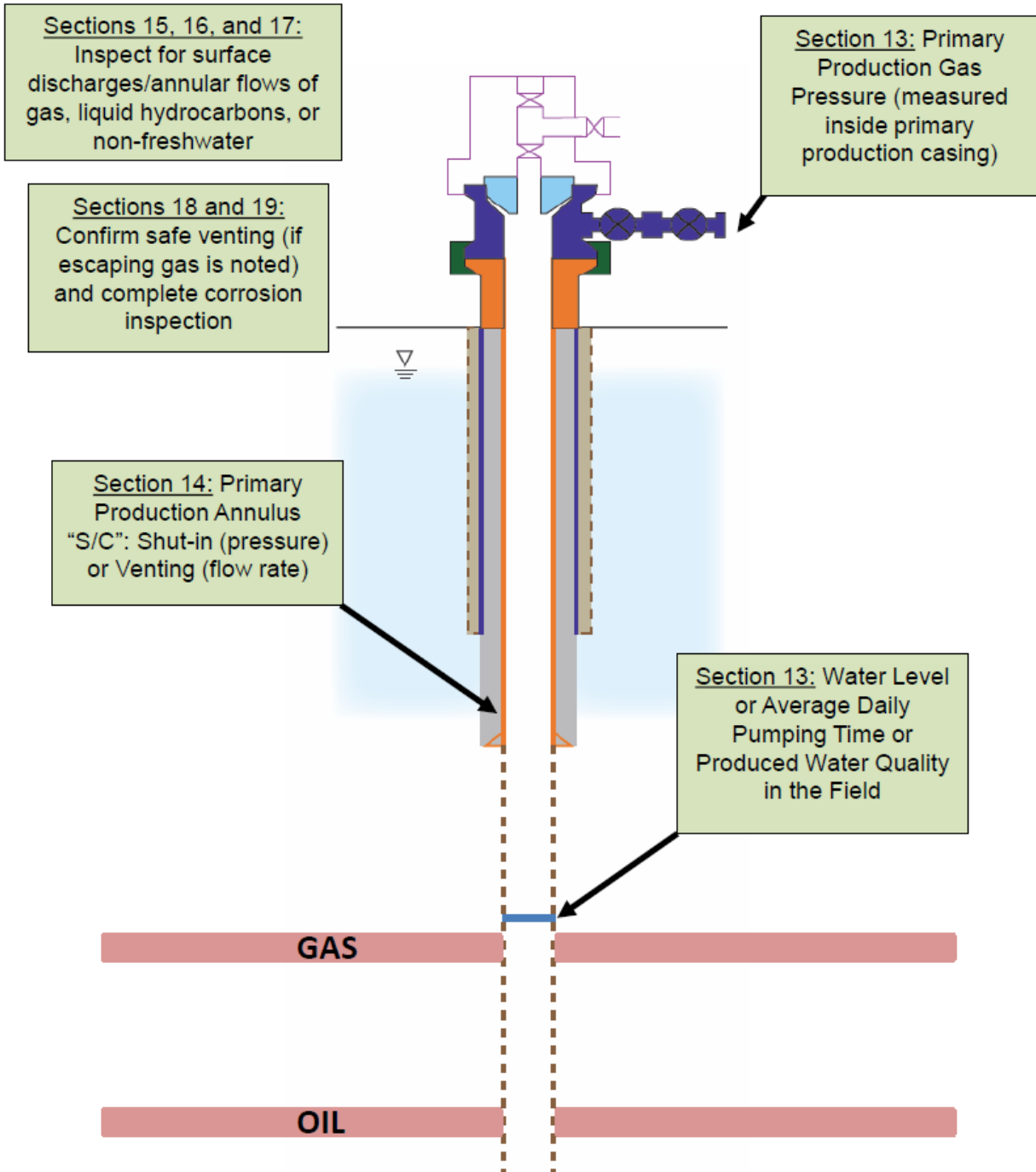
The second well group consists of five (5) combination wells equipped with freshwater casing only. These wells produce oil through a rod and tubing assembly. A shallower gas-bearing zone is produced outside the tubing and inside the surface casing. The water levels in the well casings are readily accessible using an Echo Meter.

To determine what inspection elements are required for these two (2) well types, you will begin by filling out the first ten (10) cells/boxes of Form A for each well design. Using this information, you will next create a template in Form B. In this training example, the first quarter inspections are set up in Form B for all wells in your inventory.

## 4-String Gas Wells in Active Coal Mining Area (Catalano 2H Example): Well Schematic and Inspection Components



## Combination Wells with Freshwater Casing Only (Costello No. 1 Example): Well Schematic and Inspection Components



## MIA Training Example (Form B)

**Step 1:** Enter basic information in FORM A, including the operator, well ID and abridged API.

- Well Operator/Owner (cell/box 1.): **Operator A**
- Abridged API # (cell/box 3.): Fill in an abridged API # from the “profiled” well inventory for a 4-string gas well in a coal mining area. In this case, **063-45879** was used. This API # corresponds to the training example titled "Catalano 2H."

**Step 2:** Enter well construction information under cells/boxes 4-8. This only needs to be done once for the life of the well, unless a change is made to the construction of that well.

- Well Type (cell/box 4a.): **Gas**
- Well Construction Information Not Readily Available (cell/box 4b.): N/A
- Water Level Accessible (cell/box 5.): N/A
- Freshwater Casing Only (cell/box 6.): **N**
- Annular Production (cell/box 7.): **N**
- Annular Production Inside Surface or Coal Casing String (cell/box 8.): N/A

|   |   |                                    |                                    |                                    |                                    |   |                                      |
|---|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---|--------------------------------------|
| 1. Well Operator/Owner  | 4a. Well Type   |                                    | 5. Water Level Accessible (Yes/No) | 6. Freshwater Casing Only (Yes/No) | 7. Annular Production (Yes/No)     | 8. Annular Production Inside Surface or Coal Casing String (Yes/No) |                                      |
|   | <input type="button" value="Oil"/>                            | <input type="button" value="Gas"/> |                                    |                                    |                                    |   | <input type="button" value="Combo"/> |
|   | <input type="button" value="Oil (Freshwater Casing Only)"/>   |                                    |                                    |                                    |                                    |   |                                      |
| Operator A  | <input type="button" value="Combo (Freshwater Casing Only)"/> |                                    | <input type="button" value="Yes"/> | <input type="button" value="Yes"/> | <input type="button" value="Yes"/> | <input type="button" value="Yes"/>                                  |                                      |
|   | 4b. Well Construction Information Not Readily Available       |                                    | <input type="button" value="No"/>  | <input type="button" value="No"/>  | <input type="button" value="No"/>  | <input type="button" value="No"/>                                   |                                      |
| <input type="button" value="Set Up Well for First Inspection"/> |   |                                    |                                    |                                    |                                    |   |                                      |
| 2. Operator Assigned ID   | Gas   |                                    |                                    | N                                  | N                                  |   |                                      |
| 3. Abridged API #   | 063-45879   |                                    |                                    |                                    |                                    |   |                                      |

**Step 3:** Enter the number of casing strings and click “Customize Data Tables.”

- Number of Casings Strings, Excluding Conductor Pipe, Tubing, and Liners (cell/box 9): **4**
- Click (cell/box 9): **Customize Data Tables**
- Enter a date in cell/box 11 to lock in the “profiled” well design. In this case we entered **1/1/13**.

|  |   |                                      |         |
|--|---|--------------------------------------|---------|
| 9. Number of Casing Strings Excluding Conductor Pipe, Tubing, and Liners | 10. Surface or Coal Casing Set Depth (ft) | 11. Quarterly Inspection Information |         |
|  |   | Date                                 | Quarter |
| <input type="button" value="Customize Data Tables"/>                     |   |                                      |         |
| 4  |   | 1/1/13                               | Q1      |
|  |   |                                      | Q2      |
|  |   |                                      | Q3      |
|  |   |                                      | Q4      |

**Step 4:** Again, enter basic information in FORM A, including the well ID and abridged API.

- a. Abridged API # (cell/box 3.): Fill in an abridged API # from the “profiled” well inventory for a combination well with only a freshwater casing. In this case, 063-25257 was used. This API # corresponds to the training example titled "Costello No. 1."

**Step 5:** Enter well construction information under cells/boxes 4-8. This only needs to be done once for the life of the well, unless a change is made to the construction of that well.

- a. Well Type (cell/box 4a.): Combo (Freshwater Casing Only)
- b. Well Construction Information Not Readily Available (cell/box 4b.): N/A
- c. Water Level Accessible (cell/box 5.): Y
- d. Freshwater Casing Only (cell/box 6.): N/A
- e. Annular Production (cell/box 7.): N/A
- f. Annular Production Inside Surface or Coal Casing String (cell/box 8.): N/A

| 1. Well Operator/Owner  | 4a. Well Type   |     |       | 5. Water Level Accessible (Yes/No) | 6. Freshwater Casing Only (Yes/No) | 7. Annular Production (Yes/No) | 8. Annular Production Inside Surface or Coal Casing String (Yes/No) |
|-------------------------|---|-----|-------|------------------------------------|------------------------------------|--------------------------------|---|
|                         | Oil   | Gas | Combo |                                    |                                    |                                |   |
| Operator A              | Oil (Freshwater Casing Only)                            |     |       | Yes                                | Yes                                | Yes                            | Yes   |
|                         | Combo (Freshwater Casing Only)                          |     |       |                                    |                                    |                                |   |
| Operator A              | 4b. Well Construction Information Not Readily Available |     |       | No                                 | No                                 | No                             | No  |
|                         | Set Up Well for First Inspection                        |     |       |                                    |                                    |                                |   |
| 2. Operator Assigned ID | Gas   |     |       |                                    | N                                  | N                              |   |
| 3. Abridged API #       |   |     |       |                                    |                                    |                                |   |
| Operator Assigned ID    | Combo (Freshwater Casing Only)                          |     |       | Y                                  |                                    |                                |   |
| Abridged API #          |   |     |       |                                    |                                    |                                |   |
| Operator Assigned ID    | Combo (Freshwater Casing Only)                          |     |       | Y                                  |                                    |                                |   |
| Abridged API #          |   |     |       |                                    |                                    |                                |   |
| Operator Assigned ID    | Combo (Freshwater Casing Only)                          |     |       | Y                                  |                                    |                                |   |
| Abridged API #          |   |     |       |                                    |                                    |                                |   |

**Step 6:** Enter the number of casing strings and click “Customize Data Tables.”

- a. Number of Casings Strings, Excluding Conductor Pipe, Tubing, and Liners (cell/box 9): 1
- b. Click (cell/box 9): Customize Data Tables

**Step 7:** Enter the Surface or Coal Casing Set Depth in feet (ft), if applicable, and then enter the first quarterly inspection date.

- a. Surface or Coal Casing Set Depth (ft) (cell/box 10.): 530
- b. Q1 Date (cell/box 11.): 1/1/13 to lock in the “profiled” well design.
- c. Form A is now set up for all types of “profiled” wells in Operator A’s inventory.

| 9. Number of Casing Strings Excluding Conductor Pipe, Tubing, and Liners | 10. Surface or Coal Casing Set Depth (ft) | 11. Quarterly Inspection Information |         |
|--|---|--------------------------------------|---------|
|  |   | Date                                 | Quarter |
| 4  |   | 1/1/13                               | Q1      |
|  |   |                                      | Q2      |
|  |   |                                      | Q3      |
|  |   |                                      | Q4      |
| 1  | 530                                       | 1/1/13                               | Q1      |
|  |   |                                      | Q2      |
|  |   |                                      | Q3      |
|  |   |                                      | Q4      |

**Step 8:** Once all distinct well types in the Operator’s “profiled” inventory have been examined in Form A, the Operator may begin to set up Form B. The Operator should gray out unnecessary cells that have been hatched-out in Form A for each “profiled” well type (in this case the 4-string gas well in a coal area or the Catalano 2H type well).

**Note:** the image below only represents a portion of the Form B setup for the “profiled” well type.

| 1. Well Operator/Owner<br>Operator A |              | Create Data Summary Sheet for Annual Report |                               | 13. Wellhead Pressure or Water Level §78.88(b)(1) |   |   |            |                     |   |   |
|--------------------------------------|--------------|---|-------------------------------|---|---|---|------------|---------------------|---|---|
| Issued 1/28/2014                     |              |   |                               |   |   |   |            |                     |   |   |
| 3. Abridged API #                    | 4. Well Type | 10. Surface or Coal Casing Set Depth (ft)   | 11. Quarterly Inspection Date | a. Primary Production Gas Pressure (psig)         | b. Produced Annular Gas Pressure (psig) | c. Shoe Test Pressure (psig) (OPTIONAL) | d. Annulus | e. Water Level (ft) | f. Average Daily Pumping Time (hours) or Average Daily Pumping Volume (bbls) (If no produced water, indicate "NPW") | g. Produced Water Quality - Specific Conductance (µS or µmhos/cm) |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |
|                                      | Gas          |   |                               |   |   |   |            |                     |   |   |

**Step 9:** Once the operator has finished formatting Form B for the first well type in the “profiled” inventory, the operator should repeat Step 8 for any subsequent “profiled” well types, in this case refer to the freshwater casing only combo wells (Costello No. 1) to understand which cells are required for these types of wells.

**Note:** the image below only represents a portion of the Form B setup for the “profiled” well type.

| 1. Well Operator/Owner<br>Operator A |              | Create Data Summary Sheet for Annual Report |                               | 13. Wellhead Pressure or Water Level §78.88(b)(1) |   |   |            |                     |   |   |
|--------------------------------------|--------------|---|-------------------------------|---|---|---|------------|---------------------|---|---|
| Issued 1/28/2014                     |              |   |                               |   |   |   |            |                     |   |   |
| 3. Abridged API #                    | 4. Well Type | 10. Surface or Coal Casing Set Depth (ft)   | 11. Quarterly Inspection Date | a. Primary Production Gas Pressure (psig)         | b. Produced Annular Gas Pressure (psig) | c. Shoe Test Pressure (psig) (OPTIONAL) | d. Annulus | e. Water Level (ft) | f. Average Daily Pumping Time (hours) or Average Daily Pumping Volume (bbls) (If no produced water, indicate "NPW") | g. Produced Water Quality - Specific Conductance (µS or µmhos/cm) |
|                                      | Combo        |   |                               |   |   |   |            |                     |   |   |
|                                      | Combo        |   |                               |   |   |   |            |                     |   |   |
|                                      | Combo        |   |                               |   |   |   |            |                     |   |   |
|                                      | Combo        |   |                               |   |   |   |            |                     |   |   |
|                                      | Combo        |   |                               |   |   |   |            |                     |   |   |

It should be noted that operators may refer to other well types discussed in the webinar series to assist them in populating Form B.

**Final:** This concludes the Form B example.