

SOP-A13

Spill Prevention, Containment, and Control Measures for Monitoring Well Sampling Standard Operating Procedures for PG&E Topock Program

This standard operating procedure (SOP) addresses the procedures and equipment to be used for spill prevention, containment, and control associated with groundwater sampling activities at the Topock site. This SOP applies to containment and control of potential spills of purge and equipment decontamination water generated during the sampling of monitoring wells.

REQUIRED DOCUMENTS

- 1) Applicable project work plan or monitoring plan. Refer to Topock Program Sampling, Analysis, and Field Procedures Manual (Field Procedures Manual), as required.
- 2) Event-specific sampling and analysis plan (SAP).
- 3) Topock Program Health and Safety Plan (HSP).
- 4) Emergency Notification Binder. Note: This binder will be carried by field crews.
- 5) Blank sampling logs and field notebook.

PREPARATION & SETUP

- 1) Prepare and load required spill containment equipment for use during monitoring well purging.
- 2) Review this SOP and the Emergency Notification Binder.

EQUIPMENT LIST

- Small (4' by 6' by 1' deep) "Throw N' Go" spill containment basin for ATV trailer-mounted purge water tank, when sampling on floodplain. Containment capacity is 154 gallons on level ground.
- Large (8' by 23' by 1' deep) "Throw N' Go" spill containment basin for truck bed-mounted purge water tank. Containment capacity is 1,274 gallons on level ground.
- Hydrophilic sorbent material (absorbent pads or mats).
- Plastic tubs and/or pans (minimum capacity of 3 gallons).
- Plastic or visqueen sheeting.
- Hand-operated or other water pump for transferring fluids.
- DOT-approved 55-gallon steel drum(s).
- Shovel and/or other hand tools.
- Funnel for liquid transfer.
- Plastic bags for storage and disposal of used sorbent material.

CONTAINMENT SCENARIO 1: SAMPLING ON FLOODPLAIN

For monitoring well sampling on the floodplain, purge water is placed in a 200-gallon ATV trailer-mounted tank. The trailer-mounted tank is situated adjacent to the monitoring well to be sampled. Purge water is pumped directly into the tank via transfer hose at approximately 3 gallons per minute (gpm). Purge water from the Horiba flow cell is contained in a 5-gallon bucket and is manually transferred into the purge water tank.

Potential Spill Scenarios

- Overfill of ATV trailer-mounted purge water tank
- Spills at time of hose disconnection from tank or during manual transfer into tank from bucket
- Disrupted bucket of purge water

Required Equipment

- Small (4' by 6') "Throw N' Go" spill containment basin for ATV trailer-mounted purge water tank
- Sorbent material
- Hand-operated or other water pump for transferring fluids
- Funnel for liquid transfer

Procedures

- 1) Deploy the ATV trailer-sized "Throw N' Go" containment basin. Situate ATV trailer with purge water tank inside the containment basin, as close to well head as possible. Secure the transfer hose in the tank opening.
- 2) Evaluate the remaining capacity of the tank prior to initiating well purging to ensure that there is sufficient capacity to hold the amount of purge water anticipated to be generated during purging of the well.
- 3) During purging, field staff will remain at the discharge end of the hose and will monitor transfer of water into the purge water tank. If tank approaches being full, discontinue purging.
- 4) Any buckets of purge water must be placed inside the footprint of the containment device prior to transfer into the tank.
- 5) At completion of purging, when disconnecting the transfer hose from the tank opening, perform hose disconnection within the containment basin to ensure that any drips or spills of purge water are contained within the basin. If any purge water is present in the containment basin, transfer the water into the purge water tank.
- 6) Secure purge water tank openings and ensure that the tank is well secured to the ATV trailer. Remobilize to the next well to be sampled.
- 7) Repeat the preceding steps at the next well to be sampled.
- 8) When the ATV trailer-mounted purge water tank is full, continue with procedures under Containment Scenario 4.

CONTAINMENT SCENARIO 2: SAMPLING IN LOW-IMPACT AREA OF FLOODPLAIN

For sampling of specific wells in the area of the floodplain that has been designated for low-impact field procedures (the following well clusters: MW-27, MW-30, MW-34, MW-36, and MW-42), purge water is placed in the ATV trailer-mounted tank as per Containment Scenario 1. However, to minimize impact, the trailer-mounted tank must remain in the vicinity of MW-39 and purge water from these wells must be pumped to the trailer. Therefore, purge water is transferred by hose from the monitoring well being sampled to the purge water tank at a maximum purge rate of 2 gpm. Up to 6 segments of hose may be required to transfer purge water from the well head to the purge water tank. Note that the Containment Scenario 2 procedures are used in addition to those in Containment Scenario 1.

Potential Spill Scenarios

- Leakage from transfer hose connection points

Required Equipment

- Small (4' by 6') "Throw N' Go" spill containment basin for ATV trailer-mounted purge water tank
- Plastic tub/pan (minimum capacity of 3 gallons)
- Sorbent material
- Plastic sheeting/visqueen
- Hand-operated or other water pump for transferring fluids

Procedures

- 1) Deploy the ATV trailer-sized "Throw N' Go" containment basin at the approved staging area (adjacent to MW-39). Implement procedures under Scenario 1 that apply to the purge water tank.
- 2) Along the route of the transfer hose, place one plastic tub/pan beneath each hose connection (up to 5 hose connections total along the transfer hose route). Secure the hose at each connection point so that the hose connection will not shift away from the containment tub/pan. Place plastic sheeting/visqueen under the plastic tub/pan. DO NOT dig into the ground or otherwise disturb the ground when placing the sheeting and plastic tub.
- 3) During purging, patrol the transfer hose route to inspect connections and ensure that no leak conditions develop. Patrol of the transfer hose route will occur only to the extent it can be safely performed with respect to heat stress concerns. Correct any leak conditions observed.
- 4) At the completion of well purging, ensure that all water is out of hose before disconnecting hose segments. When disconnecting hose segments, ensure that the disconnection occurs over plastic tub/pan. If any purge water is present in the tub/pan, transfer the water into the ATV trailer-mounted purge water tank.
- 5) When the ATV trailer-mounted poly tank is full, continue with procedures under Containment Scenario 4.

CONTAINMENT SCENARIO 3: SAMPLING IN NON-FLOODPLAIN AREA

For monitoring well sampling in non-floodplain areas of the site, wells can be accessed by truck, and purge water is placed in a 400-gallon truck bed-mounted tank. Purge water is pumped directly into this tank via transfer hose at rates up to 10 gpm. Purge water from the Horiba flow cell is contained in a 5-gallon bucket and is manually transferred into the purge water tank.

Potential Spill Scenarios

- Overfill of truck bed-mounted purge water tank
- Spills at time of hose disconnection from tank or during manual transfer into tank from bucket
- Disrupted bucket of purge water

Required Equipment

- Large (8' by 23') "Throw N' Go" spill containment basin for truck bed-mounted purge water tank
- Sorbent material
- Hand-operated or other water pump for transferring fluids
- Funnel for liquid transfer

Procedures

- 1) Deploy the truck-sized "Throw N' Go" containment basin. Situate truck with purge water tank inside the containment basin, as close to well head as possible. Secure transfer hose in tank opening.
- 2) Evaluate the remaining capacity of the tank prior to initiating well purging to ensure that there is sufficient capacity to hold the amount of purge water anticipated to be generated during purging of the well.
- 3) During purging, field staff will remain at the discharge end of the hose and will monitor transfer of water into the purge water tank. If tank approaches being full, discontinue purging.
- 4) Any buckets of purge water must be placed inside the footprint of the containment device prior to transfer into the tank.
- 5) At completion of purging, when disconnecting the transfer hose from the tank opening, perform hose disconnection within the containment basin to ensure that any drips or spills of purge water are contained within the basin. If any purge water is present in the containment basin, transfer the water into the purge water tank.
- 6) Secure purge water tank openings and ensure that the tank is well secured to the truck bed. Remobilize to the next well to be sampled.
- 7) Repeat the preceding steps at the next well to be sampled.

- 8) When the truck-mounted purge water tank is full, continue with procedures under Containment Scenario 5.

CONTAINMENT SCENARIO 4: TRANSFER OF PURGE WATER FROM ATV TRAILER-MOUNTED TANK TO TRUCK BED-MOUNTED TANK

When the ATV trailer-mounted purge water tank requires emptying to a truck bed-mounted tank, the following procedures will be used. Purge water is transferred using a sump pump and transfer hose at rates up to 10 gpm.

Potential Spill Scenarios

- Overfill of truck bed-mounted poly tank
- Pump or transfer hose leakage during pumping into tank or at time of hose disconnection

Required Equipment

- Large (8' by 23') "Throw N' Go" spill containment basin for truck bed-mounted purge water tank
- Small (4' by 6') "Throw N' Go" spill containment basin for ATV trailer-mounted purge water tank
- Sorbent material
- Hand-operated or other water pump for transferring fluids

Procedures

- 1) Ensure that the truck with truck bed-mounted purge water tank is situated within its containment basin.
- 2) Deploy the ATV trailer-sized containment device. Situate ATV trailer with purge water tank inside the containment basin, as close to the truck as possible.
- 3) Evaluate the remaining capacity of the truck bed-mounted tank prior to initiating transfer from the ATV trailer-mounted tank, to ensure that there is sufficient capacity to hold the amount of purge water to be transferred.
- 4) Using sump pump and transfer hose, pump water from the ATV trailer-mounted tank to the truck bed-mounted tank. Field staff will be present during the entire transfer to monitor the water level in the receiving tank and to ensure no leakage or spills occur. If the tank approaches being full, discontinue transfer operations.
- 5) At the completion of transfer operations, when disconnecting the transfer hose from the receiving tank opening, perform hose disconnection within the containment basin to ensure that any drips or spills of purge water are contained within the basin. If any purge water is present in the containment basin, transfer the water into the purge water tank.
- 6) Secure purge water tank openings and ensure that the tank is well secured to the truck bed.
- 7) When the truck-mounted purge water tank is full, continue with procedures under Containment Scenario 5.

CONTAINMENT SCENARIO 5: TRANSFER OF PURGE WATER FROM TRUCK BED-MOUNTED TANK TO FINAL STORAGE LOCATION

When the truck bed-mounted purge water tank requires emptying, the following procedures will be used. Purge water is transferred into a 5,500-gallon storage tank at the PG&E Topock Compressor Station, at rates up to 20 gpm. The 5,500-gallon tank is located within a permanent containment structure.

Potential Spill Scenarios

- Overfill of tank at final storage location
- Pump or transfer hose leakage during pumping into tank or at time of hose disconnection.

Required Equipment

- Large (8' by 23') "Throw N' Go" spill containment basin for truck bed-mounted purge water tank
- Sorbent material
- Hand-operated or other water pump for transferring fluids

Procedures

- 1) Ensure that the truck with bed-mounted tank is situated within its containment basin.
- 2) Evaluate the remaining capacity of the receiving tank prior to initiating transfer from the truck-mounted tank, to ensure that there is sufficient capacity to hold the amount of purge water to be transferred.
- 3) Using pump and transfer hose, pump water from the truck-mounted tank to the receiving tank. Field staff will be present during the entire transfer to monitor the water level in the receiving tank and to ensure no leakage or spills occur. If the receiving tank approaches being full, discontinue transfer operations.
- 4) At the completion of transfer operations, when disconnecting the transfer hose from the receiving tank opening, perform hose disconnection within the containment basin to ensure that any drips or spills of purge water are contained within the basin. If any purge water is present in the containment basin, transfer the water into the purge water tank.
- 5) Secure tank openings on the receiving tank.

SPILL RESPONSE ACTIONS

In the event purge water is spilled outside of containment basins, the field team will take the following actions.

Required Equipment

- Sorbent material
- Plastic sheeting/visqueen
- Hand-operated or other water pump for transferring fluids
- DOT-approved 55-gallon steel drum(s)
- Shovel and/or other hand tools
- Plastic bags for storage and disposal of used sorbent material

Procedures

- 1) To the extent possible, use sorbent material and plastic sheeting/visqueen to contain the spilled purge water.
- 2) With the exception of the low-impact area of the floodplain, dig a small pit and line with visqueen to serve as a containment area for collection of spilled purge water. Use of this technique will be limited to only those areas where water does not immediately percolate into the ground surface. DO NOT dig into the ground or otherwise disturb the ground surface in the low-impact area of the floodplain.
- 3) Transfer any contained purge water into the purge water tank.
- 4) Manually dig up any saturated soil and place in 55-gallon drum(s). DO NOT dig into the ground or otherwise disturb the ground surface in the low-impact area of the floodplain.
- 5) Dispose of containerized soil and used sorbent material in accordance with SOP-B6, *Disposal of Waste Fluids and Solids (IDW)*.
- 6) Perform notifications as required in the Emergency Notification Binder. Complete the Notification Documentation Form provided in the Binder.