



COMBINED REPORT INSTRUCTIONS

(REVISED 10/15/14)

Introduction

The Division of Oil and Public Safety (OPS) has designed the Combined Report format to be compatible with Excel 2007 (or later versions) for the following reports.

- Site Characterization Report (SCR)
- Monitoring and Remediation Report (MRR)
- No Further Action Request (NFAR), in combination with SCR or MRR data

The report format is designed to record comprehensive site information in a cumulative fashion to allow the preparer to efficiently add site information as the project progresses; as such, data and information should not be removed from the report except for items being replaced with updated information (e.g. narratives, groundwater sample/flow maps, lab reports, etc.). The intent is that all data pertinent to NFAR review is readily available. All collected environmental and remediation data must be included in this report in the appropriate tabs, or in the Other Documentation tab. The last report submitted should be opened and modified by the preparer for the next submittal period.

Please refer to our [website](#) for report naming conventions and submittal requirements. A brief description of the information to be included and how to enter the information into the worksheets is provided below.

When the Excel file is opened, the Cover sheet will appear first.

1. Select the "Enable Macros" button, if it appears.
2. Select the title of the report you wish to prepare from the drop-down menu.
3. Enter the Facility ID, Event ID, reporting period, year and report submittal dates. The Event ID and date information entries from the Cover sheet are automatically carried through to all other worksheets.
4. Enter the SCR and original CAP submittal dates.

You may receive a "run time error" notice the first time you open the downloaded file. This is a security function of Excel. Once the template has been saved to your hard drive, the error should not appear when the file is reopened. Please contact OPS if it does.

The tabs are color-coded as follows to aid in locating grouped information.

- **Blue tabs** represent general [site and exposure information](#).
- **Green tabs** represent [environmental data tables](#).
- **Yellow tabs** represent [remediation data tables](#).
- **Orange tabs** represent [figures and diagrams](#).
- **Red tabs** represent [additional supporting information](#).

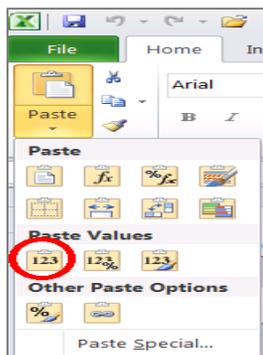
If you are submitting a semi-annual or annual report incorporating several monitoring events, each laboratory report and the pertinent maps for each event occurring within the reporting period must be included in the cumulative report.

General Table Instructions

It is important that the existing format and/or formulas included in cells are not altered. Excel sheets with no data must not be deleted from the workbook or macros embedded in the file may no longer work properly. Further, tabs must not be renamed, added or moved.

When copying data between tabs or transferring site data from previous report formats, the following procedures must be followed.

- Highlight the cells you wish to copy and select “Copy”.
- Select “Paste Values” in the desired cells to paste, and click okay.
- Use the “Paste Values” option shown below.
 - If “Paste Values” is not selected, residual formatting will be copied also, creating formatting errors. Do not use “drag/drop” to copy data.



Many of the cells requiring data entry include drop-down lists to allow for consistent responses. All cells that require data or information must be populated. Cells that perform calculations or summations are shaded gray and should not be accessed. Additionally, headers and legends are locked and should not be accessed.

Several tables have function buttons located in the upper left corner of the table to allow for addition, deletion, sorting and compaction of rows. The “5 New Rows” button will add new rows to the table with preformatted cells included. The “Delete” button deletes data from rows but does not delete the row. The “Sort” button will sort data by either sample location or date. The “Compact” button will delete rows containing no data and allow graph axes to calculate appropriate ranges.

Laboratory data cells have been formatted to automatically present analytical results which exceed their respective Tier 1 RBSLs in bold face type. If a chemical of concern (COC) is not detected at the instrument detection limit, the detection limit may be entered preceded by a less-than symbol (<).

General Figure Information

Insert a PDF file of each figure/map in the appropriate sheet as directed on the sheet. Label icons with a descriptive caption and date.

All maps should include these five items.

- Title
- Legend
- Bar scale
- A north arrow, preferably oriented with north at the top of the page
- Date of data collection

Include these items on each site figure.

- Confirmed or suspected source release points
- Current and former tank system locations, including dispensers and piping runs
- Structures on the site and adjacent property, with property numbers shown

All applicable figures must be submitted, carried over and updated in all subsequent reports.

Site Information

Narrative

OPS requires that a narrative presenting the conceptual site model (CSM) be included in an effort to improve project understanding. Overall, the CSM narrative should summarize all existing site information, environmental data, and corrective action efforts as they lead toward exposure pathway elimination and, ultimately, site closure. While a specific format will not be required, OPS requires the following items to be included in the narrative.

Introduction

Briefly summarize contaminant release information. Identify what was released, when and how the release was discovered, and where the known sources are. Describe any repairs to the portion of the petroleum fuel system from which the release occurred.

Summary of Contaminants

Summarize soil contamination characteristics. Describe known and/or potential vadose zone impacts, their volumetric extents, and their associated sources. Identify vadose zone, smear zone, and bedrock lithologies and their potential effects on contaminant distribution. Identify potential impacts to receptors, if any.

Summarize groundwater contamination characteristics. Identify the contaminant extents and if the plume characteristics fit into the CSM or if additional assessment is required. Identify saturated lithology and its potential effects on contaminant distribution. Identify potential impacts to receptors, if any.

Provide a discussion on vapor intrusion exposure pathways and identify known or potential points of exposure, if any.

Summary of Previous Remedial Actions and the Approved Corrective Action Plan

Summarize previous pilot testing and remedial actions. Explain where previous remedial actions occurred, their operational period, and the apparent reasons for the effectiveness or lack thereof. Introduce the current remedial action plan and timeframe of the approved CAP.

Summary of Reporting Period Monitoring and Assessment Activities

Identify which monitoring points were sampled and when, any deviations from the approved monitoring plan, and those wells/vapor points that are significantly contaminated and their contaminant trends.

Summarize assessment work completed during the reporting period. If soil sampling was conducted during the reporting period, provide the reason for the sampling along with a description of the sample locations and results.

Summary of Reporting Period Corrective Action Activities

Summarize recent remedial activities and results. Identify if the corrective action (system) is operating as designed and discuss downtime or other obstacles toward implementation. Discuss primary and secondary trends, and if the cleanup is on schedule to achieve closure.

Conclusion (Synthesis/Update of CSM)

Describe how site data support or don't support the CSM. Describe whether the corrective action appears to be effectively reducing the contaminant concentrations in all affected media and provide an update to the CSM. Identify if the current CAP is on track to meet the projected closure date or if additional actions need to be taken to bring the site to closure. Propose additional work to address anomalies or data gaps the CSM doesn't explain.

The narrative should be inserted in the Excel worksheet as a PDF document as described in the Figures section below.

Site Information

Current and historic site information must be entered in all applicable fields. Insert Latitude/Longitude for the existing or former facility.

Exposure Pathways and Receptors

This tab must be completed in full.

Water Well and Surface Water Data

Enter water well and surface water data for receptors within 2,500 feet of the facility. Do not include monitoring wells.

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Environmental Data Tables

Contact OPS for guidance if additional table rows or columns, or duplicate tables (e.g. for two mechanical systems), are needed.

Groundwater Laboratory and Elevation Table

The well ID naming format must be consistent (use hyphens in every well ID or no hyphens at all; using 'MW-01' instead of 'MW-1' will allow proper numerical sorting). Groundwater analytical results must be entered in the appropriate cells. If the groundwater elevation measurement date is different than the sampling date, the sampling date should be used. Enter the well status if not sampled.

Secondary Groundwater Parameters Table

Dissolved oxygen, temperature, pH, specific conductance and oxygen reduction potential (ORP) must be collected from every sample location and recorded in this table. Include data for any other identified parameter if that information was collected. Enter the parameter name and units in the "Other*" columns if appropriate. It may be useful to map inorganic parameters, and maps should be included in the Groundwater Sample Figure tab.

Groundwater Trends Table and Graphs

Choose three wells within the benzene plume (one near the source, one impacted well near the leading edge and one midway between these two wells) to track benzene concentration and product thickness relationships relative to groundwater elevation. Also note that operation of remedial systems or injection events should be noted below the trends table to allow easy correlation of remedial action to changes in well concentrations.

Soil Analytical Results Table

Analytical data from soil sampling must be entered in appropriate cells. All soil information gathered as a part of the release event must be included on this table and must also be represented on a figure. A separate table at the bottom allows for recording other pertinent soil data (e.g. Foc, grain size and TCLP-lead) if available.

Soil PAH Analytical Table

Analytical data from soil sampling must be entered in appropriate cells as applicable.

Soil Vapor Table

Sampling measurements and analytical data for soil vapor sampling must be entered in the appropriate cells as applicable.

Indoor Air Table

Sampling measurements and analytical data from indoor air sampling must be entered in the appropriate cells as applicable. Indoor air concentrations should be compared to EPA Screening Levels.

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Remediation Tables

Remediation Target Goals

This table is intended to record remedial goals determined from modeling, and to prompt the preparer to consider remedial progress as the project continues. At a minimum, Site Specific Target Levels must be calculated for onsite source area wells where dissolved phase impacts are identified above the Tier 1 Risk Based Screening Level (RBSL) and for soil impacts above the Tier 1 RBSL where dissolved phase impacts are less than the Tier 1 RBSL. Additional SSTLs may need to be calculated upon discussion with OPS. Complete the applicable sections of the table and update the Closure Goals Located at the bottom of the worksheet. Supporting models must be included in the "Model Input & Results" tab.

Excavation Detail Table

Enter excavation details. Make sure information correlates with the [excavation figure and photographs](#).

Free Product Abatement and Total Fluid Recovery Table

Information from free-product abatement and total fluid recovery (TFR) activities must be entered as applicable.

SVE-AS Table and Graphs

Insert operational data from air sparge (AS) and/or soil vapor extraction (SVE) systems in this table. SVE emissions data is automatically graphed based on the information entered in the table.

DPE-P&T Table and Graphs

Insert operational data from dual or multi-phase extraction processes, or pump and treat operations, into this table. Mass removal data is automatically graphed based on the information entered in the table. Note system start and stop dates in the "Groundwater Trends Table" tab.

Chemical Oxidation and Bio-Enhancement Table

Enter data as it relates to oxygen enhancement systems (e.g., oxygen injection system, ozone generation system) or in-situ chemical oxidation or bio-enhancement/nutrient applications. Field injection forms or subcontractor summary reports should be included in either the "Pilot Test Results" or "Other Documents" tab to provide more detail on the injection events. Note injection dates in the "Groundwater Trends Table" tab.

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Figures and Diagrams

POE Location Figure

This figure should identify and highlight all potential points of exposure in the immediate vicinity of the site (e.g., property boundaries, surficial soils, subsurface utilities, adjacent structures, groundwater wells and surface water features/sensitive environments, if applicable). All subsurface utilities identified during public or private locates must be included.

Water Well and Surface Water Figure

This figure should be based on a 7.5-minute topographic map to locate the site in relation to its surroundings. All groundwater wells and surface water features within 2,500 feet of the site should be clearly identified and correlate to the 'Water Well and Surface Water Table'.

Groundwater Sample Figure

Include separate maps for each monitoring event. All groundwater monitoring points (current and former) must be included on this figure. Include groundwater quality data in a text box for each location. Benzene and MTBE concentrations must be contoured in different colors or line types on the figure(s) to at least indicate the extent greater than RBSLs. Indicate wells that have free product with "FP" and the measured product thickness. When inorganic or field parameters are mapped, please provide these on a separate map from BTEX/MTBE data.

Groundwater Elevation Figure

Include separate maps for each monitoring event. Place groundwater elevations with corresponding wells. Illustrate the water table by contouring the most recent groundwater elevations. The groundwater flow directions must be indicated by arrows.

Soil Sample Figure

All soil sample locations and the release location(s) must be included on this figure. If more than one soil figure is provided, make sure the relationship between figures is apparent. A text box with date, sample depth and laboratory analytical results should be included with each location.

Excavation Detail Figure

Insert an excavation figure detailing the horizontal and vertical extents of all contaminant mass removal excavation activities. Soil sample locations can be included but must be provided on the Soil Sample Figure. Excavation photos with captions/dates should be inserted as PDFs in this tab.

Cross Section Diagrams

Cross-sections are a key component of the CSM for the site. At a minimum, cross sectional diagrams along the major and minor axis of the contaminant bearing area must be included. Include a map that shows the x-section locations. These diagrams must include the following items.

- Subsurface lithology (inferred between points)
- All wells and soil borings as appropriate along the transect
- Excavated zones and backfill type
- High/low seasonal groundwater range (from historical well data)
- PID readings (from drilling logs or excavation activities) and soil sample results
- Estimated (shaded) zones of contamination based on visual observation, PID readings or laboratory analysis
- Pertinent surface features (structures, surface cover, etc.)
- Subsurface utilities
- Vertical and horizontal bar scales

Fence diagrams and maps of sediment thickness or bedrock surface topography may also be useful and should be included here, if developed.

Soil Vapor Sample Figure

Include the most recent soil vapor sample data. A text box with date, sample depth and laboratory analytical results should be included with each location.

Remediation Figures

Figures that depict as-built mechanical systems, in-situ treatment applications, and pilot test applications must be inserted here. Examples are listed below.

- Injection point locations and treatment area for in-situ treatment applications
- System/trench/well layout in relation to the site and impacted areas
- Trench and piping cross-sections
- Equipment positioning in the shed or outside (equipment layout)
- Process and instrumentation diagrams (P&ID) to illustrate how the system works (process flow) and monitoring equipment / sampling locations
- Photographs of the remedial system during and after installation

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Additional Supporting Documentation

Laboratory Reports

Provide a PDF file of the laboratory report with a chain-of-custody form for all soil, soil vapor, and groundwater samples analyzed during the reporting period.

Boring (and Well) Logs

Include all boring and well construction logs related to the release event. Review the OPS Guidance Document for requirements. Include PDF copies of Notices of Intent and well permits filed with the State Engineer's office.

Photographs

Photographs of excavation activities, and remedial systems and their installation activities should be placed into their appropriate tabs (see above). This tab is for any other photographs of site conditions (structures, access limitations, topography, etc.) or other pertinent features that impact site work or may be of interest during technical review by OPS.

Model Input and Results

Insert PDF copies of the following items.

- Fate and transport modeling input parameters
- Fate and transport modeling results, including the graphical output
- MNA tool calculations
- Slug test (rising head) field data
- Interpretative graphs of slug test data (recovery curves)

Pilot Test Results

Insert PDF copies of pilot test field sheets and resultant design graphs/calculations here. Maps should be inserted into the "Remediation Figures" tab.

Other Supporting Documentation

Provide additional documentation/supplemental information (e.g. copies of field notes, access agreements/requests, permit applications/approvals, manifests, historic summarized groundwater data tables, additional tables and graphs, and EFR field sheets) in PDF, Word or Excel format to support data in this report.

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