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COMBINED REPORT INSTRUCTIONS

(REVISED 7/2013)

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:

- Initial Site Risk Assessment (ISRA)
- Site Characterization Report (SCR)
- Monitoring and Remediation Report (MRR)
- No Further Action Request (NFAR), in combination with ISRA 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.). 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. Selecting the name of the report will automatically reveal the appropriate worksheets.
3. Enter the Facility ID, Event ID, reporting period, year and requested report submittal dates. The Event ID and date information entries from the Cover sheet are automatically carried through to all other worksheets.

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 to aid in locating grouped information.

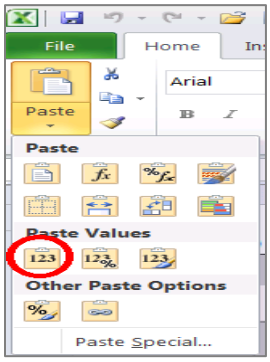
- Blue tabs represent general site and exposure information.
- Green tabs represent environmental data tables.
- Yellow tabs represent remediation data tables.
- Orange tabs represent figures and diagrams.
- Red tabs represent additional supporting information.

General Table Instructions

It is important that the existing format and/or formulas included in cells are not altered, moved or copied. 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 for the same reason.

When transferring site data from previous report formats, the following procedures must be followed:

- Highlight cells to copy and select copy.
- Select “paste values” in the desired cells to paste, and click okay.
- Use the paste option shown in the red circle.



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 with no data.

Laboratory data cells have been formatted to automatically present analytical results which exceed their respective Tier 1 RBSLs in bold face type. If an analyte concentration is not detected at the instrument detection limit, the detection limit must 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 addresses

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 has prepared the following guideline to serve as an example of what information the narrative should contain.

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. The Site Classification Checklist can be found in the Owner/Operator Guidance Document.

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

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 data was collected. Enter the parameter name and units in the Other* columns if appropriate.

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.

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.

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.

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.

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 the 'Other Documents' tab to provide more detail on the injection events.

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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

All groundwater monitoring points (current and former) must be included on this figure. Include the most recent 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

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:

- 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 include:

- 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 logs related to the release event. Review the OPS Guidance Document for Boring Log 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.

Other Supporting Documentation

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

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