



ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

SOIL BENEFICIAL RE-USE PLAN

**AERA ENERGY LLC
EAST CAT CANYON OIL FIELD REDEVELOPMENT
PROJECT
6516 CAT CANYON ROAD
SANTA BARBARA COUNTY, CALIFORNIA**

Prepared for:
Aera Energy LLC

August 2014

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ATTACHMENTS

A	Compliance Plan
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1.0 GENERAL OVERVIEW

On behalf of Aera Energy LLC (Aera), Padre Associates, Inc. (Padre) has prepared this Soil Beneficial Re-Use Plan for submittal to the California Regional Water Quality Control Board – Central Coast Region (RWQCB). Aera is planning to relocate and operate an existing soil beneficial re-use facility in compliance with the RWQCB's General Conditional Waiver of Waste Discharge Requirements for the Re-Use of Non-Hazardous Crude Oil Impacted Soil and Non-Hazardous Spent Sandblasting Aggregate on Active Oil Lease and Fee Properties in the Central Coast, Order No. R3-2010-0037 (Beneficial Re-use Waiver) for the on-site and off-site re-use of petroleum hydrocarbon-containing soil at Aera's East Cat Canyon Oil Field property, located in Santa Barbara County, California (Project Site). Attached are two plates: Plate 1 is a Site Location Map, and Plate 2 showing the location of the proposed stockpiling and mixing area. As part of the Waiver enrollment requirements, a Compliance Plan and a Management Practices Plan have been prepared, which are included as Attachments A and B, respectively.

The Project Site is located approximately six miles east of the Town of Orcutt (refer to Plate 1- Site Location Map) and encompasses approximately 2,100 acres. The Project Site is further located within the Solomon Hills, and includes portions of the Olivera Canyon Area and the East Area of the Cat Canyon Oil Field (refer to Plate 2 – Site Map). Access to the Project Site is via Cat Canyon Road.

The Project Site was historically used for crude oil exploration and production, and portions of the Project Site are still currently active. Aera is intending to redevelop the Project Site using existing and new roads and well pads, new oil production and steam injection wells, steam generators, a central processing facility, and pipelines. As part of the Project, Aera proposes to utilize areas that are known to contain pre-existing petroleum hydrocarbon-containing soils. Construction activities will disturb the petroleum hydrocarbon-containing soils; therefore Aera plans to excavate the petroleum hydrocarbon-containing soils for beneficial re-use either on-site or at other Aera locations.

Implementation of the Project would result in the excavation of petroleum hydrocarbon-containing soil (the Re-Use Material), processing the Re-Use Material, and placement of processed Re-Use Material throughout the Project Site as road sub-base, road base, and/or final road surfaces associated with the planned oil field re-development activities. The source of the Re-Use Material originates from multiple on-site petroleum hydrocarbon-containing soil sites and oily sand produced during petroleum production activities.

2.0 PROJECT SITE PERMIT HISTORY

Aera is currently enrolled with the RWQCB for the stockpiling of petroleum-containing soil at the Project Site, per the requirements of the General Conditional Waiver of Waste Discharge Requirements for the Management of Petroleum-Impacted Soils at Authorized Waste Pile Management Facilities at Active Oil Leases and Fee Properties in the Central Coast Region, (Waste Pile Order) (Order No. R3-2010-0036); however, no active soil waste piles currently exist at the Project Site.

3.0 SUMMARY OF RE-USE FEATURES

At each Re-Use Source Site, soil with total petroleum hydrocarbon (TPH) concentrations in excess of concentrations specified by the Santa Barbara County Environmental Health Services (SBCEHS) Lease Restoration Program, will be either transported and processed on-site at the Re-Use Site for preparation for use as on-site road material, transported to Aera's Belridge road-mix facility for re-use, or disposed off-site at the Santa Maria Regional Landfill under the Non-Hazardous Impacted Soil program.

Aera proposes to use the following procedures during the course of the excavation and processing of Re-Use Material:

- Erosion control measures would be installed and maintained throughout the course of the excavation and material processing activities.
- Existing vegetation would be cleared from the proposed excavation areas and disposed off-site or shredded and used for erosion control.
- Dust control and air monitoring would be conducted during all excavation activities in accordance with the Santa Barbara County Grading Ordinance and Santa Barbara County Air Pollution Control District (APCD) regulations.
- Soil samples from the bottom, and any exposed excavation sidewalls would be collected and chemically analyzed for petroleum constituents to document the remaining petroleum hydrocarbon-containing soil located outside of the planned disturbance area. Analytical results would be submitted to SBCEHS to document the remaining TPH-containing soil adjacent to and under the Re-Use Source Area.

4.0 RE-USE MATERIAL PROCESSING AND PLACEMENT AS ROAD MATERIAL

Based on the results of previous soil testing conducted for geotechnical properties, the dense asphaltic material typically found at and near the surface can be processed and used as reclaimed asphalt pavement; sandy oily-containing material can be processed and used in asphalt concrete; and other on-site TPH-containing soils can be processed to be used as either road sub-base or base material (Tetra Tech, 2001).

The various TPH-containing soils can be excavated using conventional excavation equipment and segregated for further processing depending on the final use. Processing of these

soils may include the addition of asphalt, aggregate material, clean sand, soil binders, and water (for proper compaction during placement). The material will be transferred to the proposed soil management area shown on Plate 2. There it will be stockpiled on-site for either re-use on-site for road base material or transported off-site to another Aera facility for beneficial re-use. The material will be monitored for compliance with the Waste Pile Order and the Beneficial Re-Use Order, as shown in Attachment A. The material will be handled in accordance with Attachment B – Management Practices Plan.

5.0 SCHEDULE

The proposed Project activities will be completed over an approximate 10-year period following receipt of all necessary permits and approvals. Project activities would occur throughout the year; unless restricted by the requirements of permits issued to the Project.

6.0 PERMIT REQUIREMENT SUMMARY

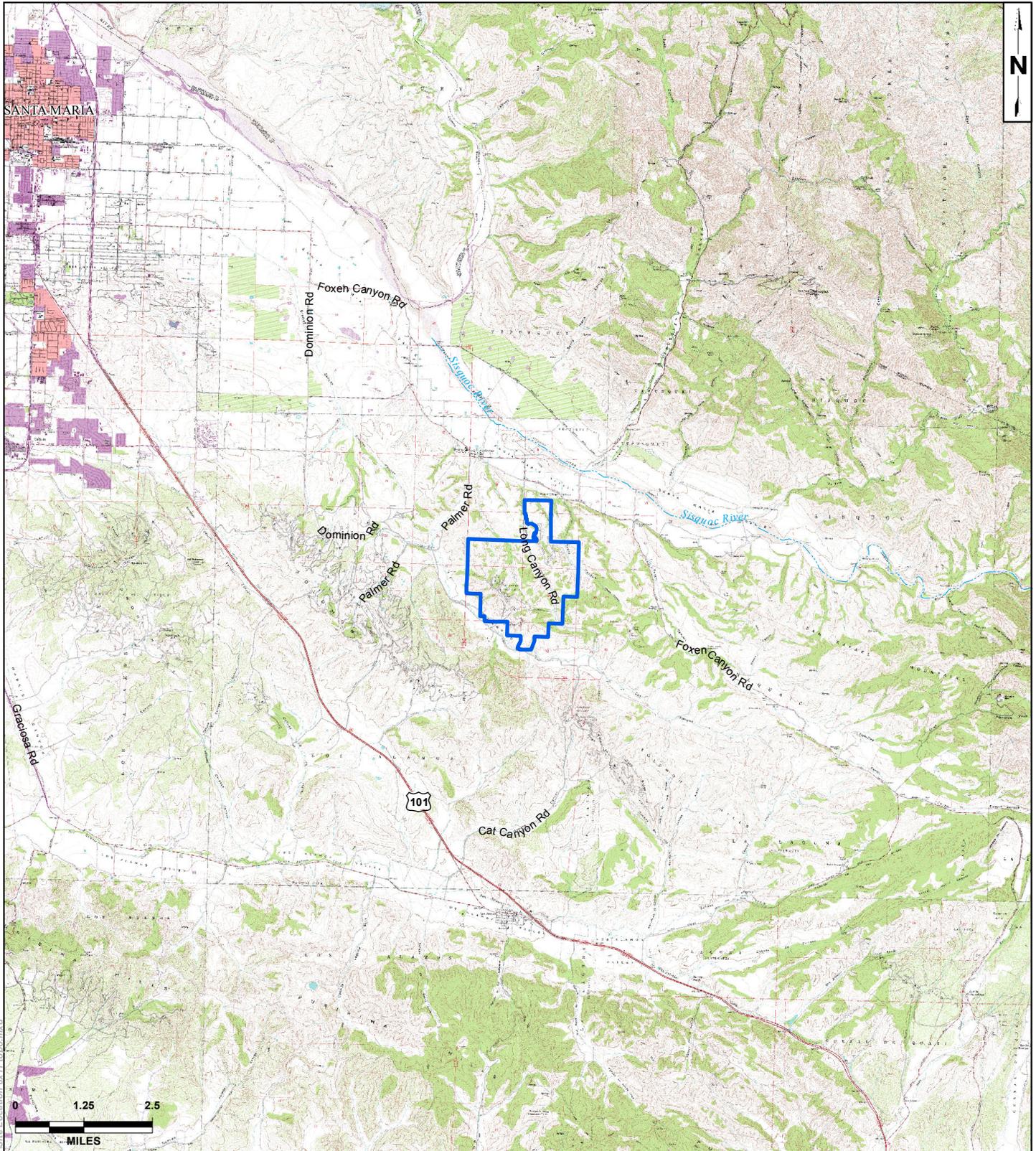
Other permits that would be required for the proposed soil beneficial re-use project include, but not limited to, the following:

- Storm Water Pollution Prevention Plan and Notice of Intent – State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction or Land Disturbance Activities.
- Land Use and Grading Permits issued by the Santa Barbara County Planning and Development Department.
- An Authority to Construct/Permit to Operate will be required by the Santa Barbara APCD for contaminated soil excavation projects. As part of the APCD permit, Aera will be required to prepare and implement an Air Quality Monitoring Plan that includes air monitoring requirements during soil excavation activities for volatile organic compounds and dust emissions. The Air Quality Monitoring Plan will include reporting requirements in the event of non-compliance and contingency measures to ensure that the action levels are not exceeded.

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PLATES

Aera Energy LLC East Cat Canyon Oil Field
Beneficial Re-Use Plan



LEGEND:

 Aera Energy LLC Property



Source: USGS Topo Quad, DPSI 2013 Survey, Santa Barbara County, TIGER
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only

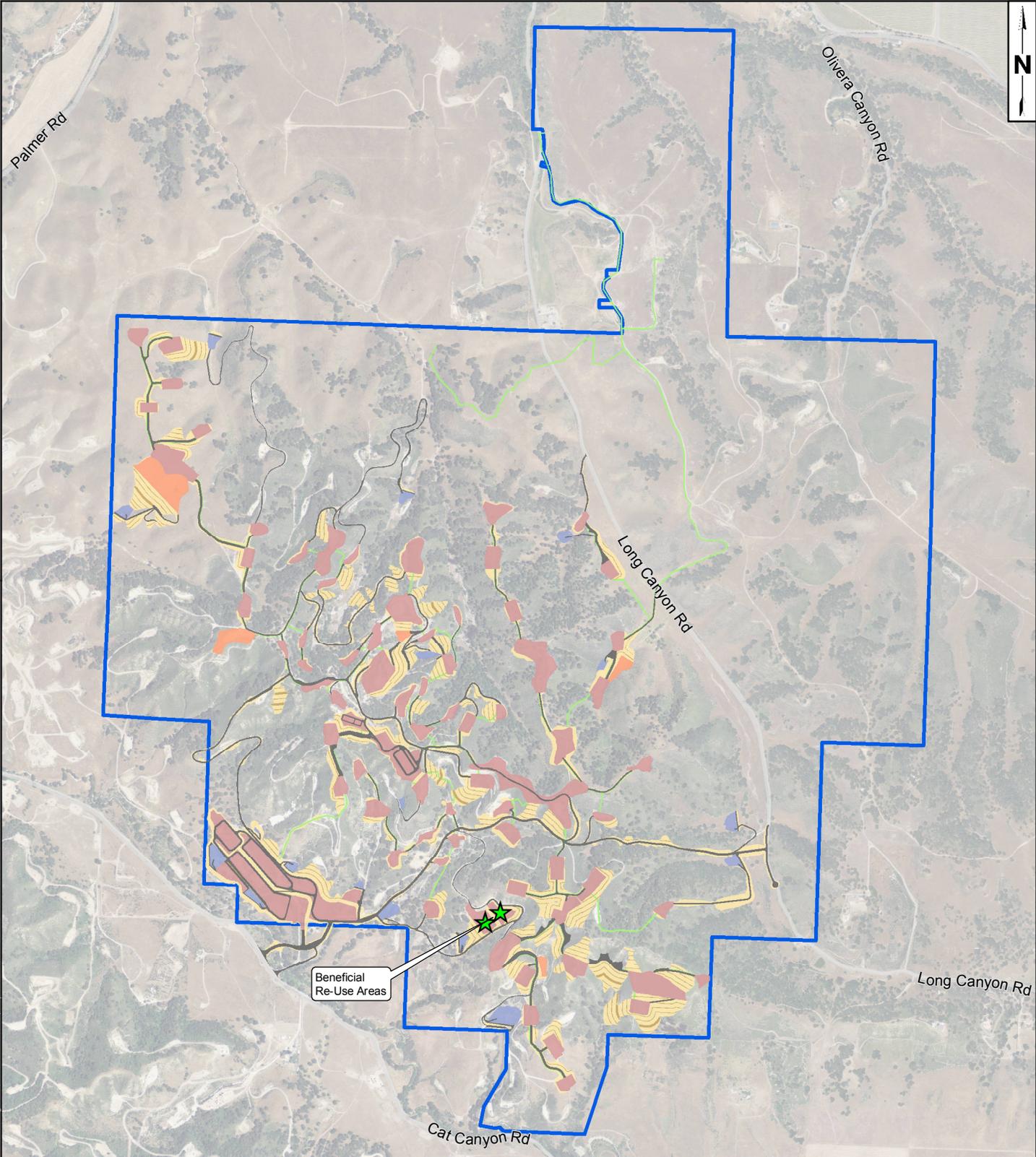
padre
 associates, inc.
 ENGINEERS, GEOLOGISTS &
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: EAST CAT CANYON SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 1002-0455	DATE: August 2014

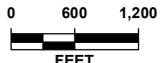
**TOPOGRAPHIC
LOCATION MAP**

**FIGURE
1**

Z:\Kris\GIS Maps\Project\East Cat Canyon\Site Location 8x11 topo.mxd



-  Aera Energy LLC Property
-  Well or Other Facility Pad
-  Laydown Area
-  Road
-  Cut / Fill Slope
-  Slope Benching
-  Pipeline Corridor
-  Storm Water Basin



Source: County of Santa Barbara, TJCross 8-20-14, DPSI 2013
 Land Survey
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only.

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PROJECT NAME: EAST CAT CANYON SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 1002-0455	DATE: February 2015

PROPOSED BENEFICIAL RE-USE AREAS LOCATION

PLATE
2

ATTACHMENT A
COMPLIANCE PLAN

Aera Energy LLC East Cat Canyon Oil Field
Beneficial Re-Use Plan

COMPLIANCE PLAN

- A. **Site Inspections and Observations** – Aera shall inspect all re-use project areas according to the following schedule, recording the following Standard Observations.
- a. **Site Inspection Schedule:**
- i. Aera shall perform one inspection prior to, during, and after the rainy season (October 1 through April 1), or at any time a failed management measure and/or discharge is reported or observed.
 1. **Standard Observations** – standard observations shall be performed along the perimeter of all authorized re-use projects to inspect for evidence of erosion or washout after severe rain events, and integrity during wet seasons. Aera shall select a sufficient number and location for each “observation point” as necessary to achieve compliance with the conditions of the waiver.
- B. **Data Logging and Reporting**
- a. Logbooks – Aera shall maintain logbooks for recording all visual and water analysis data.
 - b. If at any time offsite erosion or washout is observed, Aera shall determine and identify the failed management measures and source of discharge. Management measure failure is defined as:
 - i. Whenever an implemented management measure creates a condition of pollution, contamination, or condition of nuisance
 - ii. When lack of implementation of a necessary management measure creates a condition of pollution, contamination, or condition of nuisance
 - c. If management measures fail, Aera shall photo document them and shall implement management practices immediately to prevent discharge and impacts to water quality.
 - d. Annual Report – Aera shall submit an annual report to the Water Board by October 1st summarizing all preparedness measures performed to ensure discharges to surface and groundwater do not occur during the impending rainy season. The annual report shall include the following:
 - i. Status of re-use projects including:
 1. The source of all materials
 2. Approximate volume of materials used
 3. Results of all soil chemical characterization performed
 - ii. Summary of all Management Practices implemented in preparation of the upcoming rainy season.
 - iii. An evaluation of the previous year’s Management Practices implemented and their respective effectiveness.
 - iv. Visual storm water observations and their observation dates
 - v. Stabilization and erosion control measures implemented
-

- vi. Summary of violations
 - vii. Summary of standard observations performed
 - viii. Summary of actions implemented for the protection of water quality
 - ix. Documentation of rainfall measurement procedures and locations
 - x. A summary of water quality monitoring performed during the previous year (if any)
 - xi. Recommendations for improving the monitoring and reporting program
 - xii. **Maps**
 - 1. Map or aerial photo that show the locations of physical features and monitoring locations if applicable
 - 2. Map showing areas in which re-use materials have been placed and locations of re-use material projects completed during the previous year.
 - xiii. **Lab Results**
 - 1. All monitoring and analytical data obtained during the previous year
 - 2. The evaluation and interpretation of all available data
 - xiv. **Electronic Submittals** – the annual report will be submitted electronically
 - xv. Aera shall maintain records of all monitoring information and results for a minimum of 3 years
 - xvi. Photo-point monitoring points – All photo-point monitoring points will be documented in logbooks and photos will be of sufficient quality to record the effectiveness of the management practice
- e. Aera shall notify the Executive Officer within 48 hours by telephone or email and within 14 days in writing of:
- i. Any noncompliance potentially or actually endangering health or the environment
 - ii. Any flooding equipment failure, or other change in site conditions which could impair the integrity of the site
 - iii. Any time Aera observes a discharge from the re-use areas
 - iv. Any violations of the waiver conditions
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ATTACHMENT B
MANAGEMENT PRACTICES PLAN

Aera Energy LLC East Cat Canyon Oil Field
Beneficial Re-Use Plan

MANAGEMENT PRACTICES PLAN

A. Non-structural Management Practices

- a. **Good housekeeping** – Aera will operate the re-use project area in accordance with good housekeeping principals which are summarized by the following:
 - i. Keep work site clean
 - ii. Keep work site orderly
 - iii. Handling materials and wastes in a manner that minimizes risk and potential runoff
 - b. **Preventative Maintenance** – all equipment used in and around the re-use project area will be routinely inspected for wear and repaired if necessary.
 - c. **Oil Spill Response** – an emergency contact list (located in Aera's Oil Spill Contingency Plan) includes contact information for Aera personnel, spill contractors, emergency numbers, and government agencies that must be notified in case of a release. The responsibilities of the response personnel include identifying the size, position, and content of the spill, and also the direction and speed and the likelihood of a spill entering a vulnerable area. No member of the response party shall do anything that would put anyone at risk. It is important that the spilled material be contained as soon as possible to prevent damage to health or to the environment.
 - d. **Material handling and storage** – all materials will be handled in accordance with the waiver conditions.
 - e. **Employee training** – all Aera field personnel are given annual training on the Management Practices Plan. The major emphasis of the training is in spill preventions and response, good housekeeping, and material management practices and an understanding of applicable pollution control laws and discharge procedure protocols.
 - f. **Record keeping** – all plan related activities will be recorded and available for inspection.
 - g. **Inspections** – site inspections will occur regularly according to the Site Inspection Schedule in the compliance plan.
- B. **Structural Management Practices** – The main structural management practice that will be utilized will be earthen berms constructed around the re-use project location.
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