Good and Workmanlike Practices Guidance Handbook for Beneficial Reuse Projects and Waste Pile Management Facilities

As Regulated by the
Central Coast Regional Water Control Board

WSPA
Western States Petroleum Association

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for
The Western States Petroleum Association

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Good and Workmanlike Practices

On September 9, 2005, the Central Coast Regional Water Quality Control Board (Water Board) authorized the Beneficial Reuse of hydrocarbon impacted soils within existing oilfields. Also on that date, the Water Board approved the storage of hydrocarbon impacted soils in Waste Pile Management Facilities located within existing oilfields. Good and Workmanlike Practices are required to be implemented when beneficially reusing hydrocarbon impacted soil. In the Water Board Reuse Waiver Conditions, Attachment A, Section B.2., Good and Workmanlike construction standards are not defined, but the following guidance is given:

> **"The design and construction of all approved Reuse projects including all impervious working area, and diversionary and containment structures (berms, curbing, etc.) shall be performed by experienced personnel and in accordance with 'Good and Workmanlike' construction standards, as determined by oversight agency inspections."**

This guidance essentially gives the oversight agencies significant discretion in determining whether a company is in compliance with the Waste Discharge Order for reuse. The Waste Pile Management Facility Waiver includes the same language.

DISCLAIMER: **Neither the Western States Petroleum Association nor Tracer-ES&T represent or warrant that implementation of the practices described in this guidebook will constitute compliance with the terms and conditions of the Beneficial Reuse Waiver or Waste Pile Management Facility Waiver. The Regional Board has significant discretion in determining whether certain practices conform to the requirements of a waiver, and conformance with the practices described herein may or may not be considered by staff to be adequate in a given circumstance. The information contained herein is provided solely as a guideline to assist WSPA member companies and others in identifying and implementing (or avoiding) specific practices and conditions that may be relevant to compliance determinations under a waiver.**

Examples of Good and Workmanlike Practices-Beneficial Reuse

1. Crowning of Roads-Central portion of road is slightly higher than the edges of the road to insure that water does not pond on the road.
2. Elevate Roads-Insures that standing or moving water alongside the road does not cause erosion or sedimentation of the road.
3. Adequate Structural Support-An adequate base of support is required for the road. This is dictated by the type of service for the road. If only light vehicle traffic is anticipated, a lighter base can be used. If drill rigs, vacuum trucks and workover rigs are going to use the road, more substantial base material will be required. In many instances, the native soil may provide adequate support.
4. Adequate Aggregate-Similar to the requirement for adequate structural material, adequate amounts of aggregate should be added to add structural strength to the road.

Good and Workmanlike Practices
Photographic Examples

Beneficial Reuse Road

There are good and bad examples in this photograph.

Good-The overlay is good. It appears to have the right mix of aggregate, binding material and structural support. Additionally, the road is crowned to prevent pooling of water.

Bad-The good road has been placed over road material that is crumbling. This condition could be improved by sawcutting the crumbling portion or by insuring that the new road material completely covers the old road.

Beneficial Reuse Road

Good example of culvert used to insure that water doesn't undermine the road.

Beneficial Reuse Road

Culvert used to channel water away from road. A debris grating over the opening should be considered to prevent plugging of the culvert.

Beneficial Reuse Road

Culverts divert flow from road. Cement splash zone insures that undermining doesn't occur from water flow.

Beneficial Reuse Road

Uncontrolled water flow from road is causing erosion on sides of road that can impact road integrity.

Beneficial Reuse Road

Berm at side of road prevents sheet flow from causing roadside erosion.

Beneficial Reuse Road

Water ponding on road can cause deterioration of road. Culvert or berms should be used to divert water from road.

Beneficial Reuse Road

Inadequate water control causes erosion of road and adjacent areas.

Beneficial Reuse Road

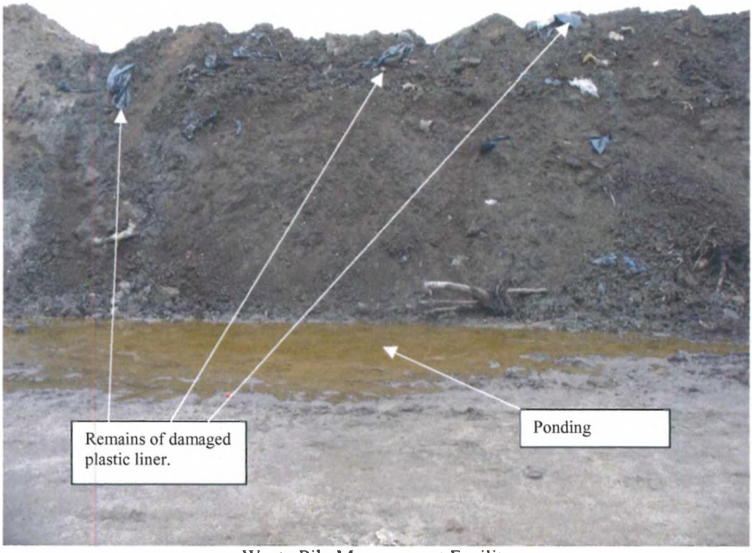
Inadequate sub-base and aggregate will allow road to buckle and deteriorate.

Waste Pile Management Facility

Beneficial reuse material can be used to construct berms around WPMF's. However, it must be capable of containing both the material to be used and rainwater that falls on the WPMF. Stormwater run on and run off is prohibited.

Waste Pile Management Facility

Some ponding of water is inevitable within a WPMF. However, persistence of water within the berms is prohibited.



Waste Pile Management Facility

This photograph shows ponding on the edge of a pile of future reuse material. This ponding was witnessed 2 days after a substantial rain so it would probably not constitute a violation. Also, note plastic within the pile. If plastic liners are to be used as the means of providing the impermeable base of the WPMF, care should be taken to insure that it is not damaged while working the future reuse material.

Waste Pile Management Facility

Beneficial reuse material can serve as the impermeable bottom layer or containment of a WPMF. In this photo, the reuse material is consolidated, compacted and is approximately 2' thick. However, this WPMF has no protection for water run on.

Waste Pile Management Facility

Beneficial reuse material can serve as the impermeable bottom layer or containment for a WPMF. In this photo however, the reuse material is unconsolidated and does not provide adequate protection.