
Closure Certification

Land Treatment Unit

Gallup Refinery, Gallup, New Mexico



Prepared for
Western Refining Southwest, Inc.

March 29, 2011

 **Gannett Fleming**

2155 Louisiana, NE, Suite 7000
Albuquerque, New Mexico 87110-5484
(505) 265-8468 Fax (505) 881-2513

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Gannett Fleming West, Inc. Project No. 54111

Submitted to
Western Refining Southwest, Inc.

March 29, 2011

This closure certification was prepared by me, Mike E. Brazie, New Mexico Professional Engineer No. 9376, or under my direct supervision. I hereby certify closure in accordance with 20.4.1.500 NMAC and 40 CFR 264.115, on the basis of reviewing the available closure plan and related documents and conducting a site inspection, as discussed in this Closure Certification Report.



The undersigned representative of Western Refining Southwest, Inc. hereby concurs with the certification of closure prepared by Gannett Fleming West, Inc., and certifies closure of the LTU on behalf of Western Refining Southwest, Inc.

Signed: *Ed Reje*

Date: *4-4-11*

Title: *Environmental Manager*

 **Gannett Fleming**

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1.0 INTRODUCTION

1.1 Project Description

This closure certification has been prepared for the Land Treatment Unit (LTU) at the Western Refining Southwest, Inc. Gallup Refinery, just east of Gallup, New Mexico. This facility is a crude oil refining facility located in McKinley County, New Mexico, at Township 15 North, Range 15 West, Sections 28 and 33, the northern one-third of Section 4 of the New Mexico coordinate system. The mailing address is Western Refining, Southwest, Inc., Gallup Refinery, Route 3, Box 7, Gallup, New Mexico 87301. The physical address is Interstate 40 (I-40), Exit 39, Jamestown, New Mexico 87347. The Gallup Refinery is just north of I-40 and approximately 17 miles east of Gallup (Figure 1.1).

The Gallup Refinery was constructed in 1957. The LTU is located within the property boundary of the refinery. The primary purpose of the LTU was the degradation, transformation, or immobilization of hazardous wastes from the refinery by microbial activity. The LTU is approximately 1,500 feet northwest of the refinery process area and above the 100-year floodplain. The LTU consisted of three 480' x 240' sections located immediately east of Evaporation Pond 12B (Figure 1.2). Each section was diked and contained 2.6 acres (1.0 hectare) of available treatment surface. The top 12 inches of soil (the Zone of Incorporation) was plowed and diked to encourage aerobic microbial degradation and improved chemical reaction rates.

Gannett Fleming West, Inc. (GFW) has been contracted by Western Refining Southwest, Inc. to prepare a closure certification for the LTU. Having not been involved in the preparation of plans or specifications of the closure, nor involved in the actual closure construction activities, GFW has relied on available documents, including the LTU closure criteria in the "*RCRA Part A and Part B Post-Closure Permit Application, Land Treatment Unit, Giant Refining Company Gallup Refinery*", dated May 2000, LTU soil monitoring reports, and a site inspection conducted on March 2, 2011. This closure certification is based on comparing the conditions encountered on that date with the closure plan criteria.

1.2 Approved Closure Plan

The latest LTU closure requirements GFW could find were in the document "*RCRA Part A and Part B Post-Closure Permit Application, Land Treatment Unit, Giant Refining Company Gallup Refinery*", dated May 2000, so GFW has assumed that is the approved closure plan for the LTU.

Figure 1.1 – LTU Site Location Map

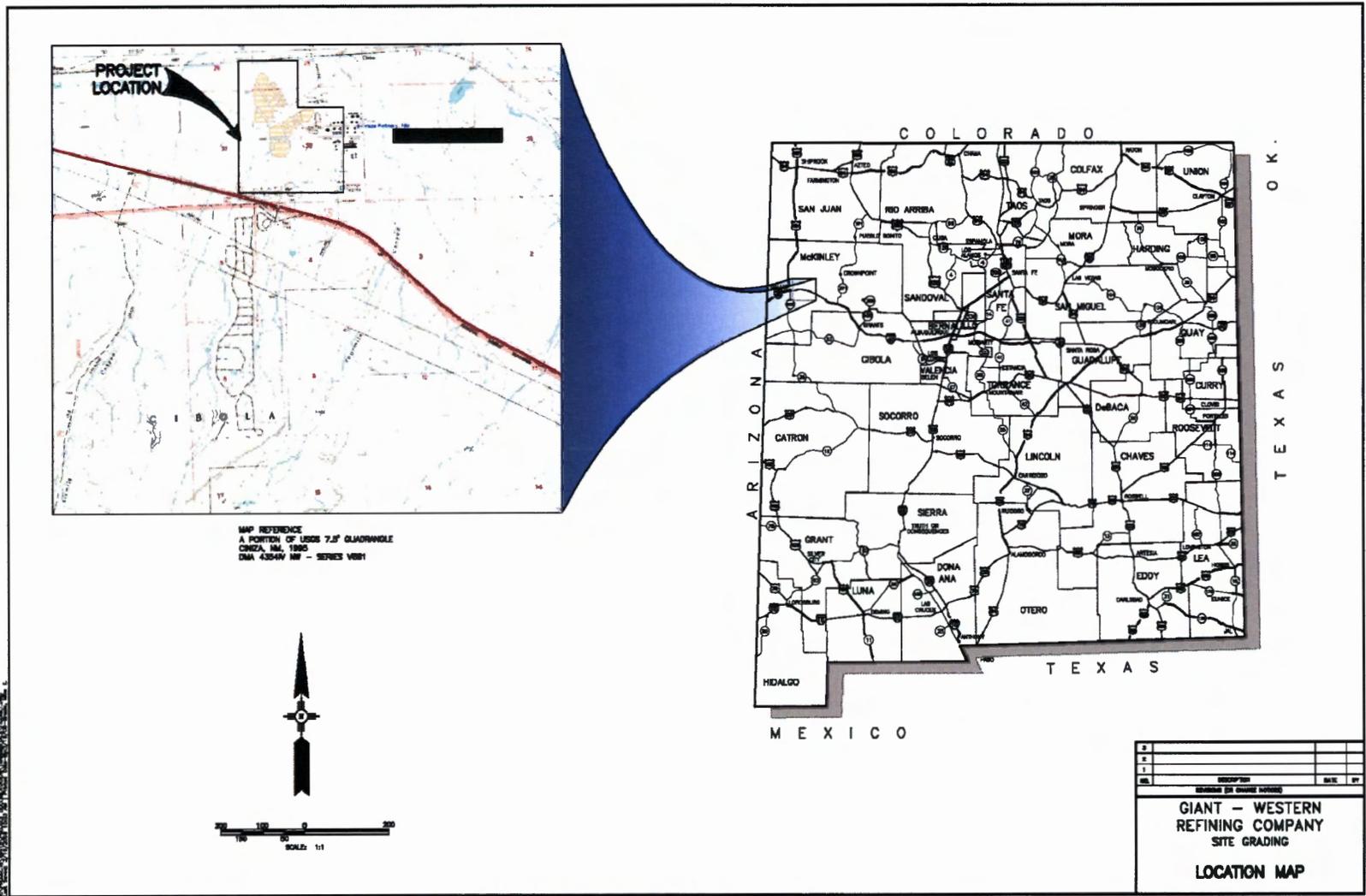
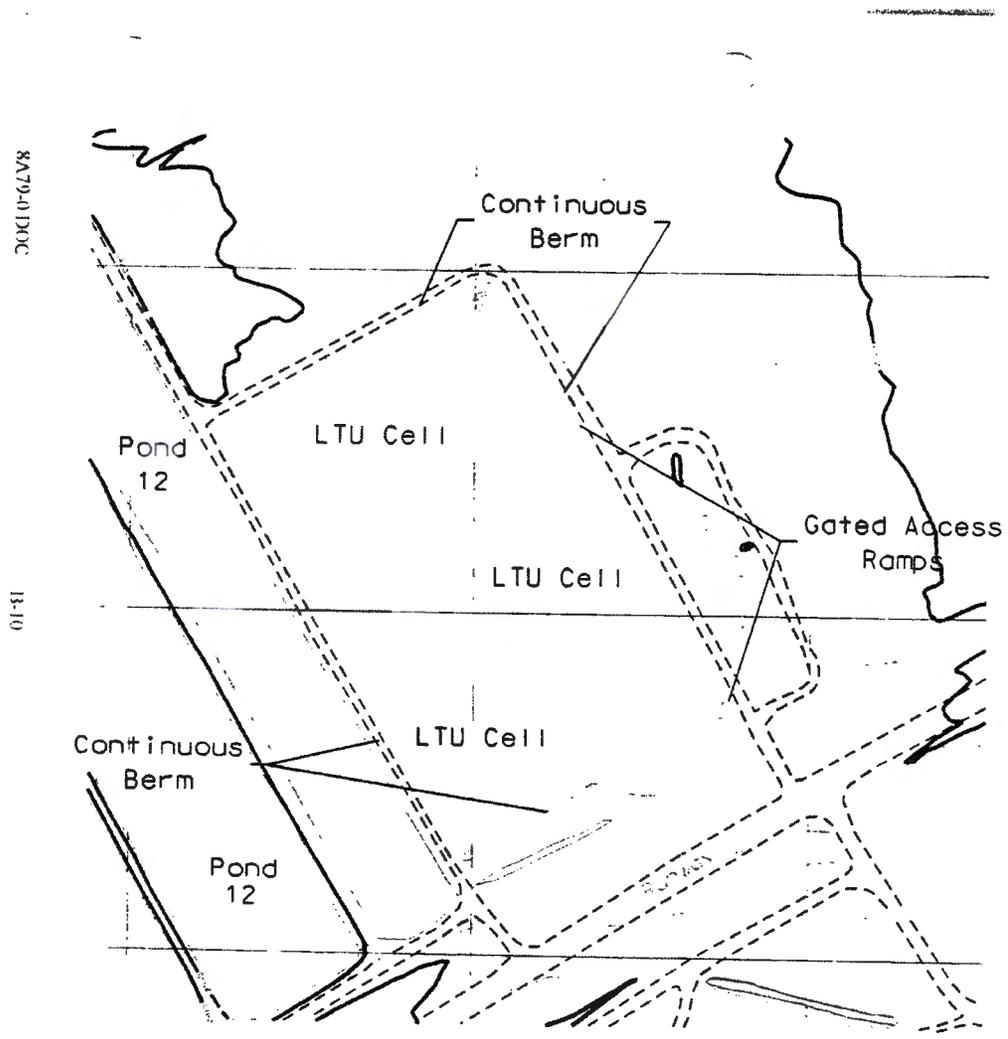




Figure B-2
LTU Close Up



Part B Permit Application
Revision 0
May 2000

Figure 1.2 LTU Site Map (taken from the May 2000 Part B Permit Application)

2.0 CLOSURE CRITERIA

The closure criteria were defined in the “RCRA Part A and Part B Post-Closure Permit Application, Land Treatment Unit, Giant Refining Company Gallup Refinery”, dated May 2000. This section was drawn from that document.

2.1 Hazardous Waste Characterization

The Gallup Refinery (formerly Ciniza refinery) applied refinery sludges carrying the EPA hazardous waste numbers D001, D007, K049, K050, K051 and K052 to the LTU in accordance with the refinery’s Hazardous Waste Facility Permit (EPA ID# NMD000333211, HWB-WRG-10-066) until November 1990. During this time of hazardous waste application, the Gallup Refinery treated approximately 2,600 tons of hazardous waste at the LTU. The refinery sludges treated at the LTU were viscous oil-water-solid mixtures. Hazardous waste application to the LTU ceased on November 8, 1990. Nonhazardous wastes were applied from 1990 to 1993, at which time nonhazardous waste application also ceased. The refinery has conducted soil and groundwater monitoring since October 10, 1980.

2.2 Closure Performance Standards

According to the May 2000 Plan, final closure of the LTU was to meet the following closure and post-closure performance standards:

- Minimize the need for further maintenance;
- Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate contaminated runoff, or hazardous waste decomposition products to the ground, surface waters, or atmosphere; and
- Comply with the final closure requirements of 20 NMAC 4.1, Subpart V, §264.110 through §264.115 (closure), §264.116 through 264.120 (post-closure care), and the requirements of 20 NMAC 4.1, Subpart V, §264.280 (closure and post-closure care of land treatment units).

2.3 Closure Criteria

The performance standards were to be met by the following:

1. Maintain the runoff and runoff systems of the LTU
2. Control wind dispersal of hazardous waste
3. Continue unsaturated zone monitoring
4. Maintain the groundwater monitoring system
5. Establish and maintain a vegetative cover over the closed LTU

3.0 SITE INSPECTION

3.1 Records Research

On March 2, 2011, GFW visited the Gallup Refinery and researched the available documents pertaining to the LTU. GFW representatives searched through numerous file boxes and file drawers and interviewed refinery personnel to locate documents related to the LTU closure. The latest closure plan GFW was able to find was dated May 2000 (*"RCRA Part A and Part B Post-Closure Permit Application, Land Treatment Unit, Giant Refining Company Gallup Refinery"*). No construction plans or specifications, construction inspection reports, pay requests, or other information was found that could document the actual closure activities. However, soil and groundwater monitoring reports for the LTU were found and reviewed.

On March 10, 2011, GFW filed a Request for Public Records with the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) to seek any documents after May 2000 that might relate to the LTU closure. A response to this request was received on March 21, 2011. Although several post-2000 documents were identified, no documents relevant to the closure requirements beyond what was specified in May 2000 were found. Therefore, GFW has assumed that the May 2000 closure criteria were still in effect at the time of actual LTU closure.

3.2 LTU Monitoring Results

Three Zone of Incorporation soil samples were collected on October 19, 1999 and analyzed for hazardous constituents by EPA Method 8270C and 8021A. No hazardous compounds were detected in these analyses.

3.3 Site Inspection

GFW inspected the closed LTU on March 2, 2011. The inspection focused on the following closure requirements:

- Vegetative cover
- Runon and runoff control
- Level surface grade
- Site security

The findings are discussed in the following subsections.

3.3.1 Vegetative Cover

The closed LTU site appeared to have vegetation of the type and density of the surrounding areas. The cover appeared to be adequate to control wind erosion and protect against soil loss. Figure 3.1 is a photograph of the closed LTU showing the soil berm and vegetative cover over the former LTU cells.



Figure 3.1 – Photograph showing vegetative cover and soil berm at closed LTU

For comparison, Figure 3.2 is a photograph taken just north of the LTU showing the natural vegetation in the area surrounding the LTU. Comparison of these two photographs shows that the vegetation at the closed LTU is compatible with the native vegetation both in type and density.

Based on these observations, it appears the closure requirement for vegetative cover was met.



Figure 3.2 – Photograph showing typical native vegetation surrounding the LTU (roadcut in foreground)

3.3.2 Runon and Runoff Control

GFW observed a soil berm surrounding the closed LTU to control runon and runoff. The berm appeared to be maintained and adequate to meet the closure requirements. Figures 3.3 and 3.4 show the berm surrounding the LTU. In addition, the grade of the roads surrounding the LTU serve to channel offsite drainage around the LTU.

Based on these observations, it appears the runon and runoff control requirements of the closure plan were satisfied.



Figure 3.3 – Security gate and runoff control berm surrounding the east side of the LTU



Figure 3.4 – Runon and runoff control berm surrounding LTU

3.3.3 Grade

The closure criteria called for level grading of the closed LTU to prevent ponding. GFW determined the site to be level grade, as best as could be observed with the vegetative cover. No evidence of ponding water or erosion were observed.

Based on these observations, it appears the closure grade requirement was met.

3.3.4 Security

The LTU is completely contained within the refinery boundary, which is controlled access. The LTU itself is gated and bermed, with warning signs in English and Spanish at reasonable spacing around the LTU perimeter. The gate is locked to control access to the closed LTU. Figure 3.5 shows the security gate and Figure 3.6 shows the warning signs.

Based on these observations, it appears the security requirements of the closure plan have been satisfied.



Figure 3.5 – LTU security gate



Figure 3.6 – Warning signs around closed LTU

4.0 CERTIFICATION OF CLOSURE

GFW did not prepare the closure plans or specifications and were not present during the LTU closure construction. Therefore, we have had to rely on available documents and post-closure site observations to make this certification. However, Mike E. Brazie, P.E. (#9376) of GFW is certifying closure based on the following:

- The latest available LTU Zone of Incorporation (ZOI) analytical results did not detect any hazardous constituents.
- The observed site conditions appear to satisfy the closure requirements specified in the May 2000 closure plan.
- The LTU appears to have adequate vegetative cover.
- The LTU appears to have adequate runoff and runoff control measures
- No evidence of ponding water or soil erosion were observed at the LTU
- The closed LTU appears to have adequate security measures in place.