

15.0 Salt Lake City, Utah, Disposal Site

15.1 Compliance Summary

The Salt Lake City, Utah, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Disposal Site was inspected on April 2, 2008. The disposal cell and all associated surface water diversion and drainage structures were in excellent condition and functioning as designed. No change was observed in the three slight depressions found on the disposal cell top; monitoring for settlement will continue. The area that flooded with potentially contaminated non-contact storm water in June 2007—from a breach in the containment berm for the adjacent EnergySolutions Incorporated (EnergySolutions) low-level radioactive waste (LLRW) container pad—was in good condition; no contamination from the release was reported, and the berm had been repaired. No waste debris or indication of windblown or spillover contamination from EnergySolutions adjacent radioactive waste disposal operations was noted. Disposal operations by EnergySolutions adjacent to the Disposal site resulted in damage to the site perimeter fence and the covering of a boundary monument. EnergySolutions subsequently remedied both conditions. No other maintenance needs or cause for a follow-up or contingency inspection were identified.

15.2 Compliance Requirements

Requirements for the long-term surveillance and maintenance of the Salt Lake City Disposal Site are specified in the *Long-Term Surveillance Plan [LTSP] for the South Clive Disposal Site, Clive, Utah* (DOE/AL/62350–228, Rev. 2, U.S. Department of Energy [DOE], Albuquerque Operations Office, September 1997) and in procedures established by DOE to comply with requirements of Title 10 *Code of Federal Regulations* Part 40.27 (10 CFR 40.27). These requirements are listed in Table 15–1.

Table 15–1. License Requirements for the Salt Lake City Disposal Site

Requirement	Long-Term Surveillance Plan	This Report
Annual Inspection and Report	Section 3.0	Section 15.3.1
Follow-Up or Contingency Inspections	Section 3.4	Section 15.3.2
Routine Maintenance and Repairs	Section 5.0	Section 15.3.3
Groundwater Monitoring	Section 4.0	Section 15.3.4
Corrective Action	Section 6.0	Section 15.3.5

Institutional Controls—The 100-acre disposal site is owned by the United States of America and was accepted under the U.S. Nuclear Regulatory Commission (NRC) general license (10 CFR 40.27) in 1997. DOE is the licensee and, in accordance with the requirements for UMTRCA Title I sites, is responsible for the custody and long-term care of the site. Institutional controls at the disposal site, as defined by DOE Policy 454.1, consist of federal ownership of the property, a site perimeter fence, warning/no-trespassing signs placed along the perimeter fence, and a locked gate at the entrance to the site. Verification of these institutional controls is part of the annual inspection. Inspectors found no evidence that these institutional controls were ineffective or violated.

15.3 Compliance Review

15.3.1 Annual Inspection and Report

The site, located 85 miles west of Salt Lake City, Utah, was inspected on April 2, 2008. Results of the inspection are described below. Features and photograph locations (PL) mentioned in this report are shown on Figure 15–1. Numbers in the left margin of this report refer to items summarized in the “Executive Summary” table.

15.3.1.1 Specific Site-Surveillance Features

Access Road, Gates, Fences, and Signs—Access to the Salt Lake City Disposal Site is attained by following paved and graded roads from the interstate highway (I-80) exit at Clive, Utah (approximately 90 miles west of Salt Lake City), to the EnergySolutions facility located approximately 2 miles south of the interstate.

The DOE disposal site is completely surrounded by EnergySolutions’ radioactive waste disposal operations. Access to the DOE disposal site is via a designated route across EnergySolutions’ property to the entrance gate located in the southwest corner of the site. In order to access the DOE site, the inspectors must first pass through EnergySolutions’ security gate and sign in with the security guard. A perpetual right-of-way easement is in place that ensures DOE, and its representatives, continued access across EnergySolutions’ property to the DOE disposal site.

15A Because EnergySolutions’ radioactive waste disposal activities surround the DOE disposal site, posted radiological control areas have to be crossed in order to access the site. Therefore, inspectors are required by EnergySolutions to receive a radiological hazard awareness briefing, sign in on a Radiological Work Permit, and be issued a dosimeter before entering the site. Hard hats, safety glasses, and steel-toed shoes are also required on EnergySolutions’ property. During inspections, EnergySolutions provides an escort who is typically a health physics technician. Following inspections, personnel and equipment are scanned upon leaving the radiological control area. Prior to leaving the EnergySolutions facility, inspectors are again monitored for any radiological surface contamination with a personnel contamination monitor.

Five locked gates provide access to the DOE disposal cell. Two gates occur in the chain-link perimeter fence that EnergySolutions maintains (one in the southwest corner and one in the northwest corner of the site), and three gates occur in the security fence that DOE maintains around the disposal cell (one in the northwest corner and two in the southwest corner of the site). The site entrance gates are located in the southwest corner of the site. DOE provides EnergySolutions access to the disposal site to perform periodic maintenance activities and radiological surveys through a signed access agreement. All gates were locked and in good condition.

15B In 2008, fence damage caused by EnergySolutions’ adjacent waste disposal operations was observed in both the southwest and northwest corners (PL–1) of the site. EnergySolutions repaired the fence (PL–2). The remaining portions of the fence were in good condition.

The entrance sign, located on the current entrance gate, was in good condition. All perimeter signs were present and in good condition.

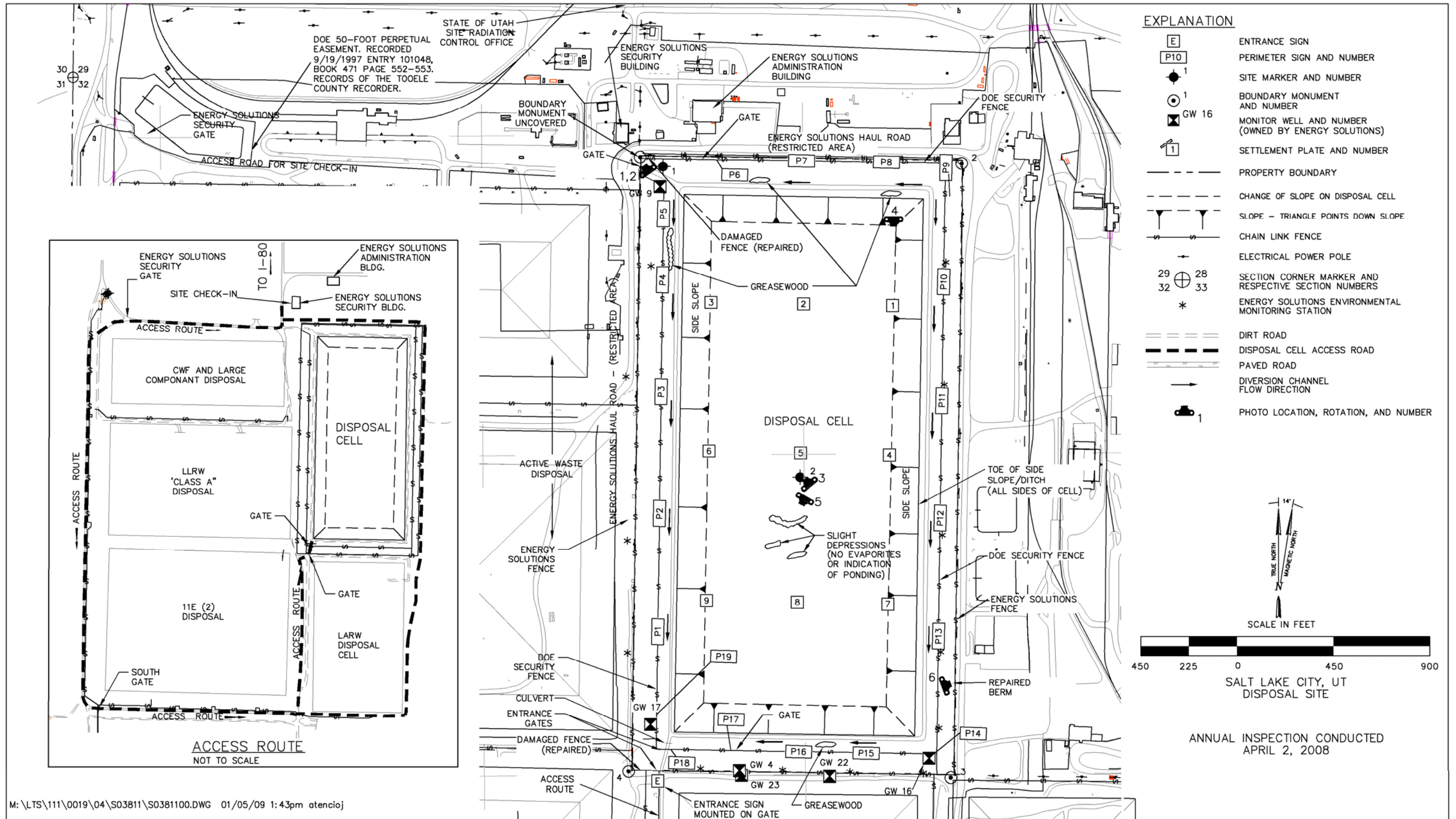


Figure 15-1. 2008 Annual Compliance Drawing for the Salt Lake City Disposal Site

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Site Markers and Monuments—Two granite site markers are placed at the site. Site marker SMK-1 is located at the site entrance in the northwest corner, and SMK-2 is located on the disposal cell top (PL-3); both were in excellent condition. Four boundary monuments are located on the property, one in each corner of the site. All were in good condition, except boundary monument BM-1, which was buried by EnergySolutions' adjacent waste-haul-road grade work. Subsequent to the inspection, EnergySolutions uncovered the boundary monument (PL-2).

Settlement Plates—There are nine settlement plates on top of the disposal cell. All were secure and in good condition. Surveying of the settlement plates was conducted for several years following cell construction but is no longer required.

Monitor Wells—Four groundwater monitor wells are present on the DOE disposal site. In 2000, DOE transferred ownership of these wells to EnergySolutions because, in accordance with the LTSP, groundwater monitoring is not required at the site (see Section 15.3.4). EnergySolutions planned to decommission these four wells. DOE has granted EnergySolutions access through a signed agreement in June 2006, which includes well abandonment. The wells had not been decommissioned at the time of the 2008 inspection, but all were properly secured.

15.3.1.2 Transects

To ensure a thorough and efficient inspection, the site was divided into three transects: (1) the top and side slopes of the disposal cell, (2) the area between the disposal cell and the site boundary, and (3) the outlying area.

The area inside each transect was inspected by walking a series of traverses. Within each transect, the inspectors examined specific site-surveillance features, drainage structures, vegetation, and other features. Inspectors also looked for evidence of settlement, erosion, or other modifying processes that might affect the site's integrity or long-term performance.

Top and Side Slopes of the Disposal Cell—The top and side slopes of the disposal cell are armored with riprap (PL-3 and PL-4). The riprap was in excellent condition, and no evidence of settling, slumping, or instability was noted on the top or side slopes of the disposal cell during the inspection. No deep-rooted plants were growing on the disposal cell cover.

Three minor depressions first noted in 2006 on the cell top were inspected; no change was observed (PL-5). These slight depressions are likely from irregularities in the surface grading that occurred during the construction of the disposal cell, rather than from settling. They currently do not present a problem and will continue to be monitored. There was no evidence of surface water ponding in any of the depressions and no evaporates were observed.

Area Between the Disposal Cell and the Site Boundary—The principle features examined in the area between the toe of the disposal cell and the security fence are the toe drain, surface water diversion channels, and perimeter road. All were in excellent condition.

Minor plant encroachment has occurred within the diversion channels; however, this vegetation does not interfere with the performance of the channels. No standing water was observed in the diversion channels in 2008. EnergySolutions personnel have indicated that considerable water drains off the disposal cell during storm events and is routed off site via the diversion channels to an evaporation pond located southwest of the disposal site.

In June 2007, DOE was notified that EnergySolutions implemented their Emergency Response Plan to address a breach in a containment berm west of its LLRW container pad. The breach, caused by a significant precipitation event, allowed an estimated 500 gallons of potentially contaminated non-contact storm water to flow onto the disposal site. The non-contact storm water flowed into an estimated 84,000-gallon pool of standing surface water (approximately 25 feet wide by 450 feet long by 1 foot deep) that was located on the east side of DOE's property between the security fence and the perimeter fence, also caused by the precipitation event. EnergySolutions collected samples of the ponded storm water. Results reported background levels for all radiological parameters measured. EnergySolutions pumped the storm water from the disposal site and gave DOE a copy of follow-up correspondence with the Utah Division of Radiation Control to document the event. In 2008, this area was inspected, and no adverse conditions were noted; the berm was intact, and no standing water was present (PL-6).

Cursory scanning for spillover and windblown contamination was not performed on site in 2008. Scanning was performed during the 2006 and 2007 inspections to determine if cross-contamination was occurring from the surrounding low-level radioactive waste (LLRW) disposal operations being conducted by EnergySolutions. All surface contamination scanning measurements taken during these inspections were below DOE *RadCon Manual* limits, indicating that spillover and windblown radiological contamination is not currently an issue on site. Periodic scanning will be performed during future site inspections.

Outlying Area—This transect extends from the site property boundary to 0.25 mile beyond the site boundary.

15D

Surrounding the DOE disposal site, EnergySolutions operates an active commercial LLRW disposal facility. The most obvious waste disposal activities are occurring directly west of the site, where a Class A LLRW disposal cell is being filled. On the northeast and east sides of the site, incoming wastes are unloaded from rail cars and transferred to haul trucks. Decontamination facilities are also located in this area. Directly to the south is a completed LLRW disposal cell, to the southwest is an active 11e(2) waste disposal cell, and to the southeast is an operating mixed-waste treatment and disposal facility. Administration, security, and maintenance buildings lie directly to the north/northwest. A new shredding facility, rotary dump, and railroad spur delivery loop has been constructed further to the northwest. Access to all areas surrounding DOE's property is restricted due to radiological hazards.

15E

In 2005, on the north side of the site between the DOE property boundary (defined by the chain-link security fence) and the EnergySolutions restricted area waste-haul-road fence, several locations had been excavated to a depth of approximately 1 foot and posted as "radioactive materials contamination" areas. The contamination was the result of waste-hauling operations performed on the adjacent EnergySolutions haul road. EnergySolutions removed contaminated surface soil in these areas and installed matting on the haul road fence to help reduce future contamination. In 2006, these areas remained excavated and posted. In 2007, it was observed that EnergySolutions had performed additional remediation in this area; the entire east-west length between the fences directly north of the property had been excavated to a depth of approximately 2 feet and remained posted. Surface radiological survey measurements taken on DOE's property just inside the perimeter fence and adjacent to the remediated area were below DOE *RadCon Manual* limits for posting a contamination area. In 2008, all radiological postings had been removed.

All areas surrounding DOE's property are restricted due to radiological hazards resulting from waste disposal activities conducted by EnergySolutions. However, perpetual access to the DOE disposal site is ensured by EnergySolutions. Radiological protection procedures are enforced by EnergySolutions as previously discussed.

15.3.2 Follow-Up or Contingency Inspections

DOE will conduct follow-up inspections if (1) a condition is identified during the annual inspection or other site visit that requires a return to the site to evaluate the condition, or (2) DOE is notified by a citizen or outside agency that conditions at the site are substantially changed.

No follow-up or contingency inspections were required in 2008.

15.3.3 Routine Maintenance and Repairs

In 2008, routine maintenance and repairs included uncovering boundary monument BM-1 in the northwest corner of the site and repairing the perimeter fence in both the northwest and southwest corners of the site.

15.3.4 Groundwater Monitoring

In accordance with 40 CFR 192.21 (g), groundwater at the site qualifies for narrative supplemental standards because it was determined to be of limited use due to naturally occurring concentrations of total dissolved solids in the uppermost aquifer which exceed 10,000 milligrams per liter (mg/L). Consequently, the LTSP does not require groundwater monitoring at the site.

15.3.5 Corrective Action

Corrective action is taken to correct out-of-compliance or hazardous conditions that create a potential health and safety problem or that may affect the integrity of the disposal cell or compliance with 40 CFR 192.

No corrective action was required in 2008.

15.3.6 Photographs

Table 15-2. Photographs Taken at the Salt Lake City Disposal Site

Photograph Location Number	Azimuth	Description
PL-1	325	Fence damage and buried boundary monument BM-1.
PL-2	325	Repaired fence and uncovered boundary monument BM-1.
PL-3	320	Site marker SMK-2 on the disposal cell top.
PL-4	180	East side slope and top of the disposal cell.
PL-5	210	Slight depression on cell top.
PL-6	70	Area flooded in June 2007 and repaired berm east of the cell.



SLC 4/2008. PL-1. Fence damage and buried boundary monument BM-1.



SLC 4/2008. PL-2. Repaired fence and uncovered boundary monument BM-1.



SLC 4/2008. PL-3. Site marker SMK-2 on the disposal cell top.



SLC 4/2008. PL-4. East side slope and top of the disposal cell.



SLC 4/2008. PL-5. Slight depression on cell top.



SLC 4/2008. PL-6. Area flooded in June 2007 and repaired berm east of the cell.