FINAL COMPLETION REVIEW REPORT

Date: June 21, 2023
Licensee: Intercontinental Energy Corporation (IEC)
License Number: R02538 (revoked license in 2003 due to non-payment of fees)
Facility Name: Lamprecht Site and Zamzow Site
Location: Lamprecht Site: Live Oak County (28.498965, -98.052802). Zamzow Site: Live Oak County (28.498600, -98.067175). Both sites are located approximately eight miles east-northeast of Three Rivers, Texas along FM 1358
Licensed Area Being Terminated: 1,273 acres
Manager: Chance Goodin, Section Manager, Radioactive Materials Section, Texas Commission on Environmental Quality
Technical Reviewer: Molly Coffman, P.E. (Environmental Engineer), Radioactive Materials Section, Texas Commission on Environmental Quality

I. SUMMARY

Intercontinental Energy Corporation (IEC)'s Lamprecht and Zamzow Sites were *in situ* leach (ISL) uranium mining and processing sites which have been decommissioned and reclaimed under Texas' Agreement State authority, derived from Title II of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). The Texas Commission on Environmental Quality (TCEQ) is the agency of the State of Texas currently granted jurisdictional authority for regulation of source material recovery licensees, under the provisions of Chapter 401 of the Texas Health and Safety Code. UMTRCA requires that prior to termination of the license, the U.S. Nuclear Regulatory Commission (NRC) shall make a determination that the licensee has complied with the applicable standards and requirements. Further, the NRC has reserved the right to provide concurrence on release to unrestricted use of licensed sites prior to license termination, under the provisions of Title 10 of the Code of Federal Regulations, Section 150.15a. Under the Agreement State program, the State of Texas via its agency, currently the TCEQ, is responsible for approval of the remediation plans for IEC and for site inspections to ensure that the actual remedial actions have been completed pursuant to the approved plans and comply with the applicable criteria.   1 of this report shows the timeline associated with the various state regulatory authorities for both the radioactive material licensing program and the underground injection control permitting program. IEC's remediation plans and decommissioning work were reviewed and inspected by the state of Texas until 2001, when IEC stopped performing work at the sites. After various legal actions, the State of Texas began to take action to finish remediation of the sites in 2010 using state staff, contractors, and state funding. Remediation of the two sites was completed in the spring of 2022, and this completion review report (CRR) documents the work that has been completed to achieve site restoration.

This report documents the TCEQ's basis for its conclusion that decommissioning, and reclamation have been acceptably completed at the IEC sites. The NRC Procedure SA-900 entitled, "Termination of Uranium Milling Licenses in Agreement States," was used to prepare this report. The primary applicable standards for uranium mill reclamation in Texas are Subchapter L of Chapter 336 of Title 30 of the Texas Administrative Code (TAC), titled "Licensing of Source Material Recovery and Byproduct Material Disposal Facilities." This state regulation has been determined by review by the NRC to be consistent with and compatible with NRC regulations, as required by the state's Agreement State status with the NRC.

The applicable standards and requirements, with appropriate references to related sections of this CRR, are identified in Table 1 below. The State of Texas requests the Lamprecht and Zamzow sites historically regulated by Radioactive Material License No. R02538 be released for unrestricted use. TCEQ has performed a review of the sites for compliance with all applicable standards and requirements for release to unrestricted use. The review includes references to correspondence to and from the licensee, regulatory agency inspection reports, reports produced by contractors and reviewed by the state, and interagency memos documenting actions pertinent to decommissioning activities at the site. TCEQ's reviews of licensee submittals, its oversight of contractor activities, and its own confirmatory activities were conducted using a variety of guidance documents (e.g., NUREG-1569 "Standard Review Plan for In Situ Leach Uranium Extraction License Applications", NUREG-1575 "Multi-Agency Radiation Survey and Site Investigation Manual" Rev. 1, and TCEQ Standard Operating Procedure "Conducting Close-Out Surveys").

Table 1 Applicable Standards and Requirements Related to Topics Discussed in the CRR

<table>
<tr><th colspan="4">Applicable
Standards/Requirements</th><th>CRR Section</th></tr>
<tr><td colspan="4">State Rule: Title 30 of the Texas Administrative Code Section 331.107
UIC Permit: UR01949 (Lamprecht Site) and UR02108 (Zamzow Site)

Aquifer Restoration</td><td>Section II.2</td></tr>
<tr><td colspan="4">State Rule: Title 30 of the Texas Administrative Code Section 331.46
UIC Permit: UR01949 (Lamprecht Site) and UR02108 (Zamzow Site)

Plugging and Abandonment of Wells</td><td>Section II.3</td></tr>
<tr><td colspan="4">Release of equipment and materials.
State Rule: Title 25 of the Texas Administrative Code Section (§) 289.202(eee)(1) and §289.202(ggg)(6); and
State Rule: Title 30 of the Texas Administrative Code Section 336.364 Appendix G

Criteria for release of equipment, facilities and materials (i.e., discrete solid objects) for unrestricted use are as follows:</td><td rowspan="5">Section II.4</td></tr>
<tr><td>Nuclide</td><td>Average</td><td>Maximum</td><td>Removable</td></tr>
<tr><td>U-nat</td><td>5,000 dpm alpha/100 cm^2</td><td>15,000 dpm alpha/cm^2</td><td>1,000 dpm alpha/cm^2</td></tr>
<tr><td>Ra-226, Ra-228, Th-nat,</td><td>1,000 dpm/100 cm^2</td><td>3,000 dpm/100 cm^2</td><td>200 dpm/100 cm^2</td></tr>
<tr><td>Beta-gamma emitters</td><td>5,000 dpm beta, gamma/100 cm^2</td><td>15,000 dpm beta, gamma/100 cm^2</td><td>1,000 dpm beta, gamma/100 cm^2</td></tr>
<tr><td colspan="4">Release of sites (open areas with soil) to unrestricted use.
State Rule: 30 TAC §336.1115(e)

Criteria for release to unrestricted use of soils (i.e., land) are the following:
• Radium-226 or -228 averaged over 100 square meters:
  ○ 5 pCi/g above background level, averaged over the first 15 cm of soil below the surface; and
  ○ 15 pCi/g above background level, averaged over 15 cm thick layers of soil more than 15 cm below the surface.

• Radionuclides other than radium – By-product material containing concentrations of radionuclides other than radium in soil (e.g., natural uranium, natural thorium, lead-210), and surface activity on remaining structures, must not result in a total effective dose equivalent (TEDE) exceeding the dose from cleanup of radium contaminated soil to the standard stated above (i.e., the radium concentration limits specified in the preceding bullet) of this subsection (radium benchmark dose), and must be at levels which are as low as reasonably achievable. If more than one residual radionuclide is present in the same 100 m^2 area, the sum of the ratios for each radionuclide of concentration present to the calculated radium benchmark dose equivalent concentration limits will not exceed "1" (unity). The calculation is made using the United States Nuclear Regulatory Commission (NRC) staff guidance on the Radium Benchmark Dose Approach.</td><td>Section II.5</td></tr>
</table>

The TCEQ believes that IEC's Lamprecht and Zamzow sites meet the applicable standards and requirements. With a determination by the NRC that the applicable standards and requirements have been met, the Lamprecht and Zamzow sites on Radioactive Material License No. R02538 can be released to unrestricted use.

II. DOCUMENTATION OF BASES FOR CONCLUSION

The following are the TCEQ's review results for items specified in the NRC Procedure SA-900 "Termination of Uranium Milling Licenses in Agreement States."

1. Description of licensee's/state's activities associated with decommissioning

The Lamprecht and Zamzow sites were ISL uranium mines and processing facilities located near Three Rivers, Texas. The two licensed areas cover approximately 957 acres and 316 acres, respectively, with the Lamprecht site operations located primarily north of farm to market (FM) road FM 1358 (see Figure 1 in Appendix 2) and the Zamzow site located solely south of FM 1358 (see Figure 2 in Appendix 2). Included in the original licensed area for the Lamprecht site was a 408-acre tract south of FM 1358. The licensee released about 338 acres of this tract before it was ever involved in mining. (TDH – 1983; TDH – 1986).

The Lamprecht site licensed area contained four wellfields, also known as production areas, totaling about 255 acres. Production areas 1, 2, and 4 were all located north of FM 1358, while production area 3 was located primarily south of FM 1358. The process plant at the Lamprecht site consisted of a plant building, warehouse, office, lab, maintenance building, reverse osmosis plant, various storage areas, and five processing ponds, all located within a 14-acre footprint just north of FM 1358. Solid radioactive (by-product) materials were disposed of at the Conoco Conquista Mill tailings pond in Karnes County, Texas, and liquid wastes and by-product materials were injected into a deep disposal well (WDW-156) located within the licensed area. The Lamprecht site was operated from 1975 to 1988 when production operations were ceased. (TDH – 1983)

The Zamzow site licensed area included four wellfields totaling about 99 acres in extent. The process plant and offices were located just north of the first wellfield near the main entrance from FM 1358. The major features of the process plant were two waste-retention ponds; three large and two small ion exchange column trains with accompanying pumps and tankage; treatment, precipitation, and settling tanks of the uranium elution and U_3O_8 precipitation circuit; and a plate and frame filter press and vacuum dryer. Solid radioactive wastes (by-product material) were disposed of at the Conoco Conquista Mill tailings basin in Karnes County, Texas. Liquid wastes were injected into a deep disposal well (WDW-159) located on the site. The Zamzow site was operated from 1978 to 1986 when production operations were ceased. (TDH – 1986)

Decommissioning activities began with groundwater restoration at both sites. The completion dates for groundwater restoration for the wellfields are given in Appendix 1 "Summary of Sequence of Activities" and information and documentation relating to successful completion of groundwater restoration and plugging and abandonment of wells in accordance with applicable standards are addressed in Sections 2 and 3 of Part II of this report.

After groundwater restoration, decommissioning of the sites consisted of the following work completed by IEC: radiological surveying of equipment and structures; disposal of contaminated materials, including equipment, concrete, and soil removed from the plant and pond areas; transfer of contaminated equipment to licensed entities, resell of equipment and buildings with residual radiological contamination below acceptable surface contamination levels; and initial surveys to determine extent of radiological contamination in wellfields.

Any material and/or equipment which was contaminated was disposed of by 1) transfer to a facility licensed to receive by-product material for disposal; 2) transfer to another person licensed to possess equipment contaminated with by-product material (i.e., a licensed uranium recovery facility); or 3) decontaminated to not exceed the surface contamination limits pertaining to release of equipment and materials in Table 1 "Applicable Standards and Requirements Related to Topics Discussed in the CRR" in Section I of this report and released for unrestricted use.

After IEC stopped taking action to remediate the two sites in the early 2000s, the following actions were taken by the TCEQ: surveying and sampling of the areas of the sites unimpacted by operational activities; disposal of stockpiles of contaminated soils; surveying and disposal of the process plant concrete slabs; remediation of residual contamination in the process plant, pond areas, and wellfields; and surveying and collecting and analyzing soil samples through the use of a modified Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) approach. At the conclusion of the final verification surveys and analysis of soil samples obtained from the sites, the state contractor submitted a *Remedial Action Report* to TCEQ and TCEQ performed a confirmatory survey and approved release of the sites for unrestricted use.

To complete reclamation of the wellfields, first, soil with high gamma survey readings (above 50,000 counts per minute [cpm]) was excavated for off-site disposal. Then, areas which still exceeded the radium-226 (Ra-226) in soil release criteria were homogenized in place. Thus, *in situ* soil homogenization was used in the wellfields to complete reclamation work. Following homogenization, an intermediate gamma survey was performed. If areas still indicated a potential to exceed the release criteria, homogenization efforts were again applied to those areas, up to three times. A final verification gamma survey, and collection and analysis of soil samples was then performed.

TCEQ and its contractors performed surveys to confirm the effectiveness of decommissioning activities. All wellfields and plant site areas were surveyed, and soil samples collected to demonstrate that the limits specified in Table 1 (pertaining to release of sites [open areas with soil] to unrestricted use) were not exceeded. More details regarding the surveys and soil sample collection and analysis are provided in Section 5 of Part II of this report. Remediation activities were completed in May 2022.

TCEQ performed confirmatory surveys and collected soil samples at the Lamprecht and Zamzow sites in 2022. Soil samples were collected from various 100 square meter (m^2) grids and analyzed for Ra-226 as well as other residual radionuclides. Only one sample exceeded the criteria specified in Table 1 of this report. The exceeding 100 m^2 grid was remixed and resampled, and the new analytical value was below the criteria. Additionally, the radium benchmark dose equivalent for the residential farmer scenario was calculated for both the Lamprecht and Zamzow sites and was not exceeded as determined using the radium benchmark dose approach (TCEQ - 2022). More details regarding the confirmatory surveys and soil sample collection and analysis are provided in Section 6 of Part II of this report.

No land is to be transferred to the State of Texas or the Federal Government, because: 1) contaminated soils, materials, and equipment have been transferred or disposed offsite; and 2) remaining surface soils (wellfields and surrounding open areas) have been decommissioned by homogenization consistent with the NRC's position in SECY-04-0035 (NRC – 2004).

2. Information which demonstrates that the groundwater has been restored to meet applicable standards and requirements

Injection authorization associated with the leaching (mining) of uranium and restoration of the groundwater in the mining zones is the jurisdiction of the Underground Injection Control (UIC) Program. The UIC Program resided within the Texas Water Commission (TWC), which subsequently became the Texas Natural Resource Conservation Commission (TNRCC) and now the TCEQ. Thus, all data pertaining to the restoration of the groundwater was reviewed by the UIC Program. The Radioactive Materials Division (RMD) has reviewed correspondence from the TNRCC to IEC stating that the TNRCC received the restoration data for the Lamprecht Site, and a review of the data indicated that the production area had been restored in accordance with the specifications contained in permit UR01949-011 and as required by 30 TAC §331.107. TNRCC authorized IEC to cease any restoration activities, including monitoring, at this production area on September 16, 1994 (TNRCC – 1994a). A similar letter from the TNRCC to IEC approving groundwater restoration of the Zamzow site was dated July 8, 1997 (TNRCC – 1997a).

3. Documentation that the production, injection and monitoring wells have been closed and plugged in accordance with applicable standards and requirements

As discussed in Section II.2 above, the UIC Program had sole jurisdiction over the production, injection and monitoring wells at uranium recovery operations. Consequently, no data pertaining to such wells were reviewed by the RMD. Instead, the RMD relied on the UIC Program to determine that the wells had been plugged and abandoned in accordance with the applicable standards and requirements. The RMD reviewed a voluntary revocation of the Lamprecht site permit (dated March 6, 1996) and of the Zamzow project permit (dated November 11, 1997). The permit revocations stated that the Class III wells were plugged and abandoned in accordance with permit requirements, as certified by an independent registered professional engineer. Thus, the referenced correspondence from TNRCC to IEC demonstrates that the wells (i.e., production, injection and monitoring wells) at both sites have been closed and plugged to meet applicable standards and requirements (30 TAC §331.46). (TNRCC – 1996a, TNRCC – 1997b)

4. Decommissioning information which documents that all radiologically contaminated materials have been properly disposed of, transferred to licensee(s) authorized to possess such materials, or meet applicable standards and requirements for release

During IEC's period of operation, the Licensee was required by Rule (i.e., Texas Regulations for Control of Radiation, Part 21; Title 25 of the Texas Administrative Code, Chapter 289, Section 202; and Title 30 of the Texas Administrative Code, Chapter 336, Subchapter D) and a condition on the radioactive material license which prohibited the Licensee from releasing equipment and materials from the site to unrestricted use if the surface contamination on the equipment and materials exceeded the limits specified in Table 1 of this CRR. Inspections have been made of the Licensee's operations since the issuance of the radioactive material license for compliance with the provisions of the Rules and the conditions on the license. The Licensee submitted records of surveys to the regulatory agency to demonstrate that equipment or materials released to unrestricted use did not exceed the prescribed limits. The state's inspection reports document these releases as well. Two instances of noncompliance with this requirement were noted; during a Lamprecht site inspection, records of the gamma surveys for unrestricted use were not available for two shipments made on March 19, 1992 (TDH – 1992). A similar observation was made during a Zamzow site inspection conducted in 1993 that equipment was released for unrestricted use prior to completion and documentation of all required surveys (TDH – 1993a). In subsequent inspection reports, the release of equipment for unrestricted use is well documented, with no issues noted.

The inspection reports have sections titled to specifically address the release of equipment and materials to unrestricted use and either note that no items were released to unrestricted use for the period of the inspection or note with varying degrees of detail that items were released.

Rules under which the Licensee has operated (i.e., Texas Regulations for Control of Radiation, Part 21; Title 25 of the Texas Administrative Code, Chapter 289, Section 202; and Title 30 of the Texas Administrative Code, Chapter 336, Subchapter D) required the documentation of transfer of materials and equipment, not meeting the criteria for release to unrestricted use, to other persons. Evidence was found in inspection reports that records were made to document the transfer of equipment and materials which were determined to be contaminated, to licensed by-product material disposal facilities and to persons licensed to possess such material. No reports indicated that any inappropriate transfers were made. Records show that equipment and materials were transferred in accordance with the requirements of rules and license conditions.

Transfer of By-Product Material
Information on the transfer of by-product material to other radioactive materials licensed sites was gathered from inspection reports from the Lamprecht and Zamzow sites. The information is detailed below.

On December 19 and 22, 1992 IEC transferred two dryers and seven fiberglass tanks to Pathfinders Mine in Wyoming. IEC acquired the necessary registration from the Department of Transportation to transport radioactive material and survey records for these shipments were reviewed and found to be complete. (TDH – 1993b)

From July 25, 1995 through June 6, 1996, eight shipments of materials were made to URI, Inc. According to shipping and RSO records, the transferred materials were not acceptable for release to unrestricted use. The materials included fiberglass tanks and beams, pressure tanks, pumps and motors, stainless steel pumps, hydro sieve, and fiberglass grating. Required surveys were performed. (TNRCC – 1997c)

The filter press at Zamzow was sold to URI, Inc. Additionally, on July 16, 1996, several pumps and motors were transferred to URI, Inc. from Zamzow. These materials were not acceptable for release for unrestricted use. Equipment was surveyed prior to release. (TNRCC – 1997d)

In addition, eighteen (18) exclusive use shipments of solid by-product material to Panna Maria, a licensed uranium mill tailings disposal site in Karnes County, Texas, were made from June 13, 1996 through January 1, 1997. Materials transported included PVC pipes, pipe scale, sand filter material, and a stainless-steel submersible pump. Records were complete and the required surveys were performed confirming the shipments were below the regulatory limits for transport. (TNRCC – 1997c)

On January 28, 1998, three (3) pressure vessels were transferred from Zamzow to URI, Inc, and on April 3, 1998, five (5) pump and motor skids were transferred from Lamprecht to URI, Inc. (TDH – 1998a)

Ponds
At the Lamprecht site, the liner from the south pond and the sludge from both ponds were shipped to Panna Maria tailings impoundment for disposal and the liner for the north pond was sold to Everest Exploration, Inc., Mt. Lucas Project. The other three older ponds located behind the Lamprecht plant did not have liners or sludge during the 1997 site inspection. During the 1980s, the liners and sludge from the three ponds were sent to Conoco, Conquista tailings impoundment site for disposal, located in Falls City, Texas. (TNRCC – 1997c)

At the Zamzow site, the liners and the sludge from both the north and south ponds were shipped to Panna Maria tailings impoundment for disposal. (TNRCC – 1997d)

Disposal of Solid By-Product Material
Information on the disposal of solid by-product material to licensed disposal facilities was gathered from inspection reports from the Lamprecht and Zamzow sites. The information is detailed below.

From January 13, 1994 through May 21, 1994, a total of 44 shipments of solid by-product material were made to Umetco Minerals Corporation (Umetco) in Blanding, Utah. One shipment on April 30, 1994 was returned to the Lamprecht facility on the same day and reshipped on May 3, 1994 after it was involved in a traffic accident resulting in a spill around the downtown area of San Antonio, Texas. The spill was contained, and all contaminated materials were returned to the site. (TNRCC, 1994b)

According to the 1995 inspection conducted at Lamprecht, there were 92 shipments of solid by-product material to Umetco in Blanding, Utah from May 25, 1994 through May 31, 1995. Ace Transportation, Land Star Ligon, Inc., and Carranza Trucking were the carriers and records were complete. (TNRCC – 1996b)

According to the 1997 inspection conducted at Lamprecht, there were 34 exclusive use shipments of solid by-product material to Umetco in Blanding, Utah from October 14, 1995 through April 18, 1996. Materials transported included PVC pipes, ceramic saddles, reverse osmosis membrane, scrap metal, bag filters, concrete, dirt, cement, resin, soil, calcium, four fiberglass upflow columns, and miscellaneous stainless-steel manifolds. The carrier was Land Star Ligon, Inc., and the reviewed records were complete. The required surveys were performed and were below the regulatory limits for transport. (TNRCC – 1997c)

Material for disposal generated at the Zamzow site was transferred to the Lamprecht site then shipped from the Lamprecht site to authorized disposal sites. Solid by-product materials generated at the Zamzow site were shipped to Panna Maria, a licensed uranium mill tailings disposal site, located in Karnes County, Texas and Umetco in Blanding, Utah, for disposal. According to the TNRCC's record and IEC's record, relevant terms and conditions of the agreements with the Panna Maria uranium mill tailings disposal site and Umetco were submitted to the UIC, Uranium, and Radioactive Waste Section of the TNRCC. (TNRCC – 1997d)

In 1998, six shipments of contaminated soil from the Lamprecht site were taken to Blanding, Utah, by Landstar Ligon for disposal (a total of 160 tons of soil). (TDH – 1999a)

By 2000, IEC had reportedly disposed of over 6,000 tons of by-product waste (CIMA Energy – 2000). After the state took over the remediation of the Lamprecht and Zamzow sites, 1,740 tons of contaminated soil was disposed of in 2016 from six large soil stockpiles located at Zamzow. The remaining contaminated soil and concrete at both sites was removed from 2019-2022, totaling 1,711 tons of soil and 2,635 tons of concrete. The waste manifests associated with these transfers of material are available for review in the *Remedial Action Report*. (Weston Solutions, Inc. – 2023)

Equipment Released for Unrestricted Use

Information on the release of equipment for unrestricted use was gathered from the Lamprecht Decommissioning Report and inspection reports from the Lamprecht and Zamzow sites. The information is detailed below.

According to the 1992 Lamprecht Decommissioning Report, the building materials and equipment encountered during the dismantlement of the Lamprecht main process building and calciner dryer building were monitored for alpha, beta and gamma emitting radionuclides. All equipment which was suitable for release for unrestricted use, under the regulatory requirements of the Texas Department of Health, Bureau of Radiation Control Texas Regulations for Control of Radiation, Part 21, Appendix 21-C was released to Atlas Iron and Metal Co., in Corpus Christi, Texas. (Landmark Reclamation, Inc. - 1992)

On September 25, 1992, IEC released an electric motor to Everest Exploration, Inc. A survey was done on the motor and all survey records reviewed were complete. (TDH – 1993b)

From October 1992 to March 1993, a granulator, drill bits, pump, truck, air compressor, mower, radiator, and piping were transferred to third parties after a survey was completed. (TDH – 1993c)

The December 1994 inspection recorded various pieces of equipment being released for unrestricted use since the last inspection. These pieces included a metal mud pit, concrete, aluminum, motor head, fence posts, electrical boxes, PVC pipes, fiberglass tank top, scrap iron, propane tank, air compressor, and countertop. All records were complete, and all required surveys were performed. (TNRCC, 1994c)

From January 6, 1995 through May 12, 1995, nineteen (19) items were released for unrestricted use. Proper documentation was reviewed and approved by TNRCC. (TNRCC – 1996b)

From June 14, 1995 through November 15, 1996, twenty-nine (29) releases were made for unrestricted use. Items released included portable buildings, sheets of building paneling, pump wire, metal shelves, storage shelves, filing cabinets, a poly core tank, hydrogen peroxide tank, scrap metals, pumps, air compressor, diesel tank, and a building. Gross alpha and gross beta and gamma surveys were performed on items prior to release for unrestricted use. Swipe tests on items exceeding fixed surface contamination of 1,000 dpm/100 cm^2 were also performed. (TNRCC – 1997c)

From January 30, 1995 through November 26, 1996, fifteen (15) releases of contract/lease equipment were made for unrestricted use. Contract/lease equipment released included a backhoe, Hertz rental truck, backhoe hammer, track loader, forklift, motor grader, front loader, chain saw, and 544B John Deere loader tires. Gross alpha and gross beta and gamma surveys were performed on items prior to release for unrestricted use. Swipe tests on equipment exceeding fixed surface contamination of 1,000 dpm/100 cm^2 were also performed. (TNRCC – 1997c)

On January 28, 1998, three pressure vessels, six feet by ten feet, were transferred. On February 17, 1998 a gooseneck trailer was released. On April 3, 1998, five pump and motor skids were transferred from IEC Lamprecht to URI, Inc. On August 25, 1998, the lab building and warehouse were surveyed for release. On August 26, 1998, the shop building was surveyed for release. On September 30, 1998, a rental backhoe was surveyed for release. On October 27, 1998, the reverse osmosis building was surveyed for release. On October 28, 1998, the main office was surveyed. On November 3, 1998, the Zamzow office and engineering buildings were surveyed. On February 18, 1999, a sprayer and a welder trailer were released. On May 21, 1999, four bins were released. All records appeared to be correct and complete. (TDH, 1999a)

Remaining On-site Buildings
Only three buildings remain on-site, and all three are located on the Lamprecht site. They are, from west to east, the warehouse, the laboratory, and the maintenance building. The Licensee reviewed the use history of the buildings and determined that they had little potential for being contaminated. Consistent with the MARSSIM recommendation for categorizing an area with respect to its probability for being contaminated, the licensee made a survey of the buildings for alpha and beta-gamma contamination. The results indicated that the buildings did not exceed the surface contamination limits specified at 30 TAC §336.364. The Texas Department of Health (TDH) Division of Compliance and Inspection (DCI) performed confirmatory surveys of these buildings on November 19, 1998 and determined that the surveys did not detect any residual radioactive material (TDH – 1999b). Supplemental scans of the buildings conducted in 2022 by TCEQ's contractor confirmed they remained below surface contamination limits. The warehouse is an open-air building that is currently used to store various non-radioactive materials, and the maintenance building is used as a temporary recreation building. The laboratory is in disrepair and is not habitable.

Other Buildings Released for Unrestricted Use
Additional buildings that were approved for release for unrestricted use by the state in 1999 are the reserve osmosis building at Lamprecht and the office building and laboratory building at Zamzow. These buildings are no longer present at either site and were either disposed of or resold. (TDH – 1999b)

5. Discussion of the results of radiation surveys and soil sample analyses which confirm that the licensed site meets applicable standards and requirements for release

Areas Not Impacted by Operations
In 2014 the state identified areas that could be candidates for partial release for unrestricted use. These areas were identified by review of the file (including licenses and amendments, inspection reports, field activity reports, and others), review of maps and environmental assessments, and review of aerial photos going back to 1995. The state performed gamma surveys of the areas of Lamprecht and Zamzow that were expected to have not been impacted by site operations. Surveys were judgmentally focused on areas with the greatest potential for residual contamination, that is, perimeters, boundaries with areas known to have experienced industrial activity, drainages, dirt roads and areas showing sparse vegetation over a long time. Additionally, non-judgmental gamma surveys were performed to increase the quantity of data. Gamma survey data was collected with 1-inch by 1-inch sodium iodide gamma detectors which were kept 6 inches above ground surface. The average background reading was between 1.5 kilo counts per minute (kcpm) and 2.0 kcpm. No gamma survey data exceeded two times the background level. Soil samples were collected at random locations from the 0-6” interval and the 6”-12” interval at a density derived from MARSSIM. The soil sample analytical results for both intervals averaged 1.02 pCi/g for Ra-226 (below the 0-6” site soil closure criteria of 5.8 pCi/g). Additionally, none of the samples exceeded the radium benchmark dose. Therefore, the state reached the conclusion that Areas 1, 2, 5, 11, and 12 could be released for unrestricted use. These areas totaled approximately 800 acres and can be seen on Figure 3 in Appendix 2. (TCEQ – 2014)

Pipeline Removal
Approximately 5,825 linear feet of an abandoned pipeline was excavated and sent for off-site disposal. The pipeline was located along the eastern edge of the Zamzow site, leading from within the former plant area to a former injection well located in the southern portion of the Zamzow property. The results of the scanning indicated the pipe and surrounding soil in the trench did not require management as radioactive material. (Weston Solutions, Inc. - 2023)

General Approach for Remediating Contaminated Soil
A correlation study was conducted to provide a gamma scan count to use to determine the cleanup threshold/action level for the site. From the correlation study information, it was determined that a gamma count rate of 13,384 cpm was equivalent to the site action level for cleanup of 5.8 pCi/g Ra-226. The wellfields at Lamprecht and Zamzow were gamma surveyed to confirm the locations of areas that exceeded the gamma criteria (13,384 cpm) for mixing and homogenization. Gamma surveys were conducted using a 2-inch by 2-inch sodium iodide gamma detector/ratemeter set to collect readings every two seconds connected to a GPS unit/data logger to evaluate conditions in the remediated areas and compare them to the cleanup criteria. A gamma threshold reading of 50,000 cpm was established to identify soil that would require excavation and off-site disposal. Areas with gamma readings between

13,384 and 50,000 cpm were homogenized up to three times to meet release criteria. Remediation areas were divided into contiguous 10-meter by 10-meter grid areas outlined for individual gamma surveying. The surveyors walked or drove a utility terrain vehicle (UTV) equipped with gamma detectors/ratemeters parallel to the grid lines on 2-meter transects at a rate of 1 meter per second with the detector probes held at a distance of approximately 18 inches above the ground surface. The 2-meter transects width was selected to provide a scan density of 100 percent (%). The surveyors listened to the count rate when walking or driving the grid lines as a qualitative indicator of a count rate above background. As part of the preliminary gamma survey, a grid was identified for homogenizing with the RM300 (rotary mixer) or mixing with an excavator if any survey point within the grid was above the established gamma survey criteria of 13,384 cpm. Those grids were then mixed as part of the first round of homogenization. After mixing, a post-mix gamma survey was conducted of the mixed grid and adjacent grids. Gamma survey data were then run through a GIS algorithm that identified grids in which three consecutive survey points were above the gamma survey criteria of 13,384 cpm. Those grids were then mixed for a second round of homogenization, followed by a second post-mix gamma survey. This process was repeated for a third round of homogenization if necessary. If a grid still contained three consecutive gamma survey points above the gamma survey criteria after three rounds of homogenization, then it was treated as a “hot spot”, removed from survey unit sampling, and was sampled directly. Small discrete areas with elevated activity were physically removed with a shovel and/or excavator and staged for disposal.

Soil Verification Samples
TCEQ’s contractor used a modified MARSSIM sampling methodology that employed the use of Class 1 and Class 2 survey units. Class 1 survey units are areas known to have contamination from previous radiological surveys or historical knowledge of the site. Class 2 survey units are areas that have a potential for radioactive contamination and are not expected to exceed the cleanup criterion (5.8 pCi/g Ra-226). Class 2 survey units included unmixed areas. Under this modified approach, the Class 1 survey unit size was 6,000 m^2, and the Class 2 survey unit size was 30,000 m^2. Soil sample locations were determined using a sampling design generated by the computer program Visual Sampling Plan version 7.12a. Soil samples were collected from the 0-6” depth interval in both Class 1 and Class 2 survey units, as well as hot spots. In addition, one soil sample per Class 2 survey unit was collected from the 6”-12” depth interval. The focus was kept on the 0-6” samples because all contaminated areas were homogenized from at least 0-18 inches below ground surface, thus negating the difference between the two depth intervals. All verification soil samples were collected as five-point composite samples.

Lamprecht Wellfields
The Lamprecht wellfields were gamma scanned and portions were homogenized up to three times. The following describes the sizes of the various areas, how large of an area was homogenized, and how many verification samples were collected. The areas can be seen on Figure 4 in Appendix 2.
Area A: 45 acres, 10.2 acres mixed, 113 verification samples collected
Area B: 28 acres, 7.1 acres mixed, 87 verification samples collected
Area C: 12 acres, 6.3 acres mixed, 72 verification samples collected
Area D: 7 acres (Hahn property south of FM 1358), 1.8 acres mixed, 28 verification samples collected
Area H: step outs (extensions to previously established areas) to identify extent of

contamination in perimeter areas (8 acres), 2 acres mixed, 26 verification samples collected

Zamzow Wellfields
The Zamzow wellfields were gamma scanned and portions were homogenized up to three times. The following describes the sizes of the various areas, how large of an area was homogenized, and how many verification samples were collected. The areas can be seen on Figure 5 in Appendix 2.
Area G1: 13 acres, 6.9 acres mixed, 55 verification samples collected
Area G2: 73 acres, 40 acres mixed, 219 verification samples collected
Area G3: 27 acres, 5.3 acres mixed, 65 verification samples collected
Area G4: 10 acres, 0.8 acres mixed, 29 verification samples collected

Lamprecht Plant
Area E and Expanded Area E (former process plant): 42 acres, 11.6 acres mixed, 117 verification samples collected

The concrete foundations from the plant site in Area E were assessed and demolished. The concrete was either buried onsite if release criteria were met or disposed off-site. A high-pressure power washer was initially used to remove surficial contamination from the concrete (a process called scabbling). However, beneath the top layer of material, the concrete was very heterogenous, making it difficult to scan and wipe sample. Additionally, fine particles and associated radioactive material appeared to settle into void spaces in the uneven surface. As a result, the scabbling was inefficient and ineffective in removing radioactive material, and the contractor moved from a scabbling operation and focused on off-site disposal of affected concrete. Radioactive soil from the plant site area was either homogenized to meet free release criteria or excavated and disposed of.

Processing Ponds
The Texas Department of Health issued a letter on May 18, 1998 approving the backfilling of process ponds 1, 2, 3, 4, and 5 at the Lamprecht site. TDH reviewed the surveys conducted by IEC and performed their own confirmatory surveys and determined that the ponds were suitable for backfilling. (TDH – 1998b)

Zamzow Plant
Area F (former process plant): 6.4 acres, 6 acres mixed, 58 verification samples collected

Concrete foundations and stockpiled concrete were assessed, and either left on-site if release criteria were met or disposed off-site. Approximately 85% of the larger concrete pieces scanned failed the release criteria. It was estimated that several thousand smaller pieces/fragments remained to be scanned. Because the estimated cost to scan every piece of concrete was much greater than the cost for off-site disposal, TCEQ agreed to dispose of the remaining concrete and debris off-site as contaminated. Radioactive soil was either homogenized to meet free release criteria or excavated and disposed off-site.

Processing Ponds
The two process ponds at the Zamzow plant site were assessed, the remaining liner was removed, and soil was homogenized to meet release criteria. It appeared that the liner was removed previously in areas where it was exposed but was left in place where it was covered

by soil or sediment. The remaining liner from the ponds was removed and added to excavated soil for off-site disposal. After the pieces of liner were removed, a trench was excavated to 2 feet below surface through each pond and gamma scanned to provide additional depth profile information for the ponds. Gamma readings ranged from 11,000 to 46,000 cpm, with the higher readings measured within the upper 1.5 feet. The readings were below 50,000 cpm, indicating that the soil could be mixed to meet the Ra-226 action level, except for one 10-meter by 10-meter grid, which required excavation and disposal off-site. The ponds were divided into 10-meter by 10-meter grids and excavated to approximately 4 feet below ground surface within each grid. Each 1-foot excavation interval was gamma scanned to confirm levels encountered would not make soil mixing ineffective. An excavator was then used to mix the excavated soil in lifts. After mixing, the grids were rescanned. Finally, the ponds were backfilled to original surface level using a mixture of surrounding soil and excess broken-up non-contaminated concrete from the Zamzow plant.

6. Discussion of results of the State Regulatory Agency's Site Closure Inspections

The majority of the remediation work at Lamprecht and Zamzow was performed by contractors under the close supervision of the TCEQ. Staff made numerous visits to the sites to observe work being performed by their contractor and held weekly conference calls to stay updated with site progress, culminating in a final inspection. The details of the state site closure inspection are given below.

Regulatory confirmatory sampling at Lamprecht and Zamzow was conducted by reviewing the gamma survey maps of the two sites and selecting areas with highest residual gamma radiation. Confirmatory five-spot soil samples were collected on established 100 m^2 areas. Because these areas of elevated residual gamma radiation had previously been homogenized from surface level to 18 inches below ground level by the contractor, only one set of samples were collected to a depth of six (6) inches. The samples were composited and homogenized. The composited samples were each identified with a unique identification number, sample collection depth, date and time of collection, and location (GPS coordinates) of collection. Chain of custody was maintained until the samples were transferred to the analytical laboratory.

The samples were analyzed for Ra-226 and other residual radionuclides (Pb-210, Th-228, Th-230, Th-232, U-234, U-235, and U-238). The sample results were reviewed for compliance with the concentration limits for Ra-226 [30 TAC §336.1115(e)(1)]. The analytical results indicated that only one 10-meter by 10-meter grid in Area G3 exceeded 5.8 pCi/g Ra-226. All other analytical results were below 5.8 pCi/g Ra-226. The one exceeding grid was re-homogenized and resampled. The new sample result, after re-homogenization, was 0.94 pCi/g Ra-226 (below closure criteria).

The laboratory results for all residual radionuclides were used to determine if the radium benchmark dose limit was exceeded. The radium benchmark dose was established for each site using RESRAD version 7.2. The input parameters in RESRAD were adjusted for the specific site and based on a residential farmer land use scenario. The radium benchmark dose was established by calculating the dose obtained from 5 pCi/g of Ra-226 in soil to a depth of 6 inches, as well as 5 pCi/g concentrations of all decay-chain progeny (i.e. Ra-226 in secular equilibrium with its decay-chain through and including Po-210).

The radium benchmark dose at the Lamprecht site was determined to be 42.49 mrem/year and for the Zamzow site was determined to be 42.52 mrem/yr. To evaluate if the radium benchmark dose was exceeded, the analytical results for Ra-226, natural uranium (i.e., U-238, U-235 and U-234), thorium (Th-228, Th-230, and Th-232) and Pb-210 concentrations from the most highly contaminated grids at Lamprecht and Zamzow were input into RESRAD in separate runs. Additionally, concentrations of all decay-chain progeny were input as equivalent to the parent radionuclides, and background levels were excluded. The sum of the ratios for each radionuclide to the calculated radium benchmark dose equivalent concentration limits was calculated to determine if "1" (unity) had been exceeded. For the Lamprecht site, a ratio of 0.80 was calculated, and for the Zamzow site, a ratio of 0.84 was calculated. The exposure dose from residual radionuclides at both sites did not exceed the radium benchmark dose. (TCEQ – 2022)

7. For partial terminations, documentation that release of a portion of the site will not negatively impact the remainder of the site to be closed at a later date

Not applicable; the Lamprecht and Zamzow sites are the only remaining sites under Radioactive Materials License R02538 that need concurrence from the NRC to be released for unrestricted use. The Pawnee Project site, located in Bee County, was also regulated under this license, but was released by the NRC for unrestricted use in 1999. (NRC – 1999).

III. REFERENCES

CIMA Energy – 2000	CIMA Energy, Letter to TDH regarding release of Lamprecht and Zamzow properties, dated March 2, 2000
Landmark Reclamation, Inc. – 1992	Landmark Reclamation, Inc., "Intercontinental Energy Corporation, Lamprecht Mine Site, Decommissioning Project, Final Report – 1992"
NRC - 1999	Nuclear Regulatory Commission, Letter to TDH approving the release of the Pawnee Site from the license, dated May 13, 1999
NRC – 2000	NUREG-1575, Rev. 1, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)"
NRC – 2003a	NUREG-1569 "Standard Review Plan for in situ Leach Uranium Extraction License Applications, Appendix E Guidance to the U.S. Nuclear Regulatory Commission Staff on the Radium Benchmark Dose Approach."
NRC – 2004	SECY-04-0035, "Results of the License Termination Rule Analysis of the Use of Intentional Mixing of Contaminated Soil," March 1, 2004
NRC - 2009	Nuclear Regulatory Commission, Letter to Tim Smith regarding the NRC's determination for the Lamprecht Uranium In Situ Mine, dated August 26, 2009
NRC – 2010	SA-900, "Termination of Uranium Milling Licenses in Agreement States"
NRC – 2020	Nuclear Regulatory Commission Website, "Intercontinental Energy Corporation", Uranium Recovery Sites, https://www.nrc.gov/info-finder/decommissioning/uranium/intercontinental-energy-corp.html, Accessed September 30, 2022
TCEQ – 2014	TCEQ, Version 09, "IEC Lamprecht Zamzow Potential Partial Release Work Plan", dated July 25, 2014
TCEQ – 2019	TCEQ Radioactive Materials Section Standard Operating Procedure, "Conducting Close-Out Surveys"
TCEQ – 2022	TCEQ Interoffice Memorandum, "Confirmatory Sampling Conducted by TCEQ at IEC Lamprecht and Zamzow sites on March 28, 2022"
TDH – 1983	Bureau of Radiation Control, Texas Department of Health, "Environmental Assessment and Safety Evaluation Report Related to the Renewal of License No. 8-2538 Wyoming Mineral Corporation, Lamprecht Project, Live Oak County, Texas"

TDH – 1986	Bureau of Radiation Control, Texas Department of Health, "Environmental Assessment Related to the Renewal of License No. 8-2238, Intercontinental Energy Corporation, Zamzow Project, Live Oak County, Texas"
TDH – 1992	Texas Department of Health, Bureau of Radiation Control, Inspection Report for Lamprecht Project, dated March 25, 1992
TDH – 1993a	Texas Department of Health, Bureau of Radiation Control, Inspection Report for Zamzow Project, dated May 27-28, 1993
TDH – 1993b	Texas Department of Health, Bureau of Radiation Control, Inspection Report for Lamprecht Project, dated November 8, 1992
TDH – 1993c	Texas Department of Health, Bureau of Radiation Control, Inspection Report for Lamprecht Project, dated May 26-27 1993
TDH – 1998a	Texas Department of Health, Bureau of Radiation Control, Inspection Report, Lamprecht Site, dated July 23, 1998
TDH – 1998b	Texas Department of Health, Letter to IEC regarding closure of five Lamprecht ponds, dated May 18, 1998
TDH – 1999a	Texas Department of Health, Bureau of Radiation Control, Inspection Report, Zamzow Facility, dated August 9-10, 1999
TDH – 1999b	Texas Department of Health, Letter to IEC regarding request for release of buildings, dated January 6, 1999
TNRCC – 1994a	TNRCC, Restoration determination of Production Area No. 1 of the Lamprecht Mine Site, Permit No. UR01949-011, dated September 16, 1994. Issued to IEC.
TNRCC – 1994b	TNRCC, Uranium Facility Inspection Report, Lamprecht Inspection, dated May 24, 1994
TNRCC – 1994c	TNRCC, Uranium Facility Inspection Report, Lamprecht Project, dated October 20-21, 1993
TNRCC – 1996a	TNRCC, Letter with subject "Voluntary Revocation of Permit UR01949, Lamprecht Mine", dated March 6, 1996
TNRCC – 1996b	TNRCC, Uranium Facility Inspection Report, Lamprecht Inspection, dated June 1-2, 1995
TNRCC – 1997a	TNRCC, Restoration Determination for Production Area 1, UR02108-011, Zamzow Mine, dated July 8, 1997. Issued to IEC.
TNRCC – 1997b	TNRCC, Letter with subject "Voluntary Revocation of Permit UR02108, Zamzow Mine", dated November 11, 1997
TNRCC – 1997c	TNRCC, Uranium Facility Inspection Report, Lamprecht Site Inspection, dated January 7-9, 1997

TNRCC – 1997d	TNRCC, Uranium Facility Inspection Report, Zamzow Site Inspection, dated January 7-9, 1997
Weston Solutions, Inc. - 2023	Weston Solutions, Inc., Final Remedial Action Report, IEC Remediation Project, Three Rivers, Live Oak County, Texas, January 2023

APPENDIX 1

Summary of Sequence of Events

<table>
<tr><th rowspan="2">Date</th><th rowspan="2">Activity</th><th colspan="2">Regulatory Authority</th></tr>
<tr><th>Radioactive Material Licensing</th><th>Underground Injection Control Permitting</th></tr>
<tr><td>1974</td><td>TDH authorized Wyoming Mineral Corporation, a subsidiary of Westinghouse Electric Corporation, to conduct uranium mining at the Lamprecht site with an authorized production of 500,000 lbs/year.</td><td rowspan="9">Texas Department of Health (TDH)</td><td rowspan="9">Texas Water Commission (TWC)</td></tr>
<tr><td>January 1978</td><td>TDH authorized IEC to conduct uranium mining at Zamzow with an authorized production of 2,000,000 lbs/year.</td></tr>
<tr><td>May 1978</td><td>UIC Permit No. 2108 issued to IEC for in situ uranium mining at Zamzow.</td></tr>
<tr><td>June 1978</td><td>UIC Permit No. 1949 issued to Wyoming Mineral Corporation for in site uranium mining at Lamprecht.</td></tr>
<tr><td>1984</td><td>IEC purchased the Lamprecht site from Westinghouse Electric Corporation.</td></tr>
<tr><td>1983-1985</td><td>Fluids from Exxon Ray Point tailings pond were trucked to Zamzow for uranium extraction.</td></tr>
<tr><td>February 1986</td><td>Mining ceased and restoration of groundwater begins at Zamzow.</td></tr>
<tr><td>May 1988</td><td>Production ceased at Lamprecht and Production Areas No. 1, 2, 3, and 4 (UR01949-011) were placed into active groundwater restoration.</td></tr>
<tr><td>1989</td><td>IEC was allowed to combine the Lamprecht and Zamzow licenses into one.</td></tr>
</table>

September 1993	TWC combined with other agencies to become the Texas Natural Resource Conservation Commission (TNRCC). Regulatory authority for uranium recovery (i.e., radioactive material licensing) transferred from TDH to TNRCC.	Texas Natural Resource Conservation Commission (TNRCC)	TNRCC
December 1993	IEC completed the Lamprecht mine groundwater restoration.		
September 1994	TNRCC authorized IEC to cease restoration activities and authorized the plugging of the Class III wells at Lamprecht.		
December 1995	All of the Class III wells were plugged at Lamprecht.		
March 1996	TNRCC revokes permit UR01949 (Lamprecht Mine) as all Class III wells have been successfully plugged and abandoned.		
January 1997	During the TNRCC inspection, it was observed that the Lamprecht processing plant was dismantled, and site decommissioning was in progress. Additionally, both ponds were decommissioned.		
July 1997	Regulatory authority for uranium recovery (i.e., radioactive material licensing) transferred back from TNRCC to TDH.	TDH	
July 1997	All Class III wells were plugged at Zamzow. TNRCC letter dated July 8, 1997 states groundwater at Zamzow was restored in accordance with the specifications contained in the permit.		
November 1997	TNRCC revokes permit UR02108 (Zamzow Mine) as all Class III wells have been successfully plugged and abandoned.		
June 1998	TNRCC revokes permit WDW-156 for Lamprecht's deep disposal well because WDW-156 has been successfully plugged and abandoned.		
June 1998	TNRCC revokes permit WDW-159 for Zamzow's deep disposal well because WDW-159 has been successfully plugged and abandoned.		

March 2001	IEC submits a Decommissioning Work Plan to TDH. Decommissioning plan was not approved.	TDH	TNRCC
September 2001	IEC's contractor (Everest Exploration/SENES) submits partial characterization survey of Lamprecht and Zamzow sites to TDH.		
February 2002	IEC's contractor (Everest Environmental Services Corp.) submits survey findings to TDH.		
September 2002	TNRCC changes name to Texas Commission on Environmental Quality (TCEQ).		Texas Commission on Environmental Quality (TCEQ)
September 2003	TDH contracts C&I to perform surveying/sampling on the Hahn property and elsewhere at Lamprecht site.		
September 2004	TDH merged with other agencies to become the (Texas) Department of State Health Services (DSHS)	Texas Department of State Health Services (DSHS)	
December 2005	Preliminary soil characterization in support of IEC soil homogenization was received.		
June 2007	Regulatory authority for uranium recovery (i.e., radioactive material licensing) transferred from DSHS to TCEQ.	TCEQ	
2011	TCEQ initiated brush-clearing and gamma surveys of the sites.		
November 13, 2013	Radium Benchmark Dose rule becomes effective, replacing the uranium concentration rule.		
2014	TCEQ identified parts of the sites that NRC might agree are eligible for release. TCEQ developed a work plan to acquire a defensible amount of data and TCEQ conducted radiation surveys and soil sampling on those parts of the properties on August 12, 2014 and October 16, 2014.		
2022	TCEQ contractor completes decommissioning activities at Lamprecht and Zamzow and TCEQ staff conduct confirmatory sampling.		

APPENDIX 2

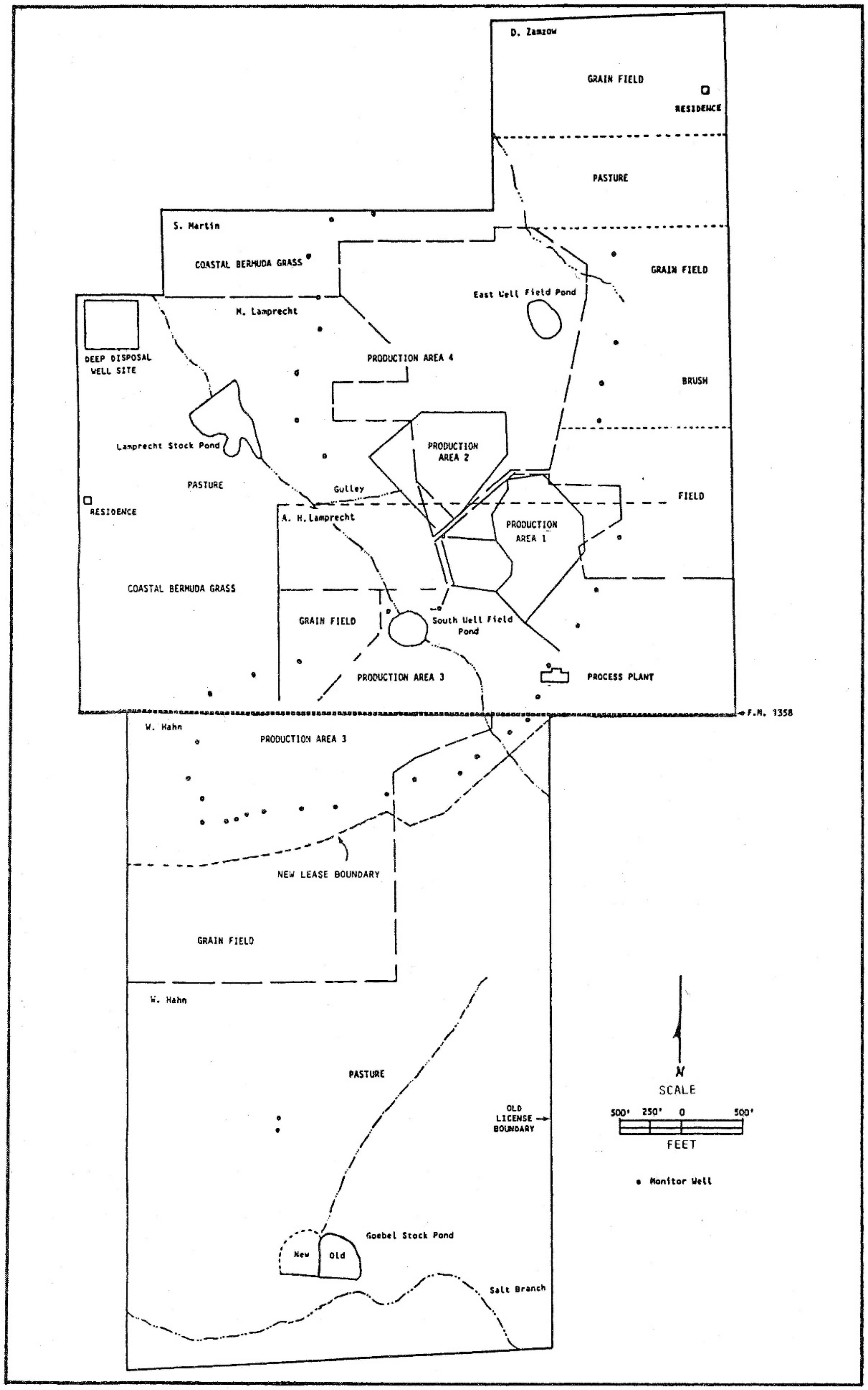

Figure 1 General Layout of the Lamprecht License Area, Including Land Uses

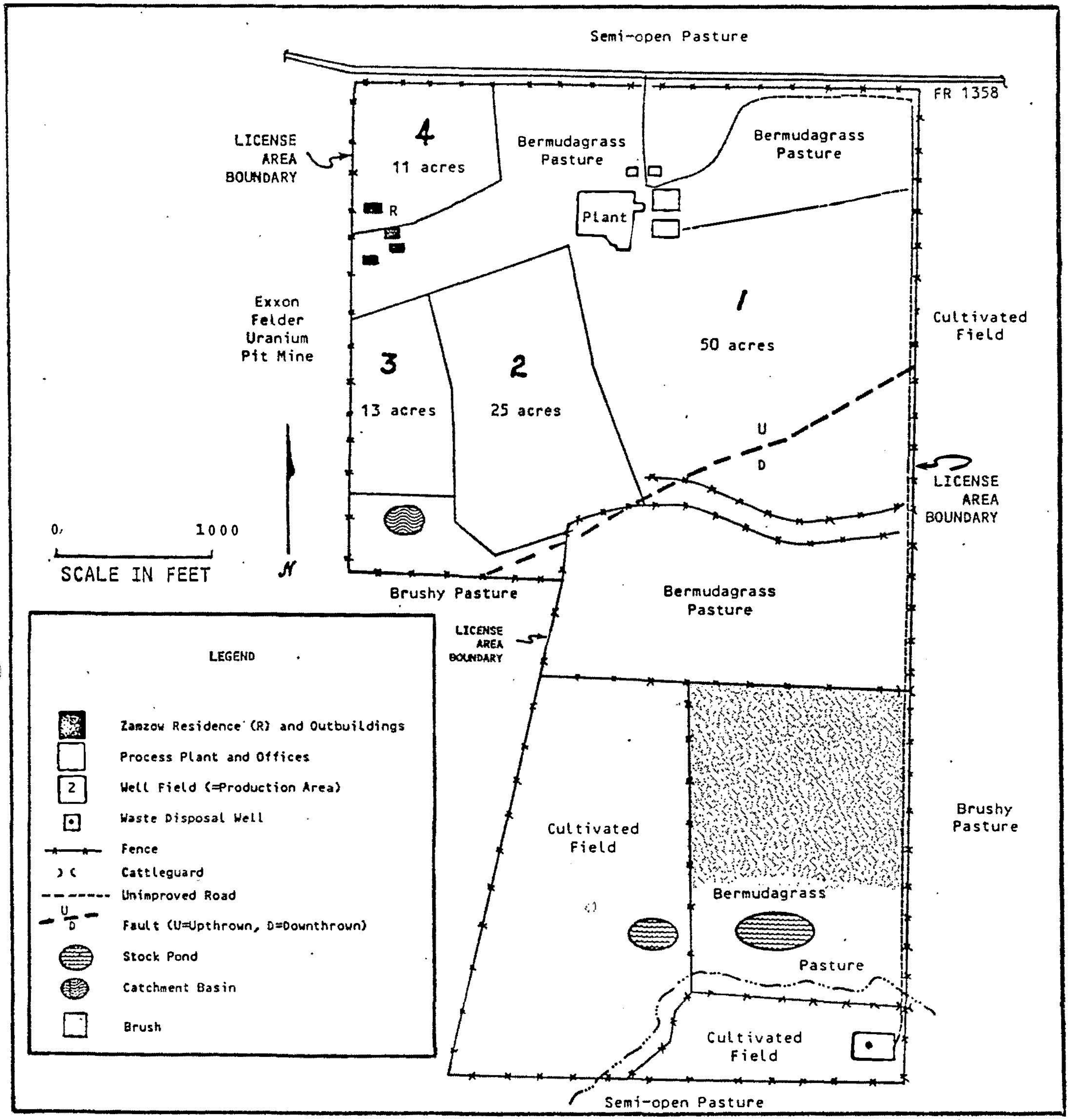

Figure 2 General Layout and Land Use of the IEC Zamzow License Area

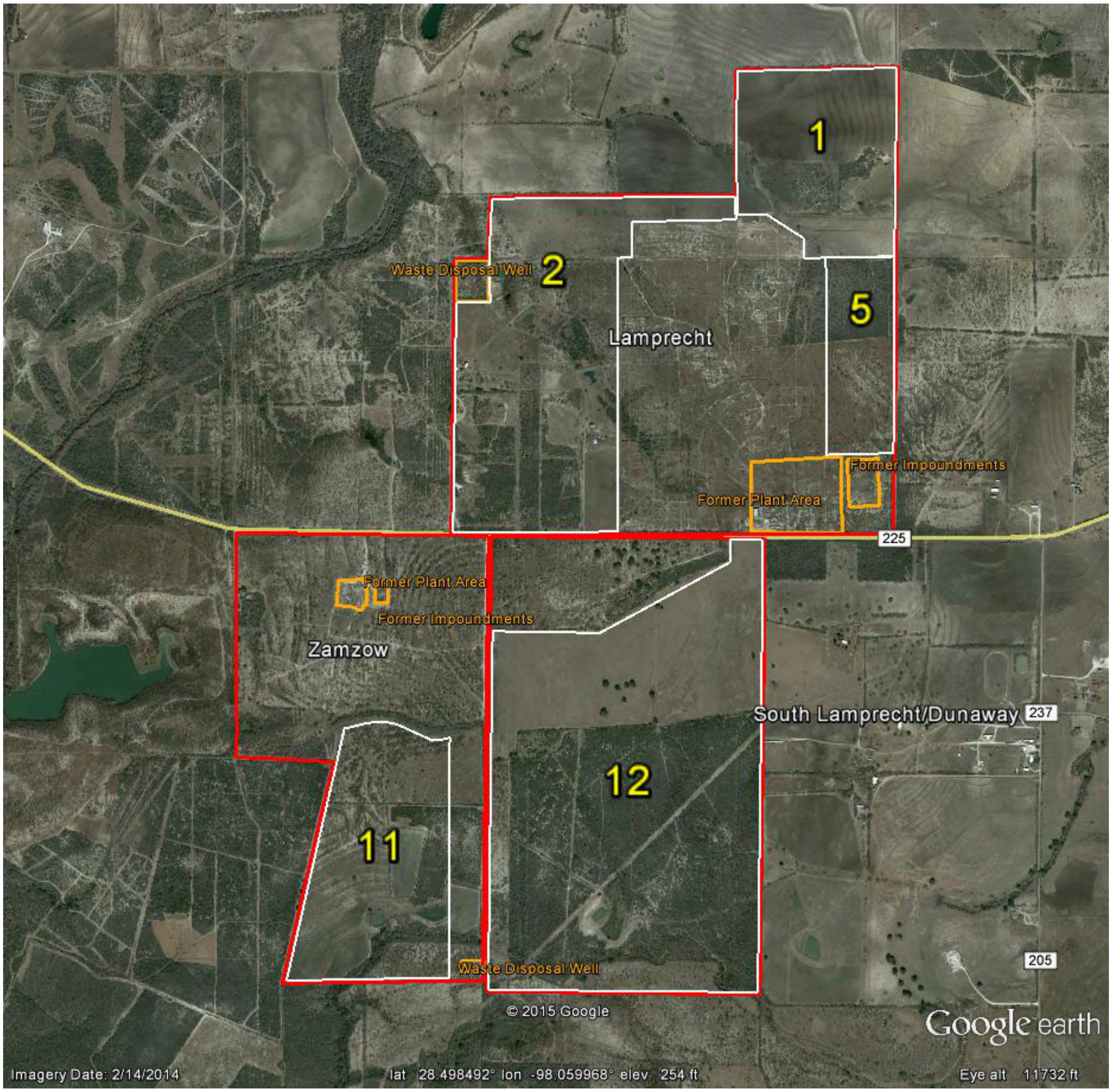

Figure 3: The above areas 1, 2, 5, 11, and 12 were gamma scanned and sampled and determined by the state to be eligible for release for unrestricted use.

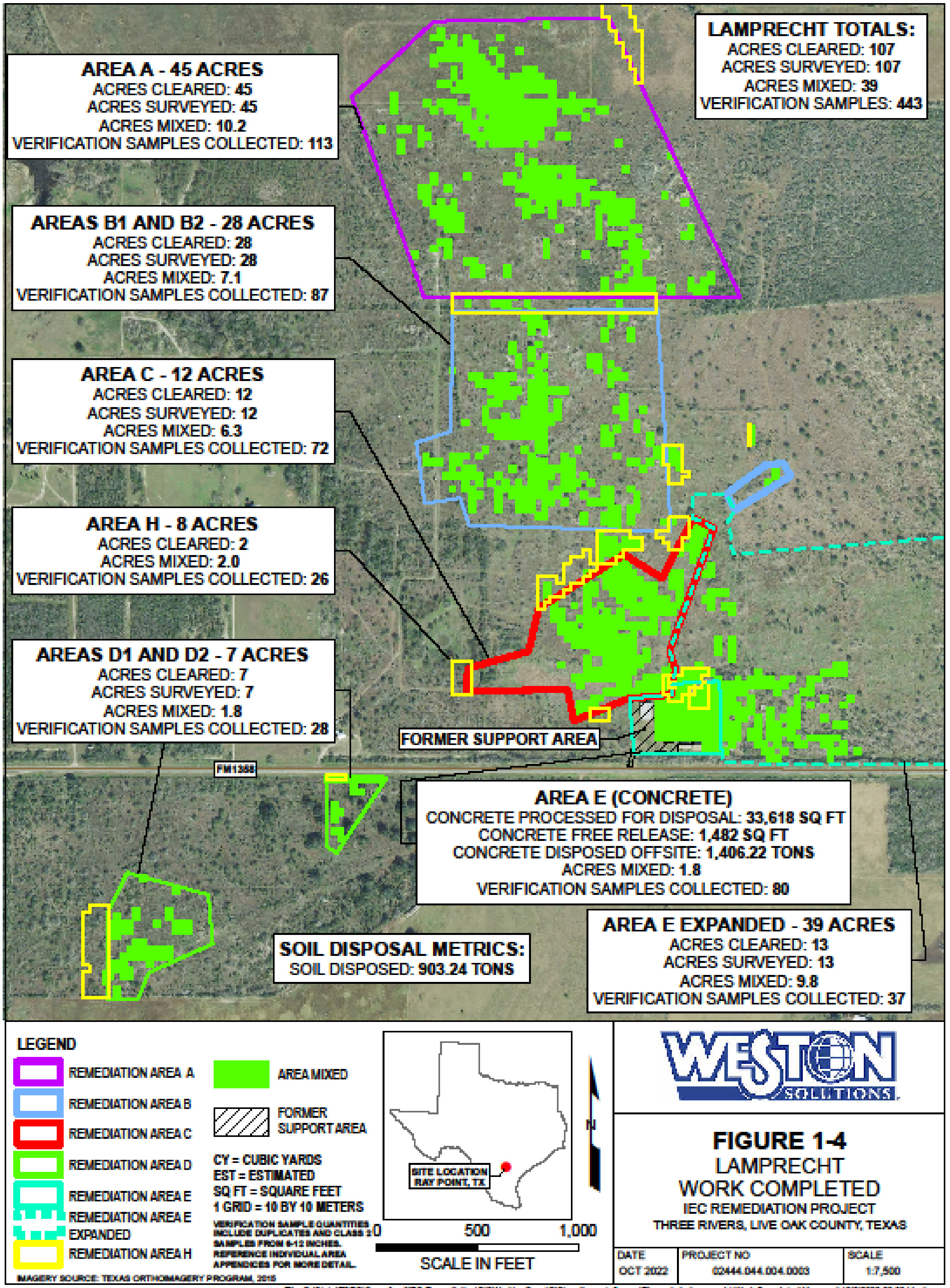

Figure 4: Remedial action work completed at the Lamprecht site.

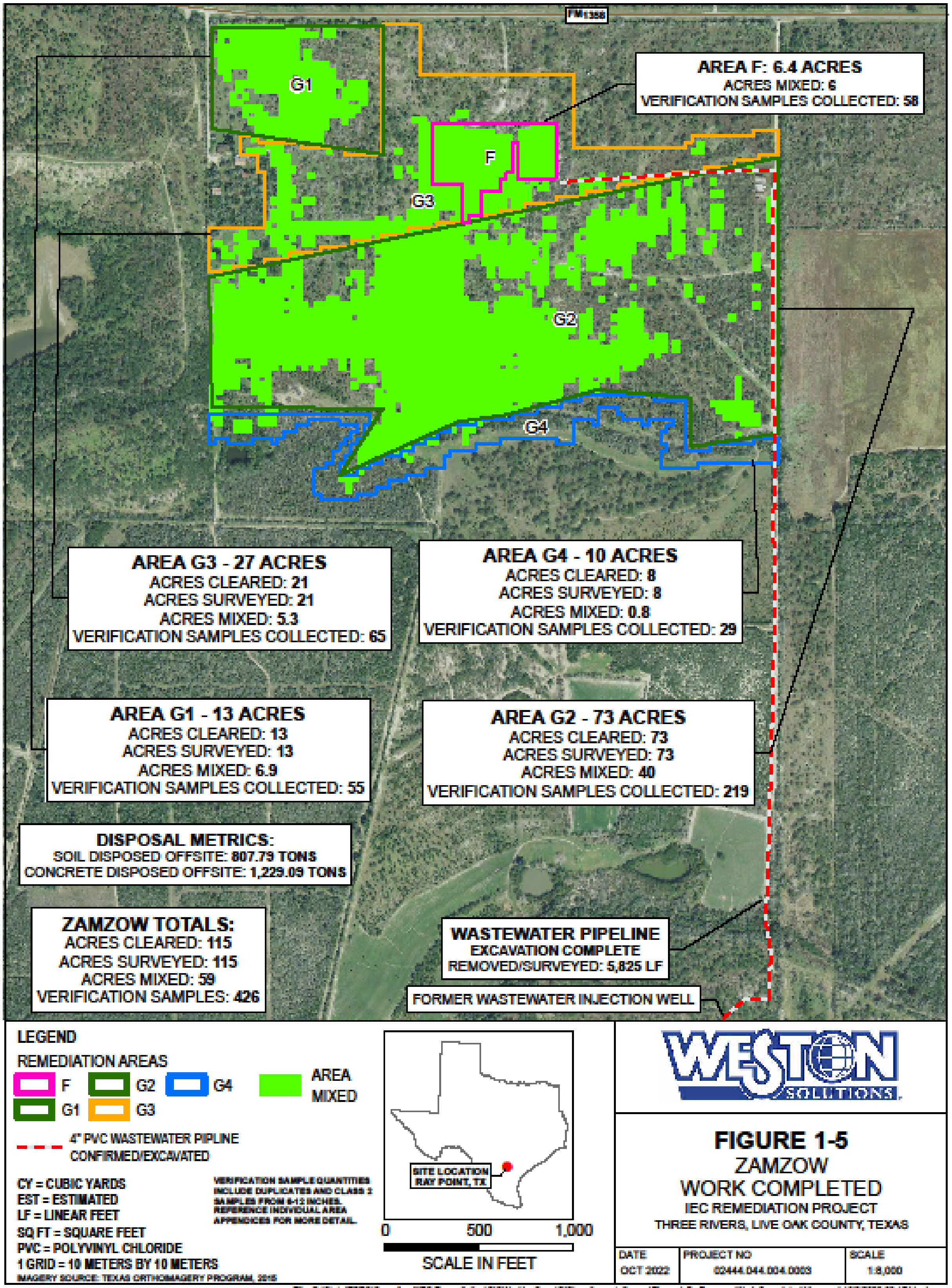

Figure 5: Remedial action work completed at the Zamzow site.