



**ANNUAL LEACHATE POND LINER INSPECTION
SUMTER COUNTY SOLID WASTE MANAGEMENT FACILITY
SUMTERVILLE, SUMTER COUNTY, FLORIDA
PREPARED FOR**



**BOARD OF COUNTY COMMISSIONERS
DEPARTMENT OF PUBLIC WORKS
222 EAST McCOLLUM AVENUE
BUSHNELL, FLORIDA 33513**

May 4, 1993

92-1100.00

Springstead Engineering, inc.

Consulting Engineers — Planners — Surveyors
727 South 14th Street
Leesburg, Florida 34748
Lake (904) 787-1414
Sumter (904) 793-3639 Fax (904) 787-7221

D. E. R.

MAY 10 1993

SOUTHWEST DISTRICT
TAMPA

**ANNUAL LEACHATE POND LINER INSPECTION
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May 6, 1993

Mr. Garry Breeden, Director
Public Works
222 E. McCollum Avenue
Bushnell, Florida 33513

RE: LEACHATE
921100.00

Dear Garry:

According to Florida Department of Regulation (FDER) Permit #S060-211179 for Sumter County Solid Waste Management Facility, the leachate pond shall be emptied and the liner inspected for degradation annually to ensure it continues to have appropriate physical, chemical and mechanical properties to prevent failure due to physical contact with the waste or leachate, climatic conditions and other applied stresses and hydraulic pressures. The inspection shall be conducted and a report with recommendations and conclusions shall be submitted to the FDER, certified by a professional engineer. The purpose of this report is to satisfy the requirement and to report on the inspection and repair and to satisfy the FDER permit condition.

On April 8, 1993, approval was granted by Mr. Kim Ford, P.E. of FDER to pump the leachate from the leachate pond to the lined class I cell containing fluff. Pumping commenced on April 10, 1993 and continued through April 13, 1993.

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Cleaning of the pond commenced on April 14, 1993 and was finished on April 22, 1993. Several inspections were scheduled with FDER, but due to cleaning personnel having additional duties other than cleaning the liner, the cleaning was not accomplished on the projected original schedule and the various inspections were cancelled.

The cleaning was accomplished by sweeping the sediments to the west end of the pond and using plastic scoops to pick up the sediment and place it in a metal container. The container was lifted out of the pond with a dragline and its contents deposited in the Class I lined cell.

The cleaning crew members were employees of Amerecycle being supervised by Plant Manager, Mr. Glenn Purvis of Amerecycle.

Mr. Ralph Warnock, Engineer, of Springstead Engineering, Inc., was on site at various times attending to the new construction of the leachate recirculation system and checked on the progress of the pumping and cleaning. The photographs show at what stages of the cleaning he was there as he photographed the various stages. Upon the initial inspection of the liner, punctures in the liner were discovered. The punctures were made by the scoops and by the metal container. Upon further examination, no holes were discovered other than the ones made during the cleaning process. The condition of the liner fabric observed was in excellent condition.

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On April 22, 1993, a call was made to Ms. Allison Amram of FDER to advise the pond was clean and ready for inspection. She informed Mr. Warnock that she would not be able to do the inspection but would call him before 5:00 p.m. and advise when and by whom the inspection would be made. She did not call back.

On April 23, 1993, Stafford Cosby's (Contractor) repair crew arrived at the site to repair all punctures in the liner. Having not heard from Ms. Amram of FDER, the crew was directed by the Engineer to begin repair. By approximately 8:45 a.m., still not hearing from FDER, Ms. Amram was called to check on scheduling. Ms. Amram was not there, but Mr. Warnock talked to Ms. Danielle Nichols and we were informed she would be leaving Tampa around 9:00 a.m. She arrived on site at approximately 10:45 a.m.

The repair consisted of patching 97 individual punctures and repair using 3 overlays, 24" x 15", 12" x 12" and 9'-6" x 6'-6" in size. The overlays were used to cover numerous small punctures. It was felt the overlays would be better than patching each individual puncture.

The method used to patch the punctures was heat extrusion using a heat application extrusion gun, type R180MUI manufactured by Dr. Bender (See Photo).

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The area to be patched was cleaned with a rotary brush prior to the application of the extruded weld. The extrusion rod was manufactured by Poly-Flex. The part number of the rod was PAWR-C5MM.

Stafford Cosby's employee, Mr. Prentiss Duhart, returned on April 29, 1993 at 8:00 a.m. to perform vacuum tests on all repaired areas. All locations tested good, meaning there were no leaks.

The equipment used for the vacuum test was a commercial vacuum to provide the vacuum which was attached to a wooden box 3'7' with sponge rubber placed on the bottom edges to provide a leak proof seal where the box was in contact with the liner. The box had a plexiglass top for observation of the patch during testing. Liquid soap and water was placed on seams and patches and the vacuum box was placed over the patch and vacuum applied to the box to check for bubbles around the patch. No bubbles were detected, therefore, no leaks were present. Testing was completed @ 11:30 a.m.

Conclusions and Recommendations

It is my recommendation that the next annual cleaning and inspection, April 1994, be done with more care not to puncture the liner. Other methods of cleaning may be devised before the next inspection to eliminate the punctures during cleaning.

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In conclusion, the liner after patching is in satisfactory condition and is serviceable for another year. There were no observed failures from sources other than the punctures caused by the cleaning process.

Sincerely,

SPRINGSTEAD ENGINEERING, INC.

John W. Springstead, P.E.

SWS/jal

(BREEDEN.A30)



— #1 Pond before pumping —



— #2 Pond after pumping —



— #3 Pond before cleaning —



— #4 Method of cleaning —



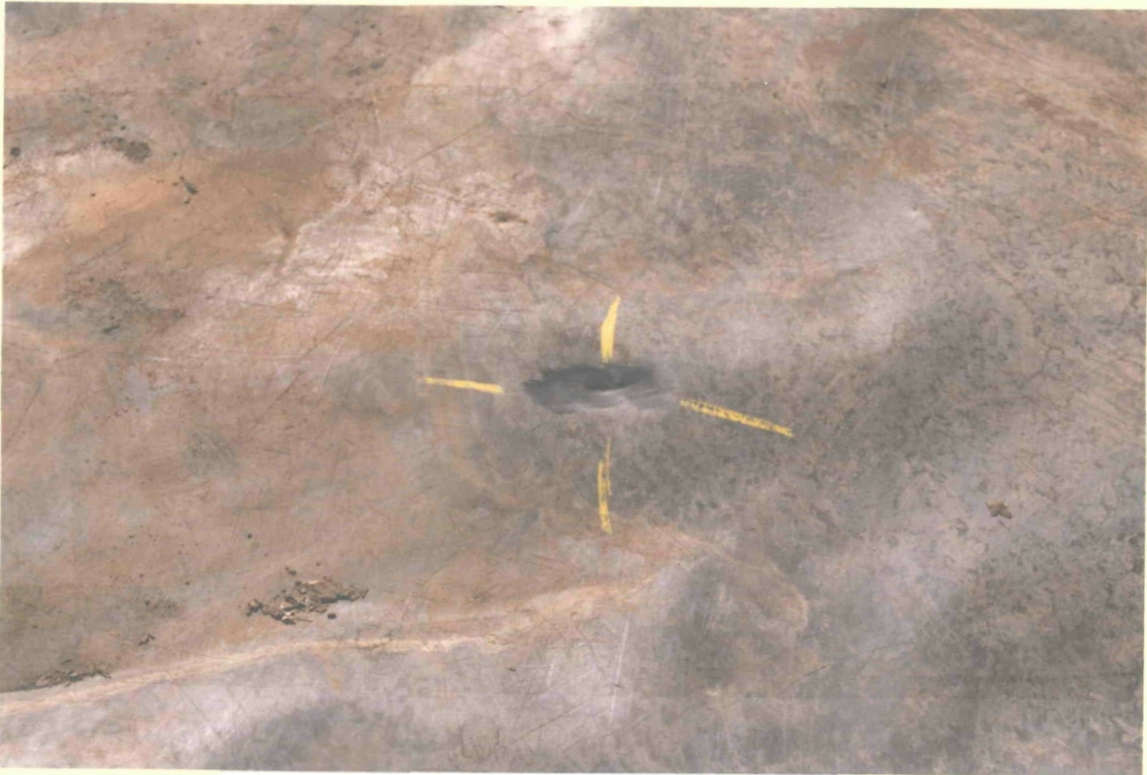
— #5 Typical punctures before cleaning —



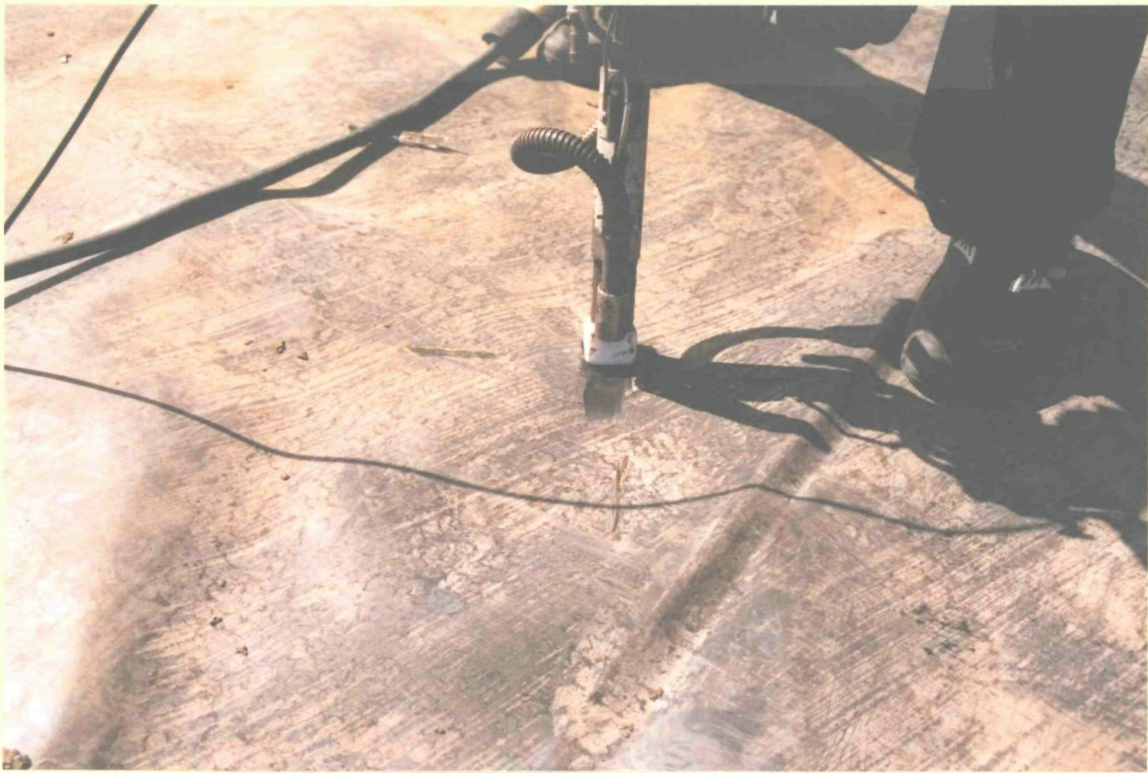
— #6 Typical puncture before cleaning —



— #7 Typical punctures after cleaning —



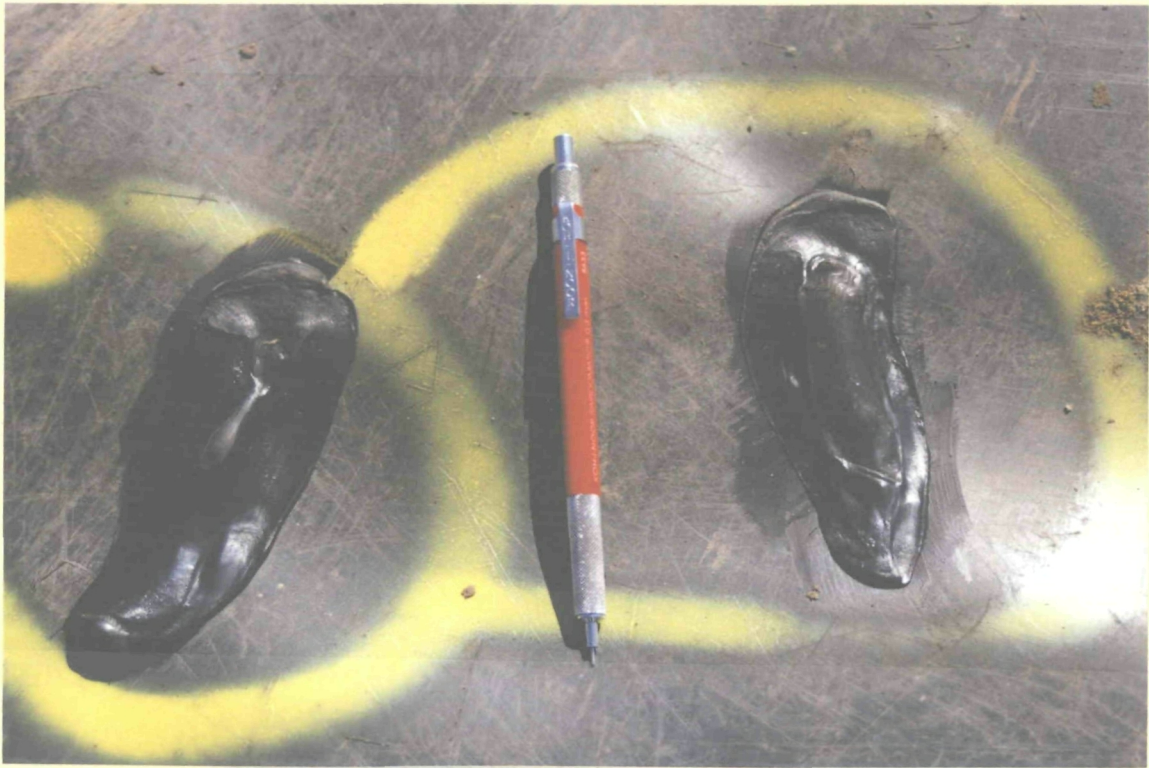
— #8 Typical punctures after cleaning —



— #9 Method used to patch —



— #10 After Patching —



— #11 After patching —



— #12 Method used to patch —



— #13 Photo of liner —



— #14 Method of patching large area —



— #15 Heat extruder gun —



— #16 Photo showing specification plate —



— #17 Equipment used to vacuum test patches —



— #18 Vacuum test in progress —



J
XC- JWS
XC- GB
XC- Row

CONTRACTING CORPORATION

Grading & Membrane/Liner Specialists

April 30, 1993

Springstead Engineering, Inc.
727 South 14th Street
Leesburg, FL 32749-0448

MAY 03 1993

Attention: John Springstead

REF: SUMTER COUNTY POND LINER REPAIR

Gentlemen:

The intent of this letter is to certify the repairs made by Stafford Cosby and crew during this past week to the Leachate Pond's liner were completed in accordance with the manufacturer's, Poly-Flex, Inc. recommended procedures. As such, these repairs will not negate the manufacturer's warranty.

Stafford Cosby and crew are approved and certified liner installers for Poly-Flex, Inc. and their work repairing the damaged liner will keep the warranty intact.

Sincerely,

M.W.M. CONTRACTING CORPORATION

Christopher T. Hazel
Contract Manager

CTH:dj