

**PERMITTEE:**

Board of County Commissioners  
Alachua County

**I.D. Number:** GMS3101C10003

**Permit/Cert Number:** 0064603-001-SO

**Date of Issue:** 12-18-97

**Expiration Date:** 12-18-02

**SPECIFIC CONDITIONS:**

Department, a written report explaining the extent of the problem, the cause, and what actions have been or will be taken by the Permittee to correct the problem, or prevent its recurrence.

7. The Permittee shall provide a temporary source of potable water within seven (7) days and a permanent safe drinking water supply within 180 days of discovery of contamination to replace any potable water well that is shown by chemical and hydrogeologic analysis to be contaminated by the Alachua County Southeast Landfill. This water shall meet all drinking water standards set forth in FAC Chapter 62-550 and shall be provided at the Permittee's expense.
8. Pursuant to FAC Rule 62-701.610(7), the Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, monitoring system, or stormwater controls. The Permittee shall consult with the Department prior to conducting any activities at the closed landfill.
9. In accordance with FAC Rules 62-522.600 and 62-701.050, the Permittee shall maintain, operate and sample a Groundwater Monitoring System.
  - a. The Groundwater Monitoring System shall be designed and constructed in accordance with FAC Chapters 62-3 and 62-522 and with the Groundwater Monitoring Plan, as modified by the conditions specified in this permit.
  - b. Pursuant to FAC Rule 62-522.410, the zone of discharge shall be limited horizontally to one-hundred (100) feet from the waste management area; or to the property boundary; or to the shortest distance between the location of the monitoring wells and the waste management area; whichever is less. All monitoring wells in the groundwater monitoring program shall be used to determine compliance with state groundwater standards and criteria and shall exist outside the zone of discharge. The zone of discharge shall be limited vertically from the waste management area to the base of the surficial aquifer. This zone of discharge shall remain in effect unless it becomes necessary to seek a change, in accordance with FAC Rule 62-522.410.
  - c. The Permittee shall ensure that the water quality standards for Class G-II groundwaters will not be exceeded at or beyond the boundary of the zone of discharge pursuant to FAC Rule 62-520.420.
  - d. The Permittee shall ensure that the minimum criteria for groundwater specified in FAC Rule 62-520.400 shall not be violated within the zone of discharge.

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- e. Upon completion of construction of any new groundwater monitoring wells, the following information shall be submitted for any new groundwater monitoring well(s) within fifteen (15) days:

Well identification	Driller's Lithologic Log
Latitude/Longitude	Total well depth
Aquifer monitored	Casing diameter
Screen type and slot size	Casing type and length
Elevation at top of pipe	SJRWMD well construction
Elevation at land surface	permit number

A surveyed drawing shall also be submitted within fifteen (15) days of the completion of well construction, showing the location of all new monitoring wells which will be horizontally located by metes and bounds or equivalent surveying techniques. The surveyed drawing shall include the monitor well identification number as well as location and elevation of all permanent benchmark(s) and/or corner monument marker(s) at the site. The survey shall be conducted by a Florida Registered Surveyor.

- f. Approximate monitoring well locations and designations shall be in accordance with Attachment 3. All wells are to be clearly labeled and easily visible at all times. Groundwater monitoring wells shall be designed and constructed in accordance with FAC Chapter 62-522 and ASTM Standard D-5092. Shallow monitoring wells shall generally be such that a minimum of two (2) feet screened interval extends above the water table during all portions of the year and a minimum of five (5) feet of screened interval extends into the water table during all portions of the year.

Background Well: Well No. SE-11SN

Compliance Wells:  
 Well No. SE-1SN  
 Well No. SE-6SN  
 Well No. SE-7SN  
 Well No. SE-8SN  
 Well No. SE-9SN

- g. In the event any monitoring well becomes damaged or inoperable, the Permittee shall notify the Department within seventy-two (72) hours and a detailed written report shall follow within seven (7) days. The written report shall detail what problem has occurred and remedial

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measures that have been taken to prevent a recurrence. Damaged wells shall be repaired or replaced within thirty (30) days. If a monitoring well is unable to be sampled during its normal time frame, it shall be resampled and its analysis shall be submitted to the Department within thirty (30) days of repair or replacement. All monitoring well design and replacement shall be approved by the Department prior to installation.

- h. All sample collection and laboratory analysis shall be performed in accordance with FAC Chapter 62-160 and FAC Rule 62-522.600.
- i. Semi-annual groundwater samples will be collected prior to March 25 and September 25 of each year of the permit. A report of the laboratory data will be submitted to the Department for each quarter no later than April 30 and October 30, respectively. Groundwater samples collected semi-annually will be analyzed for the parameters listed in Attachment 2. However, additional samples, monitoring wells, and/or parameters may be required based on data analysis.
- j. All groundwater sampling results shall be reported on the attached Parameter Monitoring Report Form [DEP Form 62-522.900(2)] (Attachment 4). The original forms shall be retained so that the necessary information is available to properly complete future reports. The analytical laboratory reports must be submitted along with the DEP Parameter Monitoring Report Forms. The results shall be sent to the Solid Waste Supervisor, Department of Environmental Protection, Northeast District, 7825 Baymeadows Way, Suite 200-B, Jacksonville, Florida, 32256-7590.

In addition to the information provided on the Parameter Monitoring Form, the following shall be generated:

1. The laboratory report shall indicate method on each data sheet, the detection limits and the dilution factor.
2. The report shall show, in columnar form, the analytical results and, where applicable, the corresponding Florida Groundwater Standards and/or criteria.
3. All peaks greater than the EPA specified detection limit for the analytical method shall be identified.

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The Permittee shall submit to the Department a minimum of two complete reports and, upon request by the Department, four additional reports.

- k. Compliance with groundwater standards and/or criteria shall be determined by analysis of unfiltered groundwater samples, unless the requirements of FAC Rule 62-520.300(6) and the January 1994 technical document for filtered samples are satisfied.
- l. If, at any time, groundwater standards and/or criteria are exceeded, the Permittee shall notify the Department within seventy-two (72) hours of discovery and resample the monitor well(s) within fourteen (14) days of the date of receipt of the laboratory analysis. The Permittee shall submit to the Department the results of the resampled groundwater monitoring well water quality analysis and the original analysis no later than the fifteenth (15) day of the following month. Should the Permittee choose not to resample, the Department will consider the water quality analysis that exceeded the standards and/or criteria as representative of current groundwater conditions at the facility. If an exceedance is confirmed or the Permittee does not resample, the Permittee shall implement Corrective Actions for Contamination Site Cases, attached and incorporated as Attachment 6, within the time frames specified therein.
- m. Within sixty (60) days of issuance of this permit, all piezometers and wells not a part of the approved groundwater monitoring plan, contamination assessment activity or privately owned are to be plugged and abandoned in accordance with FAC Rule 62-21.10(4) and St. Johns River Water Management District Rule 40C3.532. The Permittee shall submit a written report to the Department providing verification of the well plugging and abandonment. A written request for the plugging and abandonment of a well must be submitted to the Department for approval and approval obtained, prior to abandonment and plugging.
- n. Groundwater levels for new wells shall be recorded no less than forty-eight (48) hours after well installation and prior to evacuating the well for sample collection. Existing wells shall have groundwater levels measured prior to evacuation. Measurements, referenced to N.G.V.D., shall include groundwater surface elevation, the top of well casing, and land surface at each site at a precision of plus or minus 0.01 feet. This information shall be submitted to the Department with the groundwater analytical results. A map must be constructed depicting locations of wells and piezometers and corresponding water level measurements. In the event that the data indicates a variation in the horizontal or vertical flow directions such that existing wells are not adequate to intercept potential contaminants generated from the facility, the

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Permittee shall propose additional wells to correct that deficiency or the Department shall require wells to be installed to correct that deficiency.

- o. The Permittee shall monitor the data obtained from the ground and surface water monitoring system and the site specific conditions. A biennial report shall be submitted to the Department by the Permittee analyzing the appropriateness of the groundwater monitoring well and surface water sampling locations to intercept any potential contaminant plume that may generate from the landfill; including the groundwater surface maps, an analysis of seasonal variation in groundwater levels, flow directions and quality, and a graphic plot of analytical laboratory data over time for the quarterly sampling parameters. The Permittee shall prepare and submit this information by December 30, 1999, and December 30, 2001.
- p. During the month of September, 2002, the Permittee shall sample all wells for the parameters in Attachment 1. These results shall be submitted to the Department no later than thirty (30) days prior to the renewal or expiration of the permit.
- q. FAC Rule 62-522.600(3)(k) requires that the groundwater monitoring program must inventory and map surface waters within one mile of the landfill. If there are any modifications to surface waters within one mile of the landfill, the Permittee shall, upon request, submit to the Department a revised inventory and map of surface waters within ninety (90) days.
- r. FAC Rule 62-522.600(3)(g) requires an inventory of all wells within a one (1) mile radius of the landfill, including the owners' names and addresses, well locations, well specifications (well depth, diameter, screened interval, capacity, etc.) and utilization. If there are any changes to the well inventory, the Permittee shall, upon request of the Department, revise the well inventory and shall submit the revised inventory to the Department within ninety (90) days.
- s. Based on any information or data obtained after the effective date of this permit, the Department reserves the right to modify the conditions set forth herein pursuant to the latest state Rules and regulations (before or after the effective date of this permit); and may modify the permit conditions to address additional groundwater assessment, additional monitoring wells and/or analytical parameters and compliance monitoring.

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10. Pursuant to FAC Rule 62-522.600(3)(k), surface water monitoring is required on a semi-annual basis. Sampling and reporting shall be conducted in conjunction with the groundwater monitoring schedule. The Surface Water Monitoring System shall be designed and operated in accordance with plans submitted to and approved by the Department, as modified by these specific conditions.

- a. All surface water samples shall be collected at their point of discharge while discharging or within the detention ponds if discharge is not occurring at the time of sampling.
- b. The surface water samples shall be located in the approximate locations as follows:

<u>Site</u>	<u>Location</u>
SE-LU	as shown in Attachment 3
SE-LD	as shown in Attachment 3

- c. All surface water sampling sites shall be analyzed for the parameters listed in Attachment 5. Sampling results shall be reported on Attachment 4, Parameter Monitoring Report Form [DER Form 62-522.900(2)]. The original forms should be retained so that the necessary information is available to properly complete future reports. The analytical laboratory reports must be submitted along with the Parameter Monitoring Report Forms. The results shall be submitted to the Solid Waste Supervisor, Department of Environmental Regulation, Northeast District, 7825 Baymeadows Way, Suite 200-B, Jacksonville, Florida, 32256-7590.

In addition to the information provided on the Parameter Monitoring Form, the following shall be generated

- 1. The laboratory report shall indicate the analytical method on each data sheet, the detection limits, and the dilution factor.
- 2. The report shall show, in columnar form, the analytical results and, where applicable, the corresponding Florida Groundwater Standards and/or criteria.
- 3. All peaks greater than the EPA specified detection limit for the analytical method shall be identified.

The Permittee shall submit to the Department a minimum of two complete reports and, upon request by the Department, four additional reports.

Additional sampling sites and parameters may be required based on the analysis.

## ATTACHMENT 1 (CONTINUED)

LIST OF PRIORITY POLLUTANTS

- |   |   |
|---|---|
| 1. acenaphthene   | 31. 1,2-dichloropropane                     |
| 2. acrolein   | 32. 1,3-dichloropropylene                   |
| 3. acrylonitrile  | 33. 2,4-dimethylphenol                      |
| 4. benzene  | 34. 2,4-dinitrotoluene                      |
| 5. benzidine  | 35. 2,6-dinitrotoluene                      |
| 6. carbon tetrachloride<br>(tetrachloromethane)   | 36. 1,2-diphenylhydrazine                   |
|   | 37. ethylbenzene                            |
|   | 38. fluoranthene                            |
| <u>Chlorinated Benzenes</u> (other than dichlorobenzenes)   |   |
| 7. chlorobenzene  |   |
| 8. 1,2,4-trichlorobenzene   |   |
| 9. hexachlorobenzene  |   |
| <u>Chlorinated Ethanes</u> (incl. 1,2-dichloroethane, 1,1,1-trichloroethane and hexachloroethane) |   |
| 10. 1,2,-dichloroethane   |   |
| 11. 1,1,1-trichloroethane   |   |
| 12. hexachloroethane  | 44. methyl chloride (chloromethane)         |
| 13. 1,1-dichloroethane  | 45. methyl bromide                          |
| 14. 1,1,2-trichloroethane   | 46. bromoform (tribromomethane)             |
| 15. 1,1,2,2-tetrachloroethane   | 47. dichlorobromomethane                    |
| 16. chloroethane  | 48. trichlorofluoromethane                  |
|   | 49. chlorodibromomethane                    |
|   | 50. hexachlorobutadiene                     |
|   | 51. hexachlorocyclopentadiene               |
|   | 52. isophorone                              |
|   | 53. naphthalene                             |
|   | 54. nitrobenzene                            |
| <u>Chloroalkyl Ethers</u><br>(chloromethyl, chloroethyl & mixed ethers)                           |   |
| 17. bis(2-chloroethyl) ether  |   |
| 18. 2-chloroethyl vinyl ether<br>(mixed)  |   |
| <u>Chlorinated Naphthalene</u>  |   |
| 19. 2-chloronaphthalene   |   |
| 20. 2,4,6-trichlorophenol   | 57. 2,4-dinitrophenol                       |
| 21. parachlorometa cresol   | 58. 4,6-dinitro-o-cresol                    |
| 22. chloroform (trichloromethane)   |   |
| 23. 2-chlorophenol  |   |
| <u>Dichlorobenzenes</u>   |   |
| 24. 1,2-dichlorobenzene   |   |
| 25. 1,3-dichlorobenzene   |   |
| 26. 1,4-dichlorobenzene   |   |
| <u>Dichlorobenzidine</u>  |   |
| 27. 3,3'-dichlorobenzidine  |   |
| 28. 1,1-dichloroethylene  | 68. diethyl phthalate                       |
| 29. 1,2-trans-dichloroethylene  | 69. dimethyl phthalate                      |
| 30. 2,4-dichlorophenol  |   |
| <u>Haloethers</u> (other than those listed elsewhere)   |   |
|   | 39. 4-chlorophenyl phenyl ether             |
|   | 40. 4-bromophenyl phenylether               |
|   | 41. bis(2-chloroisopropyl)ether             |
|   | 42. bis(2-chloroethoxy) methane             |
| <u>Halomethanes</u> (other than those listed elsewhere)   |   |
|   | 43. methylene chloride<br>(dichloromethane) |
|   | 44. methyl chloride (chloromethane)         |
|   | 45. methyl bromide                          |
|   | 46. bromoform (tribromomethane)             |
|   | 47. dichlorobromomethane                    |
|   | 48. trichlorofluoromethane                  |
|   | 49. chlorodibromomethane                    |
|   | 50. hexachlorobutadiene                     |
|   | 51. hexachlorocyclopentadiene               |
|   | 52. isophorone                              |
|   | 53. naphthalene                             |
|   | 54. nitrobenzene                            |
| <u>Nitrophenols</u> (including 2,4-dinitrophenol & dinitrocresol)                                 |   |
|   | 55. 2-nitrophenol                           |
|   | 56. 4-nitrophenol                           |
|   | 57. 2,4-dinitrophenol                       |
|   | 58. 4,6-dinitro-o-cresol                    |
| <u>Nitrosamines</u>   |   |
|   | 59. N-nitrosodimethylamine                  |
|   | 60. N-nitrosodiphenylamine                  |
|   | 61. N-nitrosodin-n-propylamine              |
|   | 62. pentachlorophenol                       |
|   | 63. phenol                                  |
| <u>Phthalate Esters</u>   |   |
|   | 64. bis(2-ethylhexyl)phthalate              |
|   | 65. butyl benzyl phthalate                  |
|   | 66. di-n-butyl phthalate                    |
|   | 67. di-n-octyl phthalate                    |
|   | 68. diethyl phthalate                       |
|   | 69. dimethyl phthalate                      |

## ATTACHMENT 1 (CONTINUED)

Polynuclear Aromatic Hydrocarbons

- 70. benzo(a)anthracene (1,2 benzanthracene)
- 71. benzo(a)pyrene (3,4-benzopyrene)
- 72. 3,4-benzofluoranthene
- 73. benzo(k)fluoranthene (11, 12 benzofluoranthene)
- 74. chrysene
- 75. acenaphthylene
- 76. anthracene
- 77. benzo(ghi)perylene (1,12-benzoperylene)
- 78. fluorene
- 79. phenanthrene
- 80. dibenzo(a,h)anthracene (1,2,5,6 dibenzanthracene)
- 81. indeno (1,2,3-cd)pyrene (2,3-o-phenylenepylene)
- 82. pyrene
- 83. tetrachloroethylene
- 84. toluene
- 85. trichloroethylene
- 86. vinylchloride (chloroethylene)

Pesticides & Metabolites

- 87. aldrin
- 88. dieldrin
- 89. chlordane (tech. mixture & metabolites)

DDT & Metabolites

- 90. 4,4'-DDT
- 91. 4,4'-DDE (p,p' DDX)
- 92. 4,4'-DDD (p,p'-TDE)

Endosulfan & Metabolites

- 93. a-endosulfan-Alpha
- 94. b-endosulfan-Beta
- 95. endosulfan sulfate

Endrin & Metabolites

- 96. endrin
- 97. endrin aldehyde

Heptachlor & Metabolites

- 98. heptachlor
- 99. heptachlor epoxide

Hexachlorocyclohexane

(all isomers)

- 100. a-BHC-Alpha
- 101. b-BHC-Beta
- 102. 4-BHC-(lindane)-Gamma
- 103. g-BHC-Delta

Polychlorinated Biphenyls (PCBs)

- 104. PCB-1242 (Arochlor 1242)
- 105. PCB-1254 (Arochlor 1254)
- 106. PCB-1221 (Arochlor 1221)
- 107. PCB-1232 (Arochlor 1232)
- 108. PCB-1248 (Arochlor 1248)
- 109. PCB-1260 (Arochlor 1260)
- 110. PCB-1016 (Arochlor 1016)

- 111. Toxaphene
- 112. Antimony (Total)
- 113. Arsenic (Total)
- ~~114. Asbestos (Fibrous)~~
- 115. Beryllium (Total)
- 116. Cadmium (Total)
- 117. Chromium (Total)
- 118. Copper (Total)
- 119. Cyanide (Total)
- 120. Lead (Total)
- 121. Mercury (Total)
- 122. Nickel (Total)
- 123. Selenium (Total)
- 124. Silver (Total)
- 125. Thallium (Total)
- 126. Zinc (Total)
- 127. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)



Table 2 Parameters for Groundwater Samples

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**Field Parameters**

Specific Conductance	pH
Static Water Level	Colors and Sheens
Dissolved Oxygen (DO)	Turbidity
Temperature	

**Inorganic Laboratory Parameters**

Ammonium-N (NH <sub>4</sub> )	Lead
Arsenic	Mercury
Bicarbonate	Nitrate
Cadmium	Sodium
Chlorides	Total Dissolved Solids (TDS)
Chromium	Total Organic Carbon (TOC)
Iron	

**Organic Parameters**

EPA 601/602 Analytes

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ATTACHMENT 2

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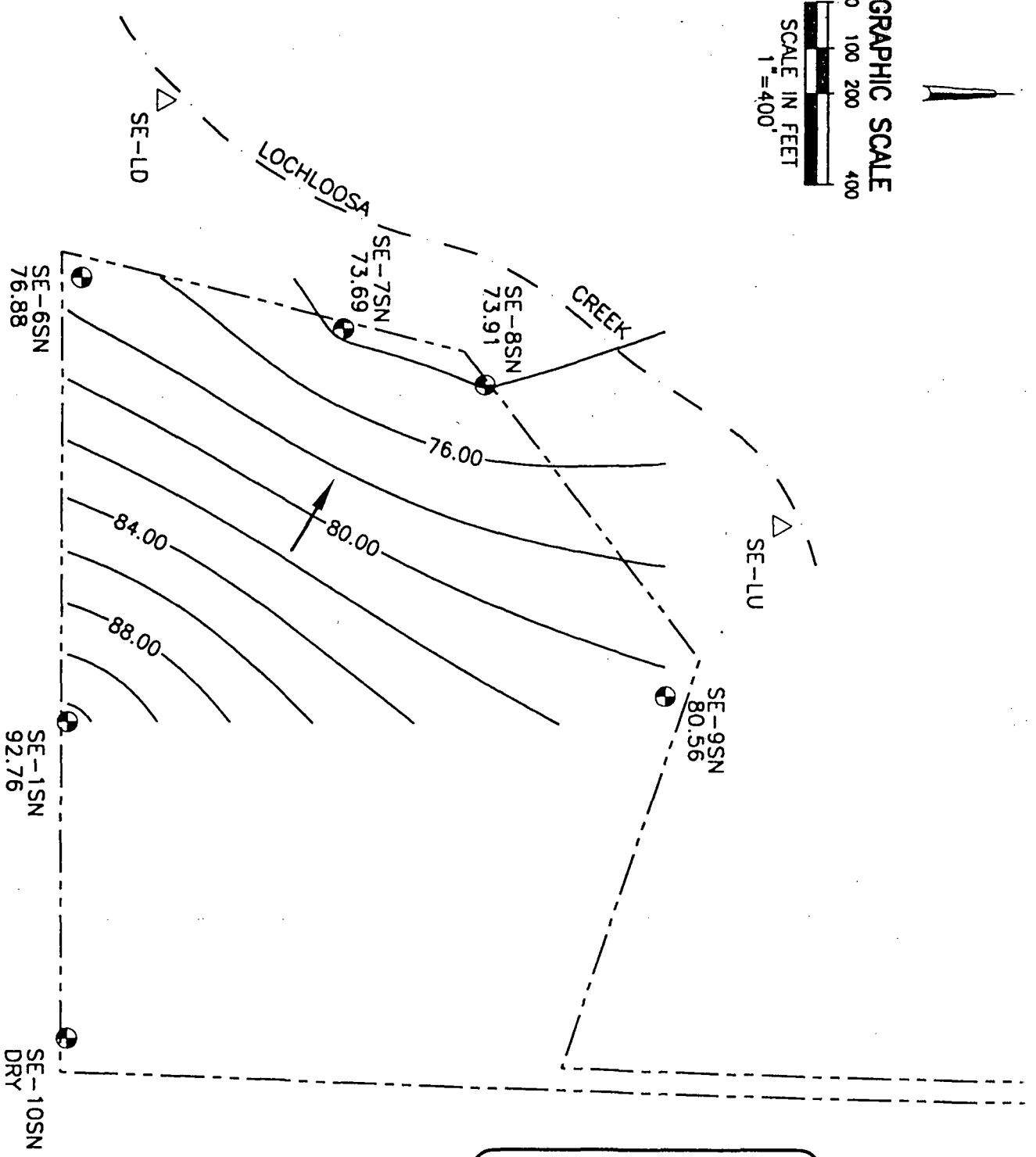


GRAPHIC SCALE

0 100 200 400



SCALE IN FEET  
1"=400'



**LEGEND**

- SE-6SN  
Monitor Well  
Groundwater Elevation  
76.88
- 80.00-  
Groundwater Contour  
Interval at 2 feet
- Property Boundary
- Flow Direction
- SE-LD  
Surface Water Location

Groundwater Contour Map – Surficial Aquifer  
 Alachua County Southeast Landfill – June 2, 1997

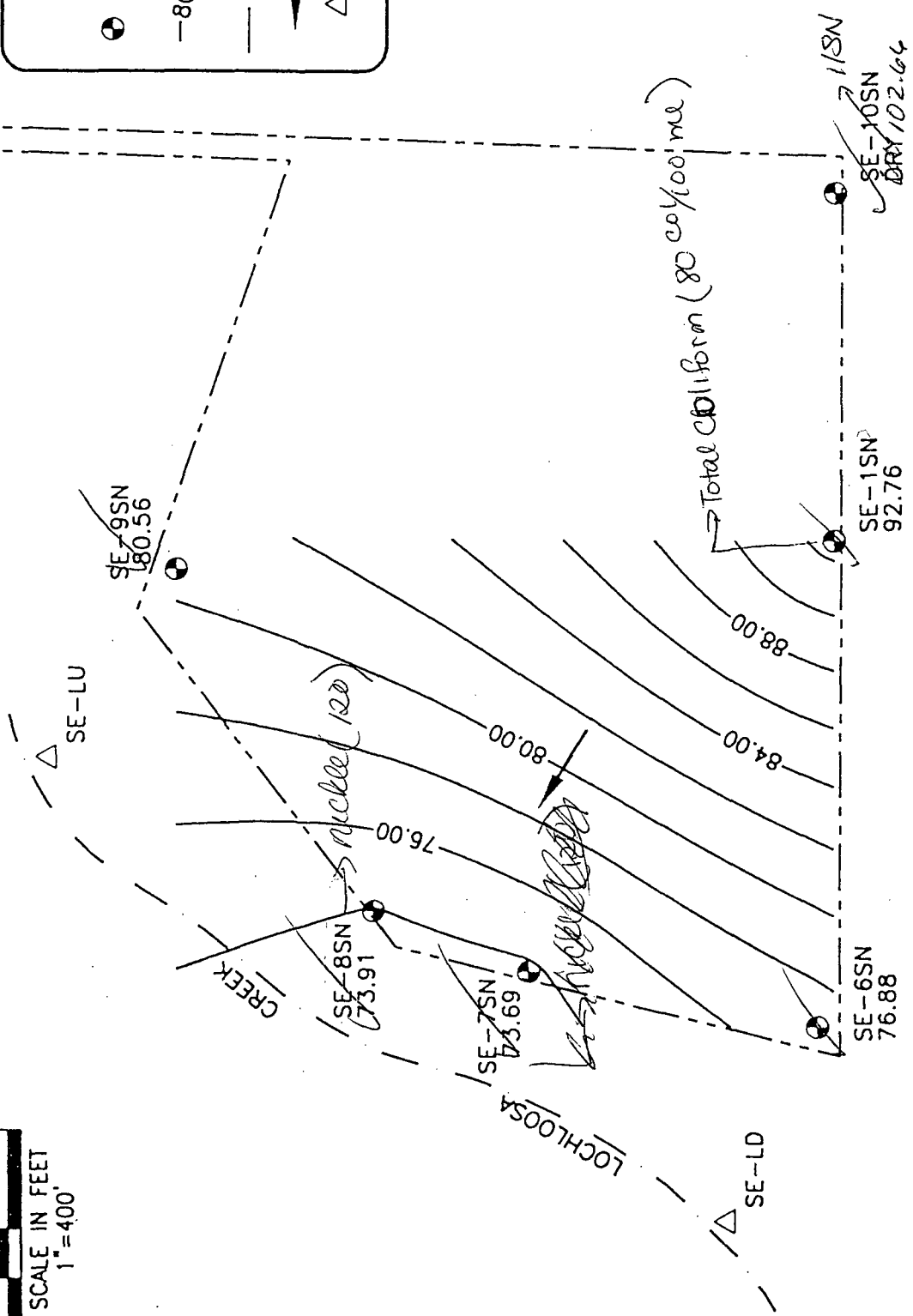
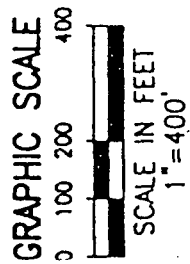
*Jones*  
*Edmunds & Associates, Inc.*  
**JEA**

IST SEMIANNUAL 1998

Received 4/9/98  
 sampled 2/11/98  
 3/3/98

**LEGEND**

● SE-6SN 76.88	Monitor Well Groundwater Elevation
-80.00	Groundwater Contour Interval at 2 feet
---	Property Boundary
→	Flow Direction
△ SE-LD	Surface Water Location



Groundwater Contour Map - Surficial Aquifer  
 Alachua County Southeast Landfill - June 2, 1997

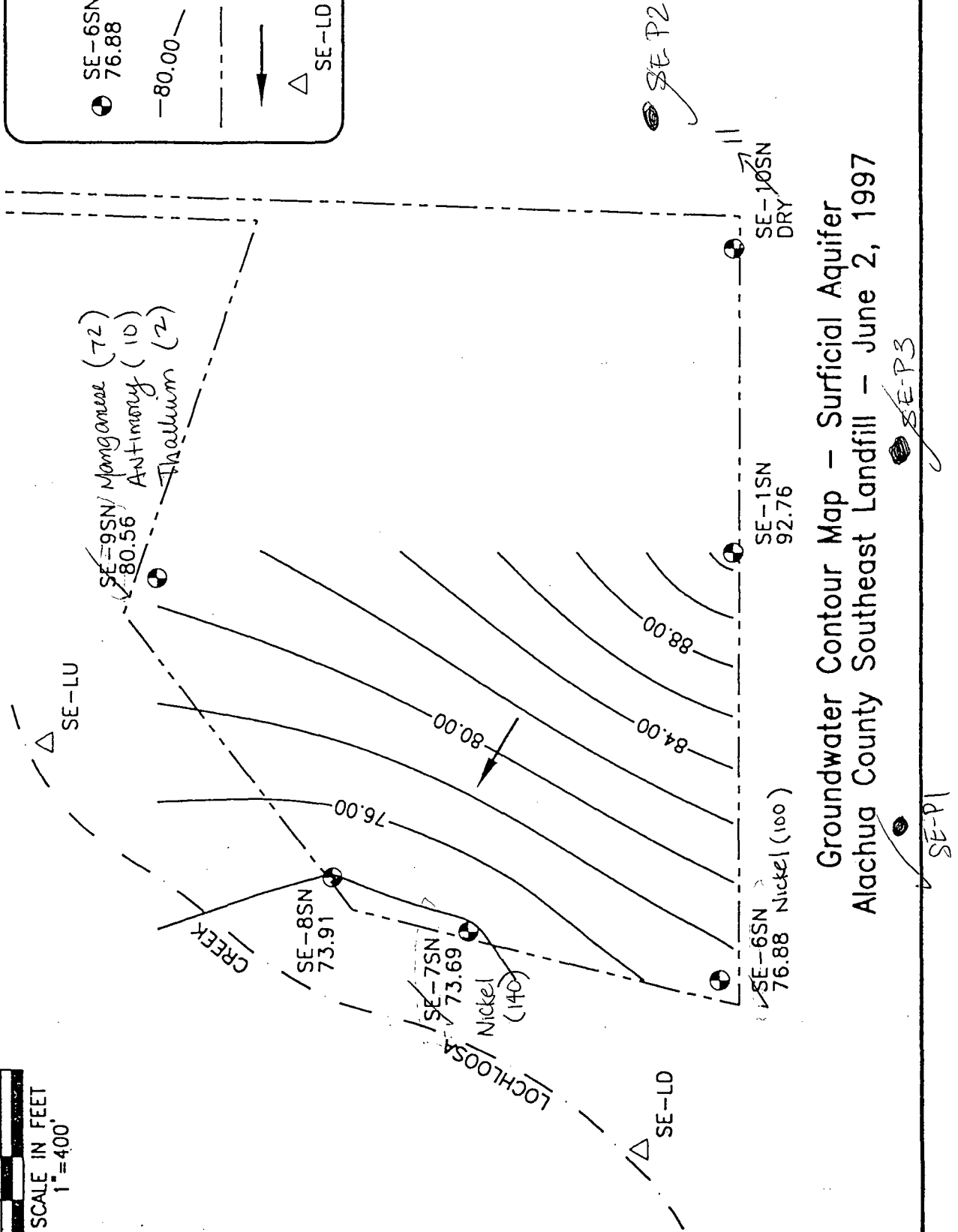
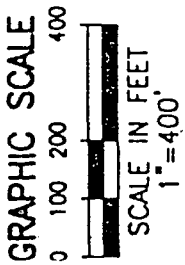
Jones  
 Edmunds &  
 Associates, Inc. **JEA**



3RD Quarter 1997

**LEGEND**

● SE-6SN 76.88	Monitor Well Groundwater Elevation
-80.00	Groundwater Contour Interval at 2 feet
---	Property Boundary
→	Flow Direction
△ SE-LD	Surface Water Location



Groundwater Contour Map - Surficial Aquifer  
Alachua County Southeast Landfill - June 2, 1997

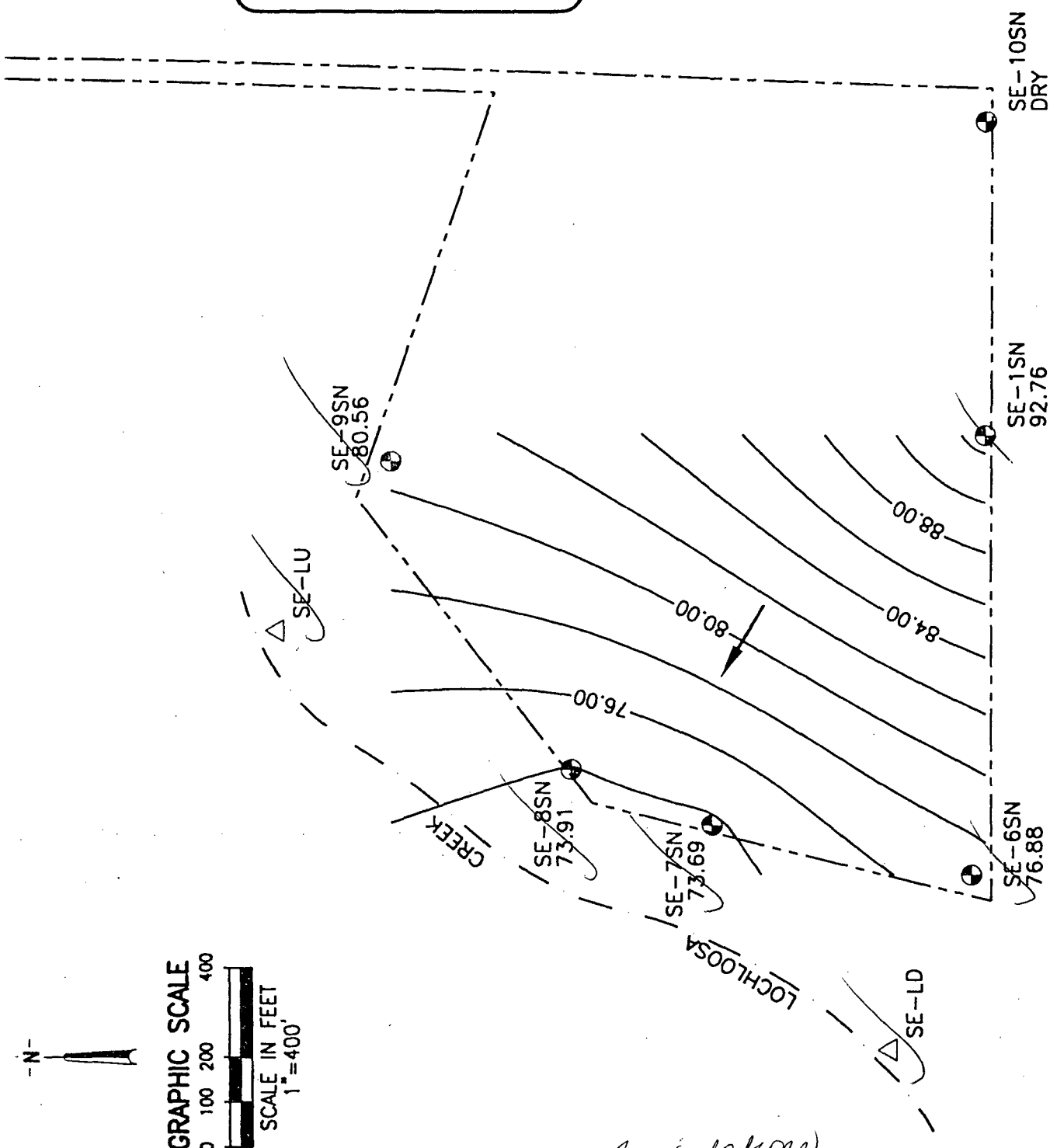
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Sampled for Initial Groundwater Parameters  
except for 8SN + 1SN.

2nd Quarter 1997 (received Jul 15 1997)

**LEGEND**

● SE-6SN 76.88	Monitor Well Groundwater Elevation
-80.00	Groundwater Contour Interval at 2 feet
---	Property Boundary
→	Flow Direction
△ SE-LD	Surface Water Location



Groundwater Contour Map - Surficial Aquifer  
Alachua County Southeast Landfill - June 2, 1997

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No violations  
Low pH & High Iron throughout.