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& engineering

1211 tech blvd., suite 200 / tampa, florida 33619 / phone (813) 623-6646 / fax (813) 623-3795

**RECEIVED**  
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**FLORIDA POWER CORPORATION  
ANCLOTE POWER PLANT  
FOR PASCO COUNTY UTILITIES**

*Prepared by:*

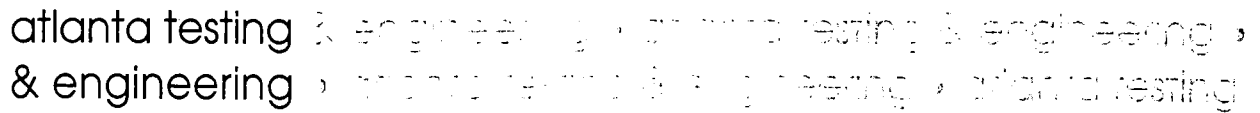
**ATLANTA TESTING & ENGINEERING**  
Tampa, Florida

March 6, 1998  
**AT&E Project No. 2440M**

georgia • florida • carolinas

geotechnical • environmental • geology • hydrology • materials testing •  
structural • vibration testing • laboratory testing





**Florida Department of Environmental Protection**  
3804 Coconut Palm Drive  
Tampa, Florida 33619

March 6, 1998  
AT&E Project No. 2440M

Attention: Mr. Henry B. Dominick, P.E.

**Re: Proposed Discharge of Ash Pond Leachate  
Florida Power Corporation Anclote Power Plant  
For Pasco County Utilities**

**Gentlemen:**

On behalf of Pasco County (the County), Atlanta Testing & Engineering, Inc. (AT&E) is pleased to submit this proposal to discharge leachate from the County's Resource Recovery Facility's ash ponds at Florida Power Corporation's (FPC's) Anclote Power Plant near Tarpon Springs, Florida. This proposal includes the discharge of this leachate to existing percolation ponds at the plant and/or to the plant cooling water discharge. The information contained herein responds to comments contained in an internal Department of Environmental Protection (DEP) "e-mail" originated by Mr. Joe May which was provided to Mr. Douglas Bramlett of the County during a meeting at FPC's plant on Friday, February 13, 1998, and to requests/comments between AT&E and DEP personnel since the site meeting.

## LEACHATE QUALITY

Analysis of samples of the County leachate have been performed on an approximately weekly basis since September 8, 1997. These samples have been collected from a sump which is connected to underdrains within the A-2 ash disposal cell. Samples collected from this sump have been identified as being from the "A-2 Sump".

The results of the analyses are summarized in Table 1. Copies of the laboratory reporting forms are presented in Appendix A. From this table, it can be seen that total dissolved solids (TDS) concentrations have ranged from 45,400 milligrams per liter (mg/l) to 156,200 mg/l, although the TDS concentration has typically been within the range of 50,000 to 100,000 mg/l. Chloride concentrations have typically fallen within a range of 20,000 to 40,000 mg/l.

Samples have also been collected from the surface of the water in the A-2 cell and analyzed, although not for the same range of parameters as the samples from the A-2 Sump. The results of the analyses on the surface water samples are summarized in Table 2. Copies of the laboratory reporting forms are contained in Appendix B.



For comparison, a typical chemical composition of seawater, as contained in Hem (1989), is as follows:

Total dissolved solids	35,000 mg/l
Chlorides	19,000 mg/l
Sodium	10,500 mg/l
Sulfate	2,700 mg/l
Magnesium	1,350 mg/l
Calcium	410 mg/l
Potassium	390 mg/l
Specific gravity	1.025 grams per cubic centimeter

In general, the chloride concentration in the leachate ranges from approximately that of seawater to approximately double that of seawater. Sulfate concentrations in the leachate are on the order of 1/5 of seawater and sodium concentrations in the leachate are approximately one-half that of seawater. Total dissolved solids concentrations of the leachate are on the order of 2 to 3 times that of seawater.

While some metals parameters have been reported in the leachate, total suspended solids concentrations indicate the presence of fine-grained materials. The presence of such materials is expected because most of the samples have been collected from a sump which is connected to underdrains in the ash cell. To evaluate the contribution of the ash particles on the metals concentrations, samples were collected from the A-2 Sump and from four surface water locations in the A-2 ash cell on February 17, 1998 and analyzed for both total and dissolved metals. (The analysis of dissolved metals was performed on samples that had been filtered through a 0.45 micron filter.) Prior to the analysis of the surface water samples, the four samples were composited volumetrically into one sample. Samples were also collected from the A-2 Sump and A-2 cell surface water on March 3, 1998 and analyzed for total and dissolved metals. The March 3, 1998 surface water sample was from a single location.

The results of these analyses are summarized in Table 3. The laboratory reporting sheets are included in Appendix C. A review of Table 3 indicates that most of the metals for which concentrations were reported are in a dissolved state, or are present in the sample in particles smaller than 0.45 microns. Filtering of the samples had the most effect on the concentrations of lead and zinc, and in the surface water sample, iron, and aluminum, possibly (but not the A-2 Sump sample), indicating that these metals are most likely in a particulate form in the leachate.

## DISPOSAL VOLUMES

Pasco County would like to dispose approximately 200,000 gallons per day (gpd) of leachate at the FPC site. Disposal will occur seven days per week for approximately 4 months. It should be noted that the actual period of disposal will be dependent on rainfall and the continued successful restarting of the County leachate crystallizer constructed at the Resource Recovery Facility.

Information is presented herein for the disposal of the leachate either in the existing FPC percolation ponds or in the FPC cooling water discharge, or a combination of both. During disposal of the leachate in the percolation ponds, FPC will continue to utilize the percolation pond for disposal of their permitted fluids. A summary of FPC's discharge volumes to the percolation ponds for 1996, provided by FPC, is contained in Table 4. FPC's discharge to the pond is not continuous but will provide dilution of the leachate when the FPC discharge occurs.

## LEACHATE MOVEMENT

### Discharge to Percolation Ponds

The predominant driving force for the movement of the leachate after it has percolated from the pond is believed to be density. Density refers to the mass per unit volume of a substance and is often presented as specific gravity, which is the ratio of a substance's density to that of a standard substance, usually water. Water density varies as a function of several parameters including temperature and total dissolved solids content. The density of water ranges from 1.0 grams per centimeter cubed (g/cc) for fresh water with little or no total dissolved solids to 1.07 g/cc for deep ocean water; however, sea water has a typical density of 1.025 g/cc. The Pasco County leachate will generally be more dense than the water present beneath FPC's percolation ponds due to the greater total dissolved solid content of the water proposed for discharge to the pond. According to Mackay et al. (1985), differences in density of approximately 1% influence fluid flow in the subsurface. Density differences as small as 0.1% have been shown to cause water to sink in physical model aquifers over several weeks (Schmelling, 1992). Studies of dense non aqueous phase liquids, which have densities ranging between 1.01 and 1.65 (1% to 65% greater than water) show that materials with densities much greater than water migrate vertically through the less dense material.

Gravity forces will promote the downward migration of the leachate due to its greater density. The fluid pressure exerted at the base of the discharged water body due to gravity,  $P_g$ , is proportional to the density difference between the discharged water and the ambient water ( $\rho_n - \rho_w$ ) in the saturated zone (to account for the buoyancy effect of water), the discharged water absolute density in the vadose zone, and the discharged water body height,  $z_n$ , such that:

$$P_g = z_n g(\rho_n - \rho_w) \text{ (saturated zone)}$$

and

$$P_g = z_n g \rho_n \text{ (vadose zone)}$$

where  $g$  is the acceleration due to gravity ( $9.807 \text{ m/s}^2$ ). When using British units (e.g., lbs, ft),  $g$  must be dropped because weight equals mass multiplied by  $g$ .

This pressure ( $P_g$ ) can be converted to an equivalent pressure head of water,

$$h_g = z_n g(\rho_n - \rho_w) / (g \rho_w)$$

Additionally, the hydraulic gradient due to gravity,  $i_g$ , can be calculated as

$$i_g = (\rho_n - \rho_w) / \rho_w$$

The gravity force that drives the discharged water flow is greater in the vadose zone where the density difference equals the discharged water density than in the saturated zone and increases with depth within the discharged water body (Cohen & Mercer, 1993).

As the leachate "sinks" through the aquifer, it will be diluted by the flow of water within the aquifer. Because of this dilution, some of the analytes contained in the leachate will flow with the surficial ground water flow zone and some will continue to sink vertically becoming more dilute with depth. Based on the physical nature of the flow system at the site, discharge of the shallow portion of the aquifer will be to the cooling water intake canal, located east of the percolation pond or to the Gulf, located west of the percolation ponds. Upon reaching the Gulf and/or cooling water intake canal, the large volume of flow (on the order of 30 million gallons per day in the cooling intake canal) and the tidal action of the Gulf will significantly dilute any analyte concentrations that have been elevated as a result of the percolation of the leachate.

#### Discharge to Plant Cooling Water

The second discharge alternative is the discharge of the leachate to FPC's cooling water system. FPC withdraws water at the mouth of the Anclote River for non-contact cooling water and discharges it to a canal that empties to the Gulf of Mexico. Cooling water flows vary in response to the power generating units in operation, but flows typically range from 900 million gallons per day (mgd) to over 2 *billion* gallons per day. Maximum average flows through the cooling system for the last five years were provided by FPC and are presented in Table 5.

Under this alternative, the leachate will be discharged directly to the cooling water either in the condenser flume or in the canal at the condenser discharge. In either location, turbulence will provide thorough mixing of the leachate with the high volume of cooling water.

### **LEACHATE IMPACTS**

#### Discharge to Percolation Ponds

As can be seen from Table 4, FPC discharges approximately 104,000 gpd of fluid to the percolation ponds. At a disposal rate of 200,000 gpd of County leachate, the leachate will be diluted by approximately one-third. In discussions with DEP staff, concern has been expressed about "short-circuiting" of the leachate disposed in Percolation Pond No. 2 to the tidal surface water directly west of the pond via ground water discharge. Of particular concern are the effects of the concentrations of chlorides, metals and ammonia, in the form of un-ionized ammonia, on the biota in the tidal area west of Percolation Pond No. 2.

AT&E personnel were referred by DEP biologists to Dr. David Crewz, a DEP employee at the Florida Marine Research Institute, to assess the impacts of chlorides on the mangroves located west of the percolation pond. Dr. Crewz expressed the opinion that actively growing mangroves could tolerate chloride concentrations of 60,000 mg/l or higher, especially in areas where tidal flushing occurs. Mangroves are also very tolerant of heavy metals. Based on this discussion, Dr. Crewz did not believe that a ground water discharge of the leachate into the area west of Percolation Pond No. 2 would impact the mangroves.

FPC periodically analyzes samples of the discharges to the percolation ponds. A summary of this water quality data, as provided by FPC, is presented in Table 6. A comparison of this data to the leachate data contained in Table 1 indicates that the copper, iron, nickel and zinc concentrations in the leachate fall within the range of concentrations of the FPC discharge to Percolation Pond No. 2. The effects of these metals on the ground water most likely to discharge to the area tidal west of the pond can be illustrated through the ground water quality data collected by FPC on a quarterly basis from on-site monitoring wells.

Monitor well MW-2 is located on the western edge of Percolation Pond No. 2 at the point where the distance between the wetted area of the pond and the water in the tidal area is smallest. Monitor well MW-1 is located northwest of the northwest edge of the pond adjacent to the tidally-influenced area. Water quality data from these two wells, as provided by FPC, is summarized in Table 7. As can be seen, the metals concentrations have remained low in both of these wells. It is reasonable to expect that no appreciable change in the metals concentrations will occur in these wells from the disposal of ash pond leachate due to: the similarity of the leachate and the FPC pond discharges; the dilution of the leachate by FPC's discharges; the reduction in metals concentrations in the leachate due to filtering of the particles as percolation occurs (for those metals which were shown to be in a particulate state); and, the additional dilution which will occur as the denser leachate water commingles with the underlying ground water prior to discharge to the tidal area.

A review of the County leachate data indicates that ammonia concentrations generally have ranged from 13 to almost 29 mg/l. At the request of the DEP, a sample of the leachate was collected from the A-2 sump on February 25, 1998 to verify the concentration of ammonia. The results of this analysis indicated an ammonia concentration of 32 mg/l, similar to that recorded previously. A sample of the surface water in the A-2 ash cell was also collected and analyzed. This sample had an ammonia concentration of 10 mg/l. Based on these ammonia concentrations and the pH and temperature of the water at the time of sampling, the unionized ammonia concentrations were 1.3 mg/l for the A-2 sump sample and 0.036 mg/l for the surface water sample. The laboratory reports for these analyses are included in Appendix D.

As with all the parameters, however, the ammonia concentrations that could reach the tidal area will be diluted by the FPC discharges and the ground water under the percolation ponds. Additional reduction in the ammonia may occur through conversion and/or uptake by organics in the percolation ponds. To minimize any potential impacts, leachate discharged to Percolation Pond No. 2 could be drawn from the surface of the A-2 cell.

#### Discharge to the Plant Cooling Water

As shown on Table 5, the average cooling water discharge from the plant is 1,925 mgd (1.915 billion gallons per day). Anticipating that the discharge of the leachate to the cooling water would occur over the period April through July (4 months), the average cooling water discharge for April through July was calculated from the data presented in Table 5. The discharge for this time period averaged 1,986 mgd, slightly higher than the long-term average. Discharging 200,000 gpd of leachate into this flow represents a dilution factor of over 9,900 : 1 or almost three orders of magnitude. At that dilution ratio, virtually no change in receiving water quality could be detected after the addition of the leachate.

Based on the analyses of total and dissolved metals in the leachate (Table 3), lead and zinc may be, at least partially, in a particulate state that could conceivably be deposited in sediment around FPC's cooling canal discharge, albeit over a very large area. To evaluate the total mass loading contributed by the discharge of leachate, it was assumed that 200,000 gpd of leachate would be discharge for the four month period April through July (122 days). Over this time period, for every 0.1 mg/l of an analyte contained in the leachate, a total of approximately 20.36 pounds of that analyte will be added to the cooling discharge receiving waters. That is, if the average concentration of an analyte in the leachate over this time period is 0.15 mg/l, then the total mass loading will be  $20.36 \text{ pounds} \times 0.15 \text{ mg/l} / 0.10 \text{ mg/l} = 30.54 \text{ pounds}$ .

Carrying this concept further, and assuming that 1/2 of the total mass is deposited into the top 6 inches of sediment, every 20.36 pounds of analyte would be equivalent to a sediment concentration of approximately 0.06 milligrams per kilogram (mg/kg) if spread out over 100 acres of area. (This calculation assumes the sediment to have a dry unit weight of 80 pounds per cubic foot.) Thus, if the average concentration of an analyte in the leachate during the 122 days of discharge is 0.15 mg/l, then the mass loading to sediment would represent a concentration of 0.09 mg/kg over a 100-acre area.

#### **MISCELLANEOUS**

In response to a request from the DEP, samples of the County leachate were collected and submitted for laboratory analysis of corrosivity by EPA Method 1110 (NACE Standard TM-01-69). A sample of leachate was collected from the A-2 sump on February 25, 1998. This location was selected to represent the "worst case" condition of the leachate, based on chloride and TDS concentrations. The corrosivity of this sample towards steel was 1.6 millimeters per year (mmpy), much less than the 6.35 mmpy used to designate a characteristic hazardous waste. The laboratory report for this analysis is included in Appendix D.

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## CONCLUSION

With the information submitted herein, we believe that the Department should have the data required to evaluate and approve the County's request to dispose, on a short-term basis, the excess leachate in the ash pond cells. We believe that the impacts of disposing the leachate in either the percolation ponds, the cooling water discharge, or a combination of the two, will have minimal impacts which are acceptable to correct the short-term leachate problem brought on by the recent abnormal rainfall. If you have any further questions pertaining to this matter, please do not hesitate to contact us. Because of the urgency to disposal of the leachate, we are ready to respond immediately.

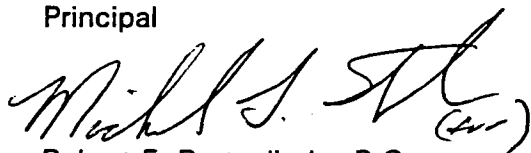
Yours Very Truly,

ATLANTA TESTING & ENGINEERING



Lawrence J. Maron, P.E.

Principal



Robert E. Bretnall, Jr., P.G.

Senior Consultant

## Attachments

cc: Robert J. Butera - DEP  
Kim Ford - DEP  
Douglas Bramlett - Pasco County  
Randy Melton - FPC



## REFERENCES

- Cohen, R.M. and J.W. Mercer, 1993. *DNAPL Site Evaluation*, C.K. Smoley, Boca Raton, Florida.
- Hem, John D., 1989. *Study and Interpretation of the Chemical Characteristics of Natural Water*, USGS Water Supply Paper 2254, Third Edition.
- Mackay, D.M., P.V. Roberts & J.A. Cherry, 1985. Transport of Organic Contaminants in Ground Water, *Environment Science & Technology*, 19(5):384-392.
- Schmelling, S.G., 1992. Personal Communication by Cohen and Mercer (1993), USEPA Robert S. Kerr Environmental Resource Laboratory, Ada, Oklahoma.

**Table 1**  
**County Leachate Quality**  
**Cell A-2 Sump**

Parameter	9/8/97	9/15/97	9/22/97	9/30/97	10/7/97	10/21/97	12/24/97	12/31/97	1/7/98	1/14/98	1/21/98	1/28/98	2/4/98	2/11/98	2/17/98	2/18/98	2/25/98
Alkalinity as CaCO <sub>3</sub>	231	162	305	389	338	172											
Total Organic Carbon	41.2	59	56.7	35.9	38.5	14.4											
Chloride	22,419	17,216	29,110	23,120	28,072	18,737	20,558	49,991	45,435	35,259	33,485	36,557	42,095	29,985	36,298		
Fluoride	0.12	0.13	0.14	0.24	0.14	0.13											
Ammonia N	22.4	13.2	28.9	27.2	23.7	13.3											
Kjeldahl N	22.6	13.4	28.6	26.0	24.6	13.6	10.2	48.4	15.1	40.8	41.2	34.4	41.0	28.2		30.2	37.1
Nitrite	0.03	0.02	0.06	<0.01	<0.01	<0.01											
Nitrate	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11											
pH, Lab	7.33	7.07	7.05		7.47	7.14	7.52	8.70	6.74	7.38	7.44	7.40	7.46	7.18		7.66	8.58
Total Phosphorus	0.30	0.11	0.17	0.09	0.18	0.21											
Total Dissolved Solids	82,500	69,400	98,500	58,900	64,100	45,400			129,000	111,600	156,200	87,600	93,200	79,400		64,800	
Total Suspended Solids	22	23	3	32	302	23	34	17	506	486	592	408	444	84		54	46
Specific Conductivity	56,700	44,100	67,400	60,700	57,200	47,900			111,200	90,100	77,000	81,700	81,500	73,400	77,100	64,200	67,600
Sulfate	454	472	546	449	429	378			560	603	632	573	557	474		747	618
Aluminum	0.200	0.138	0.269	0.201	0.218	0.114									<0.20		
Arsenic	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.04	<0.04	<0.04	<0.01	<0.01		<0.01	<0.04
Barium	3.05	2.73	3.16	3.05	2.16	2.04									2.0		
Cadmium	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.15	0.12	0.17	0.13	0.13	0.13	<0.002	<0.002	<0.0050	<0.002	<0.002
Calcium	9,900	6,390	8,790	8,180	7,460	5,950											
Chromium	<0.01	0.012	<0.01	<0.01	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01		0.011	<0.01
Copper	0.15	0.12	0.16	0.16	0.17	0.15	0.28	0.26	0.30	0.30	0.34	0.25	0.19	0.19	0.11	0.52	0.28
Iron	0.77	0.48	0.59	1.52	0.88	0.6									11		
Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.30	1.82	1.58	1.69	<0.01	<0.01	0.031	0.012	<0.01
Magnesium	4.33	5.06	3.44	3.87	4.10	4.87									3.0		
Manganese	0.52	0.56	0.38	0.58	0.57	0.52									0.58		
Nickel	0.61	0.40	0.59	0.52	0.57	0.46	1.19	1.03	1.19	0.92	1.04	1.11	0.36	0.65	<0.040	0.32	0.48
Potassium	3,170	2,470	3,680	3,370	3,300	2,390											
Selenium	<0.01	<0.07	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.04	<0.04	<0.04	<0.04	<0.01	<0.04		<0.01	<0.04
Silver	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.31	0.25	0.34	0.25	0.25	0.26	<0.002	<0.002	<0.010	<0.002	<0.002
Sodium	4,360	3,990	5,640	5,210	5,120	3,900											
Zinc	0.08	0.07	0.09	0.07	0.12	0.06	0.15	0.13	0.26	0.17	0.32	0.15	0.14	0.23	0.28	0.64	0.15
BOD							436	294	288	143	169	251	213	153		198	222

All concentrations in milligrams per liter (mg/l), except pH (in units) and specific conductivity (in micromhos per centimeter).

No entry means sample was not analyzed for that constituent.

**Table 2**  
**County Leachate Quality**  
**Cell A-2 Surface Water**

Parameter	10/7/97	10/9/97	11/12/97	2/3/98	2/17/98	2/17/98	2/17/98	2/17/98
Chloride	30,665	18,470	16,505	20,079	13,654	15,353	15,723	14,683
Total Dissolved Solids	71,200	57,700	52,200					
Total Suspended Solids	28	99	45					
Specific Conductivity		45,700			34,100	37,800	37,200	36,000
Calcium		6,620						
Potassium		2,500						
Sodium		3,650						

All values in milligrams per liter (mg/l) except specific conductivity which is in micromhos/centimeter.

Samples collected on February 17, 1998 were collected at four different locations within pond.

No entry means sample was not analyzed for that constituent.

**Table 3**  
**Total vs Dissolved Metals**  
**County Ash Leachate**

Parameter	A-2 SUMP				A-2 Surface Water			
	17-Feb-98		3-Mar-98		17-Feb-98		3-Mar-98	
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Aluminum	<0.20	<0.20	0.024	0.017	0.99	<0.20	0.191	0.182
Barium	2.0	2.1	0.78	0.74	0.79	0.76	0.98	1.09
Cadmium	<0.0050	<0.0050	**	**	0.026	0.022	**	**
Copper	0.11	<0.025	**	**	0.095	0.072	**	**
Iron	11	11	**	**	0.24	<0.050	**	**
Lead	0.031	<0.0050	<0.01	<0.01	0.042	<0.0050	<0.01	<0.01
Magnesium	3.0	3.1	**	**	3.1	3.0	**	**
Manganese	0.58	0.58	**	**	0.20	0.18	**	**
Nickel	<0.040	<0.040	**	**	<0.040	<0.040	**	**
Silver	<0.010	<0.010	**	**	<0.010	<0.010	**	**
Zinc	0.28	0.066	**	**	0.34	0.13	**	**

All concentrations reported in milligrams per liter (mg/l).

\*\* Analyses not completed; will be submitted as soon as completed.

**Table 4**  
**Daily Flows**  
**FPC Percolation Ponds**

Day	Jan-96	Feb-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Sep-96	Oct-96	Nov-96	Dec-96
1	100,953	101,361	102,638	103,258	104,197	105,095	106,128	107,109	107,417	109,138	95,352
2	100,987	101,381	102,648	103,311	104,223	105,129	106,139	107,133	107,432	109,211	95,354
3	100,997	101,403	102,660	103,330	104,249	105,136	106,151	107,163	107,444	109,283	95,359
4	101,006	101,433	102,701	103,385	104,270	105,148	106,226	107,183	107,482	109,338	95,361
5	101,017	101,443	102,717	103,413	104,285	105,172	106,289	107,198	107,549	109,406	95,370
6	101,026	101,453	102,728	103,445	104,298	105,192	106,427	107,228	107,605	109,480	95,402
7	101,038	101,465	102,736	103,474	104,320	105,222	107,538	107,261	107,643	109,549	95,438
8	101,047	101,474	102,751	103,504	104,376	105,235	107,627	107,301	107,707	109,604	95,466
9	101,058	101,481	102,761	103,533	104,406	105,251	106,472	107,311	107,784	109,671	95,486
10	101,064	101,493	102,774	103,562	104,444	105,276	106,511	107,321	107,848	109,719	95,511
11	101,068	101,503	102,789	103,591	104,487	105,301	106,568	107,331	107,913	109,755	95,541
12	101,068	101,512	102,802	103,619	104,524	105,334	106,612	107,351	107,980	109,813	95,578
13	101,103	101,522	102,867	103,648	104,566	105,369	106,660	107,361	108,070	109,870	95,613
14	101,114	101,531	102,889	103,677	104,591	105,407	106,718	107,413	108,129	109,921	95,628
15	101,127	101,539	102,918	103,706	104,617	105,439	106,768	107,449	108,189	109,936	95,649
16	101,142	101,547	102,948	103,735	104,651	105,469	106,797	107,474	108,243	109,961	95,671
17	101,159	101,570	102,977	103,778	104,691	105,497	106,825	107,513	108,285	109,986	95,696
18	101,190	101,616	102,996	103,803	104,732	105,538	106,855	107,558	108,336	110,013	95,719
19	101,219	101,649	103,036	103,832	104,774	105,552	106,891	107,586	108,389	110,036	95,754
20	101,230	101,670	103,062	103,854	104,812	105,593	106,905	107,615	108,432	95,168	95,785
21	101,241	101,696	103,078	103,874	104,850	105,624	106,913	107,637	108,474	95,174	95,818
22	101,254	101,716	103,103	103,906	104,878	105,661	106,921	107,671	108,526	95,180	95,854
23	101,263	101,751	103,132	103,949	104,906	105,699	106,948	107,715	108,582	95,194	95,889
24	101,272	101,764	103,157	103,989	104,928	105,751	106,981	107,764	108,626	95,221	95,938
25	101,287	101,797	103,157	104,045	104,955	105,809	106,917	107,815	108,673	95,247	95,986
26	101,314	101,837	103,157	104,083	104,983	105,880	107,038	107,860	108,760	95,258	96,035
27	101,324	101,865	103,172	104,101	104,998	105,937	107,061	107,298	108,846	95,264	96,084
28	101,335	101,884	103,195	104,121	105,025	105,983	107,089	107,336	108,935	95,290	96,099
29	101,346	101,897	103,216	104,141	105,045	106,016	107,104	107,367	108,988	95,317	96,131
30	101,350		103,247	104,164	105,076	106,054	107,119	107,402	109,037	95,344	96,176
31	101,361			104,187		106,087	107,133		109,065		96,187
Average	101,160	101,595	102,934	103,742	104,639	105,511	106,785	107,424	108,206	104,378	95,707
Yearly Average		103,826									

All units in gallons per day.

**Table 5**  
**Cooling Canal Flows**  
**FPC Anclole Plant**

Month	Year	Flow, MGD		Month	Year	Flow, MGD
				Jan	1995	893
				Feb	1995	1,786
				Mar	1995	2,456
				Apr	1995	2,456
				May	1995	1,340
				Jun	1995	1,340
Jul	1992	3,348		Jul	1995	2,679
Aug	1992	1,339		Aug	1995	1,340
Sep	1992	2,678		Sep	1995	2,679
Oct	1992	2,678		Oct	1995	2,009
Nov	1992	2,232		Nov	1995	2,008
Dec	1992	1,786		Dec	1995	1,870
Jan	1993	1,786		Jan	1996	893
Feb	1993	893		Feb	1996	1,785
Mar	1993	2,232		Mar	1996	2,136
Apr	1993	1,339		Apr	1996	4,019
May	1993	2,222		May	1996	1,340
Jun	1993	1,339		Jun	1996	1,340
Jul	1993	2,678		Jul	1996	2,679
Aug	1993	1,339		Aug	1996	1,340
Sep	1993	2,678		Sep	1996	2,679
Oct	1993	1,339		Oct	1996	2,181
Nov	1993	2,232		Nov	1996	893
Dec	1993	2,009		Dec	1996	1,597
Jan	1994	1,678		Jan	1997	1,785
Feb	1994	1,786		Feb	1997	2,185
Mar	1994	3,569		Mar	1997	No data
Apr	1994	1,339		Apr	1997	1,340
May	1994	1,786		May	1997	2,456
Jun	1994	1,339		Jun	1997	1,340
Jul	1994	2,679		Jul	1997	2,679
Aug	1994	1,339		Aug	1997	1,340
Sep	1994	2,679		Sep	1997	2,679
Oct	1994	1,116		Oct	1997	2,009
Nov	1994	1,340		Nov	1997	1,562
Dec	1994	1,562		Dec	1997	1,785
				Jan	1998	1,785
Average maximum flows in million gallons per day (MGD)						
Average for data period				1,925 MGD		
Average for April - July of data period				1,986 MGD		

**Table 6**  
**Percolation Pond Discharge Quality**  
**FPC Percolation Ponds**

Percolation Pond No. 1																		
	Feb-93	May-93	Aug-93	Nov-93	Feb-94	May-94	Aug-94	Nov-94	Feb-95	May-95	Aug-95	Nov-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	Apr-97
Ph	9.45	11.6	9.10	8.77	7.77	8.02	8.58	9.27	8.43	6.60	6.73	7.65	6.84		7.07	8.29		
TSS	<4	<4	<4	<4	<4	<4	11	20	<4	6	4 U	21	4 U	No	143	20		
Sulfate	<5	1100	<5	28	7.7	6.7	14	<5	91	46	5 U	806	25	Discharge	6.6	83	No Discharge	
Chromium	<0.005	<0.005	<0.002	<0.002	0.009	0.003	0.005 V	0.014V	<0.002	0.020	0.002 U	0.009	0.002 U		0.048	0.009	No Samples	
Copper	0.166	0.007	0.020	0.073	0.136	0.149	0.170	0.660	0.008	0.048	0.012	0.167	0.066	No	0.751	0.083	Collected	
Iron	0.151	0.216	0.62	0.67	0.186	0.87	0.93	8.61	0.219	3.74	0.220	2.93	1.10	Samples	20.3	2.89		
Nickel	52	<5	9	12	12	36	79	400	6	143	13	421	40	Collected	390	221		
Zinc	0.018	0.018	<0.015	0.022	0.016	0.019	0.098	0.477	0.010	0.061	0.054	0.164	0.012		0.165	0.134		
Pond Depth, ft	<0.5	<0.5	0.5	0.5	0.5	1	0.5	<0.5	1	1		<0.5	<0.5		1	<0.5		

Percolation Pond No. 2																		
	Feb-93	May-93	Aug-93	Nov-93	Feb-94	May-94	Aug-94	Nov-94	Feb-95	May-95	Aug-95	Nov-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	Apr-97
Ph	2.29	7.11	11.75	2.12	11.18	3.01	11.2						8.69	6.74		8.44	7.38	7.36
TSS	<4	<4	18	<4	37	15	<4						4 U	4 U	No	20	4 U	4 U
Sulfate	2900	<5	400	2218	1633	18	7.7	No discharge -					4.2	8.2	Discharge	81	6	34
Chromium	0.011	<0.005	<0.002	0.005	0.002	0.005	0.001 V	No samples collected					0.022	0.004		0.010	0.002	0.002 U
Copper	0.071	0.061	0.007	0.020	<0.004	0.163	0.045						1.15	0.375	No	0.107	0.465	0.108
Iron	3.26	0.74	0.073	1.47	0.073	0.150	0.021						9.99	4.53	Samples	3.19	0.868	0.613
Nickel	13	47	<3	8	<3	4	<4						309	84	Collected	249	78	12
Zinc	0.089	0.023	<0.015	0.030	<0.015	0.074	<0.026						0.172	0.040		0.138	0.032	0.029
Pond Depth, ft	0.5	<0.5	<0.5	<0.5	1.5	2.5	0.5						1	1		1	1	2

Concentrations in milligrams per liter.

**Table 7**  
**Ground Water Quality Data**  
**FPC Percolation Ponds**

WELL MW-1																		
	Feb-93	May-93	Aug-93	Nov-93	Feb-94	May-94	Aug-94	Nov-94	Feb-95	May-95	Aug-95	Nov-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	Apr-97
pH	6.48	6.58	6.68	6.52	6.66	6.57	6.47	6.47	6.31	6.52	6.25	6.64	6.17	6.45	6.52	6.47	6.47	6.84
Sulfate	220	165	240	221	272	282	424	327	206	175	145	93	172	118	200	175	135	155
Nickel	<5	<5	<3	<3	<3	<3	<4	<4	<4	<3	1	1 U	1 U	3 U	3 U	3 U	8	4 U
TDS	970	835	1005	970	1005	1100	1360	1100	970	940	870	720	885	855	915	880	800	845
Chromium	<0.005	<0.005	<0.002	<0.002	0.003	0.002	0.002 V	0.002V	<0.002	0.001	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Copper	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	0.002	0.004	<0.002	<0.002	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.006	0.002 U
Iron	0.010	0.019	0.019	0.054	0.017	0.023	0.012	0.042	0.028	0.076	0.056	0.034	0.045	0.017	0.031	0.030	0.090	0.017
Zinc	<0.015	0.019	<0.015	0.022	<0.015	<0.015	<0.026	<0.026	0.003	0.003	0.006 U	0.006 U	0.006 U	0.009 U	0.009 U	0.009 U	0.026	0.002 U

WELL MW-2																		
	Feb-93	May-93	Aug-93	Nov-93	Feb-94	May-94	Aug-94	Nov-94	Feb-95	May-95	Aug-95	Nov-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	Apr-97
pH	6.67	6.73	6.79	6.88	6.61	6.93	6.78	7.01	7.01	7.06	7.01	6.84	7.12	6.86	6.92	6.87	6.81	7.25
Sulfate	625	275	880	959	1684	1823	2085	1063	1058	1077	1024	719	357	467	557	881	1308	1102
Nickel	6	<5	<3	<3	9	4	4	5	4	<3	2	4	2	3 U	160	4	3 U	7
TDS	2140	8535	2340	3020	21980	27735	26685	8815	5980	5310	4150	8030	1530	2240	2260	2375	2775	2250
Chromium	<0.005	<0.005	0.002	<0.002	0.003	<0.002	0.001 V	0.002V	0.002	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Copper	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	0.003 U	0.004	0.003 U	0.003 U	0.004	0.003 U	0.003 U	0.002 U
Iron	0.028	0.024	0.017	0.012	0.048	1.04	0.068	0.047	<0.013	0.020	0.010	0.019	0.013	0.017	0.009	0.009	0.422	0.008
Zinc	<0.015	0.026	<0.015	0.015	0.028	0.024	0.048	0.032	0.007	0.003	0.006	0.006	0.018	0.009 U	0.009 U	0.009 U	0.009 U	0.003

All concentrations shown in milligrams per liter, except pH.



**APPENDIX A**  
**LABORATORY REPORTS**  
**A-2 SUMP LEACHATE QUALITY**



# PASCO COUNTY, FLORIDA

ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: LMF 6 WK STUDY  
DATE: 09/23/97  
DHRS # 44237, E44123

SAMPLE NUMBER- 60073 SAMPLE ID- LMF LEACHATE RAW  
DATE SAMPLED- 09/08/97 LOCATION-  
DATE RECEIVED- 09/08/97 SAMPLER- RAY BOLISTER  
TIME RECEIVED- 1106 DELIVERED BY- RON WALKER

SAMPLE MATRIX- LE  
TIME SAMPLED- 1025  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
ALKALINITY AS CaCO <sub>3</sub>	EPA 310.1		09/08/97	1605	CMM	231	mg/L CaCO <sub>3</sub>
PHENOLPHTHALEIN ALKALINITY	2320B		09/08/97	1605	CMM	<0.10	mg/L CaCO <sub>3</sub>
TOT.ORGANIC CARBON	EPA 415.1		09/09/97	1100	IF	41.2	mg/L
CHLORIDE	EPA 325.2		09/10/97	1500	CEM	22419	mg/L
FLUORIDE - ENVIRONMENTAL	EPA 340.2		09/19/97	1400	JK	0.12	mg/L
AMMONIA NITROGEN	EPA 350.1		09/09/97	1100	IF	22.4	mg/L
KJELDAHL NITROGEN	4500NorgB		09/11/97	1500	TER	22.6	mg/L
NITRITE	EPA 354.1		09/09/97	1400	IF	0.03	mg/L
NITRATE	EPA 353.2		09/11/97	0900	IF	<0.11	mg/L
PH.LAB	EPA150.1		09/08/97	1150	CSC	7.33	std units
TOTAL PHOSPHOROUS	4500P B. E		09/11/97	1130	DN	0.30	mg/L
TOTAL DISS.SOLIDS	EPA160.1		09/10/97	1300	CEM	82500	mg/L
TOTAL SUSP. SOLIDS	EPA160.2		09/09/97	1600	DN	22	mg/L
SPEC.CONDUCTIVITY	EPA120.1		09/08/97	1155	CSC	56700	umhos
SULFATE	EPA375.4		09/09/97	0835	CMM	454	mg/L
SULFIDE	EPA376.1		09/09/97	0950	CMM	19.8	mg/L
ALUMINUM.TOTAL	202.2	09/08/97	TER 09/15/97	1345	TER	0.20	mg/L
ARSENIC.TOTAL	206.2	09/08/97	TER 09/15/97	1500	TER	<0.01	mg/L
BARIUM.TOTAL	208.2	09/08/97	TER 09/16/97	0900	TER	3.05	mg/L
CADMIUM.TOTAL	213.2	09/08/97	TER 09/15/97	1310	TER	<0.002	mg/L
CALCIUM.TOTAL	215.1	09/08/97	TER 09/17/97	0850	TER	9900	mg/L



# PASCO COUNTY, FLORIDA

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8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
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CONTINUATION OF DATA FOR SAMPLE NUMBER 60073

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS				RESULT UNITS
		DATE	BY	DATE	TIME BY	
CHROMIUM.TOTAL	218.2	09/08/97	TER	09/15/97	1630 TER	<0.01 mg/L
COPPER.TOTAL	220.2	09/08/97	TER	09/16/97	1005 TER	0.15 mg/L
IRON.TOTAL	SM 3111B	09/08/97	TER	09/16/97	1045 TER	0.77 mg/L
LEAD.TOTAL	239.2	09/08/97	TER	09/15/97	1435 TER	<0.01 mg/L
MAGNESIUM.TOTAL	242.1	09/08/97	TER	09/17/97	0900 TER	4.33 mg/L
MANGANESE.TOTAL	SM 3111B	09/08/97	TER	09/16/97	1035 TER	0.52 mg/L
NICKEL.TOTAL	249.2	09/08/97	TER	09/16/97	1025 TER	0.61 mg/L
POTASSIUM.TOTAL	258.1	09/08/97	TER	09/17/97	0910 TER	3170 mg/L
SELENIUM.TOTAL	270.2	09/08/97	TER	09/15/97	1555 TER	<0.01 mg/L
SILVER.TOTAL	272.2	09/08/97	TER	09/15/97	1200 TER	<0.002 mg/L
SODIUM.TOTAL	273.1	09/08/97	TER	09/17/97	0920 TER	4360 mg/L
ZINC.TOTAL	289.1	09/08/97	TER	09/16/97	1015 TER	0.08 mg/L

LABORATORY DIRECTOR



# PASCO COUNTY, FLORIDA

ENVIRONMENTAL LABORATORY  
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## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: LMF 6 WK STUDY  
DATE: 10/10/97  
DHRS # 44237, E44123

SAMPLE NUMBER- 60326 SAMPLE ID- RAW LEACHATE @ LMF  
DATE SAMPLED- 09/15/97 LOCATION-  
DATE RECEIVED- 09/15/97 SAMPLER- RON WALKER  
TIME RECEIVED- 1130 DELIVERED BY- RON WALKER

SAMPLE MATRIX- LE  
TIME SAMPLED- 1130  
RECEIVED BY- CM

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ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT UNITS	
ALKALINITY AS CaCO3	EPA 310.1		09/15/97	1600	JK	162 mg/L CaCO3	
PHENOL/PHTHALEIN ALKALINITY	2320B		09/15/97	1600	JK	0.00 mg/L CaCO3	
TOT.ORGANIC CARBON	EPA 415.1		10/08/97	1400	IF	59.0 mg/L	
CHLORIDE	EPA 325.2		09/22/97	1230	CEM	17216 mg/L	
FLUORIDE - ENVIRONMENTAL	EPA 340.2		09/19/97	1400	JK	0.13 mg/L	
AMMONIA NITROGEN	EPA 350.1		09/19/97	1400	IF	13.2 mg/L	
HELDLAHL NITROGEN	4500NorgB		09/19/97	1500	TER	13.4 mg/L	
NITRITE	EPA 354.1		09/16/97	1500	JK	0.02 mg/L	
NITRATE	EPA 353.2		09/17/97	1000	IF	<0.11 mg/L	
PHOSPHATE	EPA150.1		09/15/97	1515	JK	7.07 std units	
TOTAL PHOSPHOROUS	4500P B. E		09/25/97	1130	DN	0.11 mg/L	
TOTAL DISS. SOLIDS	EPA160.1		09/17/97	1545	JK	69400 mg/L	
TOTAL SUSP. SOLIDS	EPA160.2		09/16/97	1600	DN	23 mg/L	
SPEC. CONDUCTIVITY	EPA120.1		09/11/97	1500	JK	44100 umhos	
SULFATE	EPA375.4		09/16/97	1100	JK	472 mg/L	
SULFIDE	EPA376.1		09/22/97	1200	TER	9.09 mg/L	
ALUMINUM.TOTAL	202.2	09/18/97	TER	10/06/97	1435	TER	0.138 mg/L
ARSENIC.TOTAL	206.2	09/18/97	TER	10/06/97	1200	TER	<0.01 mg/L
BARIUM.TOTAL	208.2	09/18/97	TER	10/07/97	1135	TER	2.73 mg/L
CADMIUM.TOTAL	213.2	09/18/97	TER	10/06/97	1300	TER	<0.002 mg/L
CALCIUM.TOTAL	215.1	09/18/97	TER	10/07/97	1005	TER	6390 mg/L



# PASCO COUNTY, FLORIDA

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8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
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CONTINUATION OF DATA FOR SAMPLE NUMBER 60326

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS				RESULT UNITS	
		DATE	BY	DATE	TIME		
CHROMIUM, TOTAL	218.2	09/18/97	TER	10/06/97	1350	TER	0.012 mg/L
COPPER, TOTAL	220.2	09/18/97	TER	10/06/97	1535	TER	0.12 mg/L
IRON, TOTAL	SM 3111B	09/18/97	TER	10/06/97	1615	TER	0.48 mg/L
LEAD, TOTAL	239.2	09/18/97	TER	10/06/97	1120	TER	<0.01 mg/L
MAGNESIUM, TOTAL	242.1	09/18/97	TER	10/07/97	1015	TER	5.06 mg/L
MANGANESE, TOTAL	SM 3111B	09/18/97	TER	10/06/97	1600	TER	0.56 mg/L
NICKEL, TOTAL	249.2	09/18/97	TER	10/06/97	1600	TER	0.40 mg/L
POTASSIUM, TOTAL	258.1	09/18/97	TER	10/07/97	1030	TER	2470 mg/L
SELENIUM, TOTAL	270.2	09/18/97	TER	10/06/97	1230	TER	<0.01 mg/L
SILVER, TOTAL	272.2	09/18/97	TER	10/06/97	1040	TER	<0.002 mg/L
SODIUM, TOTAL	273.1	09/18/97	TER	10/07/97	1040	TER	3990 mg/L
ZINC, TOTAL	289.1	09/18/97	TER	10/06/97	1545	TER	0.07 mg/L

LABORATORY DIRECTOR



# PASCO COUNTY, FLORIDA

ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

DATE: 10/10/97  
DHRS # 44237. E44123

SAMPLE NUMBER- 60526 SAMPLE ID- LMF LEACHATE RAW  
DATE SAMPLED- 09/22/97 LOCATION-  
DATE RECEIVED- 09/22/97 SAMPLER- RAY BOERSTLER  
TIME RECEIVED- 1015 DELIVERED BY- RAY BOERSTLER

SAMPLE MATRIX- LE  
TIME SAMPLED- 0930  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP		ANALYSIS		RESULT	UNITS
		DATE	BY	DATE	TIME		
ALKALINITY AS CaCO <sub>3</sub>	EPA 310.1			09/22/97	1300 CEM	305.2	mg/L CaCO <sub>3</sub>
PHENOLPHTHALEIN ALKALINITY	2320B			09/22/97	1300 CEM	0.00	mg/L CaCO <sub>3</sub>
TOT.ORGANIC CARBON	EPA 415.1			10/08/97	1400 IF	56.7	mg/L
CHLORIDE	EPA 325.2			09/22/97	1230 CFM	29110	mg/L
FLUORIDE - ENVIRONMENTAL	EPA 340.2			10/03/97	1030 JK	0.14	mg/L
AMMONIA NITROGEN	EPA 350.1			09/26/97	1630 IF	28.9	mg/L
KJELDAHL NITROGEN	4500NorgB			09/25/97	1500 TER	28.6	mg/L
NITRITE	EPA 354.1			09/23/97	1530 DN	0.06	mg/L
NITRATE	EPA 353.2			09/23/97	1630 IF	<0.11	mg/L
PH.LAB	EPA150.1			09/22/97	1030 CSC	7.05	std units
TOTAL PHOSPHOROUS	4500P B. E			09/25/97	1130 DN	0.17	mg/L
TOTAL DISS.SOLIDS	EPA160.1			09/22/97	1230 CEM	98500	mg/L
TOTAL SUSP. SOLIDS	EPA160.2			09/23/97	1600 DN	3	mg/L
SPEC.CONDUCTIVITY	EPA120.1			09/22/97	1025 CSC	67400	umhos
SULFATE	EPA375.4			09/24/97	1200 TER	546	mg/L
SULFIDE	EPA376.1			09/22/97	1200 TER	11.1	mg/L
ALUMINUM.TOTAL	202.2	09/22/97	TER	10/06/97	1435 TER	0.269	mg/L
ARSENIC.TOTAL	206.2	09/22/97	TER	10/06/97	1200 TER	<0.01	mg/L
BARIUM.TOTAL	208.2	09/22/97	TER	10/07/97	1135 TER	3.16	mg/L
CADMIUM.TOTAL	213.2	09/22/97	TER	10/06/97	1300 TER	<0.002	mg/L
CALCIUM.TOTAL	215.1	09/22/97	TER	10/07/97	1005 TER	8790	mg/L



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CONTINUATION OF DATA FOR SAMPLE NUMBER 60526

ANALYSIS	METHOD	SAMPLE PREP	ANALYSIS	DATE	BY	DATE	TIME	BY	RESULT	UNITS
CHROMIUM, TOTAL	218.2	09/22/97	TER	10/06/97	1350	TER	<0.01	mg/L		
COPPER, TOTAL	220.2	09/22/97	TER	10/06/97	1535	TER	0.16	mg/L		
IRON, TOTAL	SM 3111B	09/22/97	TER	10/06/97	1615	TER	0.59	mg/L		
LEAD, TOTAL	239.2	09/22/97	TER	10/06/97	1120	TER	<0.01	mg/L		
MAGNESIUM, TOTAL	242.1	09/22/97	TER	10/07/97	1015	TER	3.44	mg/L		
MANGANESE, TOTAL	SM 3111B	09/22/97	TER	10/06/97	1600	TER	0.38	mg/L		
NICKEL, TOTAL	249.2	09/22/97	TER	10/06/97	1600	TER	0.59	mg/L		
POTASSIUM, TOTAL	258.1	09/22/97	TER	10/07/97	1030	TER	3680	mg/L		
SELENIUM, TOTAL	270.2	09/22/97	TER	10/06/97	1230	TER	<0.01	mg/L		
SILVER, TOTAL	272.2	09/22/97	TER	10/06/97	1040	TER	<0.002	mg/L		
SODIUM, TOTAL	273.1	09/22/97	TER	10/07/97	1040	TER	5640	mg/L		
ZINC, TOTAL	289.1	09/22/97	TER	10/06/97	1545	TER	0.09	mg/L		

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## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: IMF 6 WK STUDY  
DATE: 10/16/97  
DHRS # 44237. E44123

SAMPLE NUMBER- 60842 SAMPLE ID- IMF RAW LEACHATE  
DATE SAMPLED- 09/30/97 LOCATION-  
DATE RECEIVED- 09/30/97 SAMPLER- JIM HOFFMAN  
TIME RECEIVED- 1540 DELIVERED BY- RON WALKER

SAMPLE MATRIX- LE  
TIME SAMPLED- 1530  
RECEIVED BY- AS

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ANALYSIS	METHOD	DATE	BY	DATE	TIME	BY	RESULT	UNITS
ALKALINITY AS CaCO <sub>3</sub>	EPA 310.1			10/02/97	1115	JK	389	mg/L CaCO <sub>3</sub>
TOTAL ALKALINITY	2320B			10/02/97	1115	JK	<1	mg/L CaCO <sub>3</sub>
ORGANIC CARBON	EPA 415.1			10/08/97	1400	IF	35.9	mg/L
CHLORIDE	EPA 325.2			10/06/97	1100	JK	23120	mg/L
FLUORIDE - ENVIRONMENTAL	EPA 340.2			10/03/97	1030	JK	0.24	mg/L
AMMONIA NITROGEN	EPA 350.1			10/03/97	1630	IF	27.2	mg/L
KJELDAHL NITROGEN	4500NorgB			10/02/97	1500	TER	26.0	mg/L
NITRITE	EPA 354.1			09/30/97	1500	JK	<0.01	mg/L
NITRATE	EPA 353.2			09/30/97	1630	IF	<0.11	mg/L
PH-LAB	EPA150.1			10/14/97	1200	JK	L/E	std units
TOTAL PHOSPHOROUS	4500P B. E			10/02/97	1100	DN	0.09	mg/L
TOTAL DISS. SOLIDS	EPA160.1			09/30/97	1600	JK	58900	mg/L
TOTAL SUSP. SOLIDS	EPA160.2			09/30/97	1600	DN	32	mg/L
SPEC. CONDUCTIVITY	EPA120.1			10/09/97	1635	JK	60700	umhos
SULFATE	EPA375.4			10/01/97	1345	JK	449	mg/L
SULFIDE	EPA376.1			10/01/97	1445	JK	5.81	mg/L
ALUMINUM, TOTAL	202.2	10/01/97	TER	10/06/97	1435	TER	0.201	mg/L
ARSENIC, TOTAL	206.2	10/01/97	TER	10/06/97	1200	TER	<0.01	mg/L
BARIUM, TOTAL	208.2	10/01/97	TER	10/07/97	1135	TER	3.05	mg/L
CADMIUM, TOTAL	213.2	10/01/97	TER	10/06/97	1300	TER	<0.002	mg/L
CALCIUM, TOTAL	215.1	10/01/97	TER	10/07/97	1005	TER	8180	mg/L





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CONTINUATION OF DATA FOR SAMPLE NUMBER 60842

ANALYSIS	METHOD	SAMPLE PREP		ANALYSIS		TIME	BY	RESULT UNITS
		DATE	BY	DATE	BY			
CHROMIUM, TOTAL	218.2	10/01/97	TER	10/06/97	1350	TER		<0.01 mg/L
COPPER, TOTAL	220.2	10/01/97	TER	10/06/97	1535	TER		0.16 mg/L
IRON, TOTAL	SM 3111B	10/01/97	TER	10/06/97	1615	TER		1.52 mg/L
LEAD, TOTAL	239.2	10/01/97	TER	10/06/97	1120	TER		<0.01 mg/L
MAGNESIUM, TOTAL	242.1	10/01/97	TER	10/07/97	1015	TER		3.87 mg/L
MANGANESE, TOTAL	SM 3111B	10/01/97	TER	10/06/97	1600	TER		0.58 mg/L
NICKEL, TOTAL	249.2	10/01/97	TER	10/06/97	1600	TER		0.52 mg/L
POTASSIUM, TOTAL	258.1	10/01/97	TER	10/07/97	1030	TER		3370 mg/L
SELENIUM, TOTAL	270.2	10/01/97	TER	10/06/97	1230	TER		<0.01 mg/L
SILVER, TOTAL	272.2	10/01/97	TER	10/06/97	1040	TER		<0.002 mg/L
SODIUM, TOTAL	273.1	10/01/97	TER	10/07/97	1040	TER		5210 mg/L
ZINC, TOTAL	289.1	10/01/97	TER	10/06/97	1545	TER		0.07 mg/L

Or  
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## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
ATTN: VINCENT MANNELLA

PROJECT NAME: LMF STUDY  
DATE: 10/27/97  
DHRS # 44237, E44123

SAMPLE NUMBER- 61009 SAMPLE ID- LMF RAW LEACHATE  
DATE SAMPLED- 10/07/97 LOCATION-  
DATE RECEIVED- 10/07/97 SAMPLER- JIM HOFFMAN  
TIME RECEIVED- 1000 DELIVERED BY- RON WALKER

SAMPLE MATRIX- LE  
TIME SAMPLED- 1000  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP	ANALYSIS	DATE	BY	DATE	TIME	BY	RESULT	UNITS
ALKALINITY AS CaCO3	EPA 310.1			10/08/97	1400	JK			338 mg/L	CaCO3
PHENOLPHTHALEIN ALKALINITY	2320B			10/08/97	1400	JK			<1 mg/L	CaCO3
TOT.ORGANIC CARBON	EPA 415.1			10/08/97	1400	IF			38.5 mg/L	
CHLORIDE	EPA 325.2			10/09/97	1100	JK			28072 mg/L	
FLUORIDE - ENVIRONMENTAL	EPA 340.2			10/13/97	1130	JK			0.14 mg/L	
AMMONIA NITROGEN	EPA 350.1			10/15/97	1300	IF			23.7 mg/L	
KJELDAHL NITROGEN	4500NorgB			10/09/97	1500	TER			24.6 mg/L	
NITRITE	EPA 354.1			10/07/97	1300	JK			<0.01 mg/L	
NITRATE	EPA 353.2			10/08/97	1130	IF			<0.11 mg/L	
PH.LAB	EPA150.1			10/14/97	1200	JK			7.47 std units	
TOTAL PHOSPHOROUS	4500P'B, E			10/09/97	1130	DN			0.18 mg/L	
TOTAL DISS.SOLIDS	EPA160.1			10/07/97	1130	JK			64100 mg/L	
TOTAL SUSP. SOLIDS	EPA160.2			10/07/97	1600	DN			302 mg/L	
SPEC.CONDUCTIVITY	EPA120.1			10/09/97	1635	JK			57200 umhos	
SULFATE	EPA375.4			10/08/97	1100	JK			429 mg/L	
SULFIDE	EPA376.1			10/08/97	0930	JK			6.65 mg/L	
ALUMINUM.TOTAL	202.2	10/08/97	TER	10/23/97	1550	TER			0.218 mg/L	
ARSENIC.TOTAL	206.2	10/08/97	TER	10/22/97	1620	TER			<0.01 mg/L	
BARIUM.TOTAL	203.2	10/08/97	TER	10/24/97	0845	TER			2.16 mg/L	
CADMIUM.TOTAL	213.2	10/08/97	TER	10/22/97	1500	TER			<0.002 mg/L	
CALCIUM.TOTAL	215.1	10/08/97	TER	10/24/97	1115	TER			7460 mg/L	



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CONTINUATION OF DATA FOR SAMPLE NUMBER 61009

ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
CHROMIUM, TOTAL	218.2	10/08/97	TER 10/23/97	1635	TER	0.016	mg/L
COPPER, TOTAL	220.2	10/08/97	TER 10/24/97	1000	TER	0.17	mg/L
IRON, TOTAL	SM 3111B	10/08/97	TER 10/24/97	1045	TER	0.88	mg/L
LEAD, TOTAL	239.2	10/08/97	TER 10/22/97	1700	TER	<0.01	mg/L
MAGNESIUM, TOTAL	242.1	10/08/97	TER 10/24/97	1125	TER	4.10	mg/L
MANGANESE, TOTAL	SM 3111B	10/08/97	TER 10/24/97	1030	TER	0.57	mg/L
NICKEL, TOTAL	249.2	10/08/97	TER 10/24/97	1020	TER	0.57	mg/L
POTASSIUM, TOTAL	258.1	10/08/97	TER 10/24/97	1135	TER	3300	mg/L
SELENIUM, TOTAL	270.2	10/08/97	TER 10/22/97	1545	TER	0.012	mg/L
SILVER, TOTAL	272.2	10/08/97	TER 10/22/97	1430	TER	<0.002	mg/L
SODIUM, TOTAL	273.1	10/08/97	TER 10/24/97	1145	TER	5120	mg/L
ZINC, TOTAL	299.1	10/08/97	TER 10/24/97	1010	TER	0.12	mg/L

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## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: LMF STUDY  
DATE: 11/18/97  
DHRS # 44237. E44123

SAMPLE NUMBER- 61419 SAMPLE ID- LMF LEACHATE RAW  
DATE SAMPLED- 10/21/97 LOCATION-  
DATE RECEIVED- 10/21/97 SAMPLER- JIM HOFFMAN  
TIME RECEIVED- 1250 DELIVERED BY- RON WALKER

SAMPLE MATRIX- LE  
TIME SAMPLED- 1130  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT UNITS
ALKALINITY AS CaCO <sub>3</sub>	EPA 310.1		10/22/97	1030	JK	172 mg/L CaCO <sub>3</sub>
PHENOLPHTHALEIN ALKALINITY	2320B		10/22/97	1100	JK	<1 mg/L CaCO <sub>3</sub>
TOT.ORGANIC CARBON	EPA 415.1		10/24/97	1500	IF	14.4 mg/L
CHLORIDE	EPA 325.2		10/27/97	1500	JK	18737 mg/L
FLUORIDE - ENVIRONMENTAL	EPA 340.2		11/13/97	1700	JK	0.13 mg/L
AMMONIA NITROGEN	EPA 350.1		11/04/97	1600	IF	13.3 mg/L
KJELDAHL NITROGEN	4500NorgB		10/23/97	1500	TER	13.6 mg/L
NITRITE	EPA 354.1		10/22/97	1000	JK	<0.01 mg/L
NITRATE	EPA 353.2		10/22/97	1200	IF	<0.11 mg/L
PH.LAB	EPA150.1		10/21/97	1430	JK	7.14 std units
TOTAL PHOSPHOROUS	4500P B. E		10/23/97	1130	DN	0.21 mg/L
TOTAL DISS.SOLIDS	EPA160.1		10/21/97	1600	JK	45400 mg/L
TOTAL SUSP. SOLIDS	EPA160.2		10/21/97	1700	DN	23 mg/L
SPEC.CONDUCTIVITY	EPA120.1		10/21/97	1440	JK	47900 umhos
SULFATE	EPA375.4		10/23/97	1400	JK	378 mg/L
SULFIDE	EPA376.1		10/22/97	1000	JK	7.25 mg/L
ALUMINUM.TOTAL	202.2	10/22/97	TER 10/23/97	1550	TER	0.114 mg/L
ARSENIC.TOTAL	206.2	10/22/97	TER 10/22/97	1620	TER	<0.01 mg/L
BARIUM.TOTAL	208.2	10/22/97	TER 10/24/97	0845	TER	2.04 mg/L
CADMIUM.TOTAL	213.2	10/22/97	TER 10/22/97	1500	TER	<0.002 mg/L
CALCIUM.TOTAL	215.1	10/22/97	TER 10/24/97	1115	TER	5950 mg/L



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CONTINUATION OF DATA FOR SAMPLE NUMBER 61419

ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
CHROMIUM.TOTAL	218.2	10/22/97	TER 10/23/97	1635	TER	<0.01	mg/L
COPPER.TOTAL	220.2	10/22/97	TER 10/24/97	1000	TER	0.15	mg/L
IRON.TOTAL	SM 3111B	10/22/97	TER 10/24/97	1045	TER	0.60	mg/L
LEAD.TOTAL	239.2	10/22/97	TER 10/22/97	1700	TER	<0.01	mg/L
MAGNESIUM.TOTAL	242.1	10/22/97	TER 10/24/97	1125	TER	4.87	mg/L
MANGANESE.TOTAL	SM 3111B	10/22/97	TER 10/24/97	1030	TER	0.52	mg/L
NICKEL.TOTAL	249.2	10/22/97	TER 10/24/97	1020	TER	0.46	mg/L
POTASSIUM.TOTAL	258.1	10/22/97	TER 10/24/97	1135	TER	2390	mg/L
SELENIUM.TOTAL	270.2	10/22/97	TER 10/22/97	1545	TER	<0.01	mg/L
SILVER.TOTAL	272.2	10/22/97	TER 10/22/97	1430	TER	<0.002	mg/L
SODIUM.TOTAL	273.1	10/22/97	TER 10/24/97	1145	TER	3900	mg/L
ZINC.TOTAL	289.1	10/22/97	TER 10/24/97	1010	TER	0.06	mg/L

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## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: RES REC LEACHAT  
DATE: 01/08/98  
DHRS # 44237. E44123

SAMPLE NUMBER- 63256 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 12/24/97 LOCATION-  
DATE RECEIVED- 12/24/97 SAMPLER- JAMES HOFFMAN  
TIME RECEIVED- 1055 DELIVERED BY- JIM HOFFMAN

SAMPLE MATRIX- LE  
TIME SAMPLED- 0900  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
CHLORIDE	EPA 325.2			01/05/98 1100	JK	20558	mg/L
BIOCHEM.OXY.DEMAND	SM5210B			12/24/97 1300	CEM	436	mg/L
KJELDAHL NITROGEN	4500NorgB			12/24/97 1500	TER	10.2	mg/L
PH.LAB	EPA150.1			12/24/97 1145	JK	7.52	std units
TOTAL SUSP. SOLIDS	EPA160.2			12/24/97 1300	CEM	34	mg/L
ARSENIC.TOTAL	206.2	01/05/98	TER 01/07/98	1240	TER	<0.01	mg/L
CADMIUM.TOTAL	213.2	01/05/98	TER 01/07/98	1400	TER	0.15	mg/L
CHROMIUM.TOTAL	218.2	01/05/98	TER 01/07/98	1040	TER	<0.01	mg/L
COPPER.TOTAL	220.2	01/05/98	TER 01/07/98	0910	TER	0.28	mg/L
LEAD.TOTAL	239.2	01/05/98	TER 01/07/98	1115	TER	<0.01	mg/L
NICKEL.TOTAL	249.2	01/05/98	TER 01/07/98	0935	TER	1.19	mg/L
SELENIUM.TOTAL	270.2	01/05/98	TER 01/07/98	1330	TER	<0.01	mg/L
SILVER.TOTAL	272.2	01/05/98	TER 01/07/98	1415	TER	0.31	mg/L
ZINC.TOTAL	289.1	01/05/98	TER 01/07/98	0920	TER	0.15	mg/L

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## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

DATE: 01/09/98  
DHRS # 44237. E44123

SAMPLE NUMBER- 63406 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 12/31/97 LOCATION-  
DATE RECEIVED- 12/31/97 SAMPLER- SCOTT BERGE  
TIME RECEIVED- 1035 DELIVERED BY- JIM HOFFMAN

SAMPLE MATRIX- LE  
TIME SAMPLED- 0815  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT UNITS
CHLORIDE	EPA 325.2	01/05/98	TER	01/07/98	1100 JK	49991 mg/L
BIOCHEM.OXY.DEMAND	SM5210B	12/31/97	1500	CEM		294 mg/L
KJELDAHL NITROGEN	4500NorgB	01/08/98	1600	TER		48.4 mg/L
PH.LAB	EPA150.1	12/31/97	1110	JK		8.70 std units
TOTAL SUSP. SOLIDS	EPA160.2	12/31/97	1300	CEM		17 mg/L
ARSENIC.TOTAL	206.2	01/05/98	TER	01/07/98	1240 TER	<0.01 mg/L
CADMIUM.TOTAL	213.2	01/05/98	TER	01/07/98	1400 TER	0.12 mg/L
CHROMIUM.TOTAL	218.2	01/05/98	TER	01/07/98	1040 TER	<0.01 mg/L
COPPER.TOTAL	220.2	01/05/98	TER	01/07/98	0910 TER	0.26 mg/L
LEAD.TOTAL	239.2	01/05/98	TER	01/07/98	1115 TER	<0.01 mg/L
NICKEL.TOTAL	249.2	01/05/98	TER	01/07/98	0935 TER	1.03 mg/L
SELENIUM.TOTAL	270.2	01/05/98	TER	01/07/98	1330 TER	<0.01 mg/L
SILVER.TOTAL	272.2	01/05/98	TER	01/07/98	1415 TER	0.25 mg/L
ZINC.TOTAL	289.1	01/05/98	TER	01/07/98	0920 TER	0.13 mg/L

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## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: RES REC LEACHAT  
DATE: 01/20/98  
DHRS # 44237, E44123

SAMPLE NUMBER- 63533 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 01/07/98 LOCATION-  
DATE RECEIVED- 01/07/98 SAMPLER- RAY BOERSTLER  
TIME RECEIVED- 1100 DELIVERED BY- W ELSHINAWY

SAMPLE MATRIX- LE  
TIME SAMPLED- 0900  
RECEIVED BY- AS

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ANALYSIS	METHOD	SAMPLE PREP	ANALYSIS	DATE	BY	DATE	TIME	BY	RESULT	UNITS
CHLORIDE	EPA 325.2			01/12/98	1100	JK			45435	mg/L
BIOCHEM.OXY.DEMAND	SM5210B			01/07/98	1530	DN			288	mg/L
KJELDAHL NITROGEN	4500NorgB			01/08/98	1600	TER			15.1	mg/L
PH.LAB	EPA150.1			01/07/98	1210	JK			6.74	std units
TOTAL DISS.SOLIDS	EPA160.1			01/07/98	1500	JK			129000	mg/L
TOTAL SUSP. SOLIDS	EPA160.2			01/09/98	1600	DN			506	mg/L
SPEC.CONDUCTIVITY	EPA120.1			01/07/98	1210	JK			111200	umhos
SULFATE	EPA375.4			01/08/98	1100	JK			560	mg/L
ARSENIC.TOTAL	206.2	01/09/98	TER	01/16/98	1520	TER			<0.04	mg/L
CADMIUM.TOTAL	213.2	01/09/98	TER	01/16/98	1045	TER			0.17	mg/L
CHROMIUM.TOTAL	218.2	01/09/98	TER	01/16/98	1200	TER			<0.01	mg/L
COPPER.TOTAL	220.2	01/09/98	TER	01/16/98	0950	TER			0.30	mg/L
LEAD.TOTAL	239.2	01/09/98	TER	01/16/98	1100	TER			2.30	mg/L
NICKEL.TOTAL	249.2	01/09/98	TER	01/16/98	1010	TER			1.19	mg/L
SELENIUM.TOTAL	270.2	01/09/98	TER	01/16/98	1540	TER			<0.04	mg/L
SILVER.TOTAL	272.2	01/09/98	TER	01/16/98	1035	TER			0.34	mg/L
ZINC.TOTAL	289.1	01/09/98	TER	01/16/98	1000	TER			0.26	mg/L

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# PASCO COUNTY, FLORIDA

ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: RES REC LEACHAT  
DATE: 01/23/98  
DHRS # 44237, E44123

SAMPLE NUMBER- 63740 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 01/14/98 LOCATION-  
DATE RECEIVED- 01/14/98 SAMPLER- JIM HOFFMAN  
TIME RECEIVED- 1045 DELIVERED BY- W ELSHIROWY

SAMPLE MATRIX- LE  
TIME SAMPLED- 0930  
RECEIVED BY- AS

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
CHLORIDE	EPA 325.2		01/20/98	1100	JK	35259	mg/L
BIOCHEM. OXY. DEMAND	SM5210B		01/14/98	1330	DN	143	mg/L
KJELDAHL NITROGEN	4500NorgB		01/15/98	1400	TER	40.8	mg/L
PH. LAB	EPA150.1		01/15/98	1145	JK	7.38	std units
TOTAL DISS. SOLIDS	EPA160.1		01/15/98	1500	JK	111600	mg/L
TOTAL SUSP. SOLIDS	EPA160.2		01/14/98	1600	DN	486	mg/L
SPEC. CONDUCTIVITY	EPA120.1		01/15/98	1145	JK	90100	umhos/cm
SULFATE	EPA375.4		01/14/98	1150	JK	603	mg/L
ARSENIC. TOTAL	206.2	01/14/98	TER 01/16/98	1520	TER	<0.04	mg/L
CADMIUM. TOTAL	213.2	01/14/98	TER 01/16/98	1045	TER	0.13	mg/L
CHROMIUM. TOTAL	218.2	01/14/98	TER 01/16/98	1200	TER	<0.01	mg/L
COPPER. TOTAL	220.2	01/14/98	TER 01/16/98	0950	TER	0.30	mg/L
LEAD. TOTAL	239.2	01/14/98	TER 01/16/98	1100	TER	1.82	mg/L
NICKEL. TOTAL	249.2	01/14/98	TER 01/16/98	1010	TER	0.92	mg/L
SELENIUM. TOTAL	270.2	01/14/98	TER 01/16/98	1540	TER	<0.04	mg/L
SILVER. TOTAL	272.2	01/14/98	TER 01/16/98	1035	TER	0.25	mg/L
ZINC. TOTAL	289.1	01/14/98	TER 01/16/98	1000	TER	0.17	mg/L

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NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: RES REC LEACHAT  
DATE: 02/09/98  
DHRS # 44237. E44123

SAMPLE NUMBER- 63915 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 01/21/98 LOCATION-  
DATE RECEIVED- 01/21/98 SAMPLER- WAGDY ELSHINAWY  
TIME RECEIVED- 1045 DELIVERED BY- W ELSHINAWY

SAMPLE MATRIX- LE  
TIME SAMPLED- 1000  
RECEIVED BY- AS

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
CHLORIDE	EPA 325.2			01/26/98 1430	JK	33485	mg/L
BIOCHEM. OXY. DEMAND	SM5210B			01/21/98 1330	DN	169	mg/L
KJELDAHL NITROGEN	4500NorgB			01/22/98 1400	TER	41.2	mg/L
PH. LAB	EPA150.1			01/21/98 1220	JK	7.44	std units
TOTAL DISS. SOLIDS	EPA160.1			01/21/98 1500	JK	156200	mg/L
TOTAL SUSP. SOLIDS	EPA160.2			02/06/98 1700	DN	592	mg/L
SPEC. CONDUCTIVITY	EPA120.1			01/21/98 1215	JK	77000	umhos/cm
SULFATE	EPA375.4			01/22/98 1600	JK	632	mg/L
ARSENIC, TOTAL	206.2	01/21/98	TER	02/02/98 1545	TER	<0.04	mg/L
CADMIUM, TOTAL	213.2	01/21/98	TER	02/02/98 1241	TER	0.13	mg/L
CHROMIUM, TOTAL	218.2	01/21/98	TER	02/02/98 1500	TER	0.01	mg/L
COPPER, TOTAL	220.2	01/21/98	TER	02/02/98 1145	TER	0.34	mg/L
LEAD, TOTAL	239.2	01/21/98	TER	02/02/98 1250	TER	1.58	mg/L
NICKEL, TOTAL	249.2	01/21/98	TER	02/02/98 1215	TER	1.04	mg/L
SELENIUM, TOTAL	270.2	01/21/98	TER	02/02/98 1620	TER	<0.04	mg/L
SILVER, TOTAL	272.2	01/21/98	TER	02/02/98 1230	TER	0.25	mg/L
ZINC, TOTAL	289.1	02/02/98	TER	02/02/98 1200	TER	0.32	mg/L

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8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: RES REC LEACHAT  
DATE: 02/06/98  
DHRS # 44237. E44123

SAMPLE NUMBER- 64092 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 01/28/98 LOCATION-  
DATE RECEIVED- 01/28/98 SAMPLER- JAMES HOFFMAN  
TIME RECEIVED- 1025 DELIVERED BY- JIM HOFFMAN

SAMPLE MATRIX- LE  
TIME SAMPLED- 0930  
RECEIVED BY- AS

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	TIME	BY	RESULT	UNITS
CHLORIDE	SM4500CL E		02/03/98	1500	JK	36557	mg/L
BIOCHEM. OXY. DEMAND	SM5210B		01/28/98	1430	DN	251	mg/L
KJELDAHL NITROGEN	4500NorgB		01/29/98	1600	TER	34.4	mg/L
PH. LAB	SM4500H+ B		01/28/98	1150	JK	7.40	std units
TOTAL DISS. SOLIDS	SM2540C		01/29/98	0900	JK	87600	mg/L
TOTAL SUSP. SOLIDS	SM2540D		01/28/98	1600	DN	408	mg/L
SPEC. CONDUCTIVITY	SM2510B		01/28/98	1150	JK	81700	umhos/cm
SULFATE	EPA375.4		01/30/98	1130	JK	573	mg/L
ARSENIC. TOTAL	SM3113B	01/30/98	TER 02/02/98	1545	TER	<0.04	mg/L
CADMIUM. TOTAL	SM3113B	01/30/98	TER 02/02/98	1241	TER	0.13	mg/L
CHROMIUM. TOTAL	SM3113B	01/30/98	TER 02/02/98	1500	TER	<0.01	mg/L
COPPER. TOTAL	SM3113B	01/30/98	TER 02/02/98	1145	TER	0.25	mg/L
LEAD. TOTAL	SM3113B	01/30/98	TER 02/02/98	1250	TER	1.69	mg/L
NICKEL. TOTAL	SM3113B	01/30/98	TER 02/02/98	1215	TER	1.11	mg/L
SELENIUM. TOTAL	SM3113B	01/30/98	TER 02/02/98	1620	TER	<0.04	mg/L
SILVER. TOTAL	SM3113B	01/30/98	TER 02/02/98	1230	TER	0.26	mg/L
ZINC. TOTAL	SM3111B	02/02/98	TER 02/02/98	1200	TER	0.15	mg/L

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# PASCO COUNTY, FLORIDA

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NEW PORT RICHEY, FL 34654  
(813) 847-3902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

DATE: 03/05/98  
DHRS # 44237, E44123

SAMPLE NUMBER- 64336    SAMPLE ID- PRIMARY LEACHATE    SAMPLE MATRIX- LE  
DATE SAMPLED- 02/04/98    LOCATION- PRIMARY HOLDING TANK    TIME SAMPLED- 1000  
DATE RECEIVED- 02/04/98    SAMPLER- WAGDY ELSHINAWY    RECEIVED BY- AS  
TIME RECEIVED- 1050    DELIVERED BY- W ELSHINAWY

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP		ANALYSIS		RESULT	UNITS
		DATE	BY	DATE	TIME		
CHLORIDE	SM4500CL E			02/09/98	1000 JK	42095	mg/L
BIOCHEM. OXY. DEMAND	SM5210B			02/04/98	1230 DN	213	mg/L
KJELDAHL NITROGEN	4500NorgB			02/05/98	1500 TER	41.0	mg/L
PH. LAB	SM4500H+ B			02/04/98	1240 JK	7.46	std units
TOTAL DISS. SOLIDS	SM2540C			02/04/98	1600 JK	93200	mg/L
TOTAL SUSP. SOLIDS	SM2540D			02/04/98	1700 DN	444	mg/L
SPEC. CONDUCTIVITY	SM2510B			02/04/98	1230 JK	81500	umhos/cm
SULFATE	EPA375.4			02/05/98	1130 JK	557	mg/L
ARSENIC. TOTAL	SM3113B	02/06/98	TER	02/23/98	1310 TER	<0.01	mg/L
CADMIUM. TOTAL	SM3113B	02/06/98	TER	02/23/98	1140 TER	<0.002	mg/L
CHROMIUM. TOTAL	SM3113B	02/06/98	TER	02/23/98	1015 TER	<0.01	mg/L
COPPER. TOTAL	SM3113B	02/06/98	TER	02/23/98	1600 TER	0.19	mg/L
LEAD. TOTAL	SM3113B	02/06/98	TER	02/23/98	1230 TER	<0.01	mg/L
NICKEL. TOTAL	SM3113B	02/06/98	TER	02/23/98	1625 TER	0.36	mg/L
SELENIUM. TOTAL	SM3113B	02/06/98	TER	02/23/98	1340 TER	<0.01	mg/L
SILVER. TOTAL	SM3113B	02/06/98	TER	02/23/98	1100 TER	<0.002	mg/L
ZINC. TOTAL	SM3111B	02/06/98	TER	02/23/98	1610 TER	0.14	mg/L

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# PASCO COUNTY, FLORIDA

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NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

DATE: 03/05/98  
DHRS # 44237, E44123

SAMPLE NUMBER- 64571 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 02/11/98 LOCATION- PRIMARY HOLDING TANK  
DATE RECEIVED- 02/11/98 SAMPLER- RAY BOERSTLER  
TIME RECEIVED- 1045 DELIVERED BY- RAY BOERSTLER

SAMPLE MATRIX- LE  
TIME SAMPLED- 0935  
RECEIVED BY- AS

Page 1 of 1

ANALYSIS	METHOD	DATE	BY	DATE	TIME	BY	RESULT	UNITS
CHLORIDE	SM4500CL E			02/16/98	1030	JK	29985	mg/L
BIOCHEM. OXY. DEMAND	SM5210B			02/11/98	1130	DN	153	mg/L
KJELDAHL NITROGEN	4500NorgB			02/12/98	1500	TER	28.8	mg/L
PH. LAB	SM4500H+ B			02/11/98	1400	JK	7.18	std units
TOTAL DISS. SOLIDS	SM2540C			02/11/98	1500	JK	79400	mg/L
TOTAL SUSP. SOLIDS	SM2540D			02/11/98	1700	DN	84	mg/L
SPEC. CONDUCTIVITY	SM2510B			02/11/98	1135	JK	73400	umhos/cm
SULFATE	EPA375.4			02/11/98	1200	JK	474	mg/L
ARSENIC. TOTAL	SM3113B	02/11/98	TER	02/23/98	1310	TER	<0.01	mg/L
CADMIUM. TOTAL	SM3113B	02/11/98	TER	02/23/98	1140	TER	<0.002	mg/L
CHROMIUM. TOTAL	SM3113B	02/11/98	TER	02/23/98	1015	TER	<0.01	mg/L
COPPER. TOTAL	SM3113B	02/11/98	TER	02/23/98	1600	TER	0.19	mg/L
LEAD. TOTAL	SM3113B	02/11/98	TER	02/23/98	1230	TER	<0.01	mg/L
NICKEL. TOTAL	SM3113B	02/11/98	TER	02/23/98	1625	TER	0.65	mg/L
SELENIUM. TOTAL	SM3113B	02/11/98	TER	02/23/98	1340	TER	<0.04	mg/L
SILVER. TOTAL	SM3113B	02/11/98	TER	02/23/98	1100	TER	<0.002	mg/L
ZINC. TOTAL	SM3111B	02/11/98	TER	02/23/98	1610	TER	0.23	mg/L

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ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

DATE: 03/05/98  
DHRS # 44237, E44123

SAMPLE NUMBER- 64756 SAMPLE ID- PRIMARY LEACHATE  
DATE SAMPLED- 02/18/98 LOCATION- PRIMARY HOLDING TANK  
DATE RECEIVED- 02/18/98 SAMPLER- WAGDY ELSHINAWY  
TIME RECEIVED- 1145 DELIVERED BY- WAGDY ELSHINAWY

SAMPLE MATRIX- LE  
TIME SAMPLED- 0930  
RECEIVED BY- AS

Page 1 of 1

### PRELIMINARY RESULTS SAMPLE PREP ANALYSIS

ANALYSIS	METHOD	DATE	BY	DATE	TIME	BY	RESULT	UNITS
CHLORIDE	SM4500CL F						N. C.	mg/L
BIOCHEM. OXY. DEMAND	SM5210B			02/18/98	1230	DN	198	mg/L
KJELDAHL NITROGEN	4500NorgB			02/19/98	1500	TER	30.2	mg/L
PH. LAB	SM4500H+ B			02/18/98	1345	JK	7.66	std units
TOTAL DISS. SOLIDS	SM2540C			02/18/98	1430	JK	64800	mg/L
TOTAL SUSP. SOLIDS	SM2540D			02/18/98	1600	DN	54	mg/L
SPEC. CONDUCTIVITY	SM2510B			02/18/98	1345	CSC	64200	umhos/cm
SULFATE	EPA375.4			02/19/98	1100	JK	747	mg/L
ARSENIC, TOTAL	SM3113B	02/23/98	TER	03/02/98	1635	TER	<0.01	mg/L
CADMIUM, TOTAL	SM3113B	02/23/98	TER	03/02/98	1600	TER	<0.002	mg/L
CHROMIUM, TOTAL	SM3113B	02/24/98	TER	03/03/98	1030	TER	0.011	mg/L
COPPER, TOTAL	SM3113B	02/23/98	TER	03/03/98	1425	TER	0.52	mg/L
LEAD, TOTAL	SM3113B	02/23/98	TER	03/03/98	0950	TER	0.012	mg/L
NICKEL, TOTAL	SM3113B	02/23/98	TER	03/03/98	1450	TER	0.32	mg/L
SELENIUM, TOTAL	SM3113B	02/23/98	TER	03/02/98	1720	TER	<0.01	mg/L
SILVER, TOTAL	SM3113B	02/23/98	TER	03/02/98	1520	TER	<0.002	mg/L
ZINC, TOTAL	SM3111B	02/23/98	TER	03/03/98	1440	TER	0.64	mg/L

NOTE: N. C. = ANALYSIS NOT COMPLETED

LABORATORY DIRECTOR



# PASCO COUNTY, FLORIDA

ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

DATE: 03/05/98  
DHRS # 44237, E44123

SAMPLE NUMBER- 64959 SAMPLE ID- PRIMARY LEACHATE SAMPLE MATRIX- LE  
DATE SAMPLED- 02/25/98 LOCATION- PRIMARY HOLDING TANK TIME SAMPLED- 1000  
DATE RECEIVED- 02/25/98 SAMPLER- WAGDY ELSHINAWY RECEIVED BY- AS  
TIME RECEIVED- 1100 DELIVERED BY- W ELSHINAWY

Page 1 of 1

### PRELIMINARY RESULTS SAMPLE PREP ANALYSIS

ANALYSIS	METHOD	DATE	BY	DATE	TIME	BY	RESULT	UNITS
CHLORIDE	SM4500CL E						N. C.	mg/L
BIOCHEM. OXY. DEMAND	SM5210B			02/25/98	1130	DN	222	mg/L
KJELDAHL NITROGEN	4500NorgB			02/26/98	1600	TER	37.1	mg/L
PH.LAB	SM4500H+ B			02/25/98	1530	JK	8.58	std units
TOTAL DISS. SOLIDS	SM2540C			02/25/98		JK	N. C.	mg/L
TOTAL SUSP. SOLIDS	SM2540D			02/25/98	1600	DN	46	mg/L
SPEC. CONDUCTIVITY	SM2510B			02/25/98	1530	JK	67600	umhos/cm
SULFATE	EPA375.4			02/27/98	1530	JK	618	mg/L
ARSENIC, TOTAL	SM3113B	02/25/98	TER	03/02/98	1635	TER	<0.04	mg/L
CADMIUM, TOTAL	SM3113B	02/25/98	TER	03/02/98	1600	TER	<0.002	mg/L
CHROMIUM, TOTAL	SM3113B	02/25/98	TER	03/03/98	1030	TER	<0.01	mg/L
COPPER, TOTAL	SM3113B	02/25/98	TER	03/03/98	1425	TER	0.28	mg/L
LEAD, TOTAL	SM3113B	02/25/98	TER	03/03/98	0950	TER	<0.01	mg/L
NICKEL, TOTAL	SM3113B	02/25/98	TER	03/03/98	1450	TER	0.48	mg/L
SELENIUM, TOTAL	SM3113B	02/25/98	TER	03/02/98	1720	TER	<0.04	mg/L
SILVER, TOTAL	SM3113B	02/25/98	TER	03/02/98	1520	TER	<0.002	mg/L
ZINC, TOTAL	SM3111B	02/25/98	TER	03/03/98	1440	TER	0.15	mg/L

NOTE: N. C. = ANALYSIS NOT COMPLETED

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**APPENDIX B**  
**LABORATORY REPORTS**  
**A-2 SURFACE WATER**





# PASCO COUNTY, FLORIDA

ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(313) 847-8902

## REPORT OF ANALYSES

RESOURCE RECOVERY  
14230 HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: RESREC SURF LEA  
DATE: 02/06/98  
DHRS # 44237. E44123

SAMPLE NUMBER- 64257    SAMPLE ID- RES REC SURFACE LEA A-2 CELL    SAMPLE MATRIX- LE  
DATE SAMPLED- 02/02/98    LOCATION-    TIME SAMPLED- 0900  
DATE RECEIVED- 02/02/98    SAMPLER- RON WALKER    RECEIVED BY- AS  
TIME RECEIVED- 1005    DELIVERED BY- RON WALKER

Page 1 of 1

ANALYSIS	METHOD	ANALYSIS DATE	TIME	BY	RESULT	UNITS
CHLORIDE	SM4500CL E	02/03/98	1500	JK	20079	mg/L

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(813) 847-8902

## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: LMF A-2 POND  
DATE: 11/18/97  
DHRS # 44237. E44123

SAMPLE NUMBER- 62056	SAMPLE ID- LEACHATE A-2 POND	SAMPLE MATRIX- LE
DATE SAMPLED- 11/12/97	LOCATION-	TIME SAMPLED- 0845
DATE RECEIVED- 11/12/97	SAMPLER- WALTER DRADRANSKY	RECEIVED BY- AS
TIME RECEIVED- 0955	DELIVERED BY- W DRADRANSKY	

Page 1 of 1

ANALYSIS	METHOD	ANALYSIS			RESULT UNITS
		DATE	TIME	BY	
CHLORIDE	EPA 325.2	11/17/97	1600	CEM	16505 mg/L
TOTAL DISS. SOLIDS	EPA160.1	11/13/97	1030	JK	52200 mg/L
TOTAL SUSP. SOLIDS	EPA160.2	11/12/97	1600	DN	45 mg/L

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A handwritten signature in black ink, appearing to read "C. E. Miller", is written over a horizontal line.



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ENVIRONMENTAL LABORATORY  
8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: LMF PONDING  
DATE: 10/16/97  
DHRS # 44237, E44123

SAMPLE NUMBER- 61125 SAMPLE ID- LMF A-2 PONDING LEACHATE SAMPLE MATRIX- LE  
DATE SAMPLED- 10/09/97 LOCATION- TIME SAMPLED- 1230  
DATE RECEIVED- 10/09/97 SAMPLER- WALTER DRADRANSKY RECEIVED BY- CM  
TIME RECEIVED- 1455 DELIVERED BY- W DRADRANSKY

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS			RESULT UNITS
		DATE	BY	DATE	
CHLORIDE	EPA 325.2			10/13/97 1100 JK	18470 mg/L
DISS. SOLIDS	EPA160.1			10/10/97 1130 JK	57700 mg/L
SUSP. SOLIDS	EPA160.2			10/10/97 1600 DN	99 mg/L
SPEC. CONDUCTIVITY	EPA120.1			10/09/97 1635 JK	45700 umhos
CALCIUM. TOTAL	215.1	10/10/97	TER	10/10/97 1425 TER	6620 mg/L
POTASSIUM. TOTAL	258.1	10/10/97	TER	10/10/97 1440 TER	2500 mg/L
SODIUM. TOTAL	273.1	10/10/97	TER	10/10/97 1135 TER	3650 mg/L

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8864 GOVERNMENT DRIVE  
NEW PORT RICHEY, FL 34654  
(813) 847-8902

## REPORT OF ANALYSES

LEACHATE MANAGEMENT FACILITY  
RESOURCE RECOVERY SITE  
HAYS ROAD  
SPRING HILL, FL 34610-  
Attn: VINCENT MANNELLA

PROJECT NAME: LMF POND  
DATE: 10/10/97  
DHRS # 44237 E44123

SAMPLE NUMBER- 61010 SAMPLE ID- LMF POND LEACH FROM A-2 CELL SAMPLE MATRIX- LE  
DATE SAMPLED- 10/07/97 LOCATION- TIME SAMPLED- 1035  
DATE RECEIVED- 10/07/97 SAMPLER- KEITH WALLACE RECEIVED BY- AS  
TIME RECEIVED- 1035 DELIVERED BY- RON WALKER

Page 1 of 1

ANALYSIS	METHOD	ANALYSIS			RESULT UNITS
		DATE	TIME	BY	
CHLORIDE	EPA 325.2	10/09/97	1100	JK	30665 mg/L
TOTAL DISS. SOLIDS	EPA160.1	10/07/97	1130	JK	71200 mg/L
TOTAL SUSP. SOLIDS	EPA160.2	10/07/97	1600	DN	28 mg/L

LABORATORY DIRECTOR

**APPENDIX C**  
**LABORATORY REPORTS**  
**TOTAL AND DISSOLVED METALS**

6712 Benjamin Road • Suite 100 • Tampa, FL 33634 • (813) 885-7427 • Fax (813) 885-7049

LOG NO: B8-30488  
Received: 20 FEB 98  
Reported: 20 FEB 98Mr. Larry Maron  
Atlanta Testing & Engineering, Florida Division  
1211 Tech Boulevard, Suite 200  
Tampa, FL 33619Project: Pasco County Leachate  
Sampled By: Client

## REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED			
30488-1	A-2 Sump (unfiltered)	02-17-98/1135			
30488-2	A-2 Sump (filtered)	02-17-98/1135			
30488-3	A-2 Surface (unfiltered)	02-17-98/1140			
30488-4	A-2 Surface (filtered)	02-17-98/1140			
PARAMETER	30488-1	30488-2	30488-3	30488-4	
Aluminum, mg/l	<0.20	<0.20	0.99	<0.20	
Barium, mg/l	2.0	2.1	0.79	0.76	
Cadmium, mg/l	<0.0050	<0.0050	0.026	0.022	
Copper, mg/l	0.11	<0.025	0.095	0.072	
Iron, mg/l	11	11	0.24	<0.050	
Lead, mg/l	0.031	<0.0050	0.042	<0.0050	
Magnesium, mg/l	3.0	3.1	3.1	3.0	
Manganese, mg/l	0.58	0.58	0.20	0.18	
Nickel, mg/l	<0.040	<0.040	<0.040	<0.040	
Silver, mg/l	<0.010	<0.010	<0.010	<0.010	
Zinc, mg/l	0.28	0.066	0.34	0.13	

# SL SAVANNAH LABORATORIES

& ENVIRONMENTAL SERVICES, INC.

6712 Benjamin Road • Suite 100 • Tampa, FL 33634 • (813) 885-7427 • Fax (813) 885-7049

LOG NO: B8-30488  
Received: 20 FEB 98  
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Mr. Larry Maron  
Atlanta Testing & Engineering, Florida Division  
1211 Tech Boulevard, Suite 200  
Tampa, FL 33619

Project: Pasco County Leachate  
Sampled By: Client

## REPORT OF RESULTS

Page 2

### LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

30488-5	Continuing Calibration Blank (SLES)
30488-6	Continuing Calibration Verification Standard % Recovery (SLES)
30488-7	Method Blank (PCEL)
30488-8	QA/QC ERA Standard % Recovery (PCEL)
30488-9	A-2 Sump (unfiltered) Duplicate (PCEL)

PARAMETER	30488-5	30488-6	30488-7	30488-8	30488-9
Aluminum, mg/l	<0.20	108 %	<0.20	135 %	<0.20
Barium, mg/l	<0.010	103 %	<0.010	104 %	2.0
Cadmium, mg/l	<0.0050	104 %	<0.0050	98 %	<0.0050
Copper, mg/l	<0.025	102 %	<0.025	99 %	0.12
Iron, mg/l	<0.050	97 %	<0.050	104 %	11
Lead, mg/l	<0.0050	104 %	<0.0050	101 %	0.032
Magnesium, mg/l	<0.50	100 %	<0.50	0 %	3.0
Manganese, mg/l	<0.010	104 %	<0.010	109 %	0.57
Nickel, mg/l	<0.040	101 %	<0.040	96 %	<0.040
Silver, mg/l	<0.010	105 %	<0.010	103 %	<0.010
Zinc, mg/l	<0.020	105 %	<0.020	101 %	0.28

# SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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LOG NO: B8-30488  
Received: 20 FEB 98  
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Mr. Larry Maron  
Atlanta Testing & Engineering, Florida Division  
1211 Tech Boulevard, Suite 200  
Tampa, FL 33619

Project: Pasco County Leachate  
Sampled By: Client

## REPORT OF RESULTS

Page 3

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

30488-10 A-2 Sump (unfiltered) Spike % Recovery (PCEL)

PARAMETER 30488-10

Aluminum, mg/l	0 %
Barium, mg/l	128 %
Cadmium, mg/l	81 %
Copper, mg/l	121 %
Iron, mg/l	120 %
Lead, mg/l	122 %
Magnesium, mg/l	0 %
Manganese, mg/l	0 %
Nickel, mg/l	0 %
Silver, mg/l	0 %
Zinc, mg/l	94 %

Method: EPA SW-846

HRS Certification: E84282, E44123



Andre Rachmaninoff, Project Manager



**APPENDIX D**  
**LABORATORY REPORTS**  
**AMMONIA AND CORROSIVITY ANALYSES**

MAR-24-1998 15:54 SAVANNAH LABS  
**SL SAVANNAH LABORATORIES**  
& ENVIRONMENTAL SERVICES, INC.

414 SW 12th Avenue • Deerfield Beach, Florida 33442 • (954) 421-7400 • Fax (954) 421-2584

LOG NO: D3-40410  
Received: 25 FEB 98  
Reported: 03 MAR 98

Mr. Larry Maron  
Atlanta Testing & Engineering, Florida Division  
1211 Tech Boulevard, Suite 200  
Tampa, FL 33619

Project: #F8220 (Resource Recovery Facility)  
Sampled By: Jim Palmer  
Code: 18078033  
Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
40410-1	Surface.022598	02-25-98/1435
PARAMETER	40410-1	
Nitrogen, Ammonia (350.1)		
Nitrogen, Ammonia, mg/l	10	
Date Analyzed	03.01.98	
Nitrogen, Ammonia (Unionized)		
Ammonia-N Unionized, mg/l	0.036	
Date Analyzed	03.01.98	

**SL SAVANNAH LABORATORIES**  
& ENVIRONMENTAL SERVICES, INC.

414 SW 12th Avenue • Deerfield Beach, Florida 33442 • (954) 421-7400 • Fax (954) 421-2584

LOG NO: D8-40410  
Received: 25 FEB 98  
Reported: 03 MAR 98Mr. Larry Maxon  
Atlanta Testing & Engineering, Florida Division  
1211 Tech Boulevard, Suite 200  
Tampa, FL 33619Project: #P8220 (Resource Recovery Facility)  
Sampled By: Jim Palmer  
Code: 18078033  
Page 2

## REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
40410-2	A2Sump.022598	02-25-98/1445
PARAMETER	40410-2	
Nitrogen, Ammonia (350.1)		
Nitrogen, Ammonia, mg/l	32	
Date Analyzed	03.01.98	
Nitrogen, Ammonia (Unionized)		
Ammonia-N Unionized, mg/l	1.3	
Date Analyzed	03.01.98	
Corrosivity Toward Steel (1110)		
Corrosivity Toward Steel (1110), mmpy	1.6	
Date Analyzed	02.16.98	

**SL SAVANNAH LABORATORIES**  
& ENVIRONMENTAL SERVICES, INC.

414 SW 12th Avenue • Deerfield Beach, Florida 33442 • (954) 421-7400 • Fax (954) 421-2584

LOG NO: D8-40413  
Received: 26 FEB 98  
Reported: 03 MAR 98

Mr. Larry Maron  
Atlanta Testing & Engineering, Florida Division  
1211 Tech Boulevard, Suite 200  
Tampa, FL 33619

Project: #28220 (Resource Recovery Facility)  
Sampled By: Jim Palmer  
Code: 18078033

REPORT OF RESULTS

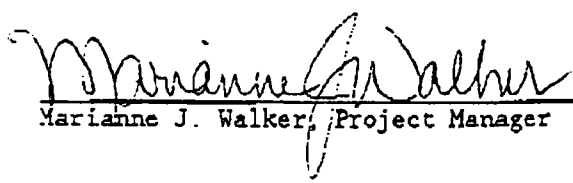
Page 3

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

40410-3 Method Blank  
40410-4 Accuracy (%Rec)  
40410-5 Precision (%RPD)  
40410-6 Reporting Limit (RL)

PARAMETER	40410-3	40410-4	40410-5	40410-6
Nitrogen, Ammonia (350.1)				
Nitrogen, Ammonia, mg/l	<0.030	86 %	1.2 %	0.030
Date Analyzed	03.01.98	---	---	---

Comprehensive Quality Assurance Plan #890142G.  
SL Certifications: E86221/86371  
Method References: EPA 600/4-79-020 and EPA SW-846.

  
Marianne J. Walker, Project Manager

Final Page Of Report  
Laboratories in Savannah, GA • Tallahassee, FL • Tampa, FL • Deerfield Beach, FL • Mobile, AL

TOTAL P.24