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WARE Co.

2002



Waste Industry Experts

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2301 W Meadowview Rd
Greensboro, NC 27407

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www.JoyceEngineering.com

September 3, 2002

Mr. S. Jay Zimmerman, L.G.
Environmental Regional Supervisor
NCDENR Division of Water Quality-Groundwater Section
3800 Barrett Drive, Ste. 101
Raleigh, NC 27609



**RE: Material Recovery, LLC
Brown-Field Road C&D Landfill Permitting Project
Groundwater Quality Assessment
Report of Well Installation and Results of First Monitoring Event
JEI Project No. 470.02; Task 04**

Dear Jay:

On behalf of Material Recovery, LLC, we are submitting this letter report documenting the installation of monitoring wells and piezometers, and the results of the first sampling event performed at the referenced site. These activities were performed in accordance with the *Proposed Sampling and Analysis Plan* dated July 25, 2002 that was requested by the Division of Water Quality and the Division of Waste Management. The *Plan* was approved via email correspondence on July 25, 2002.

Five monitoring wells and two piezometers were installed during the period July 31 through August 2, 2002. Monitoring wells MW-2, -3, -4, -5 and -7 were installed as long-term monitoring points for the proposed landfill facility and piezometers P-26 and P-27 were installed as additional assessment monitoring points. The boring and well construction logs, a report documenting construction details for the referenced wells, survey data, well development records and Division of Water Quality well construction records are provided as Attachment 1 to this letter. The surveyed locations of these wells and piezometers are plotted on Drawing No. 1, and the corresponding data are included on the boring and well construction logs. My signature/seal to this letter shall serve as certification that the referenced wells were installed in accordance with the attached construction information. Existing piezometers P-15 and P-18 were developed/redeveloped prior to sampling and these records are also attached.

The laboratory analytical results and field information forms for the May 2002 sampling event are included in Attachment 2. Monitoring wells MW-1, -2, -3, -4, -5 and -7, piezometers P-11, -15, -18, -20, -26 and -27, and surface monitoring point SW-3 were sampled on August 6-7, 2002. In our *Plan* referenced above, piezometer P-23 was proposed as a monitoring point. This piezometer was dry during the event and piezometer P-18, located approximately 700 feet to the west, was sampled as a replacement. All of the samples were analyzed by Environmental

Mr. S. Jay Zimmerman, L.G.

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Conservation Laboratories. The samples were analyzed for the constituents as outlined in the *Plan*.

A summary table of detected constituents is included in Attachment 2. This table includes the results from an earlier sampling performed on May 7, 2002 as well as the August 6-7, 2002 event. The May event included two groundwater and one surface water monitoring points that were not sampled during the August event. These results were submitted to Ellen Lorscheider of the Solid Waste Section on May 22, 2002.

Results from the May 2002 event are as follows: barium was detected in MW-3, iron was detected in MW-4 and MW-5 and lead was detected in MW-5 at levels above their respective NC 2L Water Quality Standards (NCAC 15A, Subchapter 2L, Section .0200). Beryllium was also detected in piezometer P-20 at a level above its proposed 2L Standard. Nitrate was detected at levels above the NC 2L Standard in wells MW-2, -3, -4, P-20 and SW-3. Total dissolved solids were also detected above the NC 2L Standard in well MW-3. Fecal coliform was detected above the NC 2L Standard in SW-3. Measurements of pH for all site wells were out of the acceptable NC 2L Standard range and are assumed to be representative of background conditions.

Based on the analytical results presented in this report, we are requesting approval to proceed with permitting activities for the proposed construction and demolition debris landfill. Of the constituents outlined above, only pH, barium and lead are required monitoring parameters for the proposed facility. By completing three additional monitoring events for this area, the background values for these (and other) parameters will be well defined prior to disposal activities. Groundwater quality as related to disposal of construction and demolition debris can be effectively monitored. In the event that remediation activities are required of the current permit holder, sufficient property line/waste footprint buffers are proposed that would allow for such activities without interference from the proposed activity.

On behalf of Material Recovery, LLC, we would like to thank you for your assistance with this assessment. If you have any questions or concern as you review this submittal please do not hesitate to call me at (336) 323-0092.

Sincerely,
JOYCE ENGINEERING, INC.



Daniel R. Moore, P.G.
Manager of Environmental Services

Mr. S. Jay Zimmerman, L.G.
September 3, 2002
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Attachments (2)

C: James C. Coffey, Chief, Solid Waste Section-Division of Waste Management
Ellen Lorscheider, Solid Waste Section-Division of Waste Management
Norbert Hector, Material Recovery, LLC
Allen Holt Gwyn, Conner, Gwyn, Schenck, PLLC
Leonard E. Joyce, Jr., P.E., Joyce Engineering, Inc.
File

S:\Projects\Material Recovery LLC\Nitrate Issue\Assessment\DRM EDIT report of well installation and Aug sampling.doc

ATTACHMENT 1
Monitoring Well and Piezometer Installation Report
Proposed Brown-Field Road C&D Landfill

This report presents a brief summary documenting the field procedures and technical services Joyce Engineering, Inc. (JEI) provided in association with the installation of five groundwater monitoring wells and two piezometers at the proposed Brown-Field Road C&D Landfill. These wells and piezometers were installed in response to a request made by the Division of Water Quality and the Division of Waste Management to assess the extent of contamination associated with previous land application activities on the site. The wells designated as monitoring wells (MW) will be used as long term monitoring points for the proposed C&D landfill.

Between July 31 and August 2, 2002, five monitoring wells and two piezometers were installed at the proposed facility. These wells/piezometers were surveyed in August 2002 by TRC Triangle and the locations are provided on Drawing No.1.

Drilling and well installation was performed by J&L Drilling, Inc. utilizing a CME-550 ATV drilling rig equipped with 4.25-inch (inner diameter) hollow stem augers. Monitoring well MW-2 also required the use of a CME 75 drilling rig, equipped with a 6-inch down hole hammer. An experienced JEI geologist was present to observe the drilling, log the boreholes, and supervise the well construction. An experienced JEI technician developed the monitoring wells and piezometers. The drill equipment and well construction materials were cleaned with high-pressure steam without soaps or detergents before the start of drilling to prevent contamination. Well construction was performed in accordance with the standards described in the *RCRA Technical Enforcement Guidance Document*, and the *Draft NC Water Quality Monitoring Guidance Document for Solid Waste Facilities; Solid Waste Section, Division of Waste Management (March 1995)*.

Wells and piezometers were constructed in 8.25-inch diameter borings using 2-inch diameter Schedule 40 PVC casings and 0.010-inch slotted screens. Flush threaded connections were used to connect casings and screens. A portion of the borehole for MW-2 is 6.25 inches in diameter, as down hole hammer drilling was required. The screened interval for the five monitoring wells is fifteen feet, while the intervals for the two piezometers is ten feet. A clean, fine quartz sandpack was placed in the annular spaces above the top of the well screen to prevent formation material from entering the well. Bentonite chips were poured in the annular space directly above the sandpack and were then hydrated with distilled water to seal the screened section from the vertical infiltration of grout and surface water along the well casing. Once the bentonite seal hydrated, a mix of Type I Portland cement/grout was placed in the annulus above the seal. A locking expansion cap was installed into the top of the PVC well casings. Lockable anodized aluminum protective casings were installed into the concrete aprons of the long term monitoring wells.

Following construction, the wells/piezometers were developed to remove accumulated sediments resulting from the drilling and well construction process, and to hydraulically connect them with the surrounding soils. A QED[®] well development pump was used to development the wells. Several of the wells/piezometers remained turbid even after rigorous development.

(End)



DATE: 8-6-02

GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Rd Project No./Task No.: 4790204

Well ID: P-11 Sampler(s): Sizemore/Kirkman

Well Location: SW of southern area off driveway behind house w/pond

Well Diameter: 2 inches
Initial Depth to Water (DTW): 28.43 feet
Depth to Bottom (DTB): 38.25 feet
Water Column Thickness (WCT): 9.82 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.6 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.8 gallons

Actual Amount Purged/Bailed : _____ gallons

Purged with: Disposable Baile

Sampled with: _____

Depth to Water before Sampling : 28.45 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	14:38	22.4	6.83	50.6	231	RK
1.75	14:41	20.1	5.58	44.7	71000	RK
3.5	14:44	19.8	5.49	45.1	71000	RK
5.0	14:47	19.1	5.39	45.8	623	RK
Before Sampling	11:01	18.4	5.85	46.8	524	RK

8-702

Comments (weather conditions, odor, color, silt, etc.): _____

sunny/warm

Signature: Michael Hartman Date: 8-6-02

QA/QC Sign Off: _____ Date: _____



DATE: 8-6-02

GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Project No./Task No.: 479.02.04

Well ID: P-13 Sampler(s): K. Sizemore / R. Kirkman

Well Location: Near Central Drainage of site (at driveway)

Well Diameter: 2 inches
 Initial Depth to Water (DTW): 17.86 feet
 Depth to Bottom (DTB): 28.46 feet
 Water Column Thickness (WCT): 8.6 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.4 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.2 gallons

Actual Amount Purged/Bailed : 2 gallons

Purged with: Disposable Bailor

Sampled with: " "

Depth to Water before Sampling : 19.85 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	10:37	19.7	6.43	80.8	17.7	RK
1.5	10:40	19.3	5.80	83.9	919	RK
		Dry @ 2 gallons				
Before Sampling	8:06	16.9	5.66	83.3	620	RK

8/17/02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny & hot

Signature: Kirkman Date: 8-6-02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Rd Project No./Task No.: 4790204

Well ID: P-18 Sampler(s): Sizemore / Kirkman

Well Location: Behind house w/pond near drainage

Well Diameter: 2 inches

Initial Depth to Water (DTW): 15.42 feet

Depth to Bottom (DTB): 37.11 feet

Water Column Thickness (WCT): 21.69 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.5 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 10.6 gallons

Actual Amount Purged/Bailed: 10.6 gallons

Purged with: Disposable bailer

Sampled with: _____

Depth to Water before Sampling: 15.45 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	11:17	22.0	6.31	62.6	87.3	RK
3.5	11:21	20.2	5.57	68.4	71000	RK
7	11:26	19.7	5.50	73.4	71000	RK
10.6	11:31	19.7	5.44	81.4	71000	RK
Before Sampling	8:36	17.6	6.17	60.5	71000	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny slight breeze

Silty

Signature: Michael Kirkman Date: 8-6-02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: ML, LLC Brownfield rd Project No./Task No.: 4790204

Well ID: P-20 Sampler(s): Sizemore/Kirkman

Well Location: At western edge of northern area

Well Diameter: 2 inches

Initial Depth to Water (DTW): 18.31 feet

Depth to Bottom (DTB): 28.13 feet

Water Column Thickness (WCT): 9.82 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.6 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.8 gallons

Actual Amount Purged/Bailed: 5.0 gallons

Purged with: Disposable bailer

Sampled with: _____

Depth to Water before Sampling: 18.31 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	13:08	19.6	5.75	475	274	RK
1.75	13:12	18.4	4.99	472	71000	RK
3.5	13:14	17.5	4.90	473	71000	RK
5.0	13:16	17.7	4.89	471	71000	RK
Before Sampling	9.53	17.2	5.43	474	71000	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny, hot, slight breeze

Signature: Rachel Kirkman Date: 8-6-02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: ML, LLC Brownfield Rd Project No./Task No.: 4790204

Well ID: P-26 Sampler(s): Sizemore/Kirkman

Well Location: Near MW-4 / creek western side of northern area

Well Diameter: 2 inches

Initial Depth to Water (DTW): 12.44 feet

Depth to Bottom (DTB): 22.91 feet

Water Column Thickness (WCT): 10.43 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.70 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 5.1 gallons

Actual Amount Purged/Bailed: 5.25 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling: 12.30 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	13:45	18.7	6.16	134.1	48.7	RK
1.75	13:47	17.4	5.70	129.7	71000	RK
3.5	13:49	17.3	5.67	131.0	71000	RK
5.25	13:53	17.4	5.55	125.6	71000	RK
Before Sampling	10:15	17.3	6.07	133.2	71000	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

cloudy, warm, slight breeze

silty

Signature: Michael Kirkman Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: M, LLC Brown-Field Rd Project No./Task No.: 4790204

Well ID: P-27 Sampler(s): Sizemore/Kirkman

Well Location: Near slum pond b/t 2 creeks in woods

Well Diameter: 2 inches

Initial Depth to Water (DTW): 9.83 feet

Depth to Bottom (DTB): 23.15 feet

Water Column Thickness (WCT): 13.32 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.2 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 6.6 gallons

Actual Amount Purged/Bailed : 7.75 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling : 9.82 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	11:46	21.0	6.37	178.2	110	RK
2.25	11:48	19.0	5.97	177.1	71000	RK
5.50	11:51	19.2	6.01	188.0	71006	RK
7.75	11:55	18.4	5.83	189.7	71000	RK
Before Sampling	8:55	17.6	6.09	153.5	230	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny, hot w/ breeze

very silty

Signature: Michael Kirkman Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



ENGINEERING, INC.

SURFACE WATER MONITORING LOG

Project Name: ML, LLC Brownfield P&D Project/Task No.: 4790204

Surface Point ID: SW-3 Sampler(s): Size more / Workman

Location: Near P-27 @ stream convergence

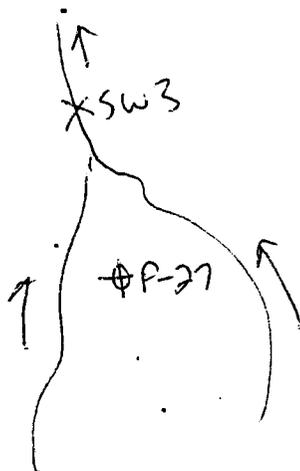
Field Parameters:

Time of Sampling:	<u>9:04</u>	
pH:	<u>5.76</u>	
Temperature :	<u>18.1</u>	(°C)
Conductivity :	<u>431</u>	(mV)
Turbidity :	<u>14.1</u>	(ntu)

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

Sunny, breezy

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: Michael Workman Date: 8-7-02

QA/QC Sign Off: _____ Date: _____

ENCO LABORATORIES

REPORT # : CRY12721
 DATE REPORTED: August 15, 2002
 REFERENCE : 479.02.04
 PROJECT NAME : Material Recovery, LLC
 Brownfield Rd.

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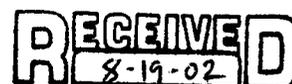
QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY MS/MSD/LCS</u>	<u>ACCEPT LIMITS</u>	<u>% RPD MS/MSD</u>	<u>ACCEPT LIMITS</u>
<u>EPA Method 300</u>				
Fluoride	101/103/ 94	43-130	2	25
Chloride	102/103/ 99	51-149	<1	26
Nitrate-N	87/ 98/ 93	40-152	12	23
Sulfate	98/ 98/ 95	47-148	<1	25
<u>MISCELLANEOUS</u>				
Ammonia-N, 350.1	95/ 95/ 98	75-122	<1	16
pH, 150.1	NA/ NA/100	95-109	NA	8
Total Dis. Solids, 160.1	NA/ NA/ 95	73-121	NA	NA
Total Dis. Solids, 160.1	NA/ NA/107	73-121	NA	NA
Total Dis. Solids, 160.1	NA/ NA/101	73-121	NA	NA
Total Org. Carbon, 415.1	106/112/106	69-132	6	13
Total Org. Carbon, 415.1	97/ 98/ 96	69-132	1	13
<u>TOTAL METALS</u>				
Arsenic, 6010	109/111/ 99	64-126	2	12
Barium, 6010	105/106/ 93	74-119	<1	11
Cadmium, 6010	107/109/ 96	68-121	2	12
Calcium, 200.7	109/110/ 95	63-131	<1	22
Chromium, 6010	112/114/ 97	73-120	2	17
Copper, 6010	112/113/ 96	75-123	<1	16
Iron, 200.7	124/127/108	48-144	2	23
Lead, 6010	110/111/ 96	68-126	<1	19
Magnesium, 200.7	113/114/100	59-129	<1	22
Nickel, 6010	113/114/ 98	64-126	<1	12
Potassium, 200.7	111/111/ 93	53-121	<1	20
Selenium, 6010	114/115/112	65-129	<1	10
Silver, 6010	107/106/ 95	69-121	<1	12
Sodium, 200.7	113/113/ 93	29-171	<1	21
Zinc, 6010	112/114/ 99	63-131	2	24
Mercury, 7470	110/123/112	70-136	11	12

Environmental Conservation Laboratories Comprehensive QA Plan #990083

- < = Less Than
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- LCS = Laboratory Control Standard
- RPD = Relative Percent Difference

TRITEST, INC.
3909 Beryl Road
Raleigh, NC 27607



Telephone: (919) 834-4984
Fax: (919) 834-6497

NC/WW Cert. #: 067
NC/DW Cert. #: 37731

Laboratory Report

1 of 3

--- Prepared for ---
AMY HARRIS
ENCO / CARY
1015 PASSPORT WAY
CARY, NC 27513

Report Date: 8/14/2002
Date Received: 8/7/2002

Work Order #: 0208-00310

Project ID: 01
Project ID: FECAL COLIFORM ANALYSIS

Cust. Code: EN1669
Cust. P.O.#:

No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
001	MW-1	8/7/2002	07:59	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
002	MW-2	8/7/2002	09:26	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
003	MW-3	8/7/2002	09:42	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
004	MW-4	8/7/2002	10:07	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
005	MW-5	8/7/2002	10:30	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02

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Raleigh, NC 27607

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Laboratory Report

2 of 3

--- Prepared for ---
AMY HARRIS
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1015 PASSPORT WAY
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Project ID: 01
 Project ID: **FECAL COLIFORM ANALYSIS**

Cust. Code: EN1669
 Cust. P.O.#:

No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
006	MW-7	8/7/2002	08:21	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
007	PW-15	8/7/2002	08:06	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
008	PW-20	8/7/2002	08:36	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
009	PW-23	8/7/2002	09:53	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition
010	PW-26	8/7/2002	10:15	GW	On Ice
Test Performed		Method		Results	Analyzed
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02

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Laboratory Report

3 of 3

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AMY HARRIS
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Work Order #: 0208-00310

Project ID: 01
Project ID: FECAL COLIFORM ANALYSIS

Cust. Code: EN1669
Cust. P.O.#:

No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition	
011	PW-27	8/7/2002	08:55	GW	On Ice	
Test Performed		Method		Results	Analyzed	Qualifier
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02	
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition	
012	SW-3	8/7/2002	09:04	GW	On Ice	
Test Performed		Method		Results	Analyzed	Qualifier
Fecal Coliforms/MF		SM 9222D		40 CFU/100mL	8/7/02	
No.	Sample ID	Date Sampled	Time Sampled	Matrix	Condition	
013	FIELD BLANK	8/7/2002	10:48	GW	On Ice	
Test Performed		Method		Results	Analyzed	Qualifier
Fecal Coliforms/MF		SM 9222D		<1 CFU/100mL	8/7/02	

Report Certified by:


for Tritest, Inc.



0208-00310

ENCO Internal Chain of Custody

Farming Lab #:	CRY12721	Originating Lab:	CRY	Orig. Receipt Date:	8/7/02
Receiving Lab #:		Receiving Lab:	MFL	Report Due Date:	8/12/02
Client Name:	Enco Labs	Cont Set#:	A	Received By:	Shawn Driscoll
Project Name/Enco Labs		Date Sampled		Date/Time:	8/7/02 13:00
Lab ID#	Client ID#	Matrix	Date Sampled	Date/Time:	
CRY12721-1	MW-1	GroundH2O	8/7/02 7:59		
CRY12721-2	MW-2	GroundH2O	8/7/02 9:28		
CRY12721-3	MW-3	GroundH2O	8/7/02 9:42		
CRY12721-4	MW-4	GroundH2O	8/7/02 10:07		
CRY12721-5	MW-5	GroundH2O	8/7/02 10:30		
CRY12721-6	MW-7	GroundH2O	8/7/02 8:21		
CRY12721-8	PW-15	GroundH2O	8/7/02 8:06		
CRY12721-9	PW-20	GroundH2O	8/7/02 8:36		
CRY12721-10	PW-23	GroundH2O	8/7/02 9:53		
CRY12721-11	PW-26	GroundH2O	8/7/02 10:15		
CRY12721-12	PW-27	GroundH2O	8/7/02 8:55		
CRY12721-13	SW-3	GroundH2O	8/7/02 9:04		
CRY12721-14	FIELD BLANK	GroundH2O	8/7/02 10:48		
Sent By Person:		Derek Williams			
Comments:		If any questions, call Amy Harris 677-1669			
Cooler IDs:					
PM Approval (Farming Lab)					
CONT SET					
CONTAINER TYPE					
A					
Other					
Farming Lab: Keep Copy for file and forward original to subcontract lab.					
Receiving Lab: Keep Original and forward copy to accounting with final invoice					

Environmental Conservation Laboratories, Inc.
Login Sample Disposition Form

Client Name: Jayce

Login #: CRW 12721

Proj. Name: Material Recovery

Date Rec'd: 8/9/02 Logged By: DW/MLA

Samples received via: Client Drop-off Lab Pickup

Courier _____ LIST AND ATTACH BILLS

Container Descriptions and Preservation
Indicate presv. type and # of each

Containers	None	HCl	HNO ₃	H ₂ SO ₄	NaOH	Other
1 L Glass						
1 L Plastic						
500 ml Plastic	<u>14</u>					
250 ml Plastic	<u>8</u>			<u>14</u>		
250 ml Glass						
60 ml Soil Vial						
40 ml Vial				<u>26</u>		
Other						<u>14</u>

Receiving Temperatures

Total Number of Coolers: _____

Cooler Number	Receipt Temperature		
	2-6°	On Ice	No Ice
_____	<u>2-6°</u>	<u>On Ice</u>	No Ice
_____	2-6°	On Ice	No Ice
_____	2-6°	On Ice	No Ice
_____	2-6°	On Ice	No Ice
_____	2-6°	On Ice	No Ice
_____	2-6°	On Ice	No Ice

Provide details of "No Ice" in Notification/Comments.

Sample Receipt Disposition

- Were sample containers received intact?
- Were sample containers properly preserved?
- Were proper containers used for analyses requested?
- Do sample labels match Chain-of-Custody record?
- Were samples received under custody seal?
- If received under custody seal, were all seals intact?
- Were volatile containers preserved (check labels only)?
- Were aqueous volatile samples headspace-free?
- Were aqueous samples checked for residual chlorine?

Yes No
 N/A
 N/A
 N/A
 N/A

Any discrepancies must be noted below and approved by lab management.

Client Notification

- Does client need to be notified? Yes No
- Who notified client? _____
- Who was notified? _____
- When? _____ by: Phone Fax Mail
- Client requests following action(s) be taken:
 - _____ Continue analysis and report disposition in final report.
 - _____ Cancel affected analyses only (identify in comments below).
 - _____ Cancel all analyses.
 - _____ Other (explain in comments below).

Comments

Project Status

- Samples received into lab.
 Samples rejected


 APPROVED BY _____ DATE _____



JOYCE ENGINEERING, INC.
QUALITY ASSURANCE
LABORATORY DATA REVIEW

Project Name: Material Recovery, LLC - Brown-Field Road

Project Number: 479.02.04

Sampling Event Date: August 6-7, 2002

Review Date: August 20, 2002 Initials: DR

Review Date: August 20, 2002 Initials: RK

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

COMPLIANCE ANALYTE LIST(S)
(check all that apply)

NC

Closed Facility/C&D List

Appendix I

Appendix I + Detects

Appendix II

Subtitle D Leachate List

Other RCRA metals, Indicator metals (Cu, Ni, Zn, Na, K, Ca, Fe, Mg), Total Ammonia as N, Nitrate, TOC, Fecal Coliform, TDS, Chloride, Sulfate, Carbonate/Bicarbonate (DWQ-spedified list).

1.0 CHAIN OF CUSTODY (COC) REVIEW

DR RK COC was properly signed by all parties.

DR RK Correct project name and number are on the form.

DR RK Sample receipt condition at laboratory (temperature, bottleware condition, etc.) was acceptable.

DR RK Each sample and blank submitted for analysis appears in the data report.

2.0 SAMPLE HOLDING TIMES

DR RK Holding times for extraction *and/or* analysis were met for each analytical method.

3.0 LABORATORY QUALITY CONTROL REVIEW

DR RK Laboratory analyzed at least one internal blank for each method, where applicable.

DR RK Surrogate recoveries are provided for each analytical method, where applicable.

No surrogates required.

DR RK Surrogate recoveries for each method are within the acceptable limits.

No surrogates required.

DR RK MS/MSD/LCS data results are provided for each analytical method.

DR RK MS/MSD/LCS recoveries for each method are within the acceptable limits.

4.0 ANALYTE LISTS/METHODS

DR RK The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

DR RK Proper EPA SW-846 analytical methods were used for analysis.

5.0 DATA REPORTING

DR RK All analytical reporting associated with the event was performed by the contracted lab.

Fecal Coliform was analyzed by Tritest, Inc of Raleigh, NC as indicated in the report.

DR RK Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been 'flagged' with a 'B' where detected in other samples.

*pH reported for:
Field Blank @ 6.0
Lab Blank @ 4.8*

DR RK It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10). Those that have been diluted are listed below.

No dilutions performed.

DR RK The report provides the reporting limit for each constituent.

DR RK The results were reported at or below their proper reporting limits (e.g. NC Solid Waste Section approved PQLs). Those that are not reported correctly are listed below (by constituent) with the proper reporting limit listed beside them:

DR RK The following organic constituents were reported above their respective reporting limits in samples or field/equipment/trip blanks (by constituent- *excluding leachate data*). List whether or not the concentrations are blank-qualified:

DR RK The following inorganic and organic constituents were reported above their respective EPA MCLs in samples or field/equipment/trip blanks (by constituent – *excluding leachate data*):

barium (MCL = 2 mg/L): MW-3 (4 mg/L)

lead (MCL action level = 0.015 mg/L): MW-5 (0.019 mg/L)

DR RK The following inorganic and organic constituents were reported above their respective NC 2L Drinking Water Standards in samples or field/equipment/trip blanks (by constituent - *excluding leachate data*):

*pH (NC 2L = 6.5-8.5): MW-3 (4.8), MW-4 (6.4), MW-5 (6.0), MW-7 (5.7),
P-11 (6.2), Field Blank (6.0), Lab Blank (4.8)*

Total Dissolved Solids (NC 2L = 500 mg/L): MW-3 (530 mg/L)

*Nitrate as N (NC 2L = 10 mg/L): MW-2 (30 mg/L), MW-3 (66 mg/L), MW-4
(17 mg/L), P-20 (41 mg/L), SW-3 (36 mg/L)*

barium (NC 2L = 2 mg/L): MW-3 (4 mg/L)

iron (NC 2L = 0.3 mg/L): MW-4 (0.45 mg/L), MW-5 (6.4 mg/L)

lead (NC 2L = 0.015 mg/L): MW-5 (0.019 mg/L)

Fecal Coliform (NC 2L = 1CFU/100 ml): SW-3 (40CFU/100 ml)

DR RK Other report issues:

Other indicator parameters are reported at concentrations above their reporting limits.

Revised 08/20/02

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MRJLLC Wake Co ^{Brown-}field Project No./Task No.: 479.02.04

Well ID: MW-1 Sampler(s): K. Sizemore / R. Kirkman

Well Location: Next to road (Brown-field)

Well Diameter: 2 inches

Initial Depth to Water (DTW): 27.97 feet

Depth to Bottom (DTB): 31.74 feet

Water Column Thickness (WCT): 23.77 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.87 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 11.6 gallons

Actual Amount Purged/Bailed : 16 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling : 27.97 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	9:56	21.7	6.11	67.6	202	RK
4	10:01	18.8	4.84	65.5	71000	RK
8	10:08	18.3	4.53	66.3	71000	RK
12	10:17	18.2	4.32	66.6	71000	RK
16	10:26	18.6	4.24	66.4	71000	RK
Before Sampling	7:59	17.8	4.74	71.6	588	RK

8/7/02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny & hot very slight breeze

very silty

Signature: Thane Kirkman Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MR LLC Brown-Field Project No./Task No.: 479.03.04

Well ID: MW-2 Sampler(s): K. Sizemore / R. Kirkman

Well Location: N of northern field

Well Diameter: 2 inches
Initial Depth to Water (DTW): 18.00 feet
Depth to Bottom (DTB): 38.55 feet
Water Column Thickness (WCT): 20.55 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.35 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 10 gallons

Actual Amount Purged/Bailed: 10 gallons

Purged with: Disposable Bailer

Sampled with: " "

Depth to Water before Sampling: 16.00 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	12:19	20.4	6.12	300	37.9	RK
3.5	12:22	19.1	5.49	306	990	RK
7	12:30	18.5	5.18	311	347	RK
10	12:33	18.0	5.15	307	150	RK
Before Sampling	9:26	17.1	6.11	318	31.1	RK

8-7-02

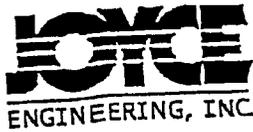
Comments (weather conditions, odor, color, silt, etc.): _____

Sunny, hot, slight breeze

Signature: Michael Turner Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Rd Project No./Task No.: 4790204

Well ID: MW-3 Sampler(s): Kirkman Size more

Well Location: N side of northern area in woods

Well Diameter: 2 inches

Initial Depth to Water (DTW): 27.41 feet

Depth to Bottom (DTB): 37.44 feet

Water Column Thickness (WCT): 10.03 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.6 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 5.0 gallons

Actual Amount Purged/Bailed : 5 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling : 27.42 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	12:48	20.1	5.63	608	358	RK
1.75	12:50	18.4	4.81	703	7100	RK
3.5	12:54	18.3	4.66	667	811	RK
5.0	12:57	18.7	4.61	654	570	RK
Before Sampling	9:42	16.9	5.57	665	384	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny slight breeze

Signature: Rachel Nukun Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Rd Project No./Task No.: 4740204

Well ID: MW-4 Sampler(s): Size more / 10.1 kman

Well Location: Behind P-20 western side of northern area

Well Diameter: 2 inches
 Initial Depth to Water (DTW): 15.09 feet
 Depth to Bottom (DTB): 29.73 feet
 Water Column Thickness (WCT): 14.64 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.39 gallons
 For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 7.15 gallons

Actual Amount Purged/Bailed: 7.25 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling: 15.10 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	13:25	19.7	6.14	234	103	RK
2.5	13:30	17.4	5.99	214	71000	RK
5.0	13:33	17.3	5.66	219	71000	RK
7.25	13:36	17.5	5.67	215	71000	RK
Before Sampling	10:07	17.1	6.35	239	71000	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny/hot, slight breeze

Signature: Rachel Korman Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Rd Project No./Task No.: 4790204

Well ID: MW-5 Sampler(s): Size wire / kickman

Well Location: Behind P-14 SW corner of north-area

Well Diameter: 2 inches

Initial Depth to Water (DTW): 11.56 feet

Depth to Bottom (DTB): 25.54 feet

Water Column Thickness (WCT): 13.98 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.28 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 6.84 gallons

Actual Amount Purged/Bailed : 7.0 gallons

Purged with: Disposable Bail

Sampled with: _____

Depth to Water before Sampling : 11.56 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	14:04	18.6	6.36	102.6	183	RK
2.25	14:07	17.9	5.92	92.4	71000	RK
5.50	14:12	17.5	5.78	100.8	71000	RK
7.0	14:15	17.4	5.73	84.7	71000	RK
Before Sampling	10:30	17.1	6.15	95.2	71000	RK

8-7-02

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny / hot
brown / yellow color, silty

Signature: Shahul Khatun Date: 8/6/02

QA/QC Sign Off: _____ Date: _____

DATE: 8-6-02



GROUND WATER SAMPLING LOG

Project Name: MR, LLC Brown-Field Project No./Task No.: 479.02.04

Well ID: MW-7 Sampler(s): Size more / Kirkman

Well Location: At edge of central drainage near southern area

Well Diameter: 2 inches

Initial Depth to Water (DTW): 13.00 feet

Depth to Bottom (DTB): 23.00 feet

Water Column Thickness (WCT): 10.00 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.63 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.89 gallons

Actual Amount Purged/Bailed: 5 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling: 13.00 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials	
0	10:58	21.0	5.96	167.2	20.5	RK	
1.75	11:01	19.8	5.54	178.9	71000	RK	
3.25	11:03	19.5	5.51	196.6	71000	RK	
5	11:05	19.8	5.46	197.7	71000	RK	
		Dry @ 5 gallons					
Before Sampling	8:31	17.1	5.77	184.3	617	RK	

8/7/02

Comments (weather conditions, odor, color, silt, etc.): _____

hot + sunny slight breeze

Signature: Nashid Darian Date: 8-6-02

QA/QC Sign Off: _____ Date: _____

ENCO LABORATORIES

REPORT # : CRY12721
DATE REPORTED: August 15, 2002
REFERENCE : 479.02.04
PROJECT NAME : Material Recovery, LLC
Brownfield Rd.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-11</u>	<u>P-15</u>	<u>Units</u>
Selenium Date Analyzed	6010	0.020 U 08/13/02 15:16	0.020 U 08/13/02 15:25	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 15:16	0.010 U 08/13/02 15:25	mg/L
Sodium Date Analyzed	6010	5.4 08/08/02 18:05	NR	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 15:16	0.050 U 08/13/02 15:25	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	0.00050 U 08/08/02 16:00	mg/L

NR = Analysis not requested for this sample.

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : CRY12721
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Brownfield Rd.

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RESULTS OF ANALYSIS

EPA METHOD 300 -
Anions by IC

	<u>P-18</u>	<u>P-20</u>	<u>Units</u>
Chloride	5.5	23	mg/L
Nitrate-N	0.60	41	mg/L
Date Analyzed	08/08/02 16:00	08/08/02 20:16	

MISCELLANEOUS

	<u>METHOD</u>	<u>P-18</u>	<u>P-20</u>	<u>Units</u>
Ammonia-N	350.1	0.020 U	0.020 U	mg/L
Date Analyzed		08/13/02 10:55	08/13/02 10:56	
Total Dis. Solids*	160.1	40	420	mg/L
Date Prepared		08/08/02 16:00	08/08/02 16:00	
Date Analyzed		08/12/02 09:00	08/12/02 09:00	
Total Org. Carbon	415.1	2.0	5.0	mg/L
Date Analyzed		08/12/02 09:00	08/12/02 09:00	

* = Values were confirmed via secondary analyses.

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : CRY12721
 DATE REPORTED: August 15, 2002
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 PROJECT NAME : Material Recovery, LLC
 Brownfield Rd.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-18</u>	<u>P-20</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 15:34	0.010 U 08/13/02 15:43	mg/L
Barium Date Analyzed	6010	0.50 U 08/13/02 15:34	0.50 U 08/13/02 15:43	mg/L
Cadmium Date Analyzed	6010	0.0010 08/13/02 15:34	0.0015 08/13/02 15:43	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 15:34	0.010 U 08/13/02 15:43	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 15:34	0.20 U 08/13/02 15:43	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 15:34	0.010 U 08/13/02 15:43	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 15:34	0.050 U 08/13/02 15:43	mg/L
Selenium Date Analyzed	6010	0.020 U 08/13/02 15:34	0.020 U 08/13/02 15:43	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 15:34	0.010 U 08/13/02 15:43	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 15:34	0.050 U 08/13/02 15:43	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	0.00050 U 08/08/02 16:00	mg/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : CRY12721
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RESULTS OF ANALYSIS

**EPA METHOD 300 -
Anions by IC**

	<u>P-26</u>	<u>P-27</u>	<u>Units</u>
Chloride	5.0	6.4	mg/L
Nitrate-N	5.1	6.8	mg/L
Date Analyzed	08/08/02 21:30	08/08/02 16:37	

MISCELLANEOUS

	<u>METHOD</u>	<u>P-26</u>	<u>P-27</u>	<u>Units</u>
Ammonia-N	350.1	0.020 U	0.020 U	mg/L
Date Analyzed		08/13/02 10:57	08/13/02 10:58	
Total Dis. Solids*	160.1	110	110	mg/L
Date Prepared		08/08/02 16:00	08/08/02 16:00	
Date Analyzed		08/12/02 09:00	08/12/02 09:00	
Total Org. Carbon	415.1	4.0	2.0	mg/L
Date Analyzed		08/12/02 09:00	08/10/02 12:00	

* = Values were confirmed via secondary analyses.
 U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : CRY12721
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REFERENCE : 479.02.04
PROJECT NAME : Material Recovery, LLC
 Brownfield Rd.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-26</u>	<u>P-27</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 15:51	0.010 U 08/13/02 16:00	mg/L
Barium Date Analyzed	6010	0.50 U 08/13/02 15:51	0.50 U 08/13/02 16:00	mg/L
Cadmium Date Analyzed	6010	0.0013 08/13/02 15:51	0.0012 08/13/02 16:00	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 15:51	0.010 U 08/13/02 16:00	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 15:51	0.20 U 08/13/02 16:00	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 15:51	0.010 U 08/13/02 16:00	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 15:51	0.050 U 08/13/02 16:00	mg/L
Selenium Date Analyzed	6010	0.020 U 08/13/02 15:51	0.020 U 08/13/02 16:00	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 15:51	0.010 U 08/13/02 16:00	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 15:51	0.050 U 08/13/02 16:00	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	0.00050 U 08/08/02 16:00	mg/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : CRY12721
 DATE REPORTED: August 15, 2002
 REFERENCE : 479.02.04
 PROJECT NAME : Material Recovery, LLC
 Brownfield Rd.

RESULTS OF ANALYSIS

EPA METHOD 300 -

<u>Anions by IC</u>	<u>SW-3</u>	<u>FIELD BLANK</u>	<u>Units</u>
Chloride	16	0.50 U	mg/L
Nitrate-N	36	0.10 U	mg/L
Sulfate	NF	2.0 U	mg/L
Date Analyzed	08/08/02 17:13	08/08/02 22:43	

<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>SW-3</u>	<u>FIELD BLANK</u>	<u>Units</u>
Alkalinity(as CaCO3)	310.1	NR	2.0 U	mg/L
Date Analyzed			08/10/02 13:00	
Ammonia-N	350.1	0.020 U	0.020 U	mg/L
Date Analyzed		08/13/02 11:00	08/13/02 10:40	
Bicarbonate (as CaCO3)	4500-CO2	NR	2.0 U	mg/L
Date Analyzed			08/10/02 13:00	
Carbonate (as CaCO3)	4500-CO2	NR	2.0 U	mg/L
Date Analyzed			08/10/02 13:00	
pH	150.1	NR	6.0	S.U.
Date Analyzed			08/10/02 13:00	
Total Dis. Solids*	160.1	430	2.0 U	mg/L
Date Prepared		08/08/02 16:00	08/09/02 17:00	
Date Analyzed		08/12/02 09:00	08/14/02 10:30	
Total Org. Carbon	415.1	2.0	1.0 U	mg/L
Date Analyzed		08/10/02 12:00	08/10/02 12:00	

* = Values were confirmed via secondary analyses.
 NR = Analysis not requested for this sample.
 U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES**REPORT #** : CRY12721**DATE REPORTED**: August 15, 2002**REFERENCE** : 479.02.04**PROJECT NAME** : Material Recovery, LLC
Brownfield Rd.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>SW-3</u>	<u>FIELD BLANK</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 16:27	0.010 U 08/13/02 16:36	mg/L
Barium Date Analyzed	6010	0.50 U 08/13/02 16:27	0.50 U 08/13/02 16:36	mg/L
Cadmium Date Analyzed	6010	0.0016 08/13/02 16:27	0.0010 U 08/13/02 16:36	mg/L
Calcium Date Analyzed	6010	NR	0.50 U 08/13/02 16:36	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 16:27	0.010 U 08/13/02 16:36	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 16:27	0.20 U 08/13/02 16:36	mg/L
Iron Date Analyzed	6010	NR	0.050 U 08/13/02 16:36	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 16:27	0.010 U 08/13/02 16:36	mg/L
Magnesium Date Analyzed	6010	NR	0.50 U 08/13/02 16:36	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 16:27	0.050 U 08/13/02 16:36	mg/L
Potassium Date Analyzed	6010	NR	0.50 U 08/08/02 18:11	mg/L

NR = Analysis not requested for this sample.

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>SW-3</u>	<u>FIELD BLANK</u>	<u>Units</u>
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		08/13/02 16:27	08/13/02 16:36	
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/13/02 16:27	08/13/02 16:36	
Sodium	6010	NR	0.50 U	mg/L
Date Analyzed			08/08/02 18:11	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		08/13/02 16:27	08/13/02 16:36	
Mercury	7470	0.00050 U	0.00050 U	mg/L
Date Analyzed		08/08/02 16:00	08/08/02 16:00	

NR = Analysis not requested for this sample.

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 300 -
Anions by IC

	<u>LAB BLANK</u>	<u>LAB BLANK</u>	<u>Units</u>
Fluoride	0.10 U	0.10 U	mg/L
Chloride	0.50 U	0.50 U	mg/L
Nitrate-N	0.10 U	0.10 U	mg/L
Sulfate	2.0 U	2.0 U	mg/L
Date Analyzed	08/08/02 11:44	08/09/02 13:18	

<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>LAB BLANK</u>	<u>LAB BLANK</u>	<u>Units</u>
Alkalinity(as CaCO3)	310.1	2.0 U	NR	mg/L
Date Analyzed		08/10/02 13:00		
Ammonia-N	350.1	0.020 U	0.020 U	mg/L
Date Analyzed		08/12/02 13:17	08/13/02 10:25	
pH	150.1	4.8	NR	S.U.
Date Analyzed		08/10/02 13:00		
Total Dis. Solids*	160.1	2.0 U	2.0 U	mg/L
Date Prepared		08/08/02 16:00	08/09/02 17:00	
Date Analyzed		08/12/02 09:00	08/14/02 10:30	
Total Org. Carbon	415.1	1.0 U	1.0 U	mg/L
Date Analyzed		08/10/02 12:00	08/12/02 09:00	
Total Dis. Solids*	160.1	2.0 U	NR	mg/L
Date Prepared		08/12/02 15:35		
Date Analyzed		08/14/02 10:30		

* = Values were confirmed via secondary analyses.
 NR = Analysis not requested for this sample.
 U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>LAB BLANK</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 12:26	mg/L
Barium Date Analyzed	6010	0.50 U 08/13/02 12:26	mg/L
Cadmium Date Analyzed	6010	0.0010 U 08/13/02 12:26	mg/L
Calcium Date Analyzed	6010	0.50 U 08/13/02 12:26	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 12:26	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 12:26	mg/L
Iron Date Analyzed	6010	0.050 U 08/13/02 12:26	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 12:26	mg/L
Magnesium Date Analyzed	6010	0.50 U 08/13/02 12:26	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 12:26	mg/L
Potassium Date Analyzed	6010	0.50 U 08/08/02 16:36	mg/L

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>LAB BLANK</u>	<u>Units</u>
Selenium Date Analyzed	6010	0.020 U 08/13/02 12:26	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 12:26	mg/L
Sodium Date Analyzed	6010	0.50 U 08/08/02 16:36	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 12:26	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	mg/L

U = Compound was analyzed for but not detected to the level shown.

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LABORATORY CERTIFICATIONS

Laboratory Certification: NCDENR:591

All analyses reported with this project were analyzed by the facility indicated unless identified below.

<u>PARAMETER</u>	<u>LAB CERT #'s</u>
Coliform, Fecal, Std. Method 9222D	NCDENR:067
Alkalinity, EPA Method 310.1	NCDENR:424
Ammonia as Nitrogen, EPA Method 350.1	NCDENR:424
Bicarbonate Calculation, Std. Method 4500-CO2/B	NCDENR:424
Bicarbonate Calculation, Std. Method 4500-CO2/B	NCDENR:424
Chloride, EPA Method 300	NCDENR:424
Nitrate, EPA Method 300	NCDENR:424
pH, EPA Method 150.1	NCDENR:424
Sulfate, EPA Method 300	NCDENR:424
Total Dissolved Solids, EPA Method 160.1	NCDENR:424
Total Organic Carbon, EPA Method 415.1	NCDENR:442

Environmental Conservation Laboratories, Inc.
1015 Passport Way
Cary, North Carolina 27513
919 / 677-1669
Fax 919 / 677-9846
www.encolabs.com



CLIENT : Joyce Engineering
ADDRESS: 2301 West Meadowview Road
S-203
Greensboro, NC 27407

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DATE REPORTED : August 15, 2002

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ATTENTION: Ms. Rachel Kirkman

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: 479.02.04

Material Recovery, LLC Brownfield Rd.

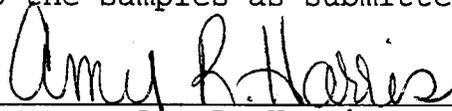
08/07/02

#1	- MW-1	@ 07:59
#2	- MW-2	@ 09:26
#3	- MW-3	@ 09:42
#4	- MW-4	@ 10:07
#5	- MW-5	@ 10:30
#6	- MW-7	@ 08:21
#7	- P-11	@ 11:01
#8	- P-15	@ 08:06
#9	- P-18	@ 08:36
#10	- P-20	@ 09:53
#11	- P-26	@ 10:15
#12	- P-27	@ 08:55
#13	- SW-3	@ 09:04
#14	- FIELD BLANK	@ 10:48

Note: Fecal Coliform analyses were performed by a subcontract laboratory. That data is reported under a separate cover.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 1999). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER



Amy R. Harris

ENCO LABORATORIES

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RESULTS OF ANALYSIS

**EPA METHOD 300 -
Anions by IC**

	<u>MW-1</u>	<u>MW-2</u>	<u>Units</u>
Chloride	5.5	14	mg/L
Nitrate-N	2.3	30	mg/L
Sulfate	2.0 U	2.0 U	mg/L
Date Analyzed	08/08/02 14:10	08/09/02 08:35	

<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>MW-1</u>	<u>MW-2</u>	<u>Units</u>
Alkalinity(as CaCO3)	310.1	3.0 J	5.0 J	mg/L
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
Ammonia-N	350.1	0.020 U	0.020 U	mg/L
Date Analyzed		08/12/02 14:56	08/12/02 14:58	
Bicarbonate (as CaCO3)	4500-CO2	3.0 J	5.0 J	mg/L
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
Carbonate (as CaCO3)	4500-CO2	2.0 U	2.0 U	mg/L
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
pH	150.1	4.9	5.4	S.U.
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
Total Dis. Solids*	160.1	76	230	mg/L
Date Prepared		08/08/02 16:00	08/08/02 16:00	
Date Analyzed		08/12/02 09:00	08/12/02 09:00	
Total Org. Carbon	415.1	2.0	2.0	mg/L
Date Analyzed		08/10/02 12:00	08/10/02 12:00	

* = Values were confirmed via secondary analyses.
 U = Compound was analyzed for but not detected to the level shown.
 J = Analyte detected; value is between the Method Detection Level (MDL)
 and the Practical Quantitation Level (PQL).

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>MW-1</u>	<u>MW-2</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 13:13	0.010 U 08/13/02 14:14	mg/L
Barium Date Analyzed	6010	0.50 U 08/13/02 13:13	0.50 U 08/13/02 14:14	mg/L
Cadmium Date Analyzed	6010	0.0014 08/13/02 13:13	0.0011 08/13/02 14:14	mg/L
Calcium Date Analyzed	6010	0.50 U 08/13/02 13:13	25 08/13/02 14:14	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 13:13	0.010 U 08/13/02 14:14	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 13:13	0.20 U 08/13/02 14:14	mg/L
Iron Date Analyzed	6010	0.090 08/13/02 13:13	0.11 08/13/02 14:14	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 13:13	0.010 U 08/13/02 14:14	mg/L
Magnesium Date Analyzed	6010	0.60 08/13/02 13:13	8.5 08/13/02 14:14	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 13:13	0.050 U 08/13/02 14:14	mg/L
Potassium Date Analyzed	6010	3.5 08/08/02 16:47	7.4 08/08/02 17:38	mg/L

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>MW-1</u>	<u>MW-2</u>	<u>Units</u>
Selenium Date Analyzed	6010	0.020 U 08/13/02 13:13	0.020 U 08/13/02 14:14	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 13:13	0.010 U 08/13/02 14:14	mg/L
Sodium Date Analyzed	6010	5.6 08/08/02 16:47	15 08/08/02 17:38	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 13:13	0.050 U 08/13/02 14:14	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	0.00050 U 08/08/02 16:00	mg/L

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 300 -

Anions by IC

	<u>MW-3</u>	<u>MW-4</u>	<u>Units</u>
Chloride	26	10	mg/L
Nitrate-N	66	17	mg/L
Sulfate	2.0 U	5.0	mg/L
Date Analyzed	08/08/02 19:40	08/08/02 20:53	

MISCELLANEOUS

METHOD

MW-3

MW-4

Units

Alkalinity(as CaCO3) 310.1	2.0 U	26	mg/L
Date Analyzed	08/10/02 13:00	08/10/02 13:00	
Ammonia-N 350.1	0.020 U	0.076	mg/L
Date Analyzed	08/13/02 10:27	08/13/02 10:28	
Bicarbonate (as CaCO3) 4500-CO2	2.0 U	26	mg/L
Date Analyzed	08/10/02 13:00	08/10/02 13:00	
Carbonate (as CaCO3) 4500-CO2	2.0 U	2.0 U	mg/L
Date Analyzed	08/10/02 13:00	08/10/02 13:00	
pH 150.1	4.8	6.4	S.U.
Date Analyzed	08/10/02 13:00	08/10/02 13:00	
Total Dis. Solids* 160.1	530	190	mg/L
Date Prepared	08/08/02 16:00	08/08/02 16:00	
Date Analyzed	08/12/02 09:00	08/12/02 09:00	
Total Org. Carbon 415.1	3.0	3.0	mg/L
Date Analyzed	08/10/02 12:00	08/12/02 09:00	

* = Values were confirmed via secondary analyses.

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>MW-3</u>	<u>MW-4</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 14:42	0.010 U 08/13/02 14:50	mg/L
Barium Date Analyzed	6010	4.0* 08/13/02 14:42	0.50 U 08/13/02 14:50	mg/L
Cadmium Date Analyzed	6010	0.0018 08/13/02 14:42	0.0012 08/13/02 14:50	mg/L
Calcium Date Analyzed	6010	39 08/13/02 14:42	20 08/13/02 14:50	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 14:42	0.010 U 08/13/02 14:50	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 14:42	0.20 U 08/13/02 14:50	mg/L
Iron Date Analyzed	6010	0.18 08/13/02 14:42	0.45 08/13/02 14:50	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 14:42	0.010 U 08/13/02 14:50	mg/L
Magnesium Date Analyzed	6010	15 08/13/02 14:42	5.4 08/13/02 14:50	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 14:42	0.050 U 08/13/02 14:50	mg/L
Potassium Date Analyzed	6010	14 08/08/02 17:43	6.9 08/08/02 17:49	mg/L

* = Result was confirmed via secondary prep and analysis on 08/29/02.
 U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>MW-3</u>	<u>MW-4</u>	<u>Units</u>
Selenium Date Analyzed	6010	0.020 U 08/13/02 14:42	0.020 U 08/13/02 14:50	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 14:42	0.010 U 08/13/02 14:50	mg/L
Sodium Date Analyzed	6010	36 08/08/02 17:43	13 08/08/02 17:49	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 14:42	0.050 U 08/13/02 14:50	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	0.00050 U 08/08/02 16:00	mg/L

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

**EPA METHOD 300 -
Anions by IC**

	<u>MW-5</u>	<u>MW-7</u>	<u>Units</u>
Chloride	3.1	11	mg/L
Nitrate-N	0.10 U	7.5	mg/L
Sulfate	3.0	8.0	mg/L
Date Analyzed	08/08/02 22:06	08/08/02 15:23	

<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>MW-5</u>	<u>MW-7</u>	<u>Units</u>
Alkalinity(as CaCO3)	310.1	20	10	mg/L
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
Ammonia-N	350.1	0.036	0.020 U	mg/L
Date Analyzed		08/13/02 10:29	08/13/02 10:50	
Bicarbonate (as CaCO3)	4500-CO2	20	10	mg/L
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
Carbonate (as CaCO3)	4500-CO2	2.0 U	2.0 U	mg/L
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
pH	150.1	6.0	5.7	S.U.
Date Analyzed		08/10/02 13:00	08/10/02 13:00	
Total Dis. Solids*	160.1	110	130	mg/L
Date Prepared		08/08/02 16:00	08/08/02 16:00	
Date Analyzed		08/12/02 09:00	08/12/02 09:00	
Total Org. Carbon	415.1	7.0	3.0	mg/L
Date Analyzed		08/12/02 09:00	08/10/02 12:00	

* = Values were confirmed via secondary analyses.
 U = Compound was analyzed for but not detected to the level shown.

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 Brownfield Rd.

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>MW-5</u>	<u>MW-7</u>	<u>Units</u>
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Cadmium	6010	0.0010	0.0012	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Calcium	6010	4.0	7.4	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Iron	6010	6.4	0.050 J	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Lead	6010	0.019*	0.010 U	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Magnesium	6010	1.1	1.6	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		08/13/02 14:59	08/13/02 15:08	
Potassium	6010	1.7	3.1	mg/L
Date Analyzed		08/08/02 17:54	08/08/02 18:00	

* = Result was confirmed via secondary prep and analysis on 08/29/02.
 U = Compound was analyzed for but not detected to the level shown.
 J = Analyte detected; value is between the Method Detection Level (MDL)
 and the Practical Quantitation Level (PQL).

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>MW-5</u>	<u>MW-7</u>	<u>Units</u>
Selenium Date Analyzed	6010	0.020 U 08/13/02 14:59	0.020 U 08/13/02 15:08	mg/L
Silver Date Analyzed	6010	0.010 U 08/13/02 14:59	0.010 U 08/13/02 15:08	mg/L
Sodium Date Analyzed	6010	6.0 08/08/02 17:54	14 08/08/02 18:00	mg/L
Zinc Date Analyzed	6010	0.050 U 08/13/02 14:59	0.050 U 08/13/02 15:08	mg/L
Mercury Date Analyzed	7470	0.00050 U 08/08/02 16:00	0.00050 U 08/08/02 16:00	mg/L

U = Compound was analyzed for but not detected to the level shown.

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 Brownfield Rd.

RESULTS OF ANALYSIS

EPA METHOD 300 -

Anions by IC

	<u>P-11</u>	<u>P-15</u>	<u>Units</u>
Chloride	2.5	5.1	mg/L
Nitrate-N	0.10 U	1.9	mg/L
Sulfate	2.0 U	NR	
Date Analyzed	08/08/02 23:20	08/08/02 14:47	

MISCELLANEOUS

METHOD

P-11

P-15

Units

		<u>P-11</u>	<u>P-15</u>	<u>Units</u>
Alkalinity(as CaCO3)	310.1	13	NR	mg/L
Date Analyzed		08/10/02 13:00		
Ammonia-N	350.1	0.020 U	0.020 U	mg/L
Date Analyzed		08/13/02 10:51	08/13/02 10:54	
Bicarbonate (as CaCO3)	4500-CO2	13	NR	mg/L
Date Analyzed		08/10/02 13:00		
Carbonate (as CaCO3)	4500-CO2/	2.0 U	NR	mg/L
Date Analyzed		08/10/02 13:00		
pH	150.1	6.2	NR	S.U.
Date Analyzed		08/10/02 13:00		
Total Dis. Solids*	160.1	NR	120	mg/L
Date Prepared			08/08/02 16:00	
Date Analyzed			08/12/02 09:00	
Total Org. Carbon	415.1	NR	2.0	mg/L
Date Analyzed			08/10/02 12:00	

* = Values were confirmed via secondary analyses.

NR = Analysis not requested for this sample.

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : CRY12721
 DATE REPORTED: August 15, 2002
 REFERENCE : 479.02.04
 PROJECT NAME : Material Recovery, LLC
 Brownfield Rd.

PAGE 12 OF 25

RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-11</u>	<u>P-15</u>	<u>Units</u>
Arsenic Date Analyzed	6010	0.010 U 08/13/02 15:16	0.010 U 08/13/02 15:25	mg/L
Barium Date Analyzed	6010	0.50 U 08/13/02 15:16	0.50 U 08/13/02 15:25	mg/L
Cadmium Date Analyzed	6010	0.0010 08/13/02 15:16	0.0010 U 08/13/02 15:25	mg/L
Calcium Date Analyzed	6010	0.90 08/13/02 15:16	NR	mg/L
Chromium Date Analyzed	6010	0.010 U 08/13/02 15:16	0.010 U 08/13/02 15:25	mg/L
Copper Date Analyzed	6010	0.20 U 08/13/02 15:16	0.20 U 08/13/02 15:25	mg/L
Iron Date Analyzed	6010	0.14 08/13/02 15:16	NR	mg/L
Lead Date Analyzed	6010	0.010 U 08/13/02 15:16	0.010 U 08/13/02 15:25	mg/L
Magnesium Date Analyzed	6010	0.50 U 08/13/02 15:16	NR	mg/L
Nickel Date Analyzed	6010	0.050 U 08/13/02 15:16	0.050 U 08/13/02 15:25	mg/L
Potassium Date Analyzed	6010	1.4 08/08/02 18:05	NR	mg/L

NR = Analysis not requested for this sample.

U = Compound was analyzed for but not detected to the level shown.

TABLE 1
SUMMARY OF DETECTED CONSTITUENTS
GROUNDWATER AND SURFACE WATER BACKGROUND SAMPLING
MATERIAL RECOVERY, LLC
PROPOSED BROWN-FIELD ROAD SITE

Notes:

1. All concentrations are in mg/L except for fecal coliform which is in CFU/100 mL.
2. DL = Lab-specific method detection limit
3. QL = Lab-specific quantitation limit
4. ND = Not detected at or above the reporting limit
5. J = estimated concentration between the DL and the QL
6. --- = not established/not available/not sampled
7. 2L Standard = North Carolinas' groundwater quality standard established under 15A NCAC 2L, .0202.
8. Shaded values are greater than the 2L Standards
9. MW= monitoring well
10. P = piezometer
11. SW = surface water
12. pH data are based on field measurements
13. Blank data represent field blank, trip blank and laboratory blank values.
14. Barium, cadmium and lead are on the RCRA metal list.

TABLE 1
SUMMARY OF DETECTED CONSTITUENTS
GROUNDWATER AND SURFACE WATER BACKGROUND SAMPLING
MATERIAL RECOVERY, LLC
PROPOSED BROWN-FIELD ROAD SITE

Parameter [NC 2L Standard]	Date	DL	QL	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	P-8	P-11	P-15	P-16	P-18	P-20	P-26	P-27	SW-2	SW-3	Blanks
barium [2.0]	May-02 Aug-02	0.6 0.0006	20 0.02	ND ND	ND ND	ND 4.8	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
beryllium [0.002-proposed]	May-02 Aug-02	0.1 ---	1 ---	---	---	---	---	---	---	ND ND	---	---	ND ND	---	0.003 ---	---	---	ND ND	---	---
cadmium [0.005]	May-02 Aug-02	0.4 0.0004	1 0.001	---	---	0.0018	0.0012	0.0010	0.0012	ND ---	0.0010	ND ND	ND ---	0.0010	0.0015	0.0013	0.0012	ND ---	0.0016	ND ND
calcium [---]	May-02 Aug-02	---	0.5	ND	25	39	20	4.0	7.4	---	0.90	---	---	---	---	---	---	---	---	ND ND
iron [0.3]	May-02 Aug-02	---	0.05	0.090	0.11	0.18	0.45	6.4	0.05 J	---	0.14	---	---	---	---	---	---	---	---	ND ND
lead [0.015]	May-02 Aug-02	2 0.002	10 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND
magnesium [---]	May-02 Aug-02	---	0.5	0.6	8.5	15	5.4	1.1	1.6	---	ND	---	---	---	---	---	---	---	---	ND ND
potassium [---]	May-02 Aug-02	---	0.04	3.5	7.4	14	6.9	1.7	3.1	---	1.4	---	---	---	---	---	---	---	---	ND ND
sodium [---]	May-02 Aug-02	---	0.004	5.6	15	36	13	6.0	14	---	5.4	---	---	---	---	---	---	---	---	ND ND
alkalinity [---]	May-02 Aug-02	---	8.0	3.0 J	5.0 J	ND	26	20	10	---	13	---	---	---	---	---	---	---	---	ND ND
ammonia-N [---]	May-02 Aug-02	---	0.008	ND	ND	ND	0.076	0.036	ND	---	ND	ND	---	ND	ND	ND	ND	---	ND	ND ND
bicarbonate [---]	May-02 Aug-02	---	8.0	3.0 J	5.0 J	ND	26	20	10	---	13	---	---	---	---	---	---	---	---	ND ND
chloride [250]	May-02 Aug-02	0.1 0.1	0.5 0.5	---	---	26	10	3.1	11	2.7	2.5	5.1	1.9	5.5	24	5.0	6.4	4.7	16	ND ND
nitrate [10]	May-02 Aug-02	0.01 0.01	0.02 0.02	2.3	30	66	17	ND	7.5	1.1	ND	---	4.0	0.60	45	5.1	---	1.0	36	ND ND
sulfate [250]	May-02 Aug-02	---	2.0	ND	---	ND	5.0	3.0	8.0	---	ND	---	---	---	---	---	---	---	---	ND ND
TDS [500]	May-02 Aug-02	---	2.0	76	230	530	190	110	130	---	---	120	---	40	420	110	110	---	430	ND ND
TOC [---]	May-02 Aug-02	---	1.0	---	---	3.0	3.0	7.0	3.0	---	---	2.0	---	2.0	5.0	4.0	2.0	---	2.0	ND ND
total coliform [1]	May-02 Aug-02	---	---	ND	ND	ND	ND	ND	ND	---	ND	---	---	ND	ND	ND	ND	---	40	ND ND
pH [6.5-8.5]	May-02 Aug-02	---	---	4.74	6.11	5.57	6.35	6.15	5.77	5.12	5.85	5.66	5.16	6.17	5.04	6.07	6.09	6.25	5.76	ND ND

Attachment 2

**Data Summary Table, Laboratory Analytical Data, and Field
Information Forms**

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
 WELL CONTRACTOR (INDIVIDUAL) NAME (print) LEO H. CHARBONNEAU, JR. CERTIFICATION # 2865
 WELL CONTRACTOR COMPANY NAME J & L DRILLING, INC. PHONE # (919) 989-8856
 STATE WELL CONSTRUCTION PERMIT# _____ ASSOCIATED WQ PERMIT# _____
 (if applicable) (if applicable)

1. WELL USE (Check Applicable Box): Residential Municipal/Public Industrial Agricultural
 Monitoring Recovery Heat Pump Water Injection Other If Other, List Use Piezometer
P-27

2. WELL LOCATION:
 Nearest Town: Clayton County WAKE

 (Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
 Ridge Slope Valley Flat
 (check appropriate box)
 Latitude/longitude of well location

 (degrees/minutes/seconds)

3. OWNER: Material Recovery LLC
 Address 421 Raleigh Villes Rd

 (Street or Route No.)
Raleigh NC 27610

 City or Town State Zip Code

Latitude/longitude source: GPS Topographic map
 (check box)

DEPTH		DRILLING LOG
From	To	Formation Description
0	8	Silty sand
8	20	PWR

4. DATE DRILLED: 7/31/02
 5. TOTAL DEPTH: 20.0
 6. DOES WELL REPLACE EXISTING WELL? YES NO
 7. STATIC WATER LEVEL Below Top of Casing: 10 FT.
 (Use "+" if Above Top of Casing)
 8. TOP OF CASING IS +2.5 FT. Above Land Surface*
 *Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
 9. YIELD (gpm): _____ METHOD OF TEST _____
 10. WATER ZONES (depth): _____

LOCATION SKETCH
 Show direction and distance in miles from at least two State Roads or County Roads. Include the road numbers and common road names.

11. DISINFECTION: Type _____ Amount _____
 12. CASING: Wall Thickness _____

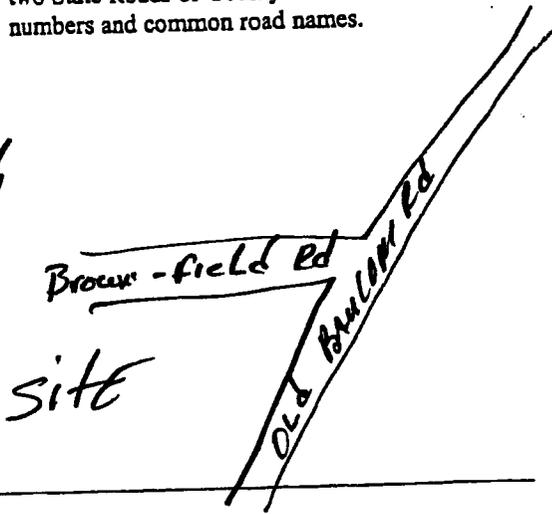
From	Depth	To	Diameter	or Weight/Ft.	Material
+2.5	10.0	Ft.	2	Sch 40	PVC

From	Depth	To	Material	Method
0	6.0	Ft.	Cement	Poured
6.0	8.0	Ft.	Refract	Poured

From	Depth	To	Diameter	Slot Size	Material
10.0	20.0	Ft.	2 in.	.10 in.	PVC

 15. SAND/GRAVEL PACK:

From	Depth	To	Size	Material
8.0	20.0	Ft.	#1	SAUD



16. REMARKS: _____
 I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

 SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE 8/4/02



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 08/05/02
Casing Type: Sch 40 PVC
Well/Boring Number: MW-2
Casing Diameter in inches (Dr): 2
Screened Interval: 19.5-34.5
Riser Elevation: 2.5
Total Well Depth (Lw) in feet: 38.7
Depth to Water (Lf) in feet: 18.0
Time of Measurement: 12:40

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 3.5 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conduc- tivity (μ S/cm)	Turbidity (NTU) or Color/ Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>22.7</u>	<u>5.02</u>	<u>316</u>	<u>>1000</u>	<u>0</u>	<u>18.0</u>	<u>12:50</u>
After Purging							
1 Well Vol	<u>20.7</u>	<u>4.92</u>	<u>322</u>	<u>825</u>	<u>3.5</u>	<u>18.8</u>	<u>12:55</u>
2 Well Vol	<u>19.3</u>	<u>4.93</u>	<u>326</u>	<u>243</u>	<u>7.0</u>	<u>19.3</u>	<u>12:58</u>
3 Well Vol	<u>18.8</u>	<u>5.00</u>	<u>318</u>	<u>79.6</u>	<u>10.5</u>	<u>19.4</u>	<u>13:00</u>
4 Well Vol	<u>17.7</u>	<u>5.02</u>	<u>337</u>	<u>52.6</u>	<u>14.0</u>	<u>19.0</u>	<u>13:03</u>
5 Well Vol	<u>18.3</u>	<u>4.88</u>	<u>332</u>	<u>41.5</u>	<u>17.5</u>	<u>18.2</u>	<u>13:06</u>
6 Well Vol	<u>18.1</u>	<u>4.85</u>	<u>295</u>	<u>25.4</u>	<u>21.0</u>	<u>18.4</u>	<u>13:09</u>
7 Well Vol	<u>17.7</u>	<u>4.96</u>	<u>333</u>	<u>23</u>	<u>24.5</u>	<u>18.6</u>	<u>13:12</u>
8 Well Vol	<u>17.8</u>	<u>5.00</u>	<u>334</u>	<u>20.8</u>	<u>28.0</u>	<u>19.0</u>	<u>13:15</u>
9 Well Vol	<u>17.6</u>	<u>4.97</u>	<u>336</u>	<u>18.7</u>	<u>31.5</u>	<u>19.1</u>	<u>13:18</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: _____
 Well Purged Dry _____ Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Ken Sizemore



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 08/01/02
Casing Type: Sch 40 PVC
Well/Boring Number: MW-3
Casing Diameter in inches (Dr): 2
Screened Interval: 19 - 34
Riser Elevation: _____
Total Well Depth (Lw) in feet: 37.04
Depth to Water (Lf) in feet: 27.41
Time of Measurement: 17:15

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 1.56 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conduc- tivity (μ S/cm)	Turbidity (NTU) or Color/ Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>22.7</u>	<u>6.02</u>	<u>489</u>	<u>brown</u>	<u>0</u>	<u>27.41</u>	<u>17:22</u>
After Purging							
1 Well Vol	<u>20.2</u>	<u>5.50</u>	<u>653</u>	<u>>1000</u>	<u>2</u>	<u>-</u>	<u>17:26</u>
2 Well Vol	<u>19.5</u>	<u>5.00</u>	<u>612</u>	<u>>1000</u>	<u>4</u>	<u>-</u>	<u>17:30</u>
3 Well Vol	<u>19.2</u>	<u>4.73</u>	<u>642</u>	<u>151</u>	<u>7</u>	<u>-</u>	<u>17:40</u>
4 Well Vol	<u>20.0</u>	<u>4.70</u>	<u>643</u>	<u>798</u>	<u>10.5</u>	<u>-</u>	<u>17:47</u>
5 Well Vol	<u>19.3</u>	<u>4.73</u>	<u>626</u>	<u>58.6</u>	<u>15</u>	<u>-</u>	<u>17:58</u>
6 Well Vol	<u>18.5</u>	<u>4.73</u>	<u>620</u>	<u>63.2</u>	<u>20</u>	<u>28.75</u>	<u>18:10</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: _____
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 08/05/02
Casing Type: Sch 40 PVC
Well/Boring Number MW-4
Casing Diameter in inches (Dr): 2
Screened Interval: 11.5 - 26.5
Riser Elevation: _____
Total Well Depth (Lw) in feet: 30
Depth to Water (Lf) in feet: 15
Time of Measurement: 13:43

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 2.5 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conduc- tivity (μ S/cm)	Turbidity (NTU) or Color/ Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>23.1</u>	<u>5.92</u>	<u>317</u>	<u>>1000</u>	<u>0</u>	<u>15.00</u>	<u>13:50</u>
After Purging							
1 Well Vol	<u>19.9</u>	<u>6.36</u>	<u>289</u>	<u>>1000</u>	<u>2.5</u>	<u>15.90</u>	<u>14:00</u>
2 Well Vol	<u>18.4</u>	<u>6.35</u>	<u>295</u>	<u>>1000</u>	<u>5</u>	<u>16.10</u>	<u>14:04</u>
3 Well Vol	<u>17.5</u>	<u>6.30</u>	<u>280</u>	<u>>1000</u>	<u>7.5</u>	<u>16.02</u>	<u>14:07</u>
4 Well Vol	<u>17.9</u>	<u>6.18</u>	<u>275</u>	<u>>1000</u>	<u>10</u>	<u>15.95</u>	<u>14:11</u>
5 Well Vol	<u>16.9</u>	<u>6.02</u>	<u>273</u>	<u>>1000</u>	<u>12.5</u>	<u>16.02</u>	<u>14:14</u>
6 Well Vol	<u>16.6</u>	<u>5.84</u>	<u>270</u>	<u>968</u>	<u>15</u>	<u>16.00</u>	<u>14:16</u>
7 Well Vol	<u>16.9</u>	<u>5.89</u>	<u>266</u>	<u>635</u>	<u>17.5</u>	<u>16.00</u>	<u>14:18</u>
8 Well Vol	<u>16.7</u>	<u>5.78</u>	<u>263</u>	<u>532</u>	<u>20</u>	<u>16.00</u>	<u>14:21</u>
9 Well Vol	<u>16.6</u>	<u>5.75</u>	<u>267</u>	<u>432</u>	<u>22.5</u>	<u>16.00</u>	<u>14:24</u>
10 Well Vol	<u>16.7</u>	<u>5.78</u>	<u>262</u>	<u>364</u>	<u>25</u>	<u>16.00</u>	<u>14:27</u>
11 Well Vol	<u>16.6</u>	<u>5.80</u>	<u>261</u>	<u>303</u>	<u>27.5</u>	<u>16.03</u>	<u>14:30</u>
12 Well Vol	<u>16.6</u>	<u>5.83</u>	<u>260</u>	<u>241</u>	<u>30</u>	<u>16.12</u>	<u>14:32</u>

13 Well Vol	<u>16.3</u>	<u>5.74</u>	<u>257</u>	<u>250</u>	<u>32.5</u>	<u>16.01</u>	<u>14:35</u>
14 Well Vol	<u>16.4</u>	<u>5.74</u>	<u>258</u>	<u>200</u>	<u>35</u>	<u>16.00</u>	<u>14:37</u>
15 Well Vol	<u>16.5</u>	<u>5.70</u>	<u>253</u>	<u>182</u>	<u>37.5</u>	<u>16.10</u>	<u>14:40</u>
16 Well Vol	<u>17</u>	<u>5.75</u>	<u>252</u>	<u>142</u>	<u>40</u>	<u>16.00</u>	<u>14:43</u>
17 Well Vol	<u>16.9</u>	<u>5.73</u>	<u>250</u>	<u>139</u>	<u>42.5</u>	<u>16.15</u>	<u>14:46</u>
18 Well Vol	<u>16.5</u>	<u>5.66</u>	<u>251</u>	<u>132</u>	<u>45</u>	<u>16.05</u>	<u>14:49</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: _____
Well Purged Dry no Continuous Recharge yes
Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Ken Sizemore



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 08/02/02
Casing Type: Sch 40 PVC
Well/Boring Number: MW-5
Casing Diameter in inches (Dr): 2
Screened Interval: 5 - 20 ft.
Riser Elevation: _____
Total Well Depth (Lw) in feet: 22 (from Ground Surface)
Depth to Water (Lf) in feet: 8.5
Time of Measurement: 11:58

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 2.2 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conductivity (µS/cm)	Turbidity (NTU) or Color/Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>29.4</u>	<u>5.89</u>	<u>104.1</u>	<u>brown</u>	<u>0.0</u>	<u>8.5</u>	<u>12:08</u>
After Purging							
1 Well Vol	<u>23.3</u>	<u>5.93</u>	<u>97.1</u>	<u>brown</u>	<u>2.5</u>	<u>-</u>	<u>12:11</u>
2 Well Vol	<u>19.4</u>	<u>5.85</u>	<u>95.9</u>	<u>brown</u>	<u>5.0</u>	<u>-</u>	<u>12:15</u>
3 Well Vol	<u>18.3</u>	<u>5.86</u>	<u>97.7</u>	<u>brown</u>	<u>7.5</u>	<u>-</u>	<u>12:19</u>
4 Well Vol	<u>17.4</u>	<u>5.76</u>	<u>96.3</u>	<u>brown</u>	<u>10.0</u>	<u>-</u>	<u>12:23</u>
5 Well Vol	<u>16.6</u>	<u>5.46</u>	<u>95.9</u>	<u>brown</u>	<u>15.0</u>	<u>-</u>	<u>12:32</u>
6 Well Vol	<u>16.6</u>	<u>5.49</u>	<u>90.6</u>	<u>brown</u>	<u>20.0</u>	<u>-</u>	<u>12:43</u>
7 Well Vol	<u>16.9</u>	<u>5.59</u>	<u>91.6</u>	<u>brown</u>	<u>25.0</u>	<u>-</u>	<u>12:53</u>
8 Well Vol	<u>17.4</u>	<u>5.74</u>	<u>90.9</u>	<u>brown</u>	<u>30.0</u>	<u>-</u>	<u>13:05</u>
9 Well Vol	<u>19.4</u>	<u>5.86</u>	<u>87.5</u>	<u>brown</u>	<u>40.0</u>	<u>-</u>	<u>13:27</u>
10 Well Vol	<u>17.7</u>	<u>5.88</u>	<u>90.9</u>	<u>brown</u>	<u>45.0</u>	<u>11.65</u>	<u>13:38</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: ~2.5gal/4min
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.:

Developer's Name Jason A. Deem



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 08/02/02
Casing Type: Sch 40 PVC
Well/Boring Number: MW-7
Casing Diameter in inches (Dr): 2
Screened Interval: 4.5' - 19.5'
Riser Elevation: _____
Total Well Depth (Lw) in feet: 19.69
Depth to Water (Lf) in feet: 10.28
Time of Measurement: 7:42

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 1.53 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conduc- tivity (μ S/cm)	Turbidity (NTU) or Color/ Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>20.3</u>	<u>6.10</u>	<u>207</u>	<u>brown</u>	<u>0</u>	<u>10.28</u>	<u>7:48</u>
After Purging							
1 Well Vol	<u>19.2</u>	<u>5.80</u>	<u>193.3</u>	<u>brown</u>	<u>2</u>	<u>-</u>	<u>7:52</u>
2 Well Vol	<u>18.5</u>	<u>5.68</u>	<u>192.4</u>	<u>lt. brown</u>	<u>4</u>	<u>-</u>	<u>8:00</u>
3 Well Vol	<u>18.1</u>	<u>6.02</u>	<u>162</u>	<u>>1000</u>	<u>7</u>	<u>-</u>	<u>8:09</u>
4 Well Vol	<u>18.4</u>	<u>5.93</u>	<u>167</u>	<u>>1000</u>	<u>10</u>	<u>-</u>	<u>8:20</u>
5 Well Vol	<u>19.4</u>	<u>6.05</u>	<u>160</u>	<u>brown</u>	<u>12.5</u>	<u>-</u>	<u>8:31</u>
6 Well Vol	<u>24.7</u>	<u>6.33</u>	<u>186</u>	<u>brown</u>	<u>15</u>	<u>-</u>	<u>10:39</u>
7 Well Vol	<u>22.5</u>	<u>6.05</u>	<u>158</u>	<u>57.6</u>	<u>20</u>	<u>-</u>	<u>10:57</u>
8 Well Vol	<u>21.2</u>	<u>6.17</u>	<u>161</u>	<u>43</u>	<u>23</u>	<u>-</u>	<u>11:05</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: _____
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 07/30/02
Casing Type: Sch 40 PVC
Well/Boring Number P-11
Casing Diameter in inches (Dr): 2
Screened Interval: 20 - 35'
Riser Elevation: _____
Total Well Depth (Lw) in feet: 37.86
Depth to Water (Lf) in feet: 28.31
Time of Measurement: 12:45

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 1.56 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conduc- tivity (μ S/cm)	Turbidity (NTU) or Color/ Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>25.3</u>	<u>5.73</u>	<u>96.5</u>	<u>39.5</u>	<u>0</u>	<u>28.31</u>	<u>12:57</u>
After Purging							
1 Well Vol	<u>18.9</u>	<u>5.09</u>	<u>46.1</u>	<u>brown</u>	<u>2</u>	<u>-</u>	<u>13:10</u>
2 Well Vol	<u>18.3</u>	<u>4.84</u>	<u>45.8</u>	<u>>1000</u>	<u>4</u>	<u>-</u>	<u>13:10</u>
3 Well Vol	<u>19.2</u>	<u>4.95</u>	<u>40.5</u>	<u>brown</u>	<u>6</u>	<u>29.95</u>	<u>13:15</u>
4 Well Vol	<u>17.8</u>	<u>4.68</u>	<u>47.1</u>	<u>tan</u>	<u>8</u>	<u>-</u>	<u>13:21</u>
5 Well Vol	<u>17.5</u>	<u>4.75</u>	<u>48.8</u>	<u>>1000</u>	<u>10</u>	<u>-</u>	<u>13:27</u>
6 Well Vol	<u>17.6</u>	<u>4.68</u>	<u>48.3</u>	<u>160</u>	<u>12</u>	<u>30.05</u>	<u>134</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) bailer If pumped, pumping rate: _____
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 7/30/02 - 8/5/02
Casing Type: Sch 40 PVC
Well/Boring Number: P-15
Casing Diameter in inches (Dr): 2
Screened Interval: 10 - 25'
Riser Elevation: _____
Total Well Depth (Lw) in feet: 27.66
Depth to Water (Lf) in feet: 19.7
Time of Measurement: 17:00

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 1.3 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conductivity (µS/cm)	Turbidity (NTU) or Color/Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>23.8</u>	<u>5.65</u>	<u>87.6</u>	<u>130</u>	<u>0</u>	<u>19.7</u>	<u>17:00</u>
After Purging							
1 Well Vol	<u>19.1</u>	<u>5.17</u>	<u>91.6</u>	<u>brown</u>	<u>2</u>	<u>-</u>	<u>17:07</u>
2 Well Vol	<u>18.3</u>	<u>5.26</u>	<u>100.2</u>	<u>brown</u>	<u>2.5</u>	<u>-</u>	<u>17:13</u>
3 Well Vol (7/31/2002)	<u>19</u>	<u>5.19</u>	<u>93.2</u>	<u>814</u>	<u>4</u>	<u>-</u>	<u>8:34</u>
4 Well Vol	<u>19.7</u>	<u>5.36</u>	<u>98.4</u>	<u>>1000</u>	<u>4.5</u>	<u>-</u>	<u>8:40</u>
5 Well Vol	<u>25.5</u>	<u>5.87</u>	<u>79.7</u>	<u>52.5</u>	<u>4.5</u>	<u>19.65</u>	<u>14:20</u>
6 Well Vol (8/1/2002)	<u>20.8</u>	<u>5.46</u>	<u>88.8</u>	<u>>1000</u>	<u>6.5</u>	<u>dry</u>	<u>14:30</u>
7 Well Vol (8/2/2002)	<u>26.6</u>	<u>6.57</u>	<u>91.5</u>	<u>>1000</u>	<u>9</u>	<u>dry</u>	<u>11:32</u>
8 Well Vol (8/5/2002)	<u>26.3</u>	<u>5.46</u>	<u>79.1</u>	<u>164</u>	<u>9</u>	<u>19.8</u>	<u>12:13</u>
9 Well Vol	<u>21.1</u>	<u>5.3</u>	<u>89.7</u>	<u>>1000</u>	<u>10.4</u>	<u>22.2</u>	<u>12:17</u>
10 Well Vol	<u>20.9</u>	<u>5.3</u>	<u>89.7</u>	<u>>1000</u>	<u>11</u>	<u>dry</u>	<u>12:20</u>
11 Well Vol	<u>22.8</u>	<u>5.96</u>	<u>85.8</u>	<u>27.6</u>	<u>11</u>	<u>19.8</u>	<u>15:15</u>
12 Well Vol	<u>19.2</u>	<u>5.49</u>	<u>87.2</u>	<u>>1000</u>	<u>12.4</u>	<u>21.9</u>	<u>4:33</u>
13 Well Vol	<u>20.2</u>	<u>5.43</u>	<u>92.1</u>	<u>>1000</u>	<u>13</u>	<u>dry</u>	<u>15:24</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) bailer If pumped, pumping rate: _____
 Well Purged Dry yes Continuous Recharge no
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem/Ken Sizemore



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 07/30/02
Casing Type: Sch 40 PVC
Well/Boring Number: P-18
Casing Diameter in inches (Dr): 2
Screened Interval: 9 - 34'
Riser Elevation: _____
Total Well Depth (Lw) in feet: 34
Depth to Water (Lf) in feet: 15.85
Time of Measurement: 14:57

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 3 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conductivity (µS/cm)	Turbidity (NTU) or Color/Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>23.7</u>	<u>5.29</u>	<u>78.1</u>	<u>brown</u>	<u>0</u>	<u>15.85</u>	<u>14:57</u>
After Purging							
1 Well Vol	<u>21.7</u>	<u>5.2</u>	<u>73.1</u>	<u>brown</u>	<u>3.5</u>	<u>-</u>	<u>15:00</u>
2 Well Vol	<u>19.2</u>	<u>4.92</u>	<u>78.8</u>	<u>brown</u>	<u>6</u>	<u>-</u>	<u>15:15</u>
3 Well Vol	<u>17.8</u>	<u>4.92</u>	<u>78.8</u>	<u>brown</u>	<u>9</u>	<u>-</u>	<u>15:18</u>
4 Well Vol	<u>17.1</u>	<u>4.87</u>	<u>87.2</u>	<u>brown</u>	<u>13</u>	<u>-</u>	<u>15:23</u>
5 Well Vol	<u>18.2</u>	<u>5.07</u>	<u>96</u>	<u>lt. brown</u>	<u>17</u>	<u>-</u>	<u>15:28</u>
6 Well Vol	<u>17.4</u>	<u>5.17</u>	<u>103.8</u>	<u>lt. brown</u>	<u>25</u>	<u>-</u>	<u>15:37</u>
7 Well Vol	<u>17.7</u>	<u>5.24</u>	<u>104.6</u>	<u>895</u>	<u>28</u>	<u>-</u>	<u>15:42</u>
8 Well Vol	<u>17.7</u>	<u>5.25</u>	<u>106.1</u>	<u>544</u>	<u>31</u>	<u>-</u>	<u>15:47</u>
9 Well Vol	<u>17.6</u>	<u>5.14</u>	<u>102.5</u>	<u>299</u>	<u>34</u>	<u>-</u>	<u>15:51</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: 1gal/1.7min.
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 08/01/02
Casing Type: Sch 40 PVC
Well/Boring Number: P-26
Casing Diameter in inches (Dr): 2
Screened Interval: 10 - 20'
Riser Elevation: _____
Total Well Depth (Lw) in feet: 20.3
Depth to Water (Lf) in feet: 10
Time of Measurement: 15:50

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 1.7 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conductivity (µS/cm)	Turbidity (NTU) or Color/Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>25.9</u>	<u>5.79</u>	<u>176</u>	<u>brown</u>	<u>0</u>	<u>10</u>	<u>16:06</u>
After Purging							
1 Well Vol	<u>21.4</u>	<u>6.16</u>	<u>136.6</u>	<u>brown</u>	<u>2.5</u>	<u>-</u>	<u>16:09</u>
2 Well Vol	<u>21</u>	<u>5.94</u>	<u>131</u>	<u>brown</u>	<u>4.5</u>	<u>-</u>	<u>16:11</u>
3 Well Vol	<u>19.6</u>	<u>5.63</u>	<u>122.7</u>	<u>brown</u>	<u>7.5</u>	<u>-</u>	<u>16:16</u>
4 Well Vol	<u>18.1</u>	<u>5.34</u>	<u>112.7</u>	<u>lt. brown</u>	<u>10</u>	<u>-</u>	<u>16:22</u>
5 Well Vol	<u>18.3</u>	<u>5.28</u>	<u>101.2</u>	<u>147</u>	<u>12.5</u>	<u>-</u>	<u>16:26</u>
6 Well Vol	<u>18.3</u>	<u>5.38</u>	<u>111.5</u>	<u>74.1</u>	<u>15</u>	<u>-</u>	<u>16:31</u>
7 Well Vol	<u>17.6</u>	<u>5.39</u>	<u>110</u>	<u>181</u>	<u>18.5</u>	<u>-</u>	<u>16:37</u>
8 Well Vol	<u>17.5</u>	<u>5.32</u>	<u>109.5</u>	<u>46.8</u>	<u>22.5</u>	<u>-</u>	<u>16:44</u>
9 Well Vol	<u>17.3</u>	<u>5.39</u>	<u>109.3</u>	<u>31.5</u>	<u>24.5</u>	<u>-</u>	<u>16:47</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: _____
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem



MONITORING WELL DEVELOPMENT DATA SHEET

Project: MR Wake County - Brownfield Road
Date: 07/31/02
Casing Type: Sch 40 PVC
Well/Boring Number: P-27
Casing Diameter in inches (Dr): 2
Screened Interval: 10 - 20'
Riser Elevation: _____
Total Well Depth (Lw) in feet: 22.9
Depth to Water (Lf) in feet: 9.75
Time of Measurement: 14:55

Volume of water in well, using $V=0.041 (Dr)^2 (Lw - Lf) =$ 2.14 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Temp (C)	pH	Conductivity (µS/cm)	Turbidity (NTU) or Color/Clarity	Volume (gallons)	Water Level (ft)	Time
Before Development	<u>29.2</u>	<u>5.57</u>	<u>170</u>	<u>brown</u>	<u>0</u>	<u>9.75</u>	<u>14:55</u>
After Purging							
1 Well Vol	<u>24</u>	<u>5.85</u>	<u>171</u>	<u>brown</u>	<u>3</u>	<u>-</u>	<u>16:45</u>
2 Well Vol	<u>21.9</u>	<u>5.86</u>	<u>165</u>	<u>lt. brown</u>	<u>5</u>	<u>-</u>	<u>16:47</u>
3 Well Vol	<u>20</u>	<u>5.82</u>	<u>176</u>	<u>lt. brown</u>	<u>7.5</u>	<u>-</u>	<u>16:49</u>
4 Well Vol	<u>18.9</u>	<u>5.77</u>	<u>177</u>	<u>796</u>	<u>10</u>	<u>-</u>	<u>16:53</u>
5 Well Vol	<u>21.5</u>	<u>5.45</u>	<u>165</u>	<u>197</u>	<u>12.5</u>	<u>-</u>	<u>16:58</u>
6 Well Vol	<u>19.1</u>	<u>5.52</u>	<u>164</u>	<u>120</u>	<u>15</u>	<u>-</u>	<u>17:01</u>
7 Well Vol	<u>18.1</u>	<u>5.55</u>	<u>171</u>	<u>365</u>	<u>17.5</u>	<u>-</u>	<u>17:04</u>
8 Well Vol	<u>17.5</u>	<u>5.61</u>	<u>166</u>	<u>93.6</u>	<u>25</u>	<u>-</u>	<u>17:15</u>
9 Well Vol	<u>17.4</u>	<u>5.62</u>	<u>164</u>	<u>49.2</u>	<u>28</u>	<u>9.95</u>	<u>17:18</u>

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) pump If pumped, pumping rate: ~2.5gal/4min.
 Well Purged Dry no Continuous Recharge yes
 Notes concerning condition of well, odors, color, etc.: _____

Developer's Name Jason A. Deem

September 3, 2002

Rachel P. Kirkman, P.G.
Project Hydrogeologist
Joyce Engineering, Inc.
Henderson Building
2301 Meadowview Road, Suite 203
Greensboro, NC 27407

Re: Survey Data for Material Recovery, LLC,
Wake County - Brown Field Road Site
JEI Project 479.02.task 04.

Ms. Kirkman:
Please find below, the XYZ's of the listed piezometers and monitoring wells, tied to N.C.
grid for the above referenced project (performed by actual ground survey):

Monitoring Well & Piezometer
Locations and Elevations
09/03/02

MW-2

Top PVC = 213.37'
Top Case = 213.52'
P/K = 210.55'

P/K Coord:

N 714532.71
E 2147104.39

MW-3

Top PVC = 218.54'
Top Case = 218.71'
P/K = 216.30'

P/K Coord:

N 714658.36
E 2146547.78

MW-4

Top PVC = 201.52'
Top Case = 201.65'
P/K = 199.03'

P/K Coord:

N 714419.84
E 2146093.33

MW-5

Top PVC = 203.38'
Top Case = 203.57'
P/K = 200.79'

P/K Coord:

N 713760.67
E 2146090.60

MW-7

Top PVC = 241.74'
Top Case = 241.78'
P/K = 239.03'

P/K Coord:

N 712829.73
E 2146999.00

P-26

Top PVC = 189.19'
NG = 186.42'

Coord:

N 714395.65
E 2145988.75

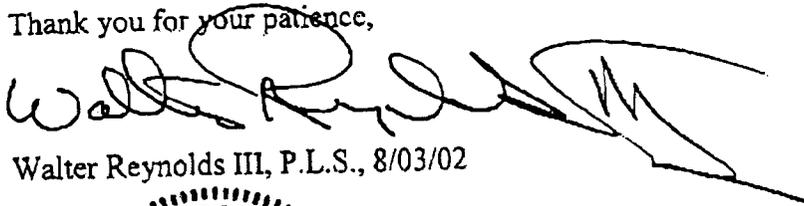
P-27

Top PVC = 220.99'
NG = 218.25'

Coord:

N 714032.37
E 2147908.44

Thank you for your patience,



Walter Reynolds III, P.L.S., 8/03/02





LOG OF BORING MW-2

(Page 1 of 1)

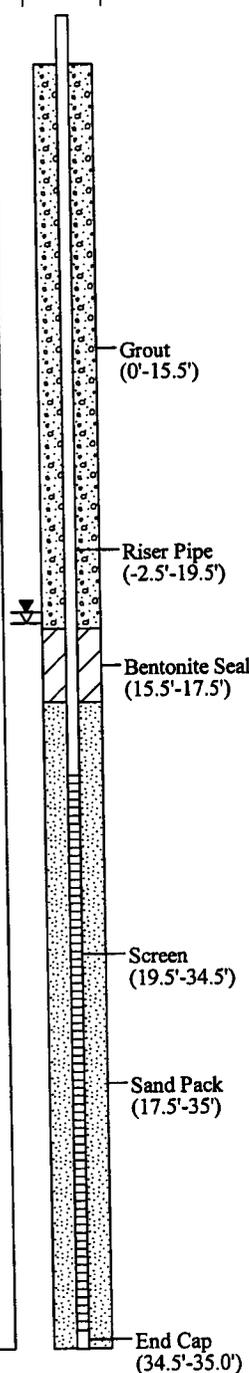
Material Recovery, LLC
 Brown-Field Road
 Wake County, NC
 JEI Project No. 479.02 Task 04

Date Started : 07/31/02
 Date Completed : 08/02/02
 Hole Diameter : 8.25/6.25-inch
 Drilling Method : HSA/Down Hole Hammer
 Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
 Northing Coordinate : 714533.13
 Easting Coordinate : 2147105.07
 Surveyed By : TRC Trangle
 Logged By : Jason Deem

Depth in Feet	Surf. Elev. 210.55	Blow Count	% Rec.	USCS	DESCRIPTION
0	210				FILL MATERIAL
5	205	11 14 9 10	75	SM	SILTY SAND - tan/orange, medium-grained, slightly moist, moderately hard, with faint granitic texture, quartz, muscovite, & biotite
10	200	9 13 19 26 16 17 16	100		PARTIALLY WEATHERED ROCK silty sand, tan/white, medium-grained, moderately hard, slightly moist, strong granitic texture with quartz, muscovite, & biotite
15	195	17 31 43 57	75		encountered hard layer at ~10 feet and took additional SPT <i>Auger refusal at 15 feet</i>
20	190			PWR	
25	185				color change to tan, coarse-grained silty sands encountered, abundant water return
30	180				wet soil cuttings
35					Drilling terminated at 35 feet

Well: MW-2
 TOC Elevation: 213.37
 Cover



Well Construction Information

WELL CONSTRUCTION

Date Compl. : 08/02/02
 Hole Diameter : 8.25-inch/6.25-inch
 Drilling Method : HSA/DHH
 Company Rep. : Lee Charbonneau

WELL CASING

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Threaded, flush-coupled
 Approx. Csg. Stickup : 2.5-feet

WELL SCREEN

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Thredded, flush-coupled
 Opening : 0.010 inch, slotted

GRAVEL PACK

Type : #1 sand

WELL SCREEN SEAL

Type : 3/8" bentonite chips

ANNULUS SEAL

Type : No. 1 Portland grout

PROTECTIVE CASING

Type : 4" Alum. round, locked

WELL PAD

Type : 3' X 3' X 6" concrete

1. Drilling performed with a CME-550 ATV drilling rig utilizing 4.25-inch ID hollow stem augers to auger refusal at approximately 15 feet. Borehole was advanced to approximately 35 feet with a CME 75 drilling rig utilizing a 6-inch down hole hammer and a 750 CFM/150 PSI Sullivan air compressor.

2. Solid triangle represents water level at time of drilling of 17.54 feet below TOC. Open triangle represents 24-hour water level of 17.84 feet below TOC.

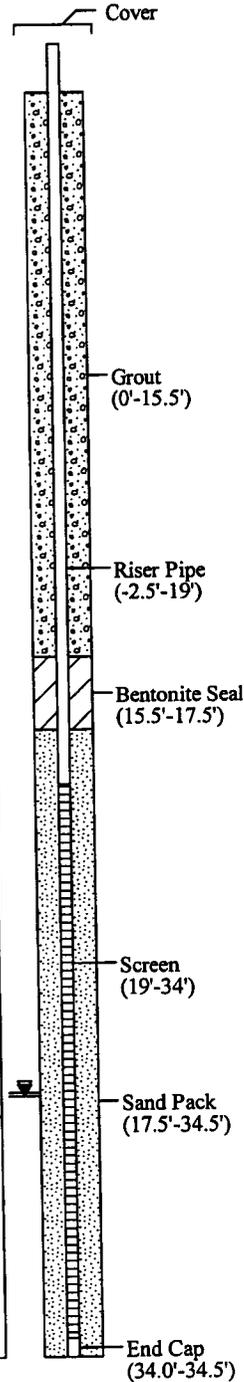
Material Recovery, LLC
Brown-Field Road
Wake County, NC
JEI Project No. 479.02 Task 04

Date Started : 07/31/02
Date Completed : 07/31/02
Hole Diameter : 8.25-inch
Drilling Method : Hollow Stem Augers
Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
Northing Coordinate : 714658.70
Easting Coordinate : 2146548.34
Surveyed By : TRC Triangle
Logged By : Rachel Kirkman, P.G.

Depth in Feet	Surf. Elev. 216.30	Blow Count	% Rec.	USCS	DESCRIPTION
0	216				SANDY SILT/SILTY SAND - orange, medium to fine-grained, slightly moist
5	211	9 12 15 19	75		color change to tan/light orange, medium-grained, dry, moderately hard, with faint granitic texture
10	206	7 7 10 11	100		color change to tan/dark orange, finer-grained and softer than above, slightly moist
15	201	6 7 7 7	50	SM	color change to tan w/ light orange, soft, fine-grained, slightly moist, very faint granitic texture
20	196	8 10 13 14	75		
25	191	7 7 8 14	100		more moist than above, soft to moderately hard water encountered at ~25 feet
30	186	4 7 9 11	100	PWR	PARTIALLY WEATHERED ROCK tan/white, medium-grained, with strong granitic texture, wet, soft color change to gray, fine-grained
35		9 12 16 21	100		Boring terminated at 34.5 feet

Well: MW-3
TOC Elevation: 218.54



Well Construction Information

WELL CONSTRUCTION

Date Compl. : 07/31/02
Hole Diameter : 8.25-inch
Drilling Method : Hollow Stem Augers
Company Rep. : Lee Charbonneau

WELL CASING

Material : Schedule 40 PVC
Diameter : 2-inch
Joints : Threaded, flush-coupled
Approx. Csg. Stickup : 2.5-feet

WELL SCREEN

Material : Schedule 40 PVC
Diameter : 2-inch
Joints : Thredded, flush-coupled
Opening : 0.010 inch, slotted

GRAVEL PACK

Type : #1 sand

WELL SCREEN SEAL

Type : 3/8" bentonite chips

ANNULUS SEAL

Type : No. 1 Portland grout

PROTECTIVE CASING

Type : 4" Alum. round, locked

WELL PAD

Type : 3' X 3' X 6" concrete

1. Drilling performed with a CME-550 ATV drilling rig utilizing 4.25-inch ID hollow stem augers to approximately 34.5 feet.

2. Solid triangle represents water level at time of drilling of 29.95 feet below TOC. Open triangle represents 24-hour water level of 29.93 feet below TOC.

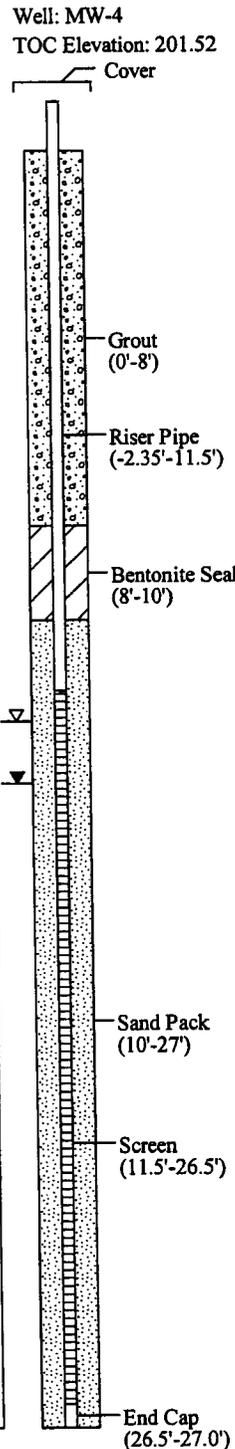
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Material Recovery, LLC
 Brown-Field Road
 Wake County, NC
 JEI Project No. 479.02 Task 04

Date Started : 08/01/02
 Date Completed : 08/01/02
 Hole Diameter : 8.25-inch
 Drilling Method : Hollow Stem Augers
 Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
 Northing Coordinate : 714419.68
 Easting Coordinate : 2146092.79
 Surveyed By : TRC Triangle
 Logged By : Jason Deem

Depth in Feet	Surf. Elev. 199.03	Blow Count	% Rec.	USCS	DESCRIPTION
0	199				FILL MATERIAL
				SC	CLAYEY SAND - brown, fine-grained, some organic material noted
5	194	7 8 12 13	100	SM	SANDY SILT - tan, fine-grained, quartz and muscovite noted, soft, dry color change to lighter tan
10	189	6 12 17 18	75	SM	SILTY SAND - tan/orange, medium-grained, moist, moderately hard, with moderate granitic texture, quartz, muscovite, and biotite
15	184	6 7 11 13	50	SM	weathered garnets noted, more moist than above, strong granitic texture
20	179	50/4	25	PWR	PARTIALLY WEATHERED ROCK - white/tan, coarse-grained, with strong granitic texture, quartz, muscovite, biotite, and feldspar
25		50/4	10		color change to pink/white/orange, wet, very hard
					Boring terminated at 27 feet



Well Construction Information

WELL CONSTRUCTION

Date Compl. : 08/01/02
 Hole Diameter : 8.25-inch
 Drilling Method : Hollow Stem Augers
 Company Rep. : Lee Charbonneau

WELL CASING

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Thredded, flush-coupled
 Approx. Csg. Stickup : 2.35-feet

WELL SCREEN

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Thredded, flush-coupled
 Opening : 0.010 inch, slotted

GRAVEL PACK

Type : #1 sand

WELL SCREEN SEAL

Type : 3/8" bentonite chips

ANNULUS SEAL

Type : No. 1 Portland grout

PROTECTIVE CASING

Type : 4" Alum. round, locked

WELL PAD

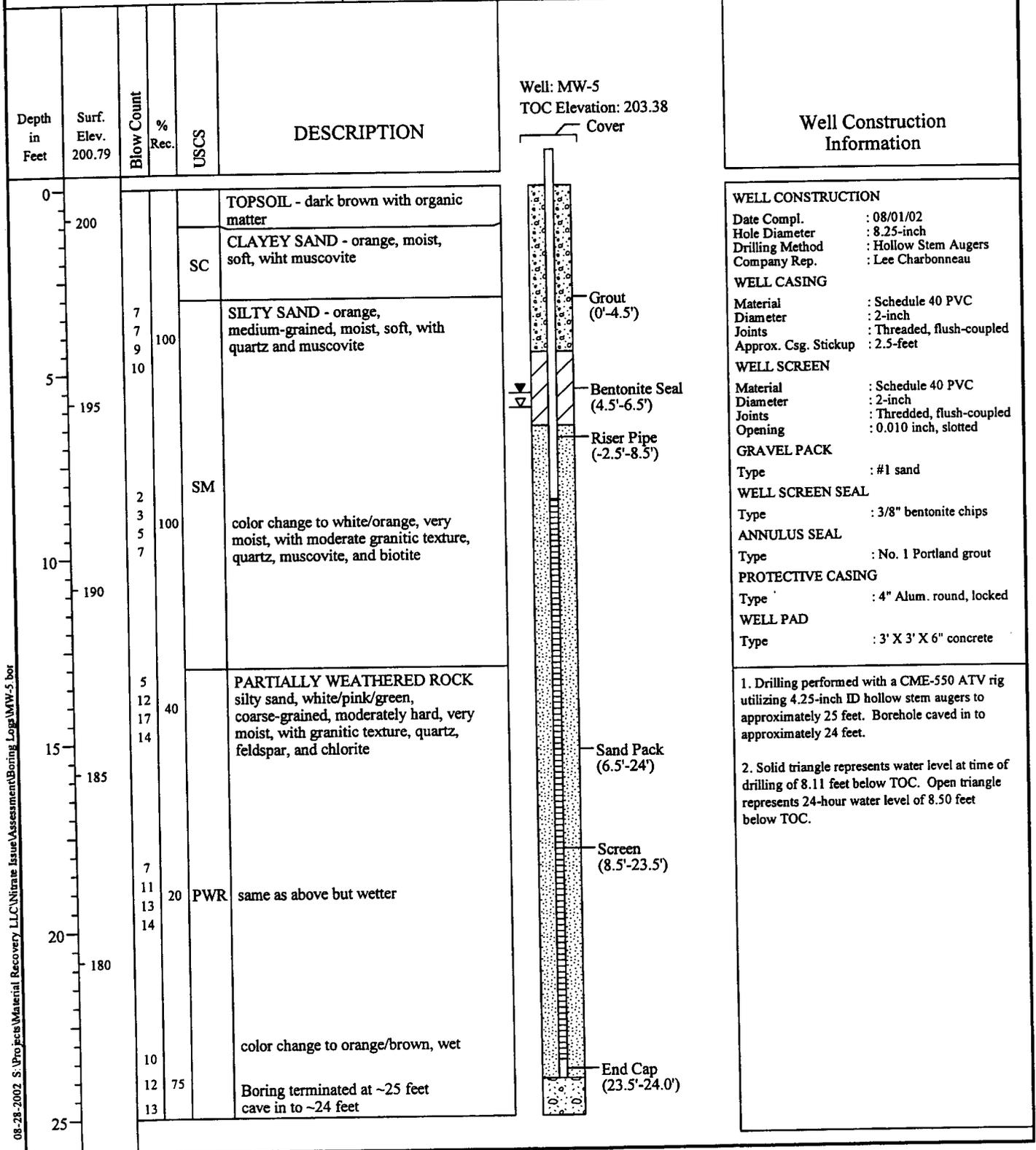
Type : 3' X 3' X 6" concrete

1. Drilling performed with a CME-550 ATV rig utilizing 4.25-inch ID hollow stem augers to approximately 27 feet.
2. Solid triangle represents water level at time of drilling of 15.82 feet below TOC. Open triangle represents 24-hour water level of 14.5 feet below TOC.

Material Recovery, LLC
Brown-Field Road
Garner, NC
JEI Project No. 479.02 Task 04

Date Started : 08/01/02
Date Completed : 08/01/02
Hole Diameter : 8.25-inch
Drilling Method : Hollow Stem Augers
Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
Northing Coordinate : 713760.50
Easting Coordinate : 2146089.92
Surveyed By : TRC Triangle
Logged By : Jason Deem



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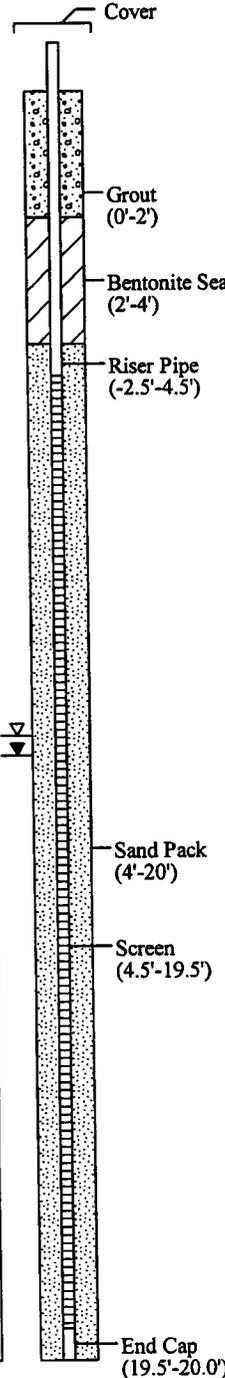
Material Recovery, LLC
Brown-Field Road
Wake County, NC
JEI Project No. 479.02 Task 04

Date Started : 07/31/02
Date Completed : 07/31/02
Hole Diameter : 8.25-inch
Drilling Method : Hollow Stem Augers
Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
Northing Coordinate : 712830.15
Easting Coordinate : 2146999.19
Surveyed By : TRC Triangle
Logged By : Rachel Kirkman, P.G.

Depth in Feet	Surf. Elev. 239.03	Blow Count	% Rec.	USCS	DESCRIPTION
0	239				FILL MATERIAL
					SILTY SAND - tan, medium-grained, slightly moist, soft
8				SM	color change to tan/orange, dry
6		100			
9					color change to tan/gray, slightly moist, with faint granitic texture, quartz, muscovite, and biotite
10	234				CLAYEY SAND - tan, fine-grained, moist, soft
				SC	
5					water encountered at ~8.5 feet
5				SM	SILTY SAND - gray, medium-grained, very moist
5		75			
7	229				PARTIALLY WEATHERED ROCK silty sand, pink/white/tan, coarse-grained, wet, with prominent granitic texture, quartz, biotite, and feldspar
2					
4		100			
5				PWR	color change to tan/white, finer-grained than above, soft, abundant muscovite noted
7	224				
10					harder than above, weathered feldspars noted
11		100			
13					
20					Boring terminated at 20 feet

Well: MW-7
TOC Elevation: 241.74



Well Construction Information

WELL CONSTRUCTION

Date Compl. : 07/31/02
Hole Diameter : 8.25-inch
Drilling Method : Hollow Stem Augers
Company Rep. : Lee Charbonneau

WELL CASING
Material : Schedule 40 PVC
Diameter : 2-inch
Joints : Threaded, flush-coupled
Approx. Csg. Stickup : 2.5-feet

WELL SCREEN
Material : Schedule 40 PVC
Diameter : 2-inch
Joints : Thredded, flush-coupled
Opening : 0.010 inch, slotted

GRAVEL PACK
Type : #1 sand

WELL SCREEN SEAL
Type : 3/8" bentonite chips

ANNULUS SEAL
Type : No. 1 Portland grout

PROTECTIVE CASING
Type : 4" Alum. round, locked

WELL PAD
Type : 3' X 3' X 6" concrete

- Drilling performed with a CME-550 ATV rig utilizing 4.25-inch ID hollow stem augers to approximately 20 feet.
- Solid triangle represents water level at time of drilling of 13.03 feet below TOC. Open triangle represents 24-hour water level of 12.72 feet below TOC.



LOG OF BORING P-26

(Page 1 of 1)

Material Recovery, LLC
 Brown-Field Road
 Wake County, NC
 JEI Project No. 479.02 Task 04

Date Started : 08/01/02
 Date Completed : 08/01/02
 Hole Diameter : 8.25-inch
 Drilling Method : Hollow Stem Augers
 Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
 Northing Coordinate : 714395.65
 Easting Coordinate : 2145988.75
 Surveyed By : TRC Triangle
 Logged By : Jason Deem

Depth in Feet	Surf. Elev. 186.42	Blow Count	% Rec.	USCS	DESCRIPTION
0	186				FILL MATERIAL
5	181	13	75	SM	SANDY SILT - light gray/orange, dry, fine-grained, weathered diabase rock fragments noted
		41			color change to light brown
		50/4			hard layer encountered
10	176	6	50		color change to gray/white, medium-grained, moist, moderately hard, with strong granitic texture, quartz, biotite, and feldspar
		8			dark gray cuttings and weathered diabase rock fragments, very moist
15	171	10			
		13			
		22	50	PWR	PARTIALLY WEATHERED ROCK silty sand, orange, quartz, muscovite, and biotite noted, hard, wet, diabase rock fragments noted, with strong granitic texture
		28			Very hard layer encountered at ~15 feet
		42			
		46			
20		50/4			Boring terminated at 20 feet

Well: P-26
 TOC Elevation: 189.19

Well Construction Information

WELL CONSTRUCTION

Date Compl. : 08/01/02
 Hole Diameter : 8.25-inch
 Drilling Method : Hollow Stem Augers
 Company Rep. : Lee Charbonneau

WELL CASING

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Threaded, flush-coupled
 Approx. Csg. Stickup : 2.5-feet

WELL SCREEN

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Threaded, flush-coupled
 Opening : 0.010 inch, slotted

GRAVEL PACK

Type : #1 sand

WELL SCREEN SEAL

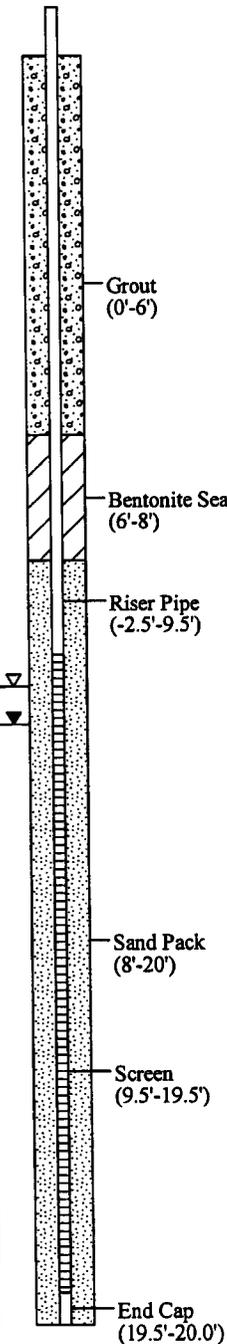
Type : 3/8" bentonite chips

ANNULUS SEAL

Type : No. 1 Portland grout

1. Drilling performed with a CME-550 ATV rig utilizing 4.25-inch ID hollow stem augers to approximately 20 feet.

2. Solid triangle represents water level at time of drilling of 13.10 feet below TOC. Open triangle represents 24-hour water level of 12.50 feet below TOC.



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LOG OF BORING P-27

(Page 1 of 1)

Material Recovery, LLC
 Brown-Field Road
 Wake County, NC
 JEI Project No. 479.02 Task 04

Date Started : 07/31/02
 Date Completed : 07/31/02
 Hole Diameter : 8.25-inch
 Drilling Method : Hollow Stem Augers
 Sampling Method : Cuttings, Split Spoons

Drilling Company : J & L Drilling, Inc.
 Northing Coordinate : 714032.37
 Easting Coordinate : 2147908.44
 Surveyed By : TRC Triangle
 Logged By : Jason Deem

Depth in Feet	Surf. Elev. 218.25	Blow Count	% Rec.	USCS	DESCRIPTION
0	218				FILL MATERIAL
					SILTY SAND - tan, medium-grained, dry
		5			color change to tan/orange, medium-grained, dry, with faint granitic texture, quartz and muscovite
		5	75	SM	
		8			
		9			
5	213				
					PARTIALLY WEATHERED ROCK silty sand, tan/white, moist, with strong granitic texture, muscovite, biotite, and quartz
		7			wetter than above at ~11 feet water at approximately 12 feet
		9			
		12	60		
		16			
10	208				
		7			
		15			
		23	50	PWR	
		28			
15	203				
		8			color change to white/tan/orange, medium-grained, very wet, iron staining, strong granitic texture, with quartz and biotite
		19	50		
		31			
		32			Boring terminated at 20 feet
20					

Well: P-27
 TOC Elevation: 220.99

Well Construction Information

WELL CONSTRUCTION

Date Compl. : 07/31/02
 Hole Diameter : 8.25-inch
 Drilling Method : Hollow Stem Augers
 Company Rep. : Lee Charbonneau

WELL CASING

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Threaded, flush-coupled
 Approx. Csg. Stickup : 2.5-feet

WELL SCREEN

Material : Schedule 40 PVC
 Diameter : 2-inch
 Joints : Thredded, flush-coupled
 Opening : 0.010 inch, slotted

GRAVEL PACK

Type : #1 sand

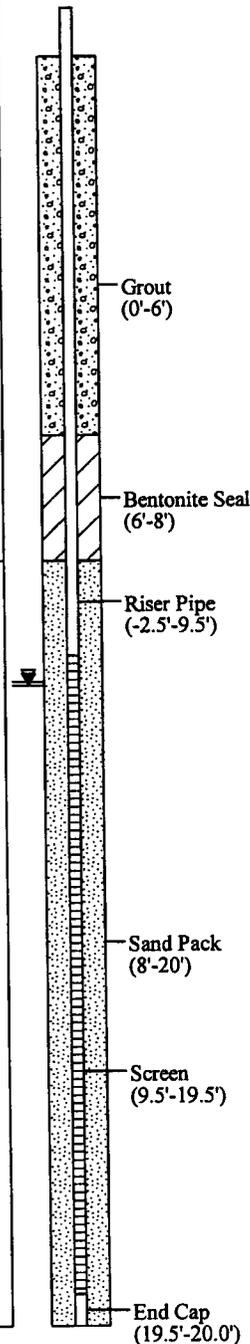
WELL SCREEN SEAL

Type : 3/8" bentonite chips

ANNULUS SEAL

Type : No. 1 Portland grout

1. Drilling performed with a CME-550 ATV rig utilizing 4.25-inch ID hollow stem augers to approximately 20 feet.
2. Solid triangle represents water level at time of drilling of 13.10 feet below TOC. Open triangle represents 24-hour water level of 12.50 feet below TOC.



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WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) LEO H. CHARBONNEAU, JR. CERTIFICATION # 2865

WELL CONTRACTOR COMPANY NAME J & L DRILLING, INC. PHONE # (919) 989-8856

STATE WELL CONSTRUCTION PERMIT# _____ ASSOCIATED WQ PERMIT# _____
(if applicable) (if applicable)

1. WELL USE (Check Applicable Box): Residential Municipal/Public Industrial Agricultural
Monitoring Recovery Heat Pump Water Injection Other If Other, List Use MW-4

2. WELL LOCATION:
Nearest Town: CLAYTON County WAKE

(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
 Ridge Slope Valley Flat
(check appropriate box)
Latitude/longitude of well location

(degrees/minutes/seconds)

3. OWNER: Material Recovery LLC
Address 421 Raleigh View Rd
(Street or Route No.)
Raleigh NC 27610
City or Town State Zip Code

Latitude/longitude source: GPS Topographic map
(check box)

(919) 935 3655
Area code- Phone number

4. DATE DRILLED 8/1/02

5. TOTAL DEPTH: 27.0

6. DOES WELL REPLACE EXISTING WELL? YES NO

7. STATIC WATER LEVEL Below Top of Casing: 16 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS +2.5 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.

9. YIELD (gpm): _____ METHOD OF TEST _____

10. WATER ZONES (depth): _____

11. DISINFECTION: Type _____ Amount _____

12. CASING: Wall Thickness
From +2.5 To 12.0 Ft. Diameter 2 or Weight/Ft. sch 40 Material PVC
From _____ To _____ Ft. _____
From _____ To _____ Ft. _____

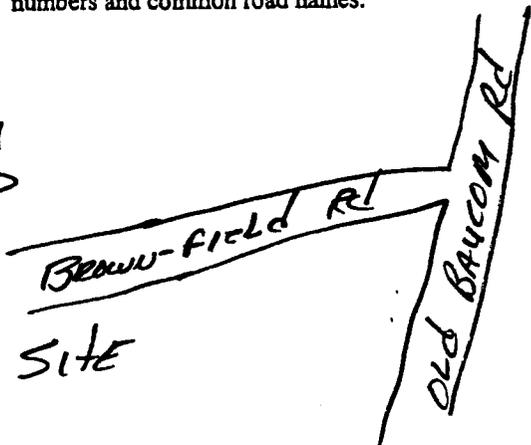
13. GROUT: Depth Material Method
From .0 To 8.0 Ft. CEMENT POURED
From 8.0 To 10.0 Ft. BENTONITE ROUTED

14. SCREEN: Depth Diameter Slot Size Material
From 12.0 To 27.0 Ft. 2 in. .10 in. PVC
From _____ To _____ Ft. _____ in. _____ in. _____

15. SAND/GRAVEL PACK: Depth Size Material
From 10.0 To 27.0 Ft. #1 SAND
From _____ To _____ Ft. _____

16. REMARKS: _____

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads. Include the road numbers and common road names.



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Leo H. Charbonneau Jr 8/4/02
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) LEO H. CHARBONNEAU, JR. CERTIFICATION # 2865

WELL CONTRACTOR COMPANY NAME J & L DRILLING, INC. PHONE # (919) 989-8856

STATE WELL CONSTRUCTION PERMIT# _____ ASSOCIATED WQ PERMIT# _____
(if applicable) (if applicable)

1. WELL USE (Check Applicable Box): Residential Municipal/Public Industrial Agricultural
Monitoring Recovery Heat Pump Water Injection Other If Other, List Use MW-5

2. WELL LOCATION:
Nearest Town: CLAYTON County WAKE

(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
 Ridge Slope Valley Flat
(check appropriate box)

Latitude/longitude of well location

(degrees/minutes/seconds)

Latitude/longitude source: GPS Topographic map
(check box)

3. OWNER: Material Recovery LLC
Address 421 Raleigh View Rd
(Street or Route No.)
Raleigh NC 27610
City or Town State Zip Code

(919) 835 3655
Area code- Phone number

4. DATE DRILLED 8/1/02

5. TOTAL DEPTH: 24

6. DOES WELL REPLACE EXISTING WELL? YES NO

7. STATIC WATER LEVEL Below Top of Casing: 12 FT.

8. TOP OF CASING IS +2.5 FT. Above Land Surface*
(*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.)

9. YIELD (gpm): _____ METHOD OF TEST _____

10. WATER ZONES (depth): _____

11. DISINFECTION: Type _____ Amount _____

12. CASING: Wall Thickness
From +2.5 To 9.0 Ft. 2 SCH40 PVC
From _____ To _____ Ft. _____
From _____ To _____ Ft. _____

13. GROUT: Depth Material Method
From .0 To 5.0 Ft. CEMENT Poured
From 5.0 To 7.0 Ft. PENTONITE POURED

14. SCREEN: Depth Diameter Slot Size Material
From 9.0 To 24.0 Ft. 2 in. .10 in. PVC
From _____ To _____ Ft. _____ in. _____ in. _____

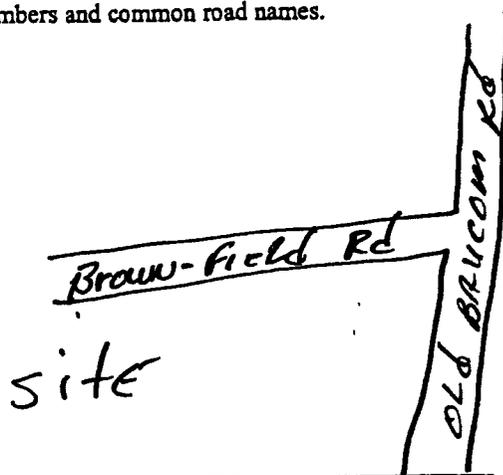
15. SAND/GRAVEL PACK:
From 7.0 To 24.0 Ft. #1 SAND
From _____ To _____ Ft. _____

16. REMARKS: _____

DEPTH		DRILLING LOG
From	To	Formation Description
0	3	sandy clay
3	13	silty sand
13	24	PWR

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include the road numbers and common road names.



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Leo H. Charbonneau, Jr. 8/4/02
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Attachment 1

**Monitoring Well and Piezometer Installation Report, Boring Logs with
Well Construction and Survey Data, State Well Construction Records,
and Well Development Records**

Re: Material Recovery, LLC BROWN-Field
Road Proposed C&D Landfill Site Application
Hydrogeologic Report and Groundwater
Monitoring Plan Report of Analytical Results
May 22nd, 2002



Waste Industry Experts

Henderson Building
Suite 203
2301 W Meadowview Rd
Greensboro, NC 27407

tel: 336/323-0092
fax: 336/323-0093

www.JoyceEngineering.com

May 22, 2002

Ms. Ellen Lorscheider
Permitting Hydrogeologist
Solid Waste Section
Department of Environment and Natural Resources
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

MAY 2002

**Re: Material Recovery, LLC Brown-Field Road Proposed C&D Landfill
Site Application Hydrogeologic Report and Groundwater Monitoring Plan
Report of Analytical Results
JEI Project No. 479.01, Task 03**

Dear Ellen:

The purpose of this letter is to provide the sampling and analytical results from the background sampling event at the Brown-Field Road Proposed C&D Landfill. As proposed in our response to comments dated April 18, 2002, several background samples were taken in order to satisfy your recommendations for further site suitability investigation due to the previous land application activities on part of the site. The analytical results, field information forms, summary tables and location map for this sampling event are enclosed for your review.

On May 7, 2002, groundwater samples were taken from piezometers P-8, P-16 and P-20, a surface water sample was taken at downstream monitoring point SW-2, and a soil sample (S-1) was taken near P-8. Per your request, the groundwater and surface water samples were analyzed for NC Appendix I constituents plus nitrate and chloride. The soil sample was analyzed for the EPA 40 CFR 503, Pollutant List of metals (arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium and zinc).

Piezometer P-8 is located near the center of the field previously used for sludge disposal in the proposed northern disposal area. Piezometer P-20 is located downgradient of the same field. P-16 is located near the eastern perimeter of the proposed southern disposal area and downgradient of the sludge fields located off the property to the east. A summary of detected constituents for groundwater and surface water results is included as Table 1. Beryllium was detected just above the proposed NC 2L Drinking Water Standard of 0.002 mg/L at 0.003 mg/L in P-20. Chloride and nitrate were also detected in all of the groundwater and surface water samples. Nitrate was detected at 45 mg/L in P-20, which is above its NC 2L Drinking Water Standard of 10 mg/L. However, this concentration falls within the range of nitrate concentrations in soil and groundwater (approximately 7 to 71 mg/L) measured at this site from

Ms. Ellen Lorscheider
May 22, 2002
Page 2 of 2

1993-1996, as reported in Dr. Welby's report (included as Appendix I in the permit application). Given the soil types and climate at this site, it is our opinion that the concentration of nitrate should decrease markedly over a relatively short time period and thus will not adversely effect the groundwater or surface water monitoring at the proposed facility.

Soil sample S-1 was taken near piezometer P-8. A summary of detected constituents for soil sample S-1 is included as Table 2. Arsenic, cadmium, copper, lead, molybdenum and zinc were detected at levels well below the ceiling limits for sewage sludge defined by 40 CFR – Chapter 1 – Part 503.13.

In closing, on behalf of Material Recovery, LLC, we would like to thank you for your attention to, and assistance with this permit application. Please call us if you would like to discuss these results further.

Sincerely,
JOYCE ENGINEERING, INC.



Rachel P. Kirkman, P.G.
Project Hydrogeologist



Daniel R. Moore, P.G.
Manager of Environmental Services

C: Norbert Hector – Material Recovery, LLC
File

Enclosures

TABLE 1
SUMMARY OF DETECTED CONSTITUENTS
GROUNDWATER AND SURFACE WATER BACKGROUND SAMPLING
MATERIAL RECOVERY, LLC
BROWN-FIELD ROAD SITE

PARAMETER [NC 2L Standard]	Date	DL	QL	P-8	P-16	P-20	SW-2	Blanks
beryllium	May-02	0.0001	0.001	ND	ND	0.003	ND	ND
[0.002-proposed] chloride	May-02	0.1	0.5	2.7	1.9	24	4.7	ND
[250] nitrate	May-02	0.01	0.02	1.1	4.0	45	1.0	ND
[10]								

Notes:

1. All concentrations are in mg/L.
2. DL = Lab-specific method detection limit
3. QL = Lab-specific quantitation limit
4. ND = Not detected at or above the reporting limit
5. 2L Standard = North Carolina's groundwater quality standard established under 15A NCAC 2L, .0202.
6. Shaded values are greater than the 2L Standard.
7. P = piezometer
8. SW = surface water

TABLE 2
SUMMARY OF DETECTED CONSTITUENTS
SOIL BACKGROUND SAMPLING
MATERIAL RECOVERY, LLC
BROWN-FIELD ROAD SITE

PARAMETER [Ceiling Concentrations]	Date	DL	QL	S-1	Blanks
arsenic [75]	May-02	0.18	0.60	1.5	ND
cadmium [85]	May-02	0.02	0.06	1.3	ND
copper [4300]	May-02	0.10	0.60	17	ND
lead [840]	May-02	0.10	0.60	13	ND
molybdenum [57]	May-02	0.06	0.60	4.4	ND
zinc [7500]	May-02	1.8	1.8	35	ND

Notes:

1. All concentrations are in mg/Kg.
2. DL = Lab-specific method detection limit
3. QL = Lab-specific quantitation limit
4. ND = Not detected at or above the reporting limit
5. Ceiling Concentrations = 40 CFR - Chapter 1 - Part 503.13 ceiling pollutant limits for sewage sludge
6. Shaded values are greater than the ceiling concentrations
7. S-1 = soil sample taken near P-8

Environmental Conservation Laboratories, Inc.
10207 General Drive
Orlando, Florida 32824-8529
407 / 826-5314
Fax 407 / 850-6945
www.encolabs.com



DHRS Certification No. E83182

CASE NARRATIVE

Date: May 20, 2002
Client: Joyce Engineering
Project #: Material Recovery, LLC
Lab ID: ORL21622

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Quality Control Remarks

6010

Diminished recovery was obtained for metals copper, molybdenum, nickel and zinc in the matrix spike (MS) and duplicate (MSD). These failing recoveries are attributed to matrix interferences. Acceptable recoveries in the laboratory control sample (LCS) demonstrates the method performance criteria were met by the laboratory. Results associated with acceptable LCS results are considered valid as reported.

Other Comments

None

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

A handwritten signature in black ink, appearing to read "Matthew Foti".

Matthew Foti, Ph.D.
Laboratory Manager

Environmental Conservation Laboratories, Inc.
10207 General Drive
Orlando, Florida 32824-8529
407 / 826-5314
Fax 407 / 850-6945
www.encolabs.com



DHRS Certification No. E83182

CLIENT : Joyce Engineering
ADDRESS: 2301 West Meadowview Road
S-203
Greensboro, NC 27407

REPORT # : ORL21622
DATE SUBMITTED: May 8, 2002
DATE REPORTED : May 20, 2002

PAGE 1 OF 21

ATTENTION: Rachel Kirkman

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: 479.01.03

Material Recovery, LLC

05/07/02

#1	- P-8	@ 13:50
#2	- P-20	@ 14:10
#3	- P-16	@ 13:15
#4	- SW-2	@ 11:38
#5	- FIELD	@ 14:25
#6	- TRIP BLANK	@ 00:00
#7	- S-1	@ 12:00

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 1999). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

NOTE: Analyte values for the soil sample are reported on a dry weight basis.

PROJECT MANAGER

Marcia C. Colon

ENCO LABORATORIES

REPORT # : ORL21622

DATE REPORTED: May 20, 2002

REFERENCE : 479.01.03

PROJECT NAME : Material Recovery, LLC

PAGE 2 OF 21

RESULTS OF ANALYSIS**EPA METHOD APPENDIX I, 8260 -
APPENDIX I VOLATILE COMPOUNDS**

	<u>P-8</u>	<u>P-20</u>	<u>Units</u>
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

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EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	P-8	P-20	Units
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	% RECOV	% RECOV	LIMITS
Dibromofluoromethane	105	104	79-136
D8-Toluene	103	104	88-115
Bromofluorobenzene	100	102	72-132
Date Analyzed	05/13/02 12:30	05/13/02 12:55	

U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-8</u>	<u>P-20</u>	<u>Units</u>
Antimony Date Analyzed	6010	0.030 U 05/14/02 11:39	0.030 U 05/14/02 11:47	mg/L
Arsenic Date Analyzed	6010	0.010 U 05/14/02 11:39	0.010 U 05/14/02 11:47	mg/L
Barium Date Analyzed	6010	0.50 U 05/14/02 11:39	0.50 U 05/14/02 11:47	mg/L
Beryllium Date Analyzed	6010	0.0020 U 05/14/02 11:39	0.0030 05/14/02 11:47	mg/L
Cadmium Date Analyzed	6010	0.0010 U 05/14/02 11:39	0.0010 U 05/14/02 11:47	mg/L
Chromium Date Analyzed	6010	0.010 U 05/14/02 11:39	0.010 U 05/14/02 11:47	mg/L
Cobalt Date Analyzed	6010	0.010 U 05/14/02 11:39	0.010 U 05/14/02 11:47	mg/L
Copper Date Analyzed	6010	0.20 U 05/14/02 11:39	0.20 U 05/14/02 11:47	mg/L
Lead Date Analyzed	6010	0.010 U 05/14/02 11:39	0.010 U 05/14/02 11:47	mg/L
Nickel Date Analyzed	6010	0.050 U 05/14/02 11:39	0.050 U 05/14/02 11:47	mg/L
Selenium Date Analyzed	6010	0.020 U 05/14/02 11:39	0.020 U 05/14/02 11:47	mg/L

U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-8</u>	<u>P-20</u>	<u>Units</u>
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		05/14/02 11:39	05/14/02 11:47	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		05/14/02 11:39	05/14/02 11:47	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		05/14/02 11:39	05/14/02 11:47	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		05/14/02 11:39	05/14/02 11:47	

EPA METHOD 300 -
Anions by IC

	<u>P-8</u>	<u>P-20</u>	<u>Units</u>
Chloride	2.7	24	mg/L
Nitrite-N	0.10 U	0.10 U	mg/L
Nitrate-N	1.1	45	mg/L
Date Prepared	05/08/02 02:33	05/08/02 02:33	
Date Analyzed	05/08/02 14:45	05/08/02 16:35	

MISCELLANEOUS

	<u>METHOD</u>	<u>P-8</u>	<u>P-20</u>	<u>Units</u>
Nitrate-Nitrite-N	300.0	1.1	45	mg/L
Date Prepared		05/08/02 02:33	05/08/02 02:33	
Date Analyzed		05/08/02 14:45	05/08/02 16:35	

U = Compound was analyzed for but not detected to the level shown.

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EPA METHOD APPENDIX I, 8260 -
APPENDIX I VOLATILE COMPOUNDS

	<u>P-16</u>	<u>SW-2</u>	<u>Units</u>
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

**EPA METHOD APPENDIX I, 8260 (cont.) -
 APPENDIX I VOLATILE COMPOUNDS**

	<u>P-16</u>	<u>SW-2</u>	<u>Units</u>
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	% RECOV	% RECOV	LIMITS
Dibromofluoromethane	103	102	79-136
D8-Toluene	106	104	88-115
Bromofluorobenzene	102	101	72-132
Date Analyzed	05/13/02 13:20	05/13/02 13:45	

U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-16</u>	<u>SW-2</u>	<u>Units</u>
Antimony Date Analyzed	6010	0.030 U 05/14/02 11:56	0.030 U 05/14/02 12:04	mg/L
Arsenic Date Analyzed	6010	0.010 U 05/14/02 11:56	0.010 U 05/14/02 12:04	mg/L
Barium Date Analyzed	6010	0.50 U 05/14/02 11:56	0.50 U 05/14/02 12:04	mg/L
Beryllium Date Analyzed	6010	0.0020 U 05/14/02 11:56	0.0020 U 05/14/02 12:04	mg/L
Cadmium Date Analyzed	6010	0.0010 U 05/14/02 11:56	0.0010 U 05/14/02 12:04	mg/L
Chromium Date Analyzed	6010	0.010 U 05/14/02 11:56	0.010 U 05/14/02 12:04	mg/L
Cobalt Date Analyzed	6010	0.010 U 05/14/02 11:56	0.010 U 05/14/02 12:04	mg/L
Copper Date Analyzed	6010	0.20 U 05/14/02 11:56	0.20 U 05/14/02 12:04	mg/L
Lead Date Analyzed	6010	0.010 U 05/14/02 11:56	0.010 U 05/14/02 12:04	mg/L
Nickel Date Analyzed	6010	0.050 U 05/14/02 11:56	0.050 U 05/14/02 12:04	mg/L
Selenium Date Analyzed	6010	0.020 U 05/14/02 11:56	0.020 U 05/14/02 12:04	mg/L

U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>P-16</u>	<u>SW-2</u>	<u>Units</u>
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		05/14/02 11:56	05/14/02 12:04	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		05/14/02 11:56	05/14/02 12:04	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		05/14/02 11:56	05/14/02 12:04	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		05/14/02 11:56	05/14/02 12:04	

**EPA METHOD 300 -
Anions by IC**

	<u>P-16</u>	<u>SW-2</u>	<u>Units</u>
Chloride	1.9	4.7	mg/L
Nitrite-N	0.10 U	0.10 U	mg/L
Nitrate-N	4.0	1.0	mg/L
Date Prepared	05/08/02 02:33	05/08/02 02:33	
Date Analyzed	05/08/02 15:58	05/08/02 15:22	

MISCELLANEOUS

	<u>METHOD</u>	<u>P-16</u>	<u>SW-2</u>	<u>Units</u>
Nitrate-Nitrite-N	300.0	4.0	1.0	mg/L
Date Prepared		05/08/02 02:33	05/08/02 02:33	
Date Analyzed		05/08/02 15:58	05/08/02 15:22	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS**EPA METHOD APPENDIX I, 8260 -
APPENDIX I VOLATILE COMPOUNDS**

	<u>FIELD</u>	<u>TRIP BLANK</u>	<u>Units</u>
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

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EPA METHOD APPENDIX I, 8260 (cont.) -

APPENDIX I VOLATILE COMPOUNDS

	<u>FIELD</u>	<u>TRIP BLANK</u>	<u>Units</u>
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L

Surrogate:

	<u>% RECOV</u>	<u>% RECOV</u>	<u>LIMITS</u>
Dibromofluoromethane	104	102	79-136
D8-Toluene	107	105	88-115
Bromofluorobenzene	102	102	72-132
Date Analyzed	05/13/02 14:10	05/13/02 14:35	

U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>FIELD</u>	<u>TRIP BLANK</u>	<u>Units</u>
Antimony Date Analyzed	6010	0.030 U 05/14/02 12:29	NR	mg/L
Arsenic Date Analyzed	6010	0.010 U 05/14/02 12:29	NR	mg/L
Barium Date Analyzed	6010	0.50 U 05/14/02 12:29	NR	mg/L
Beryllium Date Analyzed	6010	0.0020 U 05/14/02 12:29	NR	mg/L
Cadmium Date Analyzed	6010	0.0010 U 05/14/02 12:29	NR	mg/L
Chromium Date Analyzed	6010	0.010 U 05/14/02 12:29	NR	mg/L
Cobalt Date Analyzed	6010	0.010 U 05/14/02 12:29	NR	mg/L
Copper Date Analyzed	6010	0.20 U 05/14/02 12:29	NR	mg/L
Lead Date Analyzed	6010	0.010 U 05/14/02 12:29	NR	mg/L
Mercury Date Analyzed	7470	0.00050 U 05/10/02	NR	mg/L
Molybdenum Date Analyzed	6010	0.010 U 05/14/02 12:29	NR	mg/L

NR = Analysis not requested for this sample.

U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>FIELD</u>	<u>TRIP BLANK</u>	<u>Units</u>
Nickel	6010	0.050 U	NR	mg/L
Date Analyzed		05/14/02 12:29		
Selenium	6010	0.020 U	NR	mg/L
Date Analyzed		05/14/02 12:29		
Silver	6010	0.010 U	NR	mg/L
Date Analyzed		05/14/02 12:29		
Thallium	6010	0.010 U	NR	mg/L
Date Analyzed		05/14/02 12:29		
Vanadium	6010	0.040 U	NR	mg/L
Date Analyzed		05/14/02 12:29		
Zinc	6010	0.050 U	NR	mg/L
Date Analyzed		05/14/02 12:29		

**EPA METHOD 300 -
Anions by IC**

	<u>FIELD</u>	<u>TRIP BLANK</u>	<u>Units</u>
Chloride	0.50 U	NR	mg/L
Nitrite-N	0.10 U	NR	mg/L
Nitrate-N	0.10 U	NR	mg/L
Date Prepared	05/08/02 02:33		
Date Analyzed	05/08/02 17:12		

<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>FIELD</u>	<u>TRIP BLANK</u>	<u>Units</u>
Nitrate-Nitrite-N	300.0	0.10 U	NR	mg/L
Date Prepared		05/08/02 02:33		
Date Analyzed		05/08/02 17:12		

NR = Analysis not requested for this sample.
 U = Compound was analyzed for but not detected to the level shown.

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<u>TOTAL METALS</u>	<u>METHOD</u>	<u>S-1</u>	<u>LAB BLANK</u>	<u>Units</u>
Arsenic	6010	1.5	0.50 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Cadmium	6010	1.3	1.0 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Copper	6010	17	5.0 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Lead	6010	13	1.0 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Mercury	7471	0.040 U	0.030 U	mg/Kg
Date Analyzed		05/13/02	05/13/02	
Molybdenum	6010	4.4	0.50 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Nickel	6010	6.0 U	5.0 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Selenium	6010	2.0 U	2.0 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
Zinc	6010	35	5.0 U	mg/Kg
Date Analyzed		05/13/02 18:50	05/13/02 16:25	
<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>S-1</u>	<u>LAB BLANK</u>	<u>Units</u>
Percent Solids	SM2540G	82	NA	%
Date Prepared		05/09/02 10:15		
Date Analyzed		05/10/02 10:44		

NA = Not applicable

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS**EPA METHOD APPENDIX I, 8260 -**
APPENDIX I VOLATILE COMPOUNDS

	<u>LAB BLANK</u>	<u>Units</u>
Chloromethane	10 U	ug/L
Vinyl Chloride	10 U	ug/L
Bromomethane	10 U	ug/L
Chloroethane	10 U	ug/L
Trichlorofluoromethane	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	ug/L
Acetone	100 U	ug/L
Iodomethane	10 U	ug/L
Carbon Disulfide	100 U	ug/L
Methylene Chloride	10 U	ug/L
Acrylonitrile	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	ug/L
Vinyl Acetate	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	ug/L
2-Butanone	100 U	ug/L
Bromochloromethane	5.0 U	ug/L
Chloroform	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	ug/L
Carbon tetrachloride	10 U	ug/L
Benzene	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	ug/L
Trichloroethene	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	ug/L
Dibromomethane	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL21622
 DATE REPORTED: May 20, 2002
 REFERENCE : 479.01.03
 PROJECT NAME : Material Recovery, LLC

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RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) -
APPENDIX I VOLATILE COMPOUNDS

	<u>LAB BLANK</u>	<u>Units</u>
Bromodichloromethane	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	ug/L
4-Methyl-2-Pentanone	100 U	ug/L
Toluene	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	ug/L
Tetrachloroethene	5.0 U	ug/L
2-Hexanone	50 U	ug/L
Dibromochloromethane	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	ug/L
Chlorobenzene	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	ug/L
Ethylbenzene	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	ug/L
o-Xylene	5.0 U	ug/L
Styrene	10 U	ug/L
Bromoform	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	ug/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Dibromofluoromethane	98	79-136
D8-Toluene	104	88-115
Bromofluorobenzene	96	72-132
Date Analyzed	05/12/02 09:06	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>LAB BLANK</u>	<u>Units</u>
Antimony Date Analyzed	6010	0.030 U 05/14/02 10:48	mg/L
Arsenic Date Analyzed	6010	0.010 U 05/14/02 10:48	mg/L
Barium Date Analyzed	6010	0.50 U 05/14/02 10:48	mg/L
Beryllium Date Analyzed	6010	0.0020 U 05/14/02 10:48	mg/L
Cadmium Date Analyzed	6010	0.0010 U 05/14/02 10:48	mg/L
Chromium Date Analyzed	6010	0.010 U 05/14/02 10:48	mg/L
Cobalt Date Analyzed	6010	0.010 U 05/14/02 10:48	mg/L
Copper Date Analyzed	6010	0.20 U 05/14/02 10:48	mg/L
Lead Date Analyzed	6010	0.010 U 05/14/02 10:48	mg/L
Mercury Date Analyzed	7470	0.00050 U 05/10/02	mg/L
Molybdenum Date Analyzed	6010	0.010 U 05/14/02 10:48	mg/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL21622

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PROJECT NAME : Material Recovery, LLC

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RESULTS OF ANALYSIS

<u>TOTAL METALS</u>	<u>METHOD</u>	<u>LAB BLANK</u>	<u>Units</u>
Nickel	6010	0.050 U	mg/L
Date Analyzed		05/14/02 10:48	
Selenium	6010	0.020 U	mg/L
Date Analyzed		05/14/02 10:48	
Silver	6010	0.010 U	mg/L
Date Analyzed		05/14/02 10:48	
Thallium	6010	0.010 U	mg/L
Date Analyzed		05/14/02 10:48	
Vanadium	6010	0.040 U	mg/L
Date Analyzed		05/14/02 10:48	
Zinc	6010	0.050 U	mg/L
Date Analyzed		05/14/02 10:48	

**EPA METHOD 300 -
Anions by IC**

	<u>LAB BLANK</u>	<u>Units</u>
chloride	0.50 U	mg/L
Nitrite-N	0.10 U	mg/L
Nitrate-N	0.10 U	mg/L
Date Prepared	05/08/02 02:33	
Date Analyzed	05/08/02 03:09	

<u>MISCELLANEOUS</u>	<u>METHOD</u>	<u>LAB BLANK</u>	<u>Units</u>
Nitrate-Nitrite-N	300.0	0.10 U	mg/L
Date Prepared		05/08/02 02:33	
Date Analyzed		05/08/02 03:09	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

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LABORATORY CERTIFICATIONS

Laboratory Certification: FDEP:960038 NELAC:E83182

All analyses reported with this project were analyzed by the facility indicated unless identified below.

<u>PARAMETER</u>	<u>LAB CERT #'s</u>
Appx I Volatile Organics, SW-846 Method	8260FDEP:990083 NELAC:E87610
Silver,	FDEP:990083 NELAC:E87610
Arsenic,	FDEP:990083 NELAC:E87610
Arsenic,	FDEP:990083 NELAC:E87610
Barium,	FDEP:990083 NELAC:E87610
Beryllium,	FDEP:990083 NELAC:E87610
Cadmium,	FDEP:990083 NELAC:E87610
Cadmium,	FDEP:990083 NELAC:E87610
Cobalt,	FDEP:990083 NELAC:E87610
Chromium, Total,	FDEP:990083 NELAC:E87610
Copper,	FDEP:990083 NELAC:E87610
Copper,	FDEP:990083 NELAC:E87610
Molybdenum,	FDEP:990083 NELAC:E87610
Nickel,	FDEP:990083 NELAC:E87610
Nickel,	FDEP:990083 NELAC:E87610
Lead,	FDEP:990083 NELAC:E87610
Lead,	FDEP:990083 NELAC:E87610
Antimony,	FDEP:990083 NELAC:E87610
Selenium,	FDEP:990083 NELAC:E87610
Selenium,	FDEP:990083 NELAC:E87610
Thallium,	FDEP:990083 NELAC:E87610
Vanadium,	FDEP:990083 NELAC:E87610
Zinc,	FDEP:990083 NELAC:E87610
Zinc,	FDEP:990083 NELAC:E87610

ENCO LABORATORIES

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PROJECT NAME : Material Recovery, LLC

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QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY MS/MSD/LCS</u>	<u>ACCEPT LIMITS</u>	<u>% RPD MS/MSD</u>	<u>ACCEPT LIMITS</u>
<u>EPA Method APPENDIX I, 8260</u>				
1,1-Dichloroethene	108/101/109	36-177	7	30
Benzene	127/105/108	53-150	19	23
Trichloroethene	100/ 99/101	64-124	1	25
Toluene	110/106/102	40-161	4	23
Chlorobenzene	108/106/104	44-128	2	22
<u>TOTAL METALS</u>				
Antimony, 6010	103/100/ 94	38-138	3	30
Arsenic, 6010	101/ 98/ 91	64-126	3	12
Barium, 6010	100/ 96/ 92	74-119	4	11
Beryllium, 6010	101/ 98/ 93	70-131	3	21
Cadmium, 6010	94/ 92/ 87	68-121	2	12
Chromium, 6010	98/ 94/ 90	73-120	4	17
Cobalt, 6010	95/ 92/ 88	76-120	3	17
Copper, 6010	97/ 94/ 89	75-123	3	16
Lead, 6010	99/ 96/ 90	68-126	3	19
Mercury, 7470	101/102/101	70-136	<1	12
Molybdenum, 6010	97/ 94/ 90	72-118	3	12
Nickel, 6010	94/ 91/ 86	64-126	3	12
Selenium, 6010	103/100/ 93	65-129	3	10
Silver, 6010	100/ 99/ 88	69-121	1	12
Thallium, 6010	97/ 98/ 88	67-135	1	13
Vanadium, 6010	96/ 93/ 89	71-130	3	16
Zinc, 6010	94/ 92/ 88	63-131	2	24

Environmental Conservation Laboratories Comprehensive QA Plan #960038

- < = Less Than
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- LCS = Laboratory Control Standard
- RPD = Relative Percent Difference

ENCO LABORATORIES

REPORT # : ORL21622
 DATE REPORTED: May 20, 2002
 REFERENCE : 479.01.03
 PROJECT NAME : Material Recovery, LLC

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QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY MS/MSD/LCS</u>	<u>ACCEPT LIMITS</u>	<u>% RPD MS/MSD</u>	<u>ACCEPT LIMITS</u>
<u>EPA Method 300</u>				
Chloride	99/ 94/ 95	51-149	5	26
Nitrite-N	112/101/105	48-161	10	22
Nitrate-N	92/ 89/ 94	40-152	3	23
<u>TOTAL METALS (soil)</u>				
Arsenic, 6010	73/ 73/104	53-153	<1	22
Cadmium, 6010	79/ 80/111	59-130	1	24
Copper, 6010	71*/ 69*/ 99	78-118	3	12
Lead, 6010	75/ 76/106	63-128	1	26
Mercury, 7471	100/ 99/101	69-121	1	18
Molybdenum, 6010	73*/ 74*/107	59-126	1	21
Nickel, 6010	73*/ 73*/106	78-111	<1	14
Selenium, 6010	72/ 73/103	60-121	1	14
Zinc, 6010	70*/ 68*/ 98	76-125	3	19

Environmental Conservation Laboratories Comprehensive QA Plan #960038

- * = Recovery fails low.
- < = Less Than
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- LCS = Laboratory Control Standard
- RPD = Relative Percent Difference

Environmental Conservation Laboratories, Inc.
Login Sample Disposition Form

Client Name: Joyce Eng. Login #: ORL211622
 Proj. Name: 479.02.02, Material Recovery, LLC Brownfield Rd. Date Rec'd: 5/8/02 Logged By: JH

Samples received via:
 Client Drop-off Lab Pickup Courier Fed Ex
LIST AND ATTACH BILLS

Container Descriptions and Preservation
 Indicate presv. type and # of each

Containers	None	HCl	HNO ₃	H ₂ SO ₄	NaOH	Other
1 L Glass						
1 L Plastic						
500 ml Plastic						
250 ml Plastic	5		5			
250 ml Glass						
60 ml Soil Vial	2					
40 ml Vial		12				
Other						

Receiving Temperatures
 Total Number of Coolers: 1

Cooler Number	Receipt Temperature		
<u>C-331</u>	<u>0.9°C</u>	<u>2-6°</u>	<u>On Ice</u> No Ice
		2-6°	On Ice No Ice
		2-6°	On Ice No Ice
		2-6°	On Ice No Ice
		2-6°	On Ice No Ice
		2-6°	On Ice No Ice

Provide details of "No Ice" in Notification/Comments.

Sample Receipt Disposition

- Were sample containers received intact? Yes No
- Were sample containers properly preserved? Yes No
- Were proper containers used for analyses requested? Yes No
- Do sample labels match Chain-of-Custody record? Yes No
- Were samples received under custody seal? Yes No
- If received under custody seal, were all seals intact? Yes No N/A
- Were volatile containers preserved (check labels only)? Yes No N/A
- Were aqueous volatile samples headspace-free? Yes No N/A
- Were aqueous samples checked for residual chlorine? * Yes No N/A

Any discrepancies must be noted below and approved by lab management.

Client Notification

- Does client need to be notified? Yes No
- Who notified client? _____
- Who was notified? _____
- When? _____ by: Phone Fax Mail
- Client requests following action(s) be taken:
 - _____ Continue analysis and report disposition in final report.
 - _____ Cancel affected analyses only (identify in comments below).
 - _____ Cancel all analyses.
 - _____ Other (explain in comments below).

Comments * All samples < 2 for residual chlorine
Temp. @ 0.9°C.

Project Status

- _____ Samples received into lab.
 _____ Samples rejected

Kin Cuy APPROVED BY 5/8/02 DATE

QSRF # P17000



ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
 Jacksonville, Florida 32216-6069
 Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
 Orlando, Florida 32824-8529
 Ph. (407) 826-5314 • Fax (407) 850-6945

1015 Passport Way
 Cary, North Carolina 27513
 Ph. (919) 677-1669 • Fax (919) 677-9846

CHAIN OF CUSTODY RECORD

ENCO CompQAP No.: 960038G/0

PROJECT REFERENCE		PROJECT NO.		P.O. NUMBER		MATRIX TYPE										REQUIRED ANALYSIS		PAGE 1 OF 1				
Material Recovery LLC, Decaturfield Rd 479, 03-08		PHONE 334-323-0093		FAX 334-323-0093												<input checked="" type="checkbox"/> STANDARD REPORT DELIVERY <input type="checkbox"/> EXPEDITED REPORT DELIVERY (surcharge)						
Client Name: <u>Joyce Engineering, Inc.</u>		Client Project Manager: <u>Rachel Kirkman</u>		Client Address (City, State, Zip): <u>2301 W. Mendocino View Rd Suite 203 Greensboro NC 27401</u>												Date Due: _____						
STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID (oil, solvent, etc.)	AIR	SLUDGE	OTHER Lab Water	Nitrate	Chloride	Mercury	Molybdenum	As, Cd, Cu, Pb, Ni	Ne App 1 uars by 860	Ne App 1 Metals	
1	5-7-02	13:50	X		P-8	X									X	X				X	X	Ne App 1 + Nitrate + Chloride
2	5-7-02	14:10	X		P-20	X									X	X				X	X	"
3	5-7-02	13:15	X		P-16	X									X	X				X	X	"
4	5-7-02	11:38	X		SW-2	X									X	X				X	X	Ne App 1 + Nitrate / Chloride Mercury + Molybdenum
5	5-7-02	14:23	X		Field										X	X				X	X	Ne App 1 uars by 860 QSRF
6	5-7-02	-	X		Trip										X	X				X	X	As, Cd, Cu, Hg, Pb, Mo, Ni, Se, + Zn
7	5-7-02	18:00			S-1																	
8																						
9																						
10																						
11																						
12																						
13																						
14																						
SAMPLE KIT PREPARED BY: <u>DAE</u>		DATE: <u>4/19/02</u>		TIME: <u>14:15</u>		RELINQUISHED BY: (SIGNATURE) <u>Dana D Eganman</u>		DATE: <u>4/19/02</u>		TIME: <u>14:15</u>		RECEIVED BY: (SIGNATURE) <u>Ken Sienmare</u>		DATE: <u>4/19/02</u>		TIME: <u>10:30</u>						
RELINQUISHED BY: (SIGNATURE) <u>Ken Sienmare</u>		DATE: <u>5/18/02</u>		TIME: <u>18:00</u>		RECEIVED BY: (SIGNATURE) _____		DATE: _____		TIME: _____		RELINQUISHED BY: (SIGNATURE) _____		DATE: _____		TIME: _____						
RECEIVED FOR LABORATORY BY: (SIGNATURE) <u>J. Bloor</u>		DATE: <u>5/18/02</u>		TIME: <u>10:00</u>		CUSTODY INTACT: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		ENCO LOG NO. <u>ORL-21022</u>		REMARKS		RECEIVED BY: (SIGNATURE) _____		DATE: _____		TIME: _____						

2.0 **SAMPLE HOLDING TIMES**

Holding times for extraction *and/or* analysis were met for each analytical method.

3.0 **LABORATORY QUALITY CONTROL REVIEW**

Laboratory analyzed at least one internal blank for each method, where applicable.

Surrogate recoveries are provided for each analytical method, where applicable.

Surrogate recoveries for each method are within the acceptable limits.

MS/MSD/LCS data results are provided for each analytical method.

MS/MSD/LCS recoveries for each method are within the acceptable limits.

MS/MSD for copper, molybdenum, nickel and zinc failed low as noted in the narrative. LCS were all within acceptable limits.

4.0 **ANALYTE LISTS/METHODS**

The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Proper EPA SW-846 analytical methods were used for analysis.

5.0 **DATA REPORTING**

All analytical reporting associated with the event was performed by the contracted lab.

See page 19 of the report

Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been 'flagged' with a 'B' where detected in other samples.

No blank detections.



JOYCE ENGINEERING, INC.
QUALITY ASSURANCE
LABORATORY DATA REVIEW

Project Name: Material Recovery, LLC Brown-Field Road C&D Landfill

Project Number: 479.01.03

Sampling Event Date: 5-7-02

Review Date: 5-21-02 Initials: RK

Review Date: _____ Initials: _____

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

COMPLIANCE ANALYTE LIST(S)
(check all that apply)

NC

_____ Closed Facility/C&D List

X Appendix I (for gw and sw) plus nitrate and chloride

_____ Appendix I + Detects

_____ Appendix II

_____ Subtitle D Leachate List

Other: soil sample analyzed for EPA sludge metals

1.0 CHAIN OF CUSTODY (COC) REVIEW

X COC was properly signed by all parties.

X Correct project name and number are on the form.

X Sample receipt condition at laboratory (temperature, bottleware condition, etc.) was acceptable.

X Each sample and blank submitted for analysis appears in the data report.

X _____ It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10). Those that have been diluted are listed below.

X _____ The report provides the reporting limit for each constituent.

X _____ The results were reported at or below their proper reporting limits (e.g. NC Solid Waste Section approved PQLs). Those that are not reported correctly are listed below (by constituent) with the proper reporting limit listed beside them:

No reporting limits specified for nitrate, chloride or molybdenum

X _____ The following organic constituents were reported above their respective reporting limits in samples or field/equipment/trip blanks (by constituent- *excluding leachate data*). List whether or not the concentrations are blank-qualified:

No organic constituents detected

X _____ The following inorganic and organic constituents were reported above their respective NC 2L Drinking Water Standards in samples or field/equipment/trip blanks (by constituent - *excluding leachate data*):

Nitrate in P-20 was detected at 45 mg/L (2L = 10 mg/L)
Beryllium in P-20 was detected at 3 ppb (proposed NC 2L = 2 ppb)

X _____ Other report issues:

None

Revised 11/07/01

DATE: 5-7-02



GROUND WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Task No.: 479.01.03

Well ID: P-8 Sampler(s): K. Sizemore

Well Location: Middle of field

Well Diameter: 2 inches
Initial Depth to Water (DTW): 34.65 feet
Depth to Bottom (DTB): 37.00 feet
Water Column Thickness (WCT): 2.35 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 0.38 gallons
For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 1.14 gallons

Actual Amount Purged/Bailed : 1.14 gallons

Purged with: Disposable Bailor

Sampled with: Disposable Bailor

Depth to Water before Sampling : 34.65 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	10:25	18.1	5.57	36.8	386	KS
0.38	10:28	17.5	4.76	40.0	688	KS
0.76	10:31	17.1	4.70	41.2	7100	KS
1.14	10:34	17.3	4.77	42.1	620	KS
Before Sampling	13:50	24.1	5.12	32.4	231	KS

Comments (weather conditions, odor, color, silt, etc.): _____

Soil sample was obtained near P-8 @ 13:00

Signature: Ken Sizemore Date: 5-7-02

QA/QC Sign Off: _____ Date: _____

DATE: 5-7-02



GROUND WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Task No.: 479.01.03

Well ID: P-16 Sampler(s): K. Sizemore

Well Location: _____

Well Diameter: 2 inches
Initial Depth to Water (DTW): 11.64 feet
Depth to Bottom (DTB): 21.50 feet
Water Column Thickness (WCT): 9.86 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.6 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.8 gallons

Actual Amount Purged/Bailed: 5.0 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 11.64 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	09:53	17.6	5.23	130.2	4.07	KS
1.6	09:56	15.8	4.94	142.3	>1000	KS
3.2	10:00	15.3	4.95	145.2	>1000	KS
4.8	10:05	15.8	4.92	147.0	>1000	KS
Before Sampling	13:13	21.0	5.16	137.6	77.1	KS

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny = 75°

Signature: Ken Sizemore Date: 5-7-02

QA/QC Sign Off: _____ Date: _____

DATE: 5-7-02



GROUND WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Task No.: 479.01.03

Well ID: P-20 Sampler(s): K. Sizemore

Well Location: _____

Well Diameter: 2 inches
Initial Depth to Water (DTW): 17.00 feet
Depth to Bottom (DTB): 25.00 feet
Water Column Thickness (WCT): 8.00 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.3 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 3.9 gallons

Actual Amount Purged/Bailed : 5.0 gallons

Purged with: Disposable Bailor

Sampled with: Disposable Bailor

Depth to Water before Sampling : 17.00 feet

Gallons	Time	Temp(°C)	pH	Cond. (mho)	Turb.(ntu)	Initials
0	10:52	17.2	4.93	313	265	KS
1.3	10:55	15.6	4.80	430	>1000	KS
2.6	10:59	15.1	4.85	447	>1000	KS
3.9	11:02	14.9	4.81	466	>1000	KS
Before Sampling	14:10	20.7	5.04	446	545	KS

Comments (weather conditions, odor, color, silt, etc.): _____

Sunny & Hot = 80°

Samples were taken before parameters

Field BKC @ 14:25

Signature: Ken Sizemore Date: 5-7-02

QA/QC Sign Off: _____ Date: _____

DATE: 5-7-02



SURFACE WATER MONITORING LOG

Project Name: Material Recovery, LLC Project/Task No.: 479.01.03

Surface Point ID: SW-2 Sampler(s): K. Sizemore

Location: _____

Field Parameters:

Time of Sampling: 11:38

pH: 6.25

Temperature: 20.1 (°C)

Conductivity: 110.2 (mV)

Turbidity: 10.6 (ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.): _____

Sunny + Hot 80°

Sketch of Sample Location (include flow direction, drainage pathways, etc.):

Signature: Ken Sizemore Date: 5-7-02

QA/QC Sign Off: _____ Date: _____

North Carolina
Department of Environment and Natural
Resources



Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director

March 15, 2002

Mr. Chris Roof, General Manager
Material Recovery, LLC
421 Raleigh View Road
Raleigh, North Carolina 27610

Subject: Completeness review letter for the proposed Brownfield Road C&D
Landfill, Raleigh, Wake County, North Carolina.

Dear Mr. Roof:

The Solid Waste Section (Section) of the Division of Waste Management provides this letter to address items and issues that need to be addressed by your consultant, Joyce Engineering, and responses provided back to the Section for the Site Suitability review process to continue. The following list of items/issues need to be submitted to the Section:

1. Provide letter of concurrence from Division of Cultural Resources (DCR) that address the information provide to the DCR from Joyce Engineering sub-consultant that provided a historic account of the proposed site and that no significant resources exist at the site or will not be disturbed.
2. Provide letter of concurrence from the U.S. Army Corps of Engineers (USACE) that address the information provide to the USACE from Joyce Engineering's sub-consultant that provided a wetlands survey of the proposed site and that no wetlands will be impacted or that if wetlands are to be impacted that approvals from the USACE are granted to disturbed portions of the wetland areas delineated.
3. Provide a copy of the wetlands delineation map for the site. The map was not in Appendix 6 of the site suitability application.
4. Since two distinct tracts of property are being shown on site maps with a property line dividing said tracts, a 200' buffer from said property line will be used for the north and south disposal areas, unless a new deed is being prepared to incorporate both properties into one. This issue can be resolved during the construction application review process.

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-733-4996 \ FAX: 919-715-3605 \ Internet: www.enr.state.nc.us

Mr. Roof
Page 2
March 15, 2002

5. Erosion and sedimentation approval for this site is under the jurisdiction of Wake County. Provide a copy of the approval letter addressing the E&S plan for the site upon receipt from Wake County. This issue can be resolved during the construction application review process.
6. Will a NPDES permit be needed from the Div. Of Water Quality (DWQ) for the disturbance of five or more acres during initial construction. Also will a NPDES permit be required for future operations at the site based on the design of the E&S devices at the site; if so provide the appropriate approvals from DWQ. This issue can be resolved during the construction application review process.

Attached with this letter is a review letter dated 13 March 2002 from the Section project hydrogeologist, that was forwarded to Joyce Engineering via fax on 13 March 2002.

Once the issues and items from this letter and the letter dated 13 March 2002 are presented to the Section for review; a future determination will be made on the suitability of the site. The comments and items requested are intended to expedite the review of the application. The Solid Waste Section reserves the right to request any additional information during and following the technical review process of the site suitability review and construction application review.

If you have any questions, or would like to schedule a meeting to discuss this letter, please contact me at (919)733-0692, Ext. 344.

Sincerely,



Jim Barber
Eastern Area Engineer
Permitting Branch
Solid Waste Section

cc: Jim Coffey
Mark Fry
Jim Barber
Robert Hearn
Shawn Ferro
✓ Raleigh Central File: Wake County

North Carolina
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director



March 13, 2002

Ms. Rachel Kirkman
Joyce Engineering
Suite 203
2301 W. Meadowview Road
Greensboro, NC 27407

Subject: Material Recovery LLC C&D Landfill, Wake County
Site Suitability Application Hydrogeological Review

Dear Rachel,

I have reviewed the application for site suitability for the proposed landfill. The materials which were reviewed for this letter includes the *Volume One Site Application Section II Hydrogeologic Report and Groundwater Monitoring Plan* dated December 2002. This review is according to and is referenced to *the 15A NCAC 13B Solid Waste Management Rules*. I have the following comments regarding site suitability.

Because of the potential for groundwater contamination of the site by previous land uses, waste water treatment sludge application, it is necessary for groundwater and surface water quality testing be performed in the area within compliance boundaries before site suitability.

Auger refusal should be used to determine the top of rock. In the two landfill footprints, disposal area 1 and disposal area 2, top of rock is not indicated correctly on cross-sections and on maps. If the rock outcrops were in place they should also be used to develop the top of rock surface. Please make corrections to maps and to the text in regard to rock (see page 9 and page 11).

The diabase dikes, which were located on site with the use of a geophysical survey, need to be better characterized. Of particular concern is this highly fractured area next to the dike, and possible groundwater flowing through it. None of the test pits that were excavated on the site within the footprint were excavated to a depth of 4 feet or more below proposed base grade. Core 4 did locate diabase at a depth of 7 feet below base grade. More information is needed regarding exactly how close to base grade the dikes are, if water is in the fracture system along the dike, how the hydraulic conductivity etc. would differ in this dike and fracture area versus the granite bedrock.

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The geophysical survey was not run in the area between the cells and in the buffer zones. Interpretation of where the dikes are in these areas, as well as below the footprint, is needed for groundwater monitoring purposes.

It is not indicated why certain conclusions were reached, (journal reference, inference from site data, etc.). Two examples of this are as follows, from page 10, "fracture zones are limited in their horizontal/lateral extent, and are often characterized to be about 1/10 of the thickness of the dike..", and from page 12, "In areas where diabase dikes are in contact with the granite, the fracture intensity is predicted to be much greater..".

What is the reference for the regional scale preferential flow paths from page 19?

Corrections to text:

Table 4 and Table 5 - Depth to rock needs to be consistent with auger refusal. If another method was used (ex. air rotary 'clatter') please indicate this.

Table 10 values for the 1990 to 1996 precipitation period actually show that period as drier than the 52 year average. This needs to be verified and the text on page 16 corrected if needed. If this was a drier period, will the seasonal high be affected?

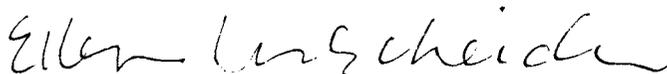
Tables 11 - Test well 40 – correct groundwater elevation

Page 18 – Reference was made to Section 3.2.1.1 which could not be found.

I have not started the review of the *Volume Two-Construction Plan Application*, for a Permit to Construct, which was received December 31, 2001. Corrections and additions to that application can be made after a letter of Site Suitability is issued. Water elevation readings should continue to be made in this area to supplement the Permit to Construct application. Base grade elevation changes will need to be made to all pertinent maps.

Please contact me regarding questions or to schedule a meeting to discuss this letter. I can be contacted at 919-733-0692 extension 345, or by email at Ellen.Lorscheider@ncmail.net

Sincerely,



Ellen Lorscheider
Permitting Hydrogeologist
Solid Waste Section

Cc: Chris Roof, Materials Recovery, LLC
Jim Coffey, Solid Waste Section
Jim Barber, Solid Waste Section

Book

Wake County Board of Commissioners

Feb. 5th, 2002



Board of Commissioners
P.O. Box 550 • Raleigh, NC 27602

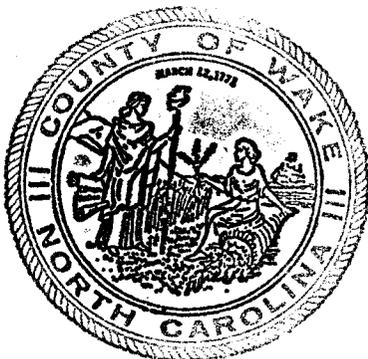
TEL 919 856 6160
FAX 919 856 5699

LINDA D. COLEMAN, CHAIRMAN
HERBERT H. COUNCIL, VICE-CHAIRMAN
KENNETH M. GARDNER
VERNON MALONE
BETTY O. MANGUM
BETTY LOU WARD
MICHAEL A. WEEKS



I, Gwendolyn I. Reynolds, Clerk to the Wake County Board of Commissioners, do hereby certify that the attached pages are true and accurate copies of the following:

1. Excerpt of minutes from the March 12, 2001, meeting of the Wake County Board of Commissioners
2. Pages 1-19 from the agenda package from the March 12, 2001, meeting provided to the Wake County Board of Commissioners relating to the *Application for Construction and Demolition Debris (C&D) Landfill Franchise for C&D Landfill Modified by Expansion*, of Material Recovery, LLC, said landfill to be located on Brownfield Road (SR 2553), Wake County, North Carolina.
3. Excerpt of the minutes from the April 2, 2001, meeting of the Wake County Board of Commissioners.
4. Excerpt of minutes from the April 16, 2001, meeting of the Wake County Board of Commissioners.
5. Excerpt of minutes from the February 4, 2002, meeting of the Wake County Board of Commissioners.



Gwendolyn I. Reynolds
Gwendolyn I. Reynolds
Clerk to the Board of Commissioners

February 5, 2002
Date



Board of Commissioners

P.O. Box 550 • Raleigh, NC 27602

TEL 919 856 6160
FAX 919 856 5699

LINDA D. COLEMAN, CHAIRMAN
HERBERT H. COUNCIL, VICE-CHAIRMAN
KENNETH M. GARDNER
VERNON MALONE
BETTY O. MANGUM
BETTY LOU WARD
MICHAEL A. WEEKS



I, Gwendolyn I. Reynolds, Clerk to the Wake County Board of Commissioners, do hereby certify that the attached pages are true and accurate copies of the following:

1. Excerpt of minutes from the February 4, 2002, meeting of the Wake County Board of Commissioners.



Gwendolyn I. Reynolds
Gwendolyn I. Reynolds
Clerk to the Board of Commissioners

February 5, 2002
Date

APPROVAL OF GRANTING LANDFILL FRANCHISE TO
MATERIAL RECOVERY, LLC

Material Recovery, LLC filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR 2553. At the March 12, 2001 Board of Commissioners meeting, the Board discussed the issue and tabled the request until the April 2, 2001 Board meeting. During the April 2, 2001 meeting the Board received comments from both the proponents and opponents and postponed consideration until April 16, 2001. At the April 16, 2001, meeting the Board passed an ordinance granting the franchise request.

State law requires that all ordinances granting franchises be “passed at two regular meetings of the board of commissioners.” In order to complete the process this matter now needs to be considered for its second approval.

Upon motion of Commissioner Ward, seconded by Commissioner Council, the Board unanimously approved the adoption of a franchise ordinance granting a landfill franchise to Material Recovery, LLC for operation of a construction and demolition debris landfill in Wake County.

ORDINANCE GRANTING FRANCHISE
TO MATERIAL RECOVERY, LLC, FOR OPERATION
OF CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL

WHEREAS, Material Recovery, LLC has applied for a franchise for the operation of a construction and demolition debris landfill in Wake County; and

WHEREAS, the application filed by Material Recovery, LLC, contains all of the information required by the Wake County Franchise Ordinance for construction debris (C&D) landfills; and

WHEREAS, the applicants have received a special use permit from the Wake County Board of Adjustment for operation of a C&D landfill on the site identified in the application.

NOW, THEREFORE, BE IT ORDAINED THAT, Material Recovery, LLC is hereby granted a franchise to operate a construction and demolition debris landfill in Wake County in accordance with the representation made on the application submitted by Material Recovery, LLC, a copy of which is maintained in the permanent files of the Clerk to the Board. The franchise shall be in effect for a period of 20 years.

This the 4th day of February 2001.

SU-1892-00 Special Use Permit - Proposed Construction and Demolition Landfill



SPECIAL USE PERMIT PETITION

File No.

(Rev. #)

Complete with required information (write "n/a" if information not applicable to proposal).

Note: The Wake County Zoning Ordinance and Land Use Plan may be viewed from the Planning Department's web site: www.co.wake.nc.us/planning.

Type of Special Use (be as specific as possible and cite Zoning Ordinance provision listing use as permitted special use)

Construction and Demolition Landfill as part of zoning ordinance section 1-1-13

Modification of previously issued Special Use Permit?: () Yes (X) No

Property

Parcel Identification Number: 174104732924, 1741627630

Address: 2600 Brownfield Road/2820 Brownfield Road

Location: NE and NW side of Brownfield Road (SR 2553) at/between (north, east, south, west) (street)

Old Beucom Road (SR 2542) and Battlebridge Road (street)

Total site area: 9,113,187.6 SF/209.21 AC sf

Zoning District(s) and land area within each: Zoning R-30

Conditions of any Conditional Use Zoning Districts:

Present land use(s): Farmland

Property Owner #174104627630

Name: Ashley Turner Enterprises #174104732924 / William Ashley and Debra C. Turner

Address: P.O. Box 160 2256 Shotwell Road

City: Clayton State: NC Zip Code: 27520

E-mail Address: FAX:

Telephone Number: Ashley Turner Enterprises (919) 550-8888

Petitioner (person to whom all correspondence will be sent)

Name: Material Recovery, LLC

Address: 421 Raleigh View Road

City: Raleigh State: NC Zip Code: 27610

E-mail Address: fnhector@dhgc.com FAX: (919) 835-3633

Telephone Number: (919) 835-3655 Relationship to Owner: Member

PROPOSAL

Max. floor area ratio (see applicable district/use regulation): Low intensity no greater than 0.15

Proposed total floor area: 4720 sf Proposed floor area ratio (floor area/site area): 0.00052

Max. impervious surface coverage (see applicable district/use regulation): Low intensity/ 30%

Proposed impervious surfaces area: 418,738 s.f. sf

Proposed impervious surface coverage (impervious surfaces area/site area x 100): 4.6% %

Required transitional bufferyard types and depths (see Sec. 1-1-29):

Front (A) 50 ft Left (A) 50 ft Right (A) 50 ft Rear (A) 50 ft

Proposed transitional bufferyard types and depths (see Sec. 1-1-29):

Front (A) 50 ft Left (A) 50 ft Right (A) 50 ft Rear (A) 50 ft

Min. yard depths (see applicable district/use regulation):

Front 30 ft Corner side 30 ft Side 10 ft Rear 30 ft

Proposed yard depths: Front 30 ft Corner side 30 ft Side 10 ft Rear 30 ft

Max. building height (see applicable district/use regulation): _____ ft

Proposed building height: 15/40 ft

Every two employees during the shift of maximum employment plus one space

Min. parking space standard (see Sec. 1-1-28): 1 spaces per _____

Min. no. of parking spaces: 10 Proposed no. of parking spaces 12 for every truck to be stored

Number of employees: 20 Hours of operation: 7:00 AM - 7:00 PM

Vehicular Access:

Names of access street(s) and no. of access points along each: Brownfield Road/1 Access

Name of access or adjacent street	Right-of-way width (ft)	Pavement width (ft)	No. of lanes	Paved? (Y or N)	Traffic capacity (average daily trips - ADT) ¹	Traffic volume (ADT)	Est. traffic generated (ADT)
Brownfield Road	60'	22'	2	Y	9000	150	160

¹ See 1994 Wake County Thoroughfare Plan Appendix or NCDOT Statewide Planning Branch
² See CAMPO web site (www.raleigh-nc.org/campo/trafct/98/traffic.html) or NCDOT Traffic Survey Unit
³ Base on ITE ratios - ratio used for estimate (e.g., x trips per y sf)

Est. traffic generated by heavy vehicles (vehicles other than automobiles and light trucks):
 Type of vehicle: 50 - 10 Wheel/Roll-Off ADT: _____
 Type of vehicle: 10 - 18 Wheelers ADT: _____

Utilities and Services:
 Water supply provided by: () municipal system (_____)
 () community system (_____) (x) individual well(s)
 Est. total water demand: 700 gpd

wastewater collection/treatment provided by: () municipal system (_____)
 () community system (_____) (X) individual on-site system
 Est. total wastewater discharge 700 gpd
 Solid waste collection provided by: _____
 Electrical service provided by: CP&L Underground (X) yes () no
 Natural gas service provided by: N/A
 Telephone service provided by: BellSouth Underground (X) yes () no
 Cable television service provided by: N/A Underground () yes () no
 Fire protection provided by: "The Alert Fire District" Knightdale Fire Department

Miscellaneous:

Generalized slope of site 2% up to 50% slopes
 Valuable natural features (rare plant community, wildlife habitat, lake, stream, geology, etc.) on or adjoining site: Neuse River Buffer area
 Valuable historic resources (homestead, mill, archeological site) on or adjoining site: N/A

Land Use Plan Classifications

General Classification (note associated municipality and/or watershed):

- () Short-Range Urban Services Area/Water Supply Watershed _____
- () Short-Range Urban Services Area _____
- () Long-Range Urban Services Area/Water Supply Watershed _____
- (X) Long-Range Urban Services Area Associated with the City of Raleigh
- () Non-Urban Area/Water Supply Watershed _____
- () Non-Urban Area _____

Land Use Classification(s) (Note Area Land Use Plan, if applicable):

#1741627630 - National Register Parcel (East Raleigh and Knightdale Land Use Plan)
#174104732924 - Residential - Less than 1.5 units per acre

particular the section on: "Traffic Capacity (Average Daily Trips-ADT), Traffic Volume (ADT)", and Est. Traffic Generated (ADT)". This document shall be included as part of the aforementioned petition as reference material.

The traffic capacity (ADT) of Brownfield Road was determined by reviewing the capacity of similar type roadways in the Wake County thoroughfare plan and by criteria in the highway capacity manual. The traffic volume (ADT) on Brownfield road was determined from field observations and a review of traffic counts in the surrounding area. The estimated traffic



SPECIAL USE PERMIT PETITION
STATEMENT OF JUSTIFICATION

File No.

(Rev. #)

For each of the 5 required conclusions listed below, attach a statement that explains how any existing conditions, proposed development features, or other relevant facts would allow the Board of Adjustment to reach the required conclusion, and attach any additional documents or materials that provide supporting factual evidence. The considerations listed under each required conclusion are simply those suggested in the Zoning Ordinance. You should address any additional considerations potentially raised by the proposed development.

Important: You bear the burden of presenting sufficient factual evidence to support findings of fact that allow the Board to reasonably reach each of the required conclusions. If you fail to meet that burden, the Board has no choice but to deny the petition.

(1) The proposed development will not materially endanger the public health or safety.

Considerations:

- Traffic conditions in the vicinity, including the effect of additional traffic on streets and street intersections, and sight lines at street intersection and curb cuts.
- Provision of services and utilities, including sewer, water, electrical, garbage collections, fire protection.
- Soil erosion and sedimentation.
- Protection of public, community, or private water supplies, including possible adverse effects on surface waters or groundwater.

(2) The proposed development will comply with all regulations and standards generally applicable within the zoning district and specifically applicable to the particular type of special use or class of special uses.

(3) The proposed development will not substantially injure the value of adjoining property, or is a public necessity.

Considerations:

- The relationship of the proposed use and the character of development to surrounding uses and development, including possible conflicts between them and how these conflicts will be resolved.
- Whether the proposed development is so necessary to the public health, safety, and general welfare of the community or County as a whole as to justify it regardless of its impact on the value of adjoining property.

(4) The proposed development will be in harmony with the area in which it is located.

Considerations:

Application of Material Recovery, LLC

Statement of Justification

Material Recovery, LLC (the "Company") desires to establish a materials reclamation collection facility and construction and demolition landfill on parcels comprising approximately 209 acres at the intersection of Old Baucom and Brownfield Roads in southeastern Wake County. The parcels are assigned PINS: 1741.04-62-7630 and 1741.04-73-2924 and are referred to hereinafter as the "Property."

The Company and its affiliate, Material Reclamation, LLC, are currently developing a construction and demolition materials reclamation facility at 421 Raleigh View Road in southeast Raleigh. The facility, which is expected to begin operations by December 1, 2000, will process construction and demolition debris and reclaim wood, ferrous and non-ferrous metals, cardboard, plastics, vinyl, brick and concrete products. The reclaimed materials will be processed and sold for reuse. The reclamation process reduces the volume of construction and demolition debris by approximately 70%. Accordingly, not only is the reclamation process worthwhile from a business standpoint, but it also substantially reduces the volume of debris which ultimately must be deposited in landfills.

The Company desires to develop the Property for two purposes. First, it plans to establish a construction and demolition landfill upon the Property. Such landfill would generally accept construction and demolition material, as such term is defined by State law, both from the Raleigh reclamation facility as well as from third parties. Materials received from the Raleigh facility would be nonreclaimable debris left after completion of the reclamation process.

The second purpose of the proposed facility involves material received from third parties. All such material would be sorted, reclaimable materials removed therefrom, and such materials then transported for processing to the Raleigh facility. It is anticipated that the proposed landfill would accept an average of 650 tons of material daily. Approximately four hundred tons of such material would originate with third parties, while approximately 250 tons would originate from the Raleigh reclamation facility.

The proposed landfill will serve Wake (population 592,218) and Johnston (population 112,154) counties and possibly Durham (population 203,357), Orange (population 109,746), and Chatham (population 47,264) counties.

The proposed landfill is projected to have a useful life of between 30 and 40 years. All material accepted at the landfill and not reclaimed would be managed in accordance with applicable State regulations. Incident to the reclamation process, all of the material ultimately reaching the landfill will be physically inspected by the Company's employees. The Company will not accept asbestos at its proposed landfill and has no objection if the Board of Adjustment chooses to place a condition upon its

special use permit to such effect. It is anticipated that the landfill's ultimate use following its closing would be for open space and outdoor recreation uses. Such uses could include hiking and mountain bike trails.

The proposed landfill will be managed by Messrs. Juan Carroll, Chris Ruth, and Norbert Hector. Mr. Ruth and Mr. Carroll each have 10 years or more of experience in the operation of a landfill and the handling of construction and demolition debris. Mr. Hector has been engaged in construction and related industries for more than 20 years.

The following responds specifically to each of the five required conclusions which must be reached by the Board of Adjustment incident to its approval of the Company's request for a special use permit.

1. The Proposed Development Will Not Materially Endanger the Public Health or Safety.

The Property is currently vacant and is located in a very rural and sparsely populated area of the County. The Property is, however, readily accessible from Interstate 40 and U.S. 70 via Auburn-Knightdale Road, Old Baucorn Road, and Brownfield Road. Representatives of Kimley-Horn and Associates, Inc., transportation engineers engaged by the Company, have analyzed vehicular access to the Property, assessed roadway widths and weight limitations, and discussed transportation issues related to the proposed landfill with officials of the North Carolina Department of Transportation. Both NCDOT and Kimley-Horn have concluded that with improvements which the Company has offered to do, the aforementioned roadways can adequately handle vehicular traffic associated with the landfill. They have concluded further that existing levels of service will not be affected. It has been determined that there are no bridges in the vicinity which offer weight limitation problems and that site distances at intersections are all satisfactory.

It is anticipated that approximately 50 ten wheel rolloff trucks and 10 eighteen wheel trucks will visit the proposed facility on each day of operation. These trucks can be readily accommodated by existing roads without undue interference with surrounding land uses.

The rural character of the Property is evidenced by its inclusion in the Long Range Urban Services Area by the East Raleigh-Knightdale Area Land Use Plan. This rural character is also evidenced by the City of Raleigh's selection of large parcels adjoining the Property on the northeast and southeast for municipal utility purposes. In this regard, the City's wastewater treatment facility adjoins the Property to the northeast and other adjoining areas are utilized by the City for the deposit of significant amounts of sewage sludge. In fact, 36 acres of the Property has been leased by its current owner (the Company's contract Seller) to the City of Raleigh and is used for the deposit of sewage sludge, an activity that will cease following the Company's acquisition of the Property.

With regard to the provision of services and utilities, including sewer, water, electrical, garbage collections, and fire protection, the Company has determined that all of such services and utilities which it will need are available at the site. The Property will be served by a septic tank and a new well will be drilled to provide the limited water required for operation of the facility. Fire protection is provided by Station 2 of the Knightdale Volunteer Fire Department.

With respect to soil erosion and sedimentation, the firm of Joyce Engineering, Inc. was engaged to develop an erosion and sedimentation control plan for the proposed facility. Joyce Engineering, Inc. is a firm which specializes in technical matters related to the waste industry and its soil erosion and sedimentation plan is shown on the site plan submitted with this application. Representatives of Joyce Engineering, Inc. will be present at the hearing of this matter to offer evidence with regard to this matter.

Mr. Daniel Moore, a Professional Geologist employed by Joyce Engineering, Inc., has conducted an analysis with respect to groundwater and related geological issues affecting the proposed development of the Property. Attached hereto as Exhibit A is a report prepared by Mr. Moore, who has undergraduate and graduate degrees in Geology.

Neuse Riparian Buffers upon the Property have been identified by professional experts and will be protected throughout development and use of the Property. In addition, the site plan for the proposed facility demonstrates that it will pose no adverse effect on surface waters of the State.

2. The Proposed Development Will Comply With All Regulation and Standards Generally Applicable Within the Zoning District and Specifically Applicable to the Particular Type of Special Use or Class of Special Uses.

Representatives of the Company and their professional advisors have carefully coordinated development and planning issues related to the proposed facility with the Wake County Staff and with the State's Department of the Environment and Natural Resources. We will continue to do so to ensure conformity with all of the regulations and standards applicable to the proposed land use.

3. The Proposed Development Will Not Substantially Injure the Value of Adjoining Property and is a Public Necessity.

The proximity of the City of Raleigh's wastewater treatment plant and the spread of sewage sludge over large nearby parcels have created conditions in the area surrounding the Property which have not supported residential development. Unlike these activities, that proposed by the Company will have no odor or similar offsite negative impact. The area has also been affected by certain other governmental uses. Such uses include the City's weapons firing range at the nearby intersection of Brownfield and Battle Bridge Roads and the City's driver training facility for police officers and other municipal employees which is adjacent to the firing range. Both of

These land uses generate significant noise. A cross country electrical power transmission line also passes through the area and crosses the northeast corner of the Property.

The proposed landfill will be significantly buffered and sighted to have minimal impact upon adjoining residential uses. The site plan submitted with this application demonstrates the substantial nature of the Company's proposed screening and buffering. Further, its area of actual operation upon the Property will be a minimum of 500 feet from adjoining residential property lines. It is submitted that the Company's proposed development of the Property and the elimination of its use for the deposit of sewage sludge material is in many respects an actual benefit to the surrounding area.

In addition to the foregoing, the proposed development is a land use necessary to the public health, safety, and general welfare of the community and the county as a whole. Because of significant construction and renovation activity within Wake County, more than 212,000 tons of construction and demolition debris were deposited last year in the County's two fully-permitted construction and demolition landfills. The County's Staff advises that one of those landfills, Feltonville, will be filled to capacity in June of 2001. The second, the North Wake MSW Landfill, will be full in 2004. A new construction and demolition landfill at the North Wake MSW Landfill, which is not yet fully-permitted, is anticipated to have a useful life of from only 7 to 12 months when and if it is opened.

Although two private construction and demolition landfills have been granted special use permits and franchises by the County, neither has yet been permitted by State regulatory authorities. Further, both are relatively small, one comprising approximately 50 acres and the other approximately 30 acres. Accordingly, these landfills will have limited capacities and useful lives.

The construction and demolition landfill proposed by the Company is on a parcel of 209 acres and has an anticipated life of between 30 and 40 years. Further, it is significant that this proposed landfill is integrally involved in the reclamation effort of the Company and its affiliate which substantially reduces the ultimate volume of construction and demolition material which must be landfilled in Wake County.

In view of the foregoing, it is respectfully submitted that the facility proposed is a land use necessary to the public health, safety, and general welfare of the community and the county as a whole.

4. The Proposed Development Will be in Harmony with the Area in Which it is Located.

The nonresidential character of the Company's proposed facility is clearly harmonious in relation to the adjoining municipal and public utility uses, which render the Property undesirable for residential development. The extensive buffering and screening of the facility, as well as the presence of significant Neuse Riparian Buffers upon the Property, minimize any possible conflicts with residential uses in the

surrounding area. Further, the average of five trucks visiting the facility during each hour of its operation will originate from different geographic areas and, given the adequacy of state maintained roads in the area, will not result in disharmony with other land uses.

5. The Proposed Development Will be Consistent with the Wake County Land Use Plan.

The Property is located within the East Raleigh-Knightdale Land Use Study Area. The land use plan for such area confirms the continued rural nature of the Property and its surrounding area. A representative of the Company met with Steven Sizemore and Tim Clark of the Wake County Planning Staff and reviewed the area land use plan. Messrs. Sizemore and Clark confirmed that the Company's proposed use of the Property is not inconsistent with the land use plan.

The land use plan notes that a structure which it assumes to be located upon the Property has historical significance. The Company has determined that a prior owner of the Property removed the dwelling after it was struck by lightning and destroyed by fire.

AD: ITEM 1, DWELL 4 - PROTECTION OF WATER SUPPLIES

The Special Use Permit Petition requires a Statement of Justification to support the proposed development. Specifically, the petitioner is to *attach a statement that explains how any existing conditions, proposed development features, or other relevant facts would allow the Board of Adjustments to reach the required conclusion.* The purpose of this memo is to address Item 1 (*The proposed development will not materially endanger the public health and safety.*), fourth bullet (*Protection of public, community, or private water supplies, including possible adverse effects on surface waters or groundwater.*).

The subject area and surrounding environs have been reviewed in order to determine if the proposed disposal area will jeopardize the protection of public, community, or private water supplies, including possible adverse effects on surface waters or groundwater. Our investigations have concluded that, from a hydrogeologic standpoint, the proposed site is located in an area that can be effectively monitored for groundwater and surface water quality. Several site characteristics, discussed below, make this a relatively favorable location for protection of the area's water resources. This is an important factor given the prevalent use of groundwater for drinking water supplies in the area of proposed development.

The site is located in the Raleigh Belt of the Piedmont physiographic province. Site reconnaissance and published material indicate that the site is underlain by massive to foliated granitic rocks. Several good exposures of the site bedrock can be observed along the southern bank of the central drainage area and in the creek traversing the western side of the site. In general the rock is relatively fine-grained, light colored, dense, and of granitic composition. There were no obvious preferential jointing or fracturing patterns observed in the referenced outcrops.

Revision 00

1

September 24, 2000

The proposed disposal area is located in an area of the Raleigh Belt characterized by the presence of, often vertical, or near vertical, linear, dikes of diabase composition. In general the dikes are several feet thick and highly resistant to weathering, being composed of very dense mafic minerals. The *North Carolina Region J Geologic Map* (NC Geologic Survey, Open File Report No. 81-5) shows a major northwest-southeast trending diabase dike passing within a few hundred feet of the western property line. Given the close proximity of this feature it will be important to identify any potential related splay or spur-type features in the area of concern.

Diabase dikes are commonly identified and definitively mapped using a geophysical tool referred to as a magnetometer. While the dikes are commonly dense and relatively impermeable, during injection they fracture the surrounding country rock creating relatively permeable pathways for groundwater migration. It is not uncommon for groundwater levels to be markedly different on opposite sides of these features as they can create "dams" to groundwater flow. Once identified, these features can provide excellent groundwater monitoring well locations because of their tendency to "capture" and transmit flow from relatively large areas, thus creating favorable locations for the early detection of potential releases of waste constituents to groundwater.

A large portion of the proposed C&D disposal area is bounded by groundwater discharge features (streams) that limit offsite migration of groundwater. Groundwater measurements made in a pair of monitoring wells installed between the southern site area and the residential development to the west confirmed that an upward vertical gradient exists along this drainage. This condition presents a significant environmental advantage for the long-term protection of water resources. An upward gradient retards the downward migration of groundwater (and therefore, any potential releases of waste constituents) into bedrock fractures. Further, this condition creates an effective hydrologic barrier, restricting the horizontal migration of groundwater across the drainage.

JUYCE ENGINEERING, INC.

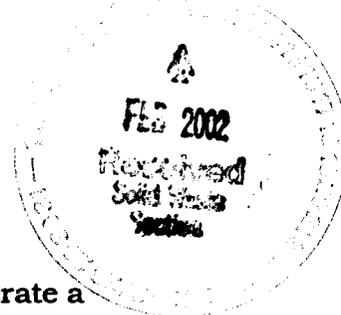
1 336 323 8393 P.04/04

Surface water resources in the area of proposed development will be protected by the required Neuse River and Division of Waste Management buffers, applicable to all of the streams in the area. Further, operation of any such facility requires very strict adherence to a North Carolina Division of Land Resources approved sediment and erosion control plan.

(End)

Upon motion of Commissioner Mangum, seconded by Commissioner Gardner, the Board unanimously approved a five-year lease extension with the Raleigh Durham Airport Authority for Tract 6 (141.31 acres) adjacent to Lake Crabtree County Park to be used for bike and hiking trails.

**APPROVAL OF REQUEST FOR GRANT OF
LANDFILL FRANCHISE FOR MATERIAL RECOVERY, LLC**



Material Recovery, LLC has filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR 2553. The Board of Adjustment approved this land use request on December 12, 2000. The application is filed pursuant to the franchise ordinance for C&D landfills enacted by the Board of Commissioners September 7, 1999.

State law requires that a franchise be approved at two regular meetings before it may be finally adopted. The Ordinance provides that the Board of Commissioners may, but is not required to hold a public hearing prior to acting on a request for a C&D franchise.

Chairman Weeks announced that representatives from both sides of the issue would be given an opportunity to comment before consideration by the Board.

The Chairman then recognized Mr. Lacy Reaves, Attorney representing the applicant, to comment in support of granting the landfill franchise. He highlighted information as provided in the application, that the site is located on Brownfield Road, Wake County, North Carolina, and will accept an average of 650 tons of material daily; that the population to be served by the proposed construction and demolition landfill consists of present and future residents of Wake County and Johnston County, and that it is possible the landfill will also serve present and future residents of Durham County, Orange County and Chatham County. In addition to material delivered to the landfill in automobiles and light trucks, it is anticipated that approximately fifty 10-wheel/roll-off trucks and ten 18-

wheel trucks will visit the landfill daily. The facility will operate from 7 am until 5:30 pm on weekdays and from 8:30 am until 2:00 pm on Saturdays.

The waste stream will include inert debris similar to types deposited in LCID landfills, asphalt, solid waste resulting from construction, remodeling, repair or demolition operations on pavement, buildings, or other structures (such as furniture, carpet remnants, and any other waste material resulting from the construction and demolition of a structure) and other construction and demolition and LCID materials approved by the Division of Solid Waste Management. The projected useful life of the applicant's proposed facility is between 30 and 40 years.

Chairman Weeks then recognized Mr. Charles McDarris, Attorney representing community residents. He informed the Board that at the Board of Adjustment meeting in December 2000, the residents were not allowed to voice their objections and to present evidence about contamination of groundwater, and concerns about environmental, visual screening, traffic and property values in the community. He further informed the Board that he has filed an appeal before the Wake County Superior Court, however the Judge has not issued a ruling. He then requested that the Board table its decision on this matter until a future meeting.

Following discussion, **Commissioner Gardner moved to table Board consideration of granting a landfill franchise for Material Recovery, LLC to operate a construction and demolition debris landfill in Wake County until the April 2, 2001 meeting. Commissioner Ward seconded the motion, and upon vote the motion was approved with all Commissioners voting aye, except Commissioner Weeks who voted nay.**

March 12, 2001

ITEM # 6

Item Title: Request for Grant of Landfill Franchise for Material Recovery, LLC

Item Summary:

Material Recovery, LLC has filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR2553 (map attached). The application (copy attached w/o attachments) is filed pursuant to the franchise ordinance for C&D landfills enacted by the Board on September 7, 1999. The Board of Adjustments approved this request on December 12, 2000. The Ordinance provides that the Board may, but is not required to, hold a public hearing prior to acting on a request for a C&D franchise. A proposed ordinance granting a franchise is attached for consideration. State law requires that a franchise be approved at two regular meetings before it may be finally adopted.

Attachments: 2

Specific Action Requested:

Consideration of the application from Material Recovery, LLC for grant of a franchise to operate a C&D landfill.

**ORDINANCE GRANTING FRANCHISE TO MATERIAL RECOVERY, LLC
FOR OPERATION OF CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL**

WHEREAS, Material Recovery, LLC has applied for a franchise for the operation of a construction and demolition debris landfill in Wake County; and

WHEREAS, the application filed by Material Recovery, LLC contains all of the information required by the Wake County franchise ordinance for construction debris (C&D) landfills; and

WHEREAS, the applicants have received a special use permit from the Wake County Board of Adjustment for operation of a C&D landfill on the site identified in the application.

NOW, THEREFORE, BE IT ORDAINED THAT, Material Recovery, LLC, is hereby granted a franchise to operate a construction and demolition debris landfill in Wake County in accordance with the representations made on the application submitted by Material Recovery, LLC, a copy of which is maintained in the permanent files of the Clerk to the Board. This franchise shall be in effect for a period of 20 years.

Kennedy Covington
ATTORNEYS AT LAW

Lacy H. Reaves
919/743-7304
lreaves@kennedycovington.com

January 16, 2001

Via Hand Delivery

Ms. Gwen Reynolds
Clerk to the Wake County Board of Commissioners
11th Floor, Wake County Office Building
Raleigh, NC 27601

RE: Application of Material Recovery, LLC

Dear Ms. Reynolds:

As we have discussed by telephone, I represent Material Recovery, LLC which recently was granted a special use permit by the Wake County Board of Adjustment to establish and operate a construction and demolition landfill. In accordance with applicable law, I submit to you herewith on behalf of my client an application for Construction and Demolition Debris Landfill Franchise.

I look forward to hearing from you or Mike Ferrell as this matter moves forward.

Very truly yours,



Lacy H. Reaves

LHR:kju
Enclosure
cc: Michael Ferrell, Esquire

STATE OF NORTH CAROLINA

COUNTY OF WAKE

APPLICATION FOR CONSTRUCTION AND DEMOLITION DEBRIS
LANDFILL FRANCHISE

NOW COMES Material Recovery, LLC (the "Applicant") and submits this Application for a Construction and Demolition Debris Landfill Franchise to the Wake County Board of Commissioners this 17th day of January, 2001.

In support of this application, the following information is submitted:

1. The name and address of the Applicant is Material Recovery, LLC, 421 Raleigh View Road, Raleigh, North Carolina 27610. The Applicant will be the owner of the proposed landfill site, but has not yet closed its purchase. The present owners of the proposed site are Ashley Turner Enterprises, Inc. of P.O. Box 160, Clayton, North Carolina 27520 and William Ashley Turner and Debra C. Turner of 2256 Shotwell Road, Clayton, North Carolina 27520.

2. The Applicant does not do business under any trade or other fictitious names. A certified copy of the Applicant's Articles of Organization are attached hereto as Exhibit A.

3. Legal descriptions of the property proposed to be included in the construction and demolition landfill are set forth in deeds recorded at Book 6555, Page 646 and Book 8310, Page 1316 of the Wake County Registry. Copies of such deeds are attached hereto as Exhibits B and C. Copies of maps of the property proposed to be included in the landfill are attached hereto as Exhibits D and E. Tract 2 shown on Exhibit E will not be included in the proposed landfill.

4. The population to be served by the proposed construction and demolition landfill consists of present and future residents of Wake County (present population 592,218), and Johnston County (present population 112,154). It is possible that the landfill will also serve present and future residents of Durham County (present population 203,357), Orange County (present population 109,746), and Chatham County (present population 47,264).

5. The proposed construction and demolition landfill will accept an average of 650 tons of material daily. In addition to material delivered to the proposed landfill in automobiles and light trucks, it is anticipated that approximately fifty 10-wheel/roll-off trucks and ten 18-wheel trucks will visit the proposed landfill daily. The facility will operate from 7 a.m. until 5:30 p.m. on weekdays and from 8:30 a.m. until 2:00 p.m. on Saturdays. The waste stream will be strictly limited by the landfill's state permit to be issued by the Department of Environmental Health and Human Resources, Division of Solid Waste Management prior to construction. The waste stream will include the following types of waste materials: inert debris similar to types deposited in LCID landfills, asphalt, solid waste resulting from construction, remodeling, repair or demolition operations on pavement, buildings, or other structures (such as furniture, carpet remnants, and any other waste material resulting from the construction and demolition of a structure) and other construction and demolition and LCID materials approved by the Division of Solid Waste Management.

The Applicant's affiliate, Material Reclamation, LLC, operates a facility for the reclamation of construction and demolition material in Raleigh. It currently operates a facility on Raleigh View Road in southeast Raleigh where construction and demolition

material is processed and approximately 55% of the material is reclaimed and removed from the waste stream. A sizeable portion of the material to be deposited in the Applicant's proposed construction and demolition landfill will be non-reclaimable material processed by Material Reclamation, LLC.

6. The projected useful life of the Applicant's proposed construction and demolition landfill is between 30 and 40 years.

7. Attached hereto as Exhibit F is a letter dated December 22, 2000 from the Wake County Planning Department confirming the approval by the Wake County Board of Adjustment of a Special Use Permit for the Applicant's proposed landfill.

WHEREFORE, Material Recovery, LLC through its attorney respectfully requests that the Wake County Board of Commissioners, after such notices, consideration, and deliberation as the Board deems appropriate and in accordance with applicable statutes, ordinances, and regulations, issue the Franchise as requested by the Applicant.

MATERIAL RECOVERY, LLC

By: Lacy H. Reaves

Lacy H. Reaves
Kennedy Covington Lobdell
& Hickman, LLP
Attorney for Applicant
P.O. Box 1070
Raleigh, NC 27602-1070
(919) 743-7304 (telephone)
(919) 743-7358 (facsimile)



NORTH CAROLINA

Department of The Secretary of State

To all whom these presents shall come, Greetings:

I, **ELAINE F. MARSHALL**, Secretary of State of the State of North Carolina, do hereby certify the following and hereto attached to be a true copy of

ARTICLES OF ORGANIZATION
OF
MATERIAL RECOVERY, LLC

the original of which is now on file and a matter of record in this office.



IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Raleigh, this 10th day of January, 2001.

Elaine F. Marshall

Secretary of State

20 265 9037

State of North Carolina
Department of the Secretary of State
LIMITED LIABILITY COMPANY

SOSID: 564770
Date Filed: 9/21/2000 3:34 PM
Elaine F. Marshall
North Carolina Secretary of State

ARTICLES OF ORGANIZATION

Pursuant to §57C-2-20 of the General statutes of North Carolina, the undersigned does hereby submit these Articles of Organization for the purpose of forming a limited liability company.

1. The name of the limited liability company is: Material Recovery, LLC
2. The latest date on which the limited liability company is to dissolve is December 31, 2050.
3. The name and address of each organizer executing these articles of organization is as follows:

L. James Blackwood, II
108 Commerce Place
Greensboro, N.C. 27401
4. The street address and county of the initial registered office of the limited liability company is:

108 Commerce Place
Greensboro, N.C. 27401 Guilford County
5. The mailing address if different from the street address of the initial registered office is:
SAME
6. The name of the initial registered agent is L. James Blackwood, II.
7. Check one of the following:

(i) Member-managed LLC: all of the members by virtue of their status as members shall be managers of this limited liability company.

(ii) Manager-managed LLC: except as provided by N.C.G.S. §57C-3-20(a), the members of this limited liability company shall not be managers by virtue of their status as members.
8. Any other provisions which the limited liability company elects to include are attached.
There are no other provisions which the limited liability company elects to include.
9. These articles will be effective upon filing, unless a date and/or time is specified: Effective upon filing.

This 30 day of September, 2000.


Signature

L. JAMES BLACKWOOD, II, Organizer

NOTES: Filing fee is \$125. This document and one exact or conformed copy of these articles must be filed with the SECRETARY OF STATE
CORPORATIONS DIVISION 300 N. SALISBURY STREET RALEIGH, NC 27603-5909

BK6555PGD646

000484

PRESENTED FOR REGISTRATION

95 JUN -9 PM 3:32

KENNETH C. WILKINS REGISTER OF DEEDS WAKE COUNTY

Excise Tax 00

Recording Time, Book and Page

Tax Lot No. _____ Parcel Identifier No. 0004648 & 0004649

Valid by _____ County on the _____ day of _____, 19____

by _____

Mall after recording to R. Dannette Underwood
PO Box 141, Clayton, NC 27520

This instrument was prepared by R. Dannette Underwood

Brief description for the Index Lot 1 & 2, 163.43 Ac. St. Mary's Tnshp

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 9 day of June, 1995, by and between

GRANTOR

ASHLEY TURNER BUILDING CO., INC.

GRANTEE

WILLIAM ASHLEY TURNER and wife,
DEBRA C. TURNER

3700 Shotwell Road
Clayton, NC 27520

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in the City of _____ St. Mary's Township, Wake County, North Carolina and more particularly described as follows:

SEE ATTACHED EXHIBIT A FOR DESCRIPTION

N. C. Bar Assoc. Form No. 3-D 1976. Revised © 1977 - James H. Moore & Co., Inc., Box 127, Yorkville, N. C. 27595
Printed by Agreement with the N. C. Bar Assoc. - 1987

The property hereinabove described was acquired by Grantor by instrument recorded in _____
Deed Book 6477 Page 925, Wake County Registry

A map showing the above described property is recorded in Plat Book _____ page _____

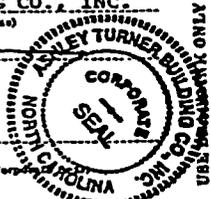
TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

Restrictions and easements of record.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

ASHLEY TURNER BUILDING CO., INC. _____ (SEAL)
By: William A. Jones _____ (SEAL)
President
ATTEST: Barbara Bailey _____ (SEAL)
Secretary (Corporate Seal)



SEAL-STAMP NORTH CAROLINA, _____ County.
I, a Notary Public of the County and State aforesaid, certify that _____ Grantor,
personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my
hand and official stamp or seal, this _____ day of _____, 19____
My commission expires: _____ Notary Public

SEAL-STAMP NORTH CAROLINA, Johnston County.
I, a Notary Public of the County and State aforesaid, certify that Barbara Bailey
personally came before me this day and acknowledged that she is _____ Secretary of
Ashley Turner Building Co., Inc. a North Carolina corporation, and that by authority duly
given and in the act of the corporation, the foregoing instrument was signed in its name by its
President, sealed with its corporate seal and attested by her as its Secretary,
Witness my hand and official stamp or seal, this 9 day of June, 1995
My commission expires: July 27, 1998 Beverly Leona Wallace Notary Public

The foregoing Certificate(s) of Beverly Leona Wallace

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.
KENNETH C. WILKINS REGISTER OF DEEDS FOR Wake COUNTY
By Meta N. Hanna Deputy/Assistant - Register of Deeds

N. C. Bar Assoc. Form No. 3 © 1976, Revised © 1977 - James H. Williams & Co., Inc., One 1971, Durham, N. C. 27604
Printed by Appointment with the N. C. Bar Assoc. - 1981

BK6555PG0648

EXHIBIT A
Tracts 1 & 2, 163.43 Acres

TRACT 1

BEGINNING at a point 70.65 feet North of the intersection of NCSR 2542 and NCSR 2553, having a line from NCSR 2542 to the point of Beginning of South 03 degrees 54' 58" 70.65 feet, thence from said point North 89 degrees 34' 18" West 578.19 feet to an existing iron pipe, thence from the existing iron pipe South 00 degrees 15' 03" West 449.24 feet to an existing iron pipe, thence from the existing iron pipe South 00 degrees 15' 03" West 36.92 feet to the center of NCSR 2542, thence from the center of NCSR 2542 South 53 degrees 15' 50" West 172.61 feet along NCSR 2542, thence from this center point of NCSR 2542 North 00 degrees 59' 07" West 36.56 feet to an existing iron pipe, thence from the existing iron pipe N 00 degrees 59' 07" West 552.64 feet to an existing iron pipe, thence from the existing iron pipe South 89 degrees 54' 28" West 888.40 feet to an existing iron pipe, thence from the existing iron pipe North 01 degrees 28' 05" East 959.90 feet to an existing iron pipe, thence from the existing iron pipe N 01 degrees 28' 17" East 314.90 feet to an existing iron pipe, thence from the existing iron pipe North 00 degrees 46' 02" East 959.50 feet to an existing iron pipe thence from the existing iron pipe South 87 degrees 55' 55" East 2879.54 feet to a new iron pipe, thence from the new iron pipe South 87 degrees 55' 55" East 35.68 feet to the center of NCSR 2553, thence from the center of NCSR 2553, traversing along the same road at the following coordinates: North 34 degrees 51' 54" East 62.67 feet, North 35 degrees 35' 00" East 601.74 feet, North 35 degrees 25' 33" East 122.54, North 34 degrees 46' 39" east 103.54 feet, North 34 degrees 25' 54" 115.25 feet, North 33 degrees 42' 51" East 122.91 feet, North 33 degrees 34' 14"

BK6555PG0649

Exhibit A
Continued Page 2

East 109.37 feet, North 32 degrees 51' 31" East 104.44 feet, North 31 degrees 20' 44" East 105.20 feet, North 30 degrees 38' 28" east 914.06 feet, North 28 degrees 24' 19" East 53.84 feet, North 21 degrees 50' 36" East 51.26 feet, and North 10 degrees 10' 37" East 58.49 feet, which includes the 60 feet right of way reserved by DOT on NCSR 2553, to the point and place of BEGINNING, containing 113.55 gross acres, according to the plat of same prepared by Williams-Pearce & Associates, P.A., Registered Land Surveyors, dated March 21, 1995 and recorded in Plat Book 1995, Page 456, of the Wake County Registry.

TRACT 2

BEGINNING at the same point as did Tract 1 above and traversing along NCSR 2553 with those same coordinates as set forth above in Tract 1, those being as follows: North 10 degrees 10' 37" east 58.49 feet, North 21 degrees 50' 36" East 51.26 feet, North 28 degrees 24' 19" East 53.84 feet, North 30 degrees 38' 28" East 914.06 feet, North 31 degrees 20' 44" east 105.20 feet, North 32 degrees 51' 31" east 104.44 feet, North 33 degrees 34' 14" East 109.37 feet, North 33 degrees 42' 51" 122.91 feet, North 34 degrees 25' 54" East 115.25 feet, North 34 degrees 46' 39" East 103.54 feet, North 35 degrees 25' 33" East 122.54 feet, North 35 degrees 35' 00" East 601.74 feet, North 34 degrees 51' 54" East 62.67 feet, North 33 degrees 47' 21" east 92.11 feet, North 28 degrees 21' 05" east 55.62 feet, North 24 degrees 14' 24" East 56.47 feet, North 19 degrees 07' 50" East 70.27 feet, North 14 degrees 27' 54" East 55.00 feet, North 10 degrees 22' 09" East 52.22 feet, North 06 degrees 52' 39" East 76.00 feet, North 05 degrees 41' 37" East 113.61 feet and North 04 degrees 39' 47" 102.92 feet to a new PK nail in

BK6555PG0650

Exhibit A Continued
Page 3

the center of NCSR 2553, thence from said new PK nail North 89 degrees 23' 26" east 30.13 feet to a new iron pipe, thence from said new iron pipe North 89 degrees 23' 26" East 229.08 feet to an existing iron pipe, thence from said existing iron pipe South 52 degrees 46' 34" East 600.84 feet to an existing iron pipe, thence from said existing iron pipe South 00 degrees 02' 37" 311.54 feet to an existing iron pipe, thence from said existing iron pipe South 00 degrees 12' 23" West 580.92 feet to an existing iron pipe, thence from said existing iron pipe South 89 degrees 25' 55" West 731.89 feet to an existing iron pipe thence from said existing iron pipe South 28 degrees 23' 31" West 1687.75 feet to an existing iron pipe, thence from said existing iron pipe South 28 degrees 23' 31" West 33.90 feet to the center of NCSR 2542, thence from this center point North 89 degrees 34' 18" West 703.21 feet, which includes the 60 feet right of way reserved by DOT on NCSR 2542, to the point and place of BEGINNING, containing 49.88 gross acres, according to the plat of same prepared by William-Pearce and Associates, P.A., Registered Land Surveyor, dated March 21, 1995 and recorded in Plat Book 1995, Page 456, of the Wake County Registry.

BK8310PG1316

PRESENTED FOR REGISTRATION

000536

99 MAY 11 PH 1:48

WAKE COUNTY

05/11/1999

\$2400.00



Real Estate Excise Tax

LAURA M. RIDICK REGISTER OF DEEDS WAKE COUNTY

Excise Tax \$2,400.00

Recording Time, Book and Page

Tax Lot No. Parcel Identifier No. 1741.04 73 2924
Verified by County on the day of 19
by

Mail after recording to R. Dannette Underwood, P. O. Box 161, Clayton, North Carolina 27520

This instrument was prepared by Charles L. Fulton of Manning, Fulton & Skinner, P.A.

Brief description for the Index 97.52 acres, SR 2553 T-17288

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 11th day of May, 1999, by and between

GRANTOR

GRANTEE

CYLESTER P. GINN, widow

ASHLEY TURNER ENTERPRISES, INC.
P. O. Box 160
Clayton, North Carolina 27520

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated near the City of Garner St. Mary's Township, Wake County, North Carolina and more particularly described as follows:

on Exhibit A attached hereto and incorporated herein by this reference thereto.

12-

BK8310P61317

The property hereinabove described was acquired by Grantor by instrument recorded in _____
Deed Book 1726, page 588, Wake County Registry

A map showing the above described property is recorded in Plat Book _____ page _____
TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to
the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey
the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and
defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated.
Title to the property hereinabove described is subject to the following exceptions:

1999 taxes, a 90' CP&L easement crossing the northeast corner
of the property and other easements of record, and the right
of way of SR 2553.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its
corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first
above written.

(Corporate Name)
BY: _____ (SEAL)

President
ATTEST: _____ (SEAL)

Secretary (Corporate Seal) (SEAL)

USE BLACK INK ONLY

Cylester P. Ginn (SEAL)
Cylester P. Ginn

SEAL-STAMP NORTH CAROLINA, _____ Wake _____ County.
I, a Notary Public of the County and State aforesaid, certify that _____
Cylester P. Ginn, widow _____ Grantor,
personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my
hand and official stamp or seal, this 11th day of May, 1999.
My commission expires: 9-10-2000 *Doris B. Marsh* Notary Public

SEAL-STAMP NORTH CAROLINA, _____ County.
I, a Notary Public of the County and State aforesaid, certify that _____
personally came before me this day and acknowledged that _____ he is _____ Secretary of
_____ a North Carolina corporation, and that by authority duly
given and as the act of the corporation, the foregoing instrument was signed in its name by its _____
President, sealed with its corporate seal and attested by _____ as its _____ Secretary.
Witness my hand and official stamp or seal, this _____ day of _____, 19____.
My commission expires: _____ Notary Public

The foregoing Certificate(s) of *Doris B. Marsh*

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the
first page hereof.

Laura B. Riddick REGISTER OF DEEDS FOR WAKE COUNTY
By _____ Deputy, A. _____ - Register of Deeds

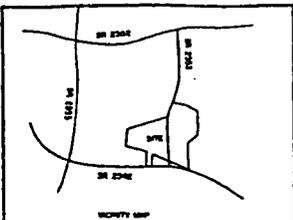
BK 8310PG1318

**EXHIBIT A TO DEED FROM
CYLESTER P. GINN, WIDOW, TO
ASHLEY TURNER ENTERPRISES, INC.**

BEGINNING at an existing PK nail located in the centerline of SR 2553 (a 60' public right-of-way), said nail being distant North 31° 27' 48" East 2580.75 feet from the centerline intersection of SR 2542, said nail marking the northeast corner of the property owned now or formerly by William Ashley Turner as described in Deed Book 6555, page 646, Wake County Registry; runs thence along and with the northern line of the Turner property (now or formerly) North 87° 55' 15" West 35.68 feet to an existing iron pipe located in the western right-of-way line of said SR 2553 and North 87° 55' 15" West 2879.54 feet to an existing iron pipe in the eastern line of the property owned now or formerly by Horace Benton Heirs; runs thence along and with said eastern line of the Benton Heirs property (now or formerly) North 00° 48' 14" East 1534.73 feet to an existing concrete monument, said concrete monument marking the southwest corner of the property owned now or formerly by the City of Raleigh as described in Deed Book 2064, page 433, Wake County Registry; runs thence along and with the southern line of the property of the City of Raleigh (now or formerly) South 82° 50' 24" East 3107.70 feet to an existing concrete monument located in the western right-of-way line of said SR 2553 and South 82° 50' 24" East 32.03 feet to a point in the centerline of said SR 2553; runs thence along and with said centerline of SR 2553 the following ten courses and distances; (1) South 04° 28' 32" West 611.79 feet to an existing PK nail; (2) South 04° 39' 47" West 102.91 feet to point; (3) South 05° 41' 37" West 113.61 feet to point; (4) South 06° 52' 39" West 76.00 feet to point; (5) South 10° 22' 09" West 52.22 feet to point; (6) South 14° 27' 54" West 55.00 feet to point; (7) South 19° 07' 50" West 70.27 feet to point; (8) South 24° 14' 24" West 56.47 feet to point; (9) South 28° 21' 05" West 55.62 feet to point; and (10) South 33° 47' 21" West 92.11 feet to the POINT AND PLACE OF BEGINNING, containing 98.41 gross acres, including 0.89 acres within the right-of-way of said SR 2553, all according to plat of survey dated April 27, 1999 and revised May 5, 1999 entitled "Property Survey for Ashley Turner Enterprises" prepared by Clyde T. Pearce, Professional Land Surveyor, of Williams - Pearce & Assoc., P.A.

The above-described tract being the property conveyed to Harvey D. Ginn and wife, Cylester P. Ginn by deed recorded in Book 1726, page 588, Wake County Registry. See also Estate File of Harvey D. Ginn found in 96 E 209, Wake County Clerk of Superior Court.

220760/CLF/MS/10834-71728



I, L. BLAKE T. PEARCE, certify that this plan and report were prepared by me or under my direct supervision and that I am a duly Licensed Professional Land Surveyor in the State of North Carolina. I certify that the boundaries and acreage of the property hereon shown are correct to the best of my knowledge and belief, and that the same are based on a survey made by me or under my direct supervision in accordance with the laws of the State of North Carolina and the rules and regulations of the Board of Professional Land Surveyors of the State of North Carolina.

DATE OF SURVEY: 10/15/95
 NAME OF CLIENT: Ashley Turner Building Co., Inc.

NAME OF SURVEYOR: L. Blake T. Pearce
 REGISTERED LAND SURVEYOR
 NO. 1000 PG 287

NOTE: THIS MAP IS PREVIOUSLY RECORDED IN BOOK OF MAPS 1860, PAGE 454. THE PURPOSE OF THIS RECORDING IS TO CORRECT THE RIGHT-OF-WAY ACRES ON TRACT 2.

NOTE: AREA COMPUTED BY COORDINATE METHOD.

NOTE: THIS MAP IS PREVIOUSLY RECORDED IN BOOK OF MAPS 1860, PAGE 454. THE PURPOSE OF THIS RECORDING IS TO CORRECT THE RIGHT-OF-WAY ACRES ON TRACT 2.

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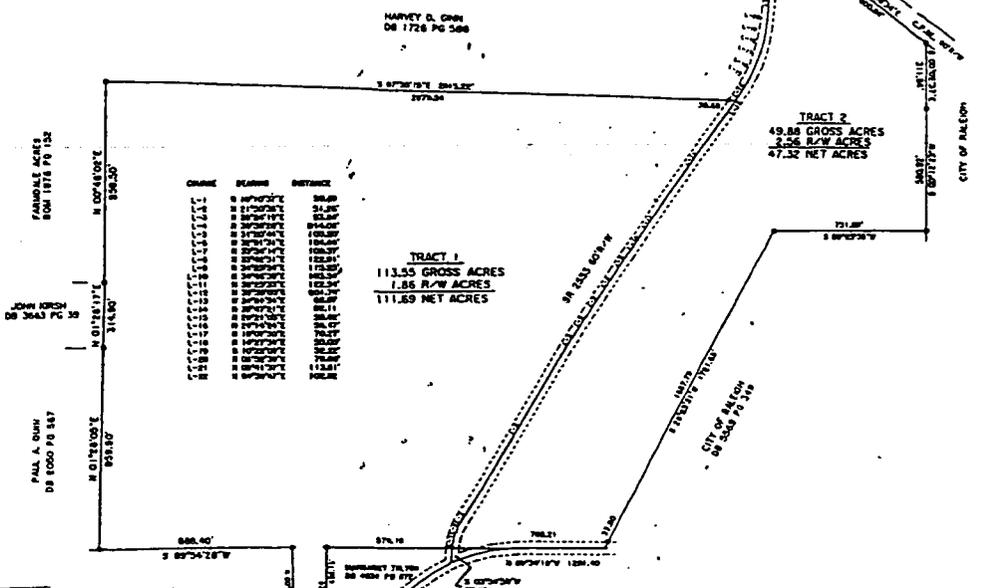
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CHAIN	BEARING	DISTANCE
L-1	S 89°00'00" W	366.00
L-2	S 89°00'00" W	314.00
L-3	S 89°00'00" W	314.00
L-4	S 89°00'00" W	314.00
L-5	S 89°00'00" W	314.00
L-6	S 89°00'00" W	314.00
L-7	S 89°00'00" W	314.00
L-8	S 89°00'00" W	314.00
L-9	S 89°00'00" W	314.00
L-10	S 89°00'00" W	314.00
L-11	S 89°00'00" W	314.00
L-12	S 89°00'00" W	314.00
L-13	S 89°00'00" W	314.00
L-14	S 89°00'00" W	314.00
L-15	S 89°00'00" W	314.00
L-16	S 89°00'00" W	314.00
L-17	S 89°00'00" W	314.00
L-18	S 89°00'00" W	314.00
L-19	S 89°00'00" W	314.00
L-20	S 89°00'00" W	314.00
L-21	S 89°00'00" W	314.00
L-22	S 89°00'00" W	314.00
L-23	S 89°00'00" W	314.00
L-24	S 89°00'00" W	314.00
L-25	S 89°00'00" W	314.00
L-26	S 89°00'00" W	314.00
L-27	S 89°00'00" W	314.00
L-28	S 89°00'00" W	314.00
L-29	S 89°00'00" W	314.00
L-30	S 89°00'00" W	314.00
L-31	S 89°00'00" W	314.00
L-32	S 89°00'00" W	314.00
L-33	S 89°00'00" W	314.00
L-34	S 89°00'00" W	314.00
L-35	S 89°00'00" W	314.00
L-36	S 89°00'00" W	314.00
L-37	S 89°00'00" W	314.00
L-38	S 89°00'00" W	314.00
L-39	S 89°00'00" W	314.00
L-40	S 89°00'00" W	314.00
L-41	S 89°00'00" W	314.00
L-42	S 89°00'00" W	314.00
L-43	S 89°00'00" W	314.00
L-44	S 89°00'00" W	314.00
L-45	S 89°00'00" W	314.00
L-46	S 89°00'00" W	314.00
L-47	S 89°00'00" W	314.00
L-48	S 89°00'00" W	314.00
L-49	S 89°00'00" W	314.00
L-50	S 89°00'00" W	314.00

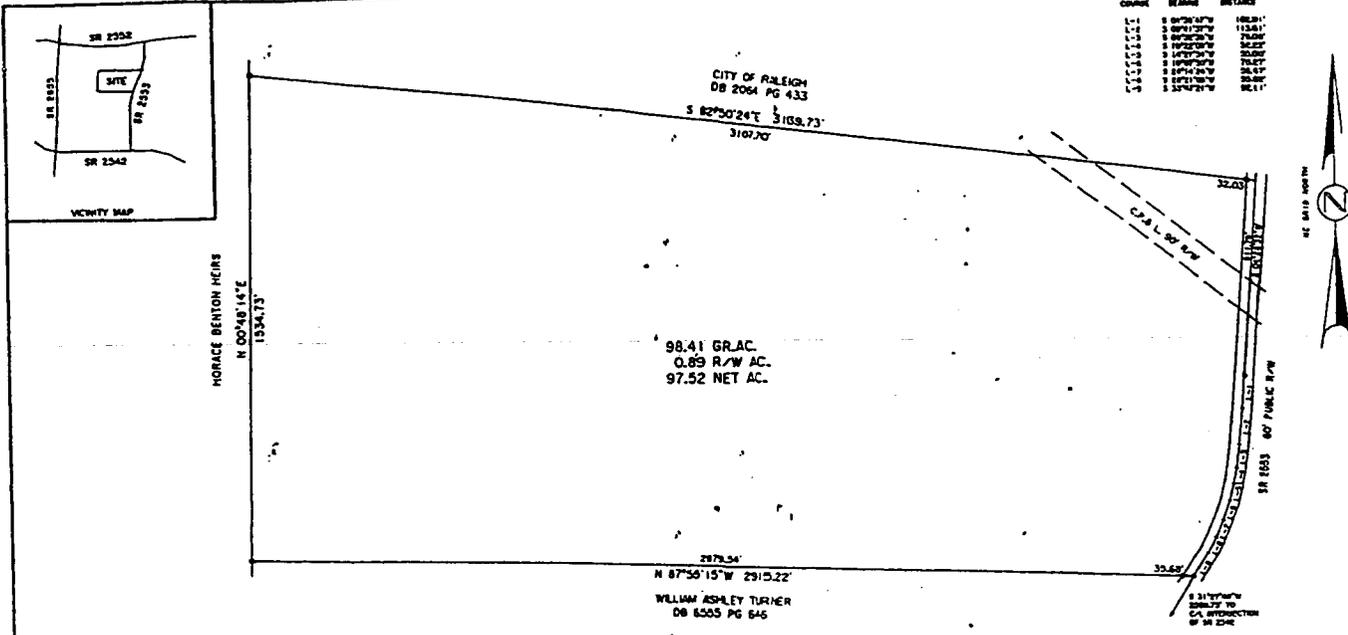
PROPERTY SURVEY FOR
ASHLEY TURNER BUILDING CO., INC.
 ST. MARY'S TOWNSHIP
 WAKE COUNTY
 NORTH CAROLINA



Book 1995 Page 1025
WILLIAMS - PEARCE & ASSOC., P.A. Registered Land Surveyors

P.O. Box 692, Zebulon, N.C. Phone (919)269-9605

COURSE	BEARING	DISTANCE
L-1	S 89°28'37"W	108.81'
L-2	S 89°11'37"W	113.81'
L-3	S 89°28'37"W	74.00'
L-4	S 10°28'37"W	30.00'
L-5	S 89°28'37"W	30.00'
L-6	S 89°28'37"W	30.00'
L-7	S 89°28'37"W	30.00'
L-8	S 89°28'37"W	30.00'



NOTE: AREA COMPUTED BY COORDINATE METHOD.

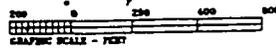
Chris E. Pearce, PROFESSIONAL LAND SURVEYOR NO. L-2881, certifies that this plan is of a survey of an unshared parcel of land, and that the same was created by a duly sworn and duly qualified surveyor.

Chris E. Pearce
 Chris E. Pearce, Professional Land Surveyor
 State of North Carolina

PROPERTY SURVEY FOR
ASHLEY TURNER ENTERPRISES
 ST. MARY'S TOWNSHIP
 WAKE COUNTY
 NORTH CAROLINA

PN 1791.04-73-2824
 ZONED: R-30

LEGEND
 • DOTTING IRON PIPE
 ◻ DOTTING CONCRETE MON.
 ◻ DOTTING PE RAIL



FILE: CTP/238 CTP/1700
 SCALE: 1" = 200'
 DATE: 4-27-1999
 REVISION: 9-9-17
 PR: 11 67
 Phone (919)269-9605



WILLIAMS - PEARCE & ASSOC., P.A.

Professional Land Surveyors P.O. Box 892, Zebulon, N.C.



Planning

TEL 919 856 6335
FAX 919 856 6229

Zoning and Subdivision
P.O. Box 550 • Raleigh, NC 27602
www.co.wake.nc.us/planning

December 22, 2000

Mr. Lacy H. Reaves, Esquire
P.O. Box 1070
Raleigh, NC 27602

Re: Approval of Special Use Permit SU-1892-00, C & D Landfill & Material
Reclamation Facility

By Fax and Mail

Dear Mr. Reeves:

This is written to confirm that on December 12, 2000, the Wake County Board of Adjustments approved the Special Use Permit application SU-1892-00 to allow a construction and demolition landfill and material reclamation facility on Brownfield Road. Please note that there is a 30-day period for appeals of this decision to Superior Court starting after receipt of this notice.

I am sending this letter by fax and mail. Please send me confirmation of your receipt of the fax today. Should you have any questions, I can be reached at 856-6228.

Sincerely,

A handwritten signature in cursive script that reads "Melinda Clark".

Melinda Clark, AICP
Land Development Administrator

Cc: Mr. Scott Warren, Esquire
Wake County Attorney's Office

6. Consideration of Refund of Taxes, Interest, and Penalties: (Wake County Only), (Wake County and Town of Cary), (Wake County and City of Raleigh), (Wake County and Town of Wake Forest).
7. Non-Cash Rebates: (Wake County Only), (Wake County and Town of Apex), (Wake County and Town of Cary), (Wake County and Town of Fuquay-Varina), (Wake County and Town of Garner), (Wake County and Town of Holly Springs), (Wake County and Town of Knightdale), (Wake County and Town of Morrisville), (Wake County and City of Raleigh), (Wake County and Town of Rolesville), (Wake County and Town of Wake Forest), (Wake County and Town of Wendell), (Wake County and Town of Zebulon).



REQUEST FOR GRANT OF LANDFILL FRANCHISE
MATERIAL RECOVERY, LLC

At the March 12, 2001, Board of Commissioners meeting, the Board discussed the request for grant of landfill franchise for Material Recovery, LLC and tabled the request until the April 2, 2001 Board meeting.

Material Recovery, LLC has filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR 2553. The application is filed pursuant to the franchise ordinance for C&D landfills enacted by the Board of Commissioners September 7, 1999, the Board of Adjustment approved this request on December 12, 2000. The ordinance provides that the Board may, but is not required to, hold a public hearing prior to acting on a request for a C&D franchise.

State law requires that a franchise be approved at two regular meetings before it may be finally adopted.

Chairman Weeks announced that this issue was not being considered as a public hearing; however, the petitioner and those opposing the request were given an opportunity to report on progress since the last meeting.

Mr. Lacy Reeves, PO Box 1070, Raleigh, attorney for Material Recovery, stated that there had been comments made that might potentially lead to the resolution of the controversy; however, until the issuance of the franchise is resolved, it is not appropriate to

negotiate. He further stated that this is not a discretionary matter once a Special Use Permit is approved by the Board of Adjustment. He then noted that the case is still pending in Superior Court. The site plan submitted and approved by the Board of Adjustment was also presented for Board review.

Mr. Tom Adams, attorney representing some of the landowners, indicated that an attempt had been made to talk with the petitioner but was unsuccessful because of a desire to negotiate only after the franchise has been granted. He noted that there is still the issue of transportation/traffic problems and the impact on Farmdale Acres subdivision, property values, noise levels, and hours of operation.

Mr. Josh Talton, representing the Baucom family and other families on Baucom Road near the proposed landfill site, asked that members of the Board of Commissioners look at phasing of the facility with the use of the northernmost cell with 20-year build out, and with the condition that trucks access the landfill via Battle Bridge Road only. He indicated that these conditions would minimize the impact on the community and the Board of Adjustment did not consider these issues. He then requested that the Board of Commissioners defer action on this issue today and give the petitioner and opponents/ community residents two weeks for an opportunity to negotiate and for discussion.

Chairman Weeks recognized **Commissioner Council who moved approval of the issuance of a franchise to Material Recovery, LLC to operate a construction and demolition debris landfill on Brownfield Road in Wake County in accordance with the representations made on the application submitted by Material Recovery, LLC.**

The motion died for lack of a second.

Commissioner Ward then moved that consideration of the issue be tabled until the next meeting, April 16, 2001. Commissioner Coleman seconded the motion and upon vote the motion passed, with Commissioner Weeks voting nay.

Upon motion of Commissioner Gardner, seconded by Commissioner Coleman, the Board unanimously approved the adoption of a proclamation designating the week of April 22-28, 2001, as “National County Government Week.”

**PROCLAMATION
FOR NATIONAL COUNTY GOVERNMENT WEEK - APRIL 22-28, 2001**

WHEREAS, Wake County government provides truly vital services to its 628,000 citizens on a daily basis, and is committed to the health, education and welfare of all citizens; and

WHEREAS, Wake County government strives to provide its citizens with outstanding customer service ranging from parks, libraries, mental health and public health services, restaurant and building inspections, solid waste disposal, animal control and zoning; and

WHEREAS, technology plays a huge role in our lives today, bringing about changes in nearly everything that we do. The theme of this year’s National County Government Week is “Counties Make E-Government Work!” which promotes Wake County’s commitment to the use of technology to improve the delivery of services and communication to citizens; and

WHEREAS, in addition to technology, Wake County continues to provide leadership in many other areas as well, including bringing community leaders, schools, and other interested parties together from around the county to explore regional solutions to issues such as growth problems, open space preservation, affordable housing, emergency medical services and planning to preserve and improve water quality; and

WHEREAS, the leadership of the Wake County Board of Commissioners and Wake County employees are the key to the success of the county, working hard every day to provide healthy, safe environments for all of our county’s adults and children.

NOW, THEREFORE, BE IT RESOLVED, that the Wake County Board of Commissioners hereby proclaims April 22-28, 2001, as National County Government Week and invites all citizens to observe the week and share in their partnership with local government.



**APPROVAL TO GRANT FRANCHISE TO
MATERIAL RECOVERY, LLC FOR OPERATION OF
CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL**

At the March 12, 2001, Board of Commissioners meeting, the Board discussed the granting of a landfill franchise to Material Recovery, LLC for the operation of a construction and demolition debris landfill in Wake County. The issue as tabled until the April 2, 2001 meeting. During the April 2, 2001 meeting, the Board received comments from both the

proponents and opponents and agreed consider the issue in two weeks, at the April 16, 2001 Board meeting, to give both sides an opportunity to reach a compromise.

At today's meeting Chairman Weeks announced that there had been discussion between the applicant and the opposition but according to reports from both parties, there has been no change in position of either party.

There were comments from Board members, and it was the consensus of the Board that the applicant has met all the requirements for granting the franchise and that the Board is not in a position to mandate negotiation or compromise between the two parties.

Following the comments, **Commissioner Council moved that approval be given to grant a landfill franchise to Material Recovery, LLC to build and operate a construction and demolition debris landfill in Wake County, contingent upon the continued viability of the underlying special use permit from the Wake County Board of Adjustment. The motion was seconded by Commissioner Malone and was unanimously approved.**

ORDINANCE GRANTING FRANCHISE
TO MATERIAL RECOVERY, LLC FOR OPERATION OF
CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL

WHEREAS, Material Recovery, LLC has applied for a franchise for the operation of a construction and demolition debris landfill in Wake County; and;

WHEREAS, the application filed by Material Recovery, LLC contains all of the information required by the Wake County franchise ordinance for construction debris (C&D) landfills; and,

WHEREAS, the applicants have received a special use permit from the Wake County Board of Adjustment for operation of a C&D landfill on the site identified in the application.

NOW, THEREFORE BE IT ORDAINED that, Material Recovery, LLC is hereby granted a franchise to operate a construction and demolition debris landfill in Wake County in accordance with the representations made on the application submitted by Material Recovery, LLC, a copy of which is maintained in the permanent files of the Clerk to the Board. This franchise shall be in effect for a period of 20 years.

Adopted this the 16th day of April 2001.

APPROVAL OF GRANTING LANDFILL FRANCHISE TO
MATERIAL RECOVERY, LLC

Material Recovery, LLC filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR 2553. At the March 12, 2001 Board of Commissioners meeting, the Board discussed the issue and tabled the request until the April 2, 2001, Board meeting. During the April 2, 2001, meeting the Board received comments from both the proponents and opponents and postponed consideration until April 16, 2001. At the April 16, 2001, meeting the Board passed an ordinance granting the franchise request.

State law requires that all ordinances granting franchises be “passed at two regular meetings of the board of commissioners.” In order to complete the process this matter now needs to be considered for its second approval.

Upon motion of Commissioner Ward, seconded by Commissioner Council, the Board unanimously approved the adoption of a franchise ordinance granting a landfill franchise to Material Recovery, LLC for operation of a construction and demolition debris landfill in Wake County.

ORDINANCE GRANTING FRANCHISE
TO MATERIAL RECOVERY, LLC, FOR OPERATION
OF CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL

WHEREAS, Material Recovery, LLC has applied for a franchise for the operation of a construction and demolition debris landfill in Wake County; and

WHEREAS, the application filed by Material Recovery, LLC, contains all of the information required by the Wake County Franchise Ordinance for construction debris (C&D) landfills; and

WHEREAS, the applicants have received a special use permit from the Wake County Board of Adjustment for operation of a C&D landfill on the site identified in the application.

NOW, THEREFORE, BE IT ORDAINED THAT, Material Recovery, LLC is hereby granted a franchise to operate a construction and demolition debris landfill in Wake County in accordance with the representation made on the application submitted by Material Recovery, LLC, a copy of which is maintained in the permanent files of the Clerk to the Board. The franchise shall be in effect for a period of 20 years.

This the 4th day of February 2001.



Board of Commissioners

P.O. Box 550 • Raleigh, NC 27602

REFERENCE COPY

LINDA D. COLEMAN, CHAIRMAN
HERBERT H. COUNCIL, VICE-CHAIRMAN
KENNETH M. GARDNER
VERNON MALONE
BETTY O. MANGUM
BETTY LOU WARD
MICHAEL A. WEEKS

RECEIVED
JAN 13 2002

WAKE COUNTY)
NORTH CAROLINA)

I, Gwendolyn I. Reynolds, Clerk to the Board of County Commissioners, County of Wake, State of North Carolina, hereby certify that the attached is a true and complete copy of Ordinance Granting Franchise to Material Recovery, LLC, for Operation of Construction and Demolition Debris Landfill in Wake County, dated April 16, 2001.

Witness my hand as Clerk to the Board, and the Seal of the County of Wake, this the 9th day of January, 2001.

Gwendolyn I. Reynolds
Gwendolyn I. Reynolds
Clerk to the Board of Commissioners
Wake County, North Carolina

Kennedy Covington
ATTORNEYS AT LAW

David E. Wagner
919.743.7316
dwagner@kennedycovington.com

February 6, 2002



Via Hand Delivery

Chris Roof
Material Recovery, LLC
421 Raleighview Rd.
Raleigh, NC 27610

RE: Additions to the Certification from Clerk of the Wake County Commissioners - Material Recovery, LLC

Dear Chris,

Enclosed you will find the above referenced documents. The Clerk sent us two letters that we can choose from to give to DENR – the first references just the minutes from this past Monday’s meeting and the second letter is the same as the last letter we sent to DENR and it adds Monday’s minutes to its list of attachments. On this second letter I attached a copy of all the attachments we sent to DENR with the last letter. They can decide which letter they want to use, but in the end either shows we received the second “passing” of the franchise.

Let me know if I can help with anything else.

Sincerely,

David E. Wagner
For the Firm

Enclosure

Census 2000

NOT CERTIFIED

County	1990 Pop.	1990 Census Pop.	No. Change	% Change	1999 Pop.	No. Change
Alamance	130,800	108,213	22,587	20.9%	124,042	6,758
Alexander	33,603	27,544	6,059	22.0%	32,530	1,073
Alleghany	10,677	9,590	1,087	11.3%	9,966	711
Anson	25,275	23,474	1,801	7.7%	23,844	1,431
Ashe	24,384	22,209	2,175	9.8%	23,966	418
Avery	17,167	14,867	2,300	15.5%	15,964	1,203
Beaufort	44,958	42,283	2,675	6.3%	44,158	800
Bertie	19,773	20,388	-615	-3.0%	19,830	-57
Bladen	32,278	28,663	3,615	12.6%	30,924	1,354
Brunswick	73,143	50,985	22,158	43.5%	69,577	3,566
Buncombe	206,330	174,821	31,509	18.0%	194,353	11,977
Burke	89,148	75,744	13,404	17.7%	84,583	4,565
Cabarrus	131,063	98,935	32,128	32.5%	125,051	6,012
Caldwell	77,415	70,709	6,706	9.5%	75,882	1,533
Camden	6,885	5,904	981	16.6%	6,748	137
Carteret	59,383	52,556	6,827	13.0%	59,120	263
Caswell	23,501	20,693	2,808	13.6%	22,440	1,061
Catawba	141,685	118,412	23,273	19.7%	134,128	7,557
Cherokee	24,298	20,170	4,128	20.5%	23,072	2,065
Chowan	14,526	13,506	1,020	7.6%	14,036	490
Clay	8,775	7,155	1,620	22.6%	8,412	363
Cleveland	96,287	84,714	11,573	13.7%	92,590	3,697
Columbus	54,749	49,587	5,162	10.4%	52,476	2,273
Craven	91,436	81,613	9,823	12.0%	89,730	1,706
Cumberland	302,963	274,566	28,397	10.3%	291,897	11,066
Currituck	18,190	13,736	4,454	32.4%	17,496	694
Dare	29,967	22,746	7,221	31.7%	28,918	1,049
Davidson	147,246	126,677	20,569	16.2%	142,722	4,524
Davis	34,835	27,859	6,976	25.0%	32,968	1,867
Duplin	49,063	39,995	9,068	22.7%	44,502	4,561
Edgecombe	55,606	181,835	-126,229	-22.8%	199,577	19,957
Forsyth	306,067	56,558	-249,509	-81.5%	54,034	1,522
Franklin	47,260	265,878	-218,618	-46.3%	291,846	14,221
Gaston	190,365	36,414	-153,951	-80.9%	45,332	1,928
Gates	10,516	175,093	-164,577	-15.6%	181,362	9,003
Graham	10,516	9,305	1,211	13.0%	10,114	402
Granville	7,993	7,196	797	11.1%	7,522	471
Greene	48,498	38,345	10,153	26.5%	45,450	3,048
Guilford	18,974	15,384	3,590	23.3%	18,298	676
Halifax	421,048	347,420	73,628	21.2%	393,423	27,625
Harnett	57,370	55,516	1,854	3.3%	54,752	2,618
Haywood	91,025	67,822	23,203	34.2%	85,305	5,720
Haywood	54,033	46,942	7,091	15.1%	52,096	1,937
Henderson	89,173	69,285	19,888	28.7%	82,365	6,808
Hertford	22,601	22,523	78	0.3%	21,260	1,341
Hoke	33,646	22,856	10,790	47.2%	31,102	2,544
Hyde	5,826	5,411	415	7.7%	5,611	215
Iredell	122,660	92,931	29,729	32.0%	117,804	4,856
Jackson	33,121	26,846	6,275	23.4%	29,806	3,315
Jones	40,406	81,306	-40,900	-50.2%	93,305	9,811
Lee	10,381	9,414	967	10.3%	9,305	1,076
Lee	49,040	41,374	7,666	18.5%	49,247	-207
Lenoir	59,648	57,274	2,374	4.1%	58,208	1,440
Lincoln	63,780	50,319	13,461	26.8%	60,080	3,700
Macon	29,811	23,499	6,312	26.9%	28,630	1,181
Madison	19,635	16,953	2,682	15.8%	18,978	657
Martin	25,593	25,078	515	2.1%	25,708	-115
McDowell	42,151	35,681	6,470	18.1%	40,644	1,507
Mecklenburg	695,454	511,433	184,021	36.0%	642,245	53,209
Mitchell	15,687	14,433	1,254	8.7%	14,690	997
Montgomery	26,822	23,346	3,476	14.9%	24,988	1,834
Moore	74,769	59,013	15,756	26.7%	72,308	2,461
Nash	87,420	76,677	10,743	14.0%	89,064	-1,644
New Hanover	160,307	120,284	40,023	33.3%	148,822	11,485
Northampton	22,086	20,798	1,288	6.2%	20,949	1,137
Onslow	150,355	149,838	517	0.3%	148,286	2,069
Pamlico	12,934	93,851	-80,917	-62.5%	84,881	8,481
Pasquotank	34,897	11,372	1,562	13.7%	12,602	332
Pender	41,082	31,298	3,599	11.5%	34,650	247
Perquimans	11,368	28,855	-17,487	-154.1%	38,971	2,111
Person	35,623	10,447	9,21	8.8%	10,872	496
Pitt	133,798	30,180	5,443	18.0%	33,664	1,959
Polk	18,324	107,924	-89,600	-48.9%	127,879	5,919
Randolph	18,324	14,416	3,908	27.1%	16,925	1,399
Randolph	130,454	106,546	23,908	22.4%	126,316	4,138
Richmond	46,564	44,518	2,046	4.6%	45,158	1,406
Robeson	123,339	105,179	18,160	17.3%	115,333	8,006
Rockingham	91,928	86,064	5,864	6.8%	89,745	2,183
Rowan	130,340	110,605	19,735	17.8%	125,800	4,540
Rutherford	62,899	56,918	5,981	10.5%	60,508	2,391
Sampson	60,161	47,297	12,864	27.2%	54,155	6,006
Scotland	35,998	33,754	2,244	6.6%	34,824	1,174
Stanly	58,100	51,765	6,335	12.2%	56,082	2,018
Stokes	44,711	37,223	7,488	20.1%	43,700	1,011
Surry	71,219	61,704	9,515	15.4%	68,843	2,376
Swain	12,968	11,268	1,700	15.1%	12,311	657
Transylvania	29,334	25,520	3,814	14.9%	28,353	981
Tyrrell	4,149	3,856	293	7.6%	4,025	124
Union	123,677	84,211	39,466	46.9%	115,344	8,333
Vance	42,954	38,892	4,062	10.4%	42,271	683
Wake	402,944	423,380	-20,436	-5.1%	452,118	35,628
Warren	19,972	17,265	2,707	15.7%	18,978	994
Washington	13,723	13,997	-274	-2.0%	12,850	873
Watauga	42,695	36,952	5,743	15.5%	40,791	1,904
Wayne	113,329	104,666	8,663	8.3%	112,954	375
Wilkes	65,632	59,393	6,239	10.5%	63,760	1,872
Wilson	73,814	66,061	7,753	11.7%	69,772	4,042
Yadkin	36,348	30,488	5,860	19.2%	36,124	224
Yancey	17,774	15,419	2,355	15.3%	16,841	933
North Carolina	8,049,313	6,628,637	1,420,676	21.4%	7,650,699	398,614

MATERIAL RECLAMATION BROWFIELD RD. C&D LF SITE, POPULATION FIGURES FOR COMP. TO FRANCHISE

USED FOR MATL. RECLAMATION SITE.

County Briefs

There are some new faces in some new places. County managers, county commissioners and county clerks have switched counties or retired after years of dedicated service. Here's the latest in the game of "Where in the World is..."

Lincoln County Commissioner **John R. Gamble, Jr.** resigned. **David Choate** is the new commissioner there.

Brunswick County Commissioners chose **Marty Lawing**, former city manager in Conway, SC, as the county's new manager. He began work in April. Lawing replaces former county manager **Jimmy Varner**.

Lawing was city manager in Conway since 1995 and has held similar positions in Bennettsville and Bishopville, SC.

Wake County has hired **Joe Durham** as deputy county manager. Durham was county manager in Edgecombe County, which is now in the process of finding a new manager.

Durham County has hired **George Quick**, the president and CEO of Mutual Community Savings Bank, as finance director. He fills a vacancy created when **Patricia Gravinese** left.

Carteret County has a new manager replacing **Robert Murphy**. The new guy is **Pete Allen**, former manager of the Town of Emerald Isle.

In Franklin, **Rick Leary** has retired and moved south to Florida. Franklin County is in the process of looking for his replacement.

Phil Hinely has left Gaston County. **Phil Ponder** has been named interim manager.

Hyde County is looking for a manager. **Bob Snapp** had been serving as interim manager but has moved on.

Pat Goddard is the new tax administrator in Johnston County. Before that she was in Franklin County.

Robeson County is losing **Lynn Shore** as tax administrator.

Henry Lord is serving as interim manager in Union County. Also in Union County, Clerk to the Board **Barbara Moore** has retired. **Lyn West** is the new clerk.

Another new clerk is **Thelda Rhoney**, who replaces **Ginny Sobotkin** in Catawba County.

Compiled by *Gayle Butzy and Robert Hester*



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July 1, 2000 Certified County Population Estimates

(to open/download as Excel Spreadsheet, click [here](#))

..go to state	July_2000	July_2000	Total Growth		GQ	Non-GQ Growth	
Counties	Estimate	(Census)	Number	%	Growth	Number	%
ALAMANCE	131,398	130,800	598	0.5	0	598	0.5
ALEXANDER	33,762	33,603	159	0.5	0	159	0.5
ALLEGHANY	10,711	10,677	34	0.3	0	34	0.3
ANSON	25,328	25,275	53	0.2	36	17	0.1
ASHE	24,441	24,384	57	0.2	0	57	0.2
AVERY	17,333	17,167	166	1.0	132	34	0.2
BEAUFORT	45,030	44,958	72	0.2	0	72	0.2
BERTIE	19,746	19,773	-27	-0.1	0	-27	-0.1
BLADEN	32,376	32,278	98	0.3	-1	99	0.3
BRUNSWICK	73,692	73,143	549	0.8	0	549	0.8
BUNCOMBE	207,152	206,330	822	0.4	18	804	0.4
BURKE	89,498	89,148	350	0.4	22	328	0.4
CABARRUS	131,983	131,063	920	0.7	14	906	0.7
CALDWELL	77,575	77,415	160	0.2	-2	162	0.2
CAMDEN	6,911	6,885	26	0.4	0	26	0.4
CARTERET	59,527	59,383	144	0.2	-10	154	0.3
CASWELL	23,582	23,501	81	0.3	22	59	0.3
CATAWBA	142,318	141,685	633	0.4	1	632	0.4
CATAWBA	49,588	49,329	259	0.5	0	259	0.5
CHEROKEE	24,394	24,298	96	0.4	0	96	0.4
CHOWAN	14,549	14,526	23	0.2	0	23	0.2
CLAY	8,810	8,775	35	0.4	0	35	0.4
CLEVELAND	96,571	96,287	284	0.3	18	266	0.3
COLUMBUS	54,857	54,749	108	0.2	-4	112	0.2
CRAVEN	91,595	91,436	159	0.2	-49	208	0.2
CUMBERLAND	303,892	302,963	929	0.3	227	702	0.2
CURRITUCK	18,289	18,190	99	0.5	-31	130	0.7
DARE	30,154	29,967	187	0.6	0	187	0.6
DAVIDSON	147,754	147,246	508	0.3	8	500	0.3
DAVIE	35,024	34,835	189	0.5	0	189	0.5
DUPLIN	49,319	49,063	256	0.5	4	252	0.5

BURHAM	224,490	222,914	1,176	0.5	0	1,176	0.5
EDGECOMBE	55,594	55,606	-12	0.0	32	-44	-0.1
FORSYTH	307,116	306,067	1,049	0.3	-4	1,053	0.3
FRANKLIN	47,545	47,260	285	0.6	-1	286	0.6
GASTON	190,735	190,365	370	0.2	15	355	0.2
GATES	10,546	10,516	30	0.3	0	30	0.3
GRAHAM	8,009	7,993	16	0.2	0	16	0.2
GRANVILLE	48,812	48,498	314	0.6	113	201	0.4
GREENE	19,041	18,974	67	0.4	-16	83	0.4
GUILFORD	423,005	421,048	1,957	0.5	-7	1,964	0.5
HALIFAX	57,371	57,370	1	0.0	-40	41	0.1
HARNETT	91,574	91,025	549	0.6	-35	584	0.6
HAYWOOD	54,212	54,033	179	0.3	10	169	0.3
HENDERSON	89,660	89,173	487	0.5	3	484	0.5
HERTFORD	22,602	22,601	1	0.0	0	1	0.0
HOKE	33,976	33,646	330	1.0	29	301	0.9
HYDE	5,857	5,826	31	0.5	36	-5	-0.1
IREDELL	123,446	122,660	786	0.6	0	786	0.6
JACKSON	33,283	33,121	162	0.5	0	162	0.5
<u>..go to state</u>	July_2000	April_2000	Total Growth		GQ	Non-GQ Growth	
Counties	Estimate	(Census)	Number	%	Growth	Number	%
JOHNSTON	123,074	121,965	1,109	0.9	-12	1,121	0.9
JONES	10,392	10,381	11	0.1	0	11	0.1
LEE	49,245	49,040	205	0.4	1	204	0.4
LENOIR	59,699	59,648	51	0.1	-3	54	0.1
LINCOLN	64,124	63,780	344	0.5	-1	345	0.5
MCDOWELL	42,356	42,151	205	0.5	65	140	0.3
MACON	29,968	29,811	157	0.5	0	157	0.5
MADISON	19,702	19,635	67	0.3	0	67	0.3
MARTIN	25,593	25,593	0	0.0	0	0	0.0
MECKLENBURG	700,622	695,454	5,168	0.7	6	5,162	0.7
MITCHELL	15,706	15,687	19	0.1	0	19	0.1
MONTGOMERY	26,902	26,822	80	0.3	-4	84	0.3
MOORE	75,164	74,769	395	0.5	7	388	0.5
NASH	87,669	87,420	249	0.3	-4	253	0.3
NEW HANOVER	161,306	160,307	999	0.6	-1	1,000	0.6
NORTHAMPTON	22,105	22,086	19	0.1	-4	23	0.1
ONslow	149,698	150,355	-657	-0.4	-850	193	0.1

ORANGE	118,854	118,227	627	0.5	-3	630	0.5
PAMLICO	12,958	12,934	24	0.2	-2	26	0.2
PASQUOTANK	34,994	34,897	97	0.3	34	63	0.2
PENDER	41,379	41,082	297	0.7	5	292	0.7
PERQUIMANS	11,392	11,368	24	0.2	0	24	0.2
PERSON	35,748	35,623	125	0.4	0	125	0.4
PITT	134,480	133,798	682	0.5	0	682	0.5
POLK	18,413	18,324	89	0.5	0	89	0.5
RANDOLPH	131,095	130,454	641	0.5	0	641	0.5
RICHMOND	46,592	46,564	28	0.1	-24	52	0.1
ROBESON	123,794	123,339	455	0.4	8	447	0.4
ROCKINGHAM	92,059	91,928	131	0.1	0	131	0.1
ROWAN	130,802	130,340	462	0.4	-45	507	0.4
RUTHERFORD	63,042	62,899	143	0.2	0	143	0.2
SAMPSON	60,499	60,161	338	0.6	1	337	0.6
SCOTLAND	36,036	35,998	38	0.1	1	37	0.1
STANLY	58,331	58,100	231	0.4	84	147	0.3
STOKES	44,892	44,711	181	0.4	0	181	0.4
SURRY	71,466	71,219	247	0.3	0	247	0.3
SWAIN	12,989	12,968	21	0.2	-17	38	0.3
TRANSYLVANIA	29,429	29,334	95	0.3	0	95	0.3
TYRRELL	4,126	4,149	-23	-0.6	-22	-1	0.0
UNION	124,793	123,677	1,116	0.9	0	1,116	0.9
VANCE	43,083	42,954	129	0.3	0	129	0.3
WAKE	633,288	627,846	5,442	0.9	-97	5,539	0.9
WARREN	20,094	19,972	122	0.6	66	56	0.3
WASHINGTON	13,709	13,723	-14	-0.1	0	-14	-0.1
WATAUGA	42,827	42,695	132	0.3	0	132	0.3
WAYNE	113,524	113,329	195	0.2	-6	201	0.2
WILKES	65,786	65,632	154	0.2	-6	160	0.2
WILSON	74,027	73,814	213	0.3	0	213	0.3
YADKIN	36,504	36,348	156	0.4	0	156	0.4
YANCEY	17,831	17,774	57	0.3	0	57	0.3

	July_2000	April_2000	Total Growth		GQ	Non-GQ Growth	
NORTH	Estimate	(Census)	Number	%	Growth	Number	%
CAROLINA	8,086,194	8,049,313	36,881	0.5	-283	37,164	0.5

[...go to top](#)



Search Type: Starting With
Search Date: 3/16/2001

Search Criteria: material reclamation
Search Time: 10:23

Entity Name

Material Reclamation, LLC

Type

LLC

Status

Current-Active Name

Records Returned 1 to 1



Date: 3/16/2001
Document Filings

Corporation Names

Name

Material Reclamation, LLC

Name Type

Legal NC

Limited Liability Company Information

SOSID: 0564821

Status: Current-Active Name

Date Formed: 9/21/2000

Citizenship: Domestic

State of Inc.: NC

Duration: 12/31/2050

Registered Agent

Agent Name: Blackwood, L. James, II

Registered Office Address: 108 Commerce Place
Greensboro NC 27401

Registered Mailing Address: 108 Commerce Place
Greensboro NC 27401

20 265 9039

State of North Carolina
Department of the Secretary of State
LIMITED LIABILITY COMPANY

SOSID: 584821
Date Filed: 9/21/2000 3:45 PM
Elaine F. Marshall
North Carolina Secretary of State

ARTICLES OF ORGANIZATION

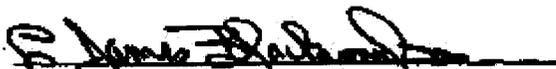
Pursuant to §57C-2-20 of the General statutes of North Carolina, the undersigned does hereby submit these Articles of Organization for the purpose of forming a limited liability company.

1. The name of the limited liability company is: Material Reclamation, LLC
2. The latest date on which the limited liability company is to dissolve is December 31, 2050.
3. The name and address of each organizer executing these articles of organization is as follows:

L. James Blackwood, II
108 Commerce Place
Greensboro, N.C. 27401
4. The street address and county of the initial registered office of the limited liability company is:

108 Commerce Place
Greensboro, N.C. 27401 Guilford County
5. The mailing address if different from the street address of the initial registered office is:
SAME
6. The name of the initial registered agent is L. James Blackwood, II.
7. Check one of the following:
 - (i) Member-managed LLC: all of the members by virtue of their status as members shall be managers of this limited liability company.
 - (ii) Manager-managed LLC: except as provided by N.C.G.S. §57C-3-20(a), the members of this limited liability company shall not be managers by virtue of their status as members.
8. Any other provisions which the limited liability company elects to include are attached. There are no other provisions which the limited liability company elects to include.
9. These articles will be effective upon filing, unless a date and/or time is specified: Effective upon filing.

This 20 day of September, 2000.


Signature

L. JAMES BLACKWOOD, II, Organizer

NOTES: Filing fee is \$125. This document and one ~~set~~ or computerized copy of these articles must be filed with the SECRETARY OF STATE CORPORATIONS DIVISION 300 N. SALISBURY STREET KALEIGH, NC 27605-5908



Registered Agent Information

Agent Name Blackwood, L. James, II
Mailing Address: 108 Commerce Place
 Greensboro NC 27401

Businesses that this Agent Represents

...

Entity Name	Type	Status	Formed
<u>D. H. Griffin Reclamation Co., LLC</u>	LLC	Current-Active Name	8/2/2000
<u>Material Reclamation, LLC</u>	LLC	Current-Active Name	9/21/2000
<u>Material Recovery, LLC</u>	LLC	Current-Active Name	9/21/2000
<u>Recycling Properties, LLC</u>	LLC	Current-Active Name	9/26/2000

Records Returned 1 to 4

Please note this may not be a complete list of companies represented by this agent. Data from the old system has many duplicate entities. So we will need to combine all information about an entity into one record.



Board of Commissioners

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HERBERT H. COUNCIL, VICE-CHAIRMAN
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BETTY O. MANGUM
BETTY LOU WARD
MICHAEL A. WEEKS



I, Gwendolyn I. Reynolds, Clerk to the Wake County Board of Commissioners, do hereby certify that the attached pages are true and accurate copies of the following:

1. Excerpt of minutes from the March 12, 2001, meeting of the Wake County Board of Commissioners.
2. Pages 1-19 from the agenda package from the March 12, 2001, meeting provided to the Wake County Board of Commissioners relating to the *Application for Construction and Demolition Debris (C&D) Landfill Franchise for C&D Landfill Modified by Expansion*, of Material Recovery, LLC, said landfill to be located on Brownfield Road (SR 2553), Wake County, North Carolina.
3. Excerpt of the minutes of the April 2, 2001, meeting of the Wake County Board of Commissioners.
4. Excerpt of the minutes of the April 16, 2001, meeting of the Wake County Board of Commissioners.



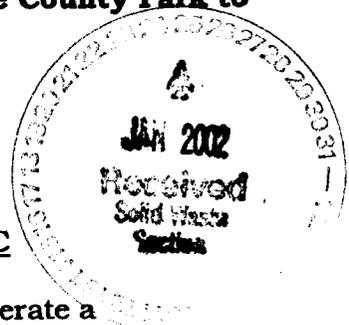
Gwendolyn I. Reynolds
Gwendolyn I. Reynolds
Clerk to the Board of Commissioners

January 23, 2002
Date

TABLED
XO
VOTE

Upon motion of Commissioner Mangum, seconded by Commissioner Gardner, the Board unanimously approved a five-year lease extension with the Raleigh Durham Airport Authority for Tract 6 (141.31 acres) adjacent to Lake Crabtree County Park to be used for bike and hiking trails.

APPROVAL OF REQUEST FOR GRANT OF
LANDFILL FRANCHISE FOR MATERIAL RECOVERY, LLC



Material Recovery, LLC has filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR 2553. The Board of Adjustment approved this land use request on December 12, 2000. The application is filed pursuant to the franchise ordinance for C&D landfills enacted by the Board of Commissioners September 7, 1999.

State law requires that a franchise be approved at two regular meetings before it may be finally adopted. The Ordinance provides that the Board of Commissioners may, but is not required to hold a public hearing prior to acting on a request for a C&D franchise.

Chairman Weeks announced that representatives from both sides of the issue would be given an opportunity to comment before consideration by the Board.

The Chairman then recognized Mr. Lacy Reaves, Attorney representing the applicant, to comment in support of granting the landfill franchise. He highlighted information as provided in the application, that the site is located on Brownfield Road, Wake County, North Carolina, and will accept an average of 650 tons of material daily; that the population to be served by the proposed construction and demolition landfill consists of present and future residents of Wake County and Johnston County, and that it is possible the landfill will also serve present and future residents of Durham County, Orange County and Chatham County. In addition to material delivered to the landfill in automobiles and light trucks, it is anticipated that approximately fifty 10-wheel/roll-off trucks and ten 18-

wheel trucks will visit the landfill daily. The facility will operate from 7 am until 5:30 pm on weekdays and from 8:30 am until 2:00 pm on Saturdays.

The waste stream will include inert debris similar to types deposited in LCID landfills, asphalt, solid waste resulting from construction, remodeling, repair or demolition operations on pavement, buildings, or other structures (such as furniture, carpet remnants, and any other waste material resulting from the construction and demolition of a structure) and other construction and demolition and LCID materials approved by the Division of Solid Waste Management. The projected useful life of the applicant's proposed facility is between 30 and 40 years.

Chairman Weeks then recognized Mr. Charles McDarris, Attorney representing community residents. He informed the Board that at the Board of Adjustment meeting in December 2000, the residents were not allowed to voice their objections and to present evidence about contamination of groundwater, and concerns about environmental, visual screening, traffic and property values in the community. He further informed the Board that he has filed an appeal before the Wake County Superior Court, however the Judge has not issued a ruling. He then requested that the Board table its decision on this matter until a future meeting.

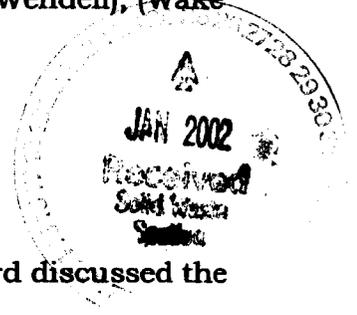
Following discussion, **Commissioner Gardner moved to table Board consideration of granting a landfill franchise for Material Recovery, LLC to operate a construction and demolition debris landfill in Wake County until the April 2, 2001 meeting. Commissioner Ward seconded the motion, and upon vote the motion was approved with all Commissioners voting aye, except Commissioner Weeks who voted nay.**

TABLED
NO
VOTE

- 6. Consideration of Refund of Taxes, Interest, and Penalties: (Wake County Only), (Wake County and Town of Cary), (Wake County and City of Raleigh), (Wake County and Town of Wake Forest).
- 7. Non-Cash Rebates: (Wake County Only), (Wake County and Town of Apex), (Wake County and Town of Cary), (Wake County and Town of Fuquay-Varina), (Wake County and Town of Garner), (Wake County and Town of Holly Springs), (Wake County and Town of Knightdale), (Wake County and Town of Morrisville), (Wake County and City of Raleigh), (Wake County and Town of Rolesville), (Wake County and Town of Wake Forest), (Wake County and Town of Wendell), (Wake County and Town of Zebulon).



REQUEST FOR GRANT OF LANDFILL FRANCHISE
MATERIAL RECOVERY, LLC



At the March 12, 2001, Board of Commissioners meeting, the Board discussed the request for grant of landfill franchise for Material Recovery, LLC and tabled the request until the April 2, 2001 Board meeting.

Material Recovery, LLC has filed an application for a franchise to operate a construction and demolition debris (C&D) landfill in Wake County. The property is located on Brownfield Road, SR 2553. The application is filed pursuant to the franchise ordinance for C&D landfills enacted by the Board of Commissioners September 7, 1999, the Board of Adjustment approved this request on December 12, 2000. The ordinance provides that the Board may, but is not required to, hold a public hearing prior to acting on a request for a C&D franchise.

State law requires that a franchise be approved at two regular meetings before it may be finally adopted.

Chairman Weeks announced that this issue was not being considered as a public hearing; however, the petitioner and those opposing the request were given an opportunity to report on progress since the last meeting.

Mr. Lacy Reeves, PO Box 1070, Raleigh, attorney for Material Recovery, stated that there had been comments made that might potentially lead to the resolution of the controversy; however, until the issuance of the franchise is resolved, it is not appropriate to

negotiate. He further stated that this is not a discretionary matter once a Special Use Permit is approved by the Board of Adjustment. He then noted that the case is still pending in Superior Court. The site plan submitted and approved by the Board of Adjustment was also presented for Board review.

Mr. Tom Adams, attorney representing some of the landowners, indicated that an attempt had been made to talk with the petitioner but was unsuccessful because of a desire to negotiate only after the franchise has been granted. He noted that there is still the issue of transportation/traffic problems and the impact on Farmdale Acres subdivision, property values, noise levels, and hours of operation.

Mr. Josh Talton, representing the Baucom family and other families on Baucom Road near the proposed landfill site, asked that members of the Board of Commissioners look at phasing of the facility with the use of the northernmost cell with 20-year build out, and with the condition that trucks access the landfill via Battle Bridge Road only. He indicated that these conditions would minimize the impact on the community and the Board of Adjustment did not consider these issues. He then requested that the Board of Commissioners defer action on this issue today and give the petitioner and opponents/ community residents two weeks for an opportunity to negotiate and for discussion.

Chairman Weeks recognized **Commissioner Council who moved approval of the issuance of a franchise to Material Recovery, LLC to operate a construction and demolition debris landfill on Brownfield Road in Wake County in accordance with the representations made on the application submitted by Material Recovery, LLC.**

The motion died for lack of a second.

Commissioner Ward then moved that consideration of the issue be tabled until the next meeting, April 16, 2001. Commissioner Coleman seconded the motion and upon vote the motion passed, with Commissioner Weeks voting nay.



Board of Commissioners

P.O. Box 550 • Raleigh, NC 27602

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BETTY LOU WARD



I, Gwendolyn I. Reynolds, Clerk to the Wake County Board of Commissioners, do hereby certify that the attached pages are true and accurate copies of the following:

1. Excerpt of the minutes from the January 22, 2001 meeting of the Wake County Board of Commissioners.
2. Pages 1-11 from the agenda package from the January 22, 2001 meeting provided to the Wake County Board of Commissioners relating to the *Application for Construction and Demolition Debris (C&D) Landfill Franchise for C&D Landfill Modified by Expansion*, of Red Rock Disposal LLC and Waste Industries, Inc., said landfill to be located at 7130 New Landfill Road near Holly Springs, Wake County, NC.
3. Excerpt of the minutes of the February 5, 2001 meeting of the Wake County Board of Commissioners

Post-it® Fax Note	7671	Date	1/7/02	# of pages	1
To	SHAWN FERRO	From	J. B.		
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Fax #		Fax #			

Gwendolyn I. Reynolds
Gwendolyn I. Reynolds
the Board of Commissioners

September 14, 2001

O-01-12

**ORDINANCE GRANTING FRANCHISE
TO MATERIAL RECOVERY, LLC FOR OPERATION
OF CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL**

WHEREAS, Material Recovery, LLC, has applied for a franchise for the operation of a construction and demolition debris landfill in Wake County; and

WHEREAS, the application filed by Material Recovery, LLC, contains all of the information required by the Wake County franchise ordinance for construction debris (C&D) landfills; and

WHEREAS, the applicants have received a special use permit from the Wake County Board of Adjustment for operation of a C&D landfill on the site identified in the application.

NOW, THEREFORE, BE IT ORDAINED THAT, Material Recovery, LLC, is hereby granted a franchise to operate a construction and demolition debris landfill in Wake County in accordance with the representations made on the application submitted by Material Recovery, LLC, a copy of which is maintained in the permanent files of the Clerk to the Board. This franchise shall be in effect for a period of 20 years.

Adopted: April 16, 2001

