February 5, 1999

Mr. Michael L. Crist
Staff Engineer/Recycling Coordinator
Clinton County Solid Waste Authority
P.O. Box 209
S.R. 1005, Landfill Lane
McElhattan, PA 17748

Subject: **Recycling Program Evaluation**

Dear Mike:

This letter is to provide the Clinton County Solid Waste Authority (Authority) with the results of R.W. Beck's analysis of the Authority's recycling operation, particularly issues related to processing and marketing of materials at the Authority's materials recovery facility (MRF). The Authority is looking to purchase a baler that would produce market-standard bales, giving the Authority more options for marketing its materials in a constantly changing market environment. The goal is to make the Clinton County recycling program self-sufficient.

This analysis compares costs and revenues under two basic scenarios—shipping loose of baled materials--and considering current and potential markets. In addition, some other observation and recommendations are made related to other parts of the recycling program.

EVALUATION OF RECYCLING PROCESSING/MARKETING PROGRAM

For purposes of this report, the materials that have been evaluated include newsprint, office paper and magazines, corrugated cardboard, steel cans, aluminum cans, and mixed plastics. Glass was not evaluated further because the Authority is satisfied with the processing and marketing of glass as currently managed.

Marketing options considered for each material including cooperative efforts with two public entities (Centre County Solid Waste Authority and Lycoming County Waste Management) and marketing through other private entities. The basic scenarios include processing and marketing each material as currently managed (loose or in non market-standard bales), and marketing baled materials using a new baler that produces better quality, market-standard bales.

General assumptions are as follows:

- 22 tons and/or 33 bales are considered to be the upper limit per load shipped. There are factors that may reduce this upper limit for specific materials.
- The transportation cost for Clinton County personnel to deliver materials is $1.25/mile.
- The approximate cost for baling is currently $18/bale. While this cost is expected to decline significantly with a new, more efficient baler, the $18 rate is used for all projections throughout this report. As a result, we assume that our projections

present a conservative picture of net costs/revenues that would result from using a new baler.
- The public facilities (Centre and Lycoming) will take 10% of revenues as a processing/handling fee to market baled materials for Clinton County.

A separate analysis is presented for each material below. Tables referenced throughout are attached to the end of this report.

NEWSPRINT

Assumptions:

- Baling does not substantially increase loads of newsprint (ONP) for shipping. The Authority currently ships 20 tons loose, and cannot ship more than around 22 tons baled.
- The price paid for newsprint is the same whether it is shipped baled or loose (currently $40 per ton).
- Baling adds a cost for processing that does not currently exist.

Table 1 presents estimated net cost/revenue for two scenarios—loose or baled—using the current market (Garden State Paper) and either the Centre or Lycoming County facilities.

The cost for baling is the same for each market, and significantly exceeds transportation costs, even shipping to the most distant market, Garden State Paper. While all markets will accept loose paper, the Centre and Lycoming County facilities will not pay for loads of loose ONP, and Centre County charges a tipping fee of $5.00/ton for loads that require processing. With no revenue, and some cost to transport materials, there is a net loss that would result from shipping loose materials to these facilities.

A representative from Garden State Paper has stated that his facility prefers to receive ONP loose. It is easier to offload and process than baled paper, and there is less risk of injury to workers due to shifting of bales during shipping (because of bales that fall on employees when the trailer is opened on arrival). Because the market price is the same whether the material is shipped loose or baled, weight of loose loads is only marginally less than baled loads, and the cost to bale adds greatly to overall processing costs, the net revenue for loose ONP shipped to Garden State Paper is significantly greater than for baled ONP.

Based on data presented in Table 1, it appears that the current scenario—shipping loose ONP to Garden State Paper—is the best option for Clinton County.

MIXED OFFICE PAPER/MAGAZINES

Assumptions:

- Baling does not substantially increase loads of mixed office paper and magazines (OMG) for shipping. The Authority currently ships 20 tons loose, and cannot ship more than around 22 tons baled.
- Baling adds a cost for processing that does not currently exist.

Table 2 presents estimated net cost/revenue for two scenarios—loose or baled—using the current market (Marcal) and either the Centre or Lycoming County facilities. The cost for baling is the same for each market, and as for ONP, significantly exceeds transportation costs, even to Marcal. The other factors for Centre and Lycoming Counties are the same as for ONP.

A representative from Marcal has quoted a price of $35-40 per ton for baled material, versus the currently received price of $15-20 per ton for loose material. For purposes of Table 2, these revenues were entered as $37.50 per ton and $17.50 per ton respectively. While the market pays a significantly greater rate for baled paper and baling allows for marginally more paper to be shipped per load, the added cost for baling more than negates the additional revenue.

Based on data presented in Table 2, it appears that multiple options exist. Continuing with the current scenario—shipping loose paper to Marcal—or shipping baled paper to Centre County or Lycoming County would yield the best results. However, it should be noted that if the cost to bale is significantly lower with a new baler, the economics change drastically. Net revenue from Marcal under a scenario where the cost of baling is assumed to be $10 per ton, rather than $18, is estimated at $315 per load—significantly more than the $67 per load estimated in Table 2. If this is the case, baling this material and shipping it to Marcal becomes the clear preference for Clinton County.

CORRUGATED CARDBOARD

Assumptions include:

- Baling with a new, more efficient baler substantially increases loads or corrugated cardboard (OCC) for shipping. The Authority currently ships 15 tons of non-market-standard bales per load, and would be able to ship around 22 tons baled.
- The price per ton paid for bales made with a more efficient baler will be the same as for the current baler (based on information received from Centre County).

Table 3 presents estimated net cost/revenue for two scenarios—baling OCC with the existing baler or baling using a new, more efficient baler—using Staiman Brothers (the market used in the past), NGC Industries (the current market) and either the Centre or Lycoming County facilities. The per bale cost for baling is the same for each market and for each baler, and as for the other types of paper, significantly exceeds transportation costs.

Clinton County currently receives $48 per ton from NGC Industries for its baled OCC. It is expected that this revenue per ton would remain the same, though tonnage per load shipped would increase substantially with a new baler. Assuming that the transportation cost per load is the same, revenue per load would increase. Table 3 shows positive net revenue for OCC in three out of the four markets shown with a new baler. Continuing to market cardboard under the current scenario appears to guarantee a net cost per load in three of the markets, and only minimal net revenue in the other.

Based on data presented in Table 3, it appears that continuing to use the current market—NGC Industries—but delivering market-standard bales, is clearly the best option. Further reduction in baling cost anticipated with the use of a new baler would

improve this scenario even more. While not the closest of the potential markets, it is close enough that transportation is low, and there is no deduction from revenues paid to accommodate administration and handling, as would be the case with Centre or Lycoming Counties.

ALUMINUM

Assumptions:

- Baling should at least double the weight of loads for shipping. The Authority currently ships three tons of flattened cans per load, and would be able to ship around six tons baled.
- The price per ton paid for bales is significantly more than for loose, flattened cans.

Table 4 presents estimated net cost/revenue for two scenarios—shipping loose and flattened or shipping baled—using the current market (Staiman Brothers) and either the Centre or Lycoming County facilities. The cost for baling is the same for each market, and as for the other materials, significantly exceeds transportation costs.

Clinton County currently receives $.30 per pound for its loose, flattened aluminum cans. Revenue is expected to increase substantially with baling, to approximately $.50 per pound. It is assumed that the transportation cost would remain the same. Assuming the doubling of a load and a significant increase in revenue from baling, the economics for aluminum change dramatically. Even considering the cost of baling, revenues are expected to more than triple for baled materials shipped to Staiman Brothers, and nearly triple for materials shipped to Centre or Lycoming Counties. A lower baling cost would improve the picture even more.

Based on data presented in Table 4, it appears that continuing to use the current market—Staiman Brothers—is the best option. It is the closest of the potential markets, which means transportation is less, and there is no deduction from revenues paid to accommodate administration and handling, as would be the case with Centre or Lycoming Counties. As with the other materials, a lower than estimated baling cost would result in greater net revenues.

STEEL CANS

Assumptions:

- Baling should increase loads for shipping. The Authority currently ships 15 tons of flattened cans per load, and should be able to ship around 18 tons baled.
- The price per ton paid for bales is significantly more than for loose, flattened cans.

Table 5 presents estimated net cost/revenue for two scenarios—shipping loose and flattened or baled—using the current market (Staiman Brothers), two new markets (AMG Resources or Tube City) and either the Centre or Lycoming County facilities. The cost for baling is the same for each market, and as for the other materials, significantly exceeds transportation costs.

Clinton County currently receives no revenue from Staiman Brothers for its loose, flattened steel cans. The County has shipped one load—15 tons—to AMG Resources

in Pittsburgh and received $30 per ton. Revenue is expected to increase substantially with baling, to approximately $41 per ton shipped, based on a quote from Tube City, though it is doubtful that Staiman Brothers would pay this amount (no quote has been received from Staiman as of the preparation of this report). For purposes of this analysis, it is assumed that Staiman Brothers would pay $30 per ton for baled cans. It is assumed that the transportation cost of $1.25 per mile would apply to all markets whether cans are shipped loose or flattened.

A representative from Tube City offered the option of picking up the materials and deducting $18 per ton for freight. This appears to be a viable, and maybe the best, option for marketing loose cans. It does not appear to present a reasonable option for marketing baled cans if the cost to bale is $18 per bale. It becomes an option, however, if the cost to bale declines with the use of a new baler. At $10 per ton to bale, rather than $18, revenue for a load of baled cans picked up from Clinton County is projected at $84. If steel continues to rebound from its recent low market value, baling may become a better option.

Baling is not expected to increase load size enough to offset the cost of baling at the current level of $18 per bale, and in the case of AMG Resources and Tube City, the cost of transportation.

Based on data presented in Table 5, it appears that under current market conditions, continuing to market steel cans loose and flattened presents the best option for Clinton County, with having Tube City pick up the cans as the preferred option and delivering loose cans to Tube City or AMG Resources as a second option.

PLASTICS

Assumptions:

- Baling could dramatically increase tonnage for shipping, from around two tons loose, to around 17 tons baled.
- Given the small volume/tonnage received in Clinton County, storing baled plastics to make a full load would present a problem.

Table 6 presents estimated net cost/revenue for two scenarios—shipping loose and flattened or baled—using the current market (Lycoming County) or Centre County. The cost for baling is the same for each market, and as for the other materials, it significantly exceeds transportation costs.

Clinton County currently receives no revenue from Lycoming County for its loose, flattened plastic, but also pays no tipping fee. Revenue is expected to be approximately $.015 per pound for mixed bales, or $30 per ton. It is assumed that the transportation cost per load would be the same whether shipping loose or baled. However, the cost of baling far outweighs the revenues to be received from baled loads at the current market price. Losses are projected in all scenarios.

Based on data presented in Table 6, it appears that continuing to deliver loose plastic to Lycoming County may be the best option as long as there are no tipping fees. While this option involves a net cost, it is significantly less than the cost if materials are to be baled.

Another option would be to explore delivering baled material to Centre or Lycoming County as part of a load of another material. Under this scenario, if Clinton County were to market this material separated (PET and HDPE) rather than mixed, and if the cost to bale is less than used in the projections in Table 6, a net revenue might be realized.

COMPARISON OF PROCESSING/MARKETING OPTIONS

Table 7 presents a comparison of net costs/revenues based on the factors described above—transportation costs, baling costs and revenues (using current market prices). Table 8 has been added to look at the projections using a reduced rate of $10 per bale as well, because a new baler is expected to reduce baling costs. We used the totals submitted in the 1997 Annual County Planning Progress Report.

There are some caveats to consider when evaluating the data presented here. We understand that the change to a fee system for recyclables collection caused the number of households collected, and thus recycling tonnage, to decline in 1998. We also acknowledge that the County is now collecting from all households in the City of Lock Haven under a contract, and that additional drop-off locations are being sited throughout the County. We chose to use the 1997 recycling tonnages because 1998 figures are not yet complete and the 1998 experience is probably not a good indicator of future volume/tonnages. Finally, we should note that market prices used in all tables are based on the best information we have at this time. Market prices fluctuate constantly, so it is impossible to make projections that will continue to be reasonable for any length of time.

What Tables 7 and 8 show is that the purchase of a new baler that generates market-standard bales can have a significant impact on the bottom line for Clinton County based on the factors we considered. Baling isn't the preferred processing option for some materials, but we have projected a significant increase in revenues derived from aluminum cans in particular. For this reason alone, it appears that purchase of a new baler makes sense for Clinton County.

Aside from what the projections in Tables 7 and 8 indicate, it should be noted that having a baler that generates market-standard bales gives Clinton County a much wider range of marketing options. In the current system, there are significant limitations on the number and distance of markets that can be used. Should market conditions change such that the market price increases for some of the materials, or should some markets disappear leaving only those that will accept baled materials available, having the option to bale will be of great value to the County.

While we were asked to evaluate working cooperatively with either Centre County or Lycoming County to process and/or market recyclables, we found that in most cases this was not a good option for Clinton County. Transportation costs were low to both locations, but: (1) if materials are delivered for processing and marketing, there is a net cost to Clinton County because no revenues would be realized from these materials, and in fact, Centre County charges a tipping fee of $5 per ton; and (2) if materials are processed by Clinton County and delivered for marketing only, revenue would be somewhat less because some percentage would be deducted for administration and handling. It does appear, however, that cooperative arrangements may make sense for marketing office paper and magazines, depending on market

conditions, and for plastics, where the volume and tonnage is too small for efficient management within Clinton County.

OTHER ISSUES

Increased Throughput

Clinton County would benefit from increased throughput of materials to its facility. The additional revenues would help to offset the fixed costs for operating the County-wide recycling system and materials recovery facility (MRF). Having a contracted program with the City of Lock Haven should help to ensure a steady, more predictable flow of recyclables to the Clinton County facility. Adding more drop-off sites that are well publicized through a thoughtful, comprehensive public education program will help as well. However, having more contracted programs would boost throughput more significantly and would result in a more predictable flow of materials to the facility. The Authority should explore the possibility of establishing contracts with other municipalities, ensuring that any new contracts generate sufficient revenues to cover the costs of operating the collection system.

Another option to increase throughput is to promote more recycling in businesses and institutions as a means of limiting or reducing waste management costs. Depending on the establishment, there are a variety of options available. Blue boxes could be provided to small businesses and collected on a residential collection route. Rolloff containers for OCC and office paper could be strategically placed where there is a heavy concentration of commercial establishments, or where large generation by a single entity merits it. A marketing effort could also be directed at larger commercial entities that might benefit from an option to self-haul materials to the Clinton County MRF and to haulers who might be able to benefit from providing more recyclables collection services to customers.

Boosting the drop-off tonnages will require a comprehensive public education effort to make the public aware of the sites and materials that can be accepted. It may be beneficial to form partnerships with the municipalities where sites are located to extend the reach of and enhance your educational efforts.

As tonnages of materials increase, it would be beneficial to investigate other markets or look further into the option of having materials picked up from Clinton County. Having greater throughput may make the County's materials more attractive to some markets. The rate per ton may be less for materials picked up from the MRF, but eliminating transportation and reducing vehicle maintenance costs may result in greater net revenues.

Additional tonnage would almost certainly result in the need for additional storage. Given site limitations, this may require that you provide for storage options outside the building such as a covered storage area or additional trailers to hold materials until a full load is accumulated.

Budget

It would probably be beneficial to review your budget carefully and allocate your expenses and revenues by program area or activity. This will help to ensure that you are operating efficiently and that you are balancing revenue needs with expense

requirements for each program area. This is especially critical in helping to set reasonable fees for recycling collection services.

Other Revenue Opportunities

Clinton County's tub grinder appears to present additional opportunities to generate revenues. If it is assumed that there are 2,080 hours available (based on 40 hours/week, 52 weeks/year) and that the tub grinder was used 450 hours in 1998, usage could be extended significantly, generating greater revenues to support the recycling program. It the estimated hourly cost to operate the tub grinder is as estimated by the Authority--$65 to $70 per hour—and a minimum rate of $85 per hour is charged for its use--the minimum revenue generated from this activity alone was in the range of $6,750 to $9,000 in 1998. The Authority may charge up to $140 per hour for use of the tub grinder, however, with the rate based on materials processed and volume. If the average charge is $110 per hour, revenue for 1998 would be in the range of $18,000 to $20,250.

If usage could be boosted to at least 50 percent, or approximately 1,000 hours per year, projected revenues, using an average of $110 per hour charge, could be in the $40,000 to $45,000 range annually. Sale of material such as wood chips for fuel or mulch adds to that revenue stream. It is our understanding that approximately 50 percent of the material is returned to the municipalities that generated it. A substantial portion of the remainder of the material processed is typically marketed as mulch. The Authority should look at the composition, quantity and quality of material processed through the tub grinder with an eye toward maximizing revenues by marketing the product to an appropriate market or adapting to accommodate a potential market.

Balers

The Authority should review the experience of other smaller facilities in Pennsylvania to learn about their experience with the balers they are using. A summary of conversations we conducted with several operators around the Commonwealth is attached for your review. It is our understanding that the Authority has already done some of this kind of research, and it may be helpful to do some follow-up before making a final decision.

Market Stability

Representatives from Centre and Lycoming Counties suggested that finding a market that gives a reasonable return for materials, even if not the highest, is more important than always finding the highest price if that market will guarantee to accept materials through all market conditions. However, if agreements are made with specific markets, some provision should be included that ensures that Clinton County will benefit from market highs and not be locked in at an artificially low price.

CONCLUSIONS

- An optimal processing and marketing system for recyclables generated in Clinton County will involve flexibility in terms of processing and marketing.

- Purchase of a baler that generates market-standard bales would give Clinton County more processing and marketing options and is expected to generate greater revenues for the County's recyclables.
- Increasing the throughput of recyclables should help to offset fixed costs and boost market clout by opening the County to a wider range of markets.
- The budget, as currently structured, makes it difficult to know how revenues balance against expenses in each program area.
- There are opportunities to increase revenues through expanded use of the tub grinder and sale of materials produced.

RECOMMENDATIONS

- Clinton County should purchase a baler that generates market-standard bales to add flexibility to its processing options and boost revenues for many of its materials.
- The Authority should make appropriate marketing changes to ensure the greatest revenue while ensuring stability and a return that is consistent with market performance.
- The Authority should look for ways to increase the throughput of materials to the MRF. Possible options include negotiating additional municipal contracts, encouraging commercial and institutional recycling efforts, and expanding and enhancing the drop-off program.
- The Authority should look at restructuring the recycling budget using a full-cost/enterprise accounting system to help ensure that expenses and revenues are reasonably balanced by program area and to give the Authority the ability to assess the efficiency and cost effectiveness of its activities. Specifically, the expenses and revenues for collection and processing/marketing should be separated, and any processing/marketing expenses that cannot be covered by revenue from the sale of materials should be allocated as a collection expense, so that collection fees can be set appropriately. This will help the Authority to assess its competitiveness with others that may wish to provide collection services to municipalities for which the Authority currently provides collection.
- The Authority should look into other activities that can boost revenues and ensure income regardless of recycling market fluctuations. In particular, the Authority should consider further marketing the use of its tub grinder and looking for reasonable markets for the materials generated.

While continued evaluation and monitoring will be necessary to ensure the recycling program's success, taking action in these areas should help put the Authority on the path to self-sufficiency in its recycling program.

Sincerely,
R.W. BECK, INC.

Sandra L. Strauss
Environmental Analyst

cc: Kathleen Kilbane, SWANA
Carl Hursh, DEP
Debbie Miller, R.W. Beck

TABLE 1
NET COST/REVENUE ESTIMATES
NEWSPRINT

EXPENSES/REVENUES	MARKETS		
	Garden State Paper	Centre County	Lycoming County
Expenses - Loose*			
Transportation (@ $1.25/mi.)	200	46	56
Tipping Fees		100	
Expenses - Baled**			
Baling (@ $18/bale)	558	558	558
Transportation (@ $1.25/mi.)	200	46	56
Revenues - Loose*	800	0	0
Revenues - Baled***	880	792	792
NET COST/REVENUE - Loose	600	-146	-56
NET COST/REVENUE - Baled	122	188	178

*Assumes 20 tons/load; transportation to Garden State is fixed at $200 because of backhaul arrangement
**Assumes 31 bales/load
***Assumes 22 tons/load

TABLE 2

NET COST/REVENUE ESTIMATES

MIXED OFFICE PAPER/MAGAZINES

EXPENSES/REVENUES	MARKETS		
	Marcal	**Centre County**	**Lycoming County**
Expenses - Loose*			
Transportation (@ $1.25/mi.)	200	46	56
Tipping Fees		100	
Expenses - Baled**			
Baling (@ $18/bale)	558	558	558
Transportation (@ $1.25/mi.)	200	46	56
Revenues - Loose*	350	0	0
Revenues - Baled***	825	743	743
NET COST/REVENUE - Loose	150	-146	-56
NET COST/REVENUE - Baled	67	138	128

*Assumes 20 tons/load; transportation to Marcal is fixed at $200 because of backhaul arrangement

**Assumes 31 bales/load

***Assumes 22 tons/load

TABLE 3
NET COST/REVENUE ESTIMATES
CORRUGATED CARDBOARD

EXPENSES/REVENUES	MARKETS			
	Staiman Brothers	NGC Industries	Centre Co.	Lycoming Co.
Expenses - Current Bales*				
Baling (@$18/bale)	630	630	630	630
Transportation (@ $1.25/mi.)	25	69	46	56
Tipping Fees				
Expenses - Baled**				
Baling (@ $18/bale)	540	540	540	540
Transportation (@ $1.25/mi.)	25	69	46	56
Revenues - Current Bales***	450	720	405	405
Revenues - Baled******	660	1056	594	594
NET COST/REVENUE - Current Bales	-180	21	-225	-225
NET COST/REVENUE - Baled	95	447	8	-2

*Assumes 35 bales/load
**Assumes 30 bales/load
***Assumes 15 tons/load
****Assumes 22 tons/load

TABLE 4
NET COST/REVENUE ESTIMATES
ALUMINUM CANS

EXPENSES/REVENUES	MARKETS		
	Staiman Brothers	**Centre County**	**Lycoming County**
Expenses - Loose*			
Transportation (@ $1.25/mi.)	25	46	56
Tipping Fees		15	
Expenses – Baled**			
Baling (@ $18/bale)	360	360	360
Transportation (@ $1.25/mi.)	25	46	56
Revenues – Loose*	1,800	0	0
Revenues – Baled***	6,000	5,400	5,400
NET COST/REVENUE - Loose	1,775	-61	-56
NET COST/REVENUE - Baled	5,615	4,994	4,984

*Assumes 3 tons/load
**Assumes 20 bales/load
***Assumes 6 tons/load

TABLE 5
NET COST/REVENUE ESTIMATES
STEEL CANS

EXPENSES/REVENUES	MARKETS				
	Staiman Brothers	AMG Resources	Tube City	Centre County	Lycoming County
Expenses - Loose*					
Transportation (@ $1.25/mi.)	25	313	313	46	56
Tipping Fees				75	
Expenses - Baled**					
Baling (@ $18/bale)	594	594	594	594	594
Transportation (@ $1.25/mi.)	25	313	313	46	56
Revenues - Loose*	0	450	450	0	0
Revenues - Loose (-freight)***	NA	NA	180	NA	NA
Revenues - Baled******	540	738	738	373	373
Revenues - Baled (freight)*******	NA	NA	414	NA	NA
NET COST/REVENUE - Loose	-25	138	138	-121	-56
NET COST/REVENUE - Loose (freight)	NA	NA	180	NA	NA
NET COST/REVENUE - Baled	-79	-169	-169	-268	-278
NET COST/REVENUE - Baled (freight)	NA	NA	-180	NA	NA

*Assumes 15 tons/load
**Assumes 33 bales/load
***Assumes 15 tons/load, $18/ton for freight (picked up from Clinton Co.)
****Assumes 18 tons/load
*****Assumes 18 tons/load, $18/ton for freight (picked up from Clinton Co.)

TABLE 6
NET COST/REVENUE ESTIMATES
PLASTIC

EXPENSES/REVENUES	MARKETS	
	Centre County	**Lycoming County**
Expenses - Loose*		
Transportation (@ $1.25/mi.)	46	56
Tipping Fees	10	
Expenses - Baled**		
Baling (@ $18/bale)	594	594
Transportation (@ $1.25/mi.)	46	56
Revenues - Loose*	0	0
Revenues - Baled***	459	459
NET COST/REVENUE – Loose	-56	-56
NET COST/REVENUE – Baled	-181	-191

*Assumes 2 tons/load
**Assumes 33 bales/load
***Assumes 17 tons/load

TABLE 7

COMPARISON OF CURRENT AND RECOMMENDED PROCESSING/MARKETING SYSTEMS

MATERIAL	CURRENT SYSTEM					RECOMMENDED SYSTEM				
	# of Loads	Transportation	Baling	Revenue	Net Cost/Revenue	# of Loads	Transportation	Baling	Revenue	Net Cost/Revenue
ONP	39	9,750	0	31,200	21,450	39	9,750	0	31,200	21,450
Office Paper/OMG	2	500	0	700	200	2	92	1,116	1,485	277
OCC	14	350	8,820	6,300	-2,870	10	250	5,400	6,600	950
Aluminum Cans	20	500	0	36,000	35,500	10	250	3,600	60,000	56,150
Steel Cans	18	5,634	0	8,100	2,466	18	0	0	3,240	3,240
Plastic	2	112	0	0	-112	2	112	0	0	-112
TOTALS		16,846	8,820	82,300	56,634		10,454	10,116	102,525	81,955

TABLE 8

COMPARISON OF CURRENT AND RECOMMENDED PROCESSING/MARKETING SYSTEMS
(at a reduced rate per bale)

MATERIAL	CURRENT SYSTEM					RECOMMENDED SYSTEM (reduced rate per bale)				
	# of Loads	Transportation	Baling	Revenue	Net Cost/Revenue	# of Loads	Transportation	Baling	Revenue	Net Cost/Revenue
ONP	39	7,800	0	31,200	21,450	39	7800	0	31,200	23,400
Office Paper/OMG	2	400	0	700	200	2	92	620	1,485	773
OCC	14	350	8,820	6,300	-2,870	10	250	3000	6,600	3,350
Aluminum Cans	20	500	0	36,000	35,500	10	250	2000	60,000	57,750
Steel Cans	18	5,634	0	8,100	2,466	18	0	0	3,240	3,240
Plastic	2	112	0	0	-112	2	112	0	0	-112
TOTALS		16,846	8,820	82,300	56,634		8,504	5,620	102,525	88,401