

Appendix A -- Processing Facility Drawings

SITE PLAN
FOR CHARITON VALLEY BIOMASS PROJECT
FOR THE PROPOSED AUTOMATED 25 TPH
SWITCHGRASS FEED ADDITION TO
ALLIANT ENERGY SITE

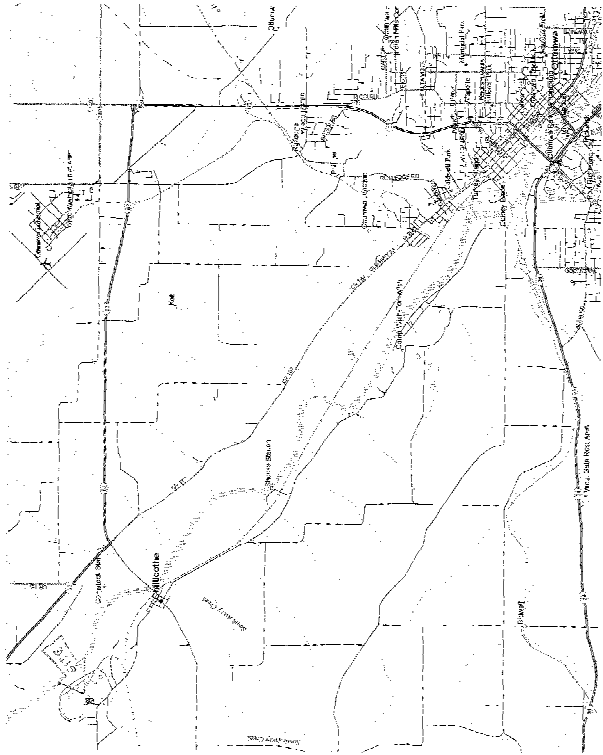
SITE ADDRESS: 20991 POWER PLANT ROAD
OTTUMWA, IOWA 52548

CONSTRUCTION TYPE: II-N

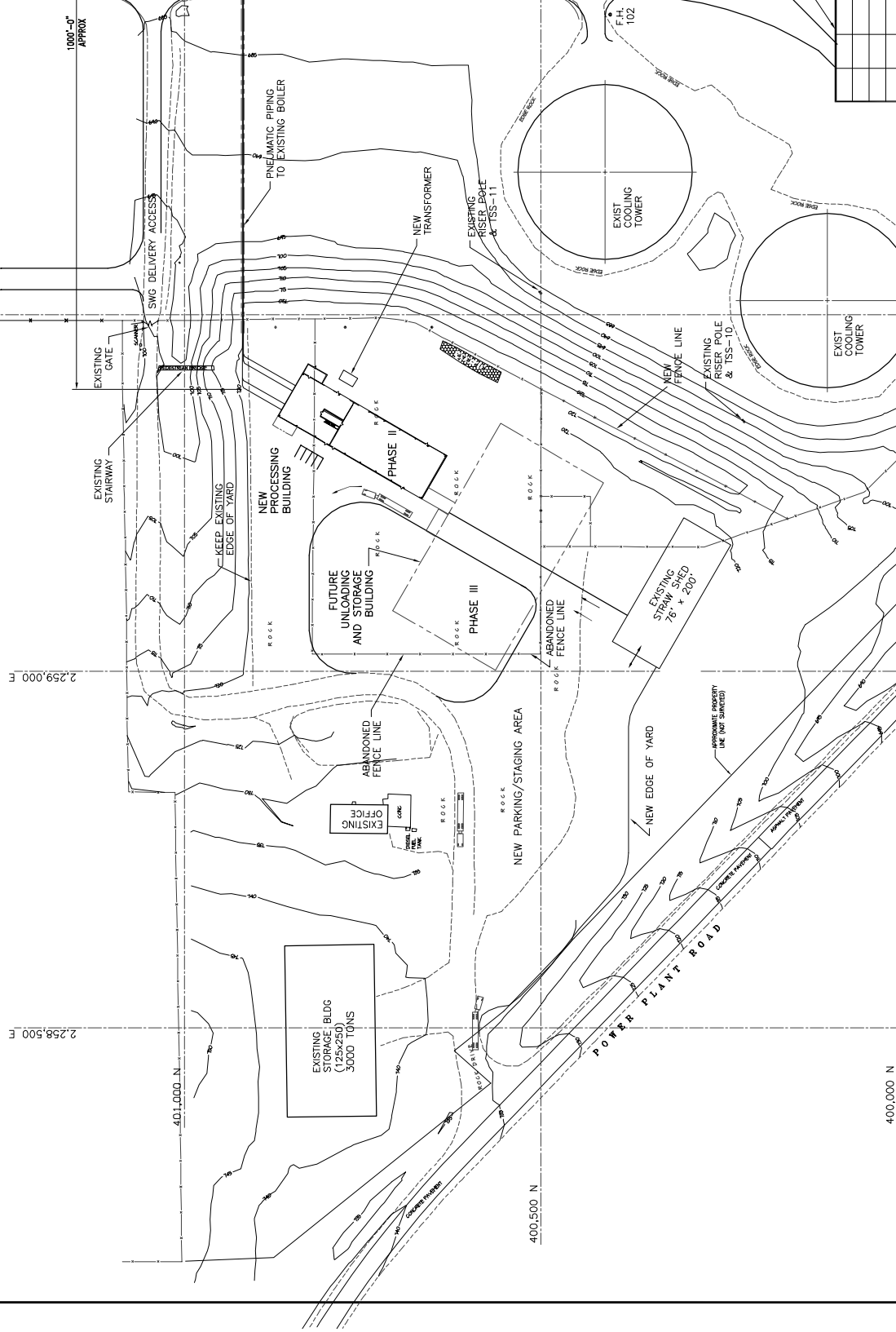
OCCUPANCY: S-1, SWITCH, GRASS STORAGE & GALLERY BUILDINGS,
F-1, PROCESSING BUILDING FOR POWER GENERATION

FLOOR AREAS: PROPOSED PROCESSING BUILDING 7,000 SF (PHASE II),
ADDITIONAL 7,000 SF (PHASE III)
NEW SWITCHGRASS BARN APPROX 27,000 SF (PHASE II),
ADDITIONAL 24,000 SF (PHASE III)
GALLERY 2000 SF

LAND USE CLASSIFICATION: I-2 (HEAVY INDUSTRIAL)



VICINITY MAP

[illegible]

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Kraftværksvej 53 7000 Fredericia Denmark

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		CIVIL • STRUCTURAL • MECHANICAL ENGINEERS	
10180 SW NIMBUS AVE SUITE J3 TIGARD, OR 97223		PH (503) 639-6601 FAX 639-6261	
LONG-TERM TEST CONFIGURATION AT RELOCATED BIO SLIP - OPTION 7		SITE PLAN	
DSS	DN	CHK	DATE
09/27/04	09/27/04	09/27/04	09/27/04
Scale: 1" = 100' - 0"		DWG NO. 352-0007-20	
FOR CHARTON VALLEY BIOMASS PROJECT OTTUMWA, IOWA		REV	

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Date: 09-29-2004

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PLOT: 09-29-2004 5:23:04 PM jcc
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SITE PLAN
SCALE: 1"=100'



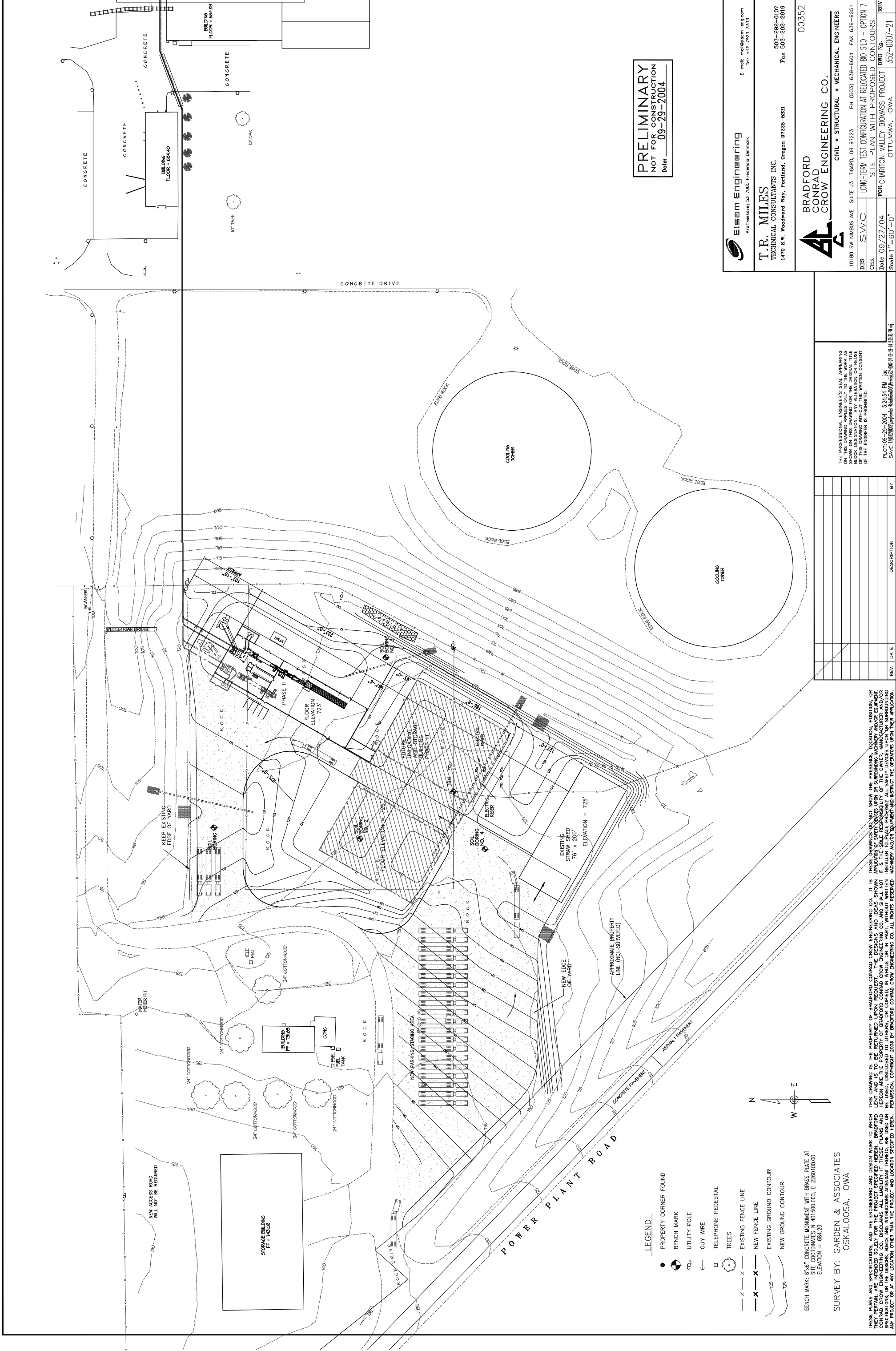
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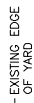
-MAIN GUARD GATE
NOT SHOWN

DESCRIPTION

REV.	DATE
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BY

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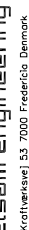
PHASE III

PHASE III

RELOCATED EXISTING PILOT PLANT
BUILDING W/ 58' EXTENSION
(NORTH END)

XFMR

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180 SW NIMBUS AVE SUITE J3 TIGARD, OR 97223 PH (503) 639-6601 FAX 639-6251

3 DN	LONG-TERM TEST CONFIGURATION AT RELOCATED BIO SILO - OPTION 7
4	PROCESS BUILDING PLAN

09/27/04	FOR CHARLTON VALLEY BIOMASS PROJECT	DWG No.	352-0007-22
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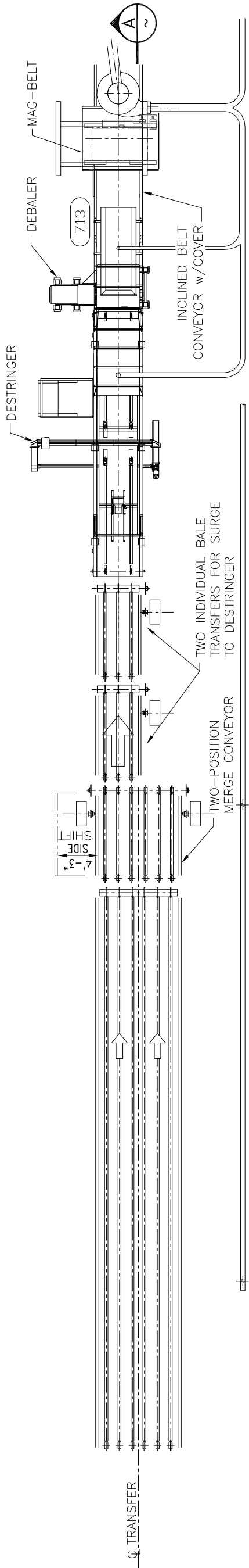
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BY

DESCRIPTION

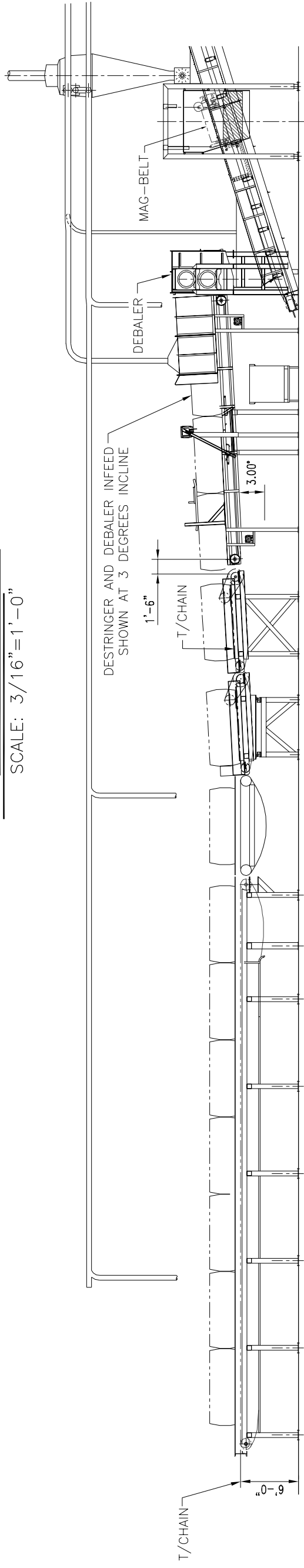
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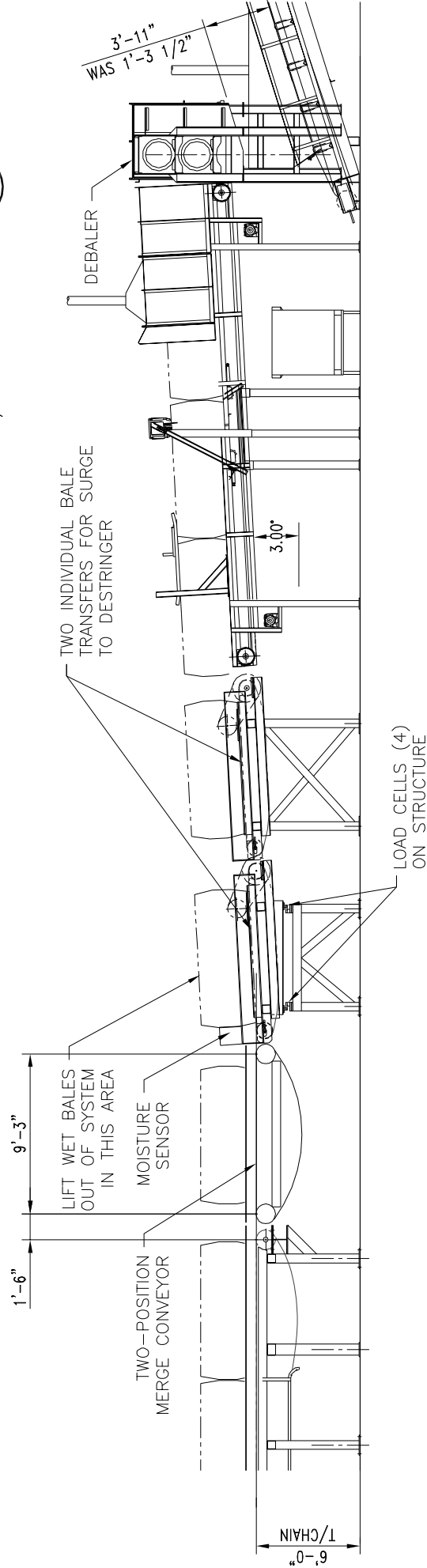
PLAN

SCALE: 3/16"=1'-0"



SECTION

SCALE: 3/16"=1'-0"



PARTIAL SECTION

SCALE: 1/4"=1'-0"

[illegible]

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SAVE: F:\00357\00371\complanet-0606062004\Permis\357-0017-24 09-29-04 5:37:14 PM dca

[illegible]

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ISS	JEM
	LONG-TERM TEST CONFIGURATION AT RELOCATED BIO SILO - OPTION 7

BALE INFEED EQUIPMENT LAYOUT

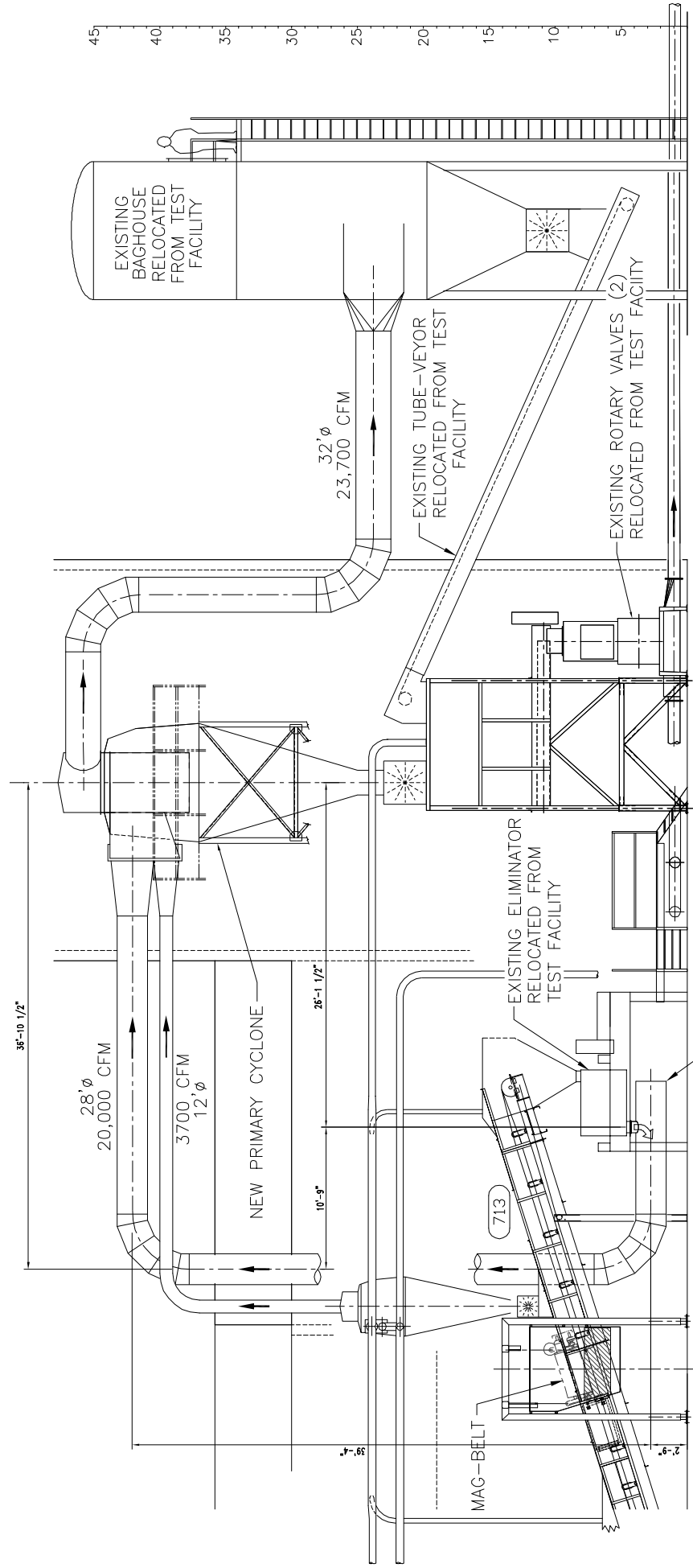
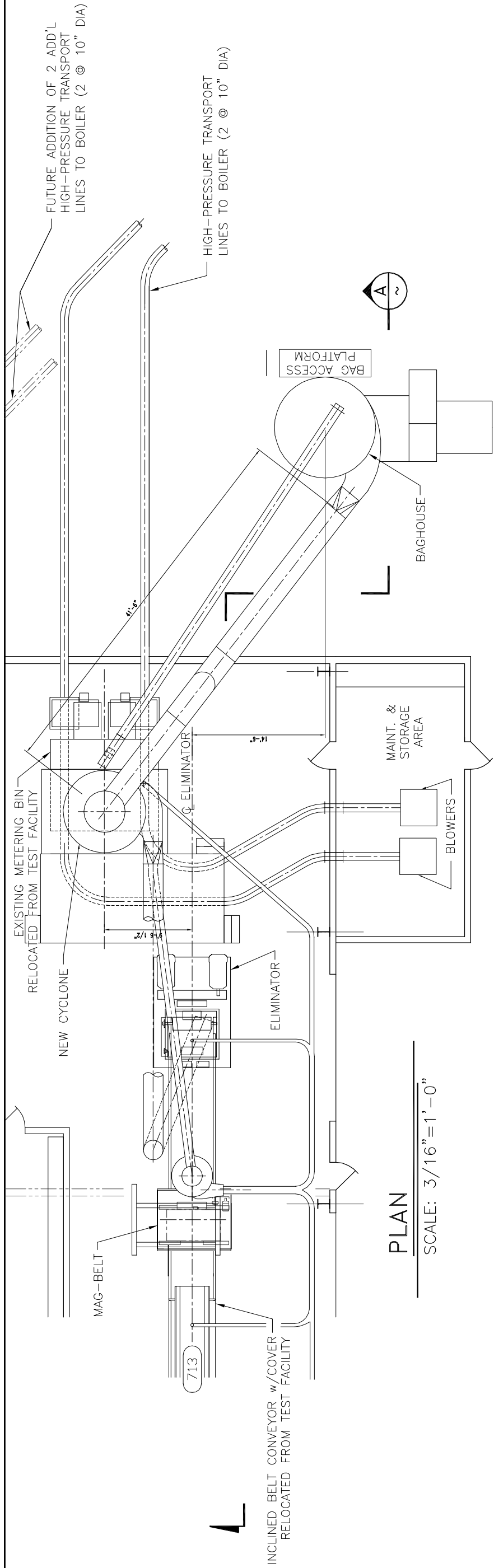
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FOR CHARITON VALLEY BIOMASS PROJECT		
09/27/04		

DATE 09/21/04 PROJECT CHARLTON VALLEY BIOMASS PROJECT QUILMANA IOWA 352-0007-24

47-100-707

47-100-707

47-100-707



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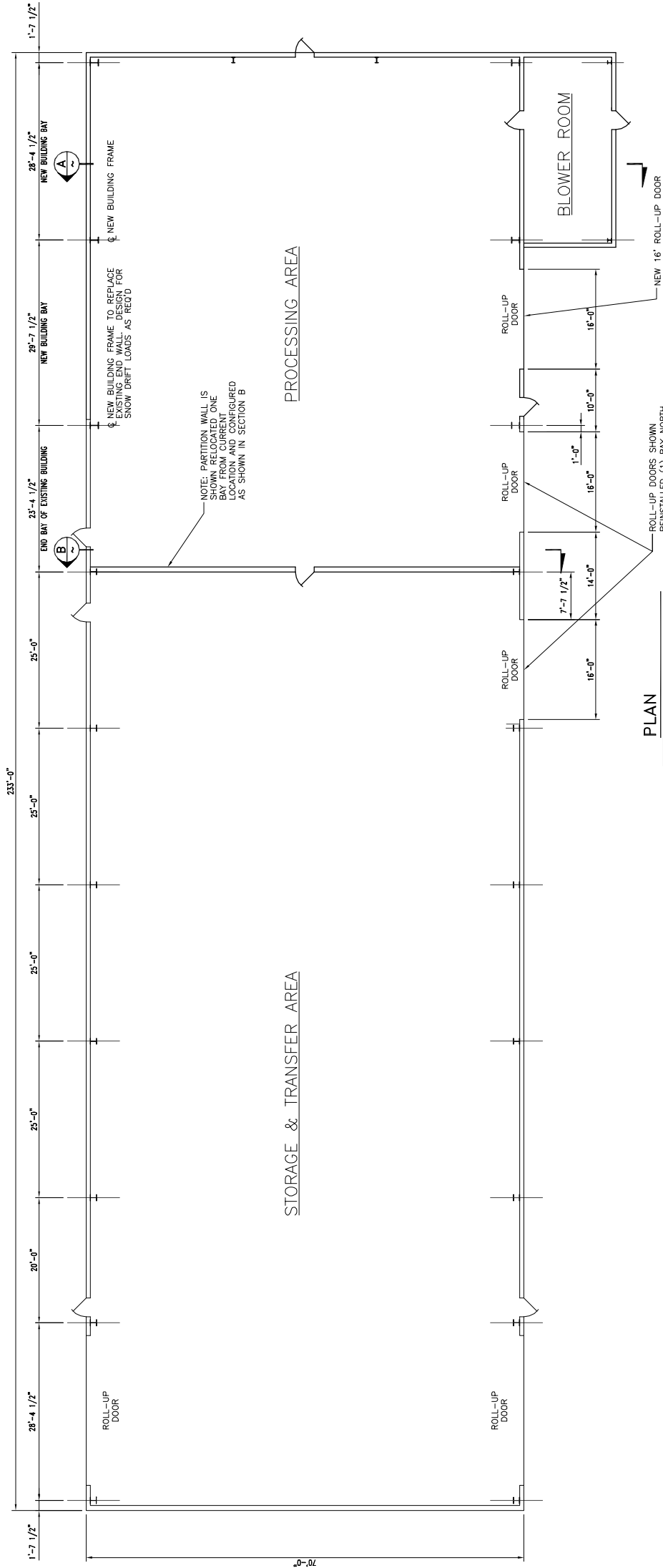
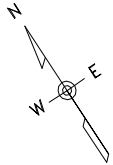
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DES	JEM	LONG-TERM TEST CONFIGURATION AT RELOCATED BIO SILO - OPTION PNEUMATIC SYSTEM LAYOUT
CHK		

Date 09/27/04
Scale 3/16"=1'-0"

WAS DWG 352-0007-00

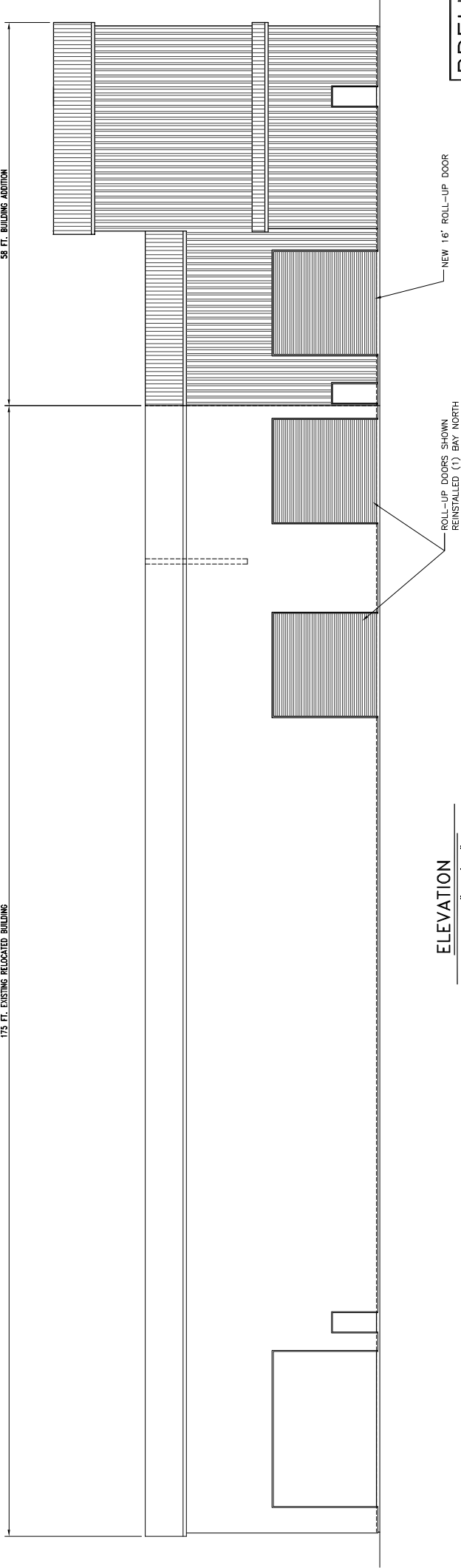


PLAN

SCALE: 1"=10'-0"

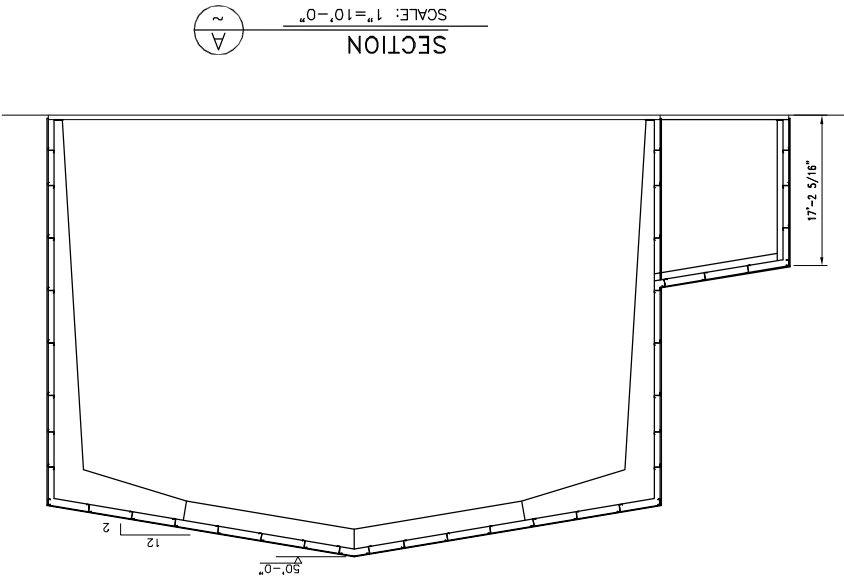
175 FT. EXISTING RELOCATED BUILDING

58 FT. BUILDING ADDITION



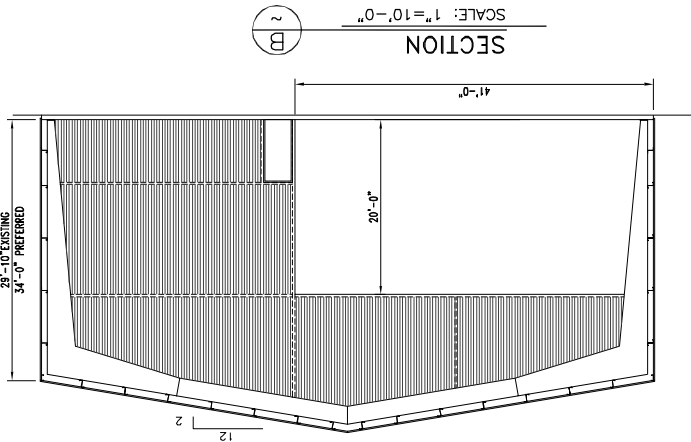
ELEVATION

SCALE: 1"=10'-0"



SECTION

SCALE: 1"=10'-0"



SECTION

SCALE: 1"=10'-0"



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LONG-TERM TEST CONFIGURATION AT RELOCATED BIO SILO - OPTION 7
RELOCATED BUILDING - PLAN AND ELEVATIONS
FOR CHARTON VALLEY BIOMASS PROJECT

DBS MLJ
DATE 09-28-04
DWG No. 352-0007-29
Scale 1"=10'-0"

00352

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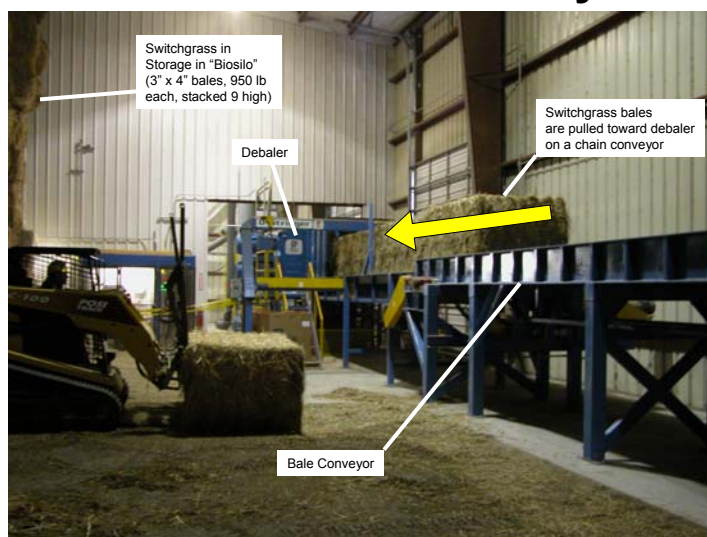
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Appendix B -- Test Burn and Equipment Photos





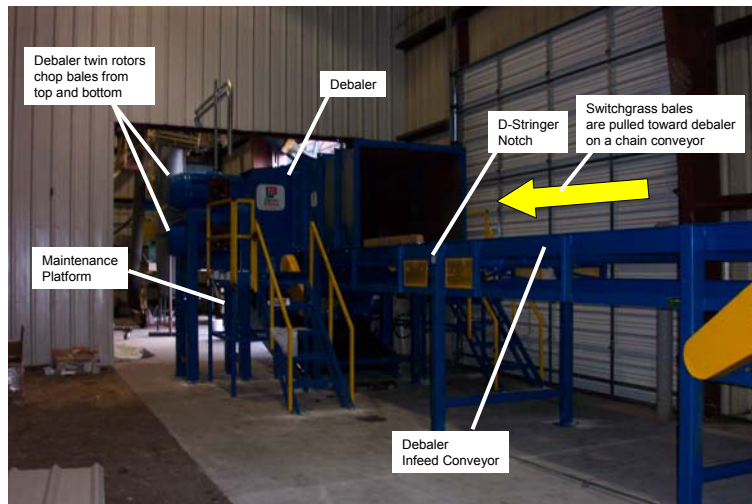
Bale Infeed Conveyor



Fork truck, bale conveyor and debaler

Loading 900 - 1000 lb. Bale





Debaler (prior to D-Stringer installation).



Bales on bale conveyor approaching D-Stringer and Debaler.



Twine removal hooks on the D-Stringer.



Cutter blade on the D-Stringer.

D-Stringer



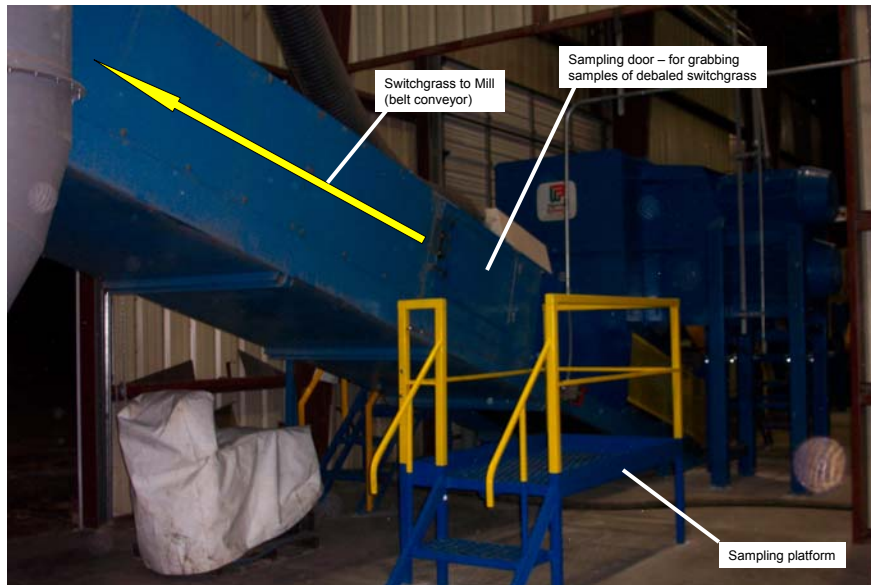
400 Hp De-baler (Hammer-mill)



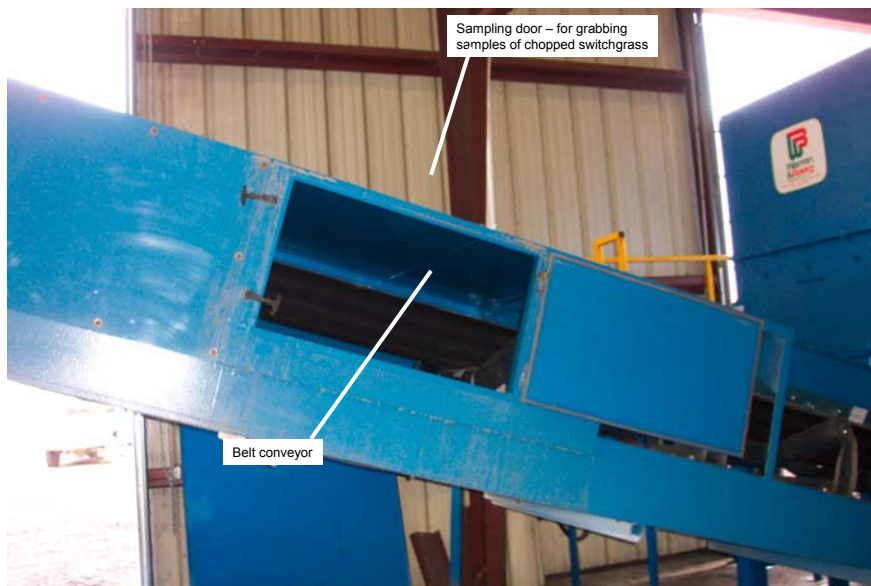
Debaler and Take-away Conveyor



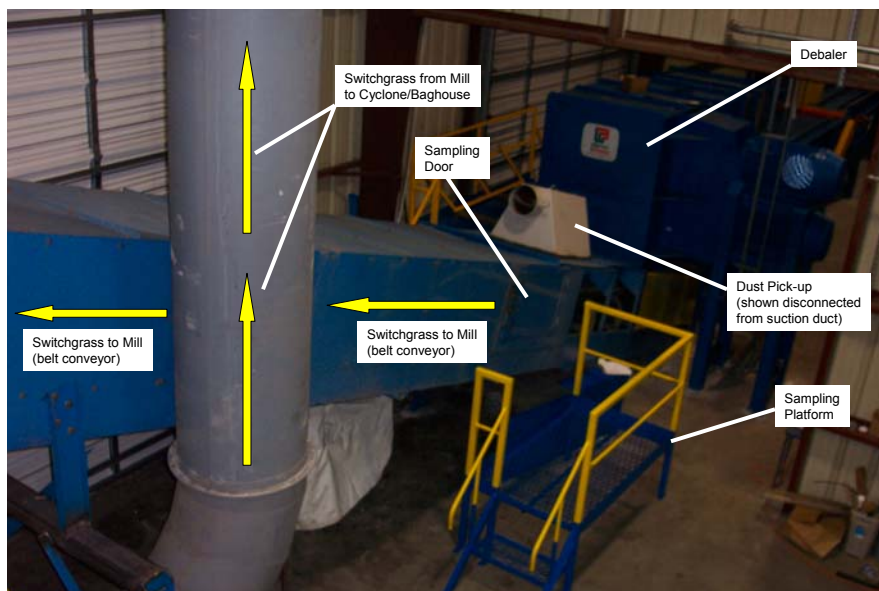
Take-away Conveyor & Sampling Platform



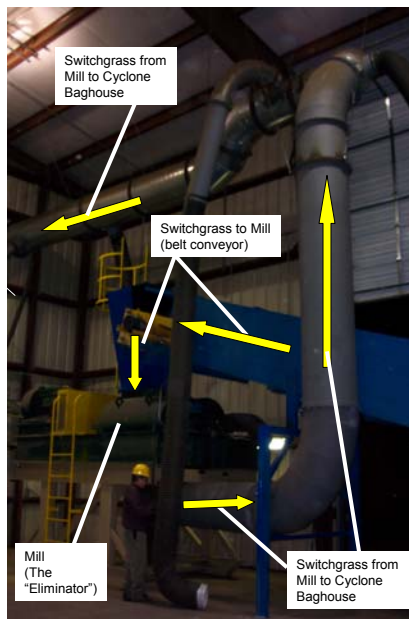
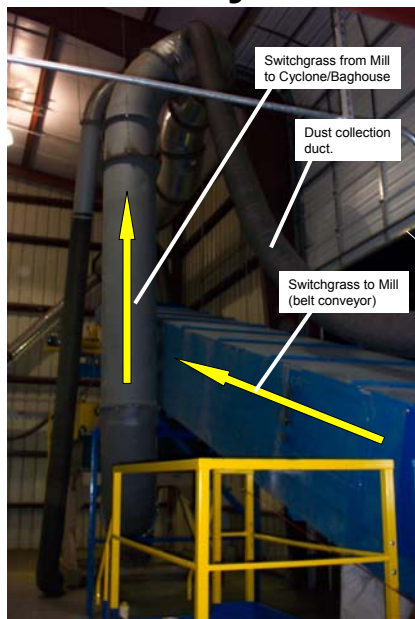
Sampling Door on Take-away Conveyor



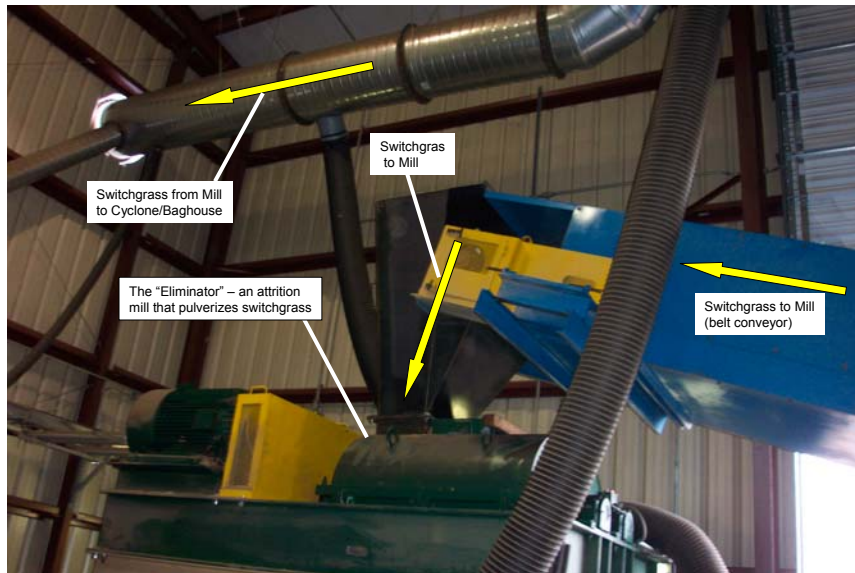
Debaler and Take-away Conveyor



Conveyor In-feed to “Eliminator”



Conveyor In-feed to “Eliminator”



Debaled Switchgrass Flowing into “Eliminator” Infeed Chute





Cyclone Baghouse that conveys ground switchgrass from the "Eliminator" onto the Surge Bin Feed Conveyor and removes and filters dust from the processing area.

Baghouse Discharge

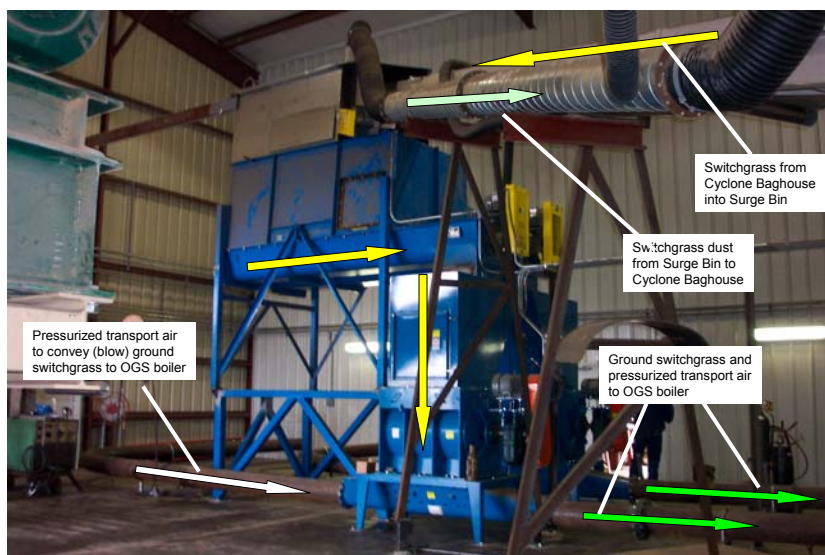


Ground switchgrass flowing out of Cyclone Baghouse onto Surge Bin Feed Conveyor.

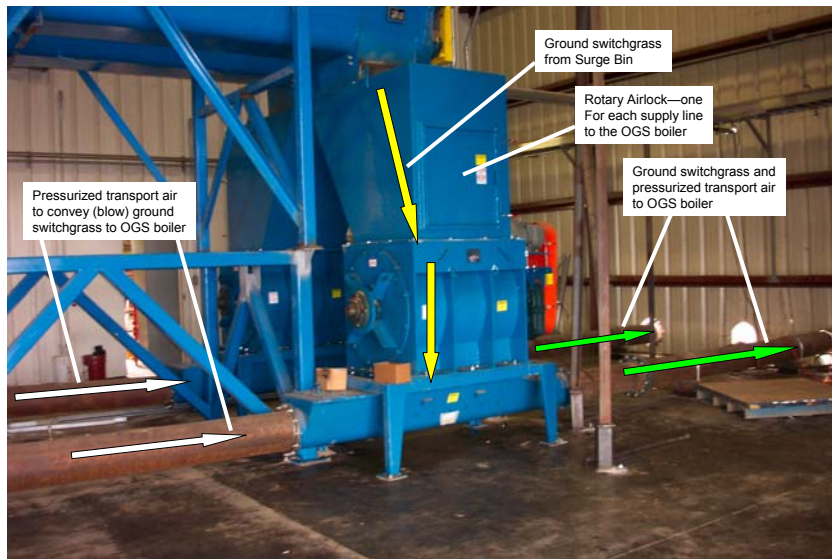
Surge Bin Feed Conveyor & Dust Collection Duct



Surge Bin, Airlocks, Transport Pipes



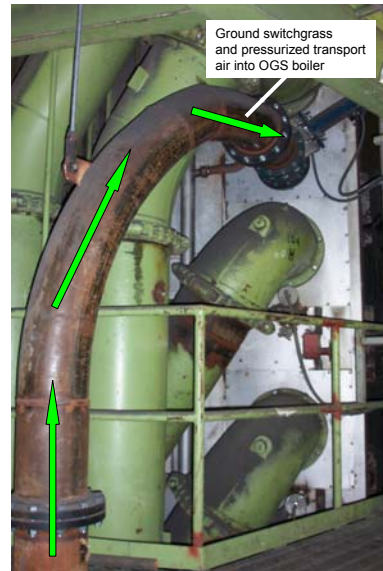
Airlocks & Transport Pipes



Transport Pipes Exiting “Biosilo”



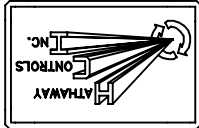
Switchgrass Transport Pipes Entering Boiler House and Boiler



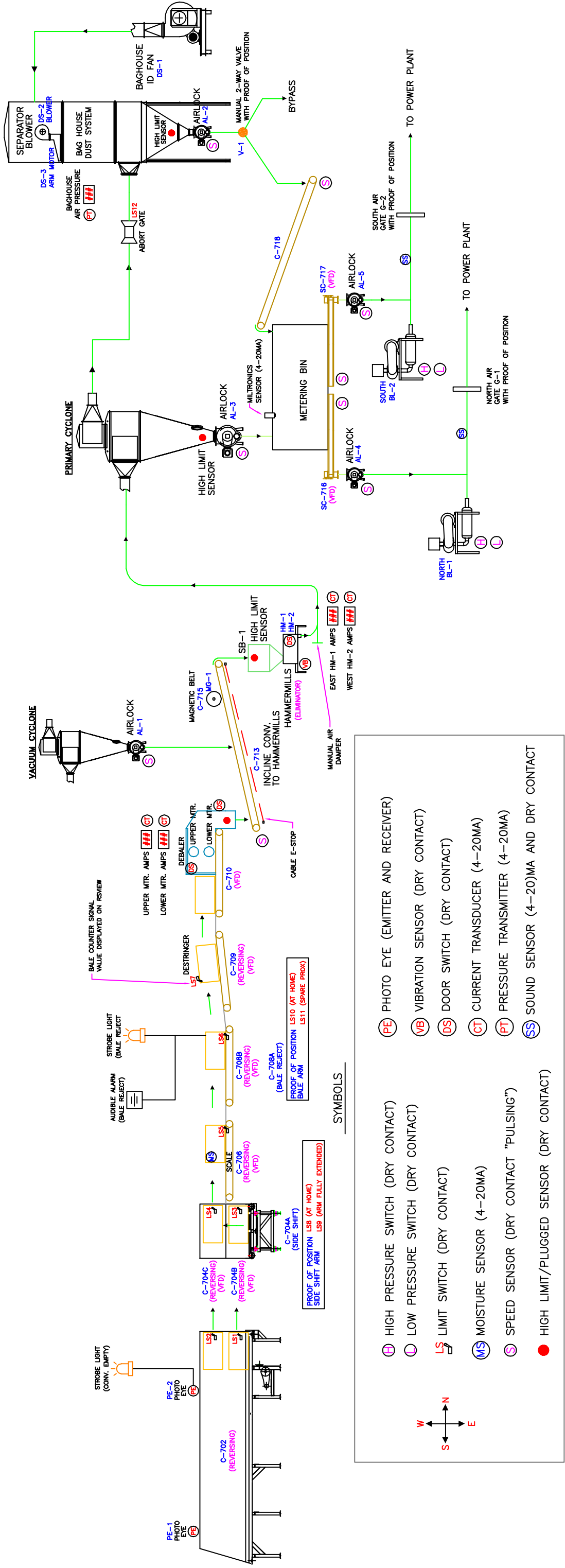
Switchgrass System Control Room



Appendix C -- Biomass Control System Information

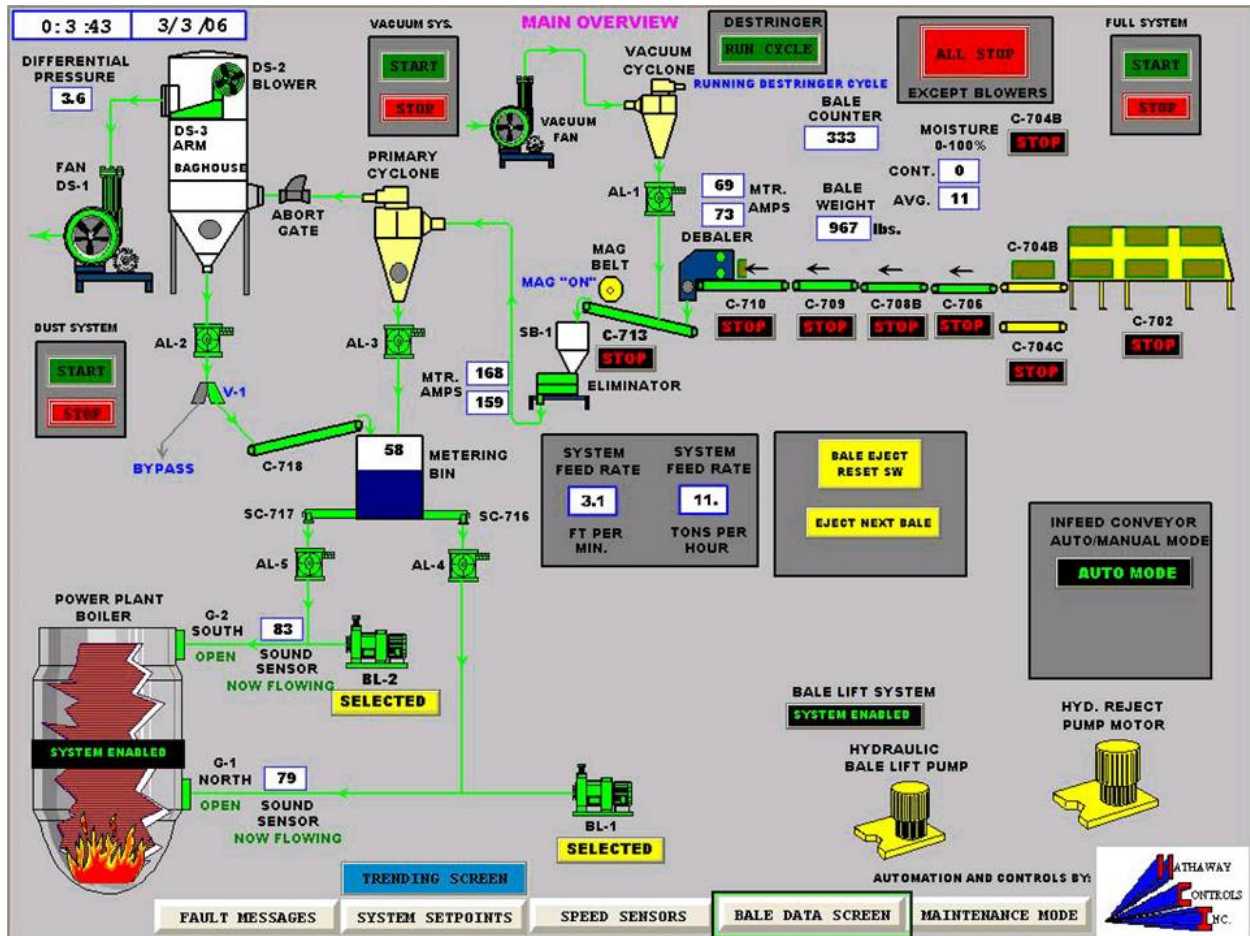


PROJECT M.	DATE	BY	DESCRIPTION	REVISION
MARK	1	AMM	10-4-05	UPDATED FLOW AND ADDED SENSORS
DATE				
CHK'D				



Chariton Valley BioMass Flow Diagram --- Update 10-4-05 by AWM (HCI)					
Equip. #	Description	Motor HP	New or Exist	MCC Loc	MCC equipment Notes
	Twin Bale Receiving Transfer				
C-702	Twin Bale Receiving Conv. (Reversing)	3	E	6E	New Reversing Starter in MCC
LS-1	(1) Limit Switch East Side of Conv.	-	N	-	Prox. Switch to sense Bails
LS-2	(1) Limit Switch West Side of Conv.	-	N	-	Prox. Switch to sense Bails
PE-1	(1) Photo Eye	-	N	-	Conv. Reverse stop photo eye
PE-2	(1) Photo Eye	-	N	-	Conv. Empty photo eye signal
	Flashing Strobe light	-	N	-	Flashes when conveyor empty
	Merge Conveyor				
C-704A	Side-Shift Actuator	5	N	10M	Existing Starter in MCC
LS-8	(1) Proof of position prox	-	N	-	Arm position AT HOME
LS-9	(1) Proof of position prox	-	N	-	Arm position FULLY EXTENDED
C-704B	Bale Transport Drive-East (Reversing)	1	N	10E	New VFD in MCC
C-704C	Bale Transport Drive-West (Reversing)	1	N	10K	New VFD in MCC
LS-3	(1) Limit Switch East Side of Conv.	-	N	-	Prox. Switch to sense Bails
LS-4	(1) Limit Switch West Side of Conv.	-	N	-	Prox. Switch to sense Bails
	Surge Transfers				
C-706	Surge Transfer 1st Section Drive (Reversing)	1	N	12E	New VFD in MCC
MS-1	Microwave Moisture Sensor	-	N	6GL	Signal into PLC 4-20ma
	Scale with load cells	-	-	-	Signal into PLC MV (millivolts)
LS-5	(1) Limit Switch at End of Conveyor	-	N	-	Prox. Switch to sense Bails
C-708A	Bale Kicker (Reject Conv.)	3	N	-	
LS-10	(1) Proof of position prox	-	N	-	Kicker at Home Position
LS-11	(1) Proof of position prox	-	N	-	Spare prox sensor
	Flashing Strobe light	-	N	-	Flashes when conveyor rejects bale
	Audible Alarm	-	N	-	Sounds when conveyor rejects bale
C-708B	Surge Transfer 2nd Section Drive (Reversing)	1	N	12K	New VFD in MCC
LS-6	(1) Limit Switch at End of Conveyor	-	N	-	Prox. Switch to sense Bails
	Detwiner System (Destringer)				
C-709	Detwiner I/F Transfer Conv. (Rev. Nord Drive)	1	E	12ML	Feeder for Existing Nord Drives (VFD)
	Detwiner Drive (Detwiner Control Panel)	3	E	12MR	Feeder for Existing Detwiner Panel (Nord Drive)
LS-7	(1) Limit Switch at End of Conveyor	-	N	-	(STAND ALONE NO PLC CONTROL) Stops Debailer if Gap is too Big
	Debaler				
C-710	Debaler I/F Transfer Conv. (Nord Drive)	1	E	12ML	Feeder for Existing Nord Drives
DB-1A	Debaler Upper Feeder Motor	200	E	11D	(Softstart with CT's into PLC 4-20ma)
DB-1B	Debaler Lower Feeder Motor	200	E	11H	(Softstart with CT's into PLC 4-20ma)
	(1) Plugged Switch	-	N	-	Stops system and sounds alarm
	(2) Door Switches				
	Incline Conveyor to Hammermill				
C-713	Incline Conveyor to Hammermill	3	E	11K	Existing Starter in MCC
	C-713 Conv. Speed Sensor	-	N	-	Whirly Gig with AC prox.
C-715	Magnetic Belt	3	N	11M	Existing Starter in MCC
MG-1	Magnet (110 VDC)	6 KW	N	6GR	New CB in MCC
AL-1	Cyclone To Incline Conveyor Airlock	1	N	6K	Existing Starter in MCC
	AL-1 Airlock Speed Sensor	-	N	-	Whirly Gig with AC prox.
	Hammermill System (Eliminator)				
	(1) Plugged Switch in Surge Bin	-	N	-	Stops incoming feed
HM-1A	Hammermill Rotor Motor-East	300	E	2D	(Softstart with CT's into PLC 4-20ma)
HM-1B	Hammermill Rotor Motor-West	300	E	2H	(Softstart with CT's into PLC 4-20ma)
	(1) Vibration Switch				
	(1) Door Switch				
	Low Pressure Pneumatics (Dust System)				
DS-1	Baghouse ID Fan	100	N	7M	
DS-2	Baghouse Separator Blower	25	E	6M	
DS-3	Baghouse Arm motor	3	E		
AL-2	Baghouse Rotary Airlock	2	E	7J	
	AL-2 Airlock Speed Sensor	-	N	-	Whirly Gig with AC prox.
	Baghouse Pressure Switch 4-20ma	-	N	-	4-20ma signal into PLC
LS-12	(1) Proof of position prox on Abort Gate	-	N	-	If tripped shutdown system
C-718	Tubeveyor to Metering Bin	2	E	7G	
	C-718 Conv. Speed Sensor	-	N	-	Whirly Gig with AC prox.
AL-3	Metering Bin Cyclone Airlock	2	N	9M	
	AL-3 Airlock Speed Sensor	-	N	-	Whirly Gig with AC prox.
	Pneumatic Transport System				
AL-4	Pneumatic System Airlock - East	10	E	8B	
	AL-4 Airlock Speed Sensor	-	N	-	Whirly Gig with AC prox.
AL-5	Pneumatic System Airlock - West	10	E	8D	
	AL-5 Airlock Speed Sensor	-	N	-	Whirly Gig with AC prox.
SC-716	Metering Bin Screw Drives - East	5	E	9E	(VFD)
	SC-716 Screw Conv. Speed Sensor	-	N	-	Whirly Gig with AC prox.
SC-717	Metering Bin Screw Drives - West	5	E	9K	(VFD)
	SC-717 Screw Conv. Speed Sensor	-	N	-	Whirly Gig with AC prox.
BL-1	Rotary Piston Blower Motor - North	150	N	3F	(Softstart)
	Blower High Pressure Switch	-	N	-	Shutdown Blower if tripped
	Low Pressure Switch	-	N	-	Slow Down Feed if On
SS-1	Blower tube Sound Switch				4-20ma signal and dry contact
G-1	Air Gate with (2) proof of position switches				
BL-2	Rotary Piston Blower Motor - South	150	N	3M	(Softstart)
	Blower High Pressure Switch	-	N	-	Shutdown Blower if tripped
	Low Pressure Switch	-	N	-	Slow Down Feed if On
G-2	Air Gate with (2) proof of position switches				
SS-2	Blower tube Sound Switch				4-20ma signal and dry contact

MAIN OVERVIEW SCREEN FOR PROCESS FACILITY CONTROL PANEL
 (All control system screens are also available for viewing **and control** *from Remote Connections* by Hathaway Controls, Antares Group, TR Miles, CVRC&D and other authorized parties)



Bale weights, moisture contents, and feed rates are measured in real-time, and saved in log files on the client computer in the control room. *These files are easily downloaded via remote connection for data analysis, tracking, and invoicing purposes.*

BALE DATA SCREEN FOR PROCESS FACILITY CONTROL SYSTEM

BALE DATA SCREEN

TOTAL BALE COUNT		DAILY BALE COUNT	
199	57	RESET	

TOTAL WEIGHT (TONS)		DAILY WEIGHT (TONS)	
104	28	RESET	

TOTAL HOURS		DAILY HOURS	
25.8	4.8	RESET	

BL-1 TOTAL BURN HOURS		BL-1 DAILY BURN HOURS	
17.9	10	RESET	

BL-2 TOTAL BURN HOURS		BL-2 DAILY BURN HOURS	
18.2	10	RESET	

SYSTEM FEED RATE		SYSTEM FEED RATE	
2.7	9.8		
FT PER MIN.	TONS PER HOUR		

BALE MOISTURE 0-100%	
CONT.	0
AVG.	8

OPERATOR INPUT FIELD

LOAD INFORMATION	
CURRENT LOAD BALE COUNT	PREVIOUS LOAD BALE COUNT
1	13
CURRENT LOAD WEIGHT (TONS)	PREVIOUS LOAD WEIGHT (TONS)
1	13

OPERATION SETPOINTS

BALES PER LOAD	
42	SETPOINT

TRUCK NUMBER	LOAD NUMBER
98	2

START BALE COUNT

START RUNNING

PAUSE

RESET

FAULT MESSAGES TRENDING SCREEN SYSTEM SETPOINTS SPEED SENSORS MAIN OVERVIEW MAINTENANCE MODE

This screen was specifically designed for use with summary reporting of processing activities on a daily and overall basis. Bale counts (daily and total), processed bale weight (daily and total), system run hours, burn hours for each blow pipe (daily and total), system feed rates, and bale moisture readings are recorded here and logged in daily log files. There is also a tracking box to track the weight of bales from a single delivery truck. During the test burn, manual logs were kept to double check the accuracy of the automated system.

SYSTEM SETPOINT SCREEN FOR PROCESS FACILITY CONTROL SYSTEM

SYSTEM SETPOINTS

C-709 & C-710 CONVEYORS	26	VFD SPEED (FLOW RATE)	C-704B CONVEYOR	100	MANUAL VFD SPEED	C-713 SHUTDOWN DELAY TIMER SETPOINT	3	0-999 SEC.
	15-100%			20-100%				
METERING BIN SETPOINT	70	0-82 IN. HIGH LEVEL	C-704C CONVEYOR	100	MANUAL VFD SPEED			
				20-100%				
DELAY DISTANCE BEFORE STRING IS CUT ON BALE	1	INCHES	C-706 CONVEYOR	100	MANUAL VFD SPEED			
				20-100%				
BALE MOISTURE SETPOINT	30	10-30%	C-708B CONVEYOR	100	MANUAL VFD SPEED			
		BALE WILL REJECT IF ABOVE SEPOINT		20-100%				

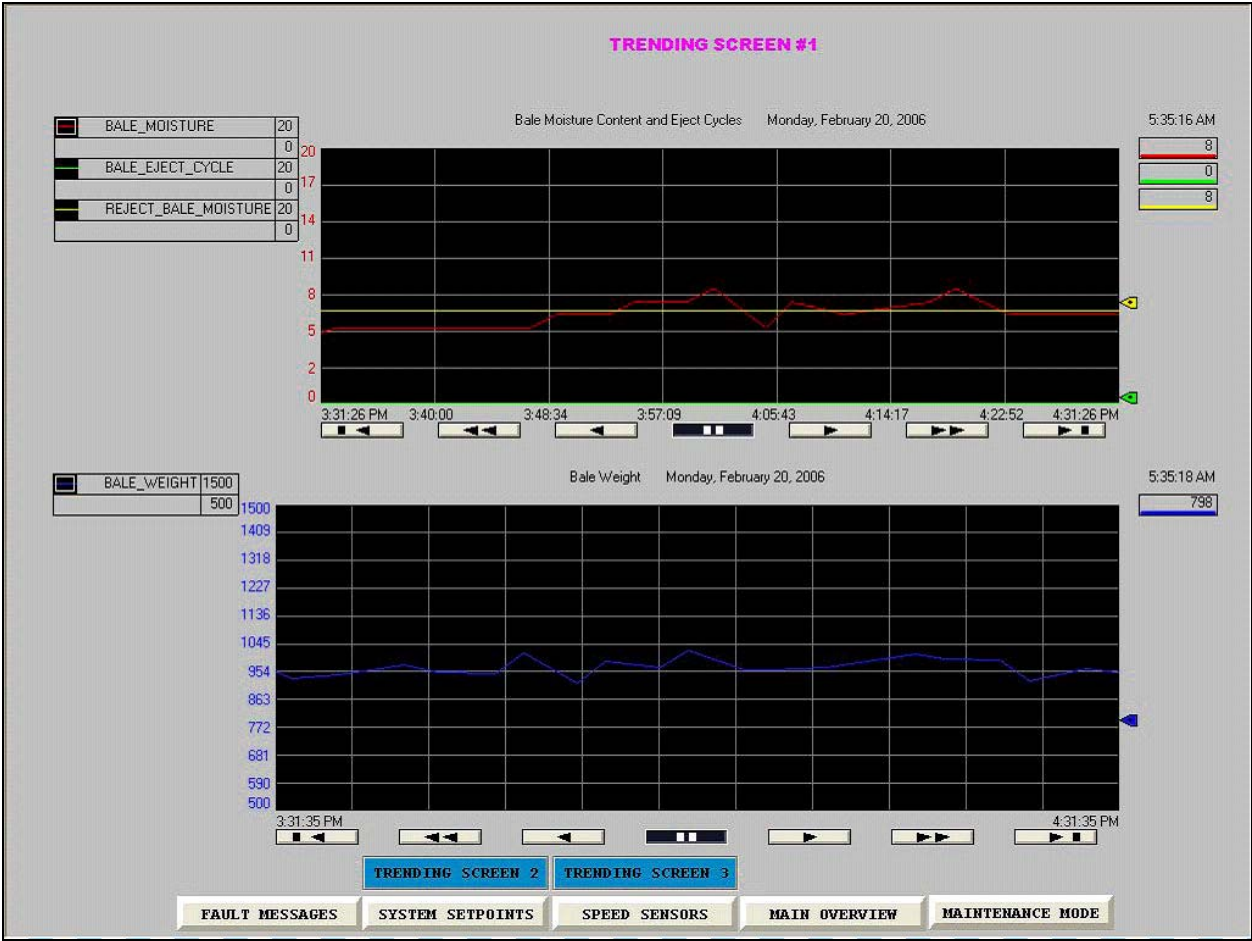
DEBALER WARNING AMPS	219	180-250 AMPS	ELIMINATOR WARNING AMPS	330	300-350 AMPS
	219 FLA			350 FLA	
DEBALER WARNING AMPS TIME SETPOINT	3	1-10 SEC.	ELIMINATOR WARNING AMPS TIME SETPOINT	4	1-10 SEC.
DEBALER RE-START DELAY TIME	3	0-20 SEC.	ELIMINATOR RE-START DELAY TIME	8	0-20 SEC.

TRENDING SCREEN

FAULT MESSAGES MAIN OVERVIEW SPEED SENSORS BALE DATA SCREEN MAINTENANCE MODE

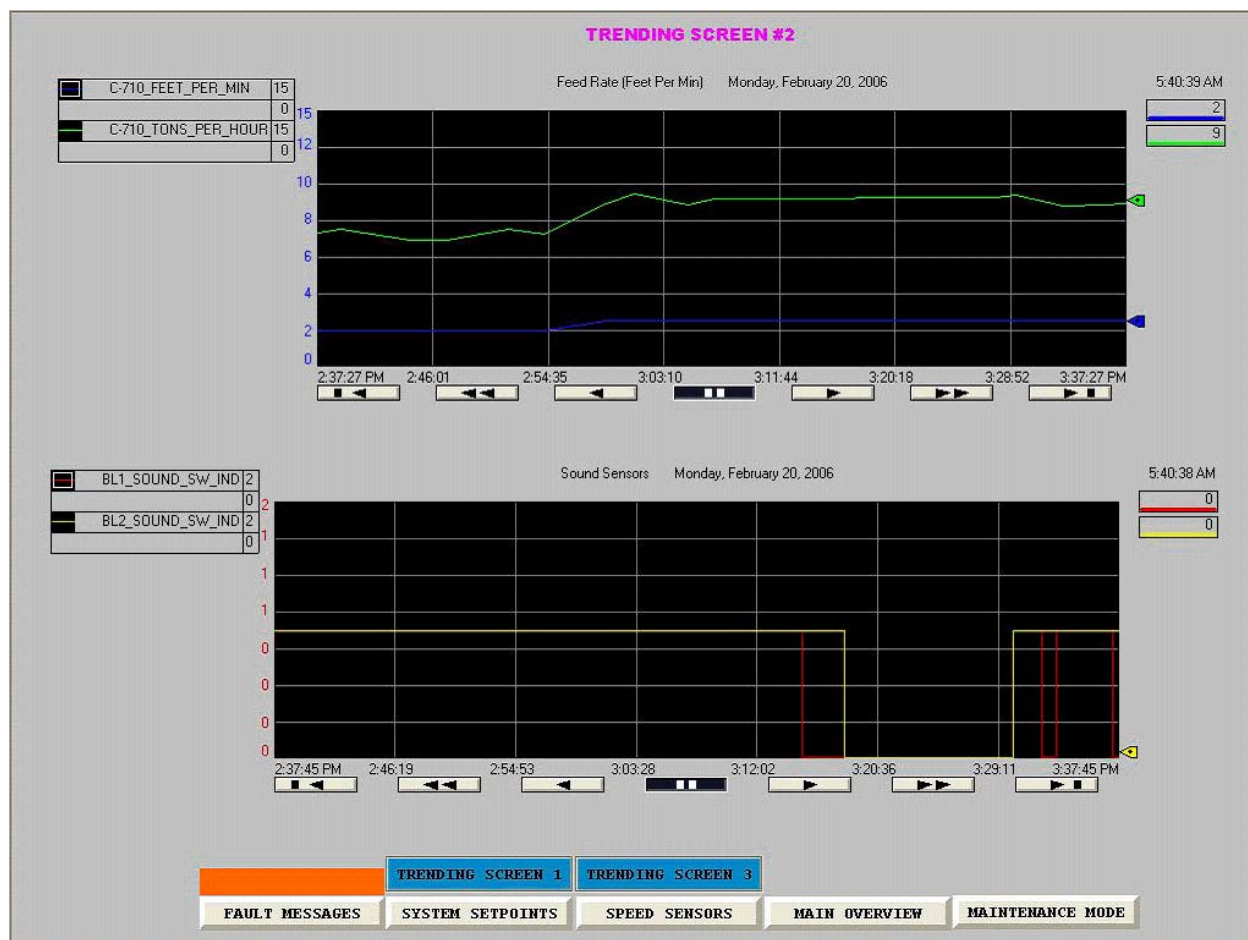
This screen allows system operators to easily adjust a variety of system setpoints, including the debaler infeed rate setting (upper left, flow rate), the control limits associated with motor amp readings and resulting conveyor responses, metering bin warning levels, and bale reject moisture content settings.

BALE TREND SCREEN FOR PROCESS FACILITY CONTROL SYSTEM



This screen can be used to view historical records and real-time results for bale moisture, bale reject cycles, bale moisture reject limits, and bale weights. Similar screens are available to view debaler and eliminator motor loads, feed rate measurements, and on/off operation for both blow lines (records when product is flowing in the blow pipes, and therefore when we are sending product to the OGS boiler).

FEED RATE AND BLOW LINE ON/OFF TREND SCREEN FOR PROCESS FACILITY CONTROL SYSTEM



This screen can be used to view historical records and real-time results for feed rate measurements (tons per hour, and feet per minute for the debaler infeed conveyor rate) and on/off operation for both blow lines (records when product is flowing in the blow pipes, and therefore when we are sending product to the OGS boiler).

DEBALER & ELIMINATOR MOTOR AMP TREND SCREEN FOR PROCESS FACILITY CONTROL SYSTEM



This screen can be used to view historical records and real-time results for debaler and eliminator motor loads, for each motor on both mills.

Ottumwa Biomass Fault Messages

1 SYSTEM ELECTRICAL CONTROLS BY HATHAWAY CONTORLS INC.
2 IMMEDIATELY STOP ALL MOTORS EXCEPT BLOWERS STOP SWITCH --IS NOW-- HIT
3 IMMEDIATELY STOP ALL MOTORS EXCEPT BLOWERS STOP SWITCH --WAS HIT--
4 EMERGENCY STOP CIRCUIT RELAY FAULTED HIT E-STOP SW. THEN RESET E-STOP CKT.
5 HIT E-STOP CIRCUIT--RESET SW.TO RESET E-STOP CIRCUIT
6 EM-STOP SWITCH--IS NOW--FAULTED AT MAIN PLC ELECTRICAL PANEL
7 EM-STOP SW. --WAS-- FAULTED BUT OK NOW AT MAIN PLC ELECTRICAL PANEL
8 EM-STOP SWITCH --IS NOW-- FAULTED AT TOUCH SCREEN PANEL IN POWER PLANT
9 EM-STOP SW. -WAS- FAULTED -- BUT OK NOW AT TOUCH SCREEN PANEL IN POWER PLANT
10 POWER PLANT MASTER FUEL TRIP SIGNAL---IS NOW---FAULTED
11 POWER PLANT MASTER FUEL TRIP SIGNAL---WAS FAULTED--OK-TO-RUN NOW
12 DUST SYSTEM ABORT GATE ---IS NOW---FAULTED
13 DUST SYSTEM ABORT GATE -- WAS FAULTED -- OK-TO-RUN NOW
14 EM-STOP SWITCH --IS NOW-- FAULTED AT GROUND LEVEL ELIMINATOR SW.
15 EM-STOP SW. -WAS- FAULTED --- BUT OK NOW AT GROUND LEVEL ELIMINATOR SW.
16 EM-STOP SWITCH --IS NOW-- FAULTED AT DE-BALER VFD DRIVE ELECTRICAL PANEL
17 EM-STOP SW. -WAS- FAULTED --- BUT OK NOW AT DE-BALER VFD DRIVE ELECTRICAL PANEL
18 EM-STOP SWITCH --IS NOW-- FAULTED AT CONVEYOR C-702 SW.
19 EM-STOP SW. -WAS- FAULTED --- BUT OK NOW AT CONVEYOR C-702 SW.
20 EM-STOP SWITCH --IS NOW-- FAULTED AT NORTH WALL SW.
21 EM-STOP SW. -WAS- FAULTED --- BUT OK NOW AT NORTH WALL SW.
22 EM-STOP SWITCH --IS NOW-- FAULTED AT SPARE INPUT I:6/13
23 EM-STOP SW. -WAS- FAULTED --- BUT OK NOW AT SPARE INPUT I:6/13
24 EM-STOP SWITCH --IS NOW-- FAULTED AT SPARE INPUT I:6/14
25 EM-STOP SW. -WAS- FAULTED --- BUT OK NOW AT SPARE INPUT I:6/14
26 STOP SW. TO IMMEDIATELY STOP ALL MOTORS EXCEPT BLOWERS --IS NOW-- FAULTED
27 STOP SW. TO IMMEDIATELY STOP ALL MOTORS EXCEPT BLOWERS --WAS FAULTED--
28 PYRO-GUARD -IS NOW-- FAULTED (TRIP ABORT GATE SIGNAL)
29 PYRO-GUARD -WAS-- FAULTED -- OK-TO-RUN NOW (ABORT GATE OK TO RESET)
30 DUST SYSTEM START-UP IS NOW PAUSED
31 C-718 TUBE CONVEYOR (TO METERING BIN) MOTOR OVER-LOAD FAULT DETECTED
32 V-1 VALVE (UNDER BAG HOUSE) -IS NOT- IN POSITION FAULT
33 V-1 VALVE (UNDER BAG HOUSE) -WAS NOT- IN POSITION-- OK-TO-RUN NOW
34 AL-2 AIRLOCK (UNDER BAG HOUSE) MOTOR OVER-LOAD FAULT DETECTED
35 MES 35
36 HLS-2 BAG HOUSE HIGH LIMIT SW. -IS NOW- FAULTED
37 HLS-2 BAG HOUSE HIGH LIMIT SW.-WAS FAULTED- OK-TO-RUN NOW
38 DS-1 BAG HOUSE ID FAN MOTOR OVER-LOAD FAULT DETECTED
39 DS-3 BAG HOUSE ARM MOTOR OVER-LOAD FAULT DETECTED
40 DS-2 BAG HOUSE SEPARATOR MOTOR OVER-LOAD FAULT DETECTED
41 BAG HOUSE AIR PRESSURE -IS TOO HIGH- FAULT
42 BAG HOUSE AIR PRESSURE -WAS TOO HIGH- OK-TO-RUN NOW
43 NOW RUNNING BAG HOUSE AUTO-STOP SEQUENCE
44 SYSTEM OK-TO-RUN SIGNAL -IS NOT- ENABLED AT TOUCH SCREEN IN THE POWER PLANT
45 SYSTEM OK-TO-RUN SIGNAL-WAS NOT- ENABLED AT TOUCH SCREEN IN THE POWER PLANT
46 YOU MUST STOP SYSTEM TO CHANGE THE BL-1 BLOWER BYPASS STATUS SWITCH
47 YOU MUST STOP SYSTEM TO CHANGE THE BL-2 BLOWER BYPASS STATUS SWITCH
48 BOTH BL-1 AND BL-2 BLOWER SYSTEMS ARE NOW BYPASSED- SYS. WILL NOT START
49 MAIN SYSTEM START-UP -- IS NOW PAUSED HIT STOP OR START SW. TO CONTINUE
50 POWER PLANT BOILER INTERLOCK #2 SWITCH IS NOW- FAULTED -- ALL INFEED STOPPED
51 POWER PLANT BOILER INTERLOCK #2 SWITCH -WAS FAULTED --OK-TO-RUN NOW
52 G-1 NORTH GATE IN-POSITION SWITCHES -ARE NOW- FAULTED
53 G-1 NORTH GATE IN-POSITION SWITCHES-WERE FAULTED- OK-TO-RUN NOW
54 FIRE SYSTEM TROUBLE -IS- DETECTED-CHECK AIR PRESSURE-WATER PRESSURE AND VALVES
55 FIRE SYSTEM TROUBLE -WAS- DETECTED-CHECK AIR PRESSURE-WATER PRESSURE AND VALVES
56 FIRE ALARM SYSTEM -IS- TRIPPED
57 FIRE ALARM SYSTEM -WAS- TRIPPED
58 MES 58
59 MES 59

Ottumwa Biomass Fault Messages

60 BL-1 BLOWER MOTOR SOFT STARTER FAULT DETECTED
61 BL-1 BLOWER VERY HIGH PRESSURE FAULT DETECTED---BLOWER STOPPED
62 BL-1 BLOWER --IS NOW-- AT HIGH PRESSURE WARNING LEVEL - (AL-4 AIRLOCK STOPPED)
63 BL-1 BLOWER -- WAS -- AT HIGH PRESSURE WARNING LEVEL - SYSTEM OK-TO-RUN
64 MES 64
65 MES 65
66 AL-4 AIRLOCK (UNDER SC-716 FEED CONV.) MOTOR OVER-LOAD FAULT DETECTED
67 SC-716 SCREW FEED CONVEYOR (FOR BL-1) MOTOR OVER-LOAD FAULT DETECTED
68 MES 68
69 MES 69
70 MES 70
71 MES 71
72 G-2 SOUTH GATE IN-POSITION SWITCHES -ARE NOW- FAULTED
73 G-2 SOUTH GATE IN-POSITION SWITCHES -WERE FAULTED- OK-TO-RUN NOW
74 BL-2 BLOWER MOTOR SOFT STARTER FAULT DETECTED
75 BL-2 BLOWER VERY HIGH PRESSURE FAULT DETECTED --- BLOWER STOPPED
76 BL-2 BLOWER --IS NOW-- AT HIGH PRESSURE WARNING LEVEL - (AL-5 AIRLOCK STOPPED)
77 BL-2 BLOWER -- WAS -- AT HIGH PRESSURE WARNING LEVEL - SYSTEM OK-TO-RUN
78 MES 78
79 MES 79
80 AL-5 AIRLOCK (UNDER SC-717 FEED CONV.) MOTOR OVER-LOAD FAULT DETECTED
81 SC-717 SCREW FEED CONVEYOR (FOR BL-2) MOTOR OVER-LOAD FAULT DETECTED
82 AL-3 AIRLOCK (UNDER PRIMARY CYCLONE) MOTOR OVER-LOAD FAULT DETECTED
83 MES 83
84 MES 84
85 MES 85
86 MES 86
87 MES 87
88 MES 88
89 MES 89
90 HLS-3 HIGH LEVEL LIMIT SW. (ABOVE AL-3) -IS NOW- FAULTED
91 HLS-3 HIGH LEVEL LIMIT SW. (ABOVE AL-3) -WAS FAULTED--OK-TO-RUN NOW
92 MES 92
93 AL-1 AIRLOCK (UNDER VACUUM CYCLONE) MOTOR OVER-LOAD FAULT DETECTED
94 METERING BIN -IS NOW- ABOVE OPERATOR SET-POINT LEVEL
95 METERING BIN -WAS ABOVE--OPERATOR SET-POINT LEVEL - OK-TO-RUN NOW
96 MES 96
97 MES 97
98 MES 98
99 MES 99
100 MES 100
101 HM-1A ELIMINATOR H-MILL SOFT STARTER FAULT DETECTED
102 HM-1A ELIMINATOR GUARD DOOR -IS NOW- OPEN FAULT
103 HM-1A ELIMINATOR GUARD DOOR -WAS OPEN -- OK-TO-RUN NOW
104 ELIMINATOR VIBRATION SWITCH -IS NOW- FAULTED -- (INFEED STOPPED)
105 ELIMINATOR VIBRATION SWITCH -WAS FAULTED -- SYS. RUNNING NOW
106 ELIMINATOR VIBRATION SWITCH-FAULTED BOTH ELIMINATOR MOTORS STOPPED
107 MES 107
108 HM-1A ELIMINATOR MOTOR AMPS LEVEL -IS NOW AT- HIGH WARNING LEVEL
109 HM-1A ELIMINATOR MOTOR AMPS -WERE AT- HIGH WARNING LEVEL- OK NOW
110 HM-1A ELIMINATOR MOTOR AMPS TOO HIGH FAULT -- MOTOR STOPPED
111 MES 111
112 MES 112
113 MES 113
114 MES 114
115 HM-1B ELIMINATOR H-MILL SOFT STARTER FAULT DETECTED
116 HM-1B ELIMINATOR MOTOR AMPS LEVEL -IS NOW AT- HIGH WARNING LEVEL
117 HM-1B ELIMINATOR MOTOR AMPS -WERE AT- HIGH WARNING LEVEL- OK NOW
118 HM-1B ELIMINATOR MOTOR AMPS TOO HIGH FAULT -- MOTOR STOPPED
119 MES 119

Ottumwa Biomass Fault Messages

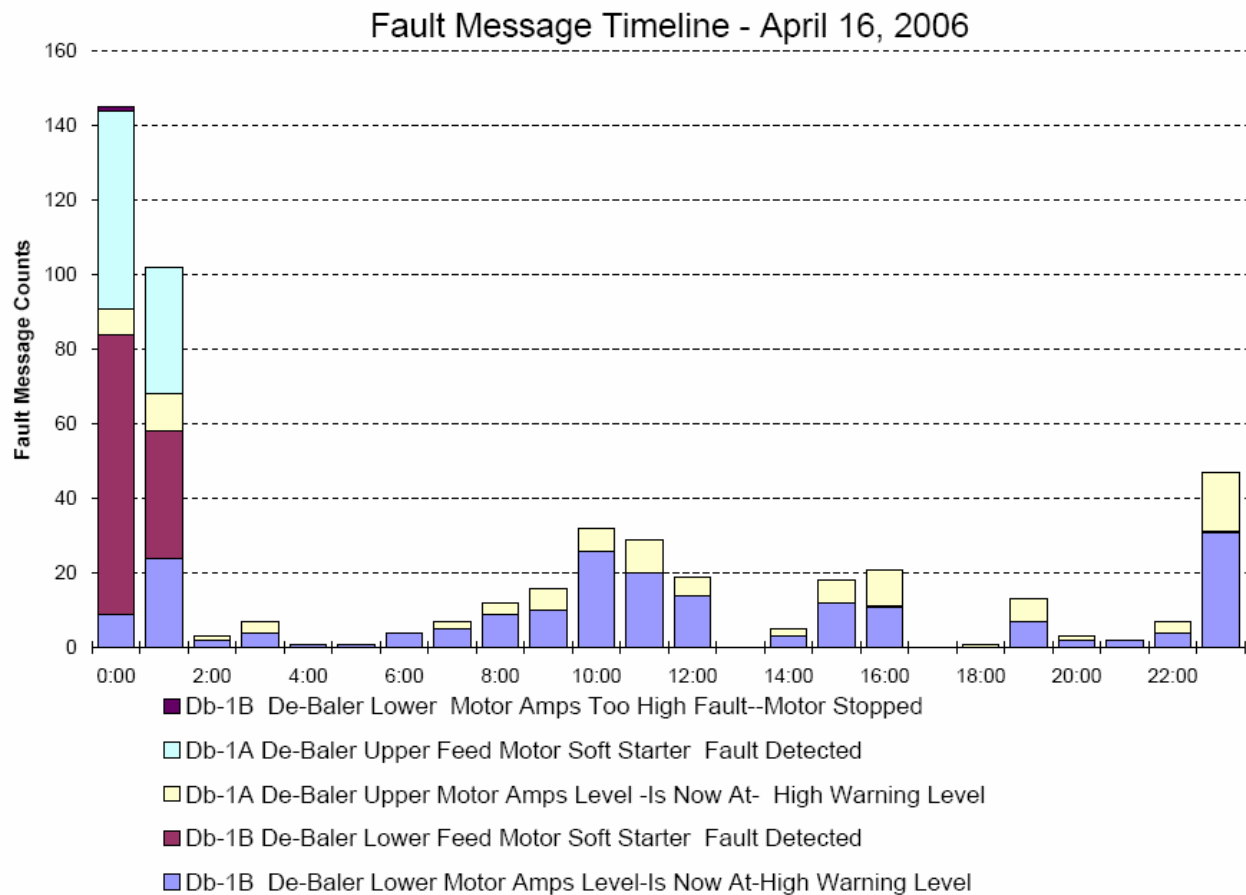
120 SB-1 SURGE BIN (ABOVE ELIMINATOR) LEVEL --IS NOW -- TOO HIGH FAULT
121 SB-1 SURGE BIN (ABOVE ELIMINATOR) LEVEL -WAS TOO HIGH -- OK-TO-RUN NOW
122 C-715 MAGNETIC BELT CONVEYOR MOTOR OVER-LOAD FAULT DETECTED
123 C-713 INCLINE CONVEYOR (TO ELIMINATOR) MOTOR OVER-LOAD FAULT DETECTED
124 PS-1 DE-BALER OUT-FEED BIN --IS NOW PLUGGED--FAULT
125 PS-1 DE-BALER OUT-FEED BIN --WAS PLUGGED--OK-TO-RUN NOW
126 STOP SWITCH FOR C-713 INCLINE CONVEYOR -- IS NOW HIT --
127 STOP SWITCH FOR C-713 INCLINE CONVEYOR -- WAS HIT -- OK-TO-RUN NOW
128 MES 128
129 MES 129
130 MES 130
131 DB-1A DE-BALER UPPER FEED MOTOR SOFT STARTER FAULT DETECTED
132 DB-1A DE-BALER DOOR #1 --IS NOW-- OPEN FAULT
133 DB-1A DE-BALER DOOR #1 --WAS OPEN -- OK-TO-RUN NOW
134 DB-1A DE-BALER DOOR #2 --IS NOW-- OPEN FAULT
135 DB-1A DE-BALER DOOR #2 --WAS OPEN -- OK-TO-RUN NOW
136 DB-1A DE-BALER UPPER MOTOR AMPS LEVEL -IS NOW AT- HIGH WARNING LEVEL
137 DB-1A DE-BALER UPPER MOTOR AMPS -WERE AT- HIGH WARNING LEVEL- OK NOW
138 DB-1A DE-BALER UPPER MOTOR AMPS TOO HIGH FAULT -- MOTOR STOPPED
139 MES 139
140 MES 140
141 DB-1B DE-BALER LOWER FEED MOTOR SOFT STARTER FAULT DETECTED
142 DB-1B DE-BALER LOWER MOTOR AMPS LEVEL-IS NOW AT-HIGH WARNING LEVEL
143 DB-1B DE-BALER LOWER MOTOR AMPS -WERE AT-HIGH WARNING LEVEL-OK NOW
144 DB-1B DE-BALER LOWER MOTOR AMPS TOO HIGH FAULT--MOTOR STOPPED
145 C-710 IN-FEED CONVEYOR TO DE-BALER MOTOR OVER-LOAD FAULT DETECTED
146 C-709 TRANSFER CONVEYOR (TO C-710 CONV.) MOTOR OVER-LOAD FAULT DETECTED
147 ALL INFEED CONVEYORS STOPPED CONVEYORS NOW IN MANUAL MODE
148 C-702 RECEIVING CONVEYOR BALE NOW AT MAXIMUM REVERSE EYE -- CONV. STOPPED
149 NOW RUNNING AUTO-STOP SEQUENCE FOR COMPLETE SYSTEM
150 MES 150
151 MES 151
152 MES 152
153 MES 153
154 MES 154
155 MES 155
156 MES 156
157 MES 157
158 MES 158
159 MES 159
160 MES 160
161 C-713 INCLINE CONVEYOR (TO ELIMINATOR) RUNNING TOO SLOW FAULT
162 AL-1 AIRLOCK (UNDER VACUUM CYCLONE) RUNNING TOO SLOW FAULT
163 AL-2 AIRLOCK (UNDER BAG HOUSE CYCLONE) RUNNING TOO SLOW FAULT
164 C-718 TUBE CONVEYOR (TO METERING BIN) RUNNING TOO SLOW FAULT
165 AL-3 AIRLOCK (UNDER PRIMARY CYCLONE) RUNNING TOO SLOW FAULT
166 AL-4 AIRLOCK (UNDER SC-716 FEED CONV.) RUNNING TOO SLOW FAULT
167 AL-5 AIRLOCK (UNDER SC-717 FEED CONV.) RUNNING TOO SLOW FAULT
168 SC-716 SCREW FEED CONV. (TO BL-1 BLOWER) RUNNING TOO SLOW FAULT
169 SC-717 SCREW FEED CONV. (TO BL-2 BLOWER) RUNNING TOO SLOW FAULT
170 MES 170
171 MES 171
172 MES 172
173 MES 173
174 MES 174
175 CAUTION!!! NOW RUNNING IN MAINTENANCE MODE
176 MES 176
177 MES 177
178 MES 178
179 MES 179

Ottumwa Biomass Fault Messages

180 DESTINGER CUT CYCLE SWITCH -- IS NOT-- NOW IN AUTO. MODE
181 DESTINGER CUT CYCLE SWITCH -- WAS NOT--IN AUTO. MODE -- OK-TO-RUN NOW
182 DE-STRINGER CUT ARM MOTOR OVER-LOAD FAULT DETECTED
183 DE-STRINGER CUT ARM MAXIMUM TIME ALLOWED TO MOVE EXCEEDED FAULT
184 C-708B 2nd SURGE TRANSFER CONVEYOR VFD DRIVE FAULT DETECTED
185 MES 185
186 MES 186
187 MES 187
188 C-708A BAIL KICKER HYDRAULIC PUMP MOTOR OVER-LOAD FAULT DETECTED
189 TOO MANY BALES NOW AT C-708A BALE KICKER EJECT AREA -- ALL CONV.'S STOPPED
190 BAIL KICKER ARM MAXIMUM MOVE TIME EXCEEDED FAULT
191 BAIL KICKER FORKS MAXIMUM MOVE TIME EXCEEDED FAULT
192 C-706 1st. SURGE TRANSFER CONVEYOR VFD DRIVE FAULT DETECTED
193 BALE KICKER HYDRAULIC SYSTEM MAX. PRESSURE FAULT --- RESET KICK CYCLE
194 BALE KICKER HYDRAULIC SYSTEM MAX. PRESSURE FAULT --- HYD, PUMP STOPPED
195 MES 195
196 C-704A SIDE SHIFT ACTUATOR MOTOR OVER-LOAD FAULT DETECTED
197 C-704C WEST SIDE OF DUAL TRANSFER CONV. VFD DRIVE FAULT DETECTED
198 C-704B EAST SIDE OF DUAL TRANSFER CONV. VFD DRIVE FAULT DETECTED
199 C-702 DUAL RECEIVING CONVEYOR MOTOR OVER-LOAD FAULT DETECTED
200 VACUUM CLEANER MOTOR OVER-LOAD FAULT DETECTED
201 MES 201
202 CABLE STOP SWITCH FOR ALL IN-FEED CONVEYORS -- IS NOW-- HIT FAULT
203 CABLE STOP SWITCH FOR ALL IN-FEED CONVEYORS -WAS- HIT -- OK-TO-RUN NOW
204 BALE LIFT UP/DOWN MOTOR OVER-LOAD FAULT DETECTED
205 MES 205
206 MES 206
207 MES 207
208 MES 208
209 MES 209
210 MES 210
211 MES 211
212 MES 212
240 OK-TO-RUN SYSTEM---NO FAULTS DETECTED REMEMBER SAFETY FIRST !!!!

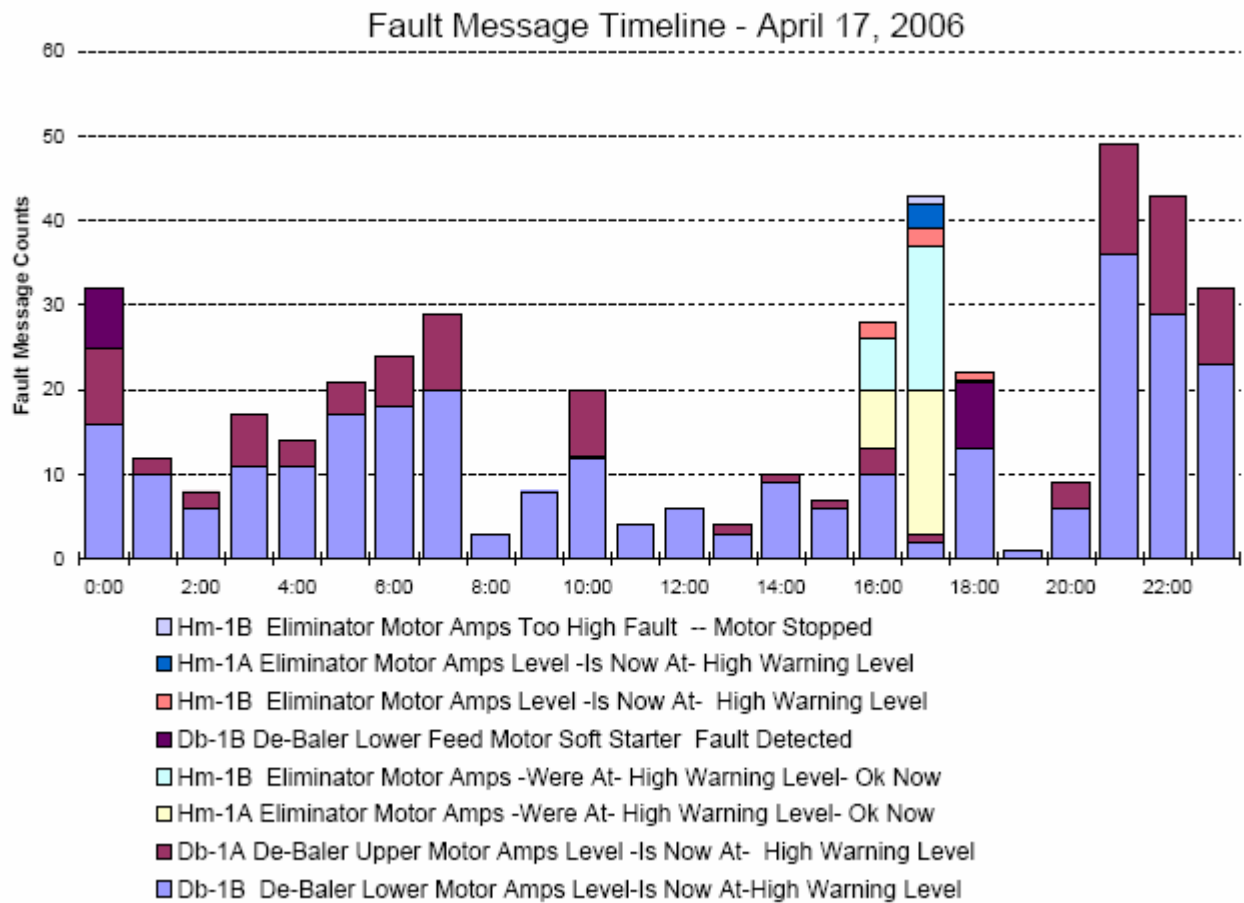
April 16, 2006

Rank	Code	Count	Message
1	142	200	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
2	141	109	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
3	136	97	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
4	131	87	Db-1A De-Baler Upper Feed Motor Soft Starter Fault Detected
5	144	1	Db-1B De-Baler Lower Motor Amps Too High Fault--Motor Stopped



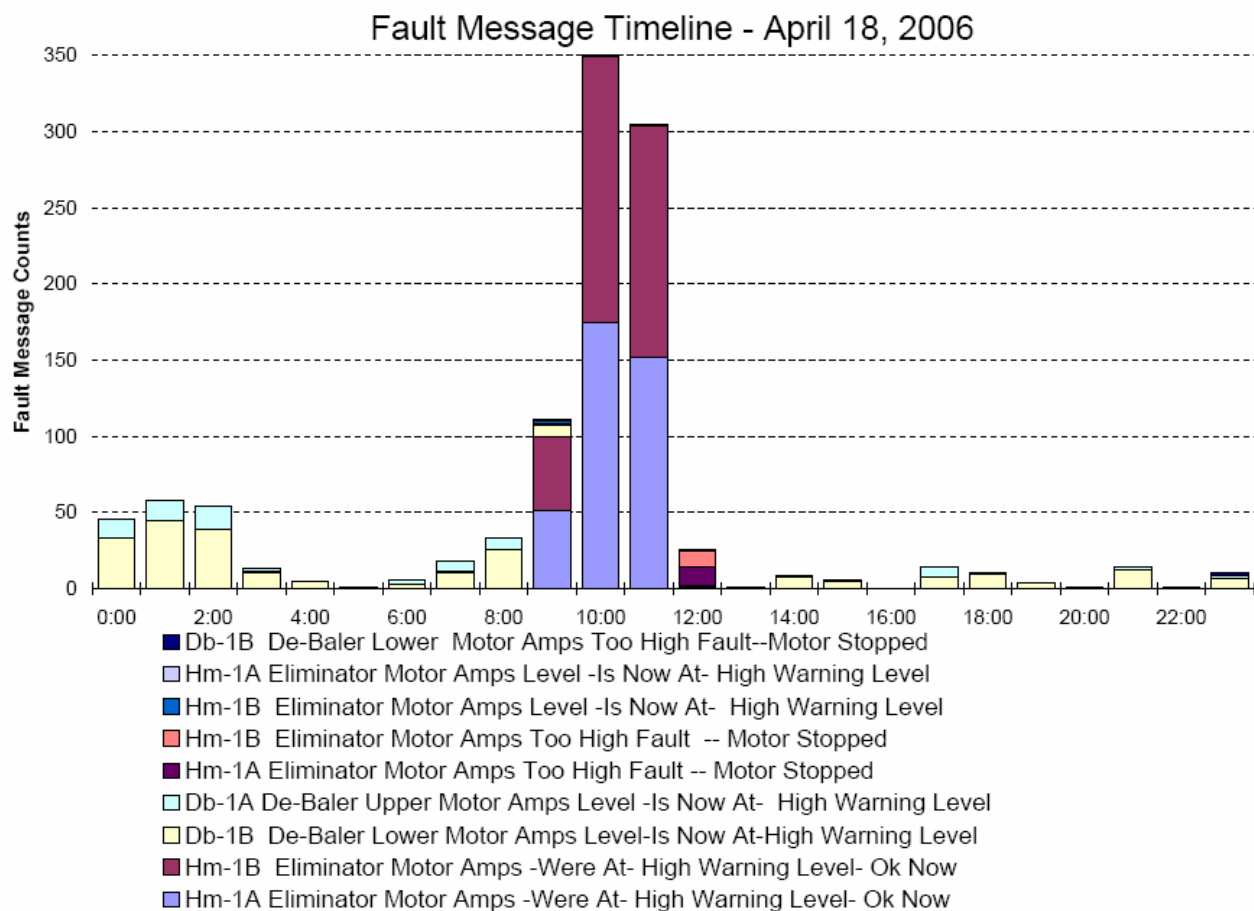
April 17, 2006

Rank	Code	Count	Message
1	142	280	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
2	136	95	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
3	109	24	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
4	117	23	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
5	141	15	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
6	116	5	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
7	108	3	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level
8	118	1	Hm-1B Eliminator Motor Amps Too High Fault -- Motor Stopped



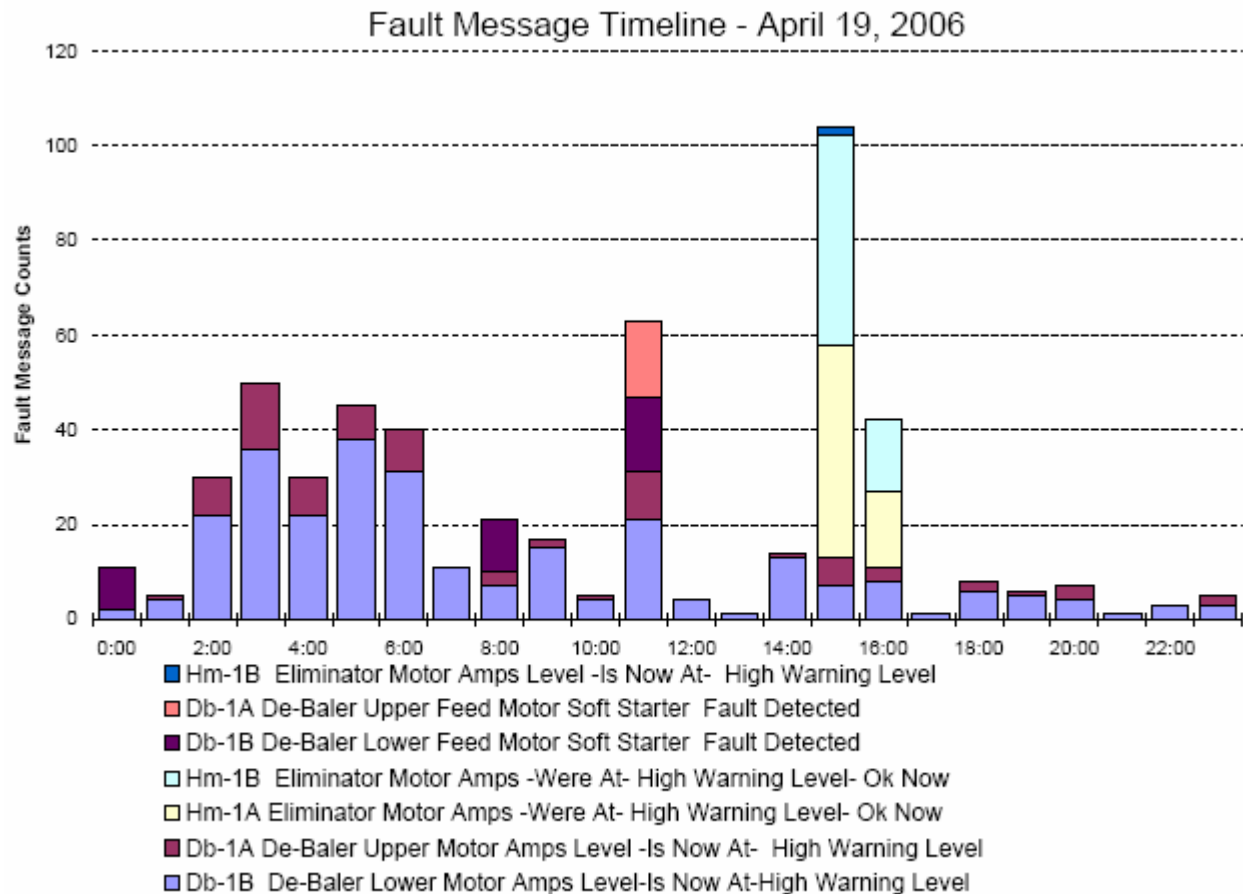
April 18, 2006

Rank	Code	Count	Message
1	109	378	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
2	117	375	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
3	142	237	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
4	136	79	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
5	110	12	Hm-1A Eliminator Motor Amps Too High Fault -- Motor Stopped
6	118	11	Hm-1B Eliminator Motor Amps Too High Fault -- Motor Stopped
7	116	5	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
8	108	3	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level
9	144	2	Db-1B De-Baler Lower Motor Amps Too High Fault--Motor Stopped



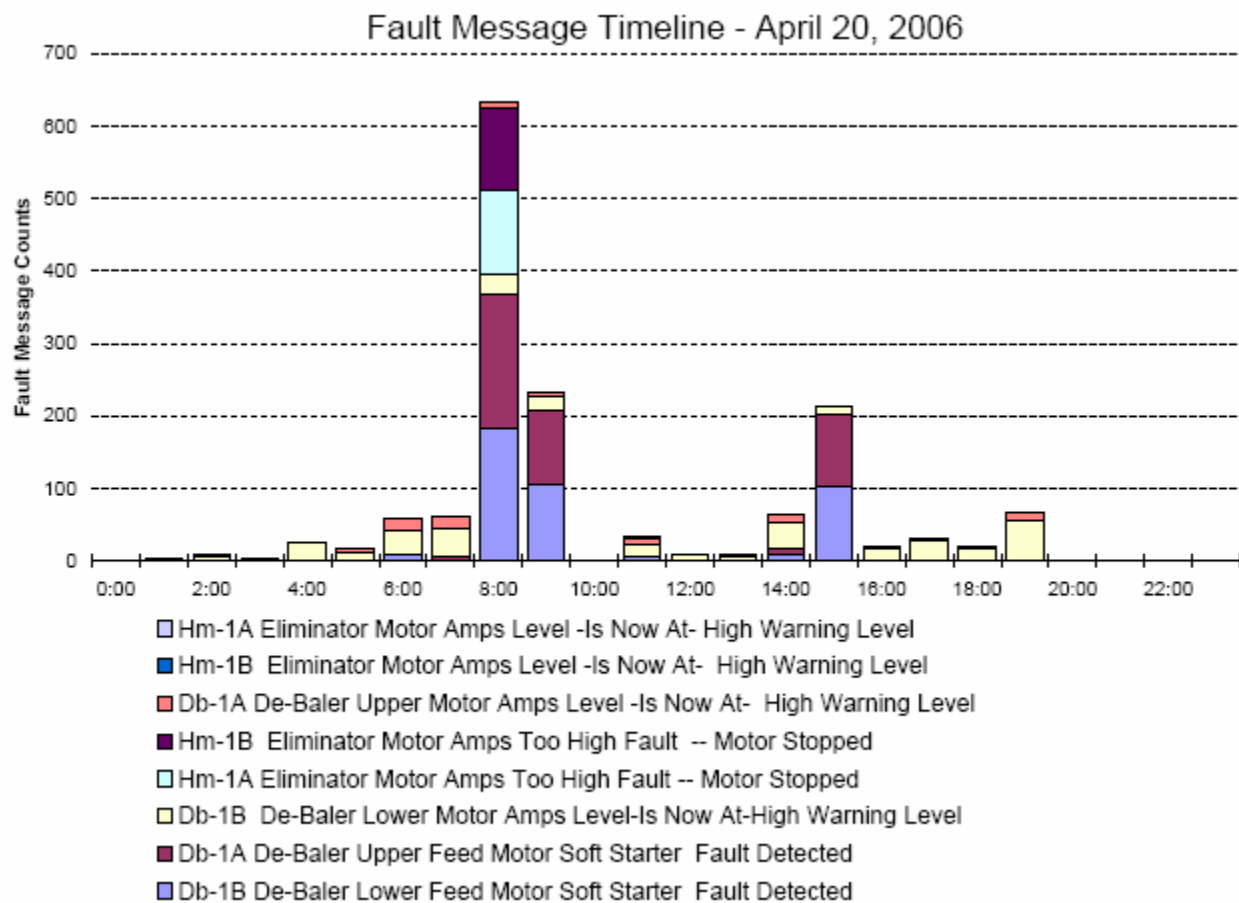
April 19, 2006

Rank	Code	Count	Message
1	142	268	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
2	136	81	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
3	109	61	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
4	117	59	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
5	141	36	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
6	131	16	Db-1A De-Baler Upper Feed Motor Soft Starter Fault Detected
7	116	2	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level



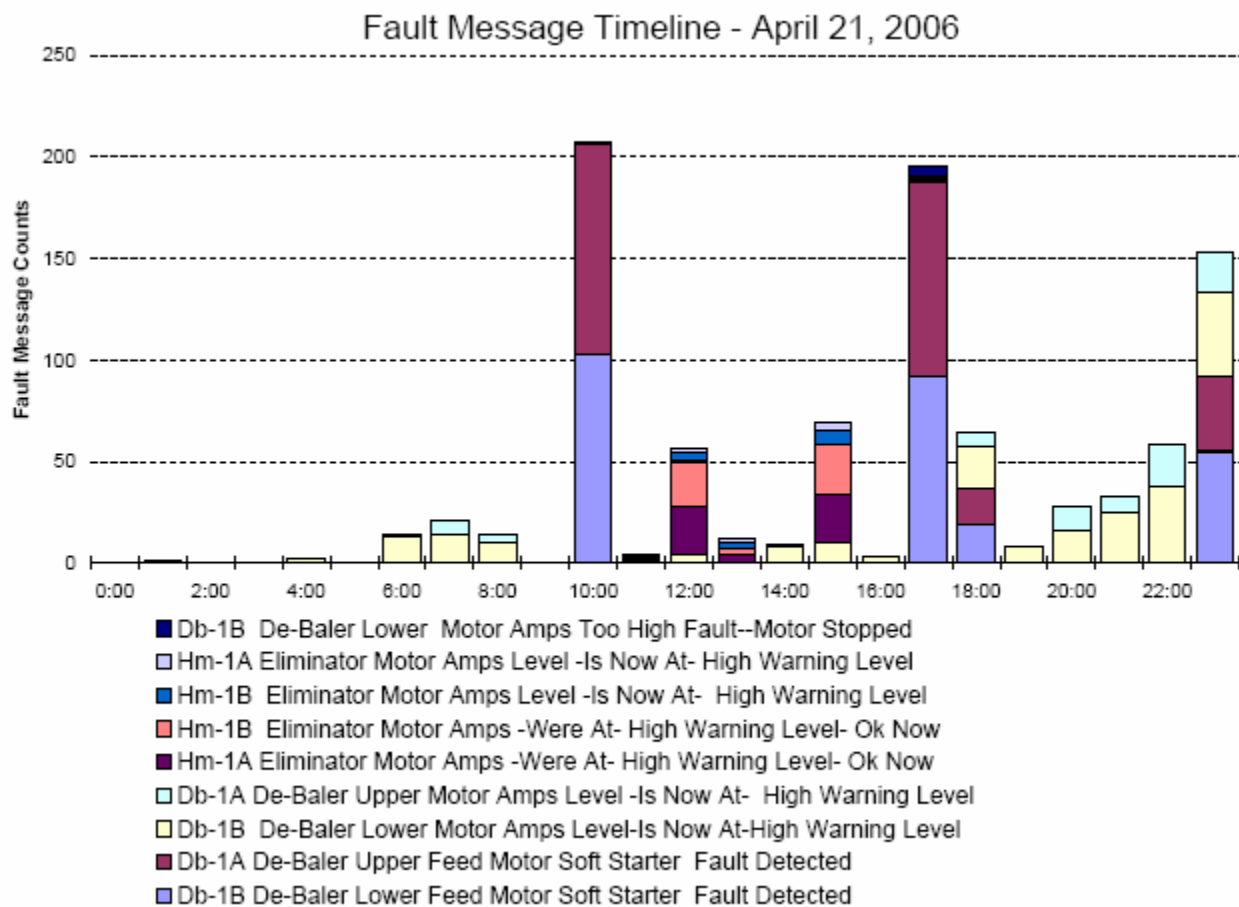
April 20, 2006

Rank	Code	Count	Message
1	141	417	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
2	131	399	Db-1A De-Baler Upper Feed Motor Soft Starter Fault Detected
3	142	367	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
4	110	115	Hm-1A Eliminator Motor Amps Too High Fault -- Motor Stopped
5	118	114	Hm-1B Eliminator Motor Amps Too High Fault -- Motor Stopped
6	136	100	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
7	116	2	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
8	108	1	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level



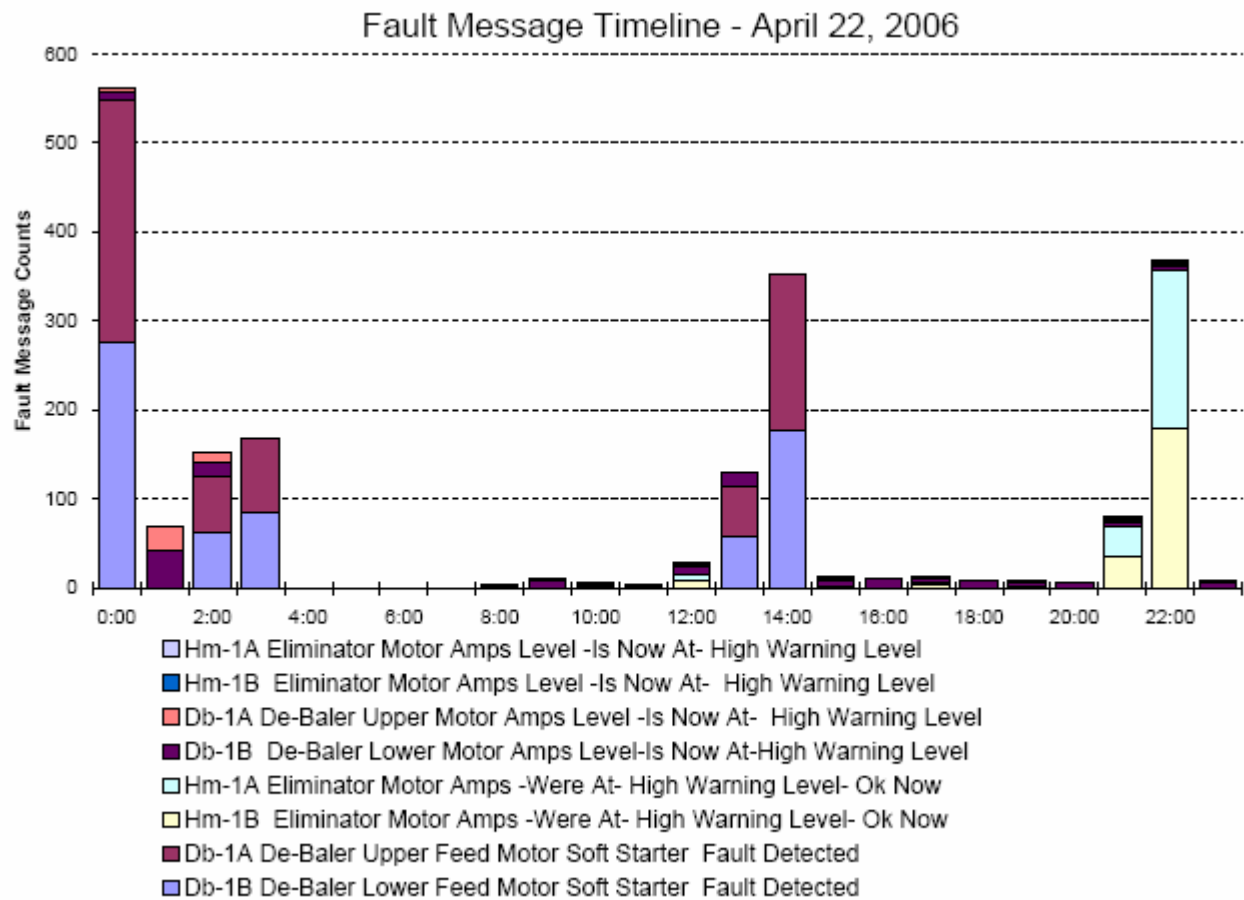
April 21, 2006

Rank	Code	Count	Message
1	141	276	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
2	131	263	Db-1A De-Baler Upper Feed Motor Soft Starter Fault Detected
3	142	215	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
4	136	83	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
5	109	52	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
6	117	50	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
7	116	15	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
8	108	8	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level
9	144	5	Db-1B De-Baler Lower Motor Amps Too High Fault--Motor Stopped



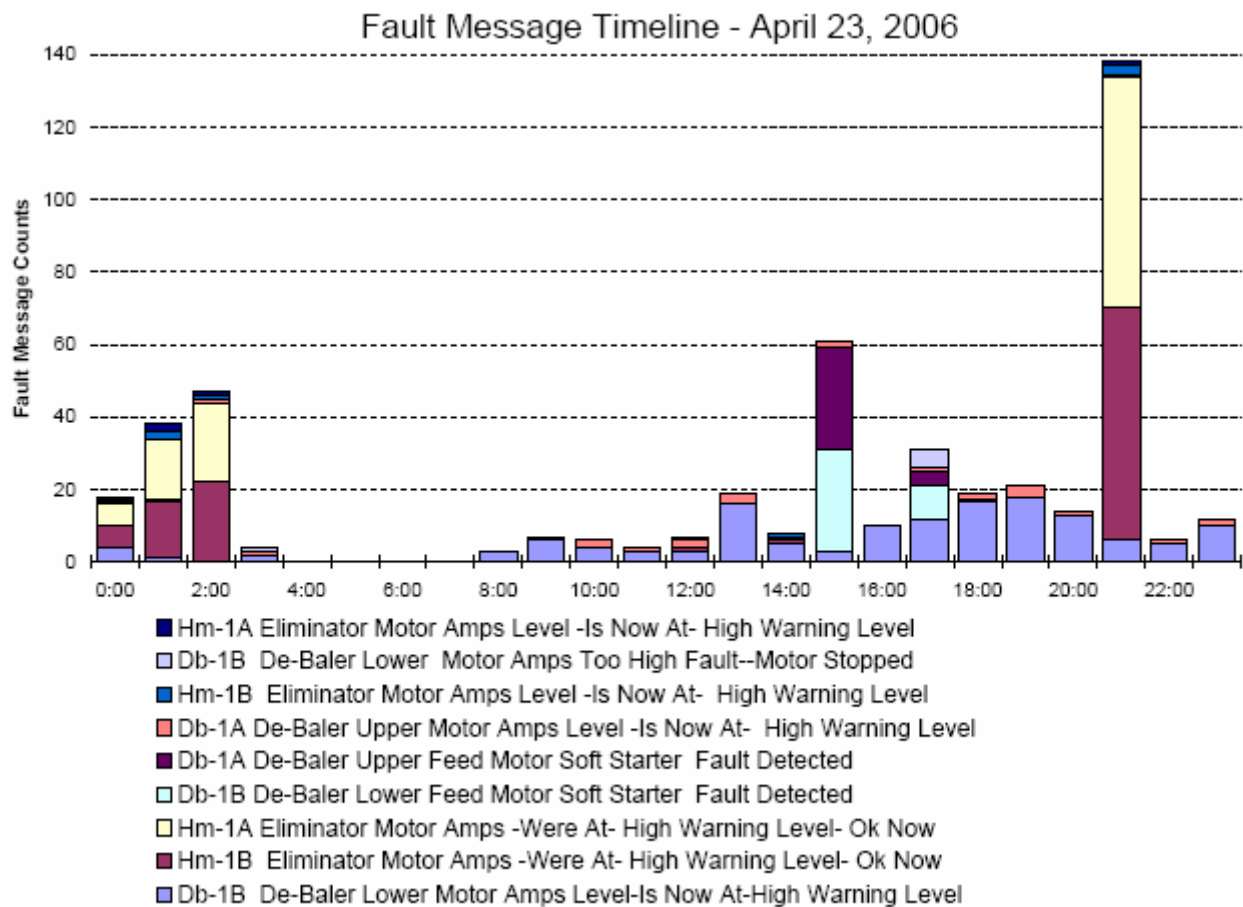
April 22, 2006

Rank	Code	Count	Message
1	141	654	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
2	131	653	Db-1A De-Baler Upper Feed Motor Soft Starter Fault Detected
3	117	227	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
4	109	225	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
5	142	162	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
6	136	62	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
7	116	12	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
8	108	7	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level



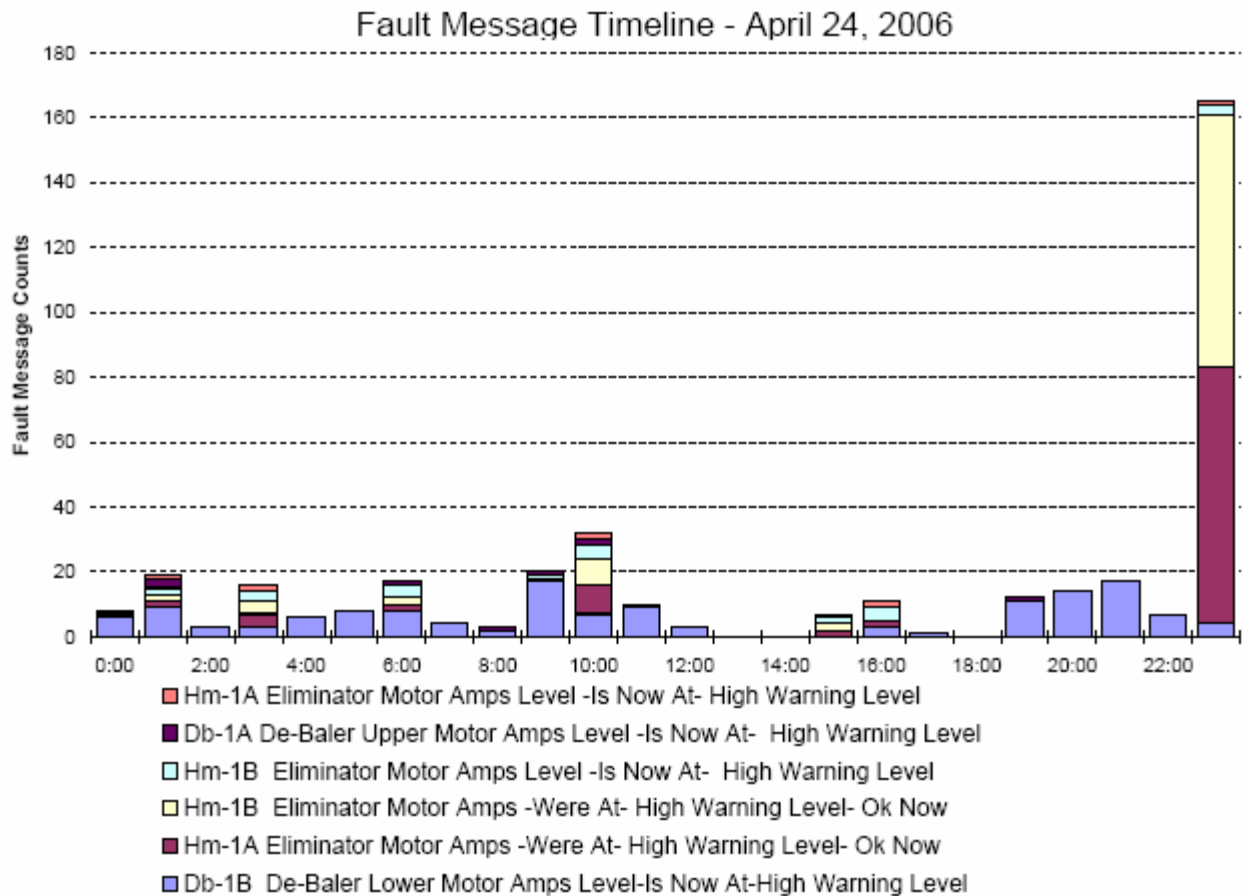
April 23, 2006

Rank	Code	Count	Message
1	142	141	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
2	117	110	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
3	109	109	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
4	141	37	Db-1B De-Baler Lower Feed Motor Soft Starter Fault Detected
5	131	32	Db-1A De-Baler Upper Feed Motor Soft Starter Fault Detected
6	136	24	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
7	116	9	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
8	144	6	Db-1B De-Baler Lower Motor Amps Too High Fault--Motor Stopped
9	108	5	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level



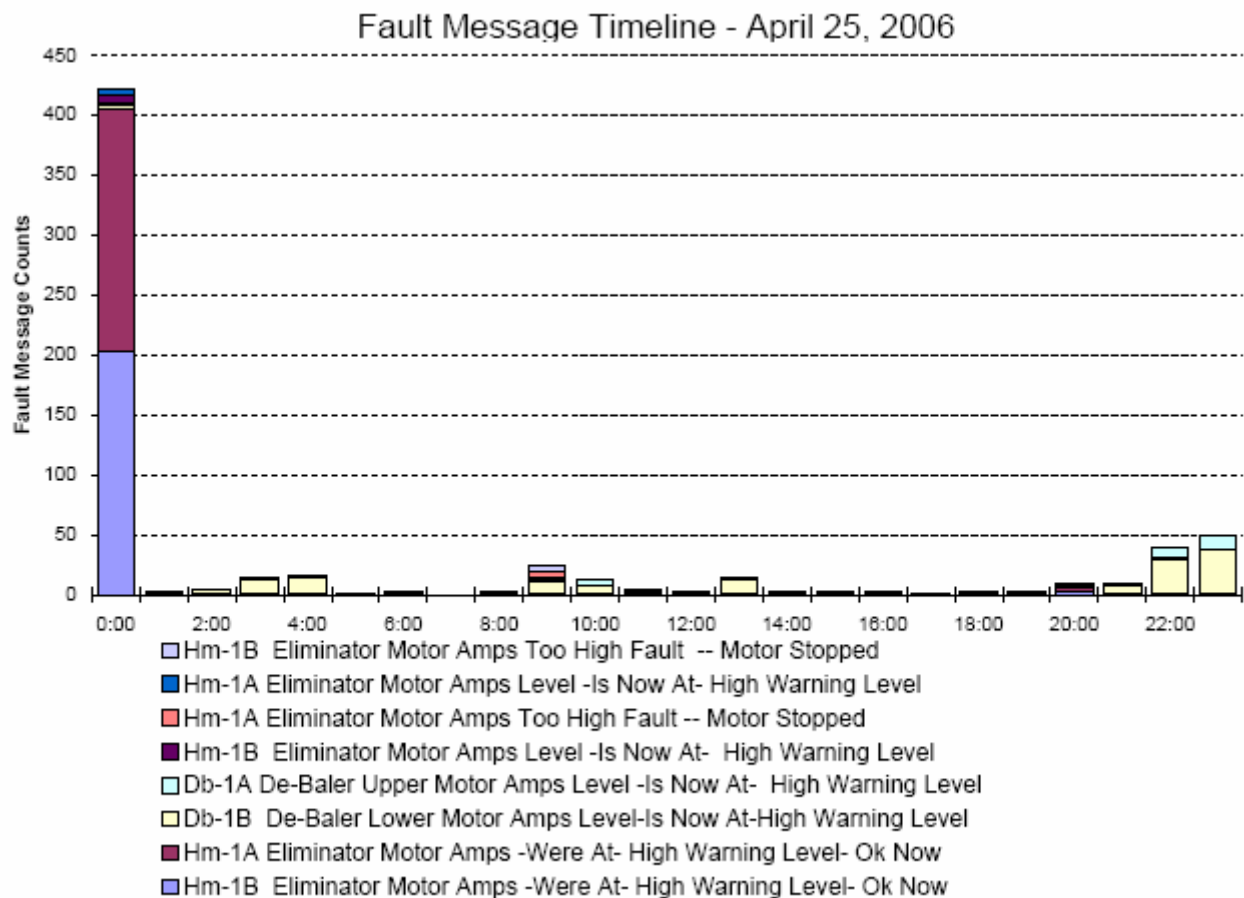
April 24, 2006

Rank	Code	Count	Message
1	142	142	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
2	109	100	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
3	117	97	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
4	116	24	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
5	136	11	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
6	108	9	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level



April 25, 2006

Rank	Code	Count	Message
1	117	206	Hm-1B Eliminator Motor Amps -Were At- High Warning Level- Ok Now
2	109	206	Hm-1A Eliminator Motor Amps -Were At- High Warning Level- Ok Now
3	142	158	Db-1B De-Baler Lower Motor Amps Level-Is Now At-High Warning Level
4	136	49	Db-1A De-Baler Upper Motor Amps Level -Is Now At- High Warning Level
5	116	12	Hm-1B Eliminator Motor Amps Level -Is Now At- High Warning Level
6	110	6	Hm-1A Eliminator Motor Amps Too High Fault -- Motor Stopped
7	108	6	Hm-1A Eliminator Motor Amps Level -Is Now At- High Warning Level
8	118	5	Hm-1B Eliminator Motor Amps Too High Fault -- Motor Stopped



Appendix D -- Processing Facility Capital Cost Information

CharitonValley Biomass Project: Minimum Cost Estimate

Preliminary Estimate of Costs Required to **UPGRADE the Switchgrass facility for Reliable 10tph Operation**

Aug 9 2006

T R Miles

Line No	Item Description	Equipment	Installation	Total
1	I CIVIL/STRUCTURAL			
2	OTHER			
3	Debaler infeed support steel	\$ -		\$ -
4	ID Fan platform and baghouse support		0	\$ -
11				
12	SUB-TOTAL CIVIL/STRUCTURAL	\$ -	\$ -	\$ -
13				
14	II PROCESS EQUIPMENT			
15	SWITCH GRASS HANDLING EQUIPMENT	\$ 20,000		\$ 20,000
16	BALE HANDLING AND TRANSFERS (Double Line)	\$ -		\$ -
17	DSE MOISTURE SYSTEM (2)	\$ -		\$ -
23	DESTRINGER			
24	New detringer with controls	\$ -	\$ -	\$ -
28	DEBALER			\$ -
29	(2) Debalers with infeed and outfeed conveyor	\$ -	\$ -	\$ -
31	Spare screens and hammers for debalers	\$ 20,000		\$ 20,000
32	Add valves and plumbing for deluge on debaler infeeds		\$ 8,000	\$ 8,000
33	MAGNETS (2)			\$ -
34	(2) permanent magnets and support	\$ 7,500	\$ 2,500	\$ 10,000
35	SECONDARY GRINDERS (2)			\$ -
36	Replace Eliminator with (2) Hammermills (250 HP ea)	\$ -	\$ -	\$ -
37	Modify air discharge/pickup for two mills	\$ -	\$ 10,000	\$ 10,000
38	Chutes and conveyors	\$ 6,000		\$ 6,000
39	Spare screens and hammers for mills	\$ -		\$ -
40	METER BIN			
41	Spare airlock	\$ 15,000		\$ 15,000
42	Add diverter below airlock to divert to alternate processing (cubes etc)	\$ 10,000		\$ 10,000
43	New diverter in Meter Bin auto control of straw split	\$ 10,000		\$ 10,000
44	Repair screws and drives	\$ 5,000		\$ 5,000
45	AIRLOCKS			
46	Rebuild airlock Line 1 (AL4)		\$ 10,000	\$ 10,000
47	Spare Airlock 30 x 40	\$ 30,000		\$ 30,000
48	Add purge lines		\$ 10,000	\$ 10,000
49	HI PRESSURE CONVEYING LINE (SEE BELOW)			
50				
51	SUB-TOTAL PROCESS EQUIPMENT	\$ 123,500	\$ 40,500	\$ 164,000
52				
53	III PNEUMATIC SYSTEMS			
54	BAGHOUSE			
55	Add baghouse system incl bower for dust collection 20,000 CFM	\$ -	\$ -	\$ -
56	Remove Green machine and repipe pickup system.			
57	HI PRESSURE LINES			
58	Replace elbows with ceramic lined ducting	\$ 50,000	\$ 20,000	\$ 70,000
59	Inspect and replace long elbows with minimum schedule 40 pipe.			
60	Add pressure pipe taps on conveying line.	\$ 12,000	\$ 5,000	\$ 17,000
61	COMPRESSOR			
62	Plant compressor for purge, cleanup etc. , receiver	\$ 8,000	\$ 2,000	\$ 10,000
63				
64	SUB-TOTAL PNEUMATIC SYSTEMS	\$ 70,000	\$ 27,000	\$ 97,000
65				
66	IV MISCELLANEOUS			
67	Freight	\$ -	\$ 2,903	\$ 2,903
68	New Compressor for Fire System	\$ 2,000	\$ 1,000	\$ 3,000
69	Safety	\$ -	\$ 10,000	\$ 10,000
70	SUB-TOTAL MISCELLANEOUS	\$ 2,000	\$ 13,903	\$ 15,903
71				
72	V ELECTRICAL AND CONTROLS			
73	CONTROL SYSTEM			
74	Upgraded controls HMI and Instrumentation for full process automation	\$ 20,000	\$ 30,000	\$ 50,000
75	MONITORING/SURVEILLANCE SYSTEM	\$ 25,000	\$ 5,000	\$ 30,000
76	MCC/POWER WIRING	\$ 10,000	\$ 30,000	\$ 40,000
77				
78	SUB-TOTAL ELECTRICALAND CONTROLS	\$ 55,000	\$ 65,000	\$ 120,000

CharitonValley Biomass Project: Minimum Cost Estimate

Preliminary Estimate of Costs Required to **UPGRADE the Switchgrass facility for Reliable 10tph Operation**

Aug 9 2006

T R Miles

Line No	Item Description	Equipment	Installation	Total
79				
80	VI MECHANICAL INSTALLATION			
81	MECHANICAL INSTALL BALE TRANSPORT AND CONVEYOR		\$ -	\$ -
82	MECHANICAL INSTALL DEBALER AND SECONDARY GRINDER		\$ -	\$ -
83				
84	SUB-TOTAL MECHANICAL INSTALLATION	\$ -	\$ -	\$ -
85				
86	TOTAL DIRECT COSTS	\$ 250,500	\$ 146,403	\$ 396,903
87				
88	VII INDIRECT COSTS			
89	ENGINEERING		\$ 150,000	\$ 150,000
90	PROJECT MANAGEMENT		\$ 50,000	\$ 50,000
91				
92	SUB-TOTAL INDIRECT COSTS	\$ -	\$ 200,000	\$ 200,000
93				
94	TOTAL CONSTRUCTION COSTS	\$ 250,500	\$ 346,403	\$ 596,903

CharitonValley Biomass Project

Preliminary Estimate of Costs Required to **UPGRADE the Switchgrass facility for Reliable 1 BOILER Operation**

May 1 2006

T R Miles

Line No	Item Description	Equipment	Installation	Total
1	I CIVIL/STRUCTURAL			
2	SCALES			
3	Truck Scale	\$ 50,000	\$ 10,000	\$ 60,000
4	Debaler and Hammermill Supports		20000	\$ 20,000
5	#2 Debaler conveyor and support steel		20000	\$ 20,000
6				
7	BUILDING			
8	Cover holes in roof		5000	\$ 5,000
9	Add missing door	10000	2000	\$ 12,000
10	Add electric door actuators (5)	7000	300	\$ 7,300
11				
12	SUB-TOTAL CIVIL/STRUCTURAL	\$ 50,000	\$ 30,000	\$ 124,300
13				
14	II PROCESS EQUIPMENT			
15	SWITCH GRASS HANDLING EQUIPMENT			
16	BALE HANDLING AND TRANSFERS			
17	Raise all conveyor chains (4 in)		\$ 20,000	\$ 20,000
18	Close conveyor transitions, add rock trap grill		\$ 30,000	\$ 30,000
19	Convey loose straw and loose bales to tub grinder, refeed to debaler infeed	\$ 60,000	\$ 20,000	\$ 80,000
20	Remove 704 Transfer Conveyor		\$ 5,000	\$ 5,000
21	Add conveyor to continue infeed to #2 debaler	\$ 40,000	\$ 24,000	\$ 64,000
22	MOISTURE METER (#2)	\$ 15,000	\$ 3,000	\$ 18,000
23	DESTRINGER			
	Add #2 Destringer	\$ 24,000	\$ 10,000	\$ 34,000
24	Add guards		\$ 2,000	\$ 2,000
25	Add controls for locating bales		\$ 5,000	\$ 5,000
26	Lengthen draw of fingers to pull twine		\$ 1,000	\$ 1,000
27	Improve height adjustment mechanism		\$ 4,000	\$ 4,000
28	DEBALER			\$ -
29	Remove ramp and modify infeed conveyor		\$ 5,000	\$ 5,000
30	Add #2 debaler with outfeed conveyor	\$ 100,000		\$ 100,000
31	Spare screens and hammers for debalers	\$ 10,000		\$ 10,000
32	Add valves and plumbing for deluge on debaler infeeds		\$ 4,000	\$ 4,000
33	MAGNETS (2)			\$ -
34	Replace Dings with (2) permanent magnets and support	\$ 30,000	\$ 10,000	\$ 40,000
35	SECONDARY GRINDERS (2)			\$ -
36	Replace Eliminator with (2) Hammermills (250 HP ea)	\$ 140,000	\$ 30,000	\$ 170,000
37	Modify air discharge/pickup for two mills		\$ 10,000	\$ 10,000
38	Chutes and conveyors	\$ 14,000		\$ 14,000
39	Spare screens and hammers for mills	\$ 20,000		\$ 20,000
40	METER BIN			
41	Spare airlock	\$ 15,000		\$ 15,000
42	Add diverter below airlock to divert to alternate processing (cubes etc)	\$ 10,000		\$ 10,000
43	New diverter in Meter Bin auto control of straw split	\$ 10,000		\$ 10,000
44	Repair screws and drives	\$ 5,000		\$ 5,000
45	AIRLOCKS			
46	Rebuild airlock Line 1 (AL4)		\$ 10,000	\$ 10,000
47	Spare Airlock 30 x 40	\$ 30,000		\$ 30,000
48	Add purge lines		\$ 10,000	\$ 10,000
49	HI PRESSURE CONVEYING LINE (SEE BELOW)			
50				
51	SUB-TOTAL PROCESS EQUIPMENT	\$ 523,000	\$ 203,000	\$ 726,000

CharitonValley Biomass Project

Preliminary Estimate of Costs Required to **UPGRADE the Switchgrass facility for Reliable 1 BOILER Operation**

May 1 2006

T R Miles

Line No	Item Description	Equipment	Installation	Total
52				
53	III PNEUMATIC SYSTEMS			
54	BAGHOUSE			
55	Add baghouse system incl bower for dust collection 20,000 CFM	\$ 80,000	\$ 15,000	\$ 95,000
56	Remove Green machine and repipe pickup system.			
57	HI PRESSURE LINES			
58	Replace elbows with ceramic lined ducting	\$ 50,000	\$ 20,000	\$ 70,000
59	Inspect and replace long elbows with minimum schedule 40 pipe.			
60	Add pressure pipe taps on conveying line.	\$ 12,000	\$ 5,000	\$ 17,000
61	COMPRESSOR			
62	Plant compressor for purge, cleanup etc. , receiver	\$ 8,000	\$ 2,000	\$ 10,000
63				
64	SUB-TOTAL PNEUMATIC SYSTEMS	\$ 150,000	\$ 42,000	\$ 192,000
65				
66	IV MISCELLANEOUS			
67	Freight	\$ -	\$ 40,000	\$ 40,000
68	New Compressor for Fire System	\$ 2,000	\$ 1,000	\$ 3,000
69	Safety	\$ -	\$ 20,000	\$ 20,000
70	SUB-TOTAL MISCELLANEOUS	\$ 2,000	\$ 61,000	\$ 63,000
71				
72	V ELECTRICAL AND CONTROLS			
73	CONTROL SYSTEM			
74	Upgraded controls HMI and Instrumentation for full process automation	\$ 20,000	\$ 30,000	\$ 50,000
75	MONITORING/SURVEILLANCE SYSTEM	\$ 25,000	\$ 5,000	\$ 30,000
76	MCC/POWER WIRING	\$ 40,000	\$ 30,000	\$ 70,000
77				
78	SUB-TOTAL ELECTRICALAND CONTROLS	\$ 85,000	\$ 65,000	\$ 150,000
79				
80	VI MECHANICAL INSTALLATION			
81	MECHANICAL INSTALL BALE TRANSPORT AND CONVEYOR		\$ 35,000	\$ 35,000
82	MECHANICAL INSTALL DEBALER AND SECONDARY GRINDER		\$ 35,000	\$ 35,000
83				
84	SUB-TOTAL MECHANICAL INSTALLATION	\$ -	\$ 70,000	\$ 70,000
85				
86	TOTAL DIRECT COSTS	\$ 810,000	\$ 471,000	\$ 1,325,300
87				
88	VII INDIRECT COSTS			
89	ENGINEERING		\$ 150,000	\$ 150,000
90	PROJECT MANAGEMENT		\$ 50,000	\$ 50,000
91				
92	SUB-TOTAL INDIRECT COSTS	\$ -	\$ 200,000	\$ 200,000
93				
94	TOTAL CONSTRUCTION COSTS	\$ 895,000	\$ 741,000	\$ 1,680,300

Project Cost Report - Summary

Date: 5/10/05

Item Description	Expended to Date	Commitments	Estimated Add'l Cost to Complete	Total Expected For Completion	BUDGET Amount	Variance
I CIVIL/STRUCTURAL	\$ 825,618.73	\$ 838,358.70	\$ 3,200.00	\$ 790,660.74	\$ 661,000.00	\$ 129,660.74
II NEW PROCESS EQUIPMENT	\$ 163,503.00	\$ 163,458.00	\$ -	\$ 163,458.00	\$ 177,500.00	\$ (14,042.00)
III PNEUMATIC SYSTEMS	\$ 542,574.54	\$ 539,781.54	\$ -	\$ 539,781.54	\$ 704,242.00	\$ (164,460.46)
IV MISCELLANEOUS	\$ 31,730.44	\$ 36,199.97	\$ -	\$ 36,199.97	\$ 25,000.00	\$ 11,199.97
V ELECTRICAL & CONTROLS	\$ 480,082.10	\$ 480,082.10	\$ -	\$ 452,587.00	\$ 399,996.00	\$ 52,591.00
VI MECHANICAL INSTALLATION	\$ 415,637.45	\$ 415,414.69	\$ -	\$ 369,131.00	\$ 333,720.00	\$ 35,411.00
TOTAL COST WITHOUT CONTINGENCY	\$ 2,459,146.26	\$ 2,473,295.00	\$ 3,200.00	\$ 2,351,818.25	\$ 2,301,458.00	
CONTINGENCY & UNLISTED ITEMS ALLOWANCE			\$113,181.75	\$113,181.75	\$ 163,542.00	\$ (50,360.25)
TOTALS:			\$ 116,381.75	\$ 2,465,000.00	\$ 2,465,000.00	\$ -

Chariton Valley RC&D
Chariton Valley Biomass Project Long-Term Test
BCCE Project 00352-7 (Bradford Conrad Crow Engineering)

Item #	Item Description	BUDGET Amount	Variance
	I CIVIL/STRUCTURAL		
	SITEWORK		
	EXCAVATION	\$ 68,300.00	\$ 30,800.00
	SUBGRADE PREPARATION	Included	
	STOCK PILE, RESPREAD EXISTING ROCK	Included	
	MACADAM STONE BASE	Included	
	CLASS "A" CRUSHED STONE	Included	
	RA-36 INTAKE	Included	
	15" DIA. CONCRETE PIPE APRON	Included	
	15" DIA. RCP	Included	
	SURVEYING & GRADE STAKING	\$ -	\$ 6,820.00
	CLASS "D" RIP-RAP	\$ 1,000.00	\$ -
	SILT FENCE	\$ 5,000.00	\$ (1,875.00)
	SEEDING	\$ 2,500.00	\$ 3,000.00
	DELIVER C-STONE TO SITE (BY ALLIANT)	\$ -	\$ 29,000.00
	RELOCATE POLE YARD	\$ 90,000.00	\$ (84,000.00)
	BUILDINGS		\$ -
	PROCESS & STORAGE BUILDINGS	\$ 300,000.00	\$ 24,597.00
	FIRE SPRINKLER VALVE HOUSE	\$ 5,000.00	\$ (5,000.00)
	ADDITIONAL OVERHEAD DOOR @ SE CORNER	\$ -	\$ 10,137.18
	ADDITIONAL PERMIT FEES FOR CONSTRUCTION-SEPTIC-FIRE-ETC.		
	Electrical feed and relocation hook up fee		
	CONCRETE		
	BUILDING FOUNDATIONS	\$ 83,000.00	\$ 59,022.00
	PIPE BRIDGE FOUNDATIONS	\$ 23,000.00	\$ 12,838.56
	OTHER		
	DEBALER INFEED SUPPORT STEEL	\$ 6,400.00	\$ (1,418.00)
	CLEAN-UP BLOWER PLATFORM	\$ 8,300.00	\$ (1,024.00)
	I.D. FAN PLATFORM (20' STACK)	\$ 10,500.00	\$ 2,946.00
	MCC ROOM, RESTROOM & CONTROL ROOM		
	BUILDING CONSTRUCTION	\$ 49,000.00	\$ 52,817.00
	INTERIOR PLUMBING, COMPLETE	Included	
	H&AC SYSTEM (CONTROL ROOM)	\$ 5,400.00	\$ (5,400.00)
	A/C SYSTEM IN MCC ROOM (Allowance)	\$ 3,600.00	\$ (3,600.00)
	SUB-TOTAL CIVIL/STRUCTURAL	\$ 661,000.00	\$ 129,660.74
	II NEW PROCESS EQUIPMENT		
	SWITCH GRASS HANDLING EQUIPMENT		
	BALE HANDLING AND TRANSFERS	\$ 103,000.00	\$ 9,793.00
	DSE MOISTURE MEASURE SYSTEM	\$ 14,500.00	\$ 429.00
	MAG-BELT, COMPLETE	\$ 30,000.00	\$ (6,764.00)
	BALE KICKER SYSTEM		
	VENDOR STARTUP ASSISTANCE (NEW & EXISTING)	\$ 30,000.00	\$ (30,000.00)
	SUB-TOTAL PROCESS EQUIPMENT	\$ 177,500.00	\$ (26,542.00)

Chariton Valley RC&D
Chariton Valley Biomass Project Long-Term Test
BCCE Project 00352-7 (Bradford Conrad Crow Engineering)

Item #	Item Description	BUDGET Amount	Variance
	III PNEUMATIC SYSTEMS		
	VACUUM CLEAN-UP SYSTEM (ALLOWANCE w/ USED BLOWER)	\$ 20,000.00	\$ 9,711.00
	PRIMARY MATERIAL HANDLING PNEUMATIC SYSTEM, COMPLETE	\$ 117,848.00	\$ (41,274.00)
	* RE-USE INTERIM TEST EQUIPMENT BAGHOUSE, I.D. FAN, ETC.	Included	
	* INCREASE AIRTECH I.D. FAN TO 100 HP & CLASS-4	Included	
	HIGH PRESSURE TRANSPORT SYSTEMS (LINES A,B)	\$ 200,604.00	\$ 42,526.00
	* ASSUMES NEW BLOWER SYSTEMS	Included	
	* SHUT DOWN VALVES AT BOILER (REUSE EXISTING)		\$ -
	* PIPE BRIDGE AND SUPPORTS	\$ 46,000.00	\$ (46,000.00)
	FREIGHT	\$ 10,000.00	\$ (1,750.00)
	MECH. INSTALL BAGHOUSE AND BLOWER SYSTEMS	\$ 289,790.00	\$ (89,729.00)
	VENDOR STARTUP ASSISTANCE	\$ 20,000.00	\$ (7,944.46)
	TRADE-IN ALLOWANCE (FEEDERS & BLOWERS)	\$ -	\$ (30,000.00)
	BOILER SG BURNERS & BOILER MODIFICATIONS (REUSE EXISTING)	\$ -	\$ -
	SUB-TOTAL PNEUMATIC SYSTEMS	\$ 704,242.00	\$ (164,460.46)

Item #	Item Description	BUDGET Amount	Variance
	IV MISCELLANEOUS		
	FREIGHT TO MILL SITE	\$ 10,000.00	\$ 3,640.22
	MAJOR SPARE PARTS	\$ 15,000.00	\$ (12,576.25)
	FIELD SURVEYING (GARDEN & ASSOCIATES)	\$ -	\$ 7,500.00
	SOILS TECH TESTING & ANALYSIS (Allender Butzke Engineers, Inc.)	\$ -	\$ 5,000.00
	BOILER MODIFICATIONS/MATERIALS		
	VENDOR SUPPLIED TRAINING	\$ -	\$ -
	IOWA SALES TAX		
	SUB-TOTAL MISCELLANEOUS	\$ 25,000.00	\$ 3,563.97

Item #	Item Description	BUDGET Amount	Variance
	V ELECTRICAL & CONTROLS		
	PRIMARY 13.8kva FEEDER AND 1500kva TRANSFORMER (BY ALLIANT)	\$ -	\$ -
	ELECTRICAL TRENCHING & BACKFILL	\$ 10,000.00	\$ (10,000.00)
	MAIN POWER DISTRIBUTION (NOT INCL. 1500KVA XFMR & FEEDERS)	\$ 82,457.00	\$ 121,613.00
	GROUNDING - EQUIPMENT & BUILDINGS	\$ 5,809.00	\$ 1,081.00
	LIGHTING - SITE & BUILDING TOTAL	\$ 77,828.00	\$ 16,982.00
	CONTROL SYSTEM HARDWARE & INSTALL (INCLUDES OGS INTERFACE)	\$ 40,119.00	\$ (22,099.00)
	HMI & PLC SYSTEMS PROGRAMMING (INCLUDES OGS INTERFACE)	\$ 34,100.00	\$ 64,797.00
	MOTOR CONTROL CENTERS	\$ 40,940.00	\$ (40,940.00)
	MCC INSTALL, POWER WIRING & CONTROL WIRING	\$ 77,151.00	\$ (70,651.00)
	ALLOWANCE FOR CONTRACTOR OH&P (ON MATERIALS ONLY)	\$ 31,592.00	\$ (31,592.00)
	SAFETY CONTROL ISSUES FROM COMMISSIONING		
	FIBER OPTICS TO POWER PLANT	\$ -	\$ 23,400.00
	FIRE ALARM SYTEM AND HEAT TRACE CABLE FOR PYROGARD SYSTEM		
	TV MONITORS & SURVEILLANCE Telephone System	\$ -	\$ -
	SUB-TOTAL ELECTRICAL	\$ 399,996.00	\$ 52,591.00

Chariton Valley RC&D
Chariton Valley Biomass Project Long-Term Test
BCCE Project 00352-7 (Bradford Conrad Crow Engineering)

Item #	Item Description	BUDGET Amount	Variance
	VI MECHANICAL INSTALLATION		
	UNDERGROUND SERVICES - WATER & SEWER	\$ 43,000.00	\$ (2,000.00)
	RESTROOM (ETC.) PLUMBING, ROUGH-IN ONLY	Included	
	UNDERGROUND FIRE MAINS (Includes 3 hydrants)	\$ 88,120.00	\$ 6,580.00
	EQUIPMENT ACCESS STAIRS FABRICATION	\$ 20,000.00	\$ 4,636.00
	OPERATOR WORK PLATFORMS FABRICATION	Included	
	Platform and walkway to Cyclone on Roof (aka widow walk)		
	MECH. INSTALL OF SAFETY FEATURES FOR SYSTEM		
	MECH. INSTALL BALE TRANSPORT CONVEYOR SYSTEM	\$ 80,000.00	\$ 25,740.00
	MECH. INSTALL DEBALER AND HAMMERMILL SYSTEMS	Included	
	FIRE PROTECTION - PROCESS BLDG	\$ 29,100.00	\$ 67,540.00
	FIRE PROTECTION - STORAGE BLDG	\$ 69,800.00	\$ (69,800.00)
	FIRE PROTECTION - INTERIOR ROOMS	\$ 2,700.00	-
	FIRE PROTECTION - FIRE EXTINGUISHERS	\$ 1,000.00	\$ (685.00)
	FIRE PROTECTION - HOSE STATIONS	\$ -	\$ 6,100.00
	SUB-TOTAL MECHANICAL INSTALL	\$ 333,720.00	\$ 38,111.00

Actual Installation Costs for Biomass Processing Facility (Chariton Valley) -- Not Adjusted for Inflation

Item Number	Equipment Type (Manufacturer)	Purchase Date	Age in Years	Purchase Price*	Totals & Subtotals
Switchgrass Storage and Processing Building for First and Second Test Burns (the "Biosilo")					
1	Bio Silo Building	9/6/2000	8	\$129,450	
2	Site Preparation		8	\$72,140	
	Total Cost of Bio Silo				\$201,590
Switchgrass Processing Equipment (Conveyors, Mills, Pneumatic Conveyance, Feeders, Storage Bin)					
3	Bag House	7/14/2000	8	\$46,147	
4	Bag House Fan	7/21/2000	8	\$5,045	
5	Meter Bin	8/23/2000	8	\$49,982	
6	Single Bale Infeed Conveyor	10/21/2003	5	\$46,044	
7	Twine Remover	11/11/2003	5	\$24,168	
8	Debaler (Horizontal Hammer Mill)	11/27/2003	5	\$91,848	
9	Debaler Outfeed Conveyor	10/21/2003	5	\$46,041	
10	Rotary Airlock/Feeders	10/27/2003	5	\$42,087	
11	Eliminator (Attrition Hammermill)	8/24/2004	4	\$278,161	
12	Spare Parts (Hammers for Eliminator and Debaler Screens)	8/24/2004	4	\$6,670	
13	High and Low Pressure Pneumatic System	6/2/2005	2	\$557,675	
14	Bale Merge Conveyor	9/12/2005	2	\$112,793	
15	Moisture Meter (Microwave)	7/20/2005	2	\$14,929	
16	Bale Rejector	1/9/2006	2	\$12,500	
17	Electro Magnet	8/11/2005	2	\$23,236	
	<i>Total Processing Equipment Costs (not including installation)</i>				\$1,378,336
Processing Facility and Civil, Mechanical, Electrical Installation Costs					
18	Processing Facility (1)	8/24/2005	2	\$430,645	
19	Site Environmental Analysis		2	\$1,518	
20	Site Preparation		2	\$145,406	
21	Utilities Site Preparations		2	\$110,660	
22	Permitting		2	\$3,983	
23	Fire Protection System and Equipment		2	\$197,755	
24	Mechanical Installation		2	\$202,586	
25	Electrical Installation		2	\$447,794	
26	Concrete		2	\$142,022	
27	Pipe Bridge Foundations		2	\$35,839	
28	Boiler Modifications		2	\$7,657	
29	Safety and Warning Signage		2	\$624	
	<i>Total Installation and preparation expenses Items 19 thru 29</i>				\$1,295,843
	<i>Total cost of processing facility and installations items 18 thru 29</i>				\$1,726,488
Miscellaneous Other Expenses					
30	Telephone System	11/26/2005	2	\$4,163	
31	Computers 2 (Dell)	1/25/2006	2	\$3,000	
32	Computer table/storage 2 cabinets Control Room+IA Sales Tx	3/16/2006	2	\$2,454	
33	Material bins (3)	2/17/2006	2	\$589	
34	Hand Held Moisture Meter (2)	1/25/2006	2	\$690	
35	Safety Equipment Gas meter	12/29/2005	2	\$1,212	
	Total Invested in New Biomass Processing Facility				\$3,116,932

Grass Station Descriptors (Chariton Valley):

Grass Station Building square footage: 17,625 ft²
 Installed kW of Load: 1,144 kW
 TPH Process Capability: 10.0 tph

Installation Costs for Biomass Processing Facility (Chariton Valley) -- Unit Cost Basis

Item Number	Expense Description	Non-Inflation-Adjusted Chariton Valley Unit Costs				Inflation Multiplier (to 2008)	Inflation-Adjusted Unit Costs			
		Facilities Costs	Electircal & Controls Costs	Process-related Equipment and Costs	Other Costs		Facilities Costs	Electircal & Controls Costs	Process-related Equipment and Costs	Other Costs
		Cost per Sq. ft	Cost per Installed kW	Cost per Installed tph			Cost per Sq. ft	Cost per Installed kW	Cost per Installed tph	
Switchgrass Storage and Processing Building for First and Second Test Burns (the "Biosilo")										
1	Bio Silo Building	\$ 7.34				1.43	\$ 10.47	\$ -	\$ -	\$ -
2	Site Preparation	\$ 4.09				1.43	\$ 5.84	\$ -	\$ -	\$ -
	Total Cost of Bio Silo	\$ -				1.00	\$ -	\$ -	\$ -	\$ -
Switchgrass Processing Equipment (Conveyors, Mills, Pneumatic Conveyance, Feeders, Storage Bin)										
3	Bag House			\$ 4,614.70		1.43	\$ -	\$ -	\$ 6,580.09	\$ -
4	Bag House Fan			\$ 504.50		1.43	\$ -	\$ -	\$ 719.37	\$ -
5	Meter Bin			\$ 4,998.20		1.43	\$ -	\$ -	\$ 7,126.92	\$ -
6	Single Bale Infeed Conveyor			\$ 4,604.40		1.40	\$ -	\$ -	\$ 6,436.38	\$ -
7	Twine Remover			\$ 2,416.80		1.40	\$ -	\$ -	\$ 3,378.39	\$ -
8	Debaler (Horizontal Hammer Mill)			\$ 9,184.81		1.40	\$ -	\$ -	\$ 12,839.22	\$ -
9	Debaler Outfeed Conveyor			\$ 4,604.10		1.40	\$ -	\$ -	\$ 6,435.96	\$ -
10	Rotary Airlock/Feeders			\$ 4,208.74		1.40	\$ -	\$ -	\$ 5,883.30	\$ -
11	Eliminator (Attrition Hammermill)			\$ 27,816.07		1.27	\$ -	\$ -	\$ 35,189.40	\$ -
12	Spare Parts (Hammers for Eliminator and Debaler Screens)			\$ 666.96		1.27	\$ -	\$ -	\$ 843.75	\$ -
13	High and Low Pressure Pneumatic System			\$ 55,767.50		1.12	\$ -	\$ -	\$ 62,726.83	\$ -
14	Bale Merge Conveyor			\$ 11,279.30		1.12	\$ -	\$ -	\$ 12,686.86	\$ -
15	Moisture Meter (Microwave)				\$ 14,929.00	1.12	\$ -	\$ -	\$ -	\$ 16,792.02
16	Bale Rejector			\$ 1,250.00		1.12	\$ -	\$ -	\$ 1,405.99	\$ -
17	Electro Magnet				\$ 23,236.00	1.12	\$ -	\$ -	\$ -	\$ 26,135.66
	Total Processing Equipment Costs (not including installation)									
Processing Facility and Civil, Mechanical, Electrical Installation Costs										
18	Processing Facility (1)	\$ 24.43				1.12	\$ 27.48	\$ -	\$ -	\$ -
19	Site Environmental Analysis	\$ 0.09				1.12	\$ 0.10	\$ -	\$ -	\$ -
20	Site Preparaion	\$ 8.25				1.12	\$ 9.28	\$ -	\$ -	\$ -
21	Utilities Site Preparations	\$ 6.28				1.12	\$ 7.06	\$ -	\$ -	\$ -
22	Permitting	\$ 0.23				1.12	\$ 0.25	\$ -	\$ -	\$ -
23	Fire Protection System and Equipment	\$ 11.22				1.12	\$ 12.62	\$ -	\$ -	\$ -
24	Mechanical Installation			\$ 20,258.65		1.12	\$ -	\$ -	\$ 22,786.76	\$ -
25	Electrical Installation		\$ 391.43			1.12	\$ -	\$ 440.28	\$ -	\$ -
26	Concrete	\$ 8.06				1.12	\$ 9.06	\$ -	\$ -	\$ -
27	Pipe Bridge Foundations			\$ 3,583.86		1.12	\$ -	\$ -	\$ 4,031.09	\$ -
28	Boiler Modifications					1.12	\$ -	\$ -	\$ -	\$ -
29	Safety and Warning Signage				\$ 1,247.48	1.12	\$ -	\$ -	\$ -	\$ 1,403.16
	Total Installation and preparation expenses Items 19 thru 29									
	Total cost of processing facility and installations items 18 thru 29									
Miscellaneous Other Expenses										
30	Telephone System			\$ 4,163.10		1.12	\$ -	\$ -	\$ -	\$ 4,682.62
31	Computers 2 (Dell)			\$ 6,000.00		1.12	\$ -	\$ -	\$ -	\$ 6,748.75
32	Computer table/storage 2 cabinets Control Room+IA Sales Tx			\$ 4,908.38		1.12	\$ -	\$ -	\$ -	\$ 5,520.91
33	Material bins (3)			\$ 588.50		1.12	\$ -	\$ -	\$ -	\$ 661.94
34	Hand Held Moisture Meter (2)			\$ 300.00		1.12	\$ -	\$ -	\$ -	\$ 337.44
35	Safety Equipment Gas meter			\$ 1,211.51		1.12	\$ -	\$ -	\$ -	\$ 1,362.70
Total Invested in New Biomass Processing Facility		\$ 69.99	\$ 391.43	\$ 155,758.58	\$ 39,412.48		\$ 82.17	\$ 440.28	\$ 189,070.29	\$ 63,645.19

Biomass Processing Facility Descriptors:		
Building Square Footage:	17,625	ft ²
Installed kW of Load:	1,144	kW
TPH Process Capability:	10.0	tph
Nominal Power Generation Capacity (MW)	14	MW
Installed Cost per kW of Biopower Generation:	\$290	/kW
Installed Cost per tph of Biomass Processing Capacity:	\$410	/tph

Budget Estimate for Biomass Processing Facility (inflated to 2008\$)

Expense Description	Estimated Cost	Group Code
Additional Biomass Storage Building (the "Biosilo")		
Bio Silo Building	\$ 184,582	URFC
Site Preparation	\$ 102,864	URFC
Total Cost of Bio Silo	\$ -	
Switchgrass Processing Equipment		
Bag House	\$ 65,801	PS
Bag House Fan	\$ 7,194	PS
Meter Bin	\$ 71,269	RPE
Single Bale Infeed Conveyor	\$ 64,364	C&I
Twine Remover	\$ 33,784	RPE
Debaler (Horizontal Hammer Mill)	\$ 128,392	RPE
Debaler Outfeed Conveyor	\$ 64,360	C&I
Rotary Airllock/Feeders	\$ 58,833	PS
Eliminator (Attrition Hammermill)	\$ 351,894	RPE
Spare Parts (Hammers for Eliminator and Debaler Screens)	\$ 8,438	SpP
High and Low Pressure Pneumatic System	\$ 627,268	PS
Bale Merge Conveyor	\$ 126,869	C&I
Moisture Meter (Microwave)	\$ 16,792	E&C
Bale Rejector	\$ 14,060	C&I
Electro Magnet	\$ 26,136	RPE
Total Processing Equipment Costs (not including installation)		
Processing Facility and Civil, Mechanical, Electrical Installation Costs		
Processing Facility (1)	\$ 484,386	
Site Environmental Analysis	\$ 1,708	SP
Site Preparaion	\$ 163,551	SP
Utilities Site Preparations	\$ 124,469	SP
Permitting	\$ 4,480	SP
Fire Protection System and Equipment	\$ 222,433	FP
Mechanical Installation	\$ 227,868	MI
Electrical Installation	\$ 503,675	E&C
Concrete	\$ 319,490	B&C
Pipe Bridge Foundations	\$ 40,311	PS
Boiler Modifications	\$ -	
Safety and Warning Signage	\$ 1,403	MO
Total Installation and preparation expenses Items 19 thru 29	\$ -	
Total cost of processing facility and installations items 18 thru 29	\$ -	
Miscellaneous Other Expenses		
Telephone System	\$ 4,683	MO
Computers	\$ 6,749	MO
Furniture	\$ 5,521	MO
Material bins (3)	\$ 662	MO
Hand Held Moisture Meter (2)	\$ 337	MO
Safety Equipment Gas meter	\$ 1,363	MO
GRAND TOTAL	\$ 4,065,987	

Facility Expenses By Category

Expense Description	Estimated Cost	Group Code
Conveyors and Infeed System	\$ 269,652	C&I
Electrical & Controls and Installation	\$ 520,467	E&C
Building, Concrete	\$ 803,876	B&C
Pneumatic System	\$ 799,407	PS
Site Prep	\$ 294,208	SP
Fire Protection System & Equipment Installation	\$ 222,433	FP
Related Process Equipment	\$ 611,475	RPE
Mechanical Installation	\$ 227,868	MI
Spare Parts	\$ 8,438	SpP
Misc. Other	\$ 20,718	MO
Subtotal	\$ 3,778,540	
Un-related Process Equipment	\$ -	URPE
Un-related Facilities Costs	\$ 287,447	URFC
GRAND TOTAL	\$ 4,065,987	

Appendix E -- Operations and Maintenance Cost Summary Information

Parameter Description	Test Period Considered			
	Total Test Burn	Last 56 Days	Last 42 Days	Last 28 Days
Total Production Costs (SEE NOTE BELOW)	\$420,798	\$236,924	\$179,764	\$118,960
Total Tons Processed	15,671	11,071	9,274	6,447
Per Ton Production Costs (\$/ton)	\$26.74	\$21.40	\$19.39	\$18.45
Overall average hourly processing rate	9.4	8.2	9.2	9.6

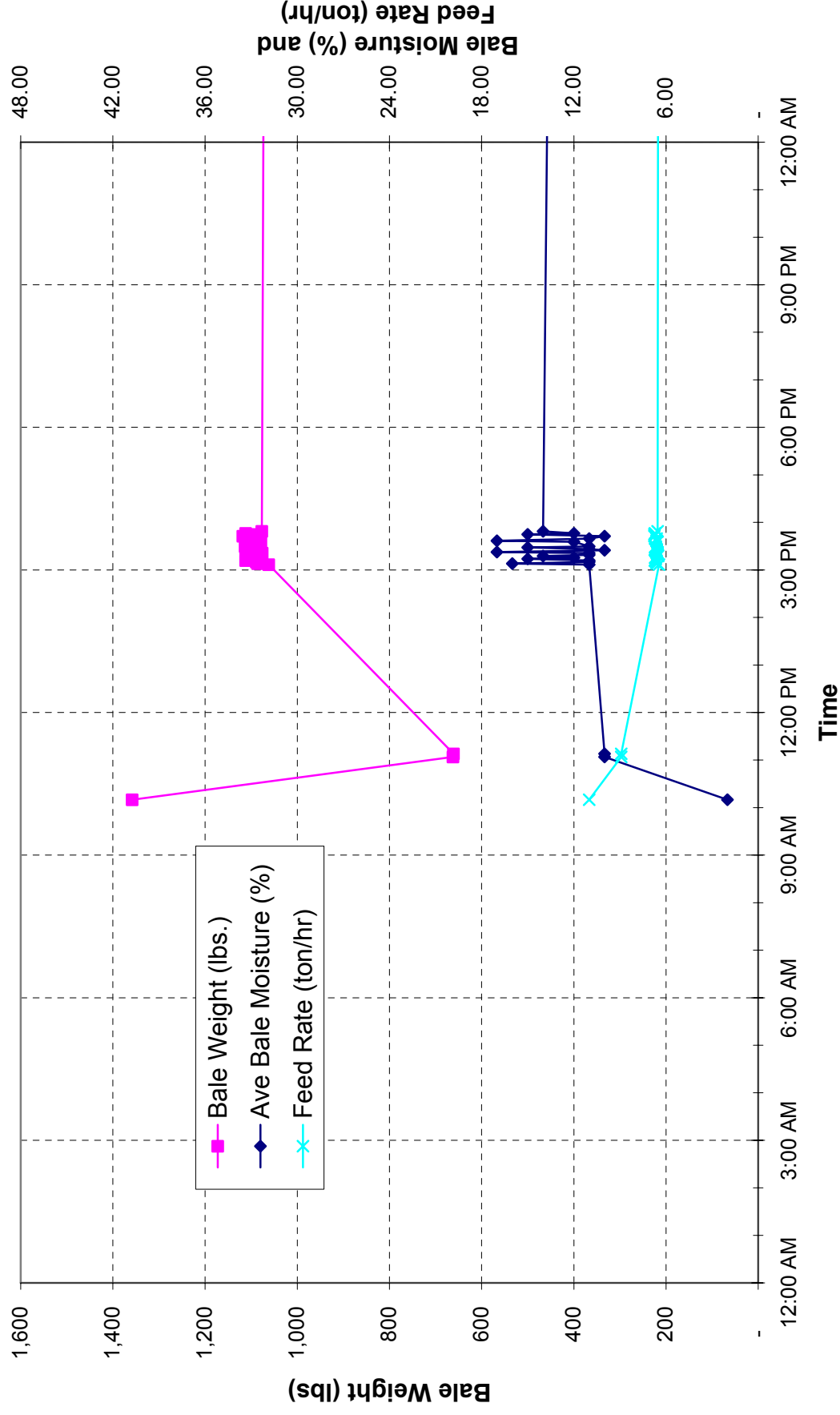
NOTE: Production costs consider ALL production related expenses (controller and floor operator labor, all maintenance labor and supplies, rental equipment, diesel fuel, insurance, land lease, and all utilities). This does NOT include any administrative expenses (for payroll or project management).

Budget Item Description	Expenditures thru 9-12-06	Production Costs last 56 Days	Production Costs last 42 Days	Production Costs last 28 Days
Labor Costs				
Lead Operators	\$ 193,912.50	\$ 100,650.00	\$ 77,400.00	\$ 50,100.00
Floor Operators	\$ 93,807.90	\$ 60,294.77	\$ 47,064.58	\$ 31,993.58
Administration	\$ -	\$ -	\$ -	\$ -
Total Labor	\$ 287,720.40	\$ 160,944.77	\$ 124,464.58	\$ 82,093.58
Utilities & Other (Insurance, Building Expenses)				
Electricity	\$ 83,176.75	\$ 33,710.35	\$ 23,597.25	\$ 15,731.50
Telephone	\$ 1,450.58	\$ 967.05	\$ 725.29	\$ 483.53
Water	\$ 265.76	\$ 62.01	\$ 46.51	\$ 31.01
Diesel Fuel	\$ 4,146.00	\$ 2,764.00	\$ 2,073.00	\$ 1,382.00
Insurance based on Annualized Premium	\$ -	\$ 7,779.09	\$ 5,834.32	\$ 3,889.55
Lease Payment	\$ -	\$ 383.56	\$ 287.67	\$ 191.78
Total Utilities & Other	\$ 89,039.09	\$ 45,666.07	\$ 32,564.03	\$ 21,709.35
Equipment Rental Costs				
Loader Lease	\$ 23,400.00	\$ 15,600.00	\$ 11,700.00	\$ 7,800.00
Total Equipment Rental	\$ 23,400.00	\$ 15,600.00	\$ 11,700.00	\$ 7,800.00
Repair & Maintenance				
Misc Supplies	\$ 1,859.34	\$ 1,239.56	\$ 929.67	\$ 619.78
Repairs supplies	\$ 170.00	\$ 10,000.64	\$ 7,500.48	\$ 5,000.32
Repair Labor	\$ 2,559.01	\$ 3,473.33	\$ 2,605.00	\$ 1,736.67
Shipment of coupon material to Denmark	\$ 6,349.38	\$ -	\$ -	\$ -
Debaler Screens	\$ 1,980.66	\$ -	\$ -	\$ -
Eliminator repair	\$ 5,000.00	\$ -	\$ -	\$ -
Power Meter	\$ 2,720.07	\$ -	\$ -	\$ -
Total Repair & Maintenance	\$ 20,638.46	\$ 14,713.53	\$ 11,035.15	\$ 7,356.77
TOTAL ACTUAL EXPENSES	\$ 420,797.95	\$ 236,924.36	\$ 179,763.76	\$ 118,959.70
<i>Total Expenses per Ton Processed (\$/ton)</i>	<i>26.85</i>	<i>21.40</i>	<i>19.38</i>	<i>18.45</i>
<i>Total Tons Processed</i>	<i>15,671</i>	<i>11,071</i>	<i>9,274</i>	<i>6,447</i>
<i>Average Feed Rate (tons per hour)</i>	<i>9.4</i>	<i>8.2</i>	<i>9.2</i>	<i>9.6</i>

Appendix F -- Daily Processing Reports (Long Term Test Burn)

CHARITON VALLEY BIOMASS PROJECT

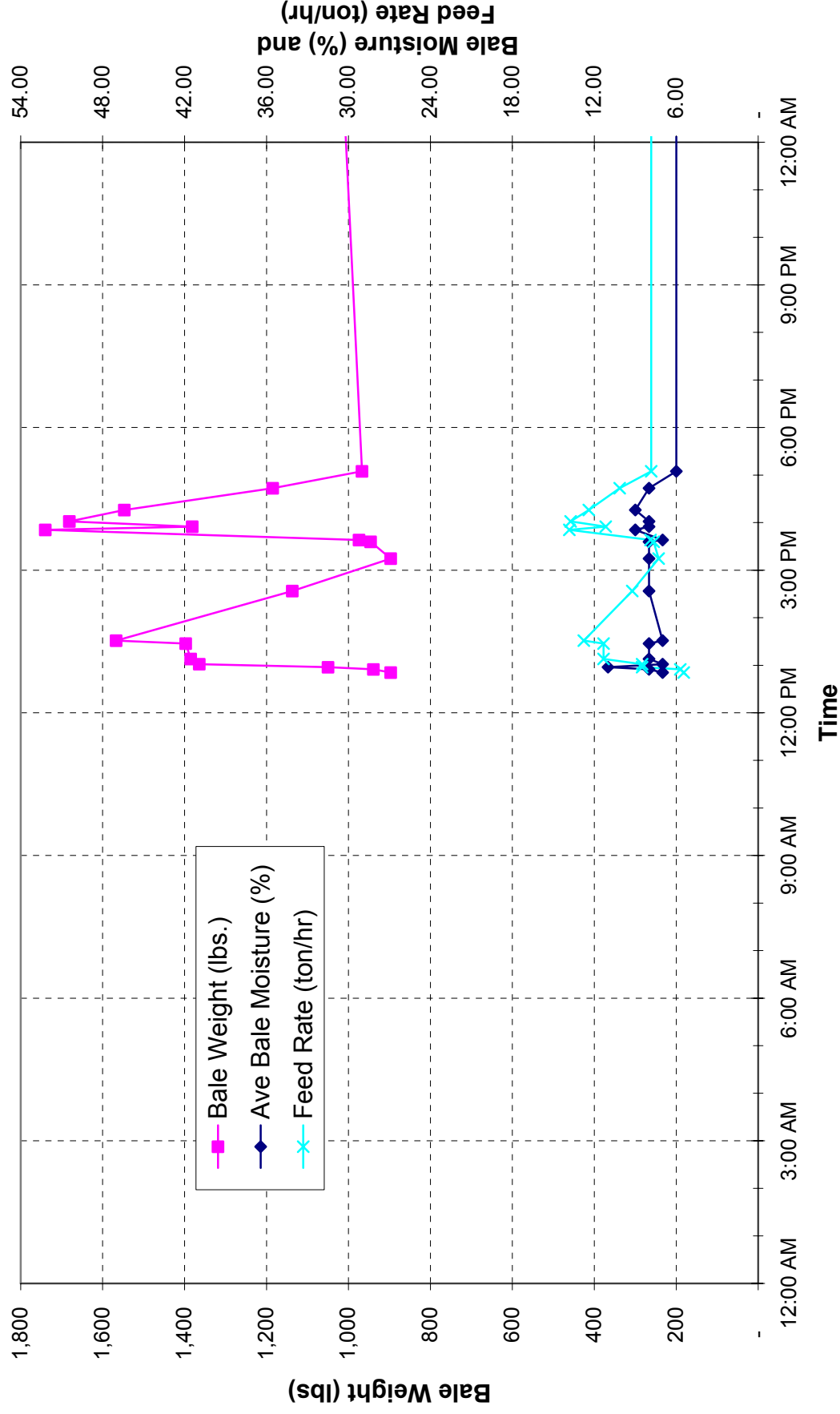
Daily Switchgrass Processing Summary Chart (Feb 9, 2006)



Summary Statistics:

Date :	Thursday, February 09, 2006		
Bale Count :	25	bales	
Run Time :	0.8	hrs	
Total Bale Weight :	13.4	tons	
Max. Bale Weight :	1,358	lbs.	
Min. Bale Weight :	661	lbs.	
Average Bale Weight:	1,068	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	17%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	7.0	tons/hr ;	1.7 ft/min.
Max. Feed Rate (ten bale average):	7.5	tons/hr ;	2.2 ft/min.
Min. Feed Rate:	6.4	tons/hr ;	1.6 ft/min.
Average Feed Rate:	16.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	-132%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	0.6	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	92%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT Daily Switchgrass Processing Summary Chart (Feb 17, 2006)

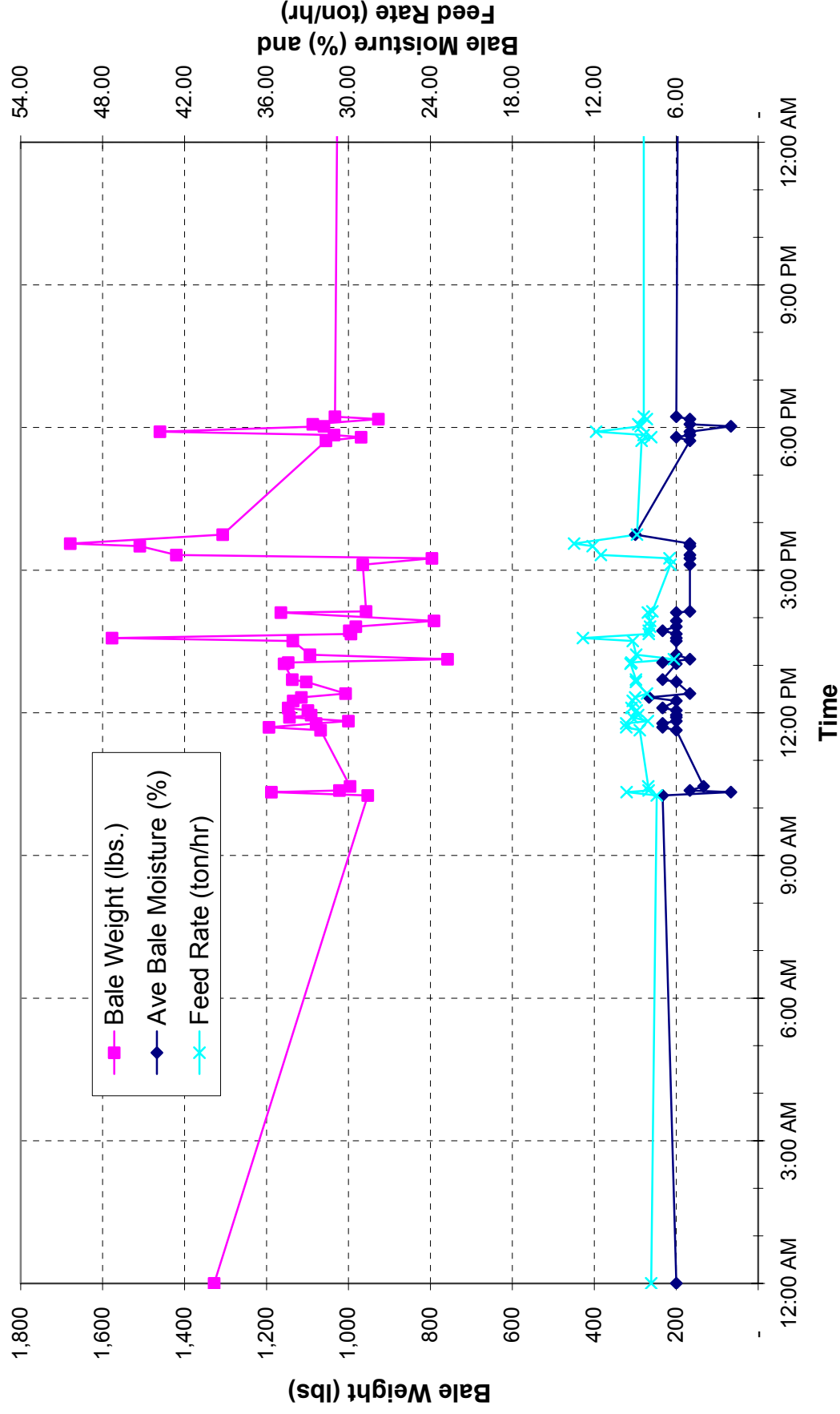


Summary Statistics:

Date :	Friday, February 17, 2006		
Bale Count :	18	bales	
Run Time :	0.6	hrs	
Total Bale Weight :	11.2	tons	
Max. Bale Weight :	1,740	lbs.	
Min. Bale Weight :	897	lbs.	
Average Bale Weight:	1,243	lbs.	
Average Moisture Content:	8%		
Max. Bale Moisture :	11%		
Min. Bale Moisture :	6%		
Average Feed Rate (as recorded for each bale):	9.6	tons/hr ;	2.1 ft/min.
Max. Feed Rate (ten bale average):	10.7	tons/hr ;	2.2 ft/min.
Min. Feed Rate:	5.5	tons/hr ;	1.6 ft/min.
Average Feed Rate:	19.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	-106%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	0.5	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	95%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb 18, 2006)

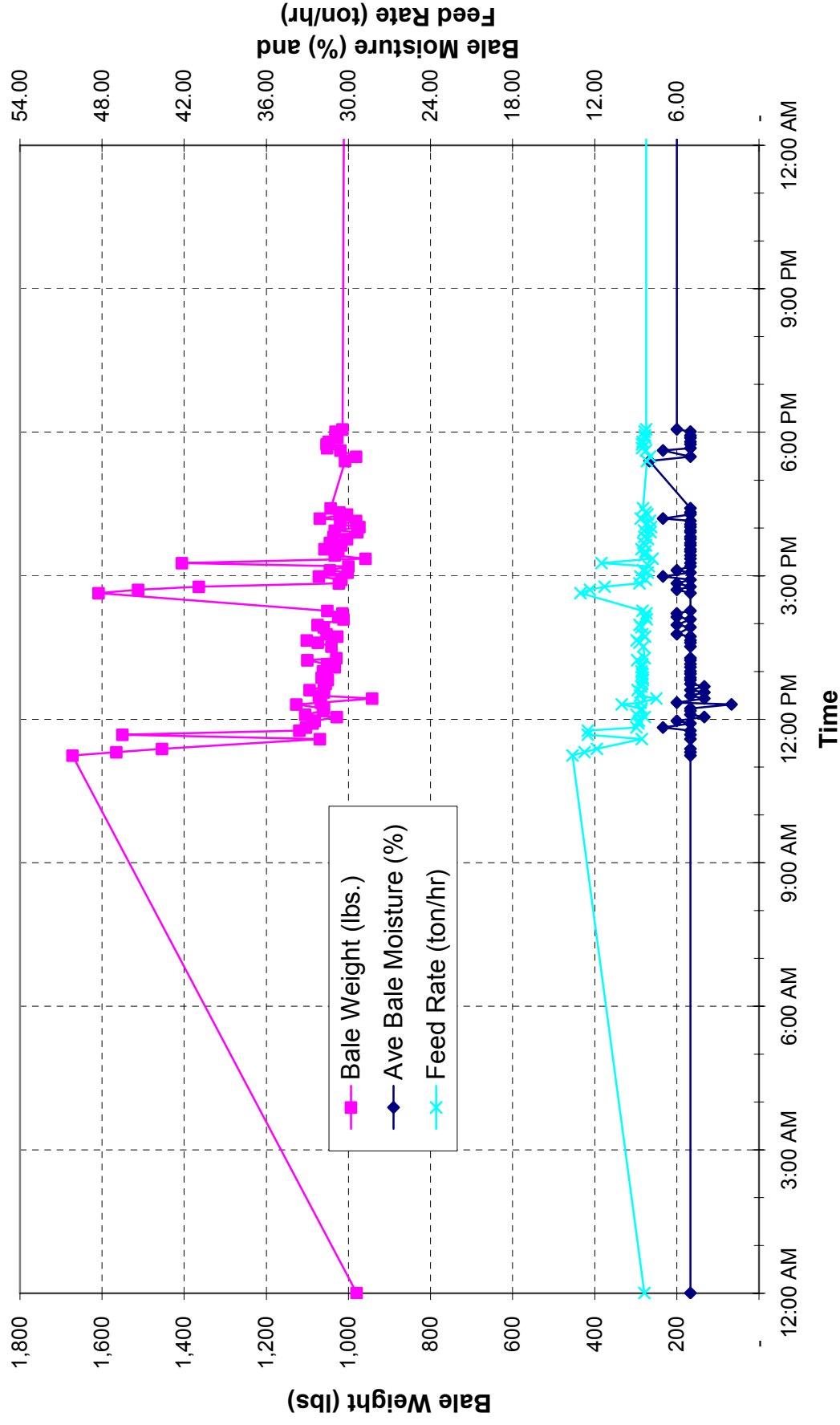


Summary Statistics:

Date :	Saturday, February 18, 2006		
Bale Count :	45	bales	
Run Time :	2.4	hrs	
Total Bale Weight :	24.9	tons	
Max. Bale Weight :	1,679	lbs.	
Min. Bale Weight :	758	lbs.	
Average Bale Weight:	1,108	lbs.	
Average Moisture Content:	6%		
Max. Bale Moisture :	9%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	8.9	tons/hr ;	2.2 ft/min.
Max. Feed Rate (ten bale average):	10.0	tons/hr ;	2.2 ft/min.
Min. Feed Rate:	6.2	tons/hr ;	2.2 ft/min.
Average Feed Rate:	10.3	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	-17%	Setpoint vs. Actual During Run Hours	
Overall Avg. Feed Rate:	1.0	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	88%	Setpoint vs. Actual Overall	

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 19, 2006)

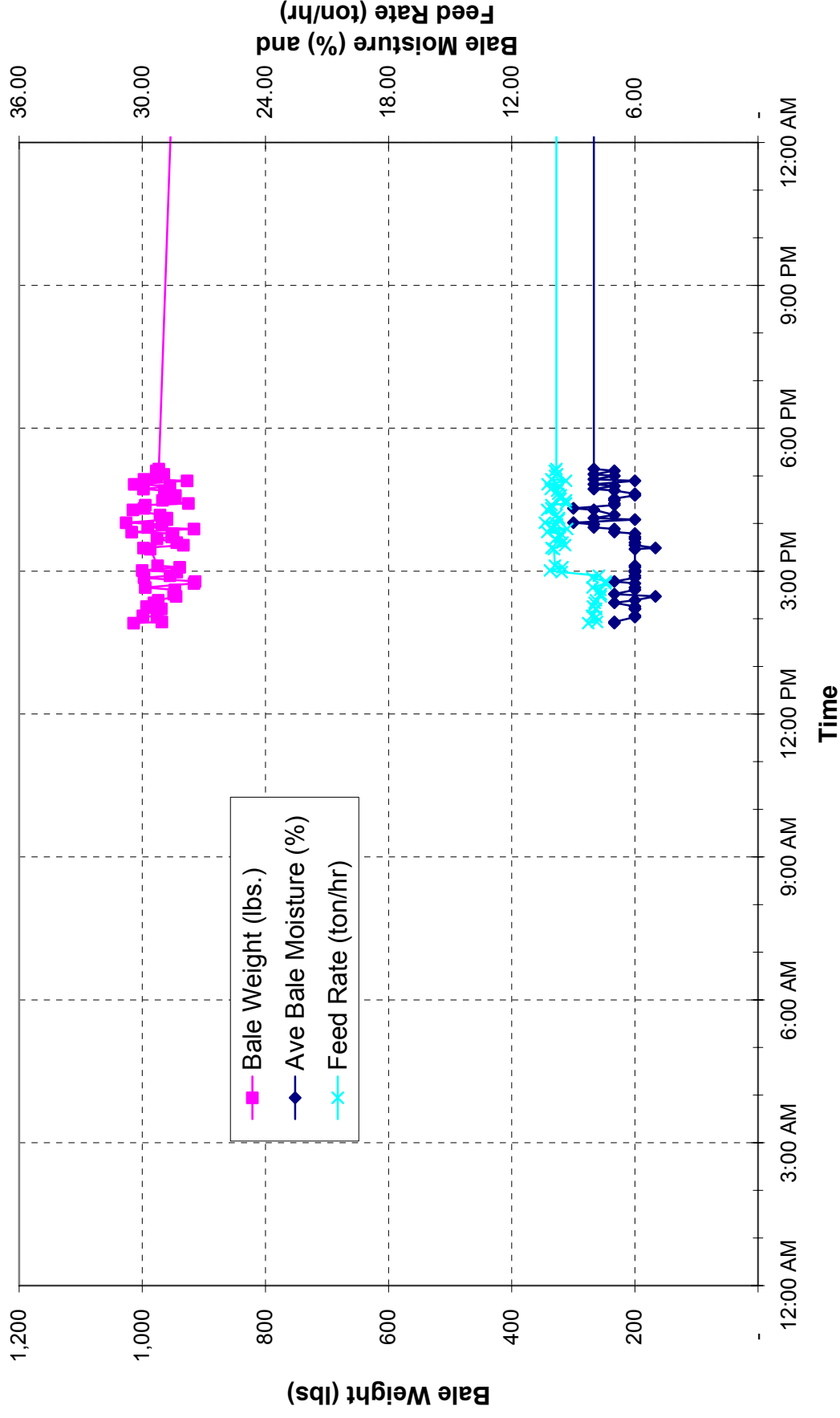


Summary Statistics:

Date :	Sunday, February 19, 2006		
Bale Count :	79	bales	
Run Time :	5.0	hrs	
Total Bale Weight :	43.0	tons	
Max. Bale Weight :	1,672	lbs.	
Min. Bale Weight :	942	lbs.	
Average Bale Weight:	1,088	lbs.	
Average Moisture Content:	5%		
Max. Bale Moisture :	8%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	8.9	tons/hr ;	2.2 ft/min.
Max. Feed Rate (ten bale average):	10.7	tons/hr ;	2.2 ft/min.
Min. Feed Rate:	7.5	tons/hr ;	2.2 ft/min.
Average Feed Rate:	8.6	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	4%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	1.8	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	80%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb 20, 2006)

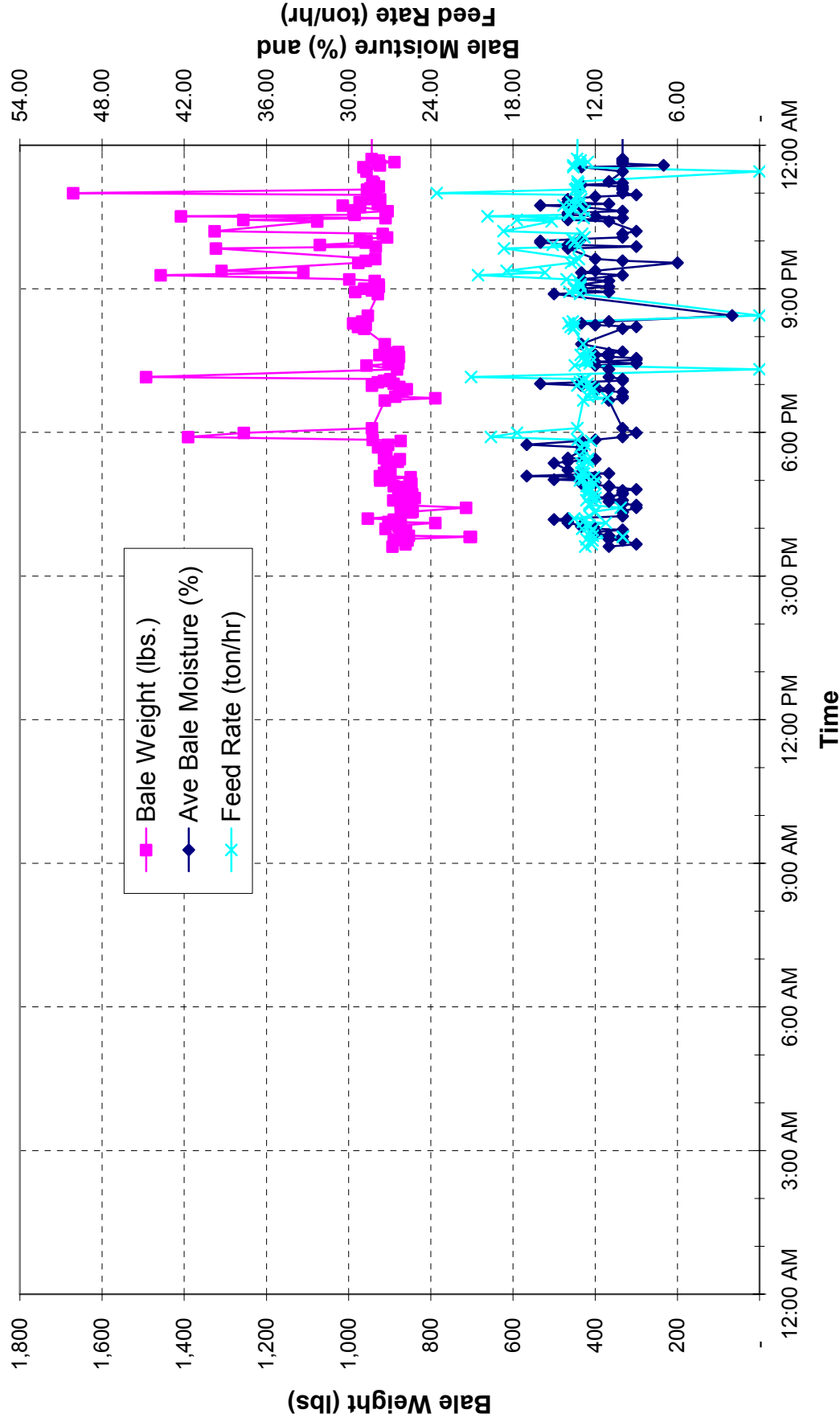


Summary Statistics:

Date :	Monday, February 20, 2006		
Bale Count :	55	bales	
Run Time :	2.9	hrs	
Total Bale Weight :	26.6	tons	
Max. Bale Weight :	1,026	lbs.	
Min. Bale Weight :	800	lbs.	
Average Bale Weight:	967	lbs.	
Average Moisture Content:	7%		
Max. Bale Moisture :	9%		
Min. Bale Moisture :	5%		
Average Feed Rate (as recorded for each bale):	9.2	tons/hr ;	2.5 ft/min.
Max. Feed Rate (ten bale average):	9.9	tons/hr ;	2.7 ft/min.
Min. Feed Rate:	7.4	tons/hr ;	2.2 ft/min.
Average Feed Rate:	9.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	0%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	1.1	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	88%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 22, 2006)

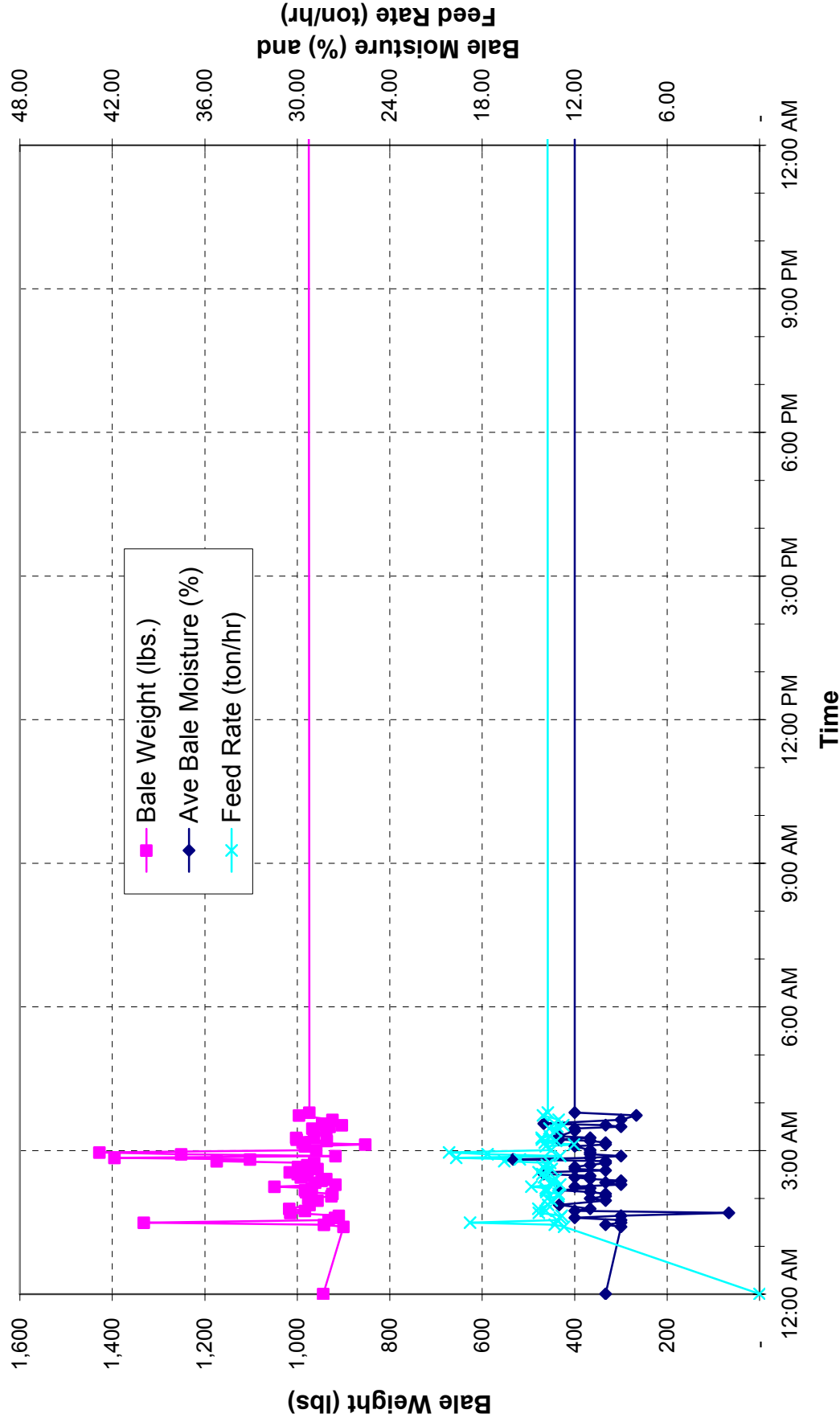


Summary Statistics:

Date :	Wednesday, February 22, 2006		
Bale Count :	136	bales	
Run Time :	5.9	hrs	
Total Bale Weight :	64.3	tons	
Max. Bale Weight :	1,670	lbs.	
Min. Bale Weight :	702	lbs.	
Average Bale Weight:	945	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	17%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	13.0	tons/hr ;	3.7 ft/min.
Max. Feed Rate (ten bale average):	15.6	tons/hr ;	3.8 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	16%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	2.7	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	79%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 23, 2006)

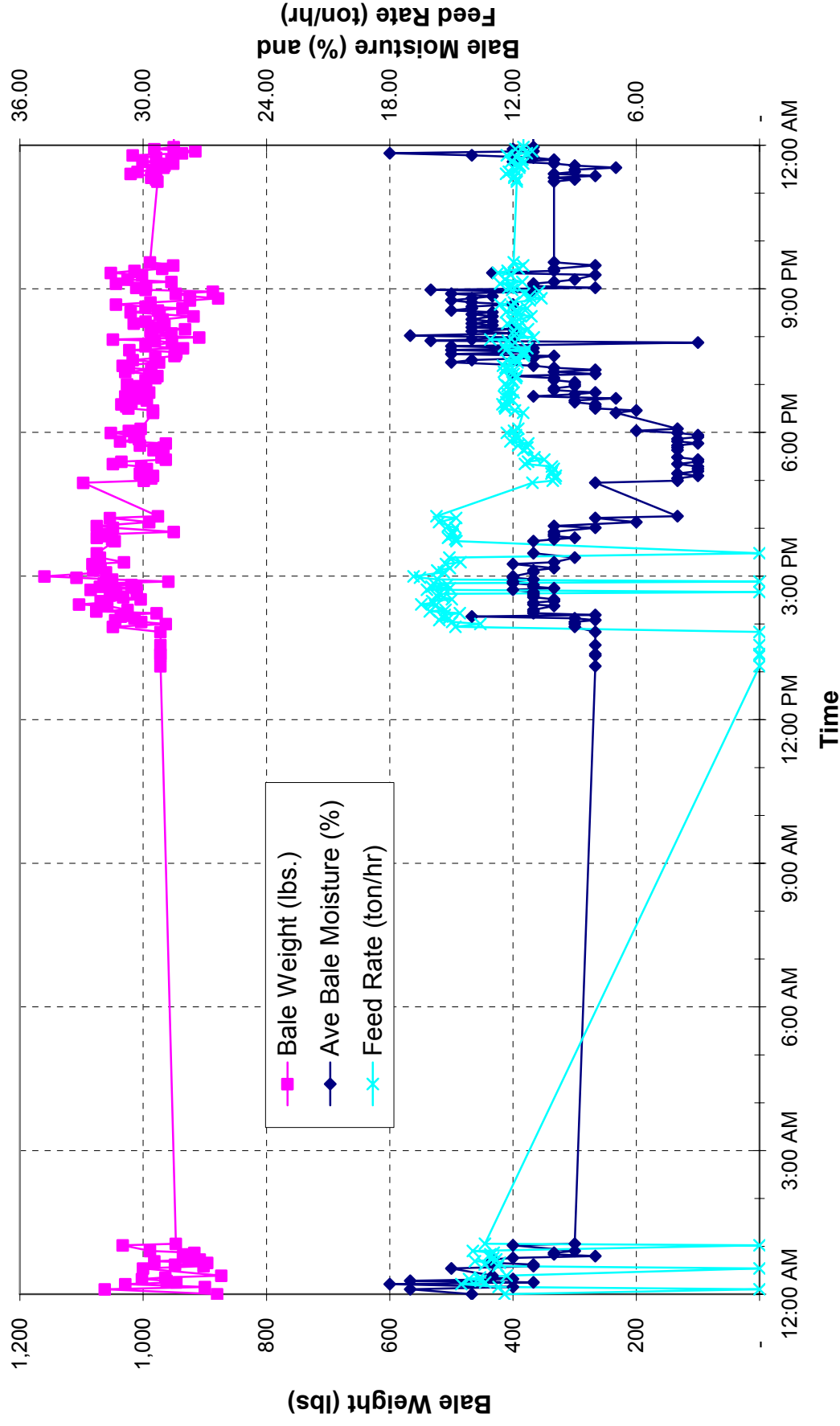


Summary Statistics:

Date :	Thursday, February 23, 2006		
Bale Count :	55	bales	
Run Time :	2.4	hrs	
Total Bale Weight :	27.4	tons	
Max. Bale Weight :	1,428	lbs.	
Min. Bale Weight :	853	lbs.	
Average Bale Weight:	996	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	16%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	13.8	tons/hr ;	3.7 ft/min.
Max. Feed Rate (ten bale average):	15.8	tons/hr ;	3.8 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.3	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	18%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	1.1	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	92%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 24, 2006)

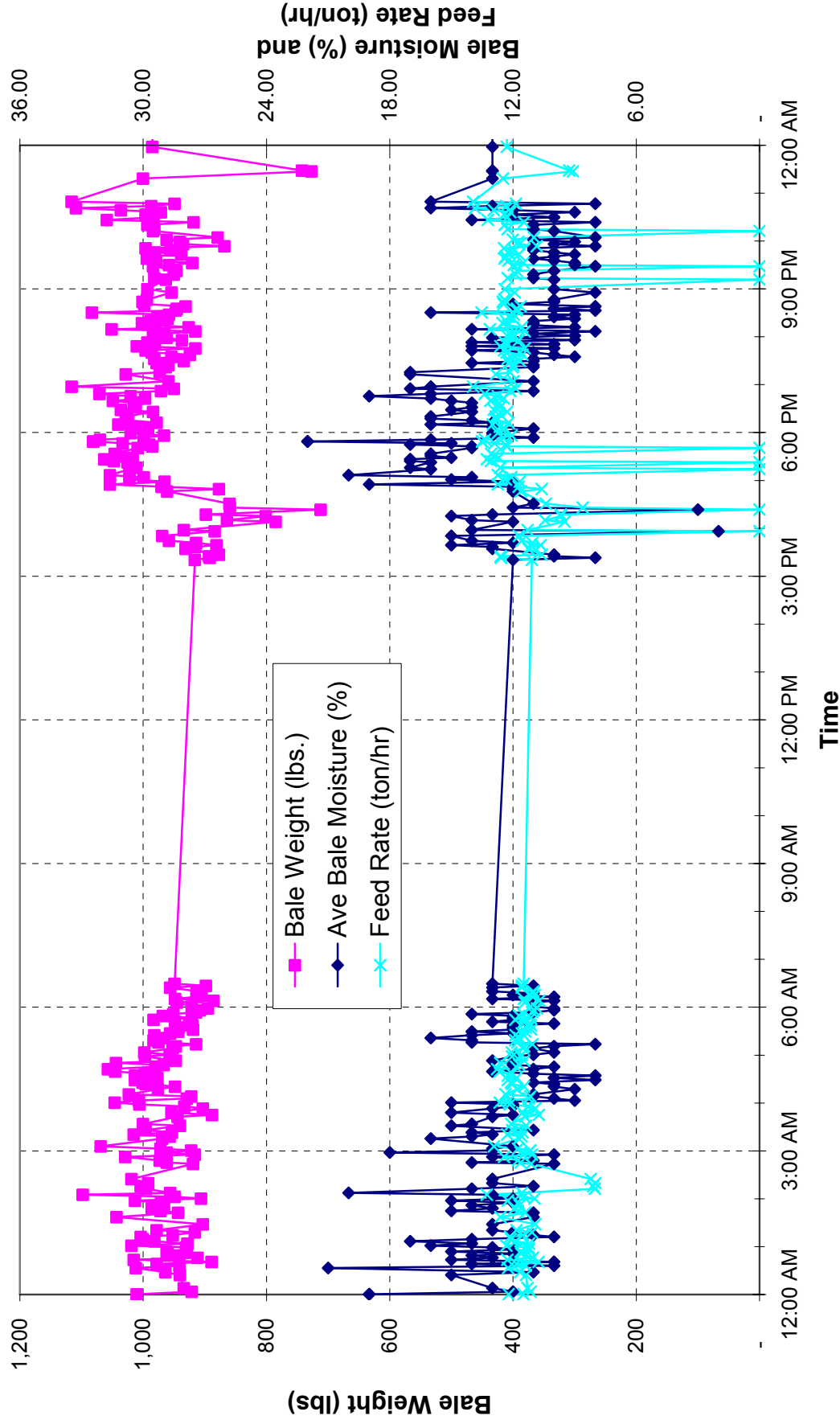


Summary Statistics:

Date :	Friday, February 24, 2006		
Bale Count :	186	bales	
Run Time :	8.3	hrs	
Total Bale Weight :	92.8	tons	
Max. Bale Weight :	1,160	lbs.	
Min. Bale Weight :	873	lbs.	
Average Bale Weight:	998	lbs.	
Average Moisture Content:	10%		
Max. Bale Moisture :	19%		
Min. Bale Moisture :	3%		
Average Feed Rate (as recorded for each bale):	12.0	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	15.7	tons/hr ;	4.0 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	7%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	3.9	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	68%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 25, 2006)

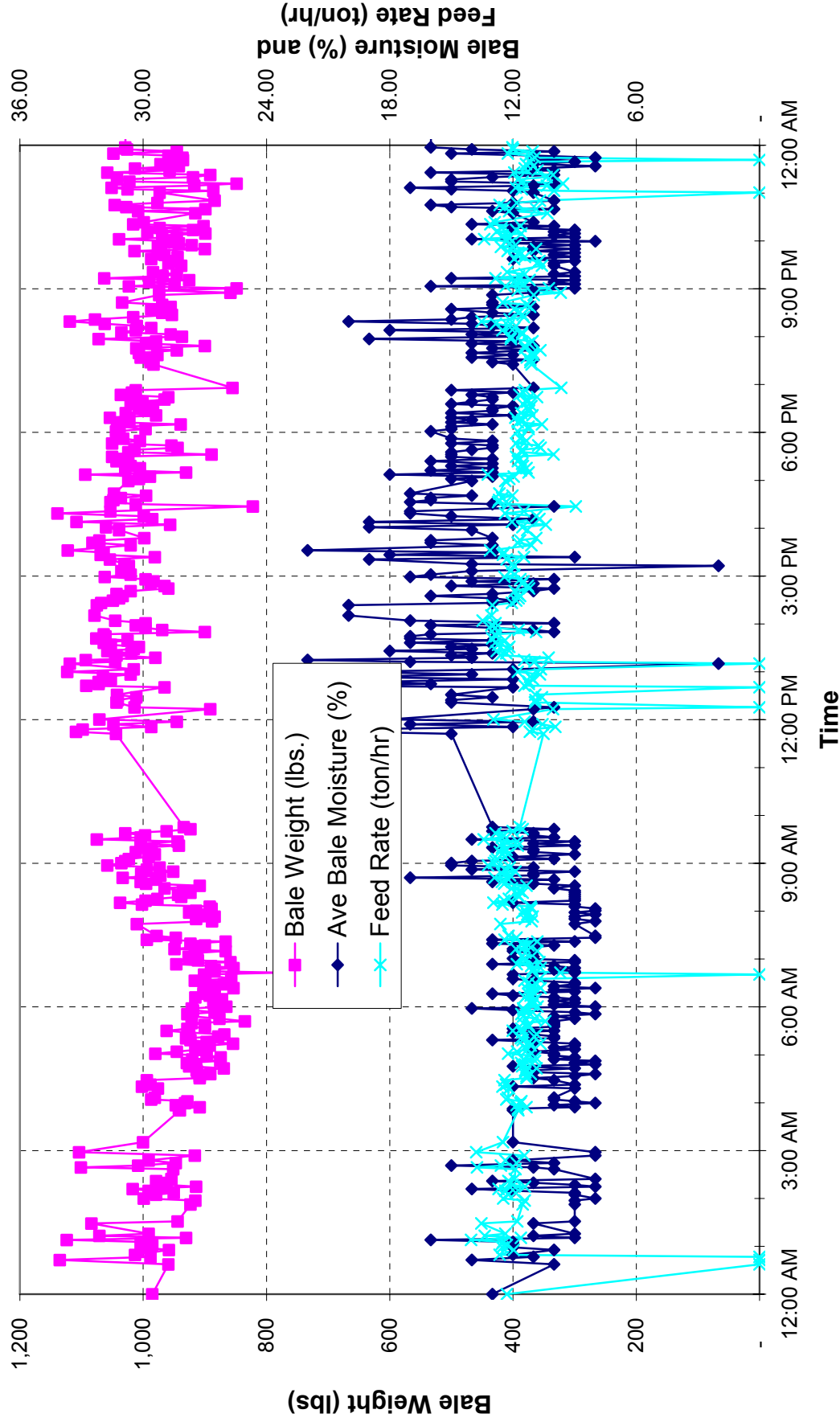


Summary Statistics:

Date :	Saturday, February 25, 2006		
Bale Count :	255	bales	
Run Time :	12.9	hrs	
Total Bale Weight :	123.4	tons	
Max. Bale Weight :	1,116	lbs.	
Min. Bale Weight :	712	lbs.	
Average Bale Weight:	968	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	22%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	11.4	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	12.9	tons/hr ;	3.8 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	9.5	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	17%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	5.1	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	55%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 26, 2006)

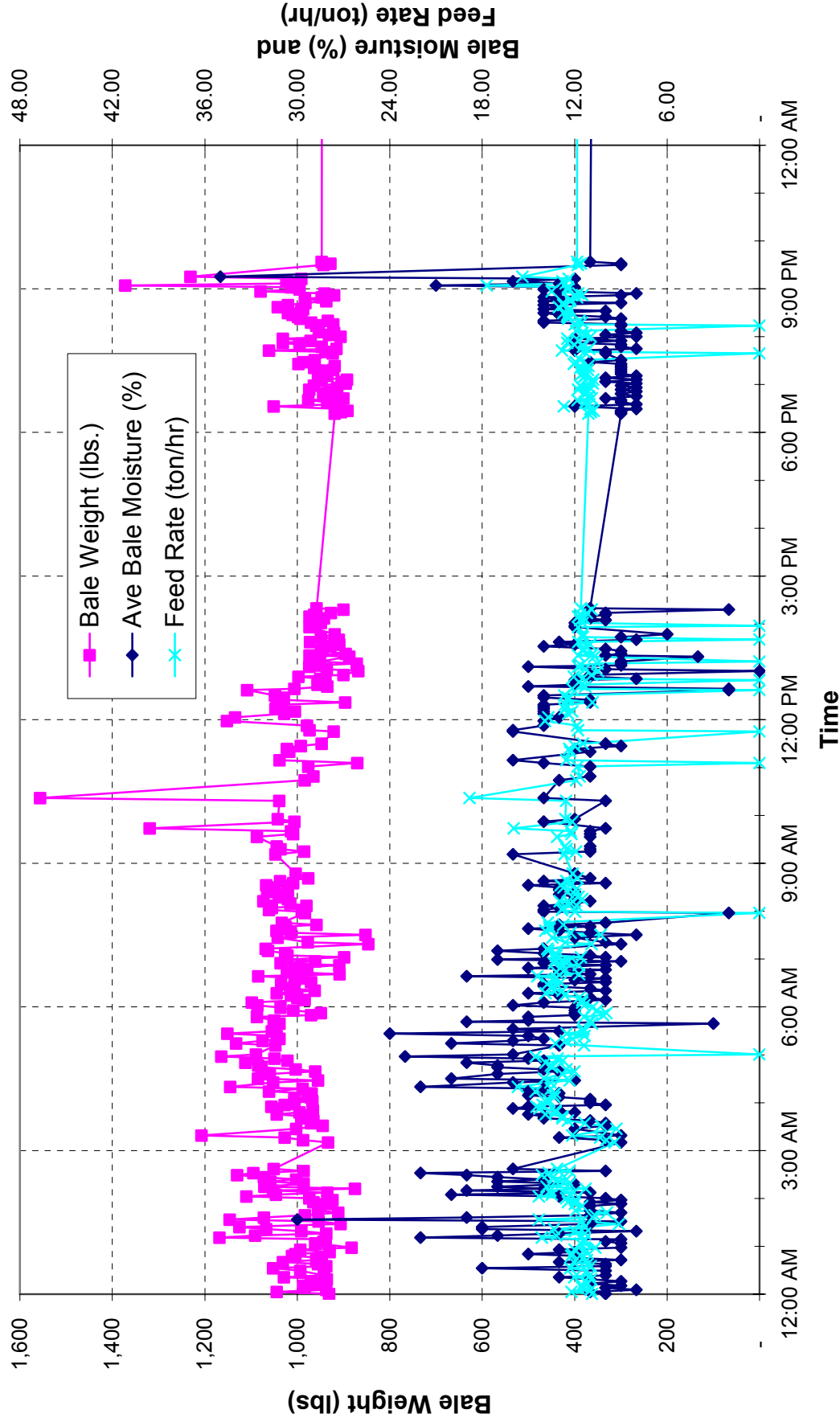


Summary Statistics:

Date :	Sunday, February 26, 2006		
Bale Count :	388	bales	
Run Time :	17.6	hrs	
Total Bale Weight :	189.5	tons	
Max. Bale Weight :	1,139	lbs.	
Min. Bale Weight :	776	lbs.	
Average Bale Weight:	977	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	22%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	11.4	tons/hr ;	3.1 ft/min.
Max. Feed Rate (ten bale average):	12.7	tons/hr ;	3.4 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	6%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	7.9	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	31%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 27, 2006)

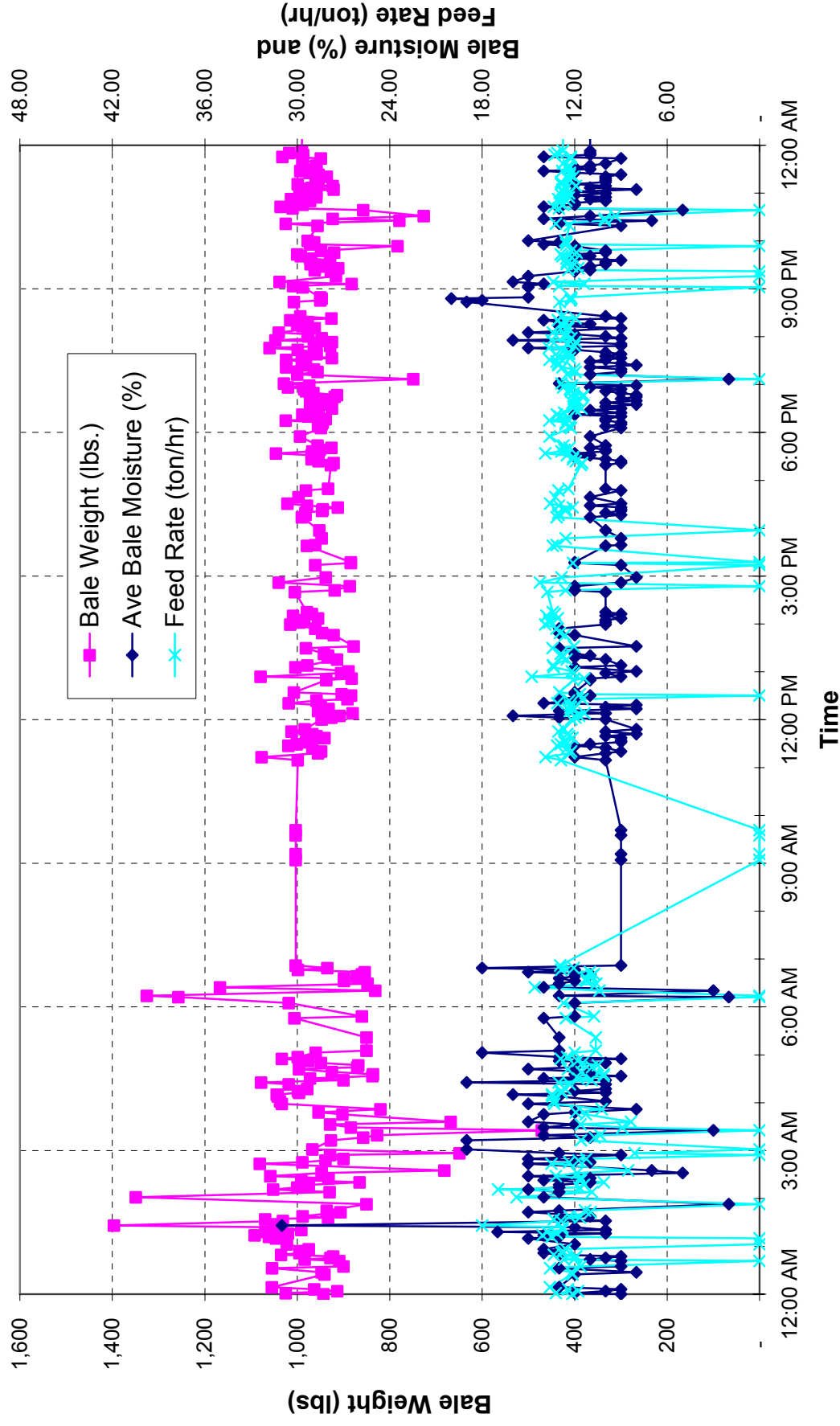


Summary Statistics:

Date :	Monday, February 27, 2006		
Bale Count :	307	bales	
Run Time :	14.4	hrs	
Total Bale Weight :	153.1	tons	
Max. Bale Weight :	1,556	lbs.	
Min. Bale Weight :	846	lbs.	
Average Bale Weight:	997	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	35%		
Min. Bale Moisture :	0%		
Average Feed Rate (as recorded for each bale):	11.8	tons/hr ;	3.1 ft/min.
Max. Feed Rate (ten bale average):	13.9	tons/hr ;	3.8 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.6	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	10%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	6.4	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	46%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (Feb. 28, 2006)

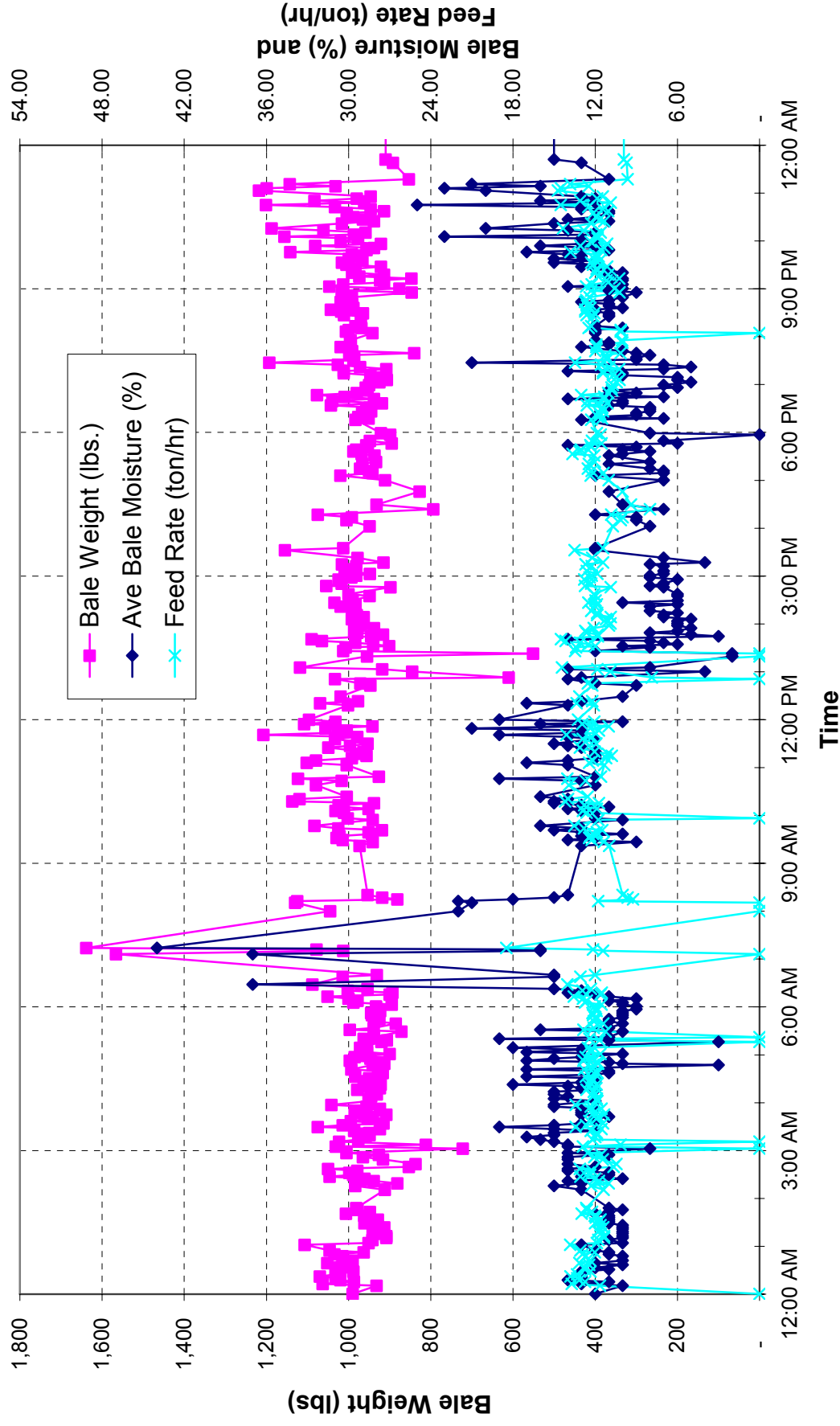


Summary Statistics:

Date :	Tuesday, February 28, 2006		
Bale Count :	307	bales	
Run Time :	14.9	hrs	
Total Bale Weight :	147.7	tons	
Max. Bale Weight :	1,396	lbs.	
Min. Bale Weight :	471	lbs.	
Average Bale Weight:	962	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	31%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	11.4	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	13.6	tons/hr ;	4.3 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	9.9	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	13%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	6.2	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	46%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 01, 2006)

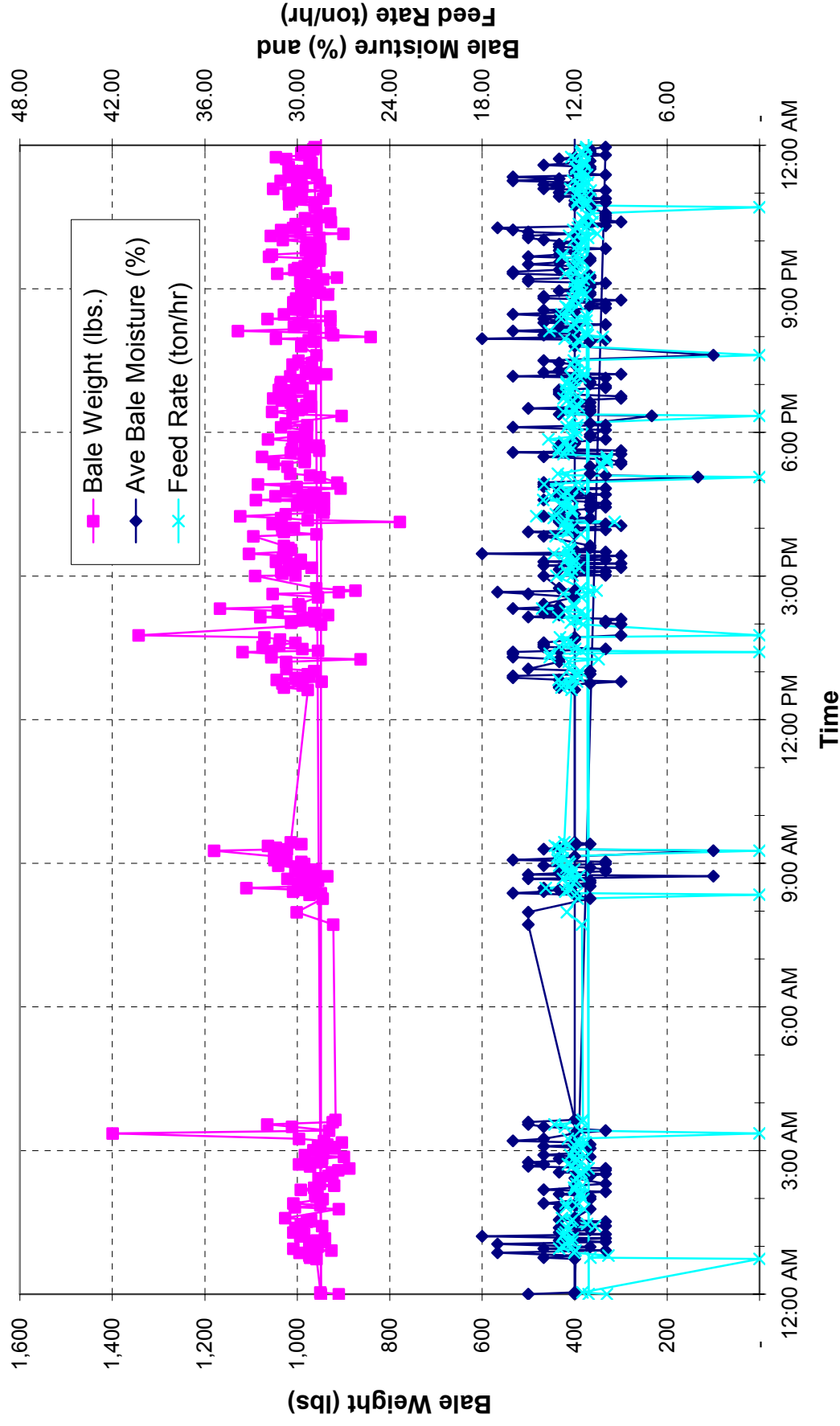


Summary Statistics:

Date :	Wednesday, March 01, 2006		
Bale Count :	368	bales	
Run Time :	17.7	hrs	
Total Bale Weight :	180.5	tons	
Max. Bale Weight :	1,638	lbs.	
Min. Bale Weight :	551	lbs.	
Average Bale Weight:	981	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	44%		
Min. Bale Moisture :	0%		
Average Feed Rate (as recorded for each bale):	11.6	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	13.0	tons/hr ;	3.8 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	12%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	7.5	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	35%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 02, 2006)

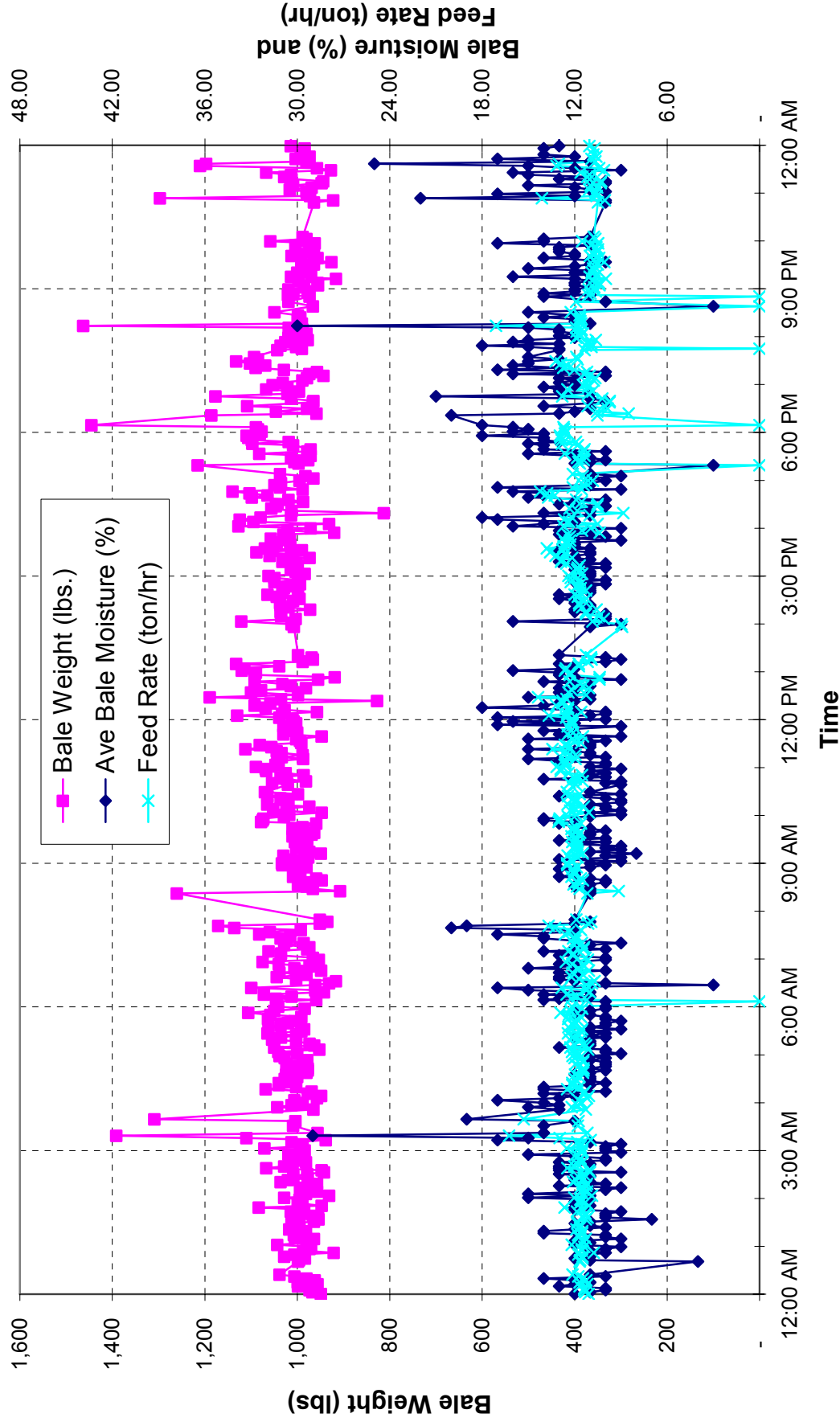


Summary Statistics:

Date :	Thursday, March 02, 2006		
Bale Count :	331	bales	
Run Time :	14.4	hrs	
Total Bale Weight :	164.0	tons	
Max. Bale Weight :	1,399	lbs.	
Min. Bale Weight :	778	lbs.	
Average Bale Weight:	991	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	18%		
Min. Bale Moisture :	3%		
Average Feed Rate (as recorded for each bale):	11.7	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	12.9	tons/hr ;	3.5 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.4	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	3%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	6.8	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	42%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 03, 2006)

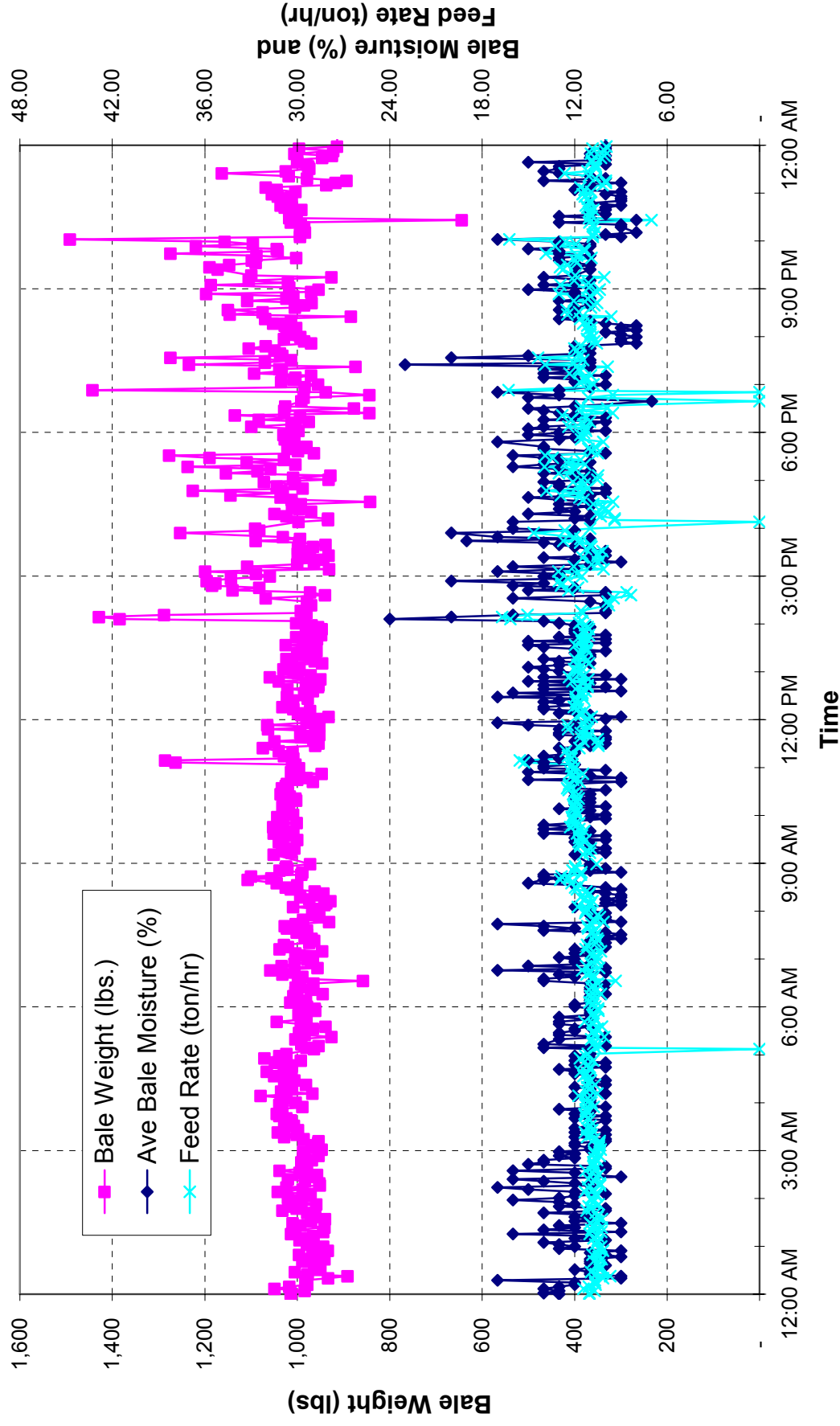


Summary Statistics:

Date :	Friday, March 03, 2006		
Bale Count :	483	bales	
Run Time :	21.3	hrs	
Total Bale Weight :	245.5	tons	
Max. Bale Weight :	1,463	lbs.	
Min. Bale Weight :	813	lbs.	
Average Bale Weight:	1,017	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	30%		
Min. Bale Moisture :	3%		
Average Feed Rate (as recorded for each bale):	11.6	tons/hr ;	3.0 ft/min.
Max. Feed Rate (ten bale average):	12.9	tons/hr ;	3.4 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.5	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	0%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	10.2	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	12%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 04, 2006)

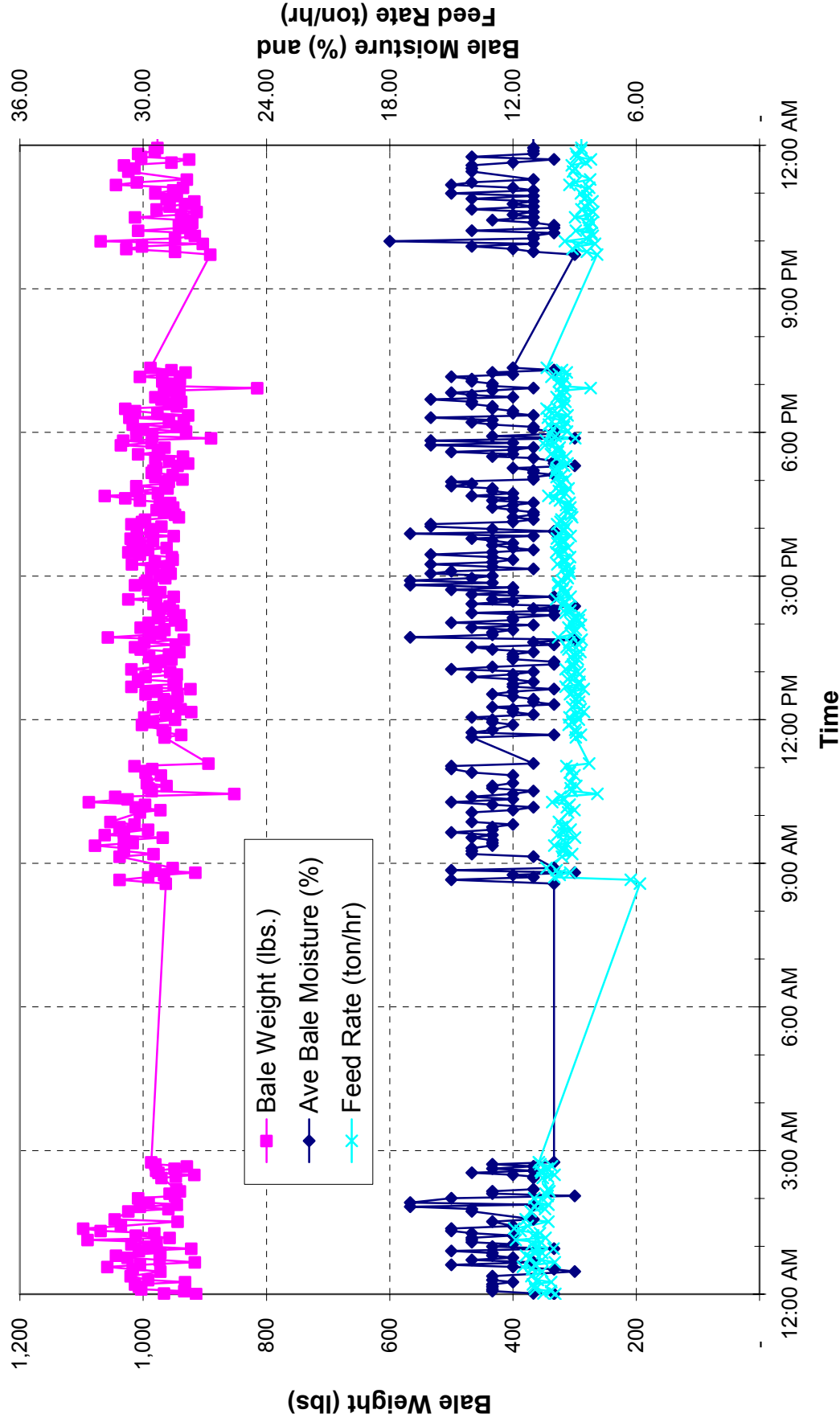


Summary Statistics:

Date :	Saturday, March 04, 2006		
Bale Count :	515	bales	
Run Time :	23.8	hrs	
Total Bale Weight :	260.8	tons	
Max. Bale Weight :	1,492	lbs.	
Min. Bale Weight :	644	lbs.	
Average Bale Weight:	1,013	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	24%		
Min. Bale Moisture :	7%		
Average Feed Rate (as recorded for each bale):	11.2	tons/hr ;	2.9 ft/min.
Max. Feed Rate (ten bale average):	12.9	tons/hr ;	3.2 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.0	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	2%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	10.9	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	3%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 05, 2006)

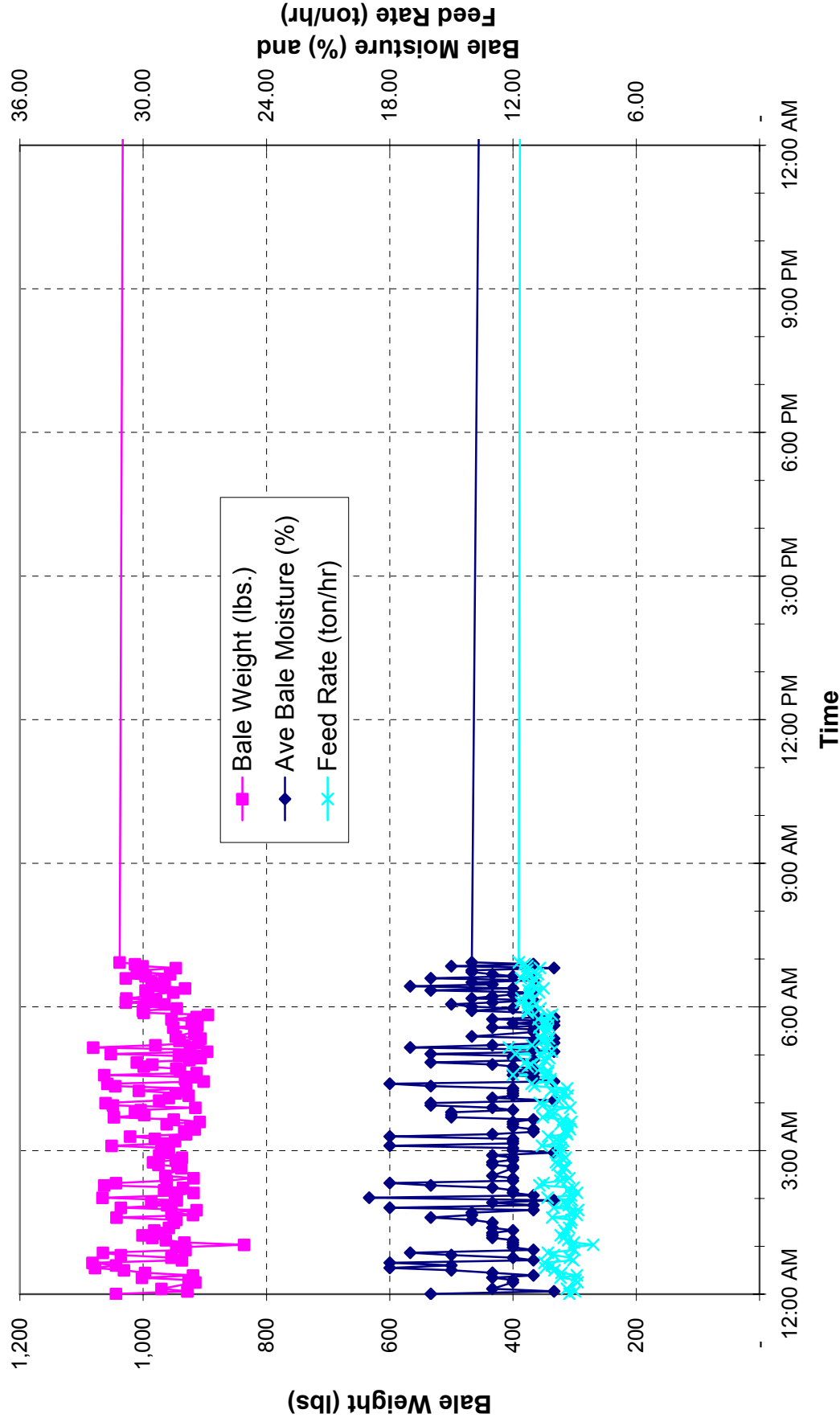


Summary Statistics:

Date :	Sunday, March 05, 2006		
Bale Count :	285	bales	
Run Time :	14.3	hrs	
Total Bale Weight :	139.5	tons	
Max. Bale Weight :	1,097	lbs.	
Min. Bale Weight :	815	lbs.	
Average Bale Weight:	979	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	18%		
Min. Bale Moisture :	9%		
Average Feed Rate (as recorded for each bale):	9.5	tons/hr ;	2.6 ft/min.
Max. Feed Rate (ten bale average):	11.2	tons/hr ;	2.9 ft/min.
Min. Feed Rate:	5.8	tons/hr ;	1.6 ft/min.
Average Feed Rate:	9.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	-3%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	5.8	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	39%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 06, 2006)

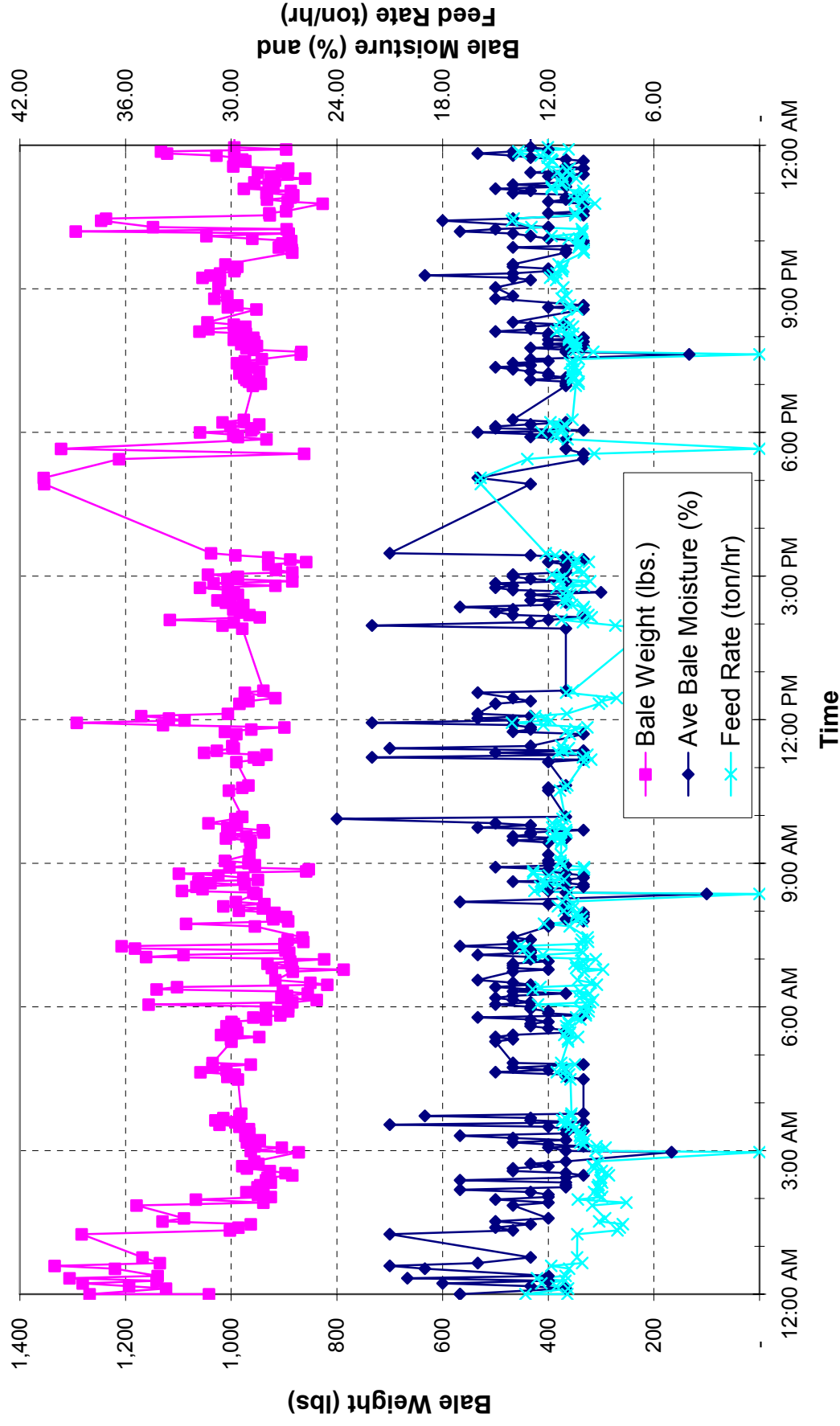


Summary Statistics:

Date :	Monday, March 06, 2006		
Bale Count :	141	bales	
Run Time :	7.0	hrs	
Total Bale Weight :	68.4	tons	
Max. Bale Weight :	1,082	lbs.	
Min. Bale Weight :	836	lbs.	
Average Bale Weight:	971	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	19%		
Min. Bale Moisture :	10%		
Average Feed Rate (as recorded for each bale):	10.1	tons/hr ;	2.8 ft/min.
Max. Feed Rate (ten bale average):	11.3	tons/hr ;	3.0 ft/min.
Min. Feed Rate:	8.1	tons/hr ;	2.4 ft/min.
Average Feed Rate:	9.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	3%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	2.9	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	72%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 07, 2006)

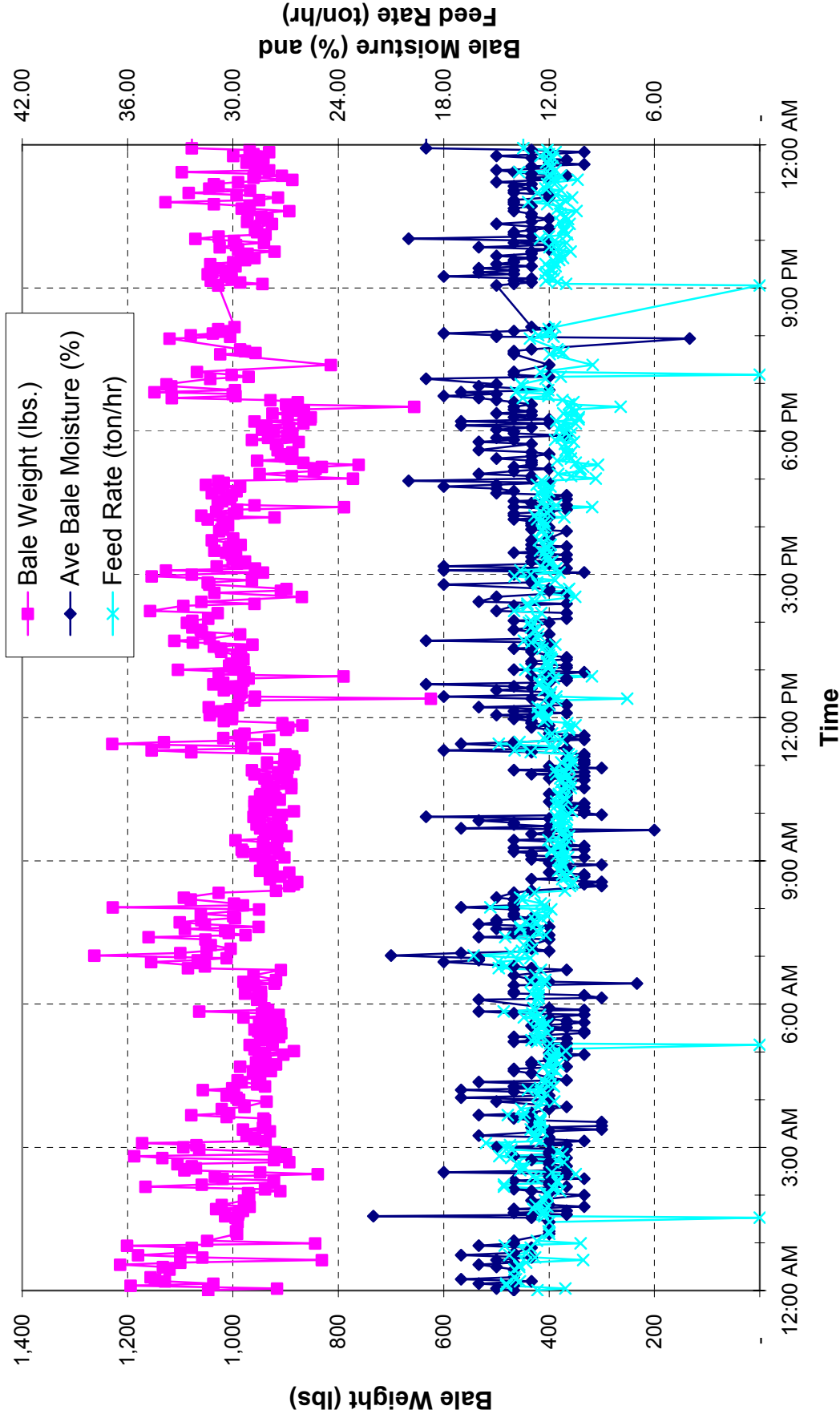


Summary Statistics:

Date :	Tuesday, March 07, 2006		
Bale Count :	315	bales	
Run Time :	14.8	hrs	
Total Bale Weight :	155.8	tons	
Max. Bale Weight :	1,355	lbs.	
Min. Bale Weight :	787	lbs.	
Average Bale Weight:	989	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	24%		
Min. Bale Moisture :	3%		
Average Feed Rate (as recorded for each bale):	10.6	tons/hr ;	2.9 ft/min.
Max. Feed Rate (ten bale average):	12.3	tons/hr ;	3.2 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.5	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	1%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	6.5	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	39%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 08, 2006)

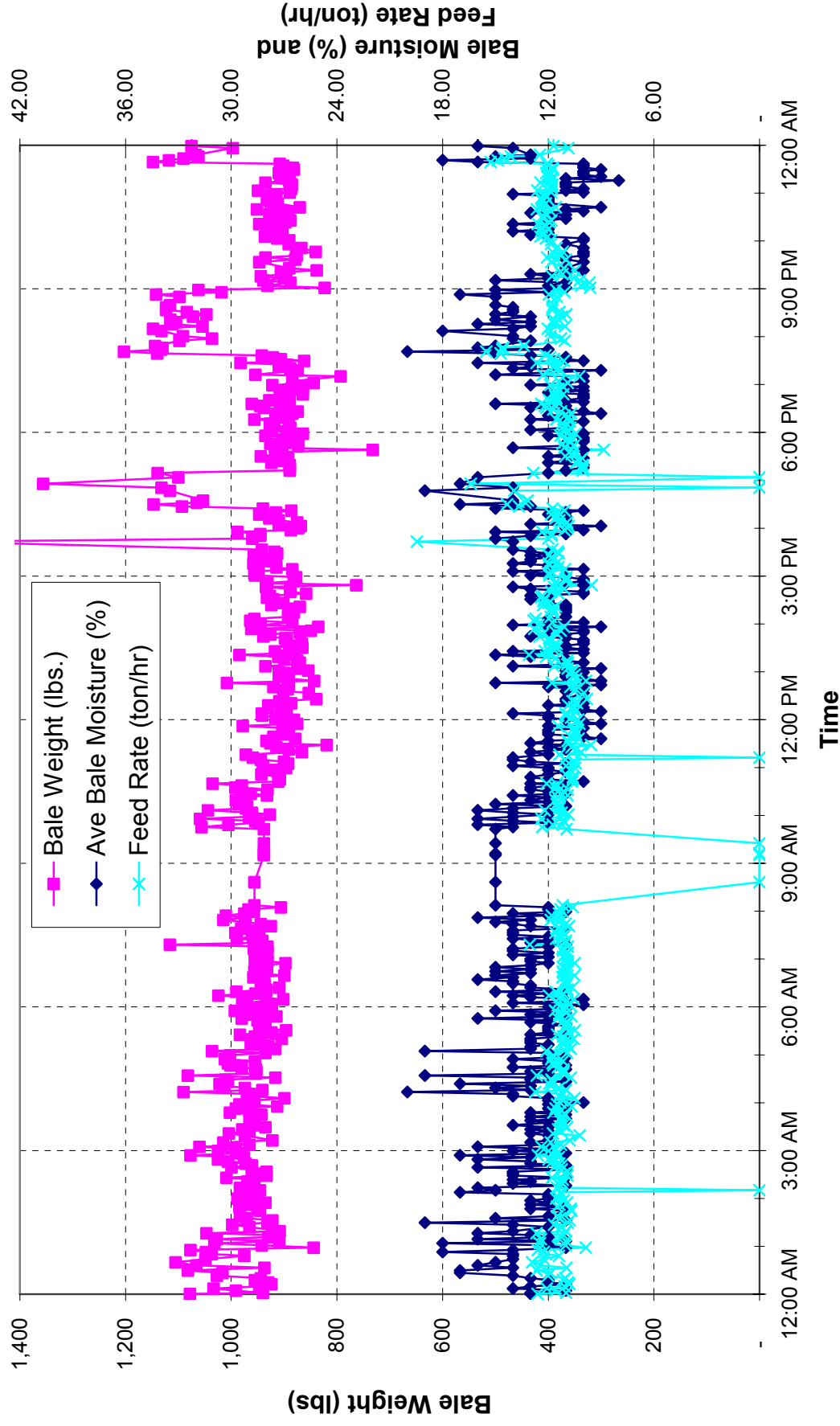


Summary Statistics:

Date :	Wednesday, March 08, 2006		
Bale Count :	471	bales	
Run Time :	22.3	hrs	
Total Bale Weight :	231.3	tons	
Max. Bale Weight :	1,263	lbs.	
Min. Bale Weight :	624	lbs.	
Average Bale Weight:	982	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	22%		
Min. Bale Moisture :	4%		
Average Feed Rate (as recorded for each bale):	12.0	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	14.1	tons/hr ;	3.7 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.4	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	13%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	9.6	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	19%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 09, 2006)

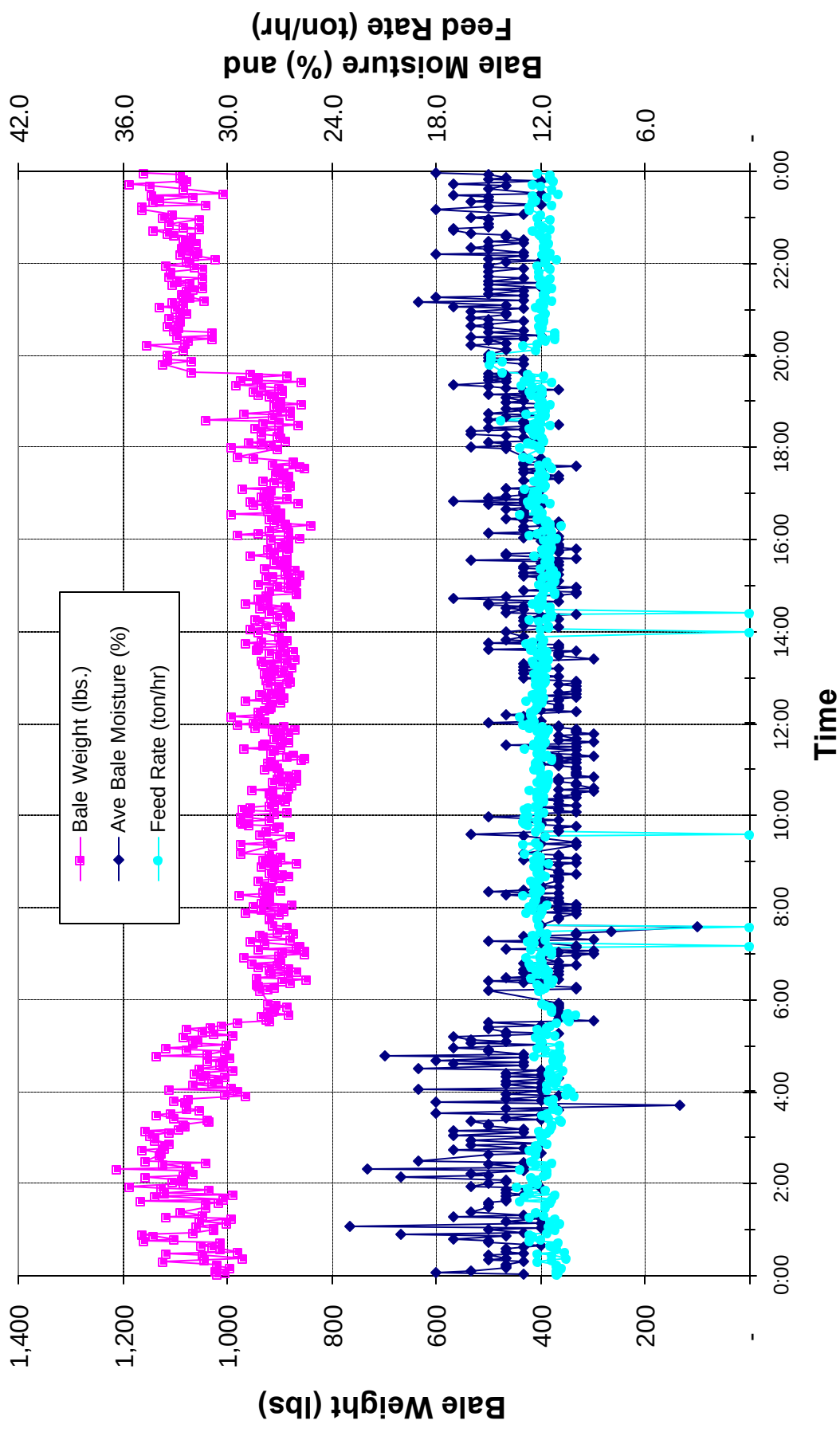


Summary Statistics:

Date :	Thursday, March 09, 2006		
Bale Count :	496	bales	
Run Time :	21.9	hrs	
Total Bale Weight :	235.7	tons	
Max. Bale Weight :	1,557	lbs.	
Min. Bale Weight :	732	lbs.	
Average Bale Weight:	950	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	20%		
Min. Bale Moisture :	8%		
Average Feed Rate (as recorded for each bale):	11.3	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	13.2	tons/hr ;	3.5 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	5%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	9.8	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	13%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Chart (Friday March 10, 2006)



Summary Statistics:

Date : Friday, March 10, 2006

Bale Count : 533 bales

Run Time : 24.0 hrs

Total Bale Weight : 259.0 tons

Max. Bale Weight : 1,212 lbs.

Min. Bale Weight : 840 lbs.

Average Bale Weight: 972 lbs./bale

Average Moisture Content: 13%

Max. Bale Moisture : 23%

Min. Bale Moisture : 3%

Average Feed Rate (during run-time): 11.8 tons/hr ; 3.7 ft/min.

Max. Feed Rate (during run-time): 14.9 tons/hr ; 3.7 ft/min.

Min. Feed Rate : - tons/hr ; - ft/min.

Average Feed Rate (overall, incl. downtime):	10.8 tons/hr ;
(Daily Tons / Daily Runhours)	

Difference between Ave Feed Rates:	9% (Setpoint vs. Actual)
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Overall Statistics (through midnight):

Total Bales Processed (accepted) : 6,368 bales

Total Tons Processed (accepted) : 3,132

Average Bale Weight: 984 lbs./bale

Total System Processing Hours: 370.9 hours

Percent of Run-hour Goal: 19% of 2000 hour goal

Percent of Tonnage Goal: 13% of 25,000 ton goal

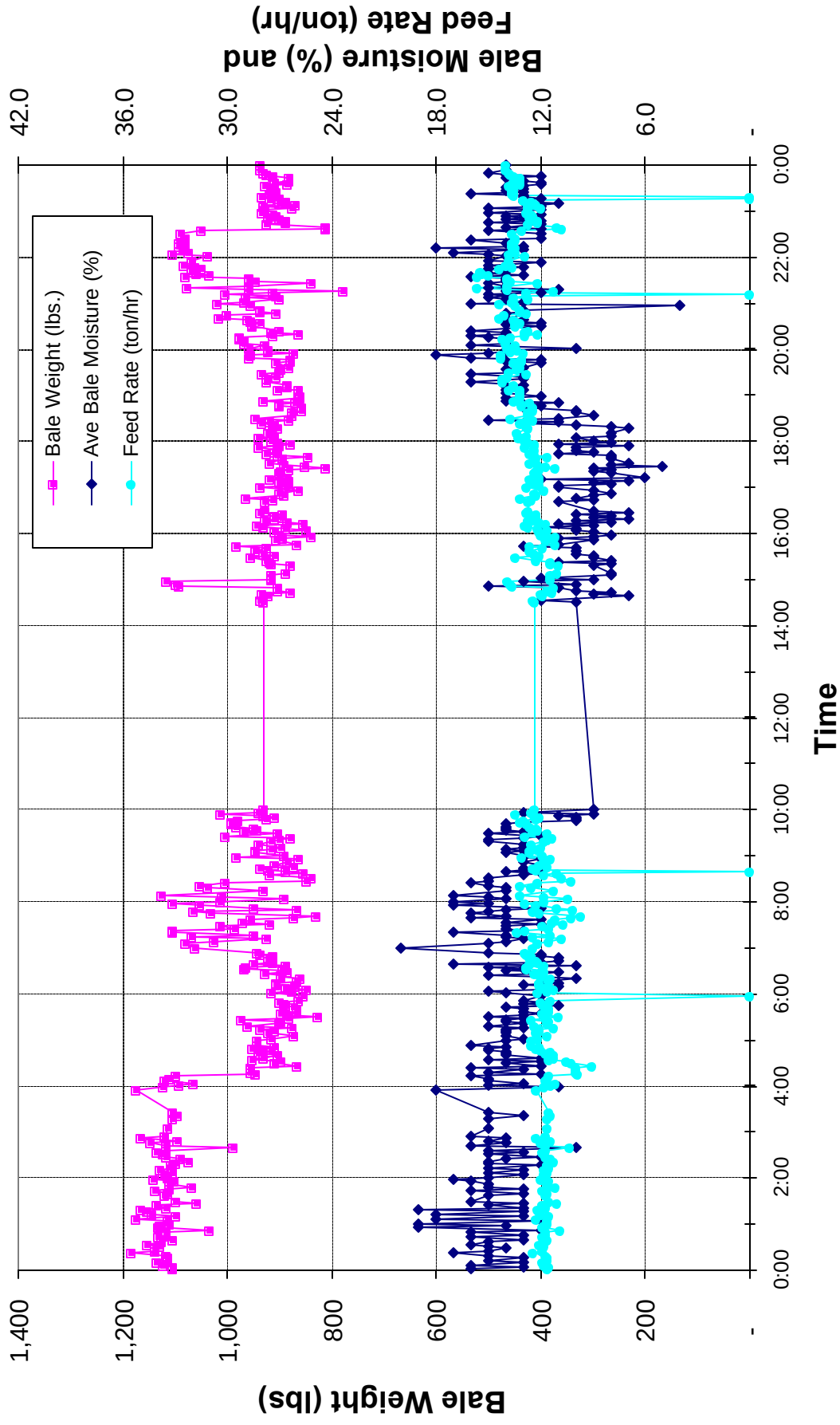
Estimated Power Generated : 3,924 MWh

Time Remaining until May 12th Outage: 62 days

1,488 hours

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Chart (Saturday March 11, 2006)



Summary Statistics:

Date : Saturday, March 11, 2006

Bale Count :	404	bales	
Run Time :	19.4	hrs	
Total Bale Weight :	194.5	tons	
Max. Bale Weight :	1,183	lbs.	
Min. Bale Weight :	777	lbs.	
Average Bale Weight:	963	lbs./bale	
Average Moisture Content:	13%		
Max. Bale Moisture :	20%		
Min. Bale Moisture :	4%		
Average Feed Rate (during run-time):	12.2	tons/hr ;	4.1 ft/min.
Max. Feed Rate (during run-time):	15.7	tons/hr ;	4.1 ft/min.
Min. Feed Rate :	-	tons/hr ;	- ft/min.

Average Feed Rate (overall, incl. downtime):	10.0	tons/hr ;
(Daily Tons / Daily Runhours)		

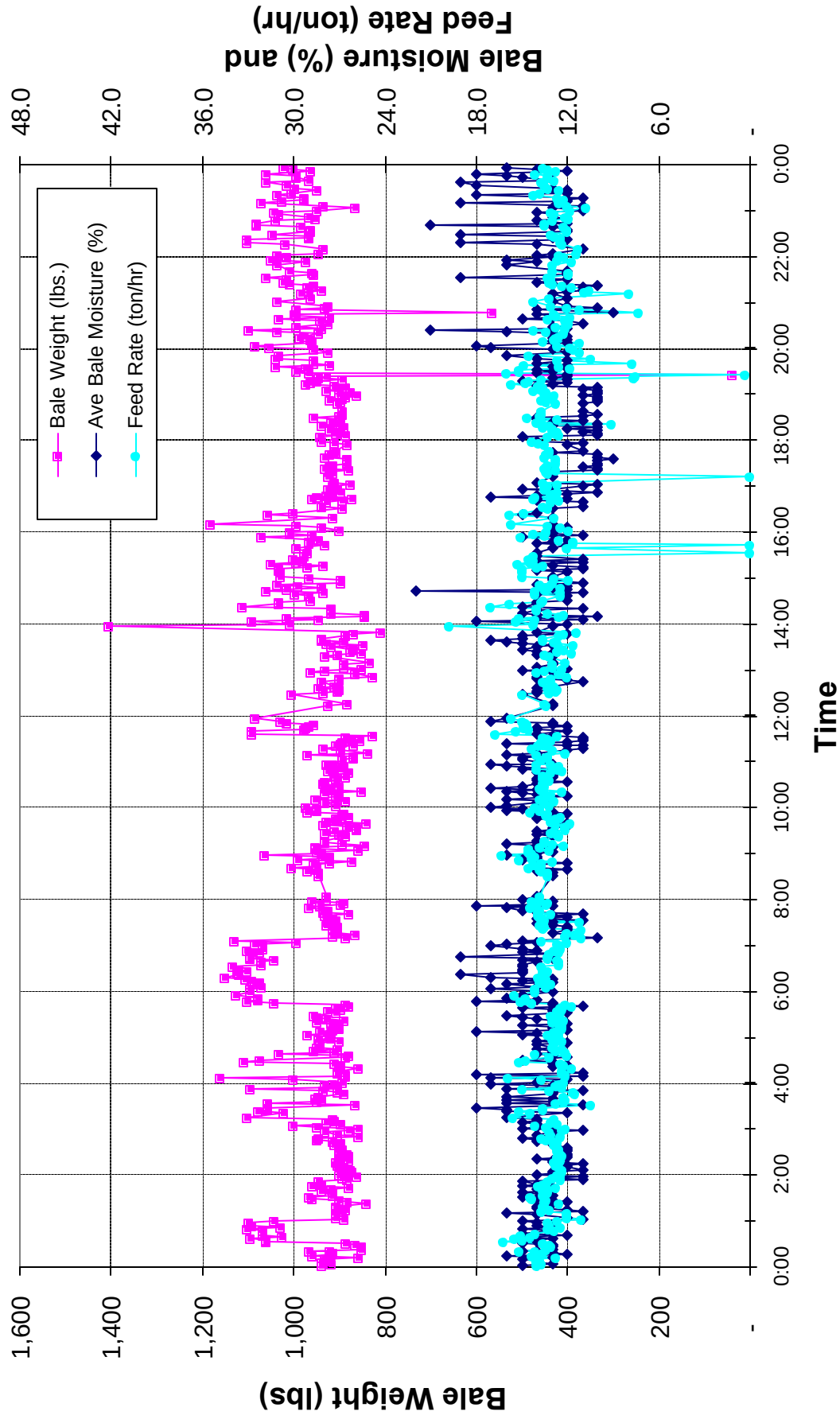
Difference between Ave Feed Rates:	18%	(Setpoint vs. Actual)
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Overall Statistics (through midnight):

Total Bales Processed (accepted) :	6,769	bales
Total Tons Processed (accepted) :	3,324	
Average Bale Weight:	982	lbs./bale
Total System Processing Hours:	391.1	hours
Percent of Run-hour Goal:	20%	of 2000 hour goal
Percent of Tonnage Goal:	13%	of 25,000 ton goal
Estimated Power Generated :	4,165	MWh
Time Remaining until May 12th Outage:	61	days
	1,464	hours

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Chart (Sunday March 12, 2006)



Summary Statistics:

Date : Sunday, March 12, 2006

Bale Count : 537 bales

Run Time : 23.5 hrs

Total Bale Weight : 254.7 tons

Max. Bale Weight : 1,404 lbs.

Min. Bale Weight : 40 lbs.

Average Bale Weight: 949 lbs./bale

Average Moisture Content: 13%

Max. Bale Moisture : 22%

Min. Bale Moisture : 9%

Average Feed Rate (during run-time): 13.1 tons/hr ; 4.4 ft/min.

Max. Feed Rate (during run-time): 19.8 tons/hr ; 4.4 ft/min.

Min. Feed Rate : - tons/hr ; - ft/min.

Average Feed Rate (overall, incl. downtime):	10.8 tons/hr ;
(Daily Tons / Daily Runhours)	

Difference between Ave Feed Rates: 17% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 7,305 bales

Total Tons Processed (accepted) : 3,579

Average Bale Weight: 980 lbs./bale

Total System Processing Hours: 415.1 hours

Percent of Run-hour Goal: 21% of 2000 hour goal

Percent of Tonnage Goal: 14% of 25,000 ton goal

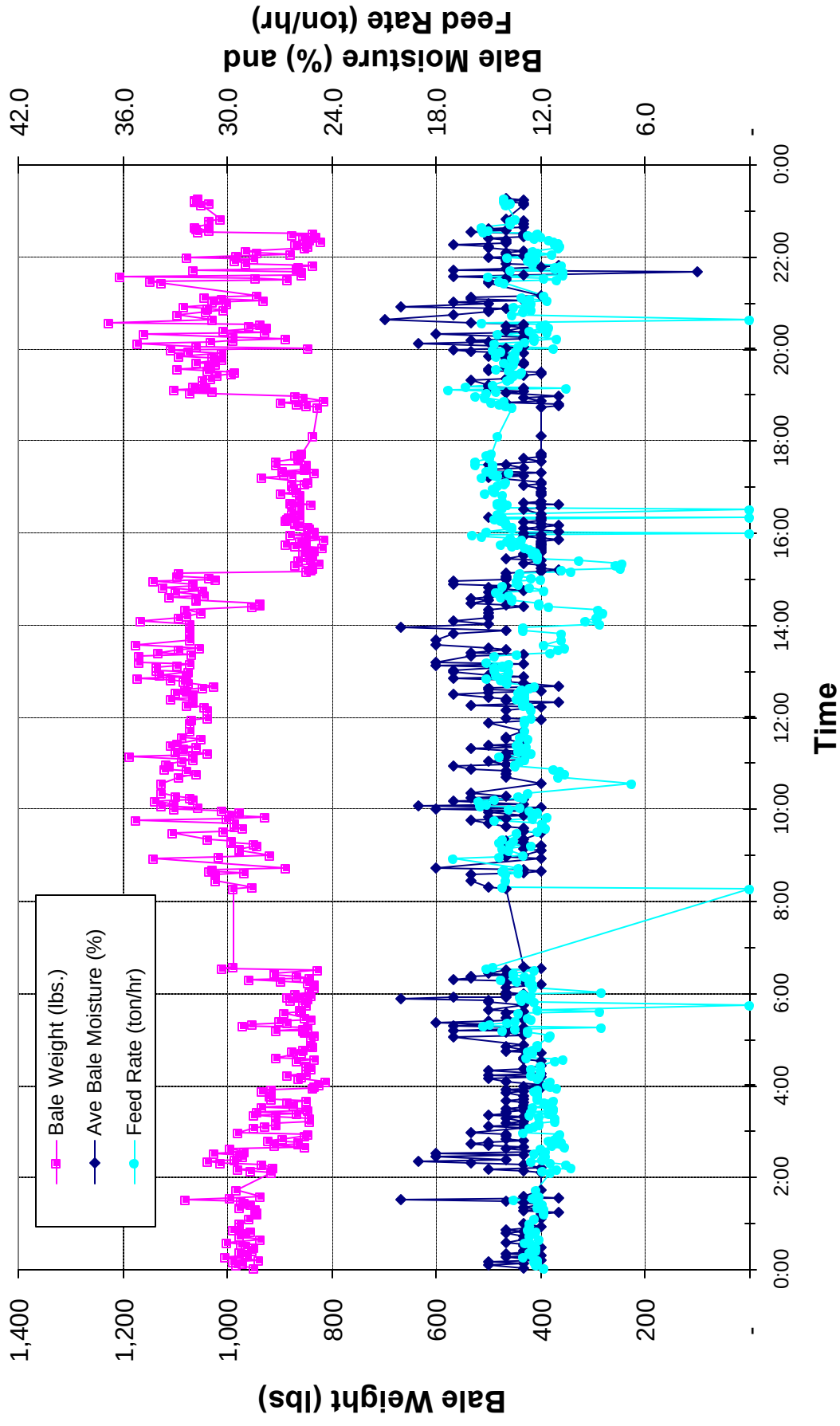
Estimated Power Generated : 4,484 MWh

Time Remaining until May 12th Outage: 60 days

1,440 hours

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Chart (Monday March 13, 2006)



Summary Statistics:

Date : Monday, March 13, 2006

Bale Count :	413	bales	
Run Time :	20.5	hrs	
Total Bale Weight :	199.2	tons	
Max. Bale Weight :	1,227	lbs.	
Min. Bale Weight :	811	lbs.	
Average Bale Weight:	965	lbs./bale	
Average Moisture Content:	14%		
Max. Bale Moisture :	21%		
Min. Bale Moisture :	3%		
Average Feed Rate (during run-time):	12.7	tons/hr ;	4.8 ft/min.
Max. Feed Rate (during run-time):	17.3	tons/hr ;	4.8 ft/min.
Min. Feed Rate :	-	tons/hr ;	- ft/min.

Average Feed Rate (overall, incl. downtime):	9.7	tons/hr ;
(Daily Tons / Daily Runhours)		

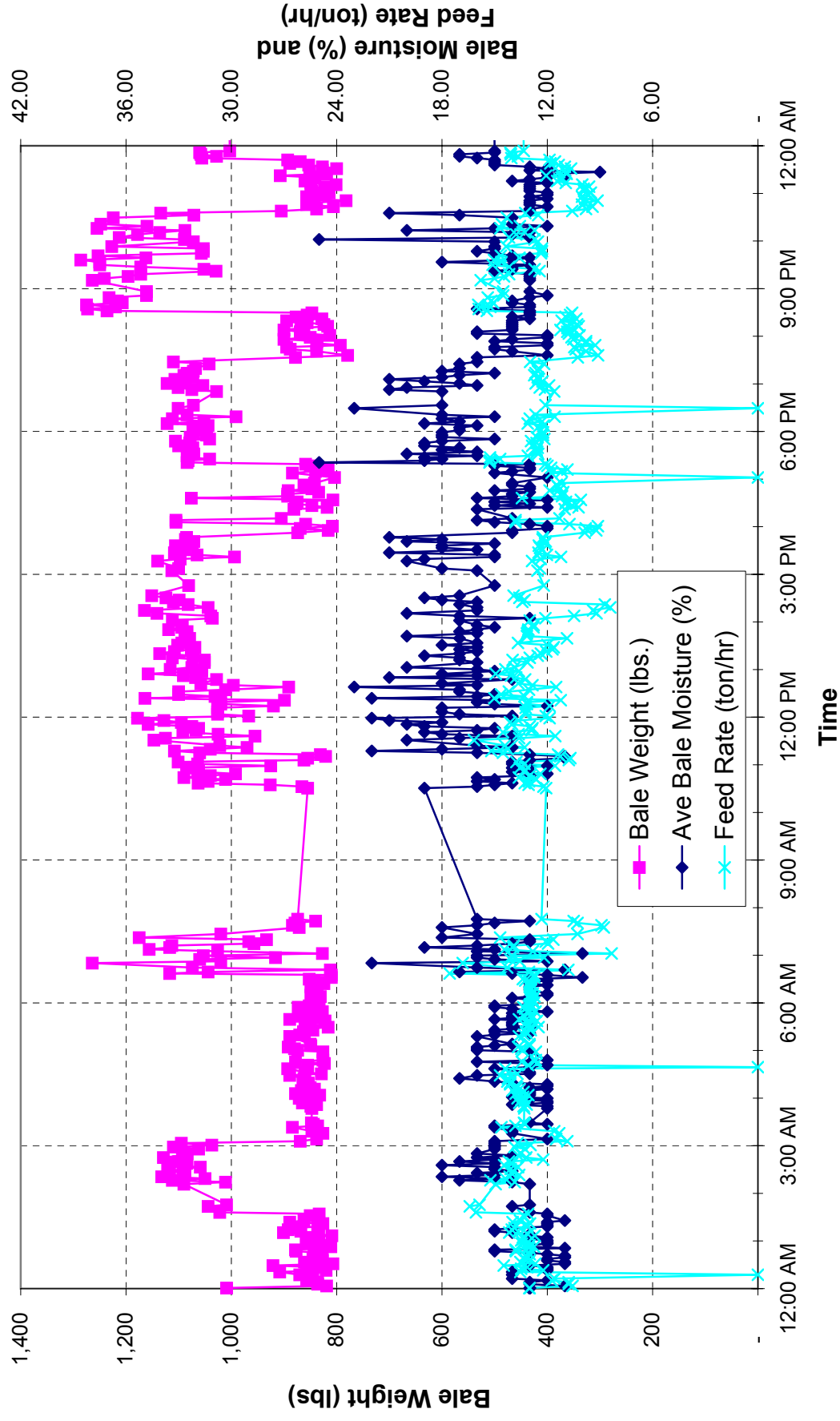
Difference between Ave Feed Rates:	23%	(Setpoint vs. Actual)
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Overall Statistics (through midnight):

Total Bales Processed (accepted) :	7,717	bales
Total Tons Processed (accepted) :	3,778	
Average Bale Weight:	979	lbs./bale
Total System Processing Hours:	437.7	hours
Percent of Run-hour Goal:	22%	of 2000 hour goal
Percent of Tonnage Goal:	15%	of 25,000 ton goal
Estimated Power Generated :	4,734	MWh
Average Iowa Homes Powered for Full Year :	453	ave. annual homes
Time Remaining until May 12th Outage:	59	days
	1,416	hours

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 14, 2006)



Summary Statistics:

Date : Tuesday, March 14, 2006

Bale Count : 439 bales

Run Time : 21.3 hrs

Total Bale Weight : 213.3 tons

Max. Bale Weight : 1,286 lbs.

Min. Bale Weight : 779 lbs.

Average Bale Weight: 972 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 25%

Min. Bale Moisture : 9%

Average Feed Rate (during run time): 12.6 tons/hr ; 3.5 ft/min.

Max. Feed Rate (during run time): 17.6 tons/hr ; 4.4 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (<i>overall, incl. downtime</i>):	10.0	tons/hr ;
(Daily Tons / Daily Runhours)		

Difference between Ave Feed Rates:	20%	(Setpoint vs. Actual)
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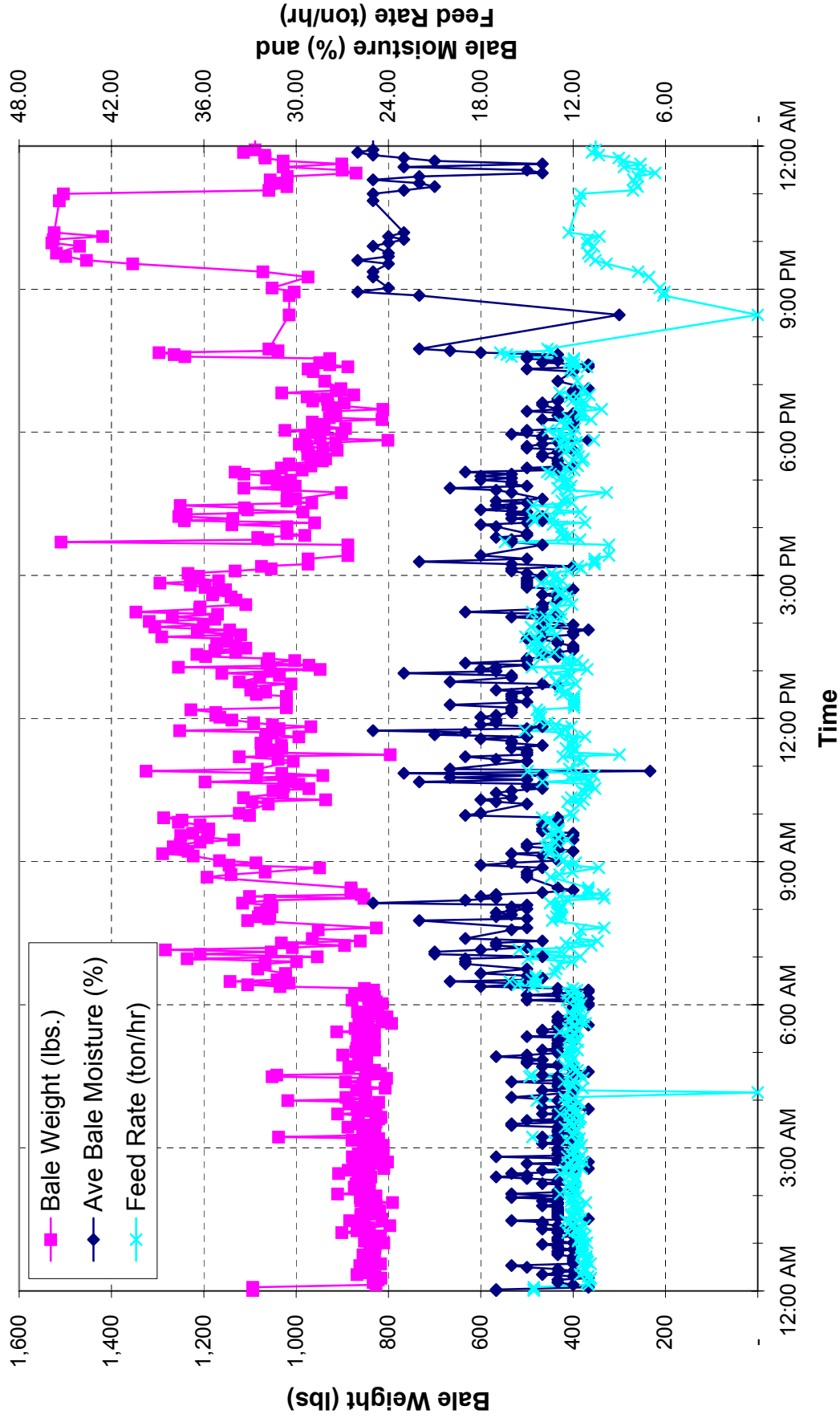
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	8,154	bales
Total Tons Processed (accepted) :	3,990	
Average Bale Weight:	979	lbs./bale
Total System Processing Hours:	459.2	hours
Percent of Run-hour Goal:	23%	of 2000 hour goal
Percent of Tonnage Goal:	16%	of 25,000 ton goal
Estimated Power Generated :	4,999	MWh
Time Remaining until May 12th Outage:	58	days
	1,392	hours

Average Iowa Homes Powered for Full Year : 478 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 15, 2006)



Summary Statistics:

Date :	Wednesday, March 15, 2006		
Bale Count :	460	bales	
Run Time :	24.0	hrs	
Total Bale Weight :	228.8	tons	
Max. Bale Weight :	1,529	lbs.	
Min. Bale Weight :	791	lbs.	
Average Bale Weight:	995	lbs.	
Average Moisture Content:	15%		
Max. Bale Moisture :	26%		
Min. Bale Moisture :	7%		
Average Feed Rate (during run time):	12.1	tons/hr ;	3.3 ft/min.
Max. Feed Rate (during run time):	16.7	tons/hr ;	3.8 ft/min.
Min. Feed Rate (during run time):	-	tons/hr ;	- ft/min.
Average Feed Rate (<i>overall, incl. downtime</i>):	9.5	tons/hr ;	
(Daily Tons / Daily Runhours)			
Difference between Ave Feed Rates:	21 %	(Setpoint v.s. Actual)	

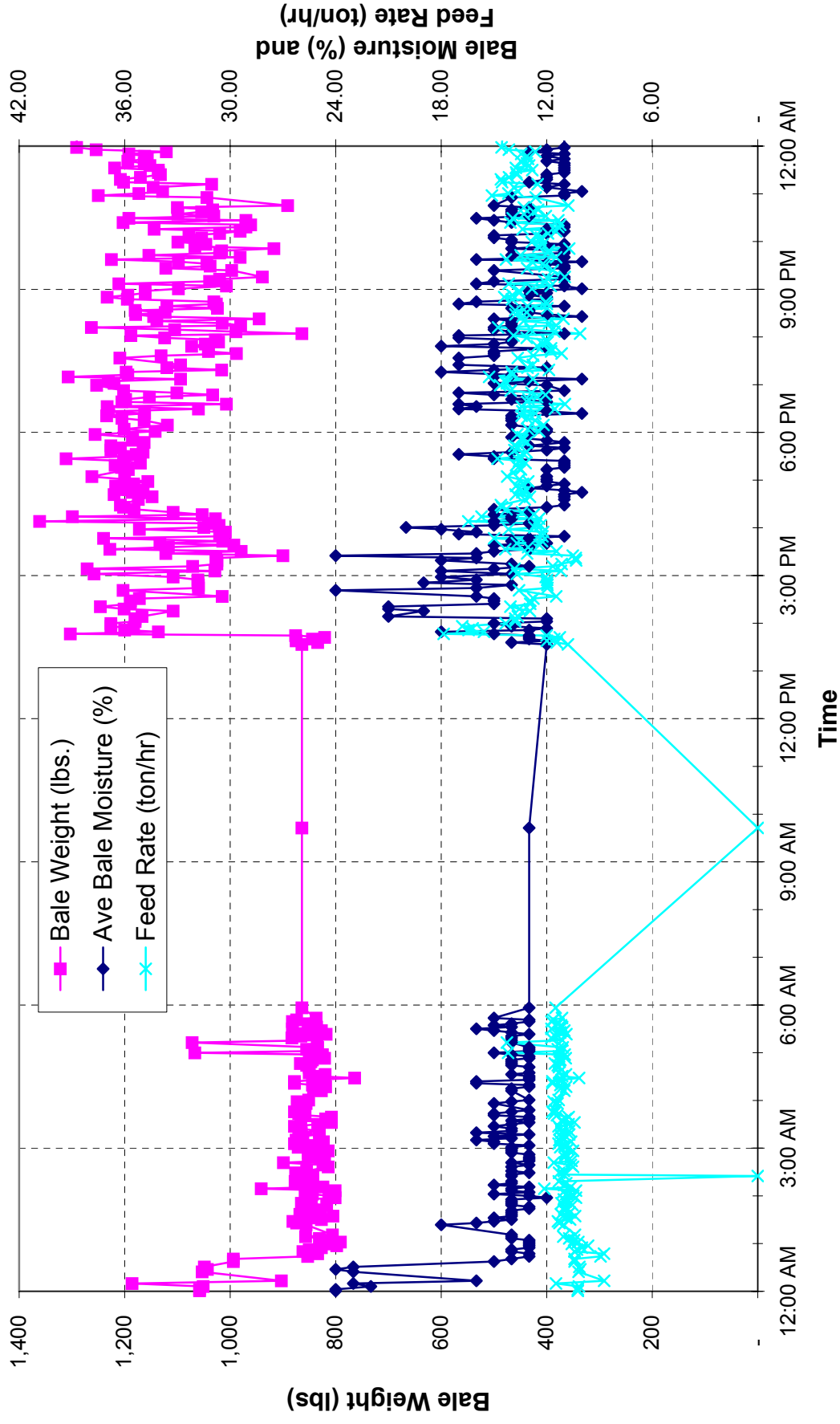
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	8,612	bales
Total Tons Processed (accepted) :	4,218	
Average Bale Weight:	979	lbs./bale
Total System Processing Hours:	483.1	hours
Percent of Run-hour Goal:	24%	of 2000 hour goal
Percent of Tonnage Goal:	17%	of 25,000 ton goal
Estimated Power Generated :	5,285	MWh
Time Remaining until May 12th Outage:	57	days
	1,368	hours

Average Iowa Homes Powered for Full Year : 505 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 16, 2006)



Summary Statistics:

Date :	Thursday, March 16, 2006		
Bale Count :	329	bales	
Run Time :	16.4	hrs	
Total Bale Weight :	168.3	tons	
Max. Bale Weight :	1,361	lbs.	
Min. Bale Weight :	764	lbs.	
Average Bale Weight:	1,023	lbs.	
Average Moisture Content:	14%		
Max. Bale Moisture :	24%		
Min. Bale Moisture :	10%		
Average Feed Rate (during run time):	12.1	tons/hr ;	3.2 ft/min.
Max. Feed Rate (during run time):	17.9	tons/hr ;	3.7 ft/min.
Min. Feed Rate (during run time):	-	tons/hr ;	- ft/min.
Average Feed Rate (<i>overall, incl. downtime</i>):	10.3	tons/hr ;	
(Daily Tons / Daily Runhours)			
Difference between Ave Feed Rates:	15%	(Setpoint v.s. Actual)	

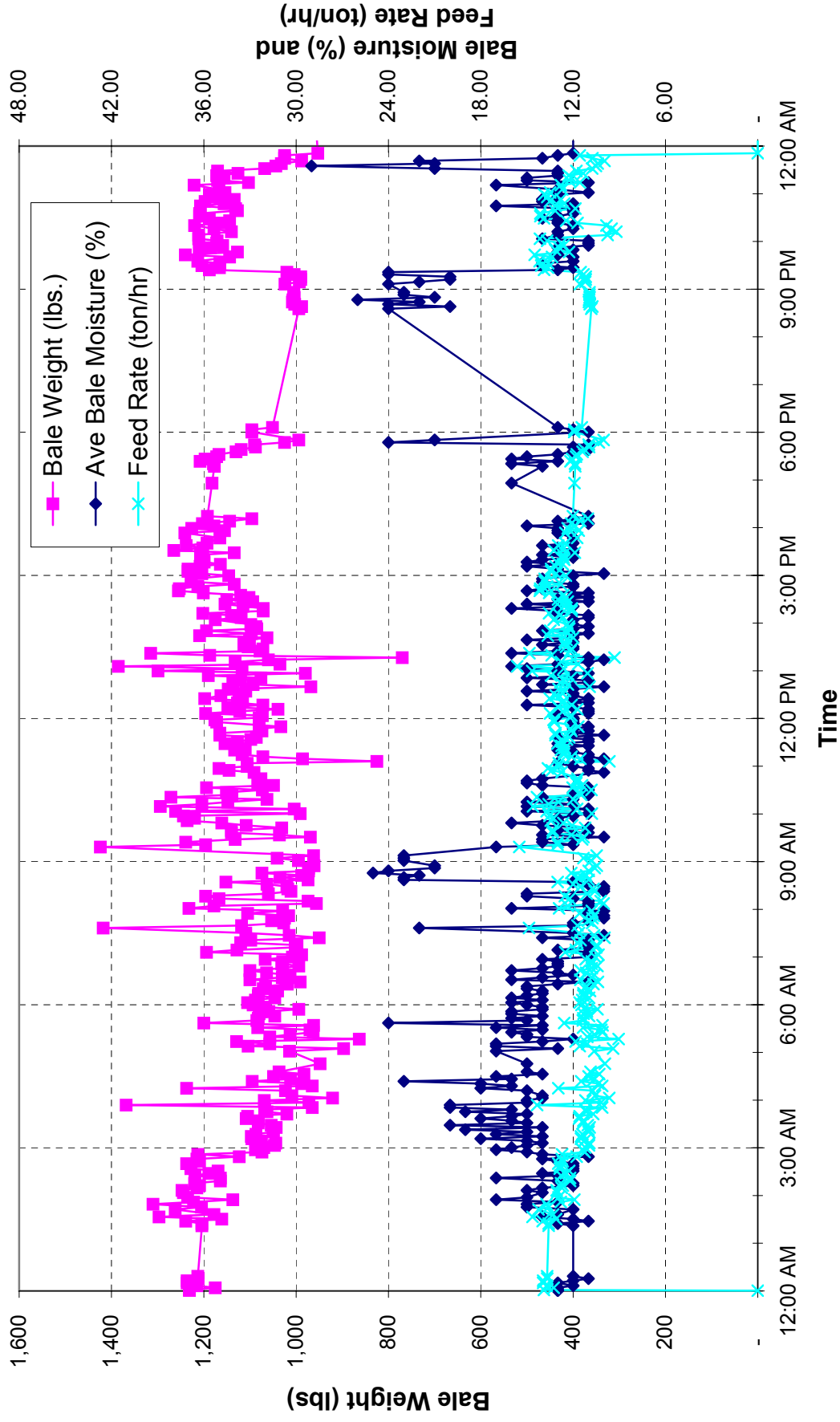
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	8,938	bales
Total Tons Processed (accepted) :	4,385	
Average Bale Weight:	981	lbs./bale
Total System Processing Hours:	500.6	hours
Percent of Run-hour Goal:	25%	of 2000 hour goal
Percent of Tonnage Goal:	18%	of 25,000 ton goal
Estimated Power Generated :	5,494	MWh
Time Remaining until May 12th Outage:	56	days
	1,344	hours

Average Iowa Homes Powered for Full Year : 525 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 17, 2006)



Summary Statistics:

Date :	Friday, March 17, 2006		
Bale Count :	373	bales	
Run Time :	20.5	hrs	
Total Bale Weight :	208.1	tons	
Max. Bale Weight :	1,424	lbs.	
Min. Bale Weight :	770	lbs.	
Average Bale Weight:	1,116	lbs.	
Average Moisture Content:	14%		
Max. Bale Moisture :	29%		
Min. Bale Moisture :	10%		
Average Feed Rate (during run time):	12.0	tons/hr ;	2.9 ft/min.
Max. Feed Rate (during run time):	15.6	tons/hr ;	3.2 ft/min.
Min. Feed Rate (during run time):	-	tons/hr ;	- ft/min.
Average Feed Rate (<i>overall, incl. downtime</i>) :	10.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Difference between Ave Feed Rates:	15%	(Setpoint v.s. Actual)	

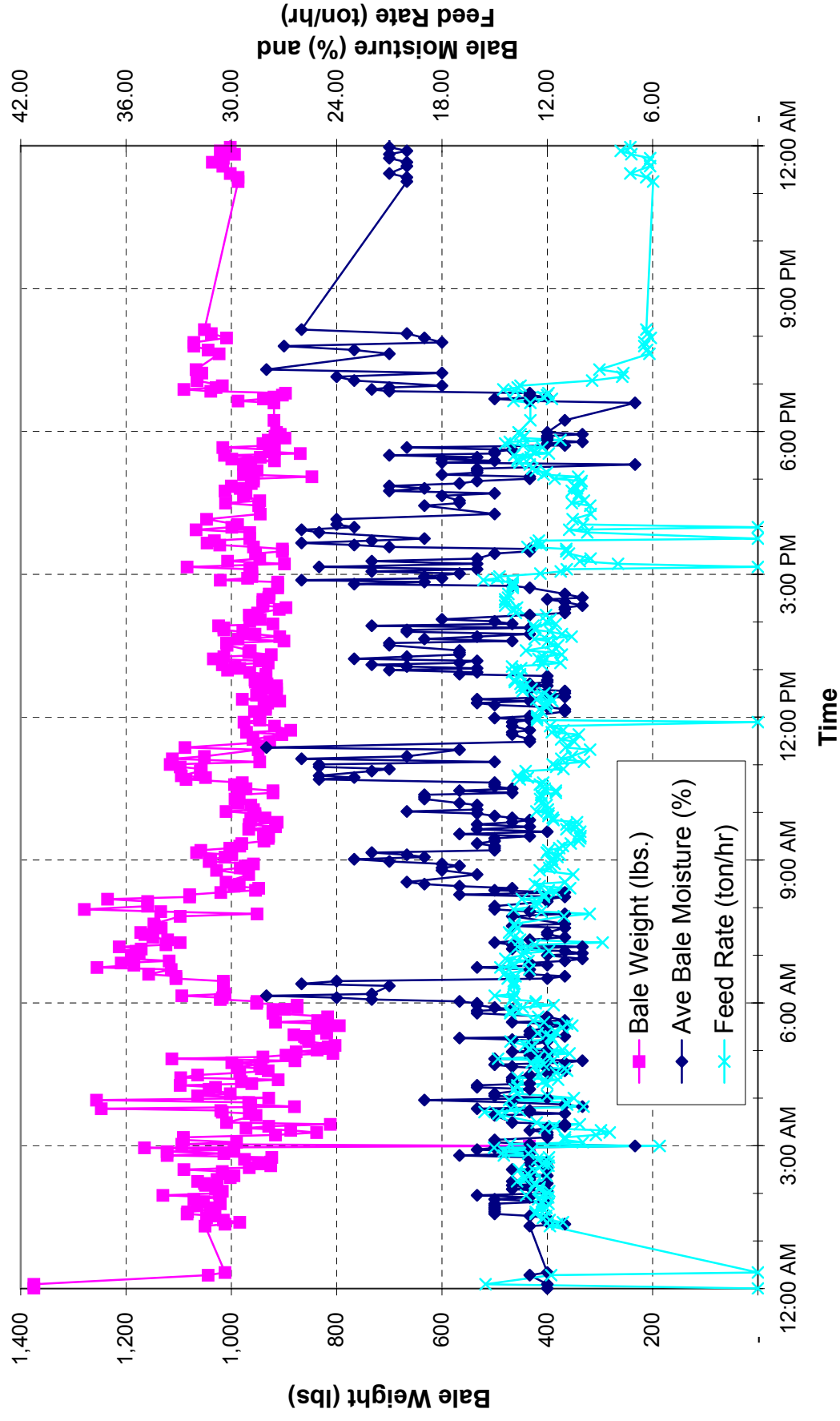
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	9,309	bales
Total Tons Processed (accepted) :	4,592	
Average Bale Weight:	986	lbs./bale
Total System Processing Hours:	522.2	hours
Percent of Run-hour Goal:	26%	of 2000 hour goal
Percent of Tonnage Goal:	18%	of 25,000 ton goal
Estimated Power Generated :	5,754	MWh
Time Remaining until May 12th Outage:	55	days
	1,320	hours

Average Iowa Homes Powered for Full Year : 550 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 18, 2006)



Summary Statistics:

Date :	Saturday, March 18, 2006		
Bale Count :	366	bales	
Run Time :	20.9	hrs	
Total Bale Weight :	181.4	tons	
Max. Bale Weight :	1,375	lbs.	
Min. Bale Weight :	434	lbs.	
Average Bale Weight:	991	lbs.	
Average Moisture Content:	16%		
Max. Bale Moisture :	28%		
Min. Bale Moisture :	7%		
Average Feed Rate (during run time):	11.8	tons/hr ;	3.2 ft/min.
Max. Feed Rate (during run time):	15.6	tons/hr ;	4.4 ft/min.
Min. Feed Rate (during run time):	-	tons/hr ;	- ft/min.
Average Feed Rate (<i>overall, incl. downtime</i>) :	8.7	tons/hr ;	
(Daily Tons / Daily Runhours)			
Difference between Ave Feed Rates:	26%	(Setpoint v.s. Actual)	

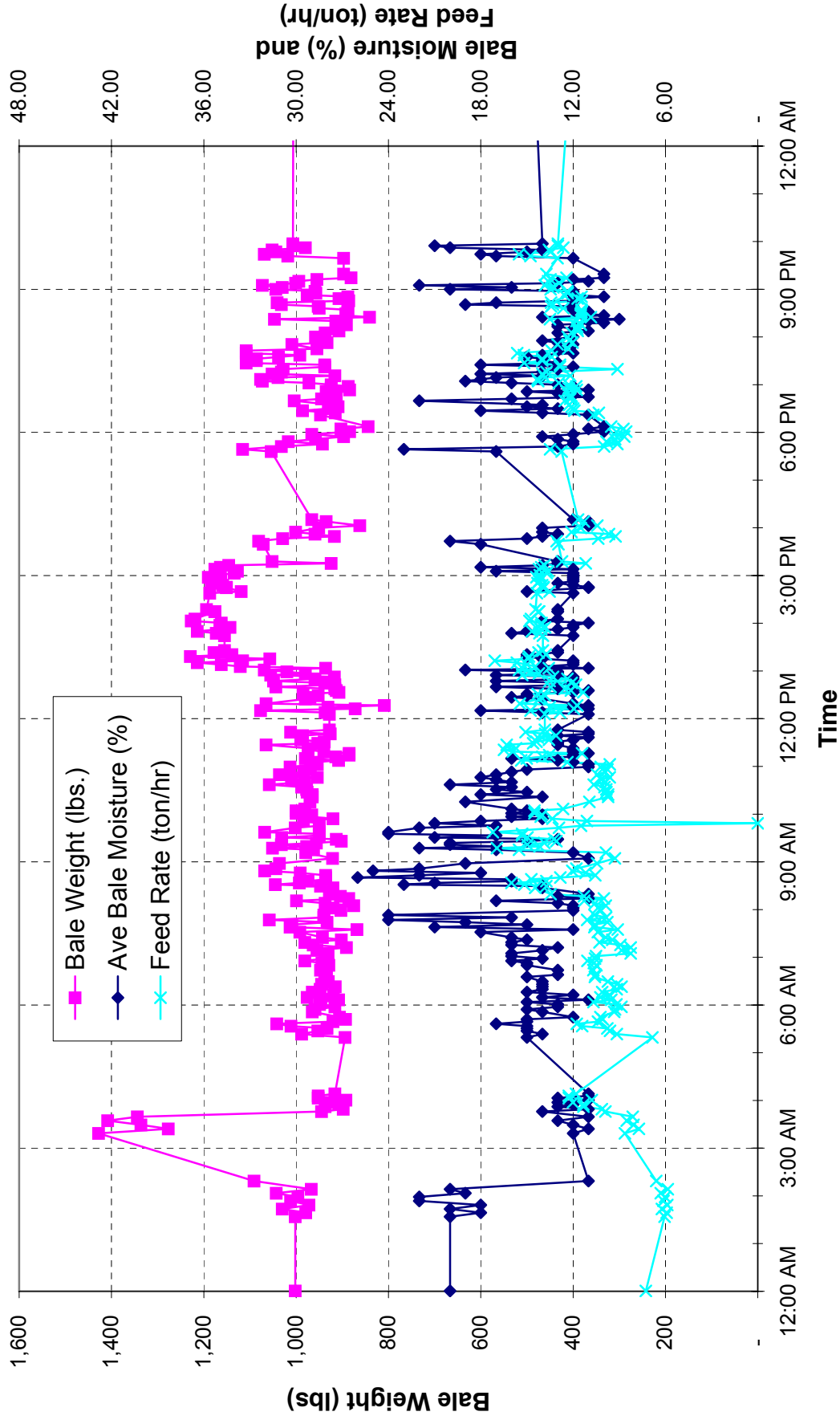
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	9,673	bales
Total Tons Processed (accepted) :	4,772	
Average Bale Weight:	987	lbs./bale
Total System Processing Hours:	543.3	hours
Percent of Run-hour Goal:	27%	of 2000 hour goal
Percent of Tonnage Goal:	19%	of 25,000 ton goal
Estimated Power Generated :	5,979	MWh
Time Remaining until May 12th Outage:	54	days
	1,296	hours

Average Iowa Homes Powered for Full Year : 572 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 19, 2006)



Summary Statistics:

Date : Sunday, March 19, 2006

Bale Count : 307 bales

Run Time : 17.8 hrs

Total Bale Weight : 152.7 tons

Max. Bale Weight : 1,428 lbs.

Min. Bale Weight : 809 lbs.

Average Bale Weight: 995 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 26%

Min. Bale Moisture : 9%

Average Feed Rate (during run time): 12.0 tons/hr ; 3.2 ft/min.

Max. Feed Rate (during run time): 17.2 tons/hr ; 4.5 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (*overall, incl. downtime*): 8.6 tons/hr ;
(Daily Tons / Daily Runhours)

Difference between Ave Feed Rates: 28% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 9,977 bales

Total Tons Processed (accepted) : 4,923

Average Bale Weight: 987 lbs./bale

Total System Processing Hours: 562.0 hours

Percent of Run-hour Goal: 28% of 2000 hour goal

Percent of Tonnage Goal: 20% of 25,000 ton goal

Estimated Power Generated : 6,168 MWh

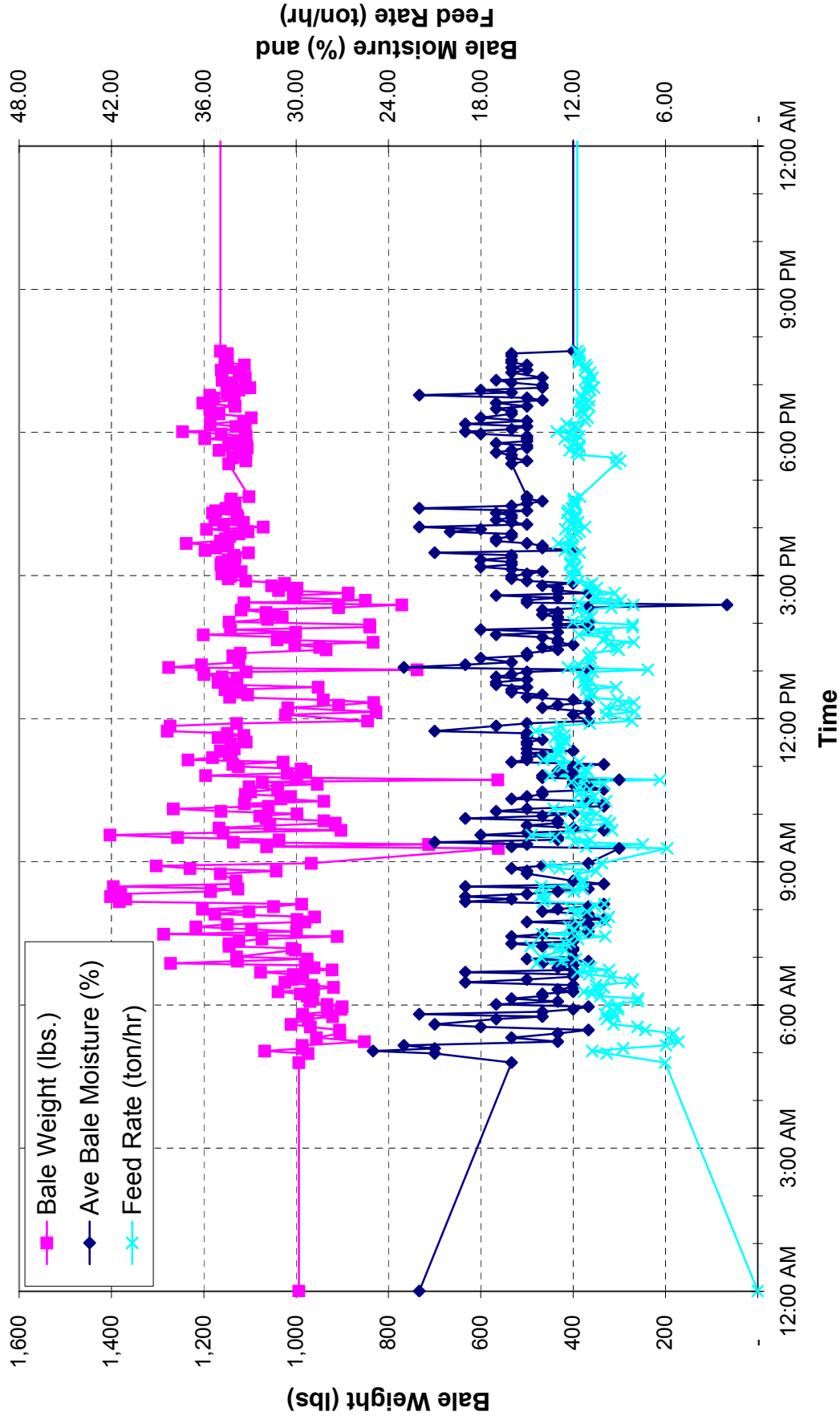
Time Remaining until May 12th Outage: 53 days

1,272 hours

Average Iowa Homes Powered for Full Year : 590 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 20, 2006)

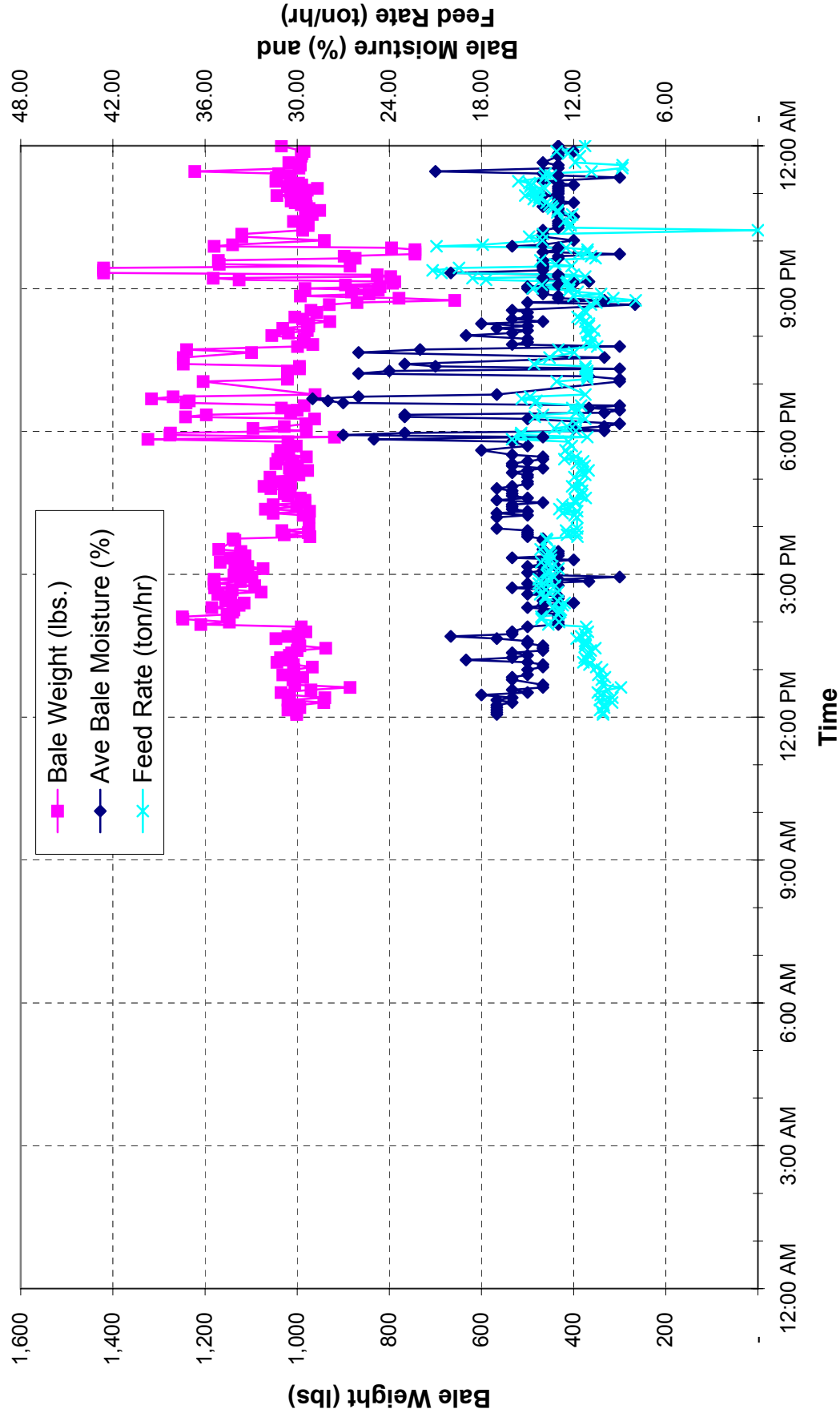


Summary Statistics:

Date :	Monday, March 20, 2006		
Bale Count :	260	bales	
Run Time :	13.7	hrs	
Total Bale Weight :	140.7	tons	
Max. Bale Weight :	1,403	lbs.	
Min. Bale Weight :	562	lbs.	
Average Bale Weight:	1,082	lbs.	
Average Moisture Content:	15%		
Max. Bale Moisture :	25%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	11.0	tons/hr ;	2.7 ft/min.
Max. Feed Rate (ten bale average):	13.0	tons/hr ;	3.4 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	7%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	5.9	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	47%	Setpoint vs.	Actual Overall

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 21, 2006)



Summary Statistics:

Date :	Tuesday, March 21, 2006		
Bale Count :	224	bales	
Run Time :	11.2	hrs	
Total Bale Weight :	116.0	tons	
Max. Bale Weight :	1,420	lbs.	
Min. Bale Weight :	658	lbs.	
Average Bale Weight:	1,036	lbs.	
Average Moisture Content:	15%		
Max. Bale Moisture :	29%		
Min. Bale Moisture :	8%		
Average Feed Rate (as recorded for each bale):	12.4	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	16.0	tons/hr ;	4.7 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.3	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	17%	Setpoint vs. Actual During Run Hours	
Overall Avg. Feed Rate:	4.8	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	61%	Setpoint vs. Actual Overall	

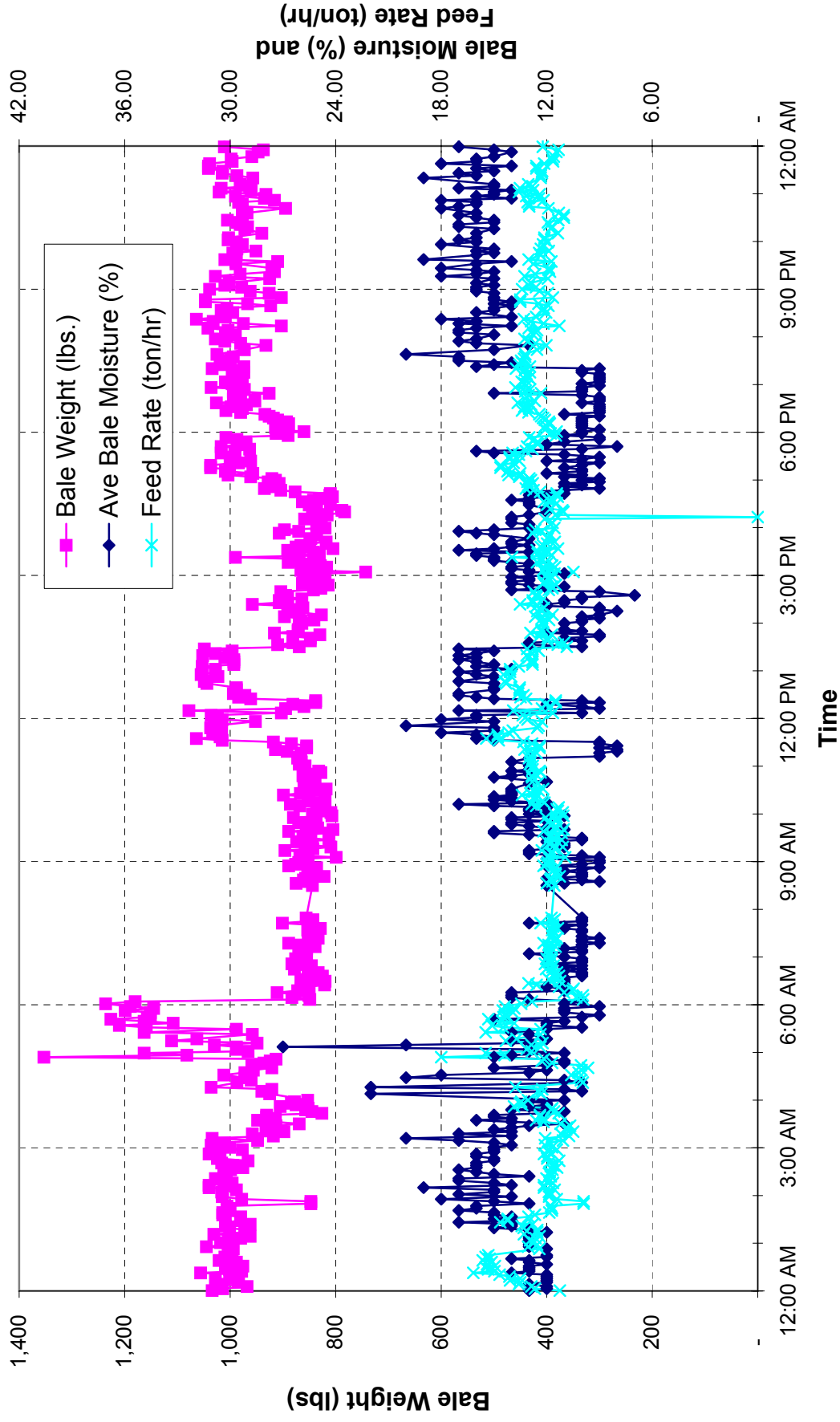
Statistics through midnight on Tuesday March 21:

Overall Statistics (through midnight):		
Total Bales Processed (accepted) :	10,736	bales
Total Tons Processed (accepted) :	5,319	
Average Bale Weight:	991	lbs./bale
Total System Processing Hours:	604.1	hours
Percent of Run-hour Goal:	30%	of 2000 hour goal
Percent of Tonnage Goal:	21%	of 25,000 ton goal
Estimated Power Generated :	6,665	MWh
Time Remaining until May 12th Outage:	56	days
	1,344	hours

Average Iowa Homes Powered for Full Year : 637 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 22, 2006)



Summary Statistics:

Date : Wednesday, March 22, 2006

Bale Count : 529 bales

Run Time : 24.0 hrs

Total Bale Weight : 247.9 tons

Max. Bale Weight : 1,353 lbs.

Min. Bale Weight : 743 lbs.

Average Bale Weight: 937 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 27%

Min. Bale Moisture : 7%

Average Feed Rate (during run time): 12.4 tons/hr ; 3.5 ft/min.

Max. Feed Rate (during run time): 18.0 tons/hr ; 4.1 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (<i>overall, incl. downtime</i>):	10.3 tons/hr ;
(Daily Tons / Daily Runhours)	

Difference between Ave Feed Rates:	17%	(Setpoint vs. Actual)
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Overall Statistics (through midnight):

Total Bales Processed (accepted) : 11,264 bales

Total Tons Processed (accepted) : 5,567

Average Bale Weight: 988 lbs./bale

Total System Processing Hours: 627.6 hours

Percent of Run-hour Goal: 31%of 2000 hour goal

Percent of Tonnage Goal: 22%of 25,000 ton goal

Estimated Power Generated : 6,975 MWh

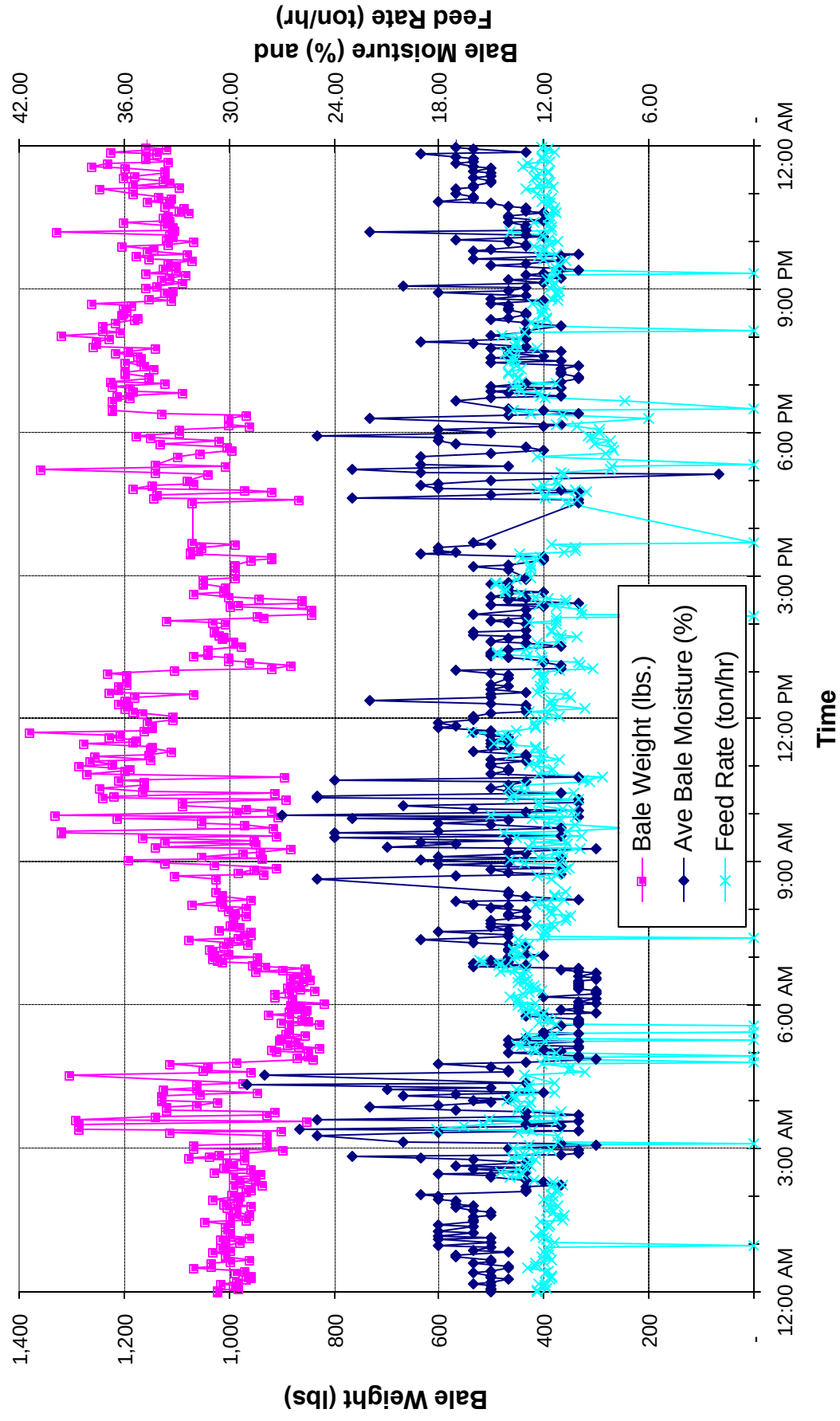
Time Remaining until May 12th Outage: 50 days

1,200 hours

Average Iowa Homes Powered for Full Year : 667 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 23, 2006)



Summary Statistics:

Date : Thursday, March 23, 2006

Bale Count : 451 bales

Run Time : 22.7 hrs

Total Bale Weight : 237.6 tons

Max. Bale Weight : 1,380 lbs.

Min. Bale Weight : 816 lbs.

Average Bale Weight: 1,053 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 29%

Min. Bale Moisture : 2%

Average Feed Rate (during run time): 11.7 tons/hr ; 3.0 ft/min.

Max. Feed Rate (during run time): 18.1 tons/hr ; 4.1 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (overall, incl. downtime):	10.5 tons/hr ;
(Daily Tons / Daily Runhours)	

Difference between Ave Feed Rates: 11% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 11,713 bales

Total Tons Processed (accepted) : 5,803

Average Bale Weight: 991 lbs./bale

Total System Processing Hours: 650.8 hours

Percent of Run-hour Goal: 33% of 2000 hour goal

Percent of Tonnage Goal: 23% of 25,000 ton goal

Estimated Power Generated : 7,271 MWh

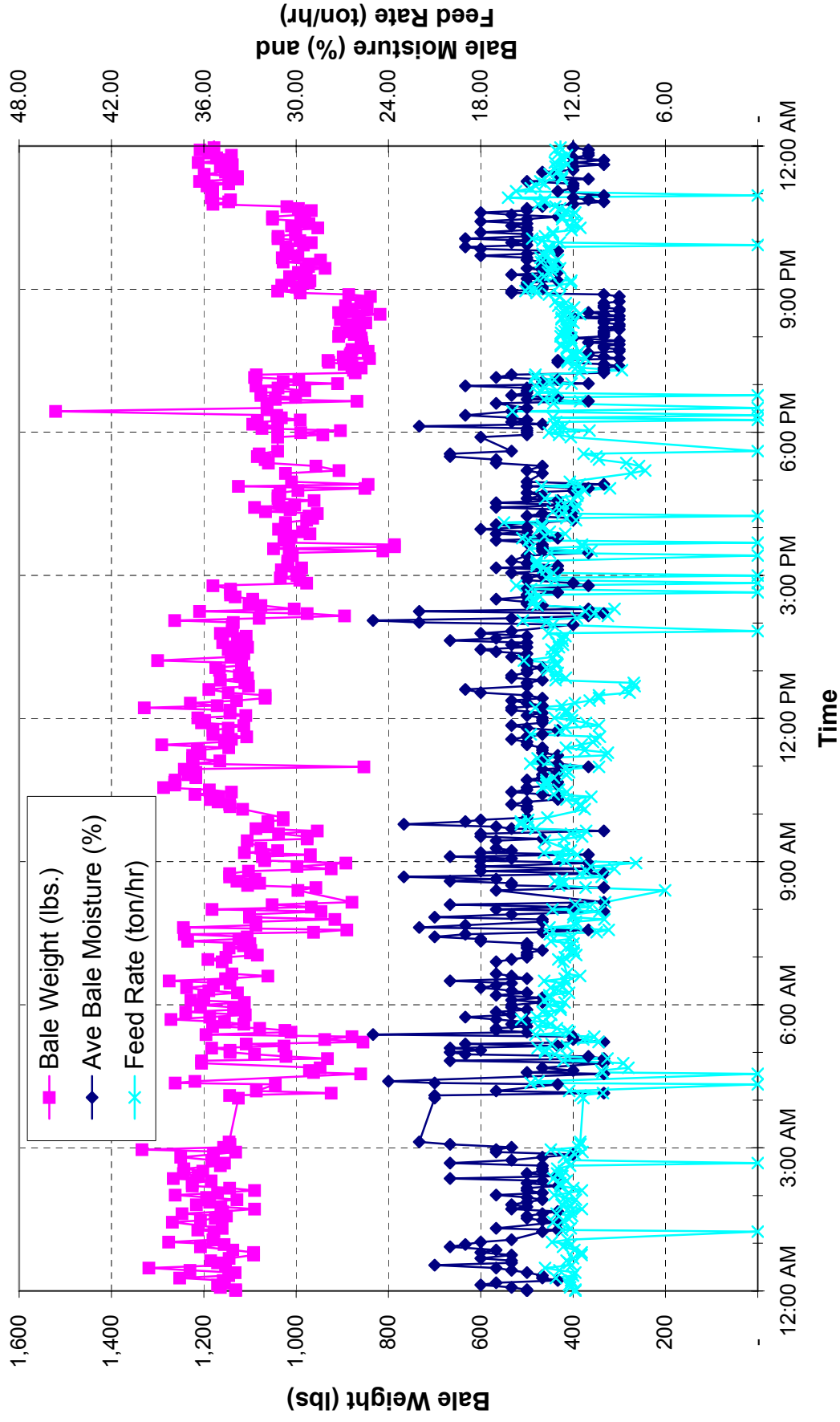
Time Remaining until May 12th Outage: 49 days

1,176 hours

Average Iowa Homes Powered for Full Year : 695 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 24, 2006)



Summary Statistics:

Date : Friday, March 24, 2006

Bale Count : 441 bales

Run Time : 23.1 hrs

Total Bale Weight : 237.2 tons

Max. Bale Weight : 1,521 lbs.

Min. Bale Weight : 787 lbs.

Average Bale Weight: 1,076 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 25%

Min. Bale Moisture : 9%

Average Feed Rate (during run time): 12.1 tons/hr ; 3.0 ft/min.

Max. Feed Rate (during run time): 16.5 tons/hr ; 4.3 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (*overall, incl. downtime*): 10.3 tons/hr ;
(Daily Tons / Daily Runhours)

Difference between Ave Feed Rates: 15% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 12,152 bales

Total Tons Processed (accepted) : 6,039

Average Bale Weight: 994 lbs./bale

Total System Processing Hours: 674.1 hours

Percent of Run-hour Goal: 34% of 2000 hour goal

Percent of Tonnage Goal: 24% of 25,000 ton goal

Estimated Power Generated : 7,567 MWh

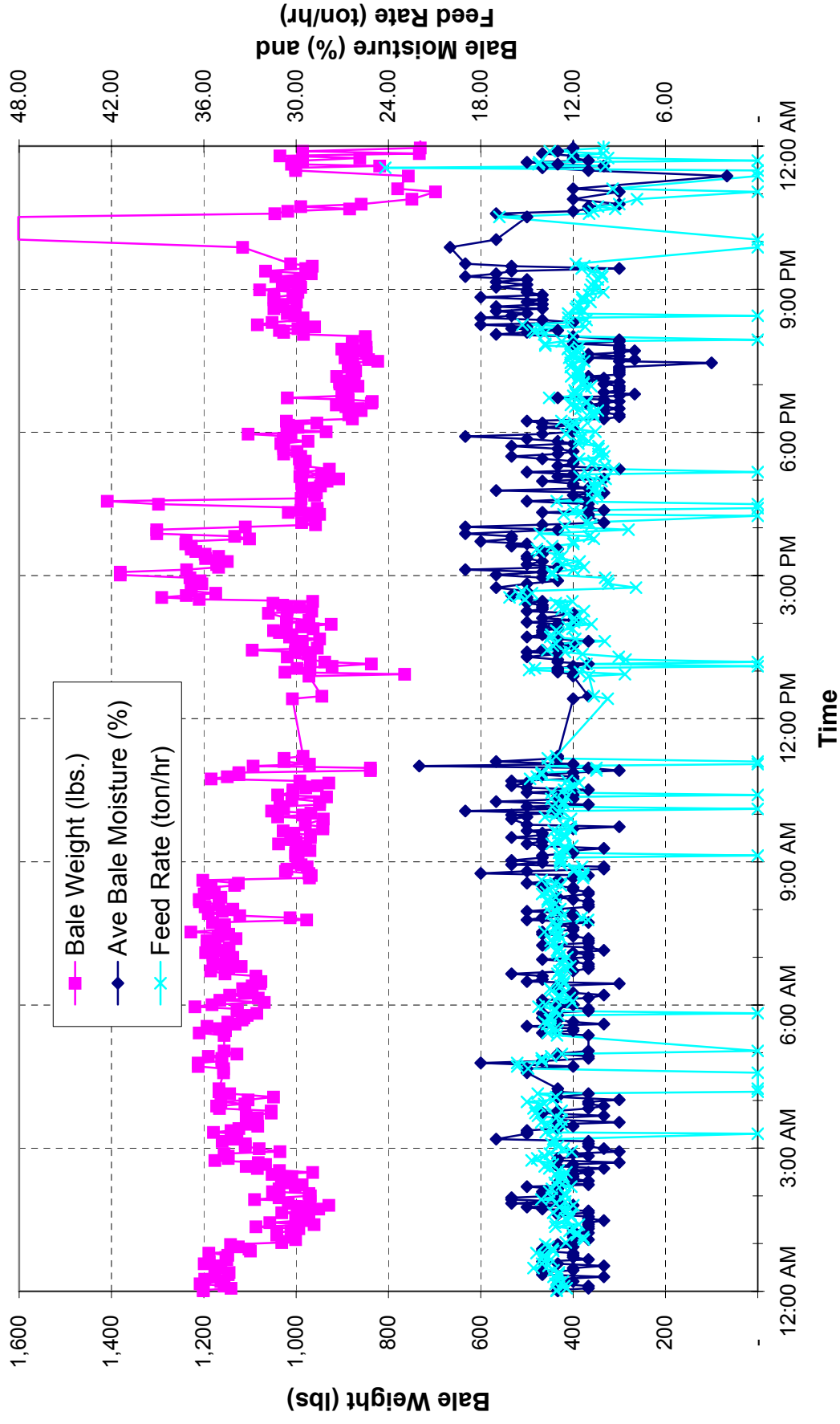
Time Remaining until May 12th Outage: 48 days

1,152 hours

Average Iowa Homes Powered for Full Year : 723 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 25, 2006)



Summary Statistics:

Date : Saturday, March 25, 2006

Bale Count : 430 bales

Run Time : 22.8 hrs

Total Bale Weight : 224.8 tons

Max. Bale Weight : 1,602 lbs.

Min. Bale Weight : 698 lbs.

Average Bale Weight: 1,046 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 22%

Min. Bale Moisture : 2%

Average Feed Rate (during run time): 11.7 tons/hr ; 3.0 ft/min.

Max. Feed Rate (during run time): 24.2 tons/hr ; 6.4 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (*overall, incl. downtime*): 9.9 tons/hr ;
(Daily Tons / Daily Runhours)

Difference between Ave Feed Rates: 16% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 12,580 bales

Total Tons Processed (accepted) : 6,263

Average Bale Weight: 996 lbs./bale

Total System Processing Hours: 697.1 hours

Percent of Run-hour Goal: 35% of 2000 hour goal

Percent of Tonnage Goal: 25% of 25,000 ton goal

Estimated Power Generated : 7,847 MWh

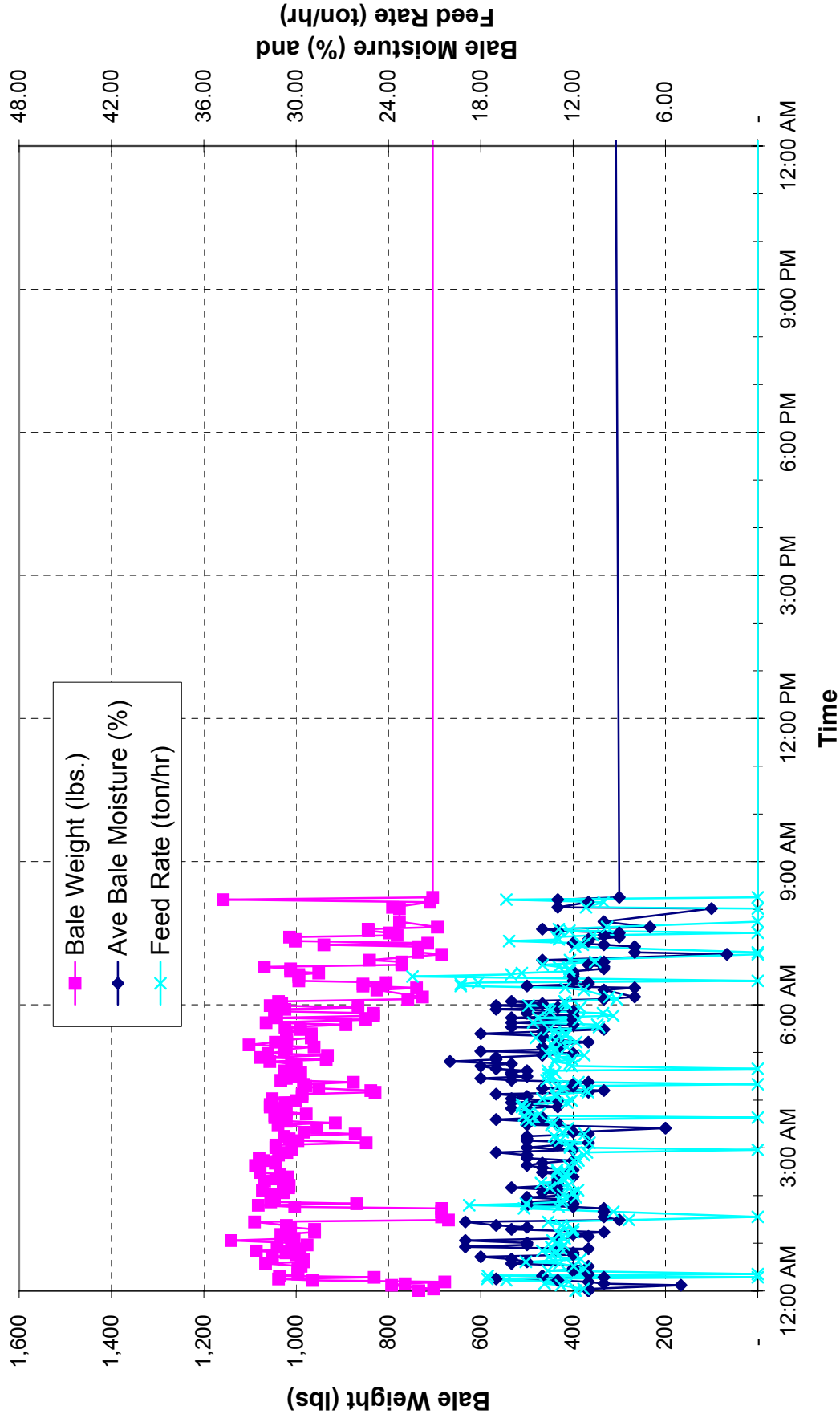
Time Remaining until May 12th Outage: 47 days

1,128 hours

Average Iowa Homes Powered for Full Year : 750 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (March 26, 2006)



Summary Statistics:

Date : Sunday, March 26, 2006

Bale Count : 170 bales

Run Time : 8.2 hrs

Total Bale Weight : 81.1 tons

Max. Bale Weight : 1,158 lbs.

Min. Bale Weight : 670 lbs.

Average Bale Weight: 954 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 20%

Min. Bale Moisture : 2%

Average Feed Rate (during run time): 11.8 tons/hr ; 3.3 ft/min.

Max. Feed Rate (during run time): 22.4 tons/hr ; 6.0 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (*overall, incl. downtime*): 9.8 tons/hr ;
(Daily Tons / Daily Runhours)

Difference between Ave Feed Rates: 17% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 12,748 bales

Total Tons Processed (accepted) : 6,343

Average Bale Weight: 995 lbs./bale

Total System Processing Hours: 705.4 hours

Percent of Run-hour Goal: 35% of 2000 hour goal

Percent of Tonnage Goal: 25% of 25,000 ton goal

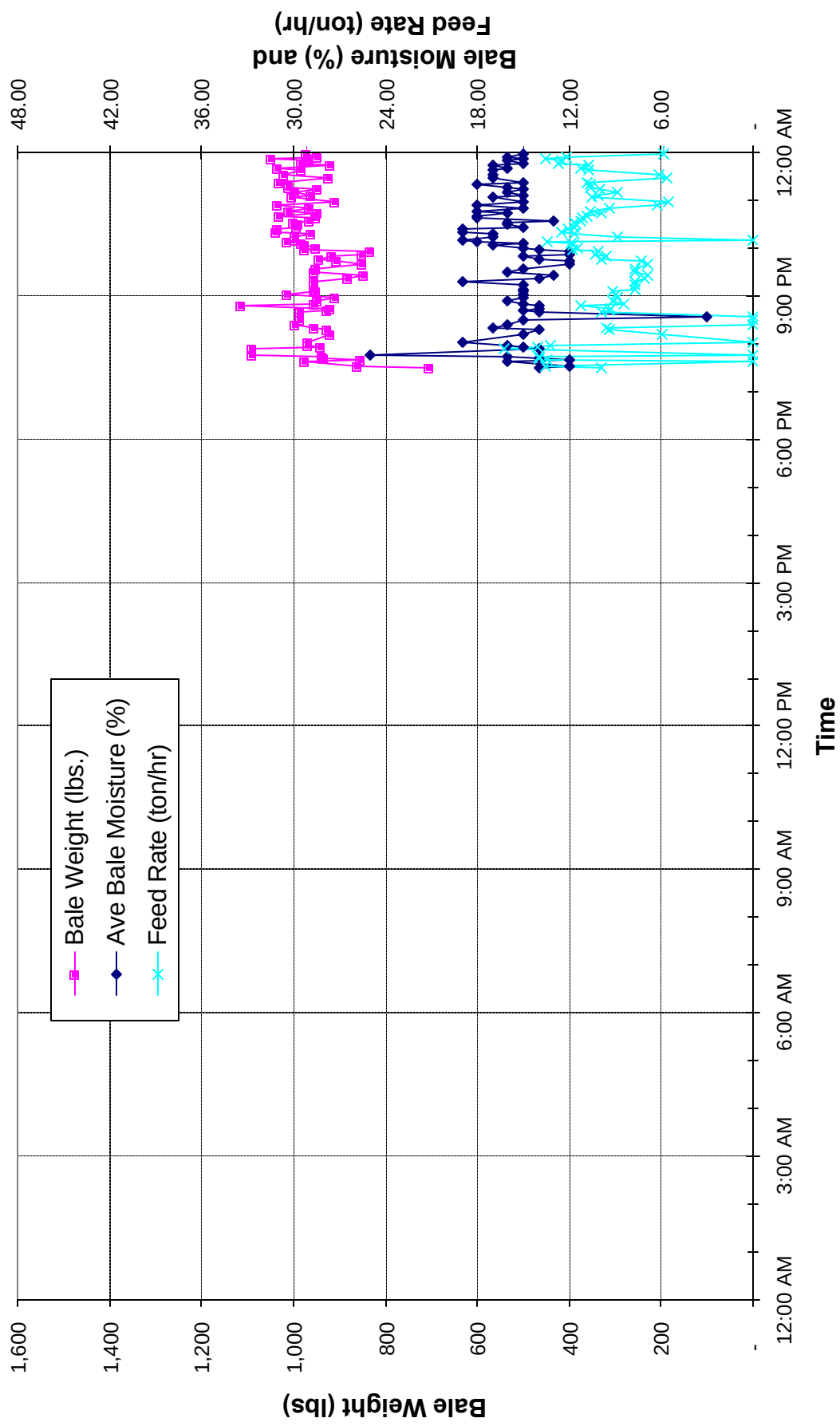
Estimated Power Generated : 7,948 MWh

Time Remaining until May 12th Outage: 46 days

1,104 hours

Average Iowa Homes Powered for Full Year : 760 average annual homes

CHARITON VALLEY BIOMASS PROJECT
Daily Switchgrass Processing Summary Chart (March 31, 2006)



Summary Statistics:

Date : Friday, March 31, 2006

Bale Count : 78 bales

Run Time : 4.3 hrs

Total Bale Weight : 37.5 tons

Max. Bale Weight : 1,114 lbs.

Min. Bale Weight : 704 lbs.

Average Bale Weight: 961 lbs.

Average Moisture Content: 16%

Max. Bale Moisture : 25%

Min. Bale Moisture : 3%

Average Feed Rate (during run time): 9.3 tons/hr ; 2.6 ft/min.

Max. Feed Rate (during run time): 16.3 tons/hr ; 4.2 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (overall, incl. downtime):	8.7 tons/hr ;
(Daily Tons / Daily Runhours)	

Difference between Ave Feed Rates: 6% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 12,826 bales

Total Tons Processed (accepted) : 6,379

Average Bale Weight: 995 lbs./bale

Total System Processing Hours: 709.7 hours

Percent of Run-hour Goal: 35% of 2000 hour goal

Percent of Tonnage Goal: 26% of 25,000 ton goal

Estimated Power Generated : 7,994 MWh

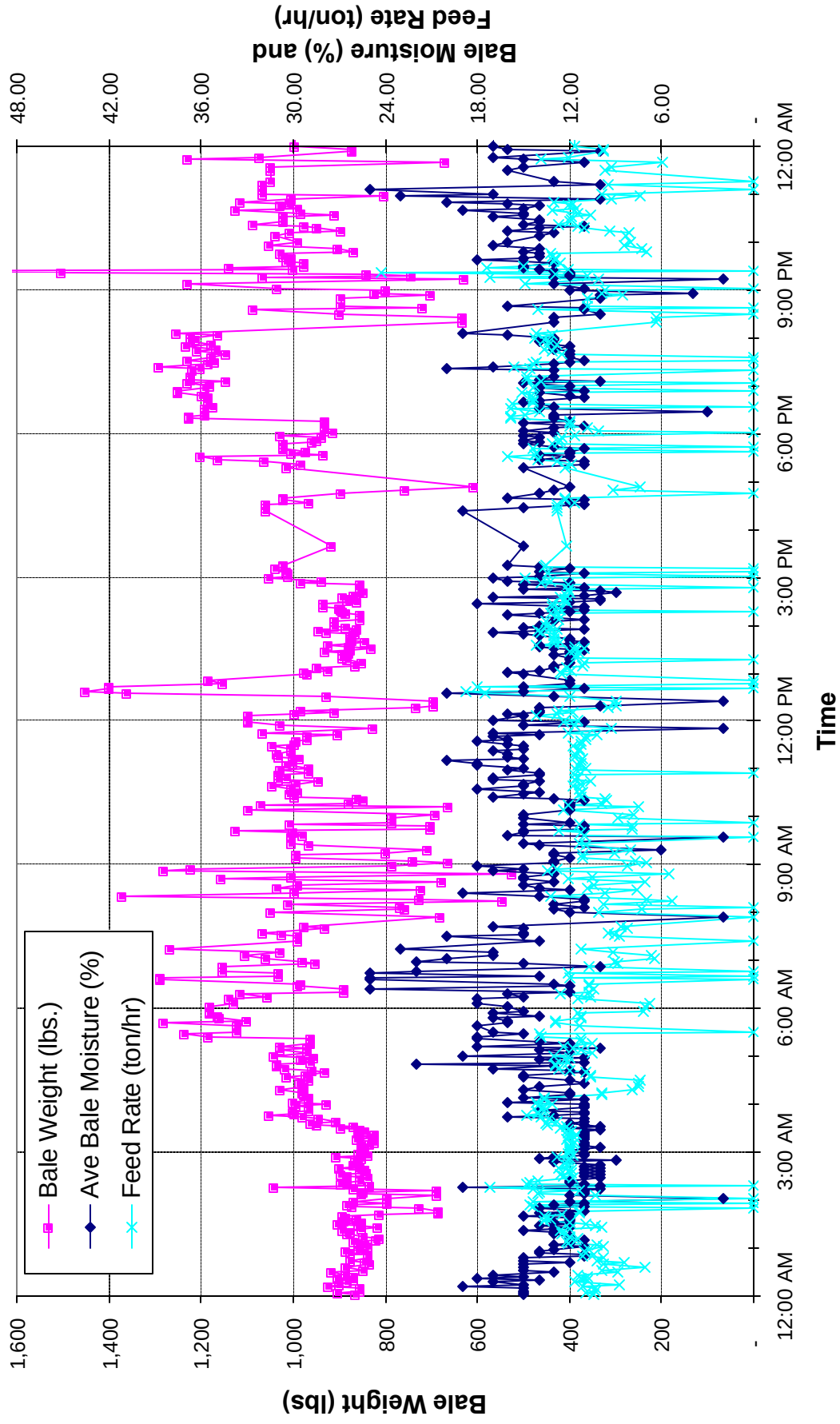
Time Remaining until May 12th Outage: 41 days

984 hours

Average Iowa Homes Powered for Full Year : 764 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 1, 2006)



Summary Statistics:

Date :	Saturday, April 01, 2006		
Bale Count :	440 bales		
Run Time :	21.8 hrs		
Total Bale Weight :	213.0 tons		
Max. Bale Weight :	1,912 lbs.		
Min. Bale Weight :	524 lbs.		
Average Bale Weight:	968 lbs.		
Average Moisture Content:	14%		
Max. Bale Moisture :	25%		
Min. Bale Moisture :	2%		
Average Feed Rate (during run time):	10.7 tons/hr ;	3.0 ft/min.	
Max. Feed Rate (during run time):	24.2 tons/hr ;	4.4 ft/min.	
Min. Feed Rate (during run time):	- tons/hr ;	- ft/min.	
Average Feed Rate (overall, incl. downtime):			
			9.8 tons/hr ;
(Daily Tons / Daily Runhours)			
Difference between Ave Feed Rates:	9% (Setpoint vs. Actual)		

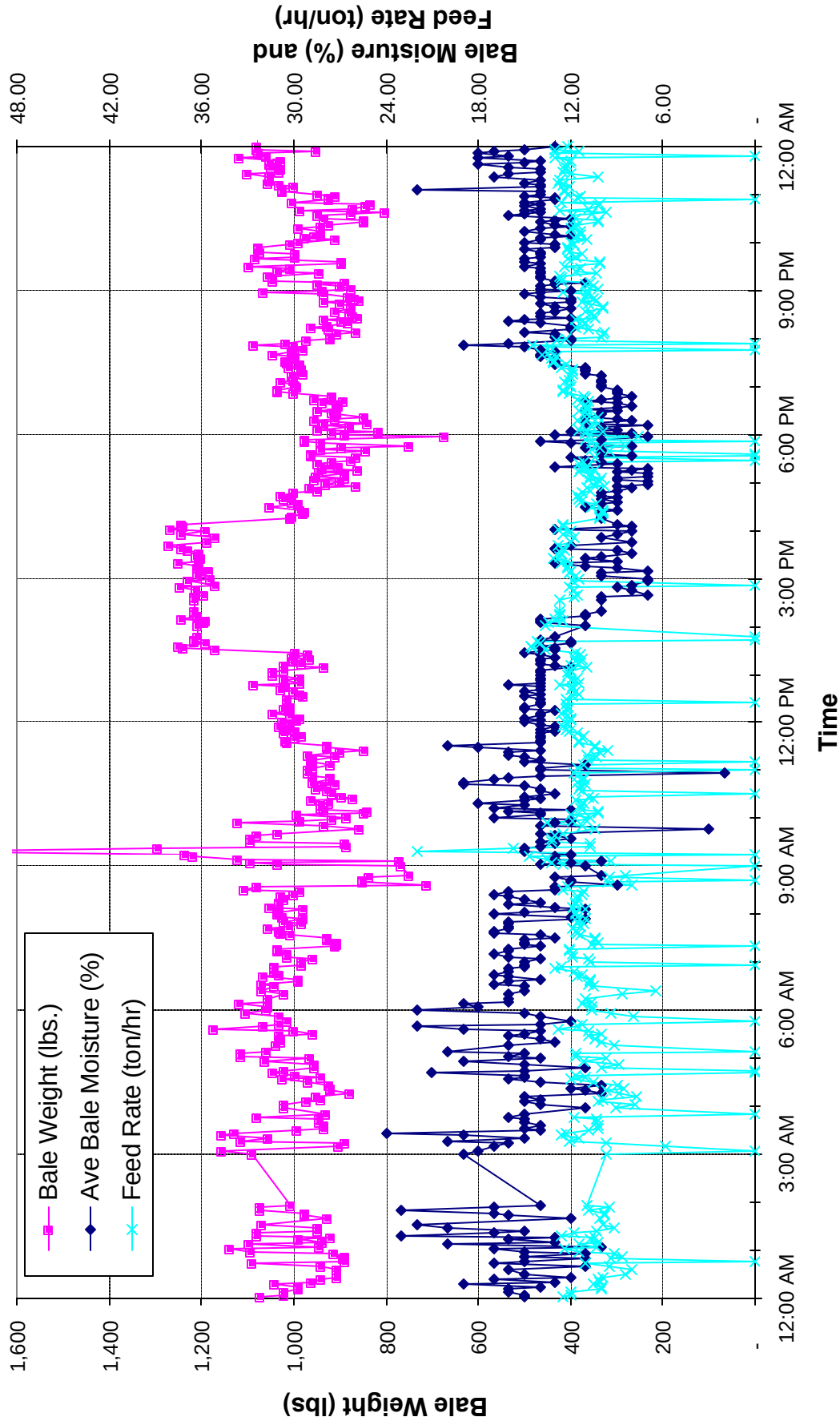
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	13,265 bales
Total Tons Processed (accepted) :	6,593
Average Bale Weight:	994 lbs./bale
Total System Processing Hours:	731.7 hours
Percent of Run-hour Goal:	37% of 2000 hour goal
Percent of Tonnage Goal:	26% of 25,000 ton goal
Estimated Power Generated :	8,261 MWh
Time Remaining until May 12th Outage:	40 days
	960 hours

Average Iowa Homes Powered for Full Year : 790 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 2, 2006)



Summary Statistics:

Date : Sunday, April 02, 2006

Bale Count : 445 bales

Run Time : 22.3 hrs

Total Bale Weight : 222.8 tons

Max. Bale Weight : 1,813 lbs.

Min. Bale Weight : 673 lbs.

Average Bale Weight: 1,001 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 24%

Min. Bale Moisture : 2%

Average Feed Rate (during run time): 10.6 tons/hr ; 2.8 ft/min.

Max. Feed Rate (during run time): 21.9 tons/hr ; 3.5 ft/min.

Min. Feed Rate (during run time): - tons/hr ; - ft/min.

Average Feed Rate (<i>overall, incl. downtime</i>):	10.0 tons/hr ;
(Daily Tons / Daily Runhours)	

Difference between Ave Feed Rates: 6% (Setpoint vs. Actual)

Overall Statistics (through midnight):

Total Bales Processed (accepted) : 13,709 bales

Total Tons Processed (accepted) : 6,815

Average Bale Weight: 994 lbs./bale

Total System Processing Hours: 756.2 hours

Percent of Run-hour Goal: 38% of 2000 hour goal

Percent of Tonnage Goal: 27% of 25,000 ton goal

Estimated Power Generated : 8,540 MWh

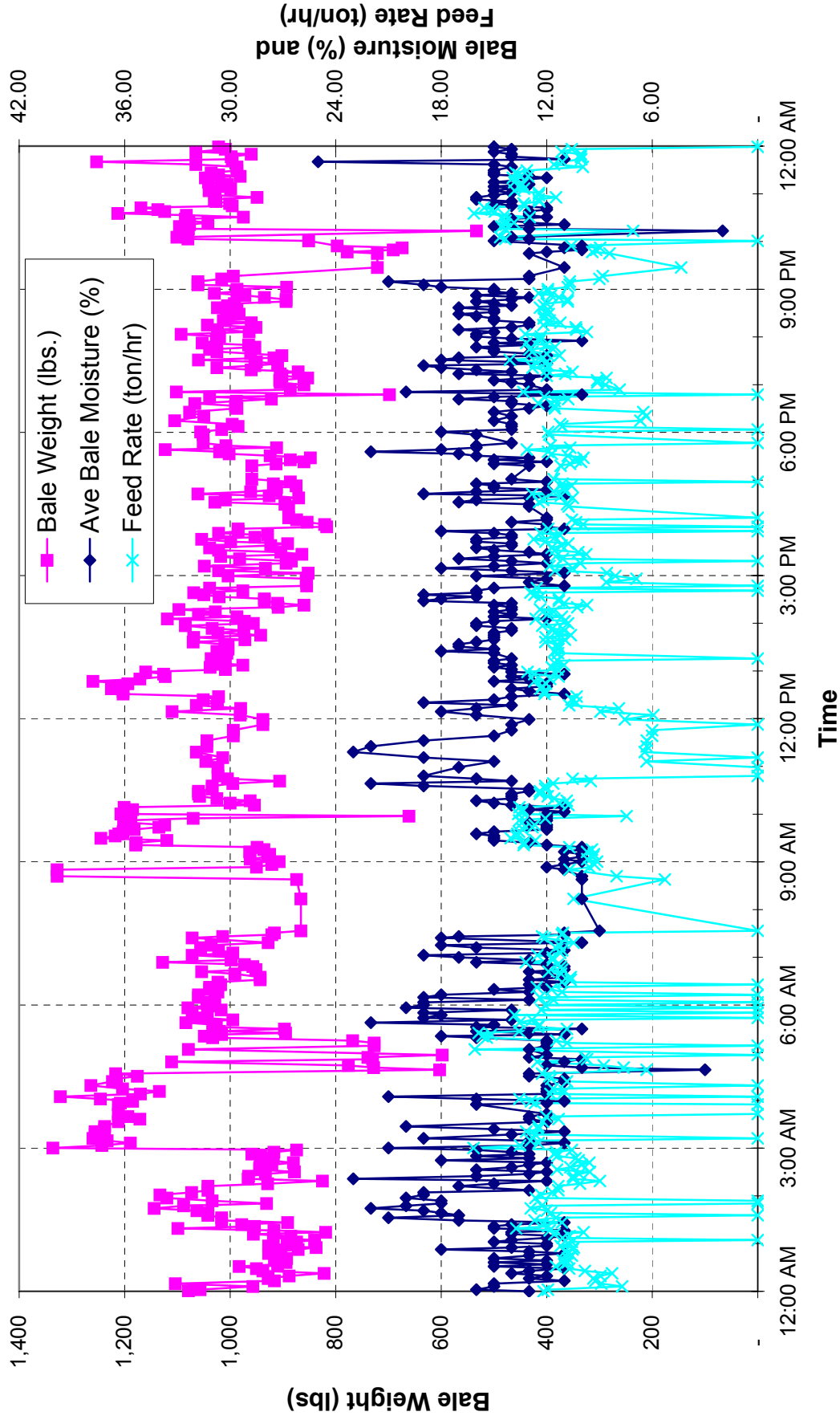
Time Remaining until May 12th Outage: 39 days

936 hours

Average Iowa Homes Powered for Full Year : 816 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 3, 2006)



Summary Statistics:

Date : Monday, April 03, 2006

Bale Count : 426 bales

Run Time : 21.4 hrs

Total Bale Weight : 213.6 tons

Max. Bale Weight : 1,336 lbs.

Min. Bale Weight : 533 lbs.

Average Bale Weight: 1,003 lbs.

Average Moisture Content: 14%

Max. Bale Moisture : 25%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 10.4 tons/hr ; 2.8 ft/min.

Max. Feed Rate (ten bale average): 14.6 tons/hr ; 4.7 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.0 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 4% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	8.9 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 15% Setpoint vs. Actual Overall

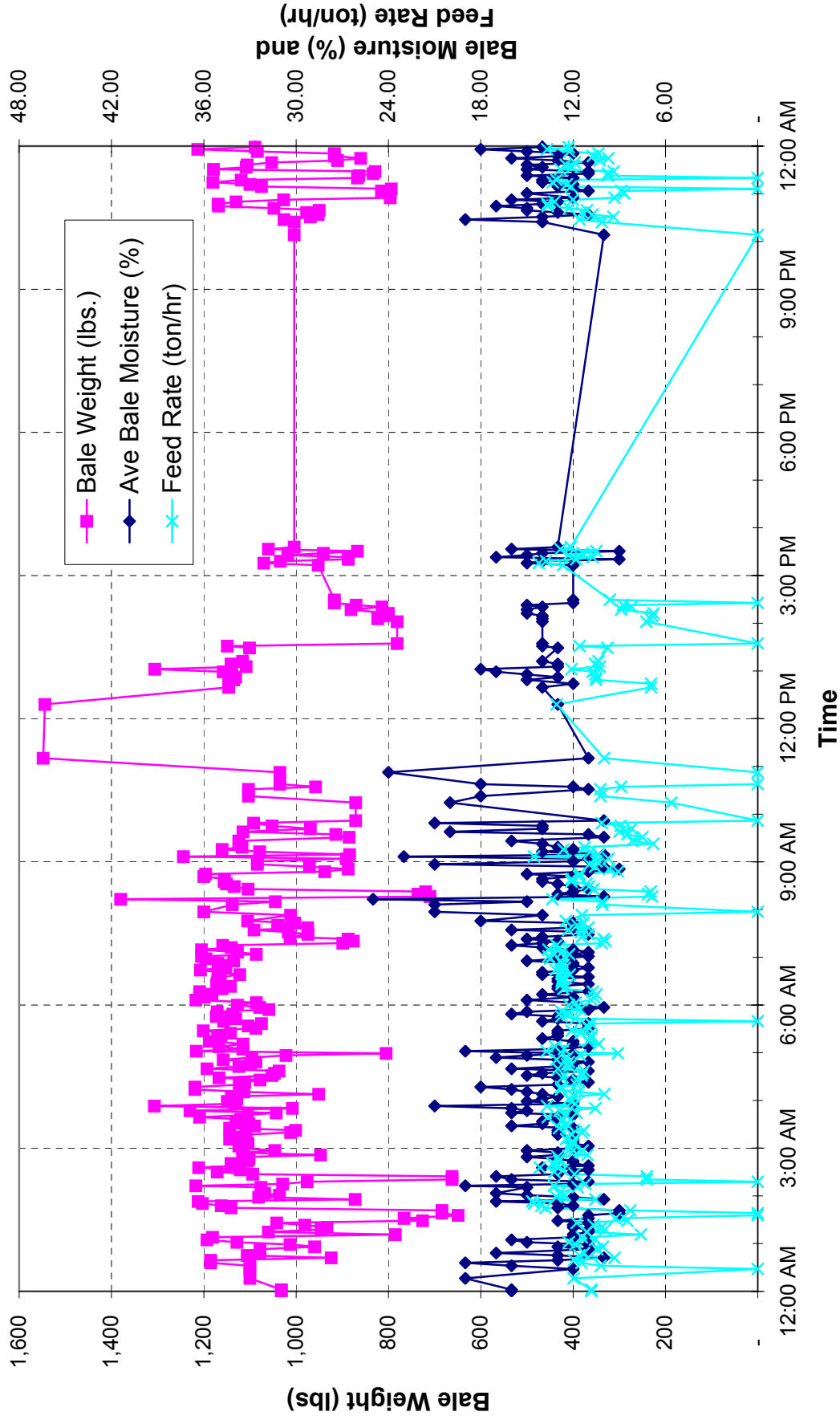
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	14,132 bales
Total Tons Processed (accepted) :	7,028
Average Bale Weight:	995 lbs./bale
Total System Processing Hours:	779.9 hours
Percent of Run-hour Goal (to date):	39% of 2000 hour goal
Percent of Tonnage Goal (to date):	28% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,931 tons
Projected % of Goal (by end of test burn)	60%
Estimated Power Generated :	8,806 MWh
Time Remaining until May 12th Outage:	38 days
	912 hours

Average Iowa Homes Powered for Full Year : 842 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 4, 2006)



Summary Statistics:

Date : Tuesday, April 04, 2006

Bale Count : 263 bales

Run Time : 12.9 hrs

Total Bale Weight : 139.2 tons

Max. Bale Weight : 1,548 lbs.

Min. Bale Weight : 649 lbs.

Average Bale Weight: 1,058 lbs.

Average Moisture Content: 14%

Max. Bale Moisture : 25%

Min. Bale Moisture : 9%

Average Feed Rate (as recorded for each bale): 10.7 tons/hr ; 2.7 ft/min.

Max. Feed Rate (ten bale average): 13.1 tons/hr ; 3.5 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.8 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: -1% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	5.8 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 46% Setpoint vs. Actual Overall

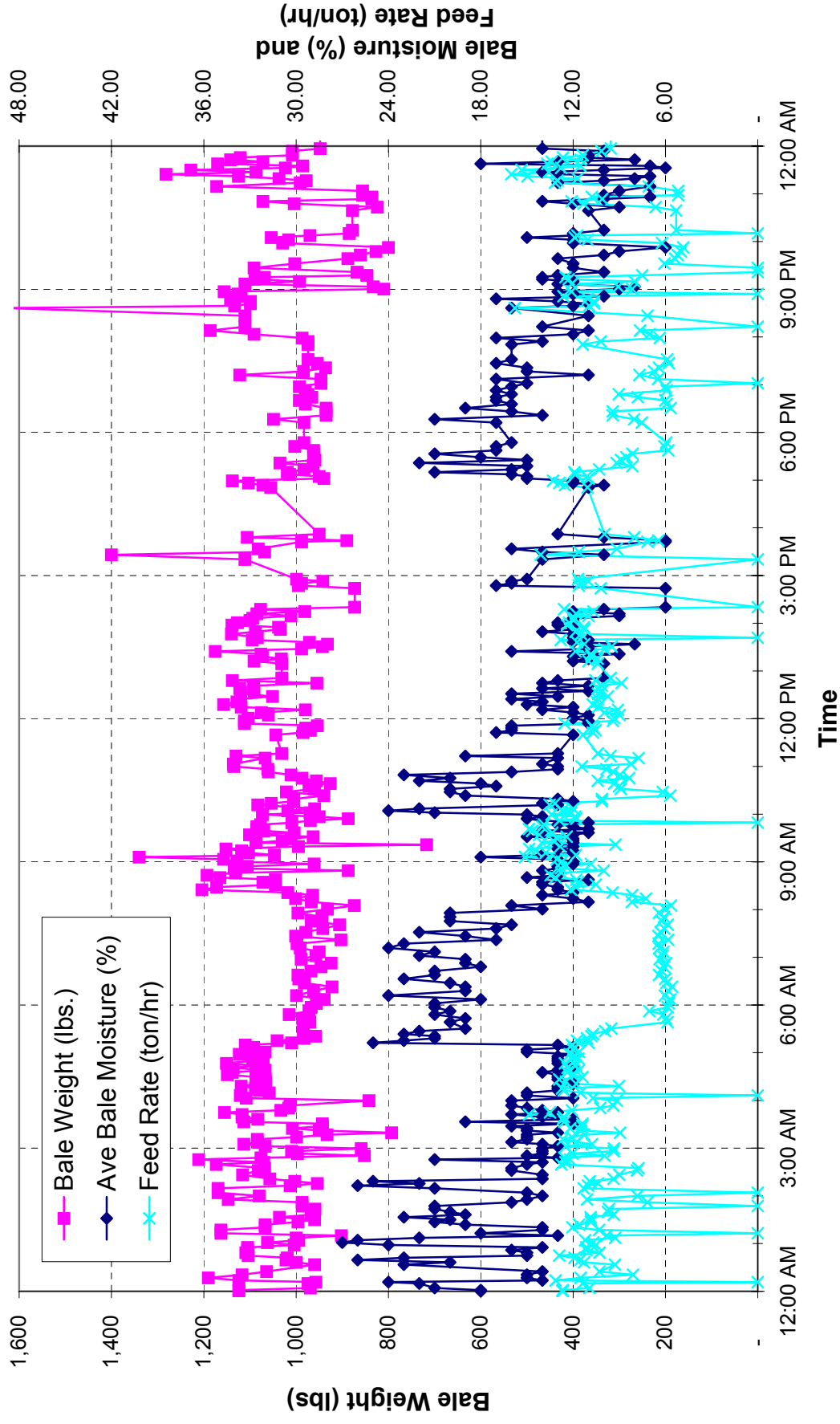
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	14,393 bales
Total Tons Processed (accepted) :	7,166
Average Bale Weight:	996 lbs./bale
Total System Processing Hours:	798.6 hours
Percent of Run-hour Goal (to date):	40% of 2000 hour goal
Percent of Tonnage Goal (to date):	29% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,794 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	8,979 MWh
Time Remaining until May 12th Outage:	37 days
	888 hours

Average Iowa Homes Powered for Full Year : 858 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 5, 2006)



Summary Statistics:

Date : Wednesday, April 05, 2006

Bale Count : 354 bales

Run Time : 20.2 hrs

Total Bale Weight : 182.5 tons

Max. Bale Weight : 1,631 lbs.

Min. Bale Weight : 717 lbs.

Average Bale Weight: 1,031 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 27%

Min. Bale Moisture : 6%

Average Feed Rate (as recorded for each bale): 9.8 tons/hr ; 2.5 ft/min.

Max. Feed Rate (ten bale average): 13.8 tons/hr ; 3.7 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.1 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 7% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	7.6 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 22% Setpoint vs. Actual Overall

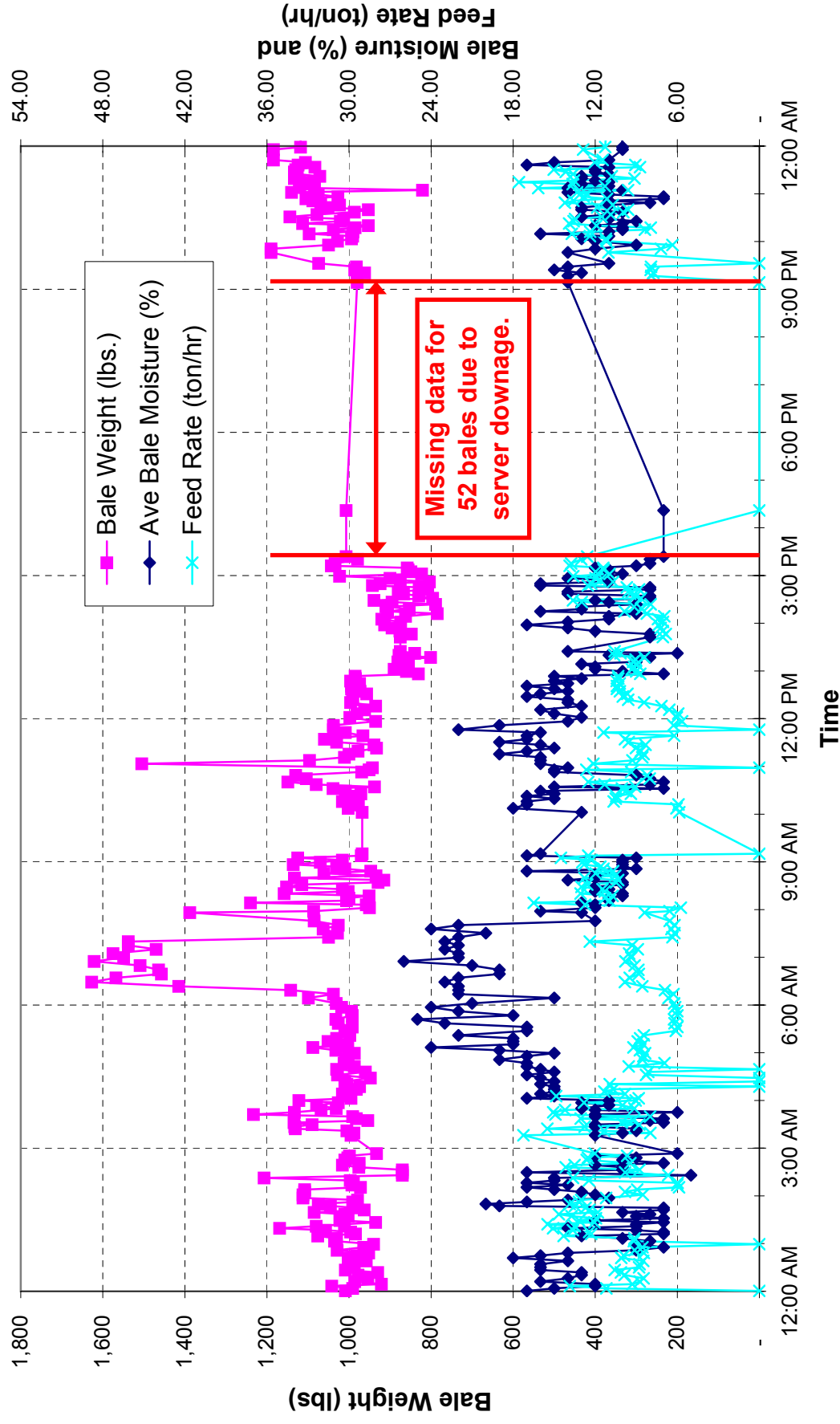
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	14,745 bales
Total Tons Processed (accepted) :	7,347
Average Bale Weight:	996 lbs./bale
Total System Processing Hours:	822.6 hours
Percent of Run-hour Goal (to date):	41% of 2000 hour goal
Percent of Tonnage Goal (to date):	29% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,754 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	9,206 MWh
Time Remaining until May 12th Outage:	36 days
	864 hours

Average Iowa Homes Powered for Full Year : 880 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 6, 2006)



Summary Statistics:

Date : Thursday, April 06, 2006

Bale Count : 348 bales

Run Time : 16.1 hrs

Total Bale Weight : 178.0 tons

Max. Bale Weight : 1,627 lbs.

Min. Bale Weight : 785 lbs.

Average Bale Weight: 1,027 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 26%

Min. Bale Moisture : 5%

Average Feed Rate (as recorded for each bale): 9.8 tons/hr ; 2.6 ft/min.

Max. Feed Rate (ten bale average): 13.6 tons/hr ; 4.6 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.1 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: -13% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	7.4 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 24% Setpoint vs. Actual Overall

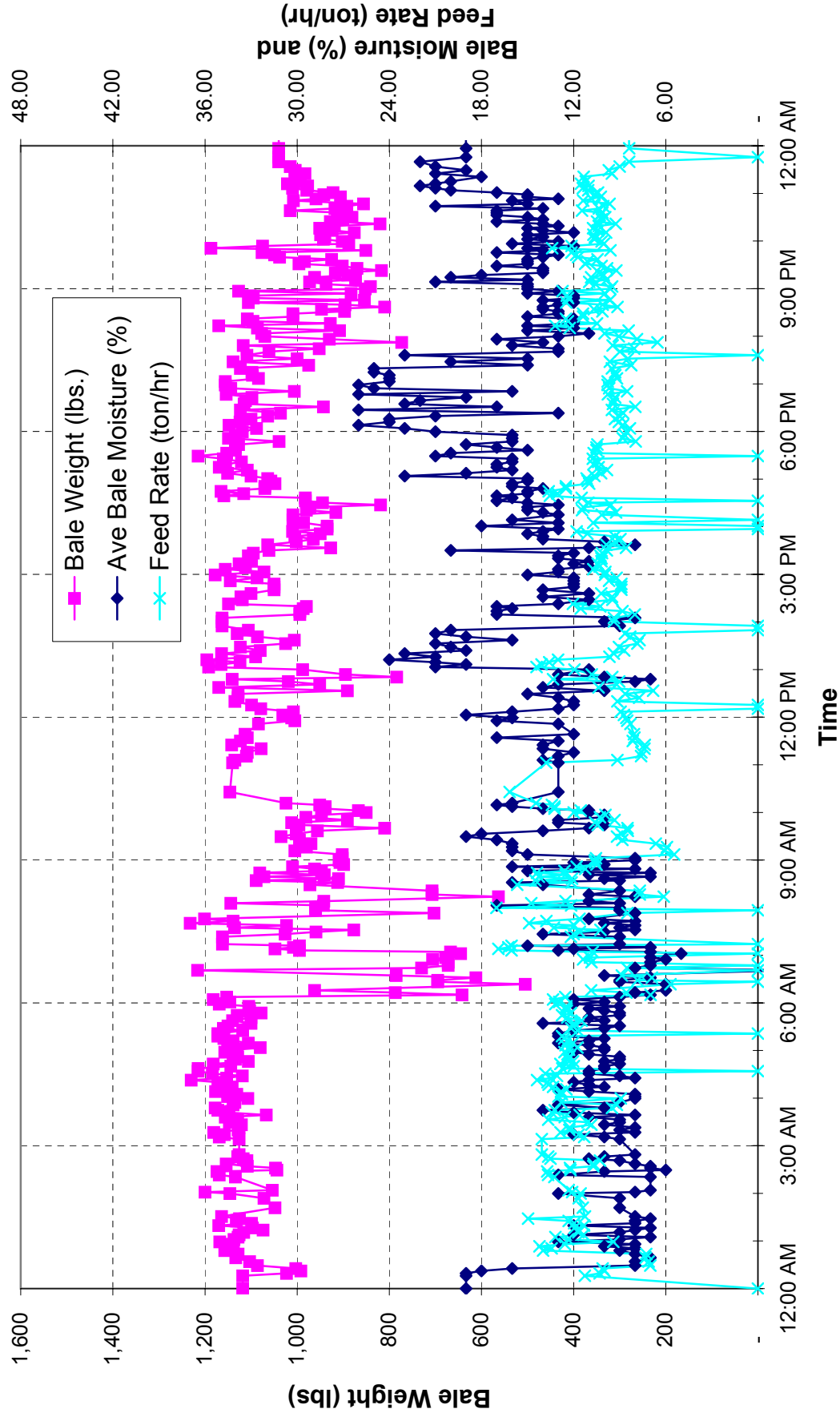
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	15,094 bales
Total Tons Processed (accepted) :	7,526
Average Bale Weight:	997 lbs./bale
Total System Processing Hours:	845.1 hours
Percent of Run-hour Goal (to date):	42% of 2000 hour goal
Percent of Tonnage Goal (to date):	30% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,711 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	9,430 MWh
Time Remaining until May 12th Outage:	35 days
	840 hours

Average Iowa Homes Powered for Full Year : 902 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 7, 2006)



Summary Statistics:

Date : Friday, April 07, 2006

Bale Count : 390 bales

Run Time : 21.5 hrs

Total Bale Weight : 202.3 tons

Max. Bale Weight : 1,232 lbs.

Min. Bale Weight : 505 lbs.

Average Bale Weight: 1,037 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 26%

Min. Bale Moisture : 0%

Average Feed Rate (as recorded for each bale): 10.3 tons/hr ; 2.7 ft/min.

Max. Feed Rate (ten bale average): 13.4 tons/hr ; 4.7 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.4 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 8% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	8.4 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 18% Setpoint vs. Actual Overall

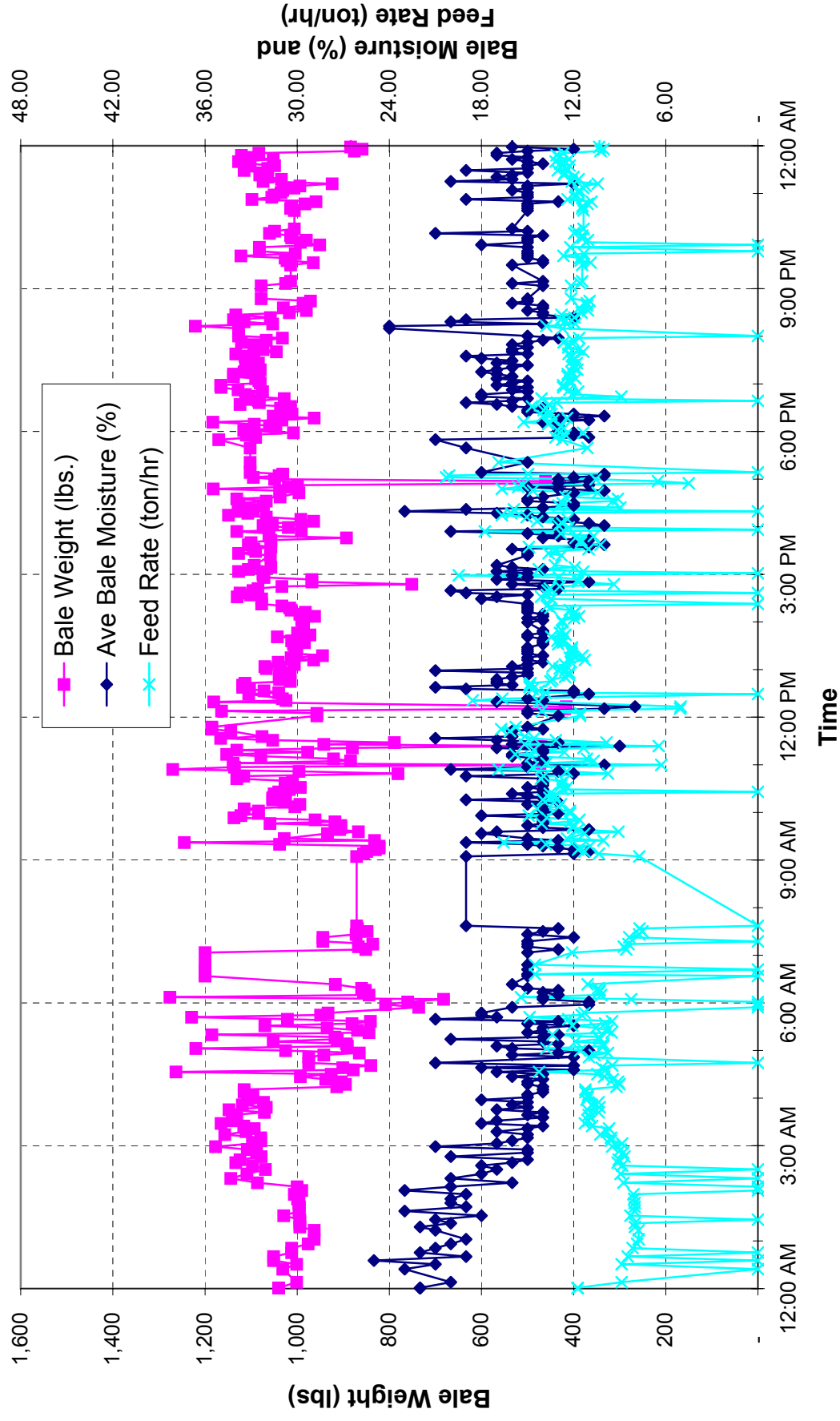
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	15,482 bales
Total Tons Processed (accepted) :	7,727
Average Bale Weight:	998 lbs./bale
Total System Processing Hours:	868.7 hours
Percent of Run-hour Goal (to date):	43% of 2000 hour goal
Percent of Tonnage Goal (to date):	31% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,714 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	9,682 MWh
Time Remaining until May 12th Outage:	34 days
	816 hours

Average Iowa Homes Powered for Full Year : 926 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 8, 2006)



Summary Statistics:

Date : Saturday, April 08, 2006

Bale Count : 394 bales

Run Time : 19.3 hrs

Total Bale Weight : 201.9 tons

Max. Bale Weight : 1,276 lbs.

Min. Bale Weight : 416 lbs.

Average Bale Weight: 1,025 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 25%

Min. Bale Moisture : 8%

Average Feed Rate (as recorded for each bale): 11.0 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 14.0 tons/hr ; 5.2 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.4 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 6% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	8.4 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 24% Setpoint vs. Actual Overall

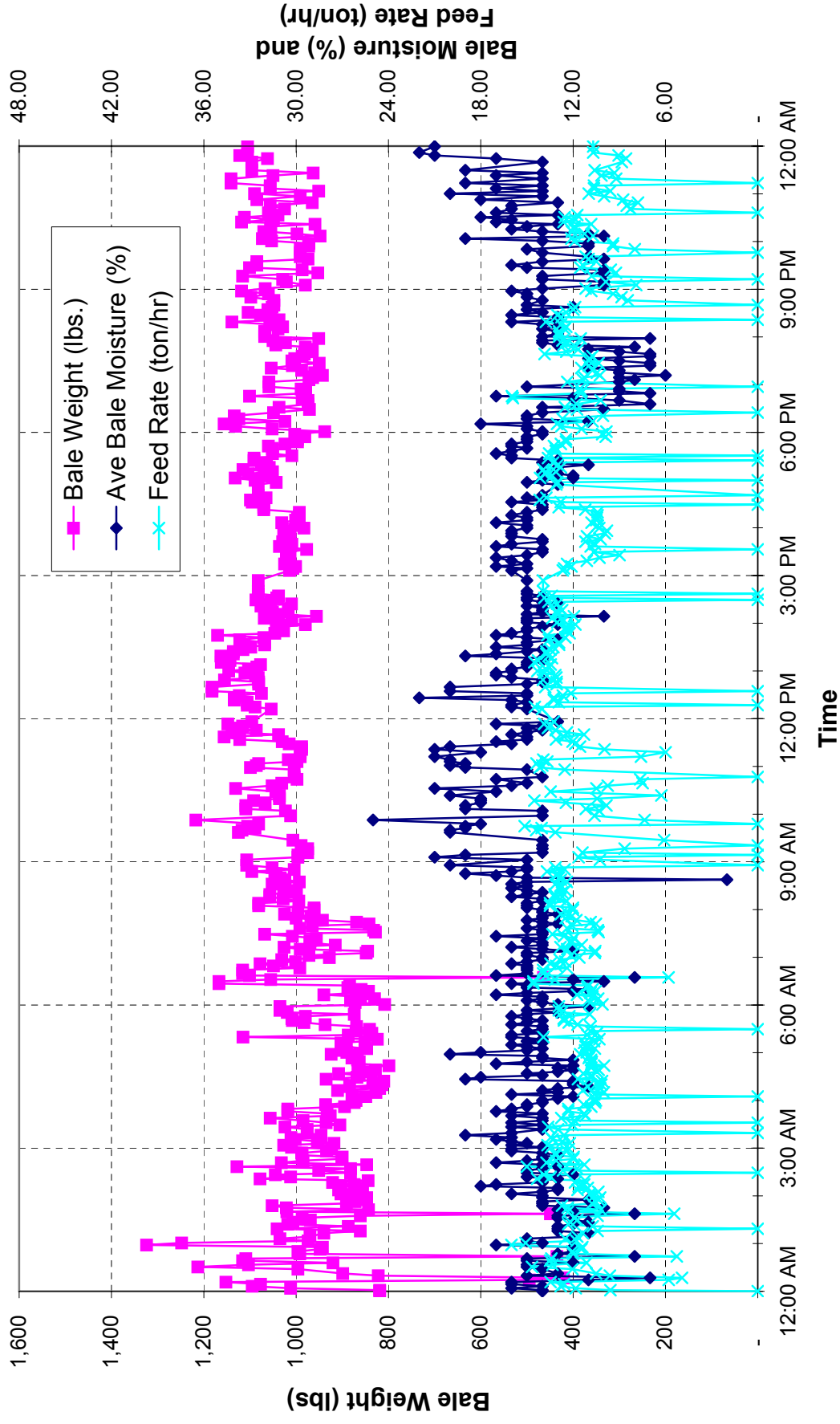
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	15,874 bales
Total Tons Processed (accepted) :	7,928
Average Bale Weight:	999 lbs./bale
Total System Processing Hours:	891.3 hours
Percent of Run-hour Goal (to date):	45% of 2000 hour goal
Percent of Tonnage Goal (to date):	32% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,717 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	9,934 MWh
Time Remaining until May 12th Outage:	33 days
	792 hours

Average Iowa Homes Powered for Full Year : 950 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 9, 2006)



Summary Statistics:

Date : Sunday, April 09, 2006

Bale Count : 467 bales

Run Time : 22.9 hrs

Total Bale Weight : 234.4 tons

Max. Bale Weight : 1,324 lbs.

Min. Bale Weight : 421 lbs.

Average Bale Weight: 1,004 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 25%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 11.0 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 13.9 tons/hr ; 4.3 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.2 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 7% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.8 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 12% Setpoint vs. Actual Overall

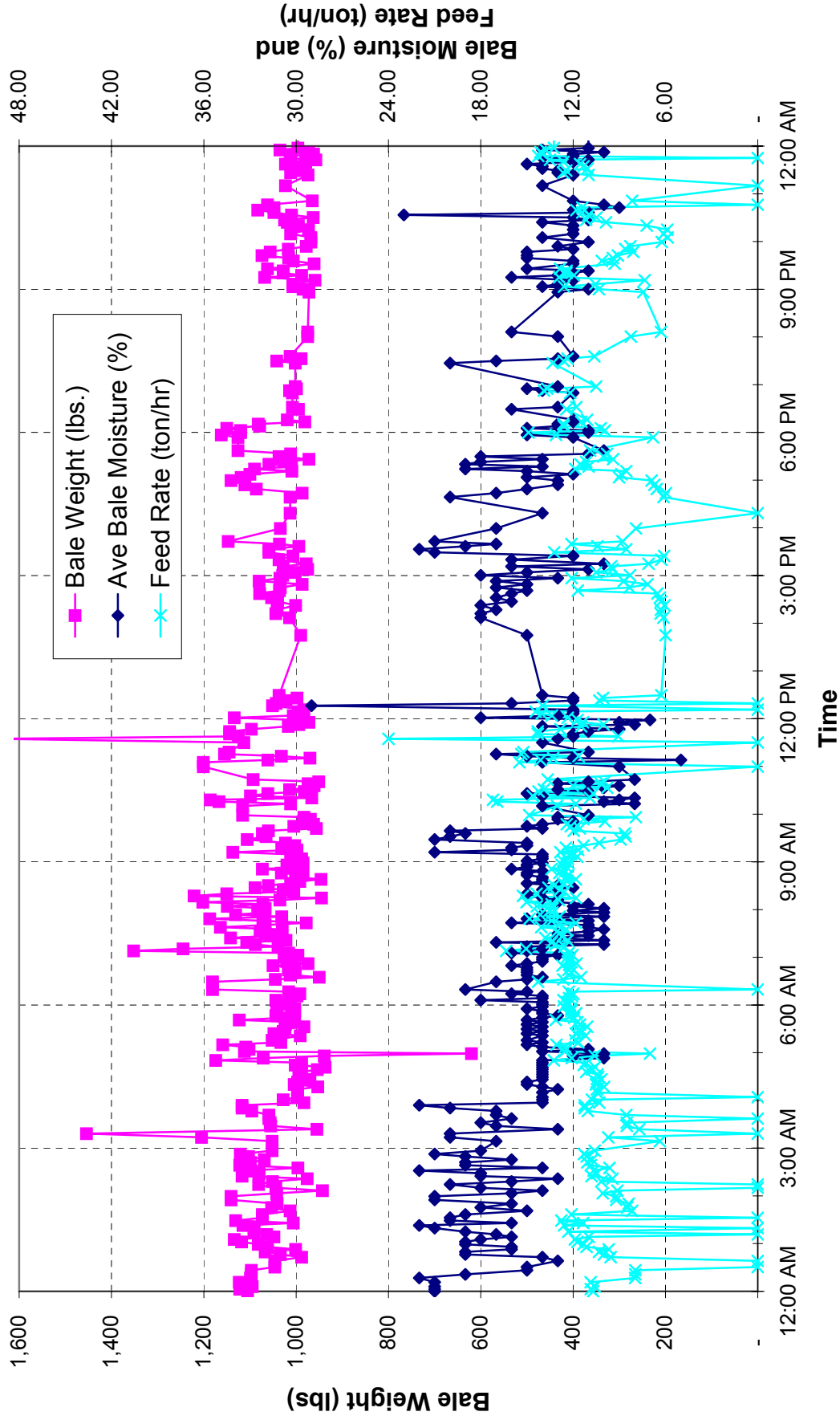
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	16,339 bales
Total Tons Processed (accepted) :	8,162
Average Bale Weight:	999 lbs./bale
Total System Processing Hours:	915.1 hours
Percent of Run-hour Goal (to date):	46% of 2000 hour goal
Percent of Tonnage Goal (to date):	33% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,780 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	10,227 MWh
Time Remaining until May 12th Outage:	32 days
	768 hours

Average Iowa Homes Powered for Full Year : 978 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 10, 2006)



Summary Statistics:

Date :	Monday, April 10, 2006		
Bale Count :	335	bales	
Run Time :	17.5	hrs	
Total Bale Weight :	175.0	tons	
Max. Bale Weight :	1,654	lbs.	
Min. Bale Weight :	620	lbs.	
Average Bale Weight:	1,045	lbs.	
Average Moisture Content:	15%		
Max. Bale Moisture :	29%		
Min. Bale Moisture :	5%		
Average Feed Rate (as recorded for each bale):	10.6	tons/hr ;	2.7 ft/min.
Max. Feed Rate (ten bale average):	13.8	tons/hr ;	3.9 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.0	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	5%	Setpoint vs. Actual During Run Hours	
Overall Avg. Feed Rate:	7.3	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	31%	Setpoint vs. Actual Overall	

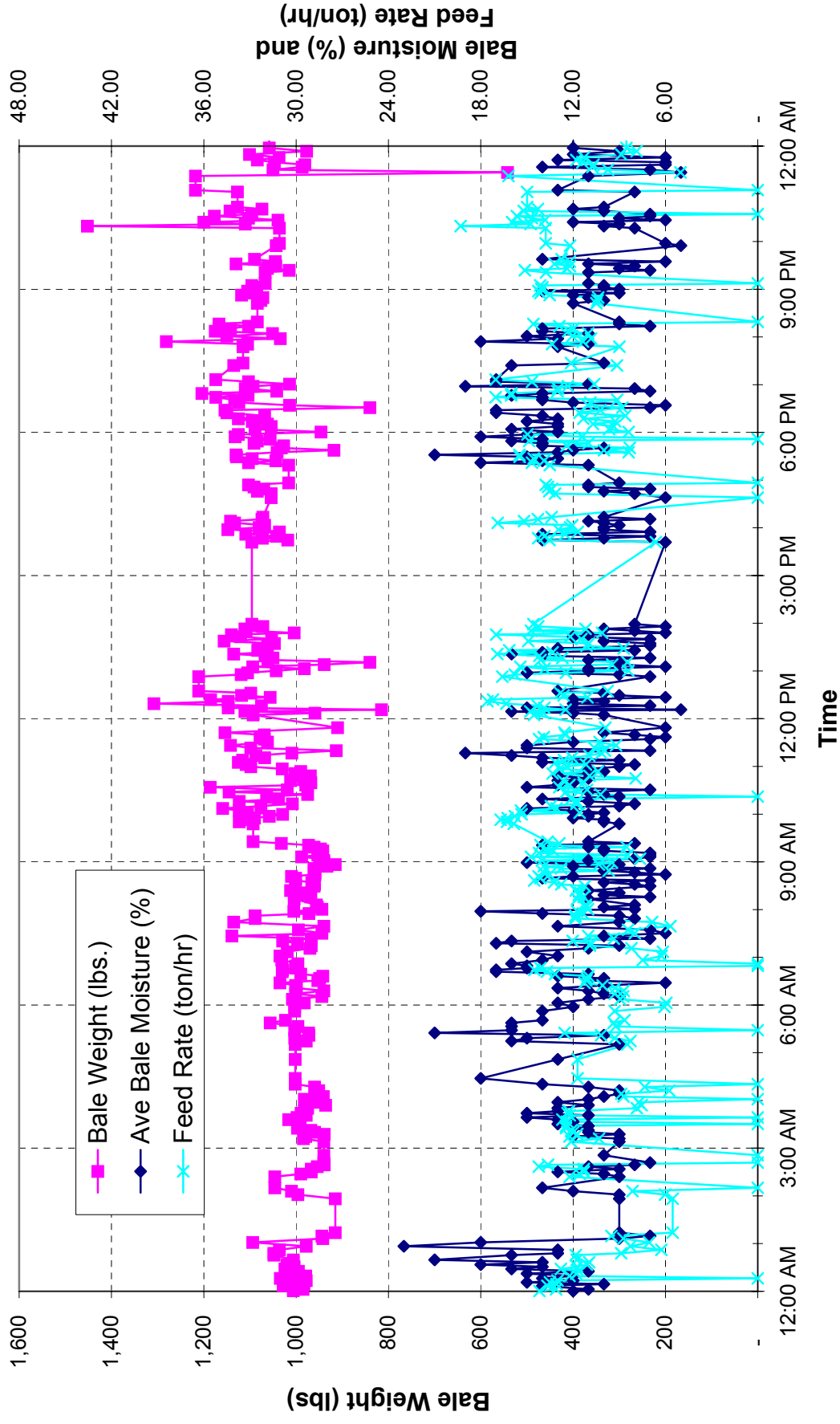
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	16,672	bales
Total Tons Processed (accepted) :	8,336	
Average Bale Weight:	1,000	lbs./bale
Total System Processing Hours:	939.0	hours
Percent of Run-hour Goal (to date):	47%	of 2000 hour goal
Percent of Tonnage Goal (to date):	33%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,732	tons
Projected % of Goal (by end of test burn)	59%	
Estimated Power Generated :	10,445	MWh
Time Remaining until May 12th Outage:	31	days
	744	hours

Average Iowa Homes Powered for Full Year : 999 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 11, 2006)



Summary Statistics:

Date : Tuesday, April 11, 2006

Bale Count : 333 bales

Run Time : 16.0 hrs

Total Bale Weight : 173.4 tons

Max. Bale Weight : 1,452 lbs.

Min. Bale Weight : 542 lbs.

Average Bale Weight: 1,042 lbs.

Average Moisture Content: 11%

Max. Bale Moisture : 23%

Min. Bale Moisture : 5%

Average Feed Rate (as recorded for each bale): 11.2 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 15.0 tons/hr ; 4.1 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.9 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 3% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	7.2 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 36% Setpoint vs. Actual Overall

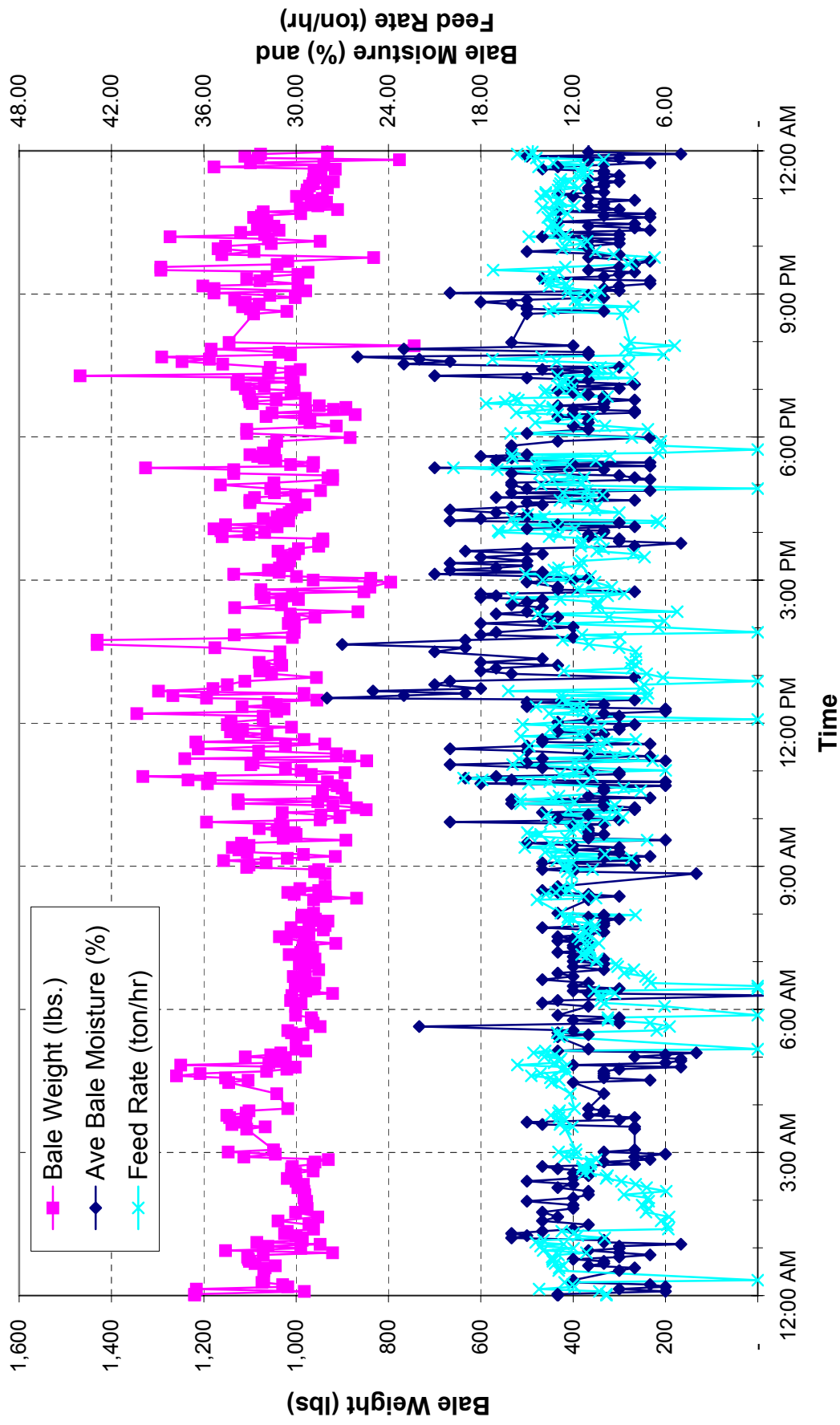
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	17,004 bales
Total Tons Processed (accepted) :	8,508
Average Bale Weight:	1,001 lbs./bale
Total System Processing Hours:	963.0 hours
Percent of Run-hour Goal (to date):	48% of 2000 hour goal
Percent of Tonnage Goal (to date):	34% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,683 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	10,661 MWh
Time Remaining until May 12th Outage:	30 days
	720 hours

Average Iowa Homes Powered for Full Year : 1,019 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 12, 2006)



Summary Statistics:

Date : Wednesday, April 12, 2006

Bale Count : 426 bales

Run Time : 21.2 hrs

Total Bale Weight : 221.0 tons

Max. Bale Weight : 1,468 lbs.

Min. Bale Weight : 744 lbs.

Average Bale Weight: 1,038 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 28%

Min. Bale Moisture : 0%

Average Feed Rate (as recorded for each bale): 11.3 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 15.0 tons/hr ; 4.3 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.4 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 8% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.2 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 19% Setpoint vs. Actual Overall

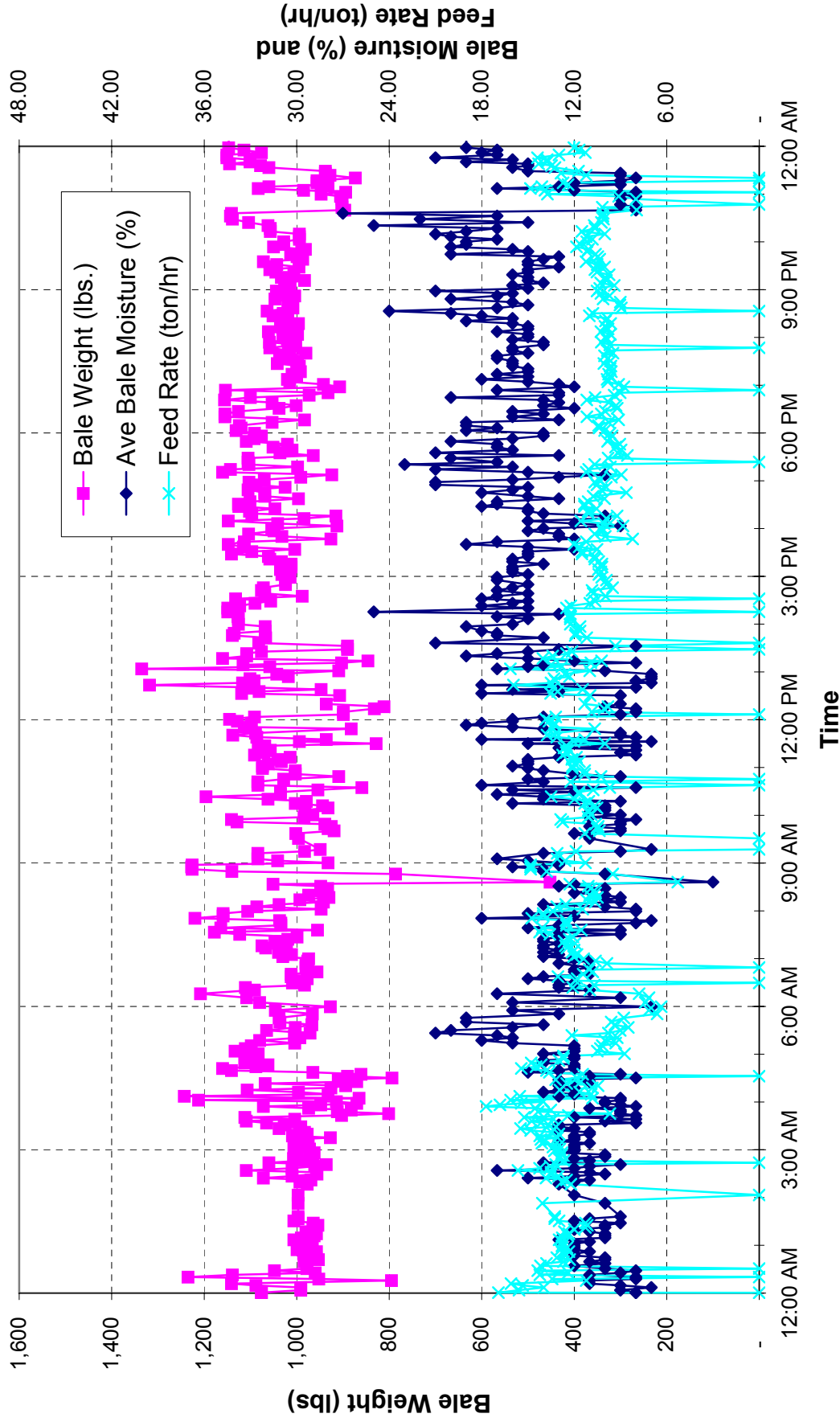
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	17,428 bales
Total Tons Processed (accepted) :	8,728
Average Bale Weight:	1,002 lbs./bale
Total System Processing Hours:	986.5 hours
Percent of Run-hour Goal (to date):	49% of 2000 hour goal
Percent of Tonnage Goal (to date):	35% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,719 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	10,936 MWh
Time Remaining until May 12th Outage:	29 days
	696 hours

Average Iowa Homes Powered for Full Year : 1,046 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 13, 2006)



Summary Statistics:

Date :	Thursday, April 13, 2006		
Bale Count :	455	bales	
Run Time :	22.7	hrs	
Total Bale Weight :	233.6	tons	
Max. Bale Weight :	1,335	lbs.	
Min. Bale Weight :	452	lbs.	
Average Bale Weight:	1,027	lbs.	
Average Moisture Content:	14%		
Max. Bale Moisture :	27%		
Min. Bale Moisture :	3%		
Average Feed Rate (as recorded for each bale):	10.9	tons/hr ;	2.8 ft/min.
Max. Feed Rate (ten bale average):	14.9	tons/hr ;	4.7 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.3	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	6%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	9.7	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	11%	Setpoint vs.	Actual Overall

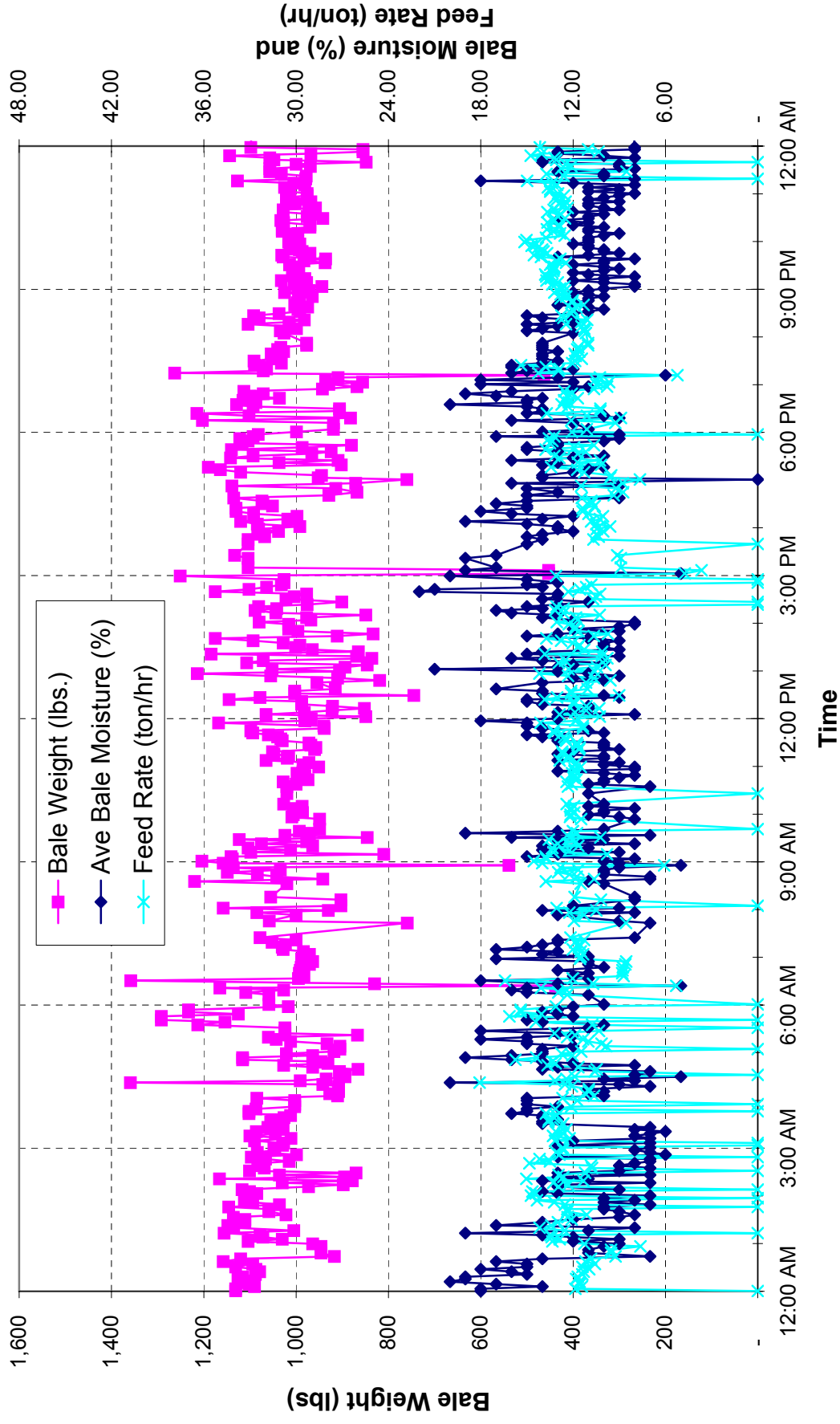
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	17,881	bales
Total Tons Processed (accepted) :	8,961	
Average Bale Weight:	1,002	lbs./bale
Total System Processing Hours:	1,010.5	hours
Percent of Run-hour Goal (to date):	51%	of 2000 hour goal
Percent of Tonnage Goal (to date):	36%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,775	tons
Projected % of Goal (by end of test burn)	59%	
Estimated Power Generated :	11,228	MWh
Time Remaining until May 12th Outage:	28	days
	672	hours

Average Iowa Homes Powered for Full Year : 1,073 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 14, 2006)



Summary Statistics:

Date : Friday, April 14, 2006

Bale Count : 463 bales

Run Time : 22.1 hrs

Total Bale Weight : 235.5 tons

Max. Bale Weight : 1,359 lbs.

Min. Bale Weight : 438 lbs.

Average Bale Weight: 1,017 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 22%

Min. Bale Moisture : 0%

Average Feed Rate (as recorded for each bale): 11.3 tons/hr ; 3.0 ft/min.

Max. Feed Rate (ten bale average): 14.4 tons/hr ; 4.0 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.6 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 6% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.8 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 13% Setpoint vs. Actual Overall

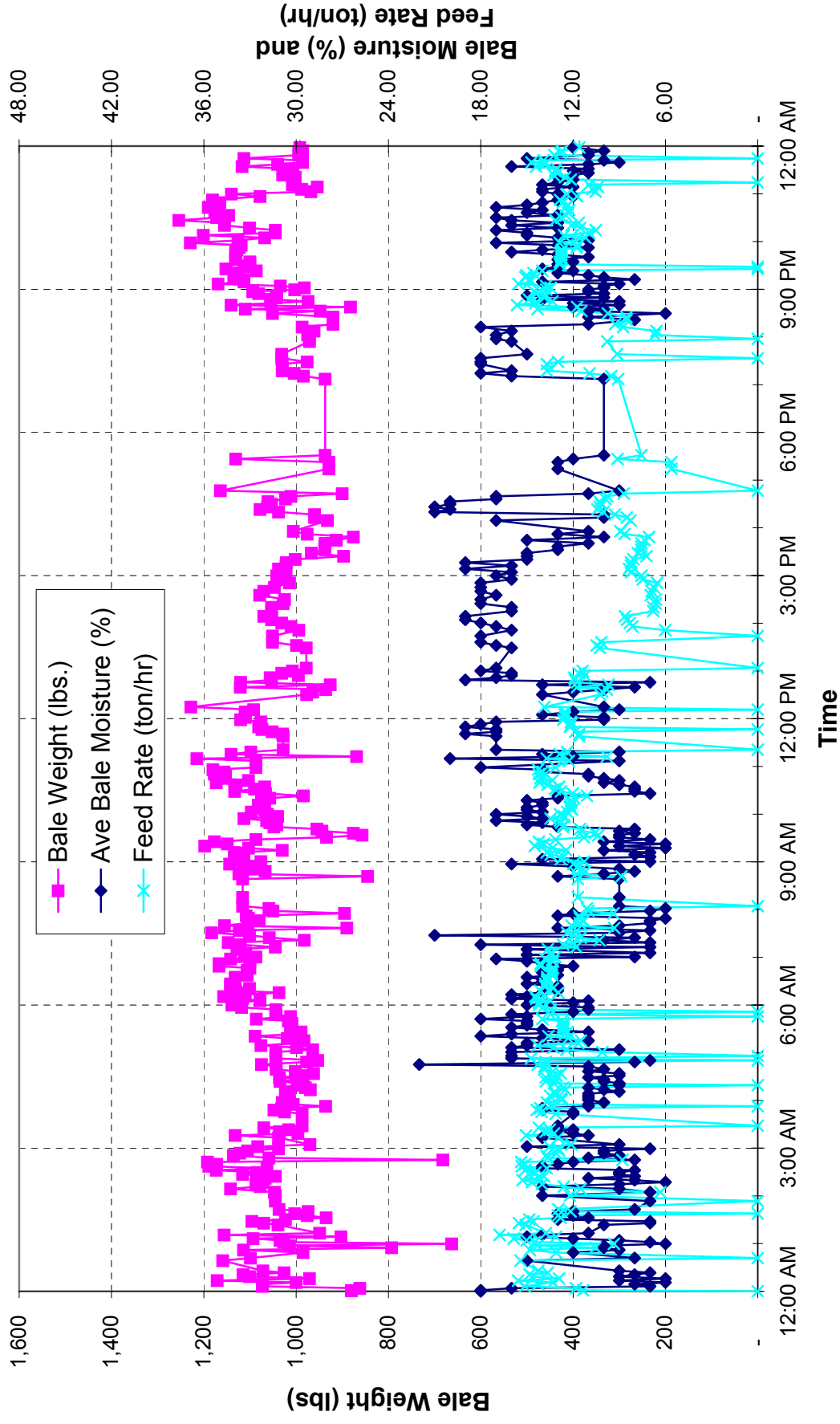
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	18,342 bales
Total Tons Processed (accepted) :	9,195
Average Bale Weight:	1,003 lbs./bale
Total System Processing Hours:	1,034.5 hours
Percent of Run-hour Goal (to date):	52% of 2000 hour goal
Percent of Tonnage Goal (to date):	37% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,829 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	11,522 MWh
Time Remaining until May 12th Outage:	27 days
	648 hours

Average Iowa Homes Powered for Full Year : 1,101 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 15, 2006)



Summary Statistics:

Date : Saturday, April 15, 2006

Bale Count : 382 bales

Run Time : 19.1 hrs

Total Bale Weight : 200.9 tons

Max. Bale Weight : 1,254 lbs.

Min. Bale Weight : 663 lbs.

Average Bale Weight: 1,052 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 22%

Min. Bale Moisture : 6%

Average Feed Rate (as recorded for each bale): 11.4 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 14.9 tons/hr ; 4.0 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.5 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 8% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	8.4 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 27% Setpoint vs. Actual Overall

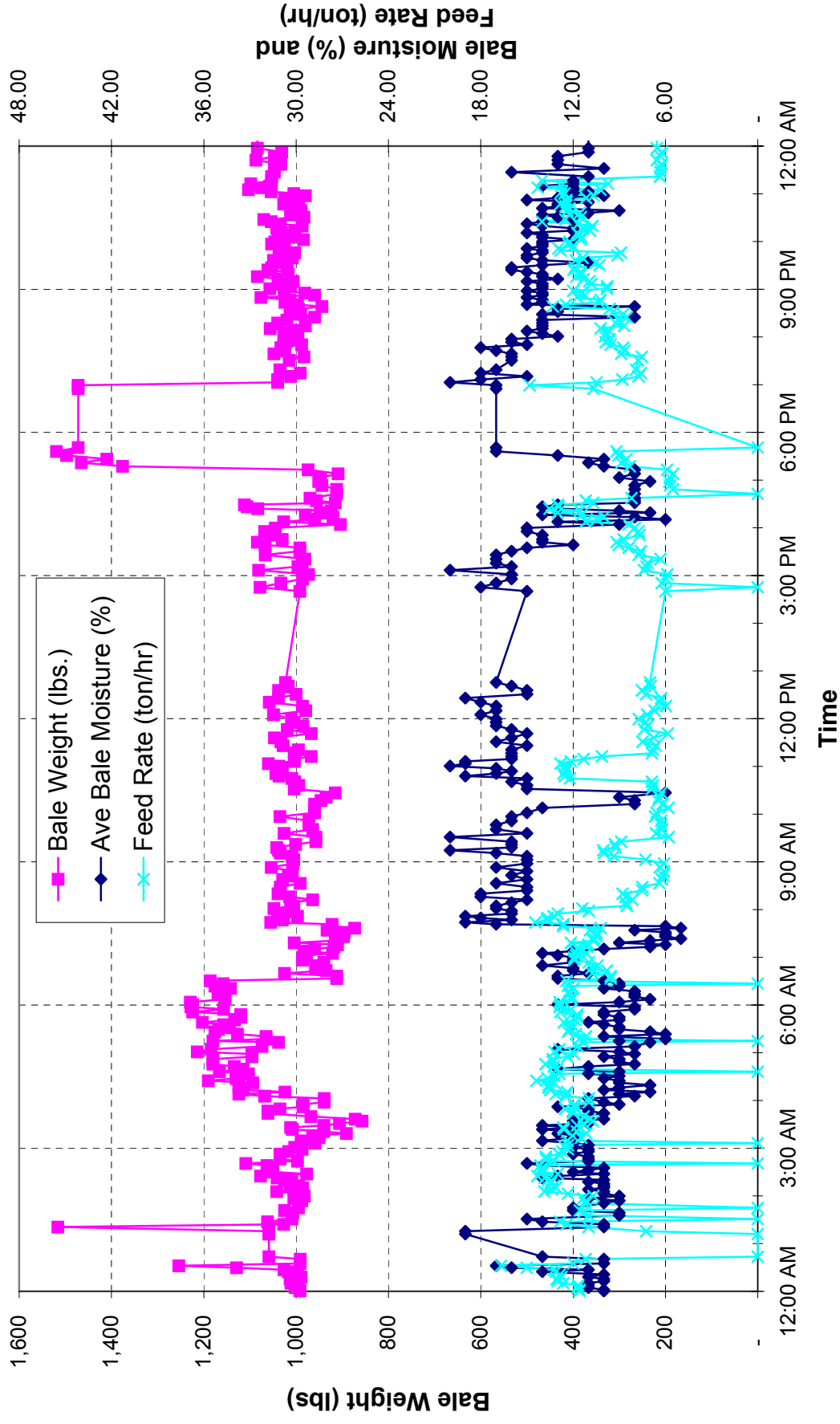
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	18,722 bales
Total Tons Processed (accepted) :	9,395
Average Bale Weight:	1,004 lbs./bale
Total System Processing Hours:	1,057.4 hours
Percent of Run-hour Goal (to date):	53% of 2000 hour goal
Percent of Tonnage Goal (to date):	38% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,827 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	11,772 MWh
Time Remaining until May 12th Outage:	26 days
	624 hours

Average Iowa Homes Powered for Full Year : 1,125 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 16, 2006)



Summary Statistics:

Date : Sunday, April 16, 2006

Bale Count : 354 bales

Run Time : 20.2 hrs

Total Bale Weight : 183.4 tons

Max. Bale Weight : 1,519 lbs.

Min. Bale Weight : 857 lbs.

Average Bale Weight: 1,036 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 20%

Min. Bale Moisture : 5%

Average Feed Rate (as recorded for each bale): 10.2 tons/hr ; 2.6 ft/min.

Max. Feed Rate (ten bale average): 13.8 tons/hr ; 3.8 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.1 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 11% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	7.6 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 25% Setpoint vs. Actual Overall

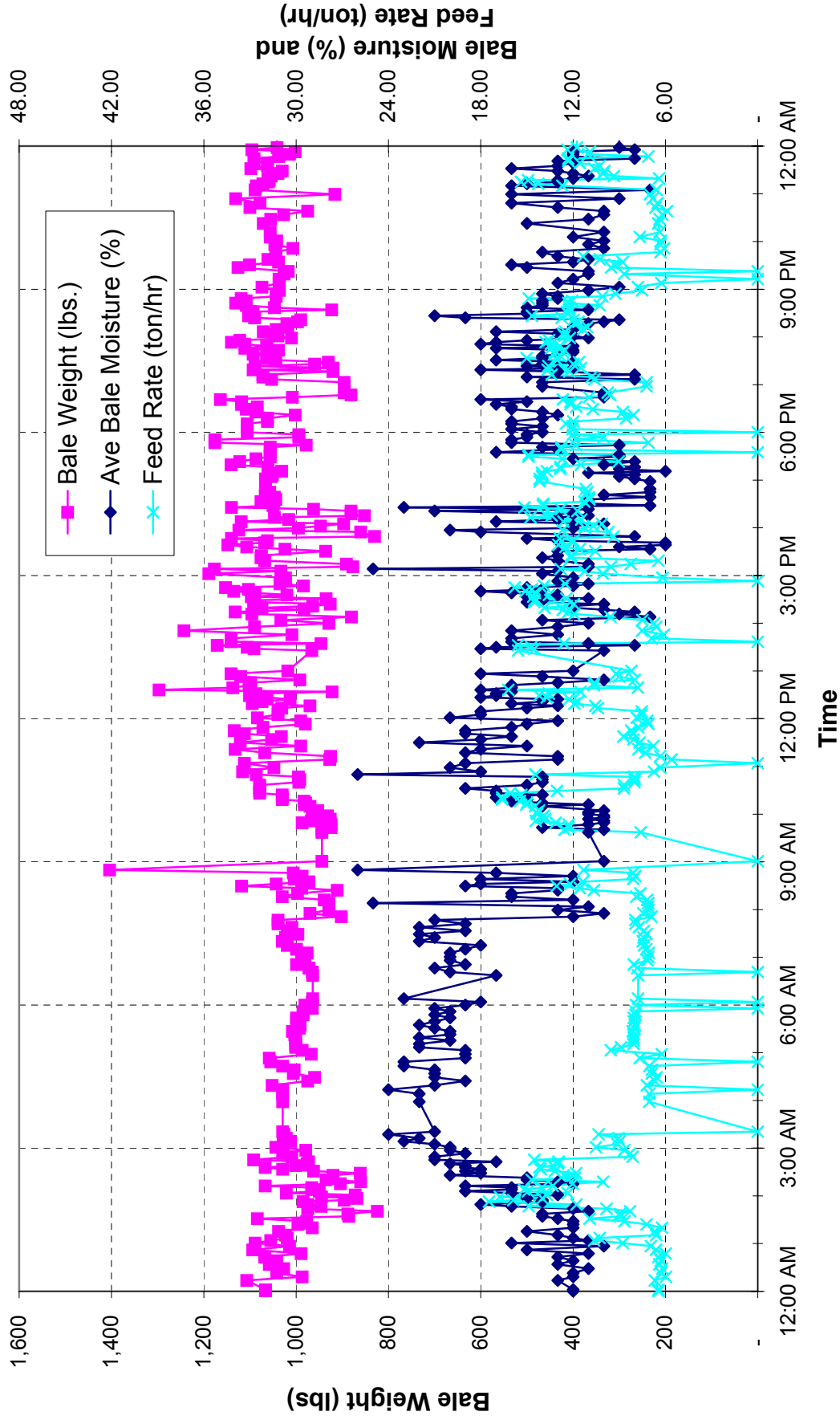
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	19,074 bales
Total Tons Processed (accepted) :	9,578
Average Bale Weight:	1,004 lbs./bale
Total System Processing Hours:	1,079.8 hours
Percent of Run-hour Goal (to date):	54% of 2000 hour goal
Percent of Tonnage Goal (to date):	38% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,799 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	12,001 MWh
Time Remaining until May 12th Outage:	25 days
	600 hours

Average Iowa Homes Powered for Full Year : 1,147 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 17, 2006)



Summary Statistics:

Date :	Monday, April 17, 2006		
Bale Count :	379	bales	
Run Time :	21.1	hrs	
Total Bale Weight :	194.9	tons	
Max. Bale Weight :	1,404	lbs.	
Min. Bale Weight :	824	lbs.	
Average Bale Weight:	1,029	lbs.	
Average Moisture Content:	15%		
Max. Bale Moisture :	26%		
Min. Bale Moisture :	6%		
Average Feed Rate (as recorded for each bale):	10.2	tons/hr ;	2.6 ft/min.
Max. Feed Rate (ten bale average):	15.3	tons/hr ;	4.7 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	9.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	9%	Setpoint vs. Actual During Run Hours	
Overall Avg. Feed Rate:	8.1	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	20%	Setpoint vs. Actual Overall	

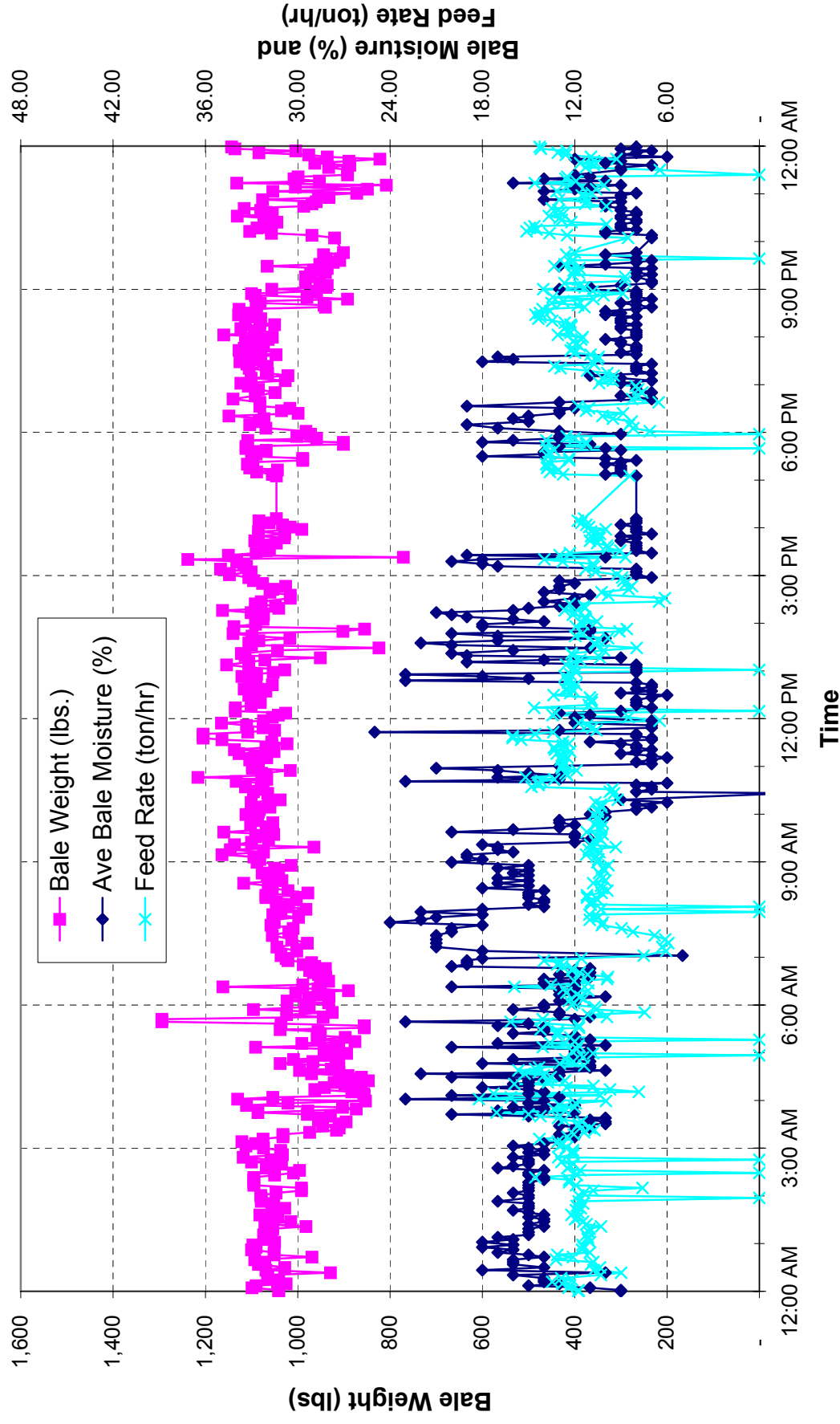
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	19,451	bales
Total Tons Processed (accepted) :	9,771	
Average Bale Weight:	1,005	lbs./bale
Total System Processing Hours:	1,103.1	hours
Percent of Run-hour Goal (to date):	55%	of 2000 hour goal
Percent of Tonnage Goal (to date):	39%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,787	tons
Projected % of Goal (by end of test burn)	59%	
Estimated Power Generated :	12,243	MWh
Time Remaining until May 12th Outage:	24	days
	576	hours

Average Iowa Homes Powered for Full Year : 1,170 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 18, 2006)



Summary Statistics:

Date : Tuesday, April 18, 2006

Bale Count : 479 bales

Run Time : 22.8 hrs

Total Bale Weight : 248.6 tons

Max. Bale Weight : 1,294 lbs.

Min. Bale Weight : 771 lbs.

Average Bale Weight: 1,038 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 25%

Min. Bale Moisture : 0%

Average Feed Rate (as recorded for each bale): 11.3 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 14.3 tons/hr ; 5.4 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.9 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 4% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.4 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 9% Setpoint vs. Actual Overall

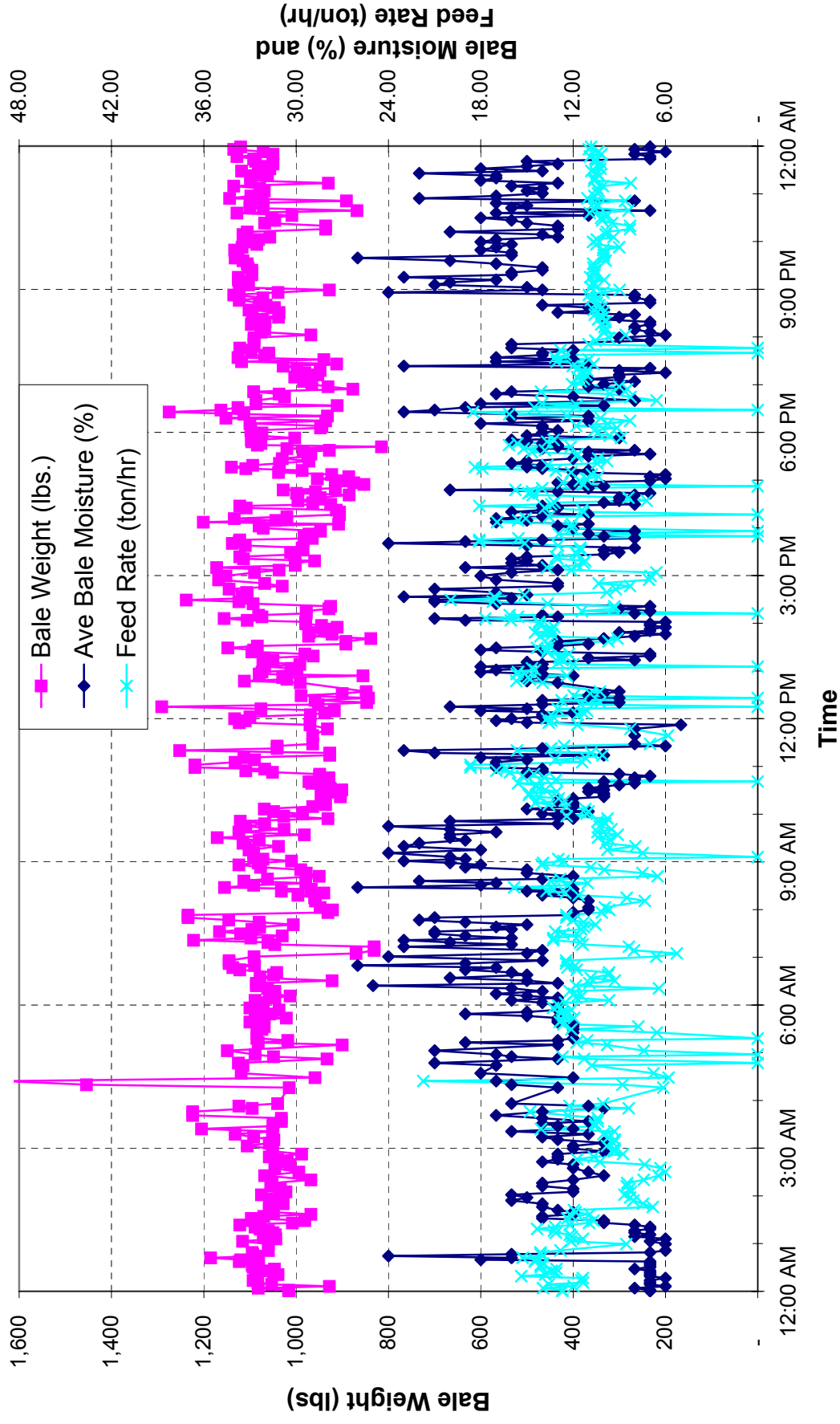
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	19,928 bales
Total Tons Processed (accepted) :	10,019
Average Bale Weight:	1,005 lbs./bale
Total System Processing Hours:	1,126.3 hours
Percent of Run-hour Goal (to date):	56% of 2000 hour goal
Percent of Tonnage Goal (to date):	40% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,858 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	12,554 MWh
Time Remaining until May 12th Outage:	23 days
	552 hours

Average Iowa Homes Powered for Full Year : 1,200 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 19, 2006)



Summary Statistics:

Date : Wednesday, April 19, 2006

Bale Count : 468 bales

Run Time : 23.3 hrs

Total Bale Weight : 244.5 tons

Max. Bale Weight : 1,634 lbs.

Min. Bale Weight : 815 lbs.

Average Bale Weight: 1,045 lbs.

Average Moisture Content: 14%

Max. Bale Moisture : 26%

Min. Bale Moisture : 5%

Average Feed Rate (as recorded for each bale): 11.3 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 15.5 tons/hr ; 4.4 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.5 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 7% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.2 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 10% Setpoint vs. Actual Overall

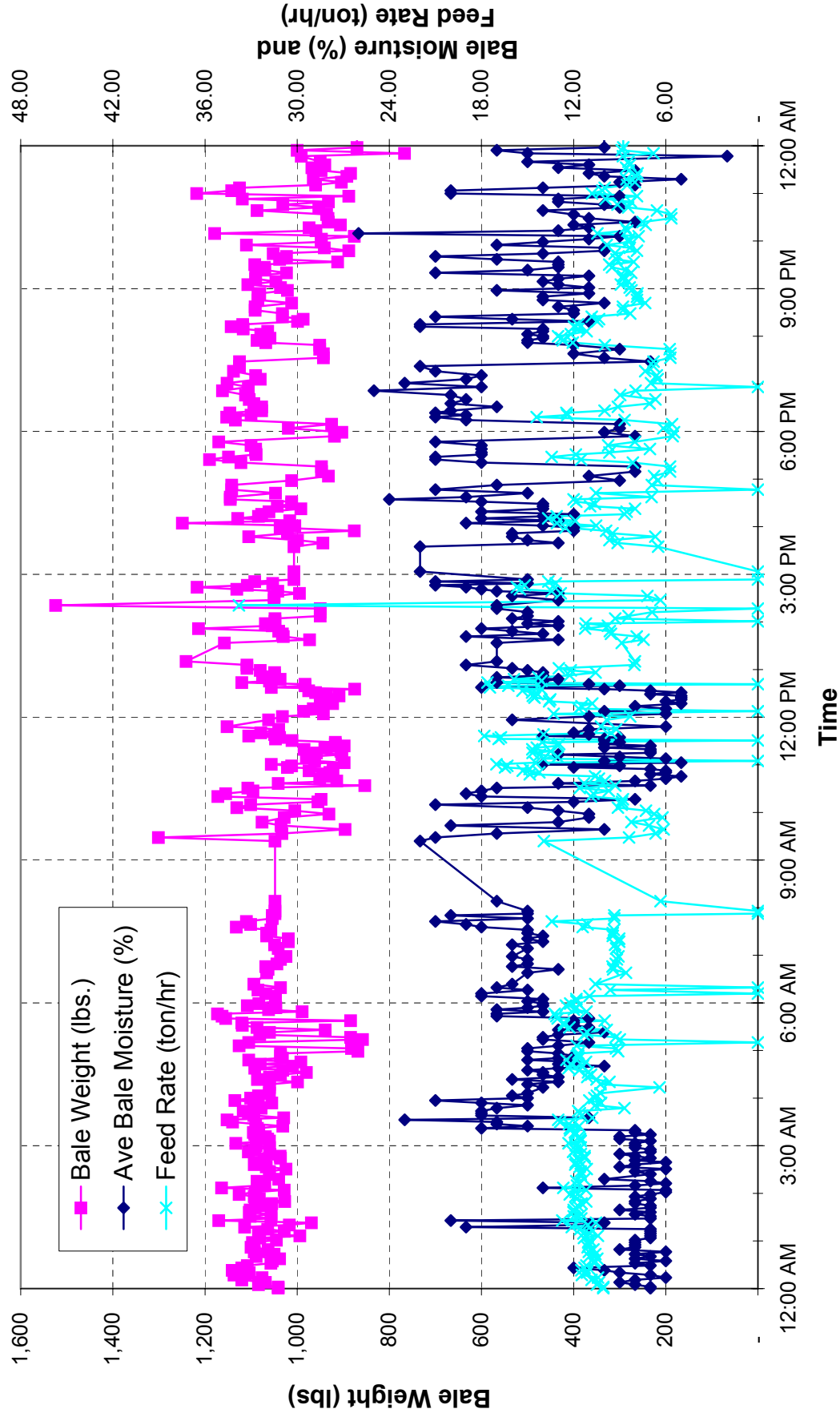
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	20,394 bales
Total Tons Processed (accepted) :	10,262
Average Bale Weight:	1,006 lbs./bale
Total System Processing Hours:	1,150.0 hours
Percent of Run-hour Goal (to date):	57% of 2000 hour goal
Percent of Tonnage Goal (to date):	41% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,919 tons
Projected % of Goal (by end of test burn)	60%
Estimated Power Generated :	12,859 MWh
Time Remaining until May 12th Outage:	22 days
	528 hours

Average Iowa Homes Powered for Full Year : 1,229 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 20, 2006)



Summary Statistics:

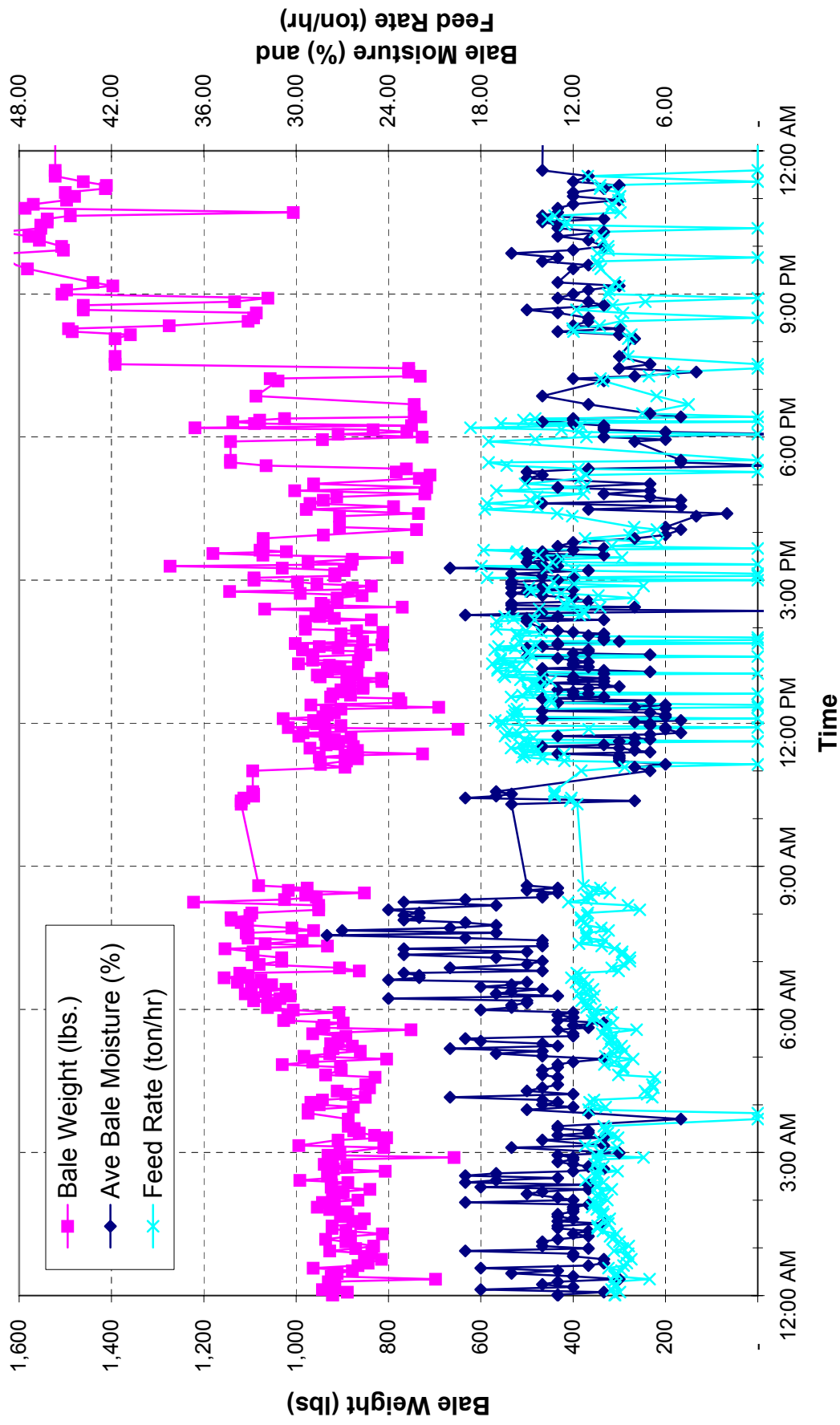
Date :	Thursday, April 20, 2006		
Bale Count :	383	bales	
Run Time :	21.2	hrs	
Total Bale Weight :	200.0	tons	
Max. Bale Weight :	1,524	lbs.	
Min. Bale Weight :	767	lbs.	
Average Bale Weight:	1,044	lbs.	
Average Moisture Content:	13%		
Max. Bale Moisture :	26%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	10.2	tons/hr ;	2.6 ft/min.
Max. Feed Rate (ten bale average):	14.9	tons/hr ;	5.9 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	9.4	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	8%	Setpoint vs. Actual During Run Hours	
Overall Avg. Feed Rate:	8.3	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	18%	Setpoint vs. Actual Overall	

Overall Statistics (through midnight):

Total Bales Processed (accepted) :	20,775	bales
Total Tons Processed (accepted) :	10,462	
Average Bale Weight:	1,007	lbs./bale
Total System Processing Hours:	1,171.9	hours
Percent of Run-hour Goal (to date):	59%	of 2000 hour goal
Percent of Tonnage Goal (to date):	42%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,915	tons
Projected % of Goal (by end of test burn)	60%	
Estimated Power Generated :	13,109	MWh
Time Remaining until May 12th Outage:	21	days
	504	hours

Average Iowa Homes Powered for Full Year : 1,253 average annual homes

CHARITON VALLEY BIOMASS PROJECT Daily Switchgrass Processing Summary Chart (April 21, 2006)



Summary Statistics:

Date : Friday, April 21, 2006

Bale Count : 364 bales

Run Time : 19.5 hrs

Total Bale Weight : 181.9 tons

Max. Bale Weight : 1,641 lbs.

Min. Bale Weight : 649 lbs.

Average Bale Weight: 1,000 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 28%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 10.5 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 15.3 tons/hr ; 4.8 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.3 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 11% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	7.6 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 28% Setpoint vs. Actual Overall

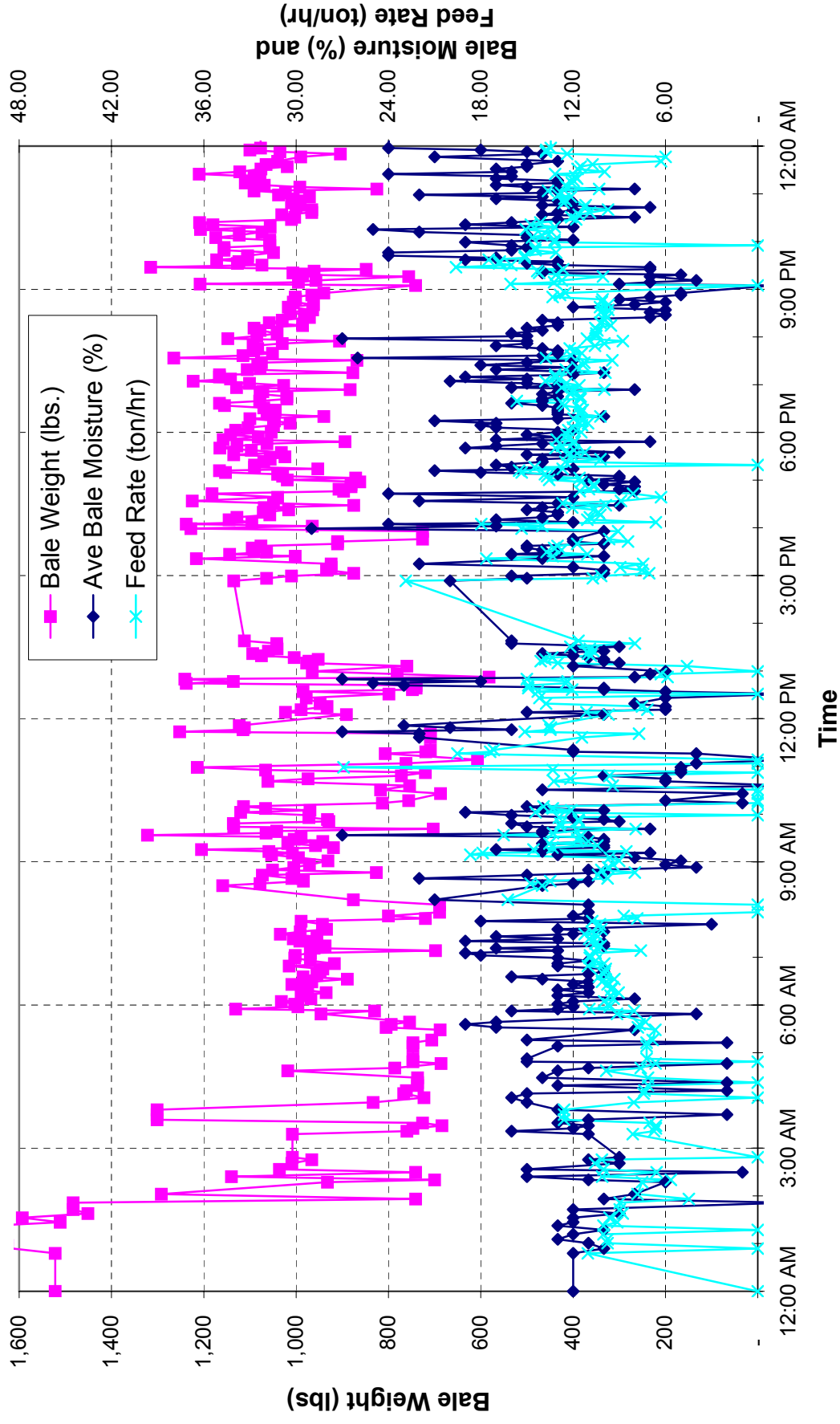
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	21,146 bales
Total Tons Processed (accepted) :	10,646
Average Bale Weight:	1,007 lbs./bale
Total System Processing Hours:	1,193.2 hours
Percent of Run-hour Goal (to date):	60% of 2000 hour goal
Percent of Tonnage Goal (to date):	43% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,889 tons
Projected % of Goal (by end of test burn)	60%
Estimated Power Generated :	13,340 MWh
Time Remaining until May 12th Outage:	20 days
	480 hours

Average Iowa Homes Powered for Full Year : 1,275 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 22, 2006)



Summary Statistics:

Date : Saturday, April 22, 2006

Bale Count : 359 bales

Run Time : 19.8 hrs

Total Bale Weight : 182.0 tons

Max. Bale Weight : 1,658 lbs.

Min. Bale Weight : 582 lbs.

Average Bale Weight: 1,014 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 29%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 10.7 tons/hr ; 2.8 ft/min.

Max. Feed Rate (ten bale average): 15.9 tons/hr ; 6.4 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.2 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 14% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	7.6 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 29% Setpoint vs. Actual Overall

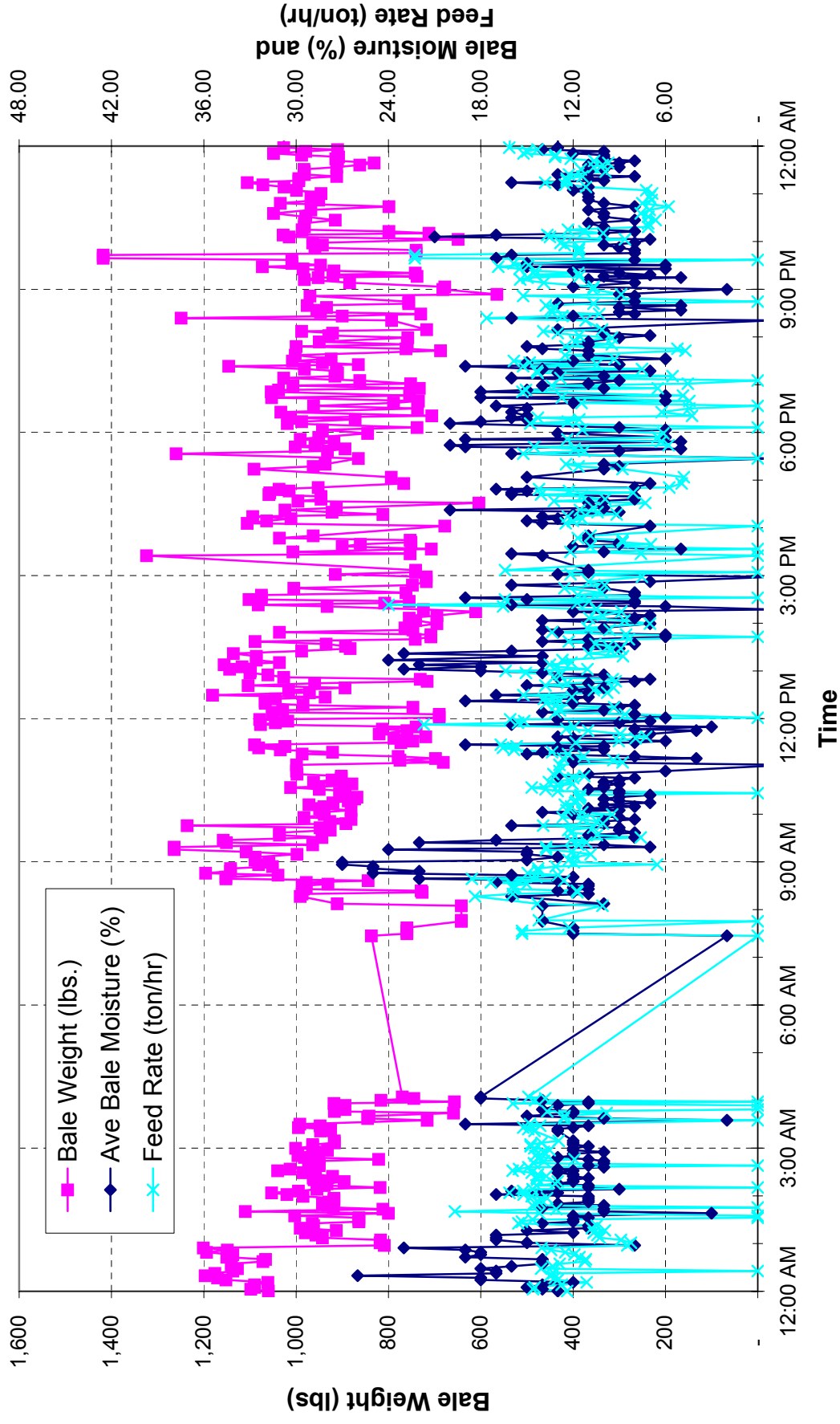
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	21,503 bales
Total Tons Processed (accepted) :	10,827
Average Bale Weight:	1,007 lbs./bale
Total System Processing Hours:	1,214.9 hours
Percent of Run-hour Goal (to date):	61% of 2000 hour goal
Percent of Tonnage Goal (to date):	43% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,860 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	13,567 MWh
Time Remaining until May 12th Outage:	19 days
	456 hours

Average Iowa Homes Powered for Full Year : 1,297 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 23, 2006)



Summary Statistics:

Date :	Sunday, April 23, 2006		
Bale Count :	401	bales	
Run Time :	19.2	hrs	
Total Bale Weight :	188.0	tons	
Max. Bale Weight :	1,418	lbs.	
Min. Bale Weight :	565	lbs.	
Average Bale Weight:	938	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	27%		
Min. Bale Moisture :	-2%		
Average Feed Rate (as recorded for each bale):	11.3	tons/hr ;	3.2 ft/min.
Max. Feed Rate (ten bale average):	15.3	tons/hr ;	5.9 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	9.8	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	14%	Setpoint vs. Actual During Run Hours	
Overall Avg. Feed Rate:	7.8	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	31%	Setpoint vs. Actual Overall	

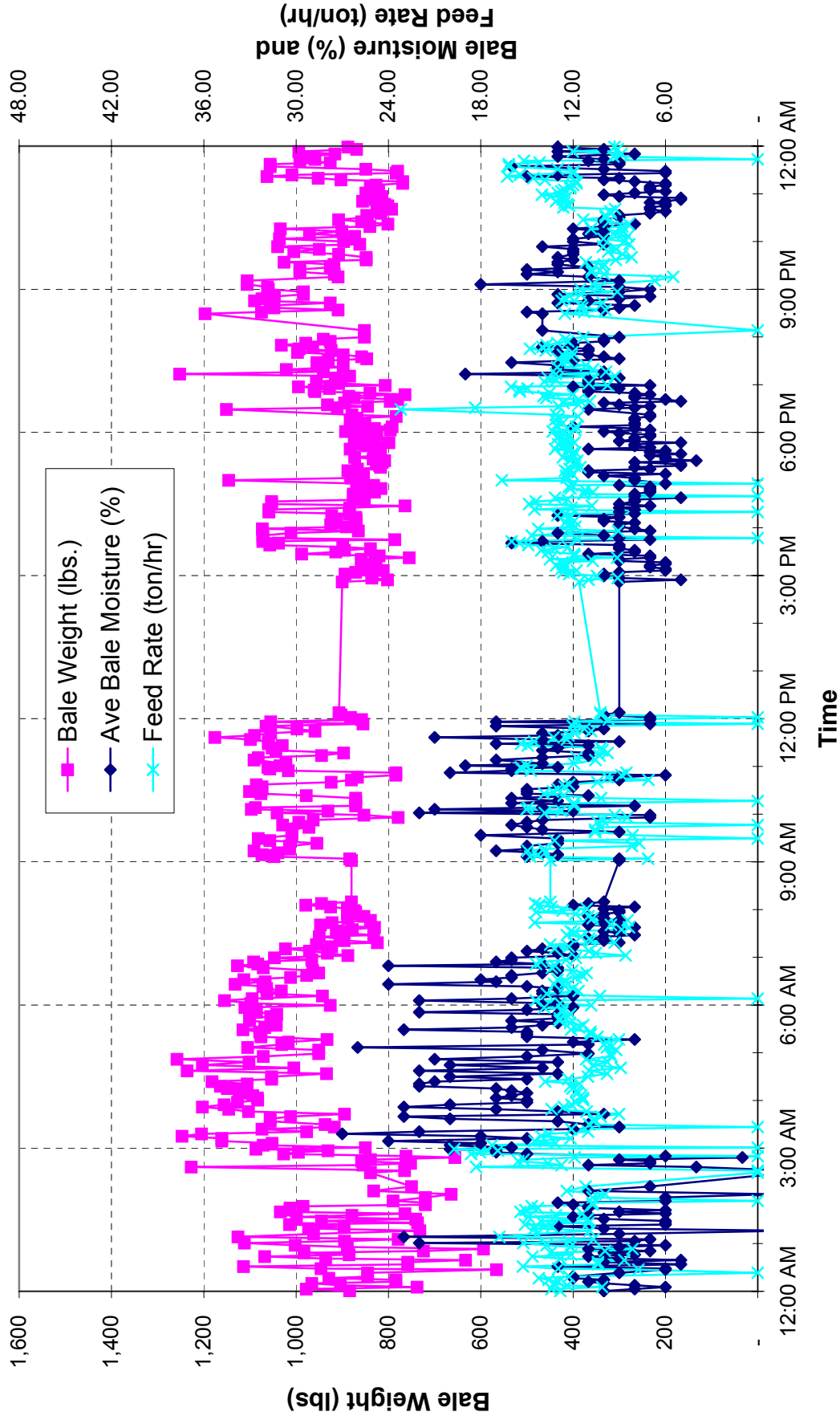
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	21,902	bales
Total Tons Processed (accepted) :	11,014	
Average Bale Weight:	1,006	lbs./bale
Total System Processing Hours:	1,235.9	hours
Percent of Run-hour Goal (to date):	62%	of 2000 hour goal
Percent of Tonnage Goal (to date):	44%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,840	tons
Projected % of Goal (by end of test burn)	59%	
Estimated Power Generated :	13,801	MWh
Time Remaining until May 12th Outage:	18	days
	432	hours

Average Iowa Homes Powered for Full Year : 1,319 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 24, 2006)



Summary Statistics:

Date : Monday, April 24, 2006

Bale Count : 450 bales

Run Time : 19.8 hrs

Total Bale Weight : 211.9 tons

Max. Bale Weight : 1,258 lbs.

Min. Bale Weight : 566 lbs.

Average Bale Weight: 942 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 27%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 11.6 tons/hr ; 3.3 ft/min.

Max. Feed Rate (ten bale average): 14.5 tons/hr ; 5.4 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.7 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 8% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	8.8 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 24% Setpoint vs. Actual Overall

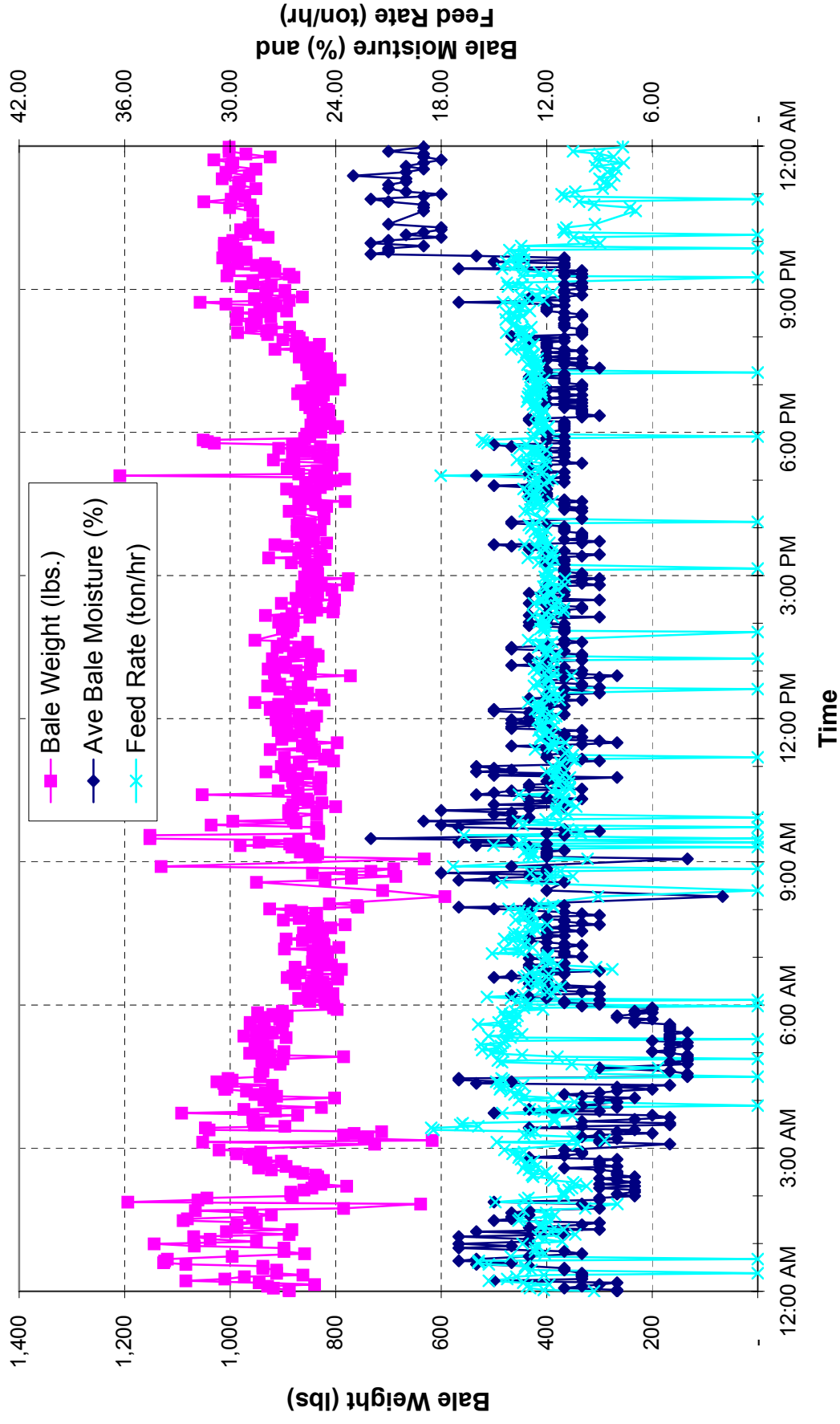
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	22,351 bales
Total Tons Processed (accepted) :	11,225
Average Bale Weight:	1,004 lbs./bale
Total System Processing Hours:	1,256.4 hours
Percent of Run-hour Goal (to date):	63% of 2000 hour goal
Percent of Tonnage Goal (to date):	45% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,853 tons
Projected % of Goal (by end of test burn)	59%
Estimated Power Generated :	14,065 MWh
Time Remaining until May 12th Outage:	17 days
	408 hours

Average Iowa Homes Powered for Full Year : 1,345 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 25, 2006)



Summary Statistics:

Date : Tuesday, April 25, 2006

Bale Count : 589 bales

Run Time : 23.4 hrs

Total Bale Weight : 261.7 tons

Max. Bale Weight : 1,209 lbs.

Min. Bale Weight : 593 lbs.

Average Bale Weight: 889 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 23%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 11.9 tons/hr ; 3.6 ft/min.

Max. Feed Rate (ten bale average): 14.9 tons/hr ; 4.9 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.2 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 6% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.9 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 8% Setpoint vs. Actual Overall

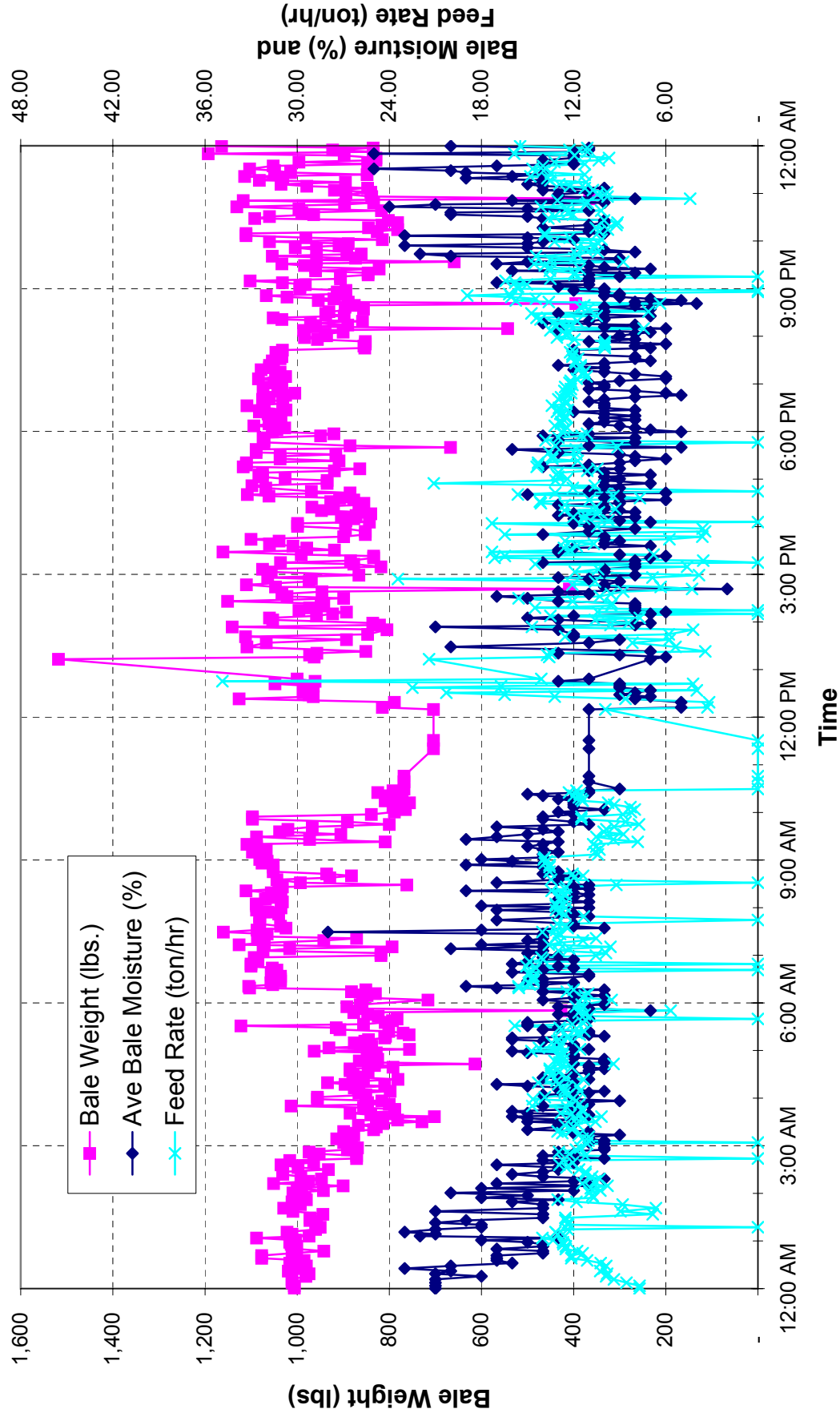
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	22,938 bales
Total Tons Processed (accepted) :	11,486
Average Bale Weight:	1,001 lbs./bale
Total System Processing Hours:	1,280.4 hours
Percent of Run-hour Goal (to date):	64% of 2000 hour goal
Percent of Tonnage Goal (to date):	46% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,931 tons
Projected % of Goal (by end of test burn)	60%
Estimated Power Generated :	14,392 MWh
Time Remaining until May 12th Outage:	16 days
	384 hours

Average Iowa Homes Powered for Full Year : 1,376 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 26, 2006)



Summary Statistics:

Date : Wednesday, April 26, 2006

Bale Count : 500 bales

Run Time : 22.2 hrs

Total Bale Weight : 237.1 tons

Max. Bale Weight : 1,518 lbs.

Min. Bale Weight : 365 lbs.

Average Bale Weight: 948 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 28%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 11.4 tons/hr ; 3.2 ft/min.

Max. Feed Rate (ten bale average): 16.8 tons/hr ; 9.7 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.7 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 6% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.9 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 13% Setpoint vs. Actual Overall

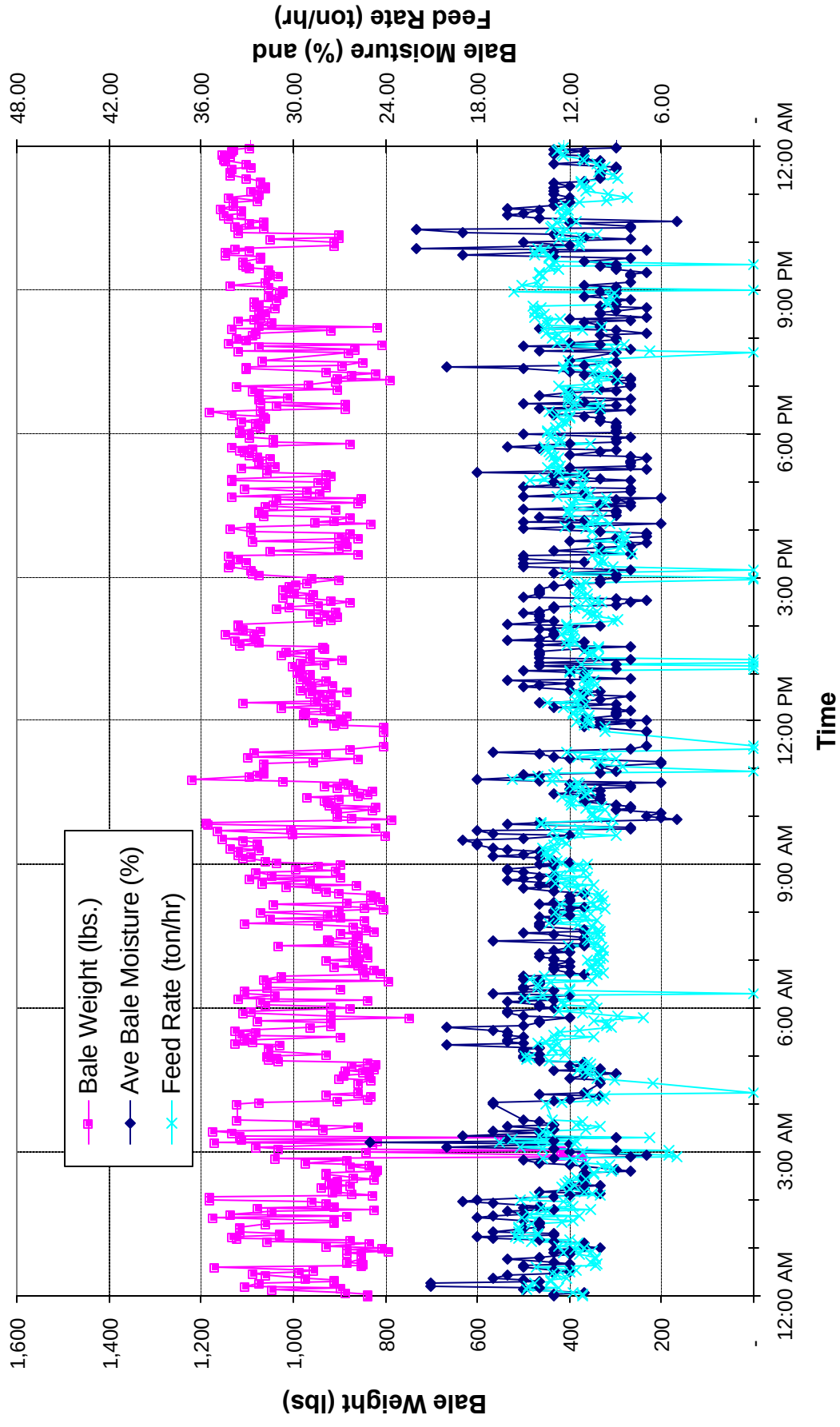
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	23,431 bales
Total Tons Processed (accepted) :	11,721
Average Bale Weight:	1,000 lbs./bale
Total System Processing Hours:	1,302.6 hours
Percent of Run-hour Goal (to date):	65% of 2000 hour goal
Percent of Tonnage Goal (to date):	47% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	14,973 tons
Projected % of Goal (by end of test burn)	60%
Estimated Power Generated :	14,687 MWh
Time Remaining until May 12th Outage:	15 days
	360 hours

Average Iowa Homes Powered for Full Year : 1,404 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 27, 2006)



Summary Statistics:

Date :	Thursday, April 27, 2006		
Bale Count :	513	bales	
Run Time :	23.0	hrs	
Total Bale Weight :	252.9	tons	
Max. Bale Weight :	1,217	lbs.	
Min. Bale Weight :	372	lbs.	
Average Bale Weight:	986	lbs.	
Average Moisture Content:	12%		
Max. Bale Moisture :	25%		
Min. Bale Moisture :	5%		
Average Feed Rate (as recorded for each bale):	11.3	tons/hr ;	3.1 ft/min.
Max. Feed Rate (ten bale average):	14.6	tons/hr ;	4.1 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.0	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	2%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	10.5	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	7%	Setpoint vs.	Actual Overall

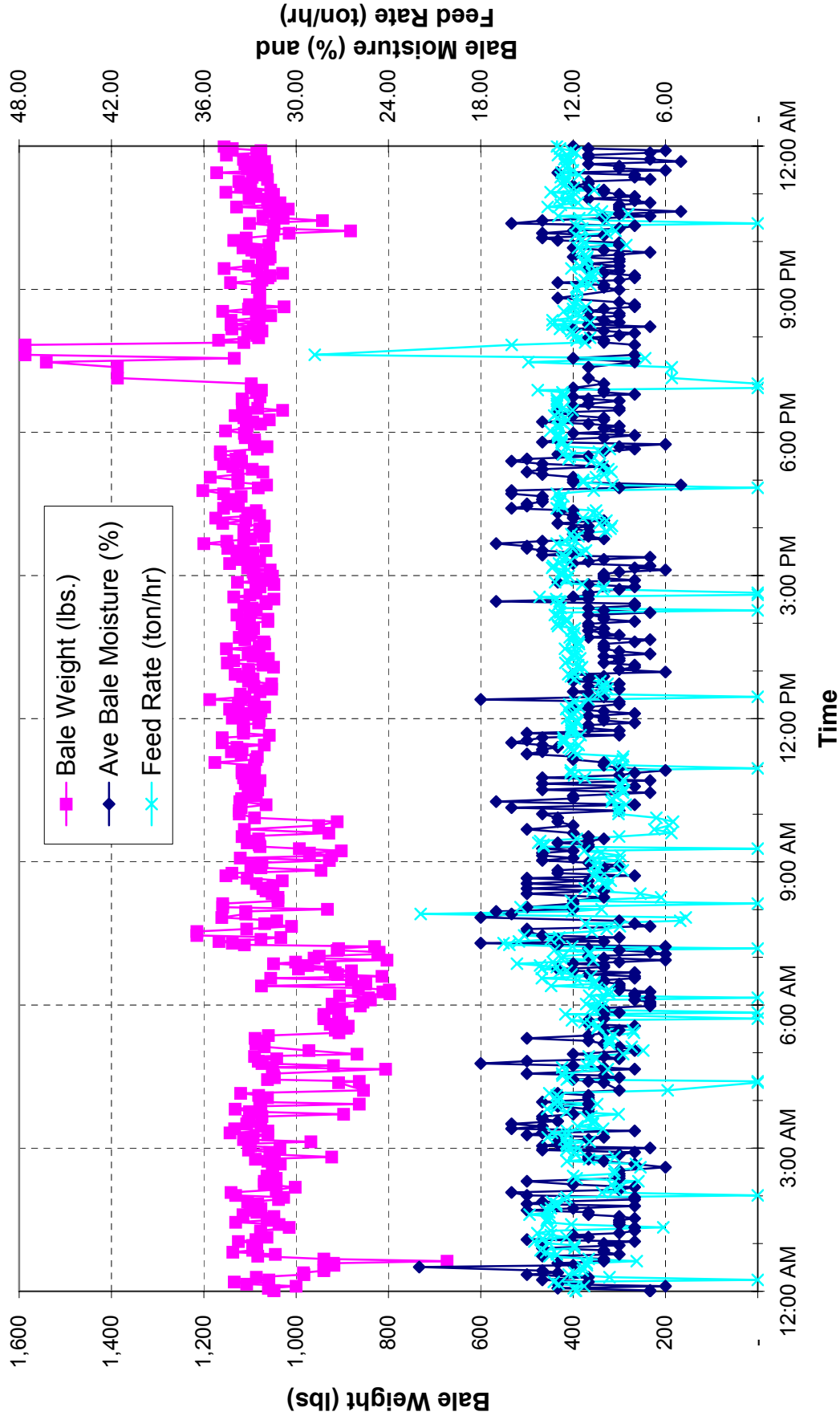
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	23,943	bales
Total Tons Processed (accepted) :	11,973	
Average Bale Weight:	1,000	lbs./bale
Total System Processing Hours:	1,326.3	hours
Percent of Run-hour Goal (to date):	66%	of 2000 hour goal
Percent of Tonnage Goal (to date):	48%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,034	tons
Projected % of Goal (by end of test burn)	60%	
Estimated Power Generated :	15,003	MWh
Time Remaining until May 12th Outage:	14	days
	336	hours

Average Iowa Homes Powered for Full Year : 1,434 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 28, 2006)



Summary Statistics:

Date :	Friday, April 28, 2006		
Bale Count :	470	bales	
Run Time :	23.4	hrs	
Total Bale Weight :	251.2	tons	
Max. Bale Weight :	1,587	lbs.	
Min. Bale Weight :	673	lbs.	
Average Bale Weight:	1,069	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	22%		
Min. Bale Moisture :	5%		
Average Feed Rate (as recorded for each bale):	11.1	tons/hr ;	2.8 ft/min.
Max. Feed Rate (ten bale average):	14.0	tons/hr ;	5.3 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.7	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	3%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	10.5	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	6%	Setpoint vs.	Actual Overall

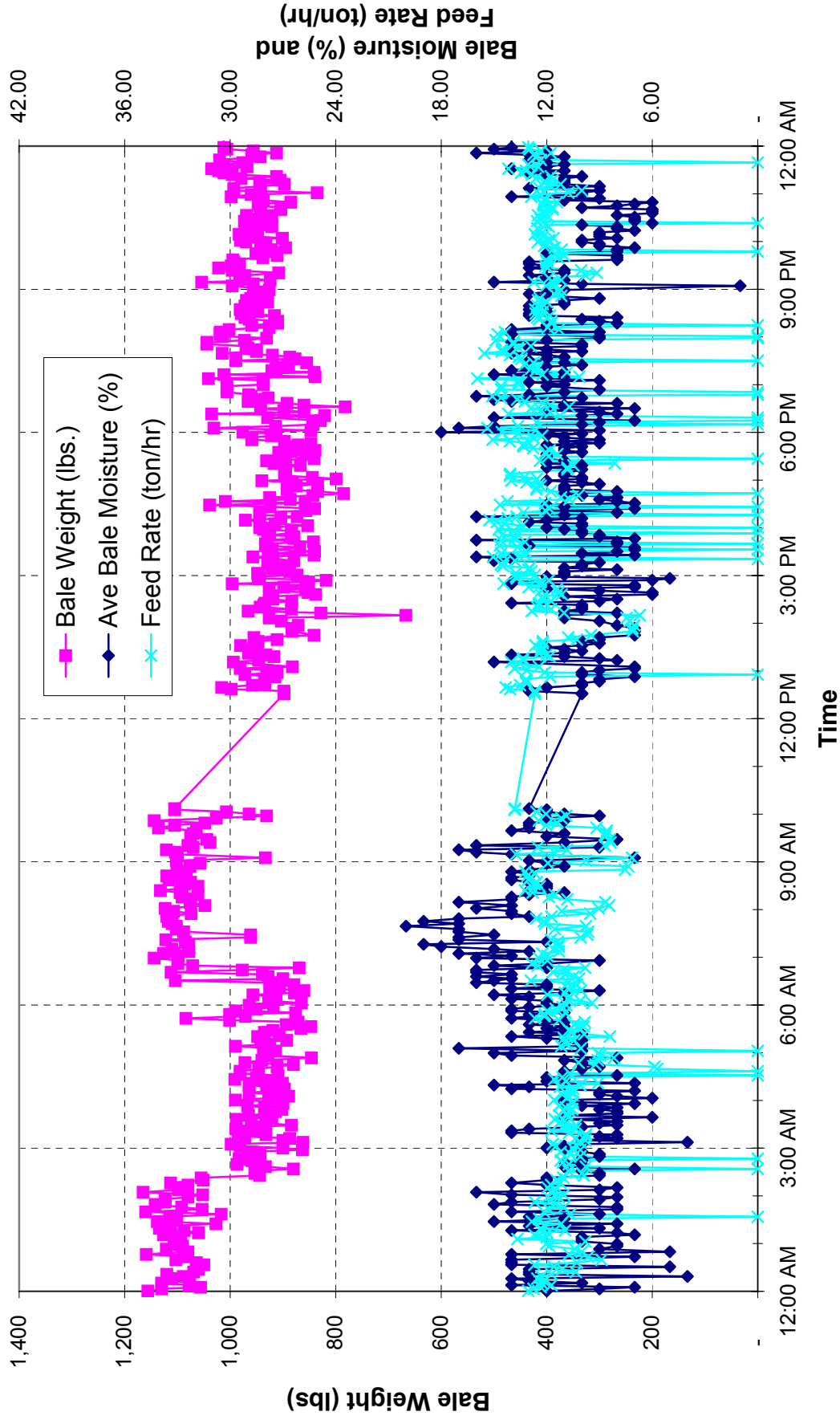
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	24,409	bales
Total Tons Processed (accepted) :	12,222	
Average Bale Weight:	1,001	lbs./bale
Total System Processing Hours:	1,349.8	hours
Percent of Run-hour Goal (to date):	67%	of 2000 hour goal
Percent of Tonnage Goal (to date):	49%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,090	tons
Projected % of Goal (by end of test burn)	60%	
Estimated Power Generated :	15,315	MWh
Time Remaining until May 12th Outage:	13	days
	312	hours

Average Iowa Homes Powered for Full Year : 1,464 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 29, 2006)



Summary Statistics:

Date :	Saturday, April 29, 2006		
Bale Count :	493	bales	
Run Time :	21.6	hrs	
Total Bale Weight :	238.3	tons	
Max. Bale Weight :	1,165	lbs.	
Min. Bale Weight :	667	lbs.	
Average Bale Weight:	967	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	20%		
Min. Bale Moisture :	1%		
Average Feed Rate (as recorded for each bale):	11.2	tons/hr ;	3.1 ft/min.
Max. Feed Rate (ten bale average):	14.2	tons/hr ;	4.2 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.0	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	1%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	9.9	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	11%	Setpoint vs.	Actual Overall

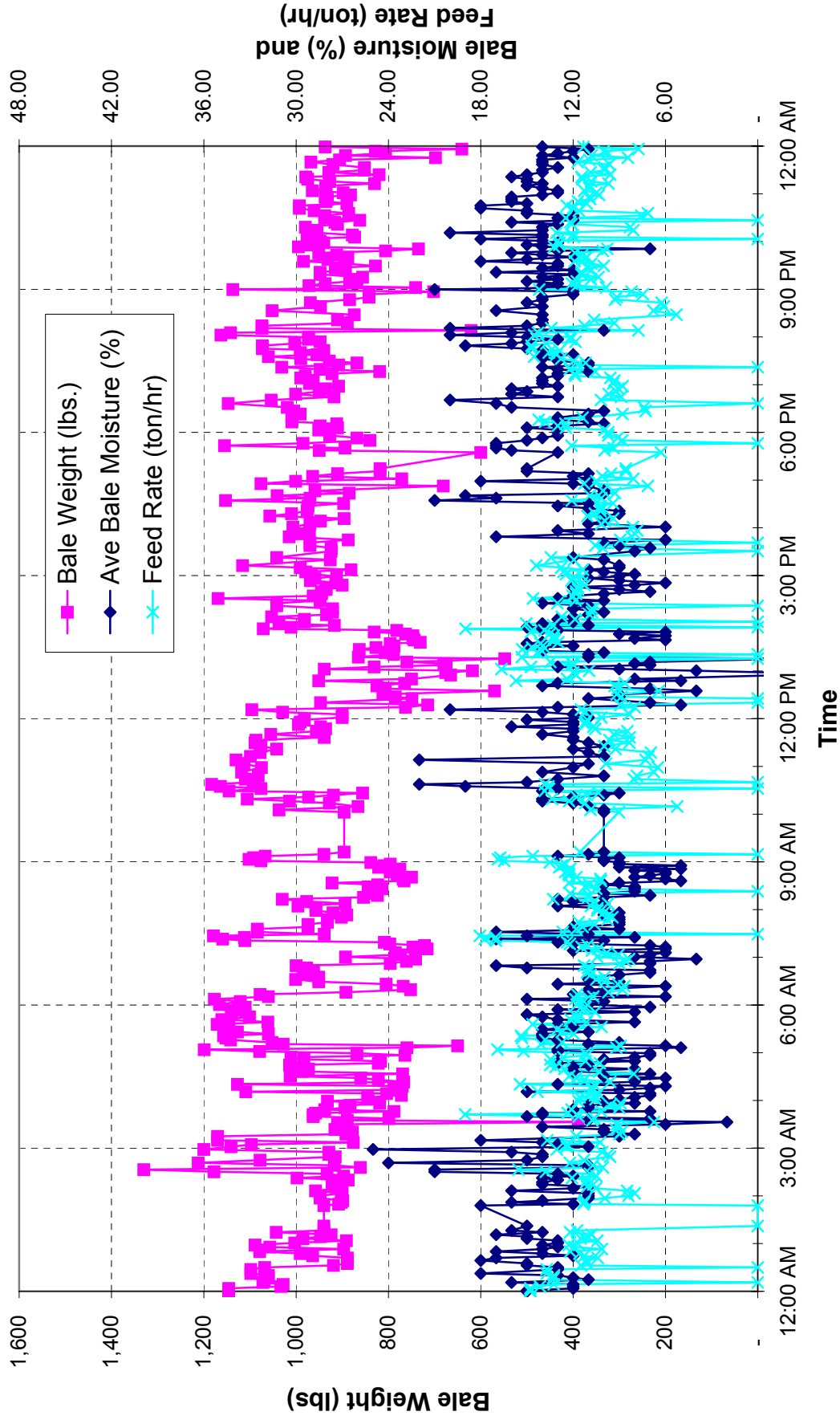
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	24,950	bales
Total Tons Processed (accepted) :	12,484	
Average Bale Weight:	1,001	lbs./bale
Total System Processing Hours:	1,373.8	hours
Percent of Run-hour Goal (to date):	69%	of 2000 hour goal
Percent of Tonnage Goal (to date):	50%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,160	tons
Projected % of Goal (by end of test burn)	61%	
Estimated Power Generated :	15,644	MWh
Time Remaining until May 12th Outage:	12	days
	288	hours

Average Iowa Homes Powered for Full Year : 1,496 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (April 30, 2006)



Summary Statistics:

Date : Sunday, April 30, 2006

Bale Count : 463 bales

Run Time : 22.4 hrs

Total Bale Weight : 217.3 tons

Max. Bale Weight : 1,330 lbs.

Min. Bale Weight : 389 lbs.

Average Bale Weight: 939 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 25%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 10.7 tons/hr ; 3.1 ft/min.

Max. Feed Rate (ten bale average): 14.2 tons/hr ; 5.3 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.7 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 9% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.1 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 15% Setpoint vs. Actual Overall

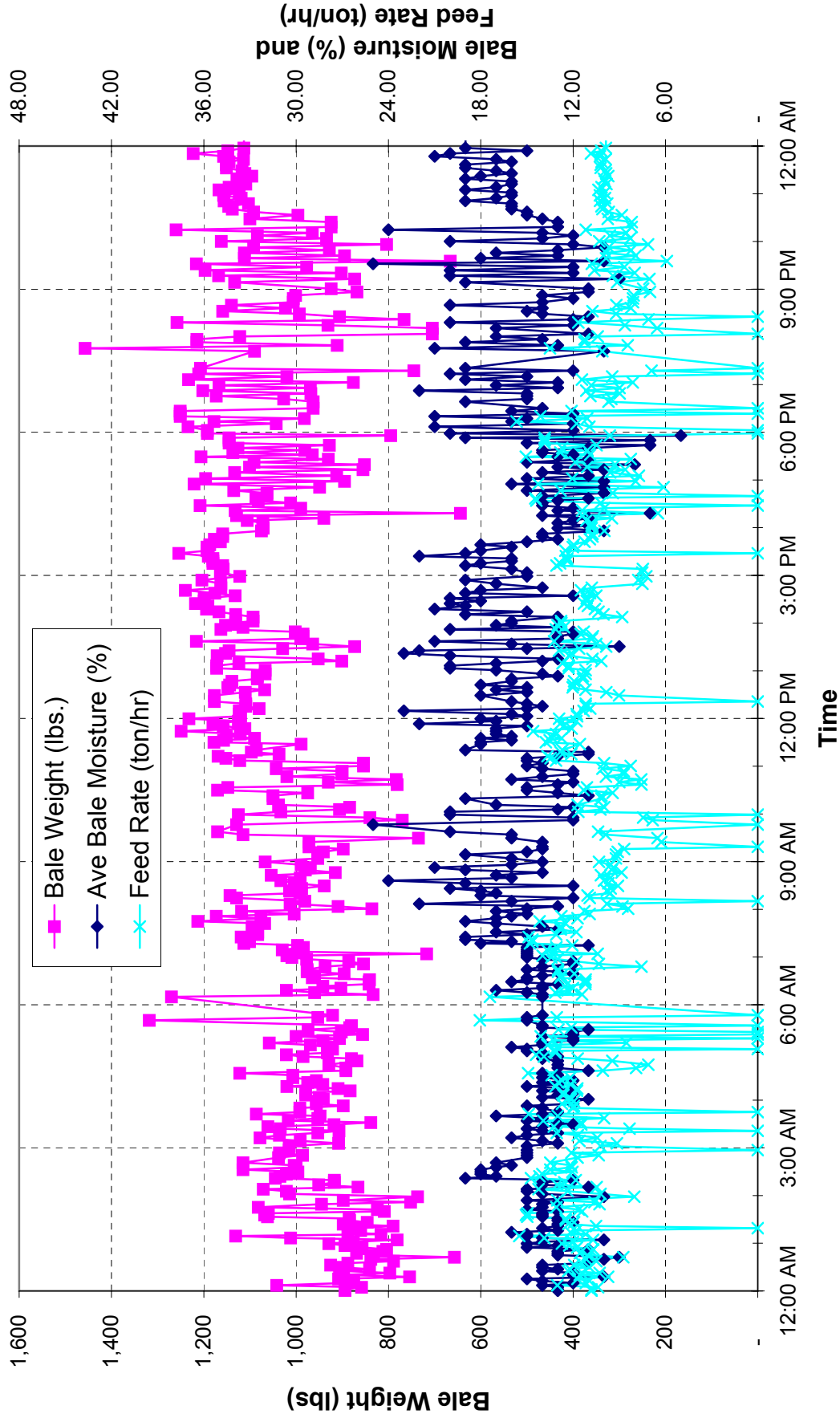
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	25,411 bales
Total Tons Processed (accepted) :	12,700
Average Bale Weight:	1,000 lbs./bale
Total System Processing Hours:	1,397.8 hours
Percent of Run-hour Goal (to date):	70% of 2000 hour goal
Percent of Tonnage Goal (to date):	51% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,172 tons
Projected % of Goal (by end of test burn)	61%
Estimated Power Generated :	15,914 MWh
Time Remaining until May 12th Outage:	11 days
	264 hours

Average Iowa Homes Powered for Full Year : 1,521 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 1, 2006)



Summary Statistics:

Date : Monday, May 01, 2006

Bale Count : 429 bales

Run Time : 23.3 hrs

Total Bale Weight : 219.8 tons

Max. Bale Weight : 1,457 lbs.

Min. Bale Weight : 644 lbs.

Average Bale Weight: 1,024 lbs.

Average Moisture Content: 15%

Max. Bale Moisture : 25%

Min. Bale Moisture : 5%

Average Feed Rate (as recorded for each bale): 10.4 tons/hr ; 2.7 ft/min.

Max. Feed Rate (ten bale average): 13.6 tons/hr ; 3.9 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	9.4 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 9% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.2 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 12% Setpoint vs. Actual Overall

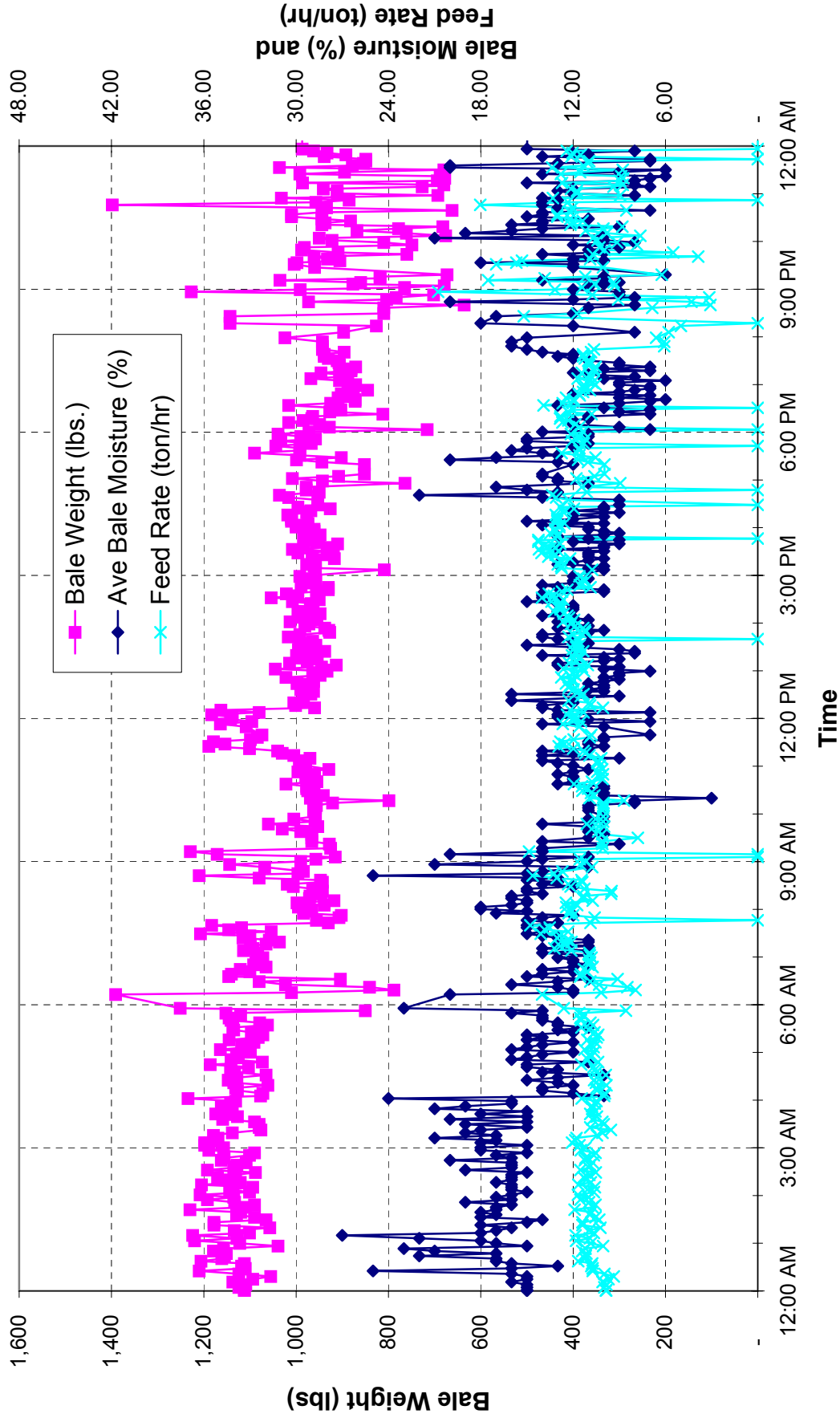
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	25,838 bales
Total Tons Processed (accepted) :	12,919
Average Bale Weight:	1,000 lbs./bale
Total System Processing Hours:	1,421.4 hours
Percent of Run-hour Goal (to date):	71% of 2000 hour goal
Percent of Tonnage Goal (to date):	52% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,187 tons
Projected % of Goal (by end of test burn)	61%
Estimated Power Generated :	16,189 MWh
Time Remaining until May 12th Outage:	10 days
	240 hours

Average Iowa Homes Powered for Full Year : 1,548 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 2, 2006)



Summary Statistics:

Date : Tuesday, May 02, 2006

Bale Count : 471 bales

Run Time : 23.3 hrs

Total Bale Weight : 236.3 tons

Max. Bale Weight : 1,398 lbs.

Min. Bale Weight : 636 lbs.

Average Bale Weight: 1,004 lbs.

Average Moisture Content: 13%

Max. Bale Moisture : 27%

Min. Bale Moisture : 3%

Average Feed Rate (as recorded for each bale): 10.9 tons/hr ; 2.9 ft/min.

Max. Feed Rate (ten bale average): 13.6 tons/hr ; 4.5 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.1 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 8% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	9.8 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 10% Setpoint vs. Actual Overall

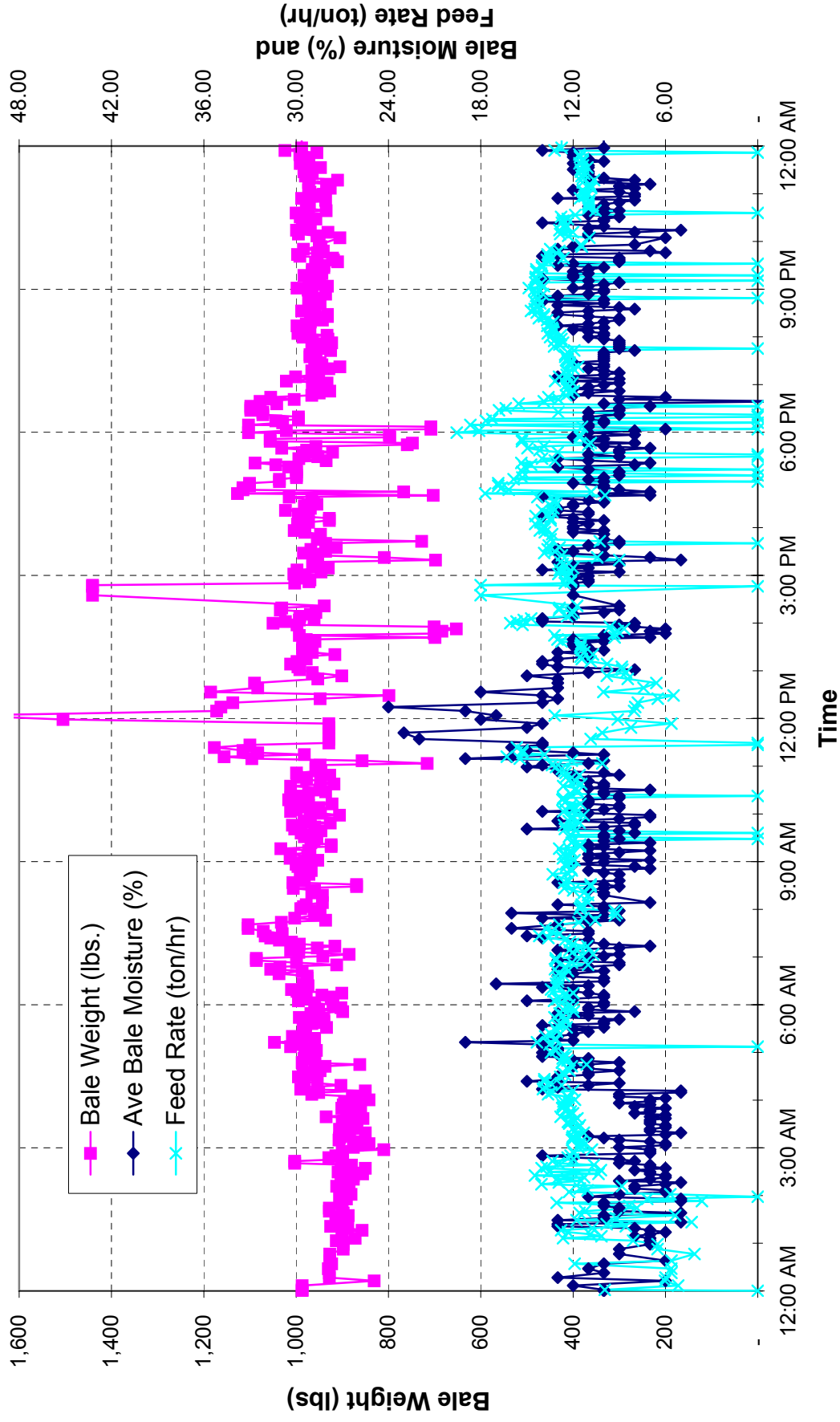
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	26,307 bales
Total Tons Processed (accepted) :	13,154
Average Bale Weight:	1,000 lbs./bale
Total System Processing Hours:	1,445.2 hours
Percent of Run-hour Goal (to date):	72% of 2000 hour goal
Percent of Tonnage Goal (to date):	53% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,221 tons
Projected % of Goal (by end of test burn)	61%
Estimated Power Generated :	16,483 MWh
Time Remaining until May 12th Outage:	9 days
	216 hours

Average Iowa Homes Powered for Full Year : 1,576 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 3, 2006)



Summary Statistics:

Date : Wednesday, May 03, 2006

Bale Count : 519 bales

Run Time : 23.6 hrs

Total Bale Weight : 249.8 tons

Max. Bale Weight : 1,723 lbs.

Min. Bale Weight : 653 lbs.

Average Bale Weight: 963 lbs.

Average Moisture Content: 11%

Max. Bale Moisture : 24%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 11.6 tons/hr ; 3.2 ft/min.

Max. Feed Rate (ten bale average): 14.6 tons/hr ; 4.7 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.6 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 9% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.4 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 11% Setpoint vs. Actual Overall

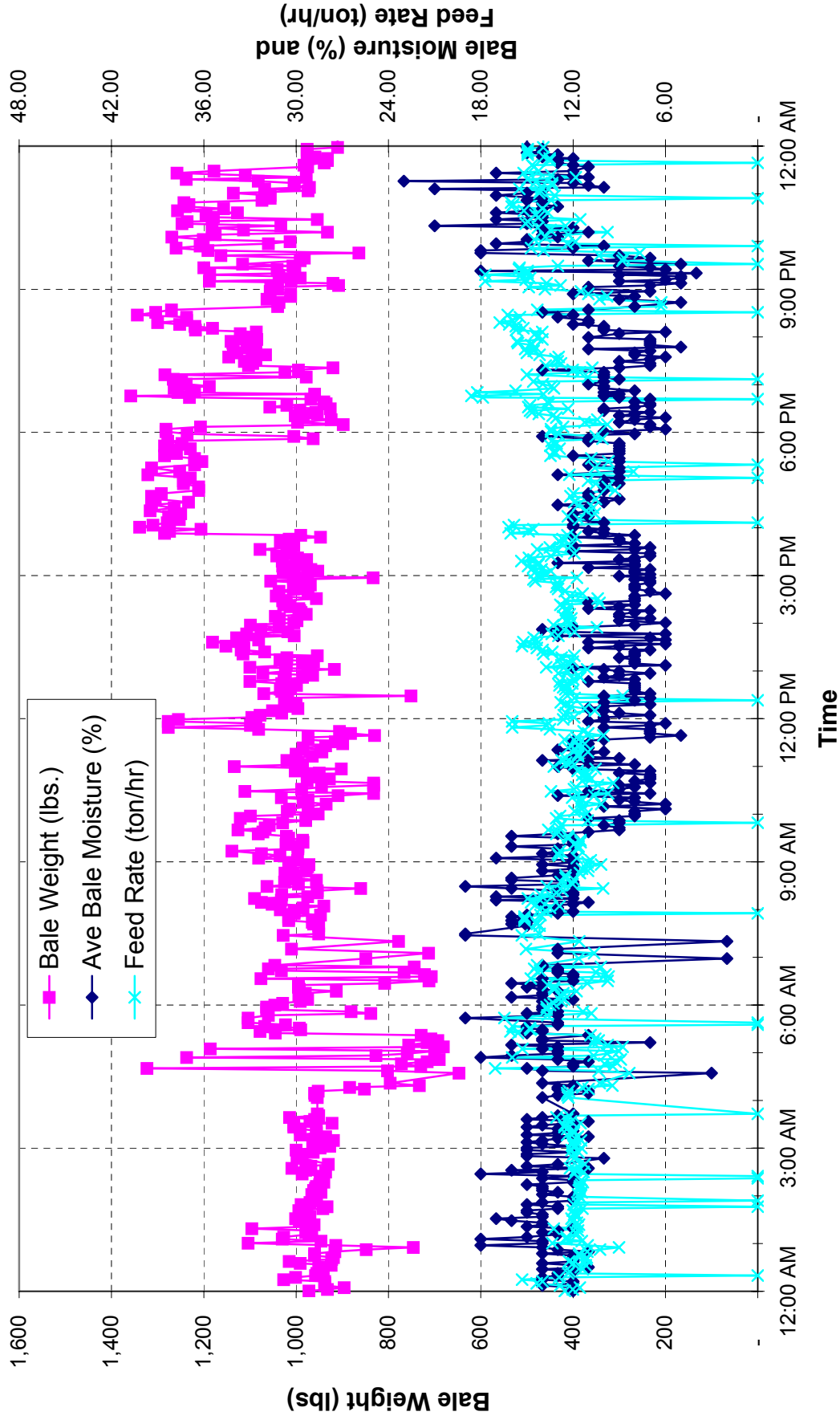
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	26,824 bales
Total Tons Processed (accepted) :	13,403
Average Bale Weight:	999 lbs./bale
Total System Processing Hours:	1,469.1 hours
Percent of Run-hour Goal (to date):	73% of 2000 hour goal
Percent of Tonnage Goal (to date):	54% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,269 tons
Projected % of Goal (by end of test burn)	61%
Estimated Power Generated :	16,795 MWh
Time Remaining until May 12th Outage:	8 days
	192 hours

Average Iowa Homes Powered for Full Year : 1,606 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 4, 2006)



Summary Statistics:

Date : Thursday, May 04, 2006

Bale Count : 516 bales

Run Time : 23.3 hrs

Total Bale Weight : 265.3 tons

Max. Bale Weight : 1,358 lbs.

Min. Bale Weight : 647 lbs.

Average Bale Weight: 1,028 lbs.

Average Moisture Content: 11%

Max. Bale Moisture : 23%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 12.2 tons/hr ; 3.2 ft/min.

Max. Feed Rate (ten bale average): 15.6 tons/hr ; 4.1 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.4 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 7% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	11.1 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 9% Setpoint vs. Actual Overall

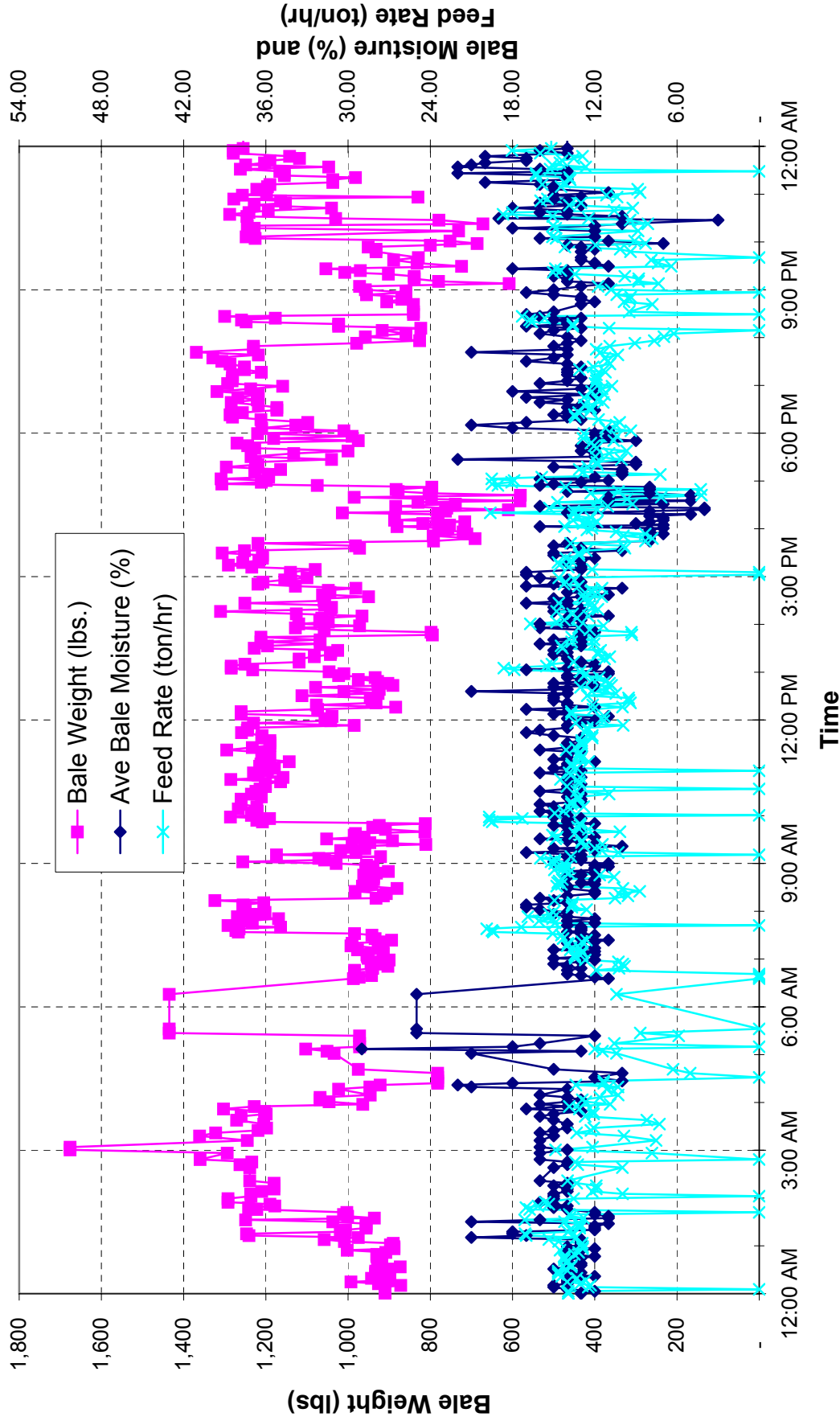
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	27,339 bales
Total Tons Processed (accepted) :	13,668
Average Bale Weight:	1,000 lbs./bale
Total System Processing Hours:	1,493.1 hours
Percent of Run-hour Goal (to date):	75% of 2000 hour goal
Percent of Tonnage Goal (to date):	55% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,334 tons
Projected % of Goal (by end of test burn)	61%
Estimated Power Generated :	17,127 MWh
Time Remaining until May 12th Outage:	7 days
	168 hours

Average Iowa Homes Powered for Full Year : 1,637 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 5, 2006)



Summary Statistics:

Date : Friday, May 05, 2006

Bale Count : 470 bales

Run Time : 22.3 hrs

Total Bale Weight : 251.3 tons

Max. Bale Weight : 1,676 lbs.

Min. Bale Weight : 581 lbs.

Average Bale Weight: 1,069 lbs.

Average Moisture Content: 14%

Max. Bale Moisture : 29%

Min. Bale Moisture : 3%

Average Feed Rate (as recorded for each bale): 12.1 tons/hr ; 3.1 ft/min.

Max. Feed Rate (ten bale average): 15.9 tons/hr ; 5.4 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.2 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 7% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.5 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 14% Setpoint vs. Actual Overall

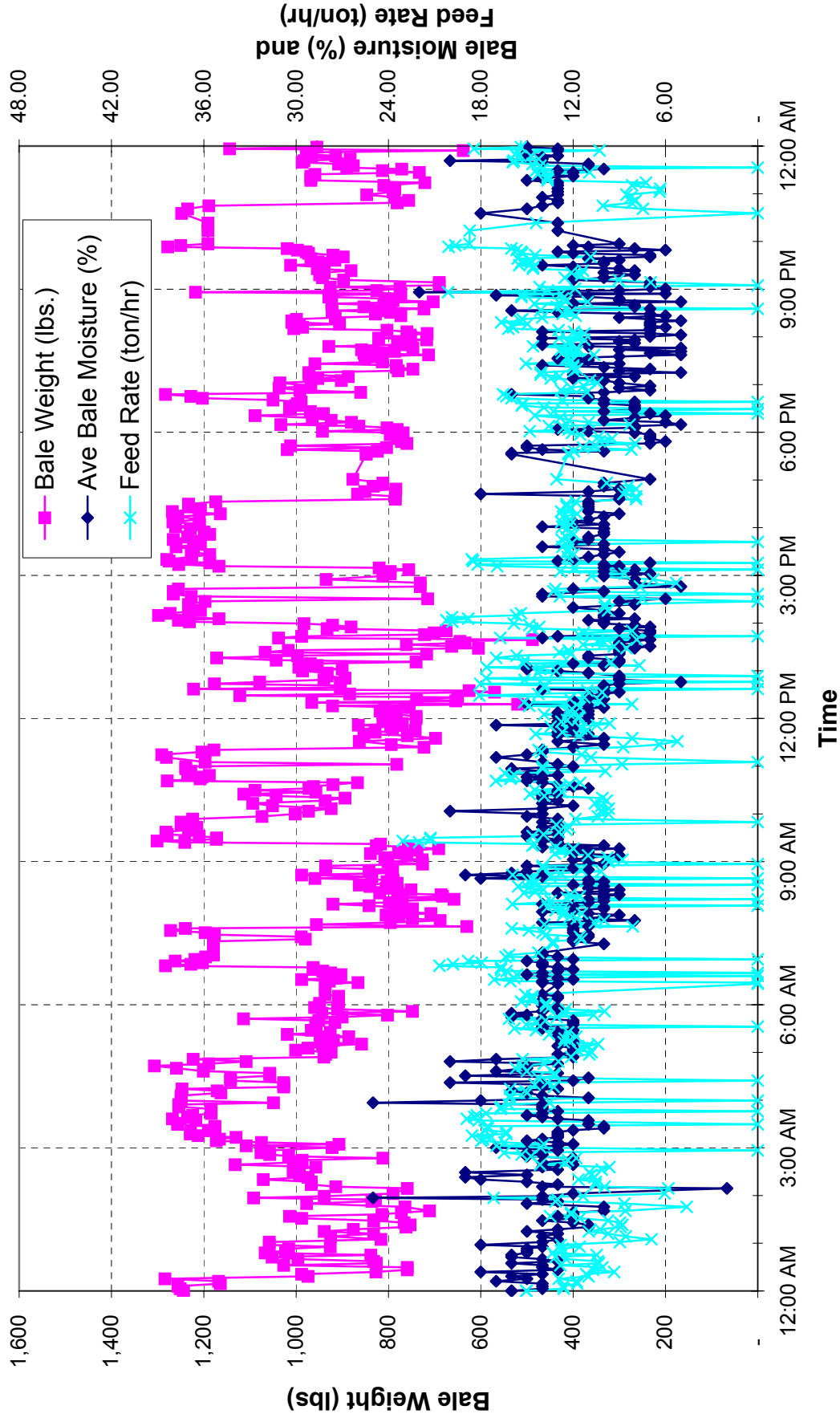
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	27,807 bales
Total Tons Processed (accepted) :	13,918
Average Bale Weight:	1,001 lbs./bale
Total System Processing Hours:	1,515.8 hours
Percent of Run-hour Goal (to date):	76% of 2000 hour goal
Percent of Tonnage Goal (to date):	56% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,380 tons
Projected % of Goal (by end of test burn)	62%
Estimated Power Generated :	17,441 MWh
Time Remaining until May 12th Outage:	6 days
	144 hours

Average Iowa Homes Powered for Full Year : 1,667 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 6, 2006)



Summary Statistics:

Date : Saturday, May 06, 2006

Bale Count : 533 bales

Run Time : 22.6 hrs

Total Bale Weight : 257.4 tons

Max. Bale Weight : 1,307 lbs.

Min. Bale Weight : 488 lbs.

Average Bale Weight: 966 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 25%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 12.2 tons/hr ; 3.4 ft/min.

Max. Feed Rate (ten bale average): 17.4 tons/hr ; 5.3 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.4 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 7% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.7 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 12% Setpoint vs. Actual Overall

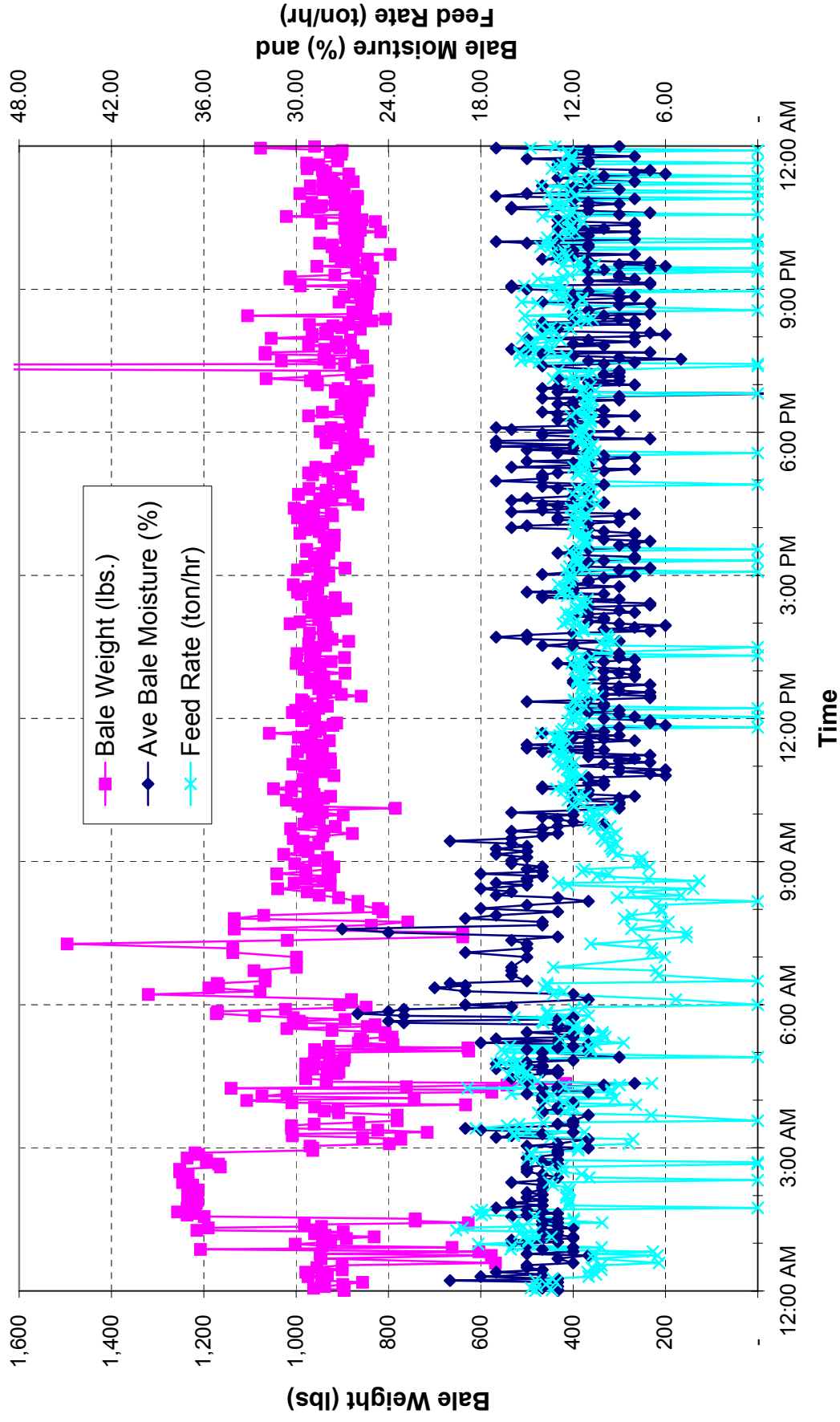
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	28,351 bales
Total Tons Processed (accepted) :	14,180
Average Bale Weight:	1,000 lbs./bale
Total System Processing Hours:	1,539.8 hours
Percent of Run-hour Goal (to date):	77% of 2000 hour goal
Percent of Tonnage Goal (to date):	57% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,438 tons
Projected % of Goal (by end of test burn)	62%
Estimated Power Generated :	17,769 MWh
Time Remaining until May 12th Outage:	5 days
	120 hours

Average Iowa Homes Powered for Full Year : 1,699 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 7, 2006)



Summary Statistics:

Date : Sunday, May 07, 2006

Bale Count : 543 bales

Run Time : 23.8 hrs

Total Bale Weight : 257.6 tons

Max. Bale Weight : 3,421 lbs.

Min. Bale Weight : 416 lbs.

Average Bale Weight: 949 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 27%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 11.2 tons/hr ; 3.2 ft/min.

Max. Feed Rate (ten bale average): 16.0 tons/hr ; 4.8 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	10.8 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 3% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.7 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 4% Setpoint vs. Actual Overall

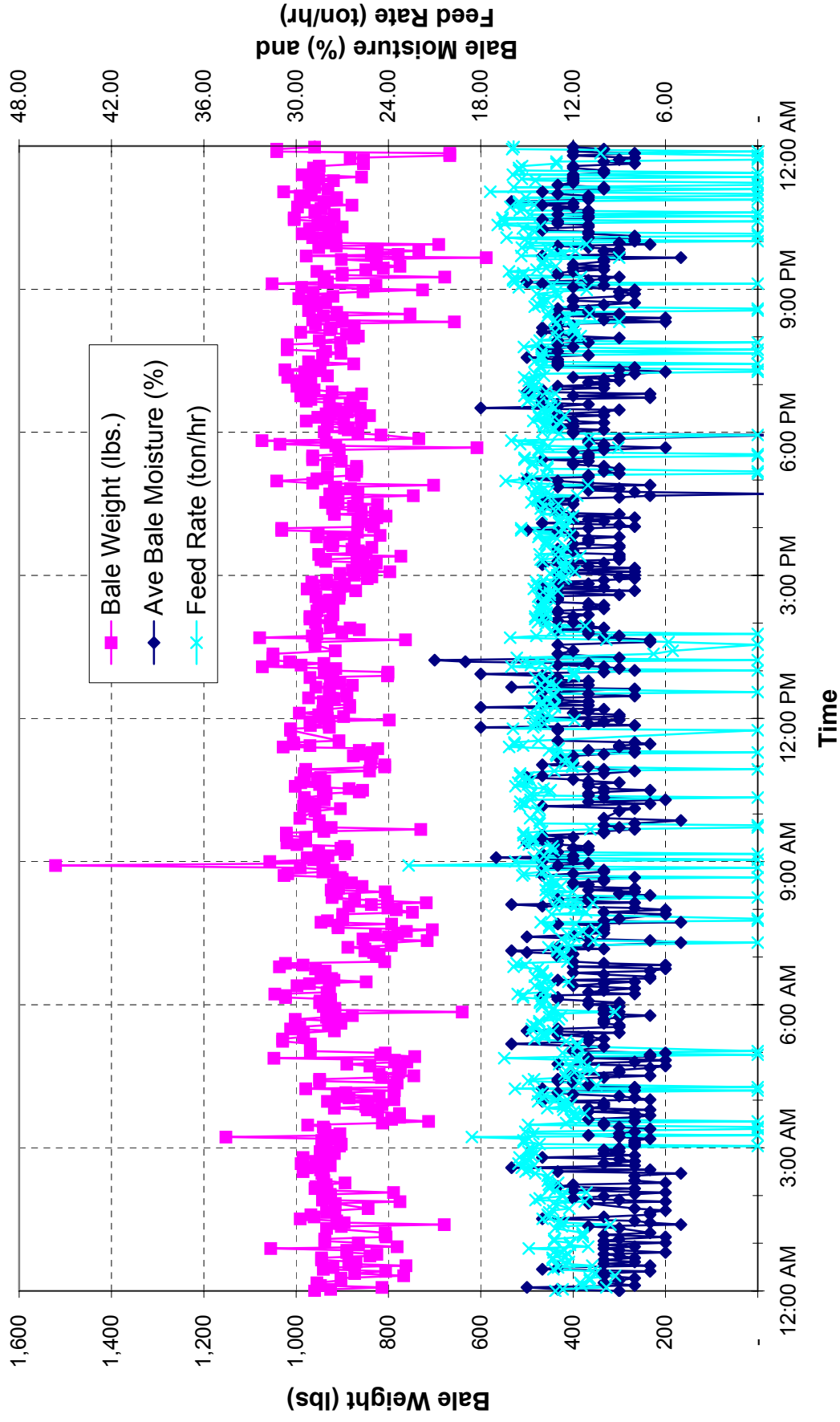
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	28,891 bales
Total Tons Processed (accepted) :	14,436
Average Bale Weight:	999 lbs./bale
Total System Processing Hours:	1,563.5 hours
Percent of Run-hour Goal (to date):	78% of 2000 hour goal
Percent of Tonnage Goal (to date):	58% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,488 tons
Projected % of Goal (by end of test burn)	62%
Estimated Power Generated :	18,090 MWh
Time Remaining until May 12th Outage:	4 days
	96 hours

Average Iowa Homes Powered for Full Year : 1,729 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 8, 2006)



Summary Statistics:

Date : Monday, May 08, 2006

Bale Count : 581 bales

Run Time : 23.8 hrs

Total Bale Weight : 264.3 tons

Max. Bale Weight : 1,521 lbs.

Min. Bale Weight : 588 lbs.

Average Bale Weight: 910 lbs.

Average Moisture Content: 11%

Max. Bale Moisture : 21%

Min. Bale Moisture : -2%

Average Feed Rate (as recorded for each bale): 12.2 tons/hr ; 3.6 ft/min.

Max. Feed Rate (ten bale average): 15.0 tons/hr ; 4.8 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.1 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 9% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	11.0 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 10% Setpoint vs. Actual Overall

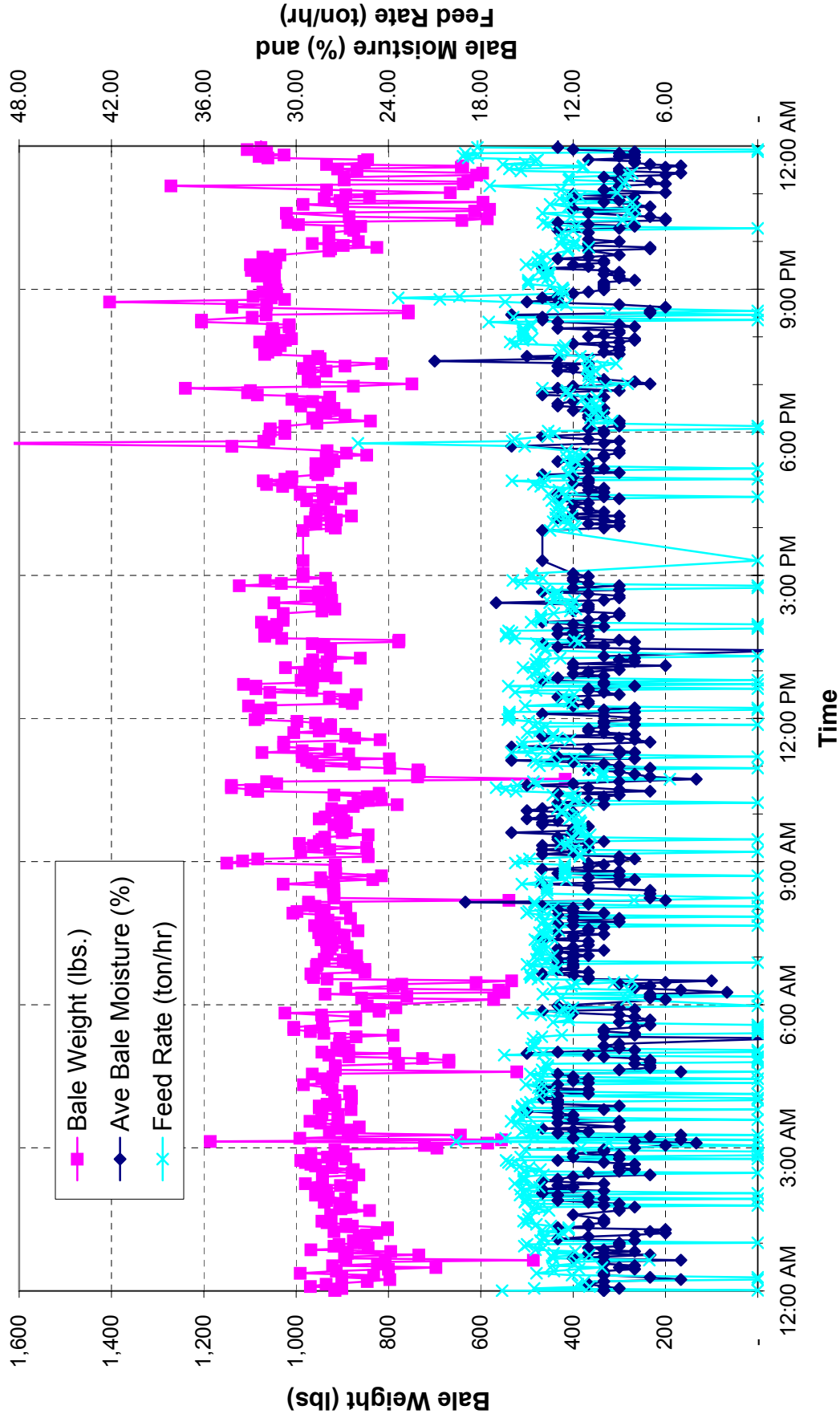
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	29,471 bales
Total Tons Processed (accepted) :	14,700
Average Bale Weight:	998 lbs./bale
Total System Processing Hours:	1,587.5 hours
Percent of Run-hour Goal (to date):	79% of 2000 hour goal
Percent of Tonnage Goal (to date):	59% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,545 tons
Projected % of Goal (by end of test burn)	62%
Estimated Power Generated :	18,420 MWh
Time Remaining until May 12th Outage:	3 days
	72 hours

Average Iowa Homes Powered for Full Year : 1,761 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 9, 2006)



Summary Statistics:

Date :	Tuesday, May 09, 2006		
Bale Count :	532	bales	
Run Time :	23.1	hrs	
Total Bale Weight :	247.7	tons	
Max. Bale Weight :	1,742	lbs.	
Min. Bale Weight :	417	lbs.	
Average Bale Weight:	931	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	21%		
Min. Bale Moisture :	-2%		
Average Feed Rate (as recorded for each bale):	11.7	tons/hr ;	3.3 ft/min.
Max. Feed Rate (ten bale average):	15.9	tons/hr ;	5.9 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	10.7	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	8%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	10.3	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	12%	Setpoint vs.	Actual Overall

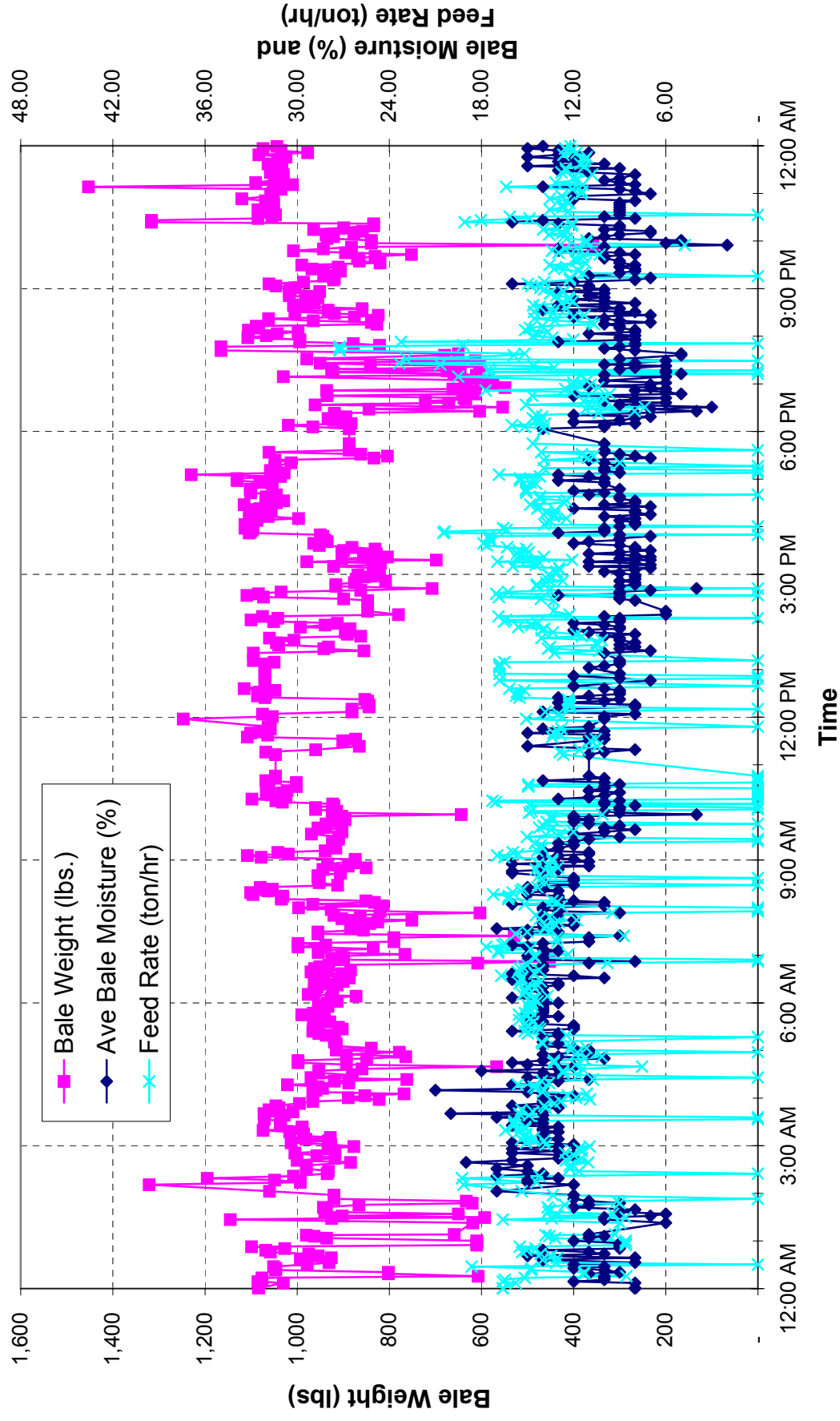
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	30,001	bales
Total Tons Processed (accepted) :	14,946	
Average Bale Weight:	996	lbs./bale
Total System Processing Hours:	1,610.7	hours
Percent of Run-hour Goal (to date):	81%	of 2000 hour goal
Percent of Tonnage Goal (to date):	60%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,581	tons
Projected % of Goal (by end of test burn)	62%	
Estimated Power Generated :	18,729	MWh
Time Remaining until May 12th Outage:	2	days
	48	hours

Average Iowa Homes Powered for Full Year : 1,791 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 10, 2006)



Summary Statistics:

Date :	Wednesday, May 10, 2006		
Bale Count :	540	bales	
Run Time :	22.8	hrs	
Total Bale Weight :	255.0	tons	
Max. Bale Weight :	1,453	lbs.	
Min. Bale Weight :	358	lbs.	
Average Bale Weight:	945	lbs.	
Average Moisture Content:	11%		
Max. Bale Moisture :	21%		
Min. Bale Moisture :	2%		
Average Feed Rate (as recorded for each bale):	12.5	tons/hr ;	3.6 ft/min.
Max. Feed Rate (ten bale average):	19.9	tons/hr ;	6.6 ft/min.
Min. Feed Rate:	-	tons/hr ;	- ft/min.
Average Feed Rate:	11.2	tons/hr ;	
(Daily Tons / Daily Runhours)			
Diff Between Avg. Feed Rates:	11%	Setpoint vs.	Actual During Run Hours
Overall Avg. Feed Rate:	10.6	tons/hr	
(Daily Tons / 24 hrs)			
Diff Between Avg. Feed Rates:	15%	Setpoint vs.	Actual Overall

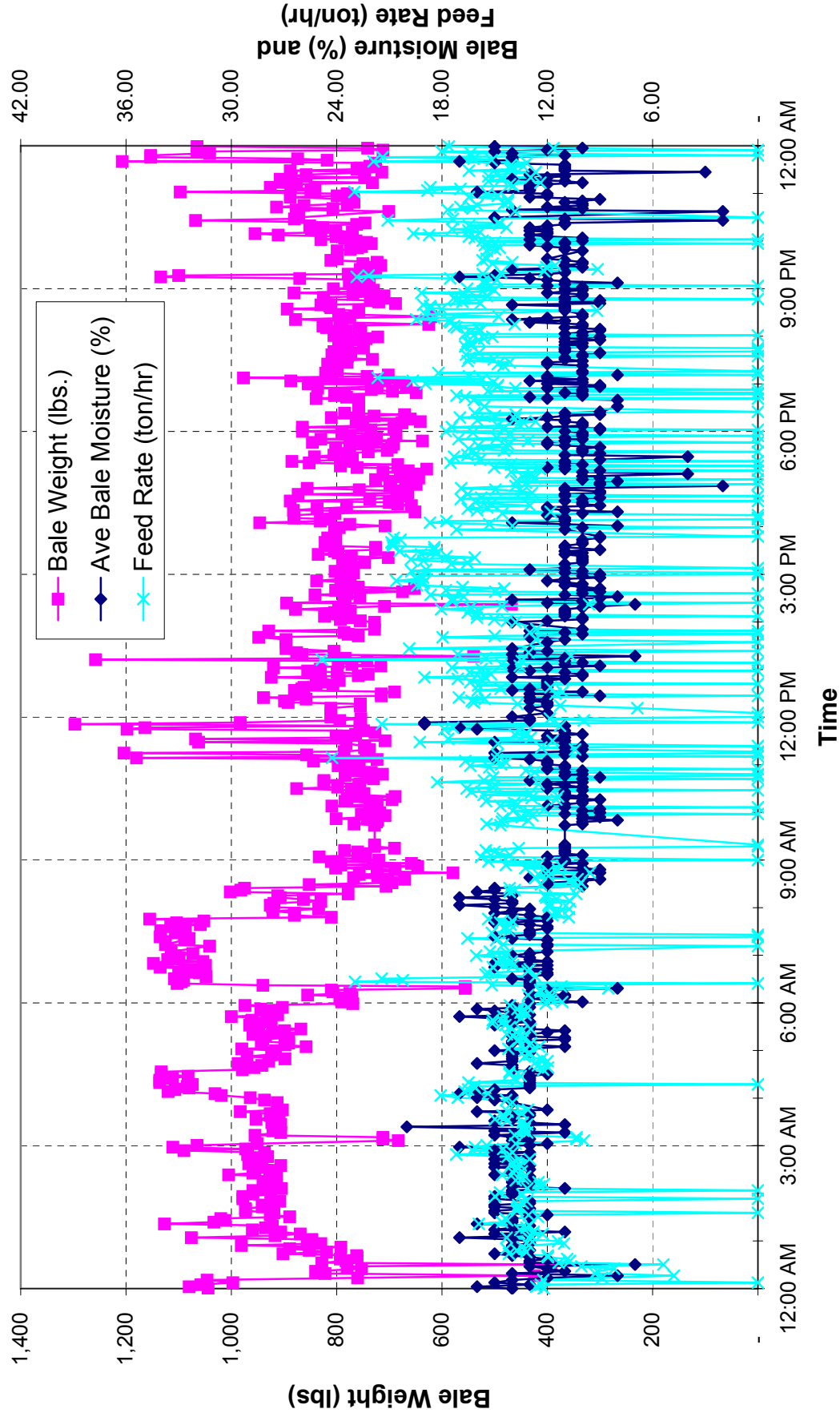
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	30,538	bales
Total Tons Processed (accepted) :	15,200	
Average Bale Weight:	995	lbs./bale
Total System Processing Hours:	1,634.1	hours
Percent of Run-hour Goal (to date):	82%	of 2000 hour goal
Percent of Tonnage Goal (to date):	61%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,625	tons
Projected % of Goal (by end of test burn)	62%	
Estimated Power Generated :	19,047	MWh
Time Remaining until May 12th Outage:	1	days
	24	hours

Average Iowa Homes Powered for Full Year : 1,821 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 11, 2006)



Summary Statistics:

Date : Thursday, May 11, 2006

Bale Count : 620 bales

Run Time : 23.4 hrs

Total Bale Weight : 261.1 tons

Max. Bale Weight : 1,297 lbs.

Min. Bale Weight : 393 lbs.

Average Bale Weight: 842 lbs.

Average Moisture Content: 12%

Max. Bale Moisture : 20%

Min. Bale Moisture : 2%

Average Feed Rate (as recorded for each bale): 13.0 tons/hr ; 4.2 ft/min.

Max. Feed Rate (ten bale average): 19.8 tons/hr ; 6.8 ft/min.

Min. Feed Rate: - tons/hr ; - ft/min.

Average Feed Rate:	11.1 tons/hr ;
(Daily Tons / Daily Runhours)	

Diff Between Avg. Feed Rates: 14% Setpoint vs. Actual During Run Hours

Overall Avg. Feed Rate:	10.9 tons/hr
(Daily Tons / 24 hrs)	

Diff Between Avg. Feed Rates: 16% Setpoint vs. Actual Overall

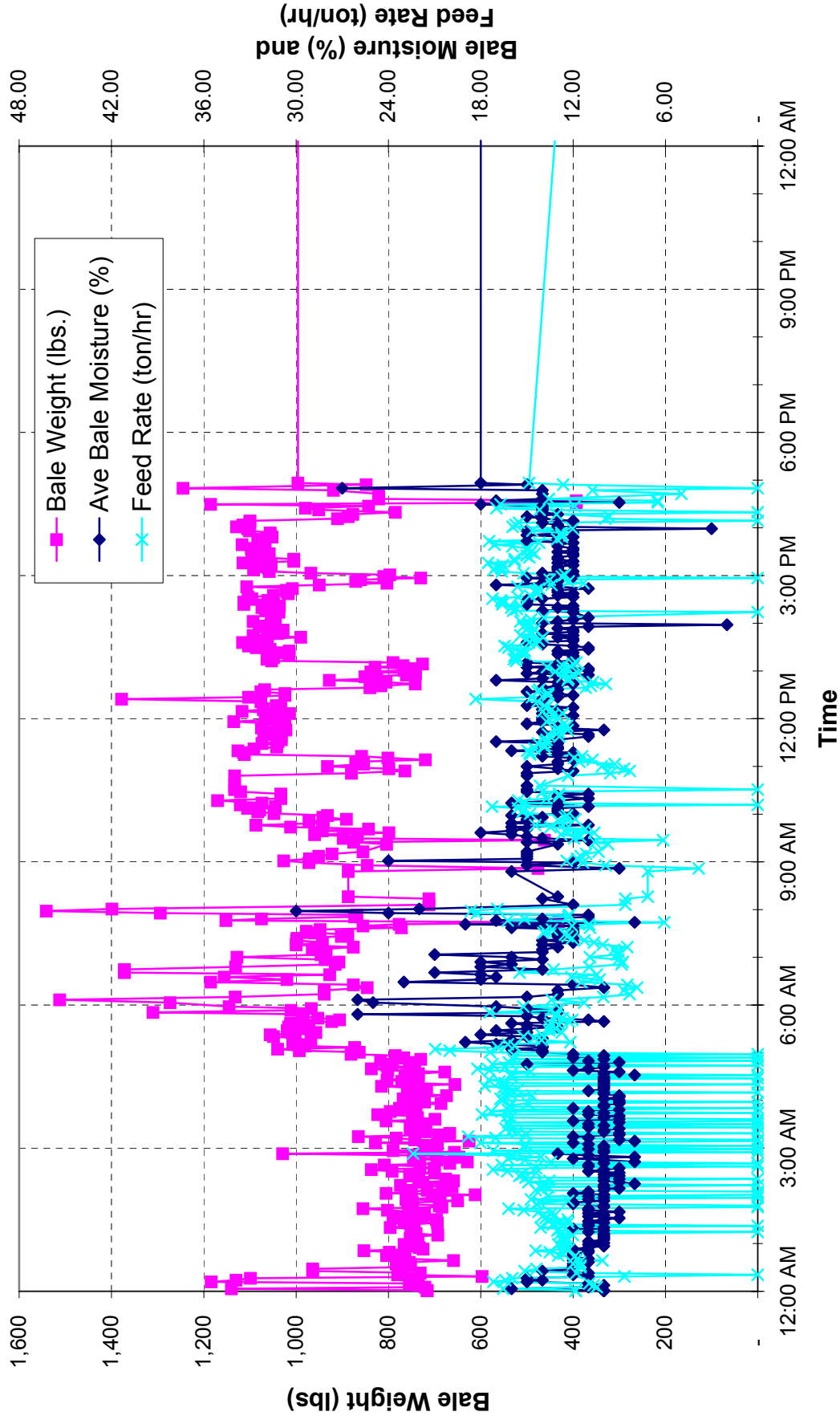
Overall Statistics (through midnight):

Total Bales Processed (accepted) :	31,157 bales
Total Tons Processed (accepted) :	15,460
Average Bale Weight:	992 lbs./bale
Total System Processing Hours:	1,658.0 hours
Percent of Run-hour Goal (to date):	83% of 2000 hour goal
Percent of Tonnage Goal (to date):	62% of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,673 tons
Projected % of Goal (by end of test burn)	63%
Estimated Power Generated :	19,373 MWh
Time Remaining until May 12th Outage:	- days
	- hours

Average Iowa Homes Powered for Full Year : 1,852 average annual homes

CHARITON VALLEY BIOMASS PROJECT

Daily Switchgrass Processing Summary Chart (May 12, 2006)



Summary Statistics:

Date :	Friday, May 12, 2006	
Bale Count :	413	bales
Run Time :	16.2	hrs
Total Bale Weight :	187.1	tons
Max. Bale Weight :	1,541	lbs.
Min. Bale Weight :	393	lbs.
Average Bale Weight:	906	lbs.
Average Moisture Content:	13%	
Max. Bale Moisture :	30%	
Min. Bale Moisture :	2%	
Average Feed Rate (during run time):	12.3	tons/hr ; 3.6 ft/min.
Max. Feed Rate (during run time):	16.3	tons/hr ; 5.8 ft/min.
Min. Feed Rate (during run time):	-	tons/hr ; - ft/min.
Average Feed Rate:	11.5	tons/hr ;
(Daily Tons / Daily Runhours)		
Overall Avg. Feed Rate:	7.8	tons/hr
(Daily Tons / 24 hrs)		

Overall Statistics (through midnight):

Total Bales Processed (accepted) :	31,568	bales
Total Tons Processed (accepted) :	15,647	
Average Bale Weight:	991	lbs./bale
Total System Processing Hours:	1,675.2	hours
Percent of Run-hour Goal (to date):	84%	of 2000 hour goal
Percent of Tonnage Goal (to date):	63%	of 25,000 ton goal
Projected Tons Processed (by end of test burn)	15,647	tons
Projected % of Goal (by end of test burn)	63%	
Estimated Power Generated :	19,607	MWh
Time Remaining until May 12th Outage:	-	days
	-	hours

Average Iowa Homes Powered for Full Year : 1,874 average annual homes

Appendix G -- Weekly Process Reports for Project Management (Long Term Test Burn)

Week	Switchgrass Processing Date	Daily Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Day of Test Burn	Cumulative Totals (tons)	Cumulative Totals (Reverse Order-- from last day to first) (tons)	Day from End of Test Burn
1	Thursday, February 16	0	0.0	n/a	0.0	n/a	n/a		0.0		
	Friday, February 17	21	10.0	n/a	8.5	8.5	1.2	1	10.0	15,670.8	85
	Saturday, February 18	45	23.0	n/a	0.0	9.3	1.2	2	33.0	15,660.8	84
	Sunday, February 19	89	43.0	n/a	6.0	10.7	8.9	3	76.0	15,637.8	83
	Monday, February 20	57	28.0	n/a	4.8	10.3	5.8	4	104.0	15,594.8	82
	Tuesday, February 21	90	43.0	n/a	6.4	13.0	6.7	5	147.0	15,566.8	81
	Wednesday, February 22	158	74.0	11%	9.8	15.6	13.0	6	221.0	15,523.8	80
2	Thursday, February 23	220	112.0	11%	15.3	15.8	13.8	7	333.0	15,449.8	79
	Friday, February 24	227	113.0	10%	11.3	15.7	12.0	8	446.0	15,337.8	78
	Saturday, February 25	252	122.0	13%	16.0	12.9	11.4	9	568.0	15,224.8	77
	Sunday, February 26	385	187.0	12%	21.3	12.7	11.4	10	755.0	15,102.8	76
	Monday, February 27	335	167.0	12%	18.8	13.9	11.8	11	922.0	14,915.8	75
	Tuesday, February 28	365	176.0	11%	21.9	13.6	11.4	12	1,098.0	14,748.8	74
	Wednesday, March 01	368	180.0	12%	23.9	13.0	11.6	13	1,278.0	14,572.8	73
3	Thursday, March 02	329	163.0	12%	15.9	12.9	11.7	14	1,441.0	14,392.8	72
	Friday, March 03	482	245.0	12%	22.2	12.9	11.6	15	1,686.0	14,229.8	71
	Saturday, March 04	514	260.4	12%	24.0	12.9	11.2	16	1,946.4	13,984.8	70
	Sunday, March 05	283	138.4	13%	15.4	11.2	9.5	17	2,084.8	13,724.4	69
	Monday, March 06	340	168.2	13%	20.8	11.3	10.1	18	2,253.0	13,586.0	68
	Tuesday, March 07	314	155.2	13%	19.7	12.3	10.6	19	2,408.2	13,417.8	67
	Wednesday, March 08	470	230.7	13%	23.1	14.1	12.0	20	2,638.9	13,262.6	66
4	Thursday, March 09	495	235.2	13%	22.4	13.2	11.3	21	2,874.1	13,031.9	65
	Friday, March 10	533	259.0	13%	24.0	13.8	11.8	22	3,133.1	12,796.7	64
	Saturday, March 11	404	194.5	13%	19.4	14.5	12.2	23	3,327.6	12,537.7	63
	Sunday, March 12	537	254.7	13%	23.5	15.0	13.1	24	3,582.3	12,343.2	62
	Monday, March 13	413	199.2	14%	20.5	15.0	12.7	25	3,781.6	12,088.5	61
	Tuesday, March 14	439	213.3	15%	21.3	15.3	12.6	26	3,994.9	11,889.2	60
	Wednesday, March 15	460	228.8	15%	24.0	14.3	12.1	27	4,223.7	11,675.9	59
5	Thursday, March 16	329	168.3	14%	16.4	17.9	10.3	28	4,392.0	11,447.1	58
	Friday, March 17	373	208.1	14%	20.5	15.6	10.2	29	4,600.1	11,278.8	57
	Saturday, March 18	366	181.4	16%	20.9	14.4	11.8	30	4,781.5	11,070.7	56
	Sunday, March 19	307	152.7	15%	17.8	15.1	12.0	31	4,934.2	10,889.3	55
	Monday, March 20	341	184.0	15%	19.6	13.0	11.0	32	5,118.2	10,736.6	54
	Tuesday, March 21	418	212.0	15%	22.5	16.0	12.4	33	5,330.2	10,552.6	53
	Wednesday, March 22	529	247.9	13%	23.3	15.4	12.4	34	5,578.1	10,340.6	52
6	Thursday, March 23	451	237.6	15%	22.7	14.2	11.7	35	5,815.7	10,092.7	51
	Friday, March 24	441	237.2	15%	23.1	14.1	12.1	36	6,052.9	9,855.1	50
	Saturday, March 25	430	224.8	13%	22.8	14.0	11.7	37	6,277.7	9,617.9	49
	Sunday, March 26	170	81.1	13%	8.2	14.8	11.8	38	6,358.8	9,393.1	48
	Monday, March 27	0	0.0	0%	0.0	0.0	0.0	39	6,358.8	9,312.0	47
	Tuesday, March 28	0	0.0	0%	0.0	0.0	0.0	40	6,358.8	9,312.0	46
	Wednesday, March 29	0	0.0	0%	0.0	0.0	0.0	41	6,358.8	9,312.0	45
7	Thursday, March 30	0	0.0	0%	0.0	0.0	0.0	42	6,358.8	9,312.0	44
	Friday, March 31	79	37.8	15%	4.3	11.4	8.7	43	6,396.6	9,312.0	43
	Saturday, April 01	441	213.5	14%	21.8	13.9	9.8	44	6,610.0	9,274.2	42
	Sunday, April 02	446	223.3	13%	22.3	13.3	10.0	45	6,833.4	9,060.8	41
	Monday, April 03	426	213.6	14%	21.4	14.6	10.0	46	7,047.0	8,837.5	40
	Tuesday, April 04	263	139.2	14%	12.9	13.1	10.8	47	7,186.2	8,623.8	39
	Wednesday, April 05	354	182.5	15%	20.2	13.8	9.1	48	7,368.6	8,484.7	38
8	Thursday, April 06	348	178.0	12%	16.1	13.6	11.1	49	7,546.6	8,302.2	37
	Friday, April 07	390	202.3	13%	21.5	13.4	9.4	50	7,748.9	8,124.2	36
	Saturday, April 08	394	201.9	15%	19.3	14.0	10.4	51	7,950.7	7,921.9	35
	Sunday, April 09	467	234.4	15%	22.9	13.9	10.2	52	8,185.2	7,720.1	34
	Monday, April 10	335	175.0	15%	17.5	13.8	10.0	53	8,360.2	7,485.6	33
	Tuesday, April 11	333	173.4	11%	16.0	15.0	10.9	54	8,533.6	7,310.6	32
	Wednesday, April 12	426	221.0	12%	21.2	15.0	10.4	55	8,754.6	7,137.2	31
9	Thursday, April 13	455	233.6	14%	22.7	14.9	10.3	56	8,988.2	6,916.2	30
	Friday, April 14	463	235.5	12%	22.1	14.4	10.6	57	9,223.7	6,682.6	29
	Saturday, April 15	382	200.9	13%	19.1	14.9	10.5	58	9,424.5	6,447.2	28
	Sunday, April 16	354	183.4	13%	20.2	13.8	9.1	59	9,607.9	6,246.3	27
	Monday, April 17	379	194.9	15%	21.1	15.3	9.2	60	9,802.8	6,062.9	26
	Tuesday, April 18	479	248.6	12%	22.8	14.3	10.9	61	10,051.5	5,868.0	25
	Wednesday, April 19	468	244.5	14%	23.3	15.5	10.5	62	10,295.9	5,619.3	24
10	Thursday, April 20	383	200.0	13%	21.2	14.9	9.4	63	10,495.9	5,374.9	23
	Friday, April 21	364	181.9	13%	19.5	15.3	9.3	64	10,677.9	5,174.9	22
	Saturday, April 22	359	182.0	13%	19.8	15.9	9.2	65	10,859.9	4,992.9	21
	Sunday, April 23	401	188.0	12%	19.2	15.3	9.8	66	11,047.9	4,810.9	20
	Monday, April 24	450	211.9	12%	19.8	14.5	10.7	67	11,259.7	4,622.9	19
	Tuesday, April 25	589	261.7	12%	23.4	14.9	11.2	68	11,521.4	4,411.1	18
	Wednesday, April 26	500	237.1	12%	22.2	16.8	10.7	69	11,758.6	4,149.4	17
11	Thursday, April 27	513	252.9	12%	23.0	14.6	11.0	70	12,011.4	3,912.2	16
	Friday, April 28	470	251.2	11%	23.4	14.0	10.7	71	12,262.6	3,659.4	15
	Saturday, April 29	493	238.3	11%	21.6	14.2	11.0	72	12,501.0	3,408.2	14
	Sunday, April 30	463	217.3	12%	22.4	14.2	9.7	73	12,718.3	3,169.8	13
	Monday, May 01	429	219.8	15%	23.3	13.6	9.4	74	12,938.0	2,952.5	12
	Tuesday, May 02	471	236.3	13%	23.3	13.6	10.1	75	13,174.4	2,732.8	11
	Wednesday, May 03	519	249.8	11%	23.6	14.6	10.6	76	13,424.2	2,496.4	10
12	Thursday, May 04	516	265.3	11%	23.3	15.6	11.4	77	13,689.5	2,246.6	9
	Friday, May 05	470	251.3	14%	22.3	15.9	11.2	78	13,940.7	1,981.3	8
	Saturday, May 06	533	257.4	12%	22.6	17.4	11.4	79	14,198.1	1,730.1	7
	Sunday, May 07	543	257.6	12%	23.8	16.0	10.8	80	14,455.7	1,472.7	6
	Monday, May 08	581	264.3	11%	23.8	15.0	11.1	81	14,719.9	1,215.1	5
	Tuesday, May 09	532	247.7	11%	23.1	15.9	10.7	82	14,967.6	950.9	4
	Wednesday, May 10	540	255.0	11%	22.8	19.9	11.2	83	15,222.7	703.2	3
13	Thursday, May 11	620	261.1	12%	23.4	19.8	11.1	84	15,483.7	448.1	2
	Friday, May 12	413	187.1	13%	16.2	16.3	11.5	85	15,670.8	187.1	1
	Average per day	368	182.2	13%	18.3	13.6	10.0				
	Total	31,614	15,671	13%	1573.6	19.9	10.0				

Note: Gray/filled cells indicate beginning of a reporting week (for CV RC&D and PrairieLands weekly board reports).



WEEKLY PROGRESS REPORT



Activity: Charlton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, February 16 through Wednesday, February 22

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comment
Thursday, February 16	0	0.0	n/a	-	n/a	n/a	Fuel Processing Contract Finalized
Friday, February 17	21	10.0	n/a	8.5	8.5	1.2	Alliant granted permission to burn. Automated data logging implemented.
Saturday, February 18	45	23.0	n/a		9.3		Problems: bale traction, bale counting, moisture content reading too low
Sunday, February 19	89	43.0	n/a	6.0	10.7	8.9	Fixed: Baghouse Rotor
Monday, February 20	57	28.0	n/a	4.8	10.3	5.8	Fixed: Control issues
Tuesday, February 21	90	43.0	n/a	6.4	13.0	6.7	Fixed: Weight & moisture readings
Wednesday, February 22	158	74.0	11%	9.8	15.6	13.0	Fixed: Added lugs to chains for increased traction. Start 24 hr/day ops.
TOTALS	460	221.0	11%	35.5	15.6	6.2	

Business Summary:

Line Item	Tons	Unit Price	Total Price
Total Switchgrass Processed	221.0	\$11.17	\$ 2,467.47
Environmental Benefit, SO2 reductions	0.9	\$900.00	\$ 813.35
Value Accumulated this Period			\$ 3,280.83

PREPARED BY : Antares Group Inc. and TR Miles



WEEKLY PROGRESS REPORT



Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, February 23 through Wednesday, March 01

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	460	221	11%	35.5	15.6	6.2	First week of operations for Test Burn
Thursday, February 23	220	112	11%	15.3	15.8	13.8	Modified debaler infeed. Installed fuel deflector in Meter Bin. Modified bale height adjustment and controls. Stopped for plugs in debaler & Destinger.
Friday, February 24	227	113	10%	11.3	15.7	12.0	Debaler plug. Fire in debaler and downstream to Eliminator. 713 VFD stopped. Eliminator plug.
Saturday, February 25	252	122	13%	16.0	12.9	11.4	Changes to 713 conveyor & debaler infeed.
Sunday, February 26	385	187	12%	21.3	12.7	11.4	Stops for Line 2 Airlock, Meter Bin Screw Conv., Destinger knife, debaler plug from rubber flap.
Monday, February 27	335	167	12%	18.8	13.9	11.8	Attachments added to bale conv. New starter on 717 screw conv. Debaler infeed flaps trimmed.
Tuesday, February 28	365	176	11%	21.9	13.6	11.4	Control program revised & installed. Bale lift mechanism modified. 717 metering screw still problematic.
Wednesday, March 01	368	180	12%	23.9	13.0	11.6	Nearly continuous operation. Trouble with wet bales in morning caused feed stoppages.
WEEKLY TOTALS	2,152	1,057	12%	128.5	15.8	8.2	
GRAND TOTALS	2,612	1,278	12%	164.0	15.8	7.8	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,057.0	\$ 11.17	\$ 11,801.45	1,278.0	\$ 11.17	\$ 14,268.92
Environmental Benefit, SO2 reductions	4.3	\$ 900.00	\$ 3,890.11	5.2	\$ 903.86	\$ 4,703.46
Total Value Accumulated		\$ 15,691.55	\$ 15,691.55		\$ 18,972.38	\$ 18,972.38
Potential Future Value Streams						
Section 45 Production Tax Credit				1,278.0	\$ 34.37	\$ 43,922.07
Carbon Credits				4,153.5	\$ 1.82	\$ 7,551.82
Renewable Energy Credits				1,278.0	\$ 3.55	\$ 4,533.86
Total Additional Future Value Streams					\$	\$ 56,007.74
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	\$ 74,980.12

Contract Value for Existing Contract for Long Term Test Burn

PREPARED BY :

Antares Group Inc. and TR Miles



WEEKLY PROGRESS REPORT



Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, March 02 through Wednesday, March 08

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	2,612	1278	12%	164.0	15.8	7.8	First 2 weeks of operations for Test Burn
Thursday, March 02	329	163	12%	15.9	12.9	11.7	
Friday, March 03	482	245	12%	22.2	12.9	11.6	Record average feed rate during operating hours.
Saturday, March 04	514	260	12%	24.0	12.9	11.2	Record number of bales processed in a single day.
Sunday, March 05	283	138	13%	15.4	11.2	9.5	Problems with pressure limit tripping blower on blow line number 2 begins
Monday, March 06	340	168	13%	20.8	11.3	10.1	Hole in blow pipe near burner in power plant found and repaired.
Tuesday, March 07	314	155	13%	19.7	12.3	10.6	Sprinkler system tripped.
Wednesday, March 08	470	231	13%	23.1	14.1	12.0	
WEEKLY TOTALS	2,732	1,361	13%	141.1	14.1	9.6	
GRAND TOTALS	5,344	2,639	12%	305.1	15.8	8.7	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,360.9	\$ 111.17	\$ 15,194.96	2,638.9	\$ 111.17	\$ 29,463.88
Environmental Benefit, SO2 reductions	5.5	\$ 900.00	\$ 4,916.85	10.7	\$ 900.00	\$ 9,592.81
Total Value Accumulated		\$ 20,111.81	\$ 20,111.81		\$ 39,056.69	
Potential Future Value Streams						
Section 45 Production Tax Credit						
				2,638.9	\$ 34.37	\$ 90,694.64
Carbon Credits						
				8,576.6	\$ 1.82	\$ 15,593.74
Renewable Energy Credits						
				2,638.9	\$ 3.55	\$ 9,361.96
Total Additional Future Value Streams						
					\$	\$ 115,650.34
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)						\$ 154,707.03

Existing Contract for Test Burn

PREPARED BY :

Antares Group Inc. and TR Miles



WEEKLY PROGRESS REPORT



Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, March 09 through Wednesday, March 15

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	5,344	2,638.9	12%	305.1	15.8	8.7	First 3 weeks of operations for Test Burn
Thursday, March 09	495	235.2	13%	22.4	13.2	11.3	
Friday, March 10	533	259.0	13%	24.0	13.8	11.8	Record tons processed per day.
Saturday, March 11	404	194.5	13%	19.4	14.5	12.2	
Sunday, March 12	537	254.7	13%	23.5	15.0	13.1	Record number of bales processed in a single day.
Monday, March 13	413	199.2	14%	20.5	15.0	12.7	
Tuesday, March 14	439	213.3	15%	21.3	15.3	12.6	Outage for repair & cleanup of hole in expansion joint near burners at OGS
Wednesday, March 15	460	228.8	15%	24.0	14.3	12.1	Wet bales result in lower overall feed rates due to processing difficulties.
WEEKLY TOTALS	3,281	1,584.7	14%	155.2	15.3	10.2	
GRAND TOTALS	8,625	4,223.7	13%	460.2	15.8	9.2	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,584.7	\$ 111.17	\$ 17,693.50	4,223.7	\$ 111.17	\$ 47,157.38
Environmental Benefit, SO2 reductions	6.3	\$ 900.00	\$ 5,656.41	16.9	\$ 900.00	\$ 15,249.22
Total Value Accumulated			\$ 23,349.90			\$ 62,406.59
Potential Future Value Streams						
Section 45 Production Tax Credit	4,224	\$ 34.37	\$ 145,158.10			
Carbon Credits	13,727	\$ 1.82	\$ 24,958.01			
Renewable Energy Credits	4,224	\$ 3.55	\$ 14,983.95			
Total Additional Future Value Streams						\$ 185,100.07
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)						\$ 247,506.66

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.



WEEKLY PROGRESS REPORT



Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, March 16 through Wednesday, March 22

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	8,625	4,223.7	13%	460.2	15.8	9.2	First 4 weeks of operations for Test Burn
Thursday, March 16	329	168.3	14%	16.4	17.9	10.3	
Friday, March 17	373	208.1	14%	20.5	15.6	10.2	
Saturday, March 18	366	181.4	16%	20.9	14.4	11.8	Extended outage due to fire system trip and lock-out.
Sunday, March 19	307	152.7	15%	17.8	15.1	12.0	
Monday, March 20	341	184.0	15%	19.6	13.0	11.0	First invoice for fuel processing submitted to IPL / Alliant (\$64,178.74)
Tuesday, March 21	418	212.0	15%	22.5	16.0	12.4	Boiler probe and fuel & ash sampling tests begin.
Wednesday, March 22	529	247.9	13%	23.3	15.4	12.4	Air emissions tests at processing facility begin.
WEEKLY TOTALS	2,663	1,354.4	14%	141.0	17.9	9.6	
GRAND TOTALS	11,288	5,578.1	13%	601.2	17.9	9.3	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,354.4	\$ 10.97	\$ 14,857.77	5,578.1	\$ 11.15	\$ 62,195.82
Environmental Benefit, SO2 reductions	5.3	\$998.42	\$ 5,291.63	22.3	\$998.42	\$ 22,264.77
Total Value Accumulated			\$ 20,149.39		\$	84,460.58
Potential Future Value Streams						
Section 45 Production Tax Credit						
Carbon Credits				5,578	\$34.37	\$ 191,705.87
Renewable Energy Credits				18,129	\$1.82	\$ 32,961.29
Total Additional Future Value Streams				5,578	\$3.55	\$ 19,788.85
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	244,456.00

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, March 23 through Wednesday, March 29

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	11,288	5,578.1	13%	601.2	17.9	9.3	First 5 weeks of operations for Test Burn
Thursday, March 23	451	237.6	15%	22.7	14.2	11.7	Air emissions tests at processing facility end. REC certification visit.
Friday, March 24	441	237.2	15%	23.1	14.1	12.1	
Saturday, March 25	430	224.8	13%	22.8	14.0	11.7	Boiler probe and fuel & ash sampling tests end.
Sunday, March 26	170	81.1	13%	8.2	14.8	11.8	Eliminator rotor failure (suspected due to foreign grass species)
Monday, March 27	0	0.0	0%	-	-	-	
Tuesday, March 28	0	0.0	0%	-	-	-	
Wednesday, March 29	0	0.0	0%	-	-	-	
WEEKLY TOTALS	1,492	780.7	14%	76.8	14.8	10.2	
GRAND TOTALS	12,780	6,358.8	13%	678.0	17.9	9.4	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	780.7	\$ 111.01	\$ 8,595.51	6,358.8	\$ 111.13	\$ 70,773.44
Environmental Benefit, SO2 reductions	3.1	\$ 998.42	\$ 3,095.10	25.3	\$ 998.42	\$ 25,260.03
Total Value Accumulated		\$ 11,690.61	\$ 11,690.61		\$ 96,033.47	
Potential Future Value Streams						
Section 45 Production Tax Credit				6,359	\$ 34.37	\$ 218,536.82
Carbon Credits				20,666	\$ 1.82	\$ 37,574.51
Renewable Energy Credits				6,359	\$ 3.55	\$ 22,558.47
Total Additional Future Value Streams					\$ 278,669.81	
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$ 374,703.28	

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, March 30 through Wednesday, April 05

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	12,780	6,358.8	13%	678.0	17.9	9.4	First 6 weeks of operations for Test Burn
Thursday, March 30	0	0.0	0%	-	-	-	
Friday, March 31	79	37.8	15%	4.3	11.4	8.7	
Saturday, April 01	441	213.5	14%	21.8	13.9	9.8	
Sunday, April 02	446	223.3	13%	22.3	13.3	10.0	
Monday, April 03	426	213.6	14%	21.4	14.6	10.0	
Tuesday, April 04	263	139.2	14%	12.9	13.1	10.8	
Wednesday, April 05	354	182.5	15%	20.2	13.8	9.1	
WEEKLY TOTALS	2,009	1,009.9	14%	102.8	14.6	9.8	
GRAND TOTALS	14,789	7,368.6	13%	780.9	17.9	9.4	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,009.9	\$ 111.02	\$ 111,129.10	7,368.6	\$ 111.11	\$ 81,865.15
Environmental Benefit, SO2 reductions	4.0	\$ 998.42	\$ 3,993.68	29.3	\$ 998.42	\$ 29,253.71
Total Value Accumulated		\$ 15,122.78			\$ 111,118.85	
Potential Future Value Streams						
Section 45 Production Tax Credit	7,369	\$ 34.37	\$ 253,243.95			
Carbon Credits	23,948	\$ 1.82	\$ 43,541.95			
Renewable Energy Credits	7,369	\$ 3.55	\$ 26,141.12			
Total Additional Future Value Streams					\$ 322,927.01	
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$ 434,045.87	

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, April 06 through Wednesday, April 12

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	14,789	7,368.6	13%	780.9	17.9	9.4	First 7 weeks of operations for Test Burn
Thursday, April 06	348	178.0	12%	16.1	13.6	11.1	
Friday, April 07	390	202.3	13%	21.5	13.4	9.4	
Saturday, April 08	394	201.9	15%	19.3	14.0	10.4	
Sunday, April 09	467	234.4	15%	22.9	13.9	10.2	
Monday, April 10	335	175.0	15%	17.5	13.8	10.0	
Tuesday, April 11	333	173.4	11%	16.0	15.0	10.9	
Wednesday, April 12	426	221.0	12%	21.2	15.0	10.4	
WEEKLY TOTALS	2,693	1,386.0	13%	134.5	15.0	10.3	
GRAND TOTALS	17,482	8,754.6	13%	915.4	17.9	9.6	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,386.0	\$ 11.11	\$ 15,398.46	8,754.6	\$ 11.11	\$ 97,263.61
Environmental Benefit, SO2 reductions	5.5	\$ 998.42	\$ 5,491.31	34.8	\$ 998.42	\$ 34,745.02
Total Value Accumulated			\$ 20,889.77			\$ 132,008.62
Potential Future Value Streams						
Section 45 Production Tax Credit				8,755	\$34.37	\$ 300,876.47
Carbon Credits				28,452	\$1.82	\$ 51,731.73
Renewable Energy Credits				8,755	\$3.55	\$ 31,057.99
Total Additional Future Value Streams					\$	\$ 383,666.18
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	\$ 515,674.81

Existing Contract for Test Burn

PREPARED BY :

Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, April 13 through Wednesday, April 19

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	17,482	8,754.6	13%	915.4	17.9	9.6	First 8 weeks of operations for Test Burn
Thursday, April 13	455	233.6	14%	22.7	14.9	10.3	
Friday, April 14	463	235.5	12%	22.1	14.4	10.6	
Saturday, April 15	382	200.9	13%	19.1	14.9	10.5	Outages due to Debaler Cleaning
Sunday, April 16	354	183.4	13%	20.2	13.8	9.1	Outages due to Debaler Cleaning
Monday, April 17	379	194.9	15%	21.1	15.3	9.2	Outages due to AirlOCK Cleaning and Pneumatic Line Repair
Tuesday, April 18	479	248.6	12%	22.8	14.3	10.9	Debaler Screen Change
Wednesday, April 19	468	244.5	14%	23.3	15.5	10.5	
WEEKLY TOTALS	2,980	1,541.3	13%	151.4	15.5	10.2	
GRAND TOTALS	20,462	10,295.9	13%	1,066.8	17.9	9.7	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,541.3	\$ 11.15	\$ 17,185.50	10,295.9	\$ 11.12	\$ 114,465.08
Environmental Benefit, SO2 reductions	6.2	\$ 894.46	\$ 5,545.65	41.0	\$ 935.13	\$ 38,340.34
Total Value Accumulated		\$ 22,731.15	\$ 22,731.15		\$ 152,805.42	\$ 152,805.42
Potential Future Value Streams						
Section 45 Production Tax Credit				10,296	\$ 34.37	\$ 353,847.58
Carbon Credits				33,462	\$ 1.82	\$ 60,839.41
Renewable Energy Credits				10,296	\$ 3.55	\$ 36,525.93
Total Additional Future Value Streams					\$	\$ 451,212.92
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	\$ 604,018.34

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, April 20 through Wednesday, April 26

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	20,462	10,295.9	13%	1,066.8	16.8	9.6	First 9 weeks of operations for Test Burn
Thursday, April 20	383	200.0	13%	21.2	14.9	9.4	
Friday, April 21	364	181.9	13%	19.5	15.3	9.3	
Saturday, April 22	359	182.0	13%	19.8	15.9	9.2	
Sunday, April 23	401	188.0	12%	19.2	15.3	9.8	
Monday, April 24	450	211.9	12%	19.8	14.5	10.7	
Tuesday, April 25	589	261.7	12%	23.4	14.9	11.2	
Wednesday, April 26	500	237.1	12%	22.2	16.8	10.7	
WEEKLY TOTALS	3,046	1,462.6	12%	145.0	16.8	10.1	
GRAND TOTALS	23,508	11,758.6	13%	1,211.8	16.8	9.7	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,462.6	\$ 11.25	\$ 16,454.25	11,758.6	\$ 11.14	\$130,942.83
Environmental Benefit, SO2 reductions	5.9	\$ 894.46	\$ 5,277.31	46.9	\$ 930.01	\$43,617.65
Total Value Accumulated			\$ 21,731.56		\$	174,560.48
Potential Future Value Streams						
Section 45 Production Tax Credit				11,759	\$34.37	\$ 404,117.39
Carbon Credits				38,215	\$1.82	\$ 69,482.64
Renewable Energy Credits				11,759	\$3.55	\$ 41,715.03
Total Additional Future Value Streams					\$	\$ 515,315.06
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	689,875.54

Existing Contract for Test Burn

PREPARED BY :

Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, April 27 through Wednesday, May 03

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	23,508	11,758.6	13%	1,211.8	16.8	9.7	First 10 weeks of operations for Test Burn
Thursday, April 27	513	252.9	12%	23.0	14.6	11.0	
Friday, April 28	470	251.2	11%	23.4	14.0	10.7	
Saturday, April 29	493	238.3	11%	21.6	14.2	11.0	
Sunday, April 30	463	217.3	12%	22.4	14.2	9.7	
Monday, May 01	429	219.8	15%	23.3	13.6	9.4	
Tuesday, May 02	471	236.3	13%	23.3	13.6	10.1	
Wednesday, May 03	519	249.8	11%	23.6	14.6	10.6	
WEEKLY TOTALS	3,358	1,665.6	12%	160.6	14.6	10.4	
GRAND TOTALS	26,866	13,424.2	13%	1,372.4	16.8	9.8	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,665.6	\$ 11.28	\$ 18,787.97	13,424.2	\$ 11.16	\$149,799.01
Environmental Benefit, SO2 reductions	6.7	\$ 894.46	\$ 5,992.88	53.6	\$ 927.24	\$49,699.98
Total Value Accumulated			\$ 24,780.85		\$	199,498.99
Potential Future Value Streams						
Section 45 Production Tax Credit				13,424	\$34.37	\$ 461,360.42
Carbon Credits				43,629	\$1.82	\$ 79,324.82
Renewable Energy Credits				13,424	\$3.55	\$ 47,623.95
Total Additional Future Value Streams					\$	588,309.19
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	787,808.18

Existing Contract for Test Burn

PREPARED BY :

Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, May 04 through Wednesday, May 10

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	26,866	13,424.2	13%	1,372.4	16.8	9.8	First 11 weeks of operations for Test Burn
Thursday, May 04	516	265.3	11%	23.3	15.6	11.4	
Friday, May 05	470	251.3	14%	22.3	15.9	11.2	
Saturday, May 06	533	257.4	12%	22.6	17.4	11.4	
Sunday, May 07	543	257.6	12%	23.8	16.0	10.8	
Monday, May 08	581	264.3	11%	23.8	15.0	11.1	
Tuesday, May 09	532	247.7	11%	23.1	15.9	10.7	
Wednesday, May 10	540	255.0	11%	22.8	19.9	11.2	
WEEKLY TOTALS	3,715	1,798.5	12%	161.6	19.9	11.1	
GRAND TOTALS	30,581	15,222.7	13%	1,534.0	19.9	9.9	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	1,798.5	\$ 11.33	\$ 20,377.01	15,222.7	\$ 11.18	\$170,164.27
Environmental Benefit, SO2 reductions	7.3	\$ 894.46	\$ 6,529.56	60.9	\$ 923.31	\$56,229.54
Total Value Accumulated			\$ 26,906.56		\$	226,393.81
Potential Future Value Streams						
Section 45 Production Tax Credit				15,223	\$34.37	\$ 523,170.93
Carbon Credits				49,474	\$1.82	\$ 89,952.32
Renewable Energy Credits				15,223	\$3.55	\$ 54,004.34
Total Additional Future Value Streams					\$	667,127.59
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	893,521.40

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.



WEEKLY PROGRESS REPORT

Activity: Chariton Valley Biomass Project -- Long Term Test Burn at Ottumwa Generating Station

Period of Performance: Thursday, May 11 through Wednesday, May 17

Processing Summary :

Switchgrass Processing Date	Bales Processed	Switchgrass Processed (tons)	Average Moisture Content	System Run Hours	Max. Feed Rate (ton/hr)	Ave. Feed Rate (ton/hr)	Comments
<i>Prior Totals</i>	30,581	15,222.7	13%	1,534.0	19.9	9.9	First 12 weeks of operations for Test Burn
Thursday, May 11	620	261.1	12%	23.4	19.8	11.1	
Friday, May 12	413	187.1	13%	16.2	16.3	11.5	Final day of test burn
Saturday, May 13	--	--	--	--	--	--	
Sunday, May 14	--	--	--	--	--	--	
Monday, May 15	--	--	--	--	--	--	
Tuesday, May 16	--	--	--	--	--	--	
Wednesday, May 17	--	--	--	--	--	--	
WEEKLY TOTALS	1,033	448.1	12%	39.6	19.8	11.3	
GRAND TOTALS	31,614	15,670.8	13%	1,573.6	19.9	10.0	

Business Summary:

Line Item	THIS WEEK			TOTALS TO DATE		
	Tons	Unit Price	Total Price	Tons	Unit Price	Total Price
Current Value Streams						
Total Switchgrass Processed	448.1	\$ 11.23	\$ 5,032.16	15,670.8	\$ 11.18	\$ 175,196.43
Environmental Benefit, SO2 reductions	1.8	\$ 894.46	\$ 1,610.03	62.7	\$ 922.48	\$ 57,839.57
Total Value Accumulated			\$ 6,642.19		\$	233,036.00
Potential Future Value Streams						
Section 45 Production Tax Credit				15,671	\$ 34.37	\$ 538,571.15
Carbon Credits				50,930	\$ 1.82	\$ 92,600.18
Renewable Energy Credits				15,671	\$ 3.55	\$ 55,594.03
Total Additional Future Value Streams					\$	686,765.36
GRAND TOTAL (ALL POTENTIAL VALUE STREAMS)					\$	919,801.36

Existing Contract for Test Burn

PREPARED BY : Antares Group Inc.

Appendix H -- Monthly Environmental Reports for OGS & IDNR (Long Term Test Burn)

Switchgrass Processed in February

Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content	HHV (as received) = (1-MC) x HHV (dry basis)
1-Feb-06	0.0	0.0%	
2-Feb-06	0.0	0.0%	
3-Feb-06	0.0	0.0%	
4-Feb-06	0.0	0.0%	7,956 Btu/lb
5-Feb-06	0.0	0.0%	13.4%
6-Feb-06	0.0	0.0%	6,892 Btu/lb
7-Feb-06	0.0	0.0%	
8-Feb-06	0.0	0.0%	
9-Feb-06	0.0	0.0%	
10-Feb-06	0.0	0.0%	HHV (as received, actual for month)
11-Feb-06	0.0	0.0%	HHV (dry basis)
12-Feb-06	0.0	0.0%	MC (actual this month)
13-Feb-06	0.0	0.0%	
14-Feb-06	0.0	0.0%	
15-Feb-06	0.0	0.0%	
16-Feb-06	0.0	11.0%	
17-Feb-06	10.0	11.0%	
18-Feb-06	23.0	11.0%	
19-Feb-06	43.0	11.0%	
20-Feb-06	28.0	11.0%	
21-Feb-06	43.0	11.0%	
22-Feb-06	74.0	11.0%	
23-Feb-06	112.0	11.0%	
24-Feb-06	113.0	10.0%	
25-Feb-06	122.0	13.0%	
26-Feb-06	187.0	12.0%	
27-Feb-06	167.0	12.0%	
28-Feb-06	176.0	11.0%	
Total MMBtu			15,480 MMBtu
HHV (as received, actual for month)			7,049 Btu/lb
Monthly Totals			1,098.0 11.4%

Switchgrass Processed in March

Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content	
1-Mar-06	180.0	12.0%	HHV (as received) = (1-MC) x HHV (dry basis)
2-Mar-06	163.0	12.2%	
3-Mar-06	245.0	12.1%	
4-Mar-06	260.4	12.1%	
5-Mar-06	138.4	12.6%	HHV (as received, est contract avg)
6-Mar-06	168.2	13.4%	HHV (dry basis)
7-Mar-06	155.2	13.4%	MC (est. contract avg.)
8-Mar-06	230.7	13.1%	HHV (as received, est contract avg)
9-Mar-06	235.2	12.5%	HHV (as received, actual for month)
10-Mar-06	259.0	13.0%	
11-Mar-06	194.5	13.0%	
12-Mar-06	254.7	13.5%	HHV (dry basis)
13-Mar-06	199.2	14.0%	MC (actual this month)
14-Mar-06	213.3	15.0%	HHV (as received, actual for month)
15-Mar-06	228.8	15.0%	
16-Mar-06	168.3	13.9%	Total MMBtu
17-Mar-06	208.1	14.0%	
18-Mar-06	181.4	15.7%	7,956 Btu/lb
19-Mar-06	152.7	14.6%	
20-Mar-06	184.0	14.9%	13.6%
21-Mar-06	212.0	15.0%	
22-Mar-06	247.9	13.2%	6,874 Btu/lb
23-Mar-06	237.6	14.6%	
24-Mar-06	237.2	14.9%	72,845 MMBtu
25-Mar-06	224.8	12.9%	
26-Mar-06	81.1	13.3%	
27-Mar-06	0.0	0.0%	
28-Mar-06	0.0	0.0%	
29-Mar-06	0.0	0.0%	
30-Mar-06	0.0	0.0%	
31-Mar-06	37.8	15.5%	
Monthly Totals	5,298.6	13.6%	

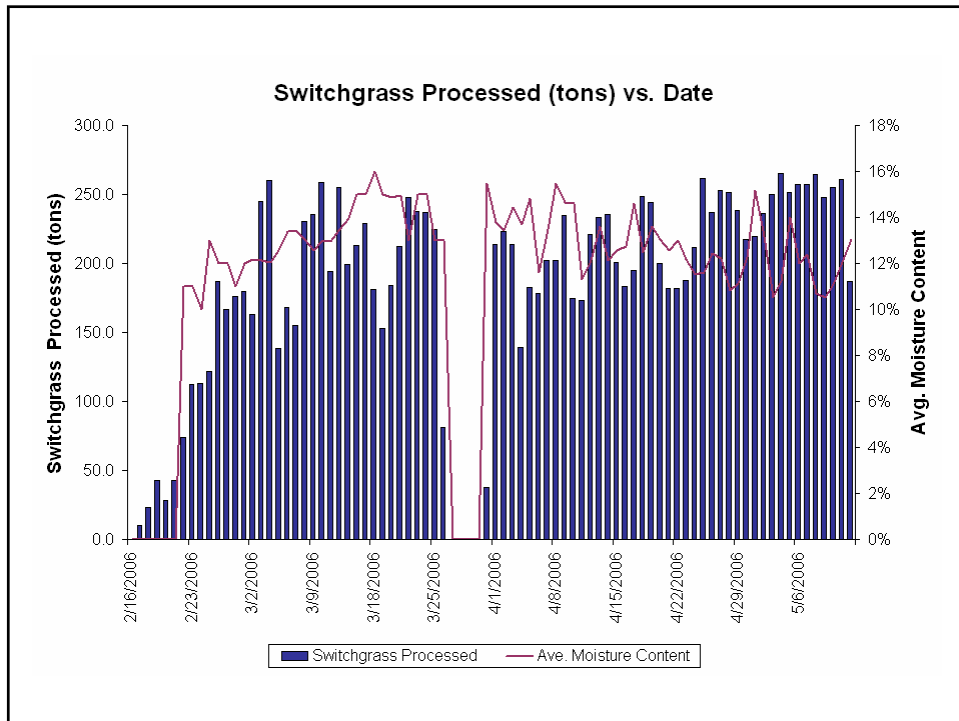
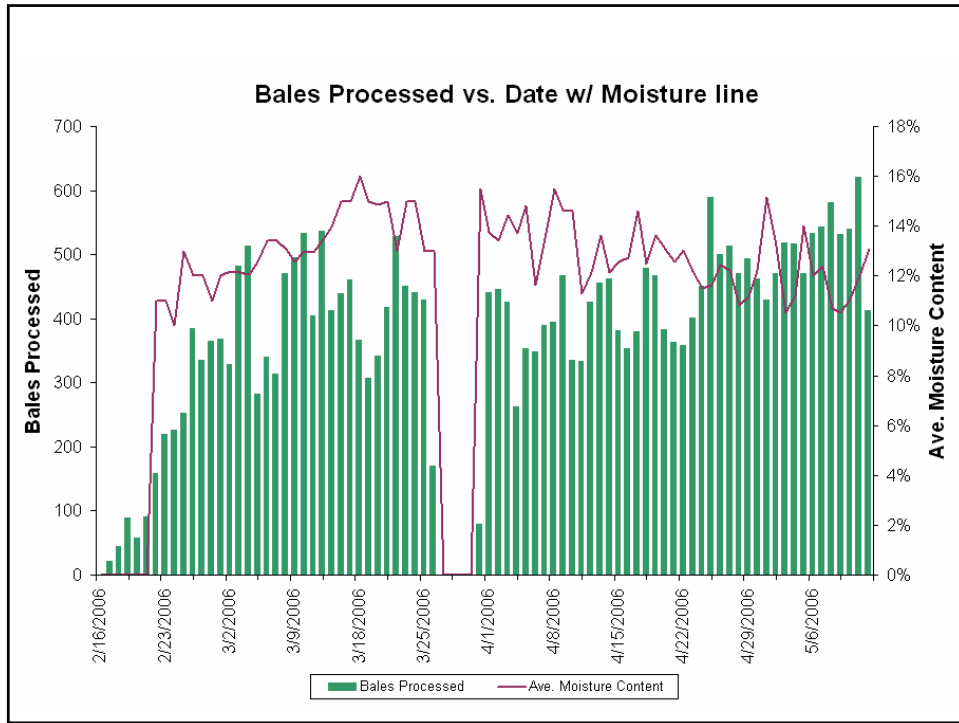
Switchgrass Processed in April

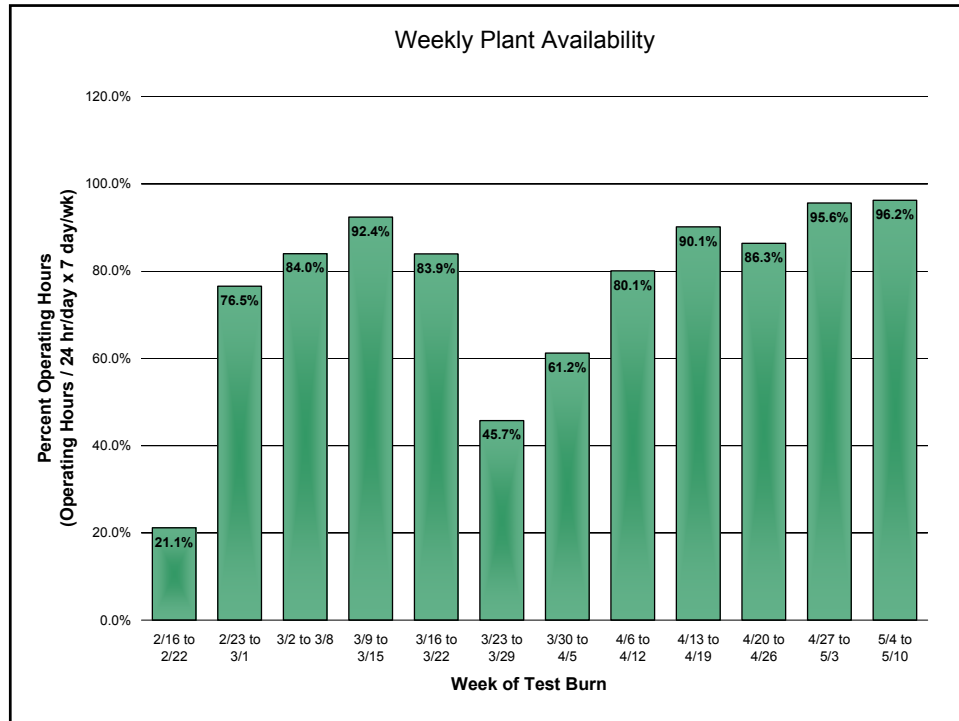
Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content	
1-Apr-06	213.5	13.8%	HHV (as received) = (1-MC) x HHV (dry basis)
2-Apr-06	223.3	13.4%	
3-Apr-06	213.6	14.4%	HHV (as received, est contract avg)
4-Apr-06	139.2	13.7%	HHV (dry basis)
5-Apr-06	182.5	14.8%	MC (est. contract avg.)
6-Apr-06	178.0	11.6%	HHV (as received, est contract avg)
7-Apr-06	202.3	13.5%	
8-Apr-06	201.9	15.5%	
9-Apr-06	234.4	14.6%	HHV (as received, actual for month)
10-Apr-06	175.0	14.6%	HHV (dry basis)
11-Apr-06	173.4	11.3%	MC (actual this month)
12-Apr-06	221.0	12.1%	
13-Apr-06	233.6	13.6%	HHV (as received, actual for month)
14-Apr-06	235.5	12.2%	
15-Apr-06	200.9	12.6%	Total MMBtu
16-Apr-06	183.4	12.7%	
17-Apr-06	194.9	14.6%	
18-Apr-06	248.6	12.5%	
19-Apr-06	244.5	13.6%	
20-Apr-06	200.0	13.1%	
21-Apr-06	181.9	12.6%	
22-Apr-06	182.0	13.0%	
23-Apr-06	188.0	12.2%	
24-Apr-06	211.9	11.5%	
25-Apr-06	261.7	11.6%	
26-Apr-06	237.1	12.4%	
27-Apr-06	252.9	12.2%	
28-Apr-06	251.2	10.8%	
29-Apr-06	238.3	11.1%	
30-Apr-06	217.3	12.2%	
Monthly Totals	6,321.7	12.5%	7,956 Btu/lb 13.4% 6,892 Btu/lb
			7,956 Btu/lb 12.5% 6,962 Btu/lb 88,017 MMBtu

Switchgrass Processed in May

Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content	
1-May-06	219.8	15.2%	HHV (as received) = (1-MC) x HHV (dry basis)
2-May-06	236.3	13.2%	
3-May-06	249.8	10.5%	
4-May-06	265.3	11.2%	
5-May-06	251.3	14.0%	HHV (as received, est contract avg)
6-May-06	257.4	12.0%	HHV (dry basis)
7-May-06	257.6	12.4%	MC (est. contract avg.)
8-May-06	264.3	10.7%	HHV (as received, est contract avg)
9-May-06	247.7	10.5%	
10-May-06	255.0	11.1%	HHV (as received, actual for month)
11-May-06	261.1	12.0%	HHV (dry basis)
12-May-06	187.1	13.1%	MC (actual this month)
13-May-06			
14-May-06			
15-May-06			
16-May-06			
17-May-06			
18-May-06			
19-May-06			
20-May-06			
21-May-06			
22-May-06			
23-May-06			
24-May-06			
25-May-06			
26-May-06			
27-May-06			
28-May-06			
29-May-06			
30-May-06			
31-May-06			
Monthly Totals	2,952.5	12.1%	HHV (as received, actual for month)
			7,956 Btu/lb
			12.1%
			6,993 Btu/lb
			41,296 MMBtu

Appendix I -- Test Summary Results (Biomass Process Facility)





Switchgrass Processed in February

Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content	
1-Feb-06	0.0	0.0%	HHV (as received) = (1-MC) x HHV (dry basis)
2-Feb-06	0.0	0.0%	
3-Feb-06	0.0	0.0%	HHV (as received, est contract avg)
4-Feb-06	0.0	0.0%	HHV (dry basis) 7,956 Btu/lb
5-Feb-06	0.0	0.0%	MC (est. contract avg.) 13.4%
6-Feb-06	0.0	0.0%	HHV (as received, est contract avg) 6,892 Btu/lb
7-Feb-06	0.0	0.0%	
8-Feb-06	0.0	0.0%	
9-Feb-06	0.0	0.0%	HHV (as received, actual for month)
10-Feb-06	0.0	0.0%	HHV (dry basis) 7,956 Btu/lb
11-Feb-06	0.0	0.0%	MC (actual this month) 11.4%
12-Feb-06	0.0	0.0%	
13-Feb-06	0.0	0.0%	HHV (as received, actual for month) 7,049 Btu/lb
14-Feb-06	0.0	0.0%	
15-Feb-06	0.0	0.0%	Total MMBtu 15,480 MMBtu
16-Feb-06	0.0	11.0%	
17-Feb-06	10.0	11.0%	
18-Feb-06	23.0	11.0%	
19-Feb-06	43.0	11.0%	
20-Feb-06	28.0	11.0%	
21-Feb-06	43.0	11.0%	
22-Feb-06	74.0	11.0%	
23-Feb-06	112.0	11.0%	
24-Feb-06	113.0	10.0%	
25-Feb-06	122.0	13.0%	
26-Feb-06	187.0	12.0%	
27-Feb-06	167.0	12.0%	
28-Feb-06	176.0	11.0%	
Monthly Totals	1,098.0	11.4%	

Switchgrass Processed in March

Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content		
1-Mar-06	180.0	12.0%	HHV (as received) = (1-MC) x HHV (dry basis)	
2-Mar-06	163.0	12.2%		
3-Mar-06	245.0	12.1%	HHV (as received, est contract avg)	
4-Mar-06	260.4	12.1%	HHV (dry basis)	7,956 Btu/lb
5-Mar-06	138.4	12.6%	MC (est. contract avg.)	13.4%
6-Mar-06	168.2	13.4%	HHV (as received, est contract avg)	6,892 Btu/lb
7-Mar-06	155.2	13.4%		
8-Mar-06	230.7	13.1%		
9-Mar-06	235.2	12.5%	HHV (as received, actual for month)	
10-Mar-06	259.0	13.0%	HHV (dry basis)	7,956 Btu/lb
11-Mar-06	194.5	13.0%	MC (actual this month)	13.6%
12-Mar-06	254.7	13.5%		
13-Mar-06	199.2	14.0%	HHV (as received, actual for month)	6,874 Btu/lb
14-Mar-06	213.3	15.0%		
15-Mar-06	228.8	15.0%	Total MMBtu	72,845 MMBtu
16-Mar-06	168.3	13.9%		
17-Mar-06	208.1	14.0%		
18-Mar-06	181.4	15.7%		
19-Mar-06	152.7	14.6%		
20-Mar-06	184.0	14.9%		
21-Mar-06	212.0	15.0%		
22-Mar-06	247.9	13.2%		
23-Mar-06	237.6	14.6%		
24-Mar-06	237.2	14.9%		
25-Mar-06	224.8	12.9%		
26-Mar-06	81.1	13.3%		
27-Mar-06	0.0	0.0%		
28-Mar-06	0.0	0.0%		
29-Mar-06	0.0	0.0%		
30-Mar-06	0.0	0.0%		
31-Mar-06	37.8	15.5%		
Monthly Totals	5,298.6	13.6%		

Switchgrass Processed in April

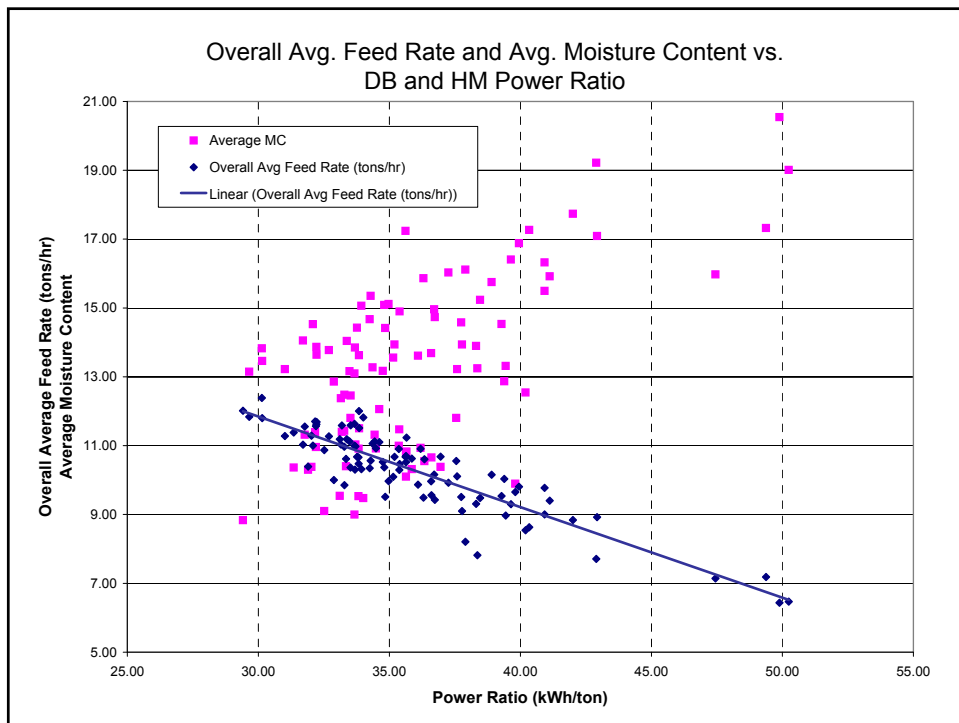
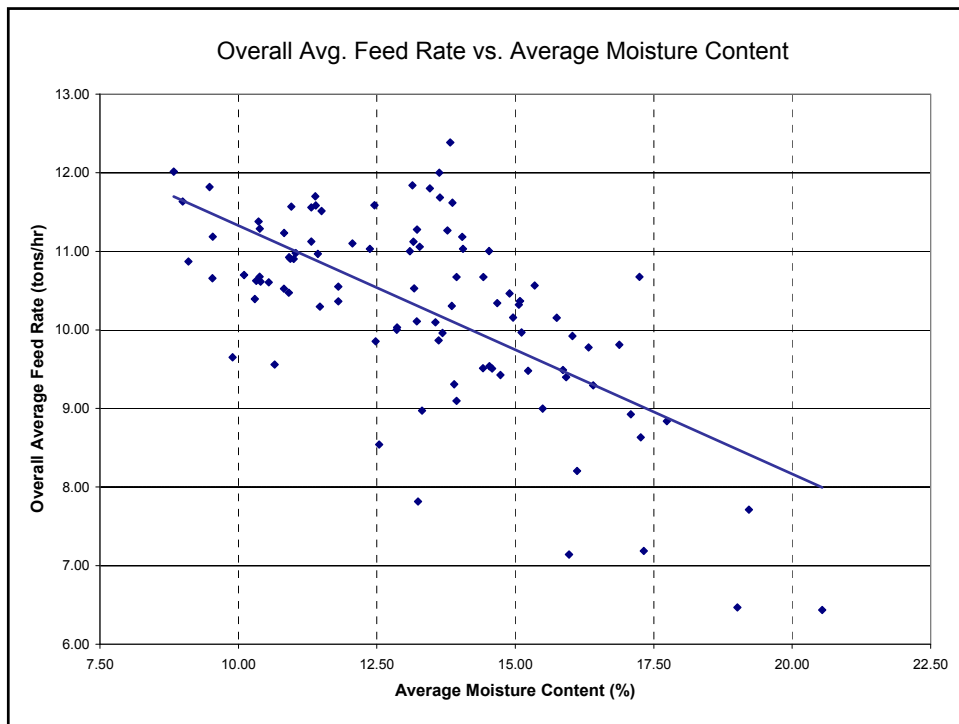
Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content		
1-Apr-06	213.5	13.8%	HHV (as received) = (1-MC) x HHV (dry basis)	
2-Apr-06	223.3	13.4%		
3-Apr-06	213.6	14.4%	HHV (as received, est contract avg)	
4-Apr-06	139.2	13.7%	HHV (dry basis)	7,956 Btu/lb
5-Apr-06	182.5	14.8%	MC (est. contract avg.)	13.4%
6-Apr-06	178.0	11.6%	HHV (as received, est contract avg)	6,892 Btu/lb
7-Apr-06	202.3	13.5%		
8-Apr-06	201.9	15.5%		
9-Apr-06	234.4	14.6%	HHV (as received, actual for month)	
10-Apr-06	175.0	14.6%	HHV (dry basis)	7,956 Btu/lb
11-Apr-06	173.4	11.3%	MC (actual this month)	12.5%
12-Apr-06	221.0	12.1%		
13-Apr-06	233.6	13.6%	HHV (as received, actual for month)	6,962 Btu/lb
14-Apr-06	235.5	12.2%		
15-Apr-06	200.9	12.6%	Total MMBtu	88,017 MMBtu
16-Apr-06	183.4	12.7%		
17-Apr-06	194.9	14.6%		
18-Apr-06	248.6	12.5%		
19-Apr-06	244.5	13.6%		
20-Apr-06	200.0	13.1%		
21-Apr-06	181.9	12.6%		
22-Apr-06	182.0	13.0%		
23-Apr-06	188.0	12.2%		
24-Apr-06	211.9	11.5%		
25-Apr-06	261.7	11.6%		
26-Apr-06	237.1	12.4%		
27-Apr-06	252.9	12.2%		
28-Apr-06	251.2	10.8%		
29-Apr-06	238.3	11.1%		
30-Apr-06	217.3	12.2%		
Monthly Totals	6,321.7	12.5%		

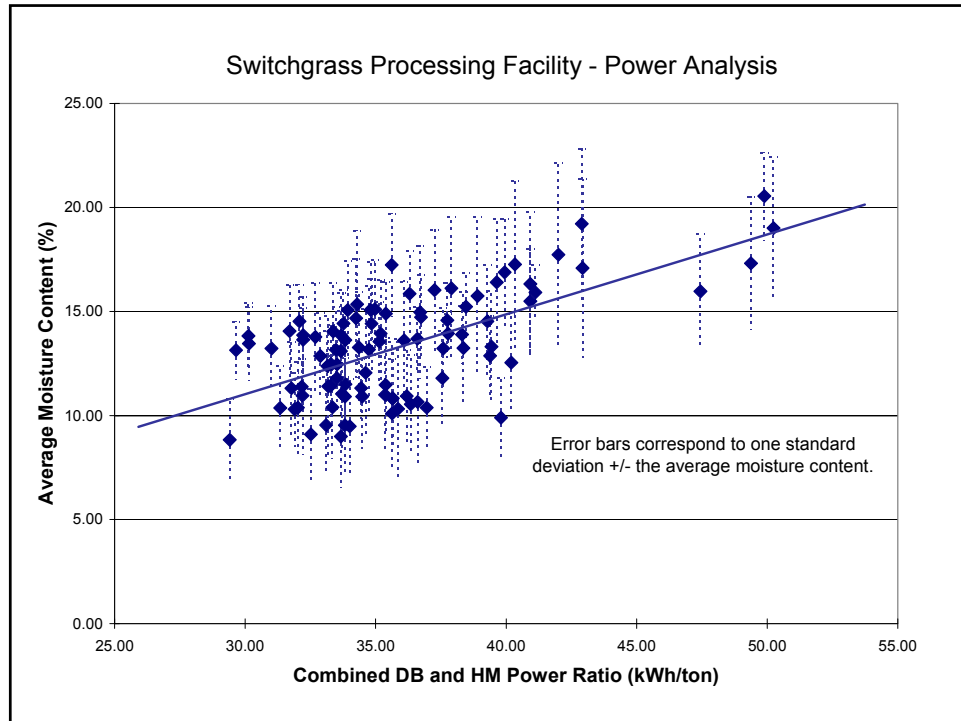
Switchgrass Processed in May

Switchgrass Processing Date	Switchgrass Processed (tons)	Average Moisture Content	
1-May-06	219.8	15.2%	HHV (as received) = (1-MC) x HHV (dry basis)
2-May-06	236.3	13.2%	
3-May-06	249.8	10.5%	HHV (as received, est contract avg)
4-May-06	265.3	11.2%	HHV (dry basis) 7,956 Btu/lb
5-May-06	251.3	14.0%	MC (est. contract avg.) 13.4%
6-May-06	257.4	12.0%	HHV (as received, est contract avg) 6,892 Btu/lb
7-May-06	257.6	12.4%	
8-May-06	264.3	10.7%	
9-May-06	247.7	10.5%	HHV (as received, actual for month)
10-May-06	255.0	11.1%	HHV (dry basis) 7,956 Btu/lb
11-May-06	261.1	12.0%	MC (actual this month) 12.1%
12-May-06	187.1	13.1%	
13-May-06			HHV (as received, actual for month) 6,993 Btu/lb
14-May-06			
15-May-06			Total MMBtu 41,296 MMBtu
16-May-06			
17-May-06			
18-May-06			
19-May-06			
20-May-06			
21-May-06			
22-May-06			
23-May-06			
24-May-06			
25-May-06			
26-May-06			
27-May-06			
28-May-06			
29-May-06			
30-May-06			
31-May-06			
Monthly Totals	2,952.5	12.1%	

Sample of Data from Power analysis

Date	3/14/2006	3/14/2006	3/15/2006	3/15/2006	3/15/2006	Date of sample
Start	0:30:00	11:00:00	0:01:00	6:15:00	1:00:00	Time range for sample
End	6:30:00	16:00:00	6:01:00	12:15:00	7:00:00	
Duration	6:00:00	5:00:00	6:00:00	6:00:00	6:00:00	Bales processed during sample period
Bale Count	134	93	166	111	163	
Average MC	13.69	16.88	13.14	16.03	13.46	Data obtained from Daily Bale files written on client computer
Max MC	18	23	17	25	20	
Min MC	11	11	11	7	11	
Median MC	13	17	13	16	13	
Modal MC	13	16	13	15	13	
Std Dev MC	1.53	2.54	1.36	2.87	1.74	
Tons Processed	59.77	49.05	71.03	59.53	70.80	
Average Weight (lbs)	892	1,055	856	1,073	869	
Overall Average Weight (lbs)	892	1,055	856	1,073	869	
Max Weight (lbs)	1,132	1,178	1,094	1,325	1,236	
Min Weight (lbs)	807	816	791	796	791	Calculated from daily power files written on client computer
Std Dev Weight	91	81.97	50	118	69.58	
Average Feed Rate (tons/hr)	13.31	12.66	11.88	12.62	12.10	
Overall Avg Feed Rate (tons/hr)	9.96	9.81	11.84	9.92	11.80	
Max FR (tons/hr)	16.41	16.18	14.84	16.13	16.13	
Min FR (tons/hr)	0.00	8.42	0.00	8.98	0.00	
Std Dev FR	1.39	1.45	1.16	1.32	1.27	
DB Usage (kWh)	708.80	603.32	704.92	737.57	706.58	
HM Usage (kWh)	1478.67	1356.10	1401.41	1480.40	1427.63	
DB Demand (kW)	118.13	120.66	117.49	122.93	117.76	
HM Demand (kW)	246.44	271.22	233.57	246.73	237.94	
Power Ratio (kWh/ton)	36.60	39.95	29.65	37.26	30.14	
DB Power Ratio (kWh/ton)	11.86	12.30	9.92	12.39	9.98	
HM Power Ratio (kWh/ton)	24.74	27.65	19.73	24.87	20.16	



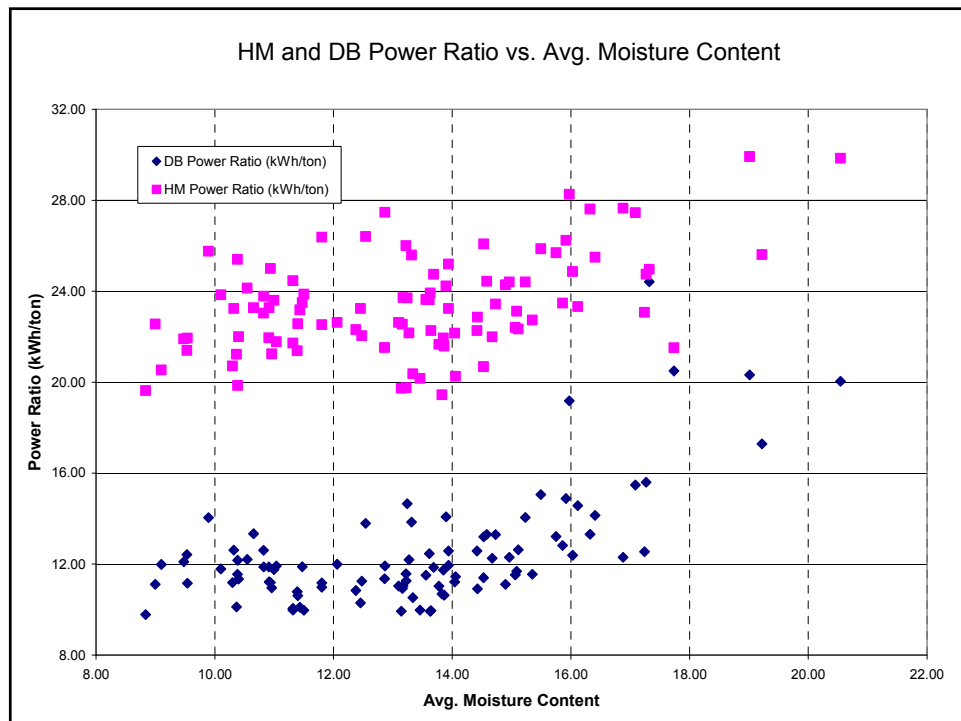
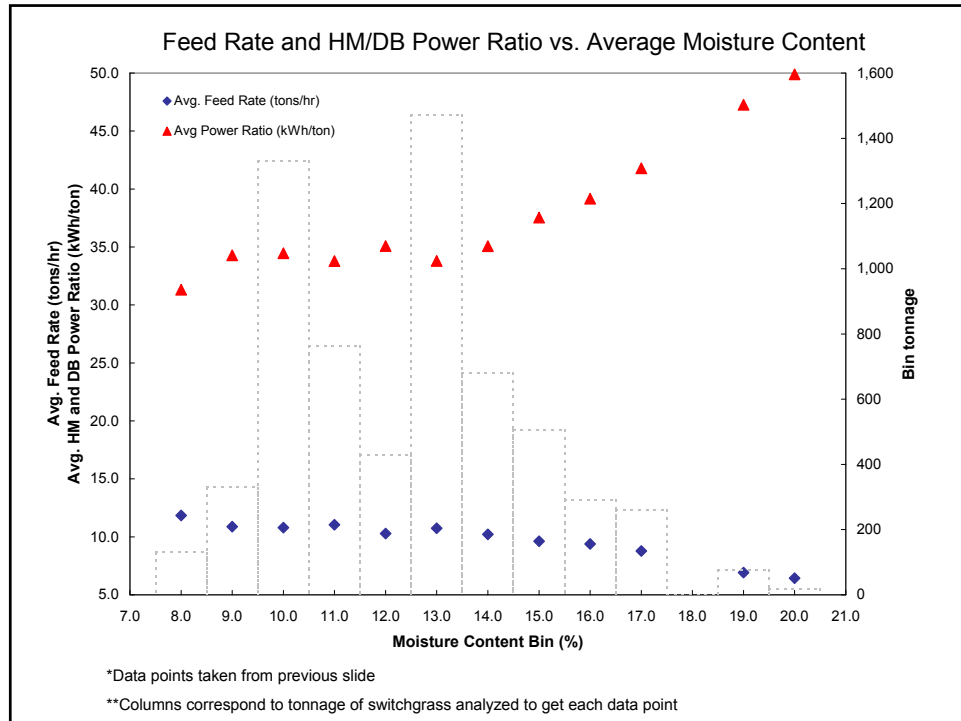


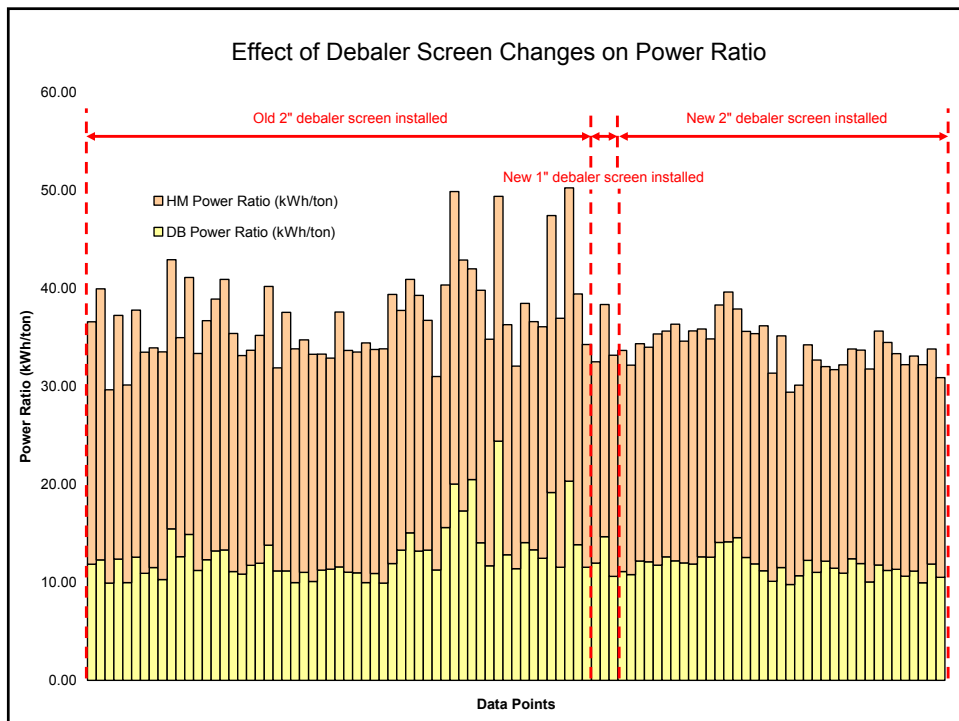
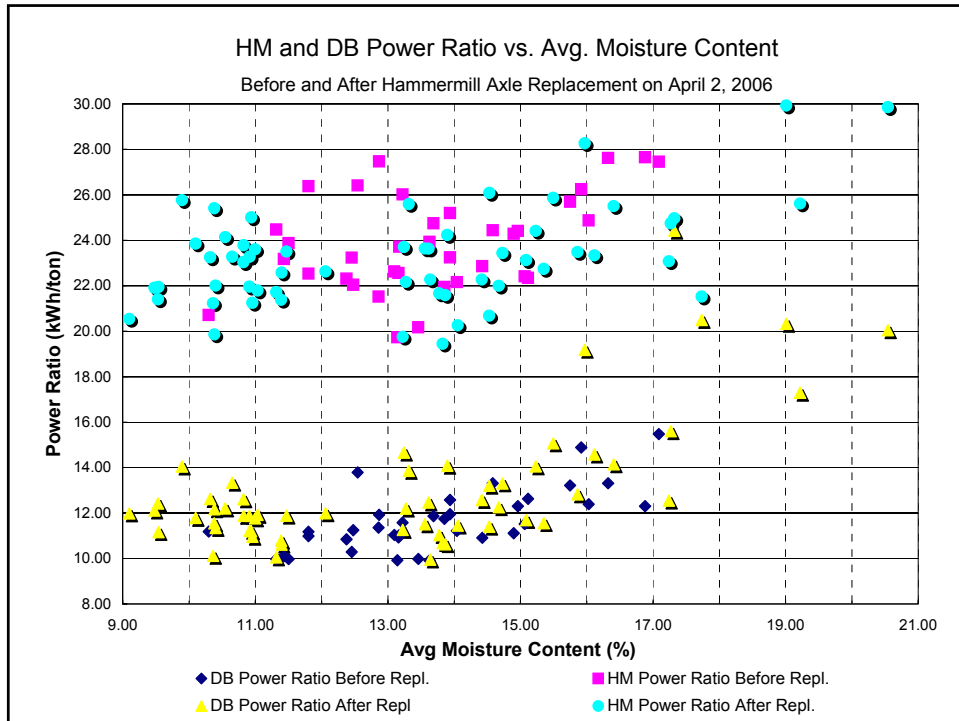
Avg. Moisture Content Range (%)	# Data Points ¹	Total Bales	Total Tons	Average Bale Weight (lbs)	Average Feed Rate (tons/hr) ²	Average Power Ratio (kWh/ton) ³
8.00 - 8.99	2	272	130.2	958	11.8	31.3
9.00 - 9.99	5	673	329.0	978	10.9	34.3
10.00 - 10.99	16	2783	1329.8	956	10.8	34.5
11.00 - 11.99	10	1624	762.2	939	11.0	33.8
12.00 - 12.99	7	850	429.5	1,011	10.3	35.1
13.00 - 13.99	23	3030	1472.2	972	10.7	33.8
14.00 - 14.99	11	1325	679.5	1,026	10.2	35.1
15.00 - 15.99	10	982	505.2	1,029	9.6	37.5
16.00 - 16.99	5	543	290.8	1,071	9.4	39.2
17.00 - 17.99	5	500	258.9	1,035	8.8	41.8
18.00 - 18.99	0	--	--	--	--	--
19.00 - 19.99	2	145	76.1	1,050	6.9	47.3
20.00 - 20.99	1	36	17.5	971	6.4	49.9

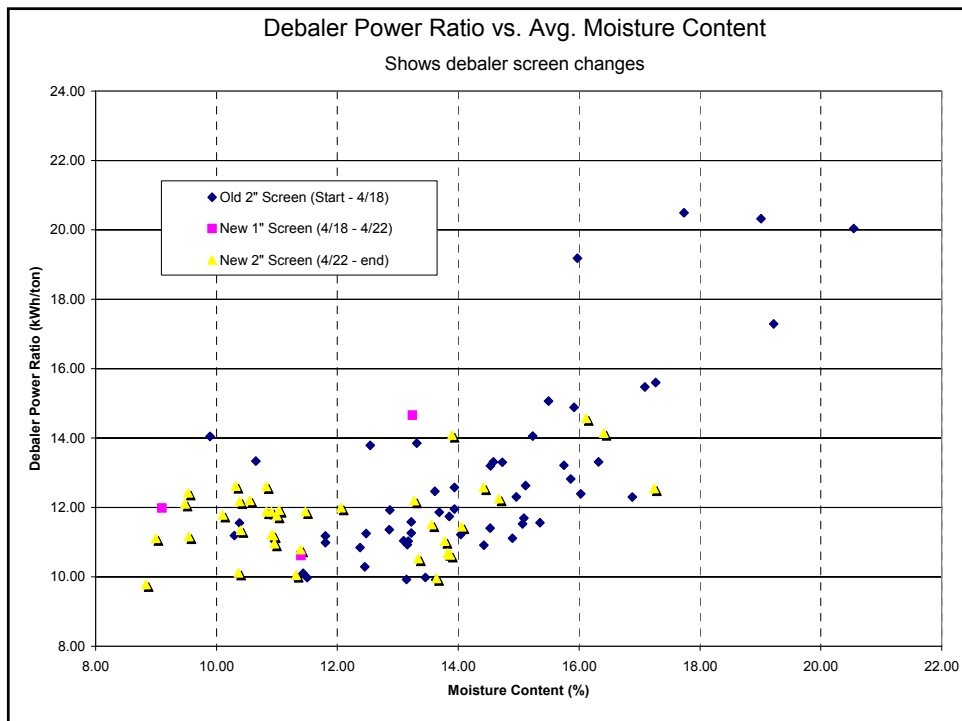
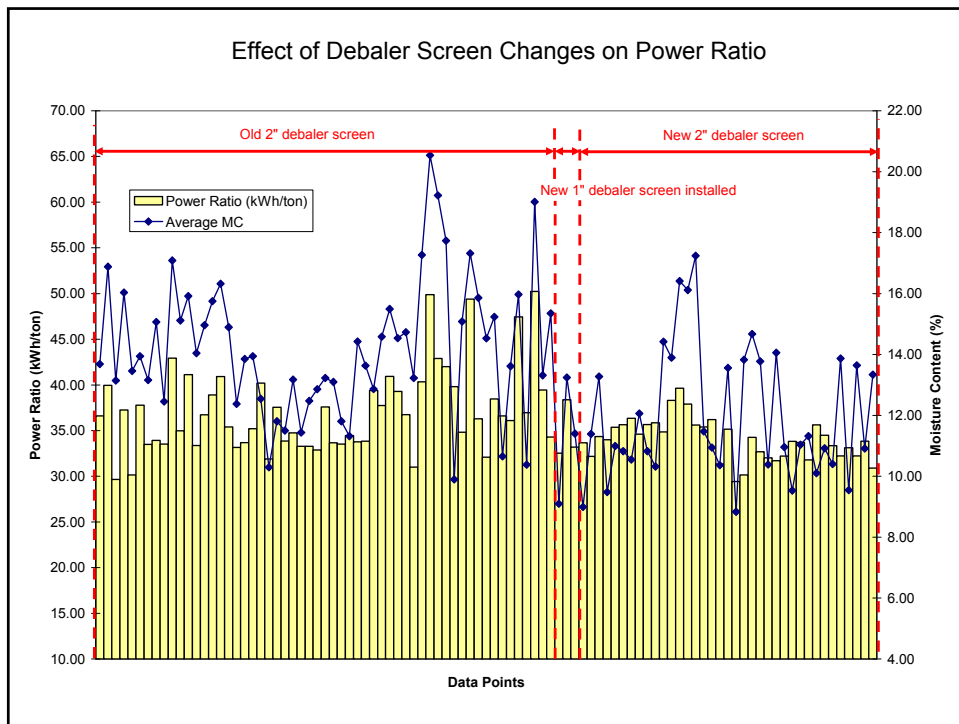
¹ Data Points correspond to extended periods of processing where switchgrass bale characteristics (ie. Moisture content) remained consistent. These periods generally ranged from 4 to 8 hours in length.

² Overall average feed rate: total tons processed divided by hours

³ Power ratio only for combination of debaler and eliminator







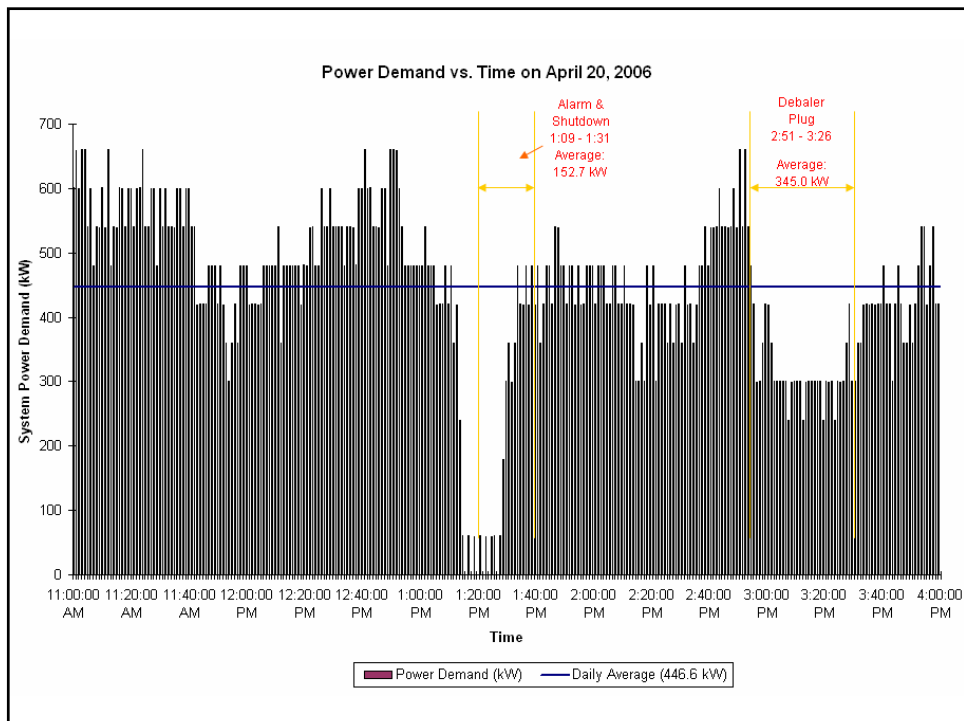
Summary Table for Bale Batch Processing Tests April 20 - April 21

	Run 1 (High Switchgrass, Low Moisture)	Run 2 (High Switchgrass, High Moisture)	Run 3 (High Foxtail)	Run 4 (Loosely Packaged)	Run 5 ("Wildlife Mix")	Run 6 (Bottom Bales)
Testing Period	10:33 AM - 12:41 PM	12:43 PM - 4:10 PM	4:25 PM - 7:48 PM	11:00 AM - 12:32 PM	12:35 PM - 1:56 PM	1:58 PM - 3:42 PM
Run Time (hours)	2.1	2.5	3	1.1	1.4	0.7
Down Time (hours)	-	0.6	-	0.4	-	1
Bales Processed	50	46	45	38	39	39
Bales Processed (tons)	24.3	24.6	24	17.2	17.5	18.9
Ave. Weight (lbs)	1,152	1,068	1,068	903	899	969
Ave Moisture (%)	9%	16%	17%	9%	12%	14%
Moisture Range	5% - 18%	12% - 22%	7% - 25%	5% - 14%	7% - 15%	0% - 20%
Ave. Feed Rate (tons/hr)	11.4	7.9	7.9	11.1	13	10.9
Power Consumption (kWh)	1,127	1,377	1,521	793	737	830
Power Consumption (kWh/ton)	46	56	63	46	42	44
Elec. Premium (\$/ton)*	-	\$0.60	\$1.10	\$0.00	(\$0.30)	(\$0.20)
Reduced Feed Rate (tons/hr)	-	3.50	3.50	0.30	(1.50)	(0.60)
Reduced Feed Rate Cost (\$/hr)**	-	\$193.00	\$193.00	\$18.00	(\$84.00)	\$31.00
Reduced Feed Rate Premium (\$/ton)	-	\$24.43	\$24.43	\$1.62	(\$6.46)	\$2.84

Note: All comparisons are done relative to Run # 1

* Assuming 0.065 \$/kWh electricity rate

** Assuming 55 \$/ton contract value



CHARITON VALLEY BIOMASS PROJECT

Comparison of Coal-only vs. Cofire Operations : All Selected Periods

		Flow & Load Parameters				Air Emissions		
Date & Time		% Coal Flow	% OGS Air Flow	Gross Plant Load, MW	Net Plant Load, MW	NOx, lb/MMBtu	SO2, lb/MMBtu	Opacity, %
COFIRING OPERATION: Biomass Feed Rate = 10.7 ton/hr								
Period Start Time	2/24/06 10:51	73.9%	72.4%	594.4	553.3	0.34	0.62	14.4%
Period Stop Time	5/9/06 16:46							
COAL-ONLY OPERATION: Biomass Feed Rate = 0.3 ton/hr								
Period Start Time	2/24/06 7:26	75.9%	73.4%	597.4	556.1	0.36	0.63	13.2%
Period Stop Time	5/9/06 15:51							
Parameter Differences: Cofire vs Coal Only Operations								
Cofire minus Coal-only Operations		-2.0%	-1.0%	(3.0)	(2.8)	(0.02)	(0.01)	1.2%
		Percent Difference in Emissions ==>				-6.3%	-1.5%	9.4%

NOTE:

Parameters tabulated above are AVERAGES for the specified time periods.

Summary Statistics:	
Decreased Coal Flow When Cofiring:	2.0%
Increased Gross Load When Cofiring:	-0.5%
Gross Power from Coal During Cofiring:	581.9 MW
Estimated Gross Power from Switchgrass:	12.5 MW
Decrease in SO2 when Cofiring:	0.01 lb/MMBtu = 1%
Decrease in NOx when Cofiring:	0.02 lb/MMBtu = 6%
Increase in Opacity when Cofiring:	1.2% (a 9% increase)

Observations from Current Measurements on the Debaler and Eliminator:

The debaler has two 200 hp motors rated for 219 full-load amps at 460 Volts. The Eliminator has two 300 hp motors rated for 350 full-load amps at 460Volts. Throughout each test run, current measurements were logged at intervals of one second or less on the bottom debaler motor and the Eliminator “A” motor. Average and maximum current readings for each time interval throughout each test run were examined and the following observations were made:

- Each time the infeed to the Eliminator plugged, amp readings on the Eliminator motor were near or above full load amperage for over ten seconds prior to the plug becoming noticeable in the infeed chute. This indicates that the Eliminator infeed plugs were not due to bridging in the infeed chute, but rather were the result of flow problems *within* the Eliminator which eventually resulted in the plug (switchgrass was being fed to the Eliminator faster than the unit was able to process it). These sustained high Eliminator amp readings forewarn of problems in the Eliminator and could/should be used in a control algorithm to automatically respond in time to let the problem clear before a plug occurs (as is presently done when the debaler motor overloads). Upon sensing a sustained (several seconds) high current on an Eliminator motor, the debaler infeed conveyor should be stopped and the debaler takeaway conveyor should be slowed down as much as possible (without plugging the debaler outfeed). Conveyor feed rates could be ramped up again automatically when current levels for the Eliminator motors decrease to a more acceptable level.
- Eliminator plugs only occurred when using the larger debaler screen sizes (3 inch & 6 inch).
- At similar switchgrass feedrates, Eliminator load increases significantly as the screen size increases. The 3 inch and 6 inch screens resulted in current peaks above full load amps for the Eliminator motor even at the 11 ton per hour feed rate. Debaler load remained similar with changing screen sizes, except when the ½ inch screen was used. The ½ inch screen resulted in significantly increased load on the debaler motors.
- In most cases, at a given feed rate, the load factor on the debaler motors was 25 to 40 percent lower than the load factor on the Eliminator motors (load factor = amps ÷ full load amps). Therefore, *in terms of motor loading*, there seems to be more reserve capacity in the debaler than the Eliminator. *This was not an expected result.* At 11 tons per hour, average loads on the debaler ranged from 25 to 27 percent of full load (excluding the ½ inch screen results) and peak currents ranged from 44 to 57 percent; while average loads on the Eliminator ranged from 52 to 67 percent of full load and peaks ranged from 67 to 135 percent.

- At a similar feed rate (11 tons per hour), the total average power consumption between the debaler and Eliminator remained nearly constant at about 400 kW except when using the 6 inch screen which resulted in a total average power consumption above 450 kW.
- As expected, at a given feed rate, the larger the material entering the Eliminator the higher the power consumption in the Eliminator and the lower the power consumption in the debaler. Since the Eliminator motors have less reserve capacity than the debaler motors, maximum feed capacities (rates) will probably occur when using smaller screen sizes (2 inch or 1 inch) on the debaler—this will help reduce the loads/plugging in the Eliminator.
- Combining considerations of total power consumption, switchgrass “flowability,” and tramp material removal capability, the 2 inch debaler screen is most likely the best choice for minimizing maintenance, minimizing system plugs, and perhaps maximizing feed capacity.
- Current readings near or higher than the rated full load amperage are a good predictor of material flow problems for the debaler and Eliminator motors, although a few debaler plugs occurred when current remained below the full load amps.
- Visual observation of processed switchgrass samples seemed to indicate that, regardless of the screen size used in the debaler, the processed switchgrass leaving the Eliminator had fairly similar particle sizing.



1/2" screen, 12 tph out of debaler



1/2" screen, 12 tph, out of eliminator



1" screen, 13 tph out of debaler



1" screen, 13 tph out of eliminator



2" screen, 13 tph out of debaler



2" screen, 13 tph out of eliminator



3" screen, 12 tph out of debaler



3" screen, 12 tph out of eliminator



6" screen, 11 tph out of debaler



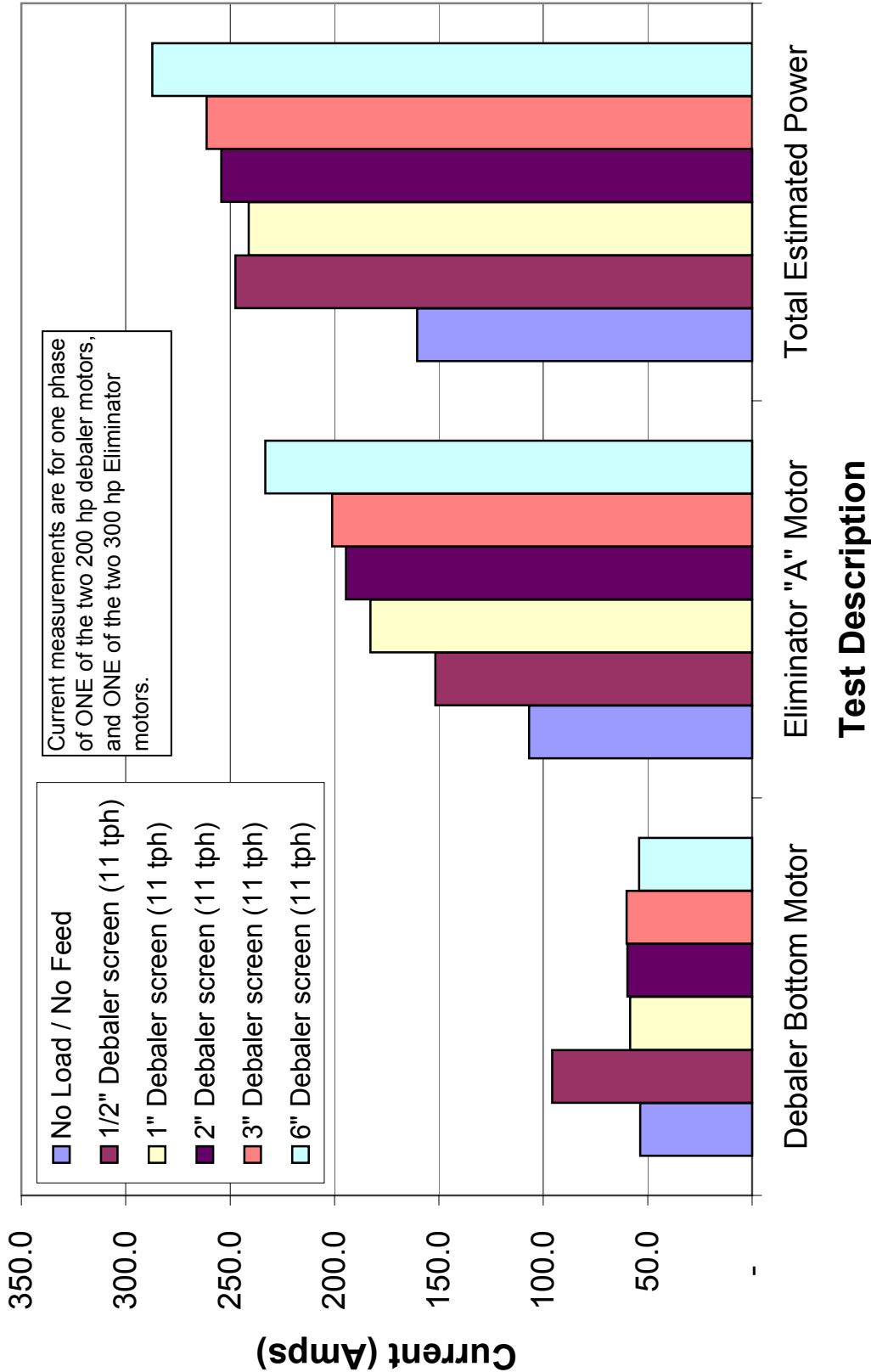
6" screen, 11 tph out of eliminator

Power Monitoring Summary Table for August 2004 Switchgrass Processing Tests at Ottumwa Generating Station "Biosilo"

Test Description	Cause for Stopping Test Run	Debaler Bottom Motor				Eliminator "A" Motor				% of Combined Full Load Amps			Total Estimated Power (kW)	Unit Power Consumption (kWh/ton)
		Loaded Ave		Loaded Max		Loaded Ave		Loaded Max		Ave (Debaler + Elim)	Max (Debaler + Elim)			
		Amps	% of Full Load	Amps	% of Full Load	Amps	% of Full Load	Amps	% of Full Load					
Steady Load Testing at 11 ton / hour Switchgrass Feed Rate														
No Load / No Feed	n.a.	53.6	24%	54.3	25%	106.8	31%	107.6	31%	170.2	28%	28%	255.6	n/a
1/2" Debaler screen (11 tph)	n.a.	95.8	44%	185.6	85%	151.7	43%	181.8	52%	241.7	43%	65%	394.3	35.8
1" Debaler screen (11 tph)	n.a.	58.4	27%	101.2	46%	182.8	52%	233.8	67%	291.2	42%	59%	384.3	34.9
2" Debaler screen (11 tph)	bale quota met	59.7	27%	124.3	57%	194.5	56%	248.6	71%	309.9	45%	66%	405.1	36.8
3" Debaler screen (11 tph)	n.a.	60.1	27%	109.7	50%	201.1	57%	473.3	135%	320.5	46%	102%	416.3	37.8
6" Debaler screen (11 tph)	bale quota met	54.1	25%	96.6	44%	233.2	67%	354.0	101%	371.6	50%	79%	457.8	41.6
Capacity Testing (Gradual step increases in Switchgrass Feed Rate, until pluggage occurred or test period ended due to bale use limit)														
1/2" Debaler screen (6 to 14.1 tph)	bale quota met	93.7	43%	245.0	112%	154.4	44%	205.9	59%	246.0	44%	79%	395.3	
1" Debaler screen (11 to 15.2 tph)	bale quota met	62.6	29%	122.8	56%	206.5	59%	395.2	113%	329.0	47%	91%	428.8	
2" Debaler screen (11 to 14 tph)	bale quota met	56.4	26%	103.8	47%	225.5	64%	380.6	109%	359.4	50%	85%	449.3	
3" Debaler screen (11 to 14 tph)	Debaler plugs	62.6	29%	202.0	92%	185.0	53%	651.5	186%	294.7	44%	150%	394.5	
6" Debaler screen (11 to 14 tph)	Elim. plugs	53.6	24%	65.9	30%	285.0	81%	563.7	161%	454.2	60%	111%	539.7	

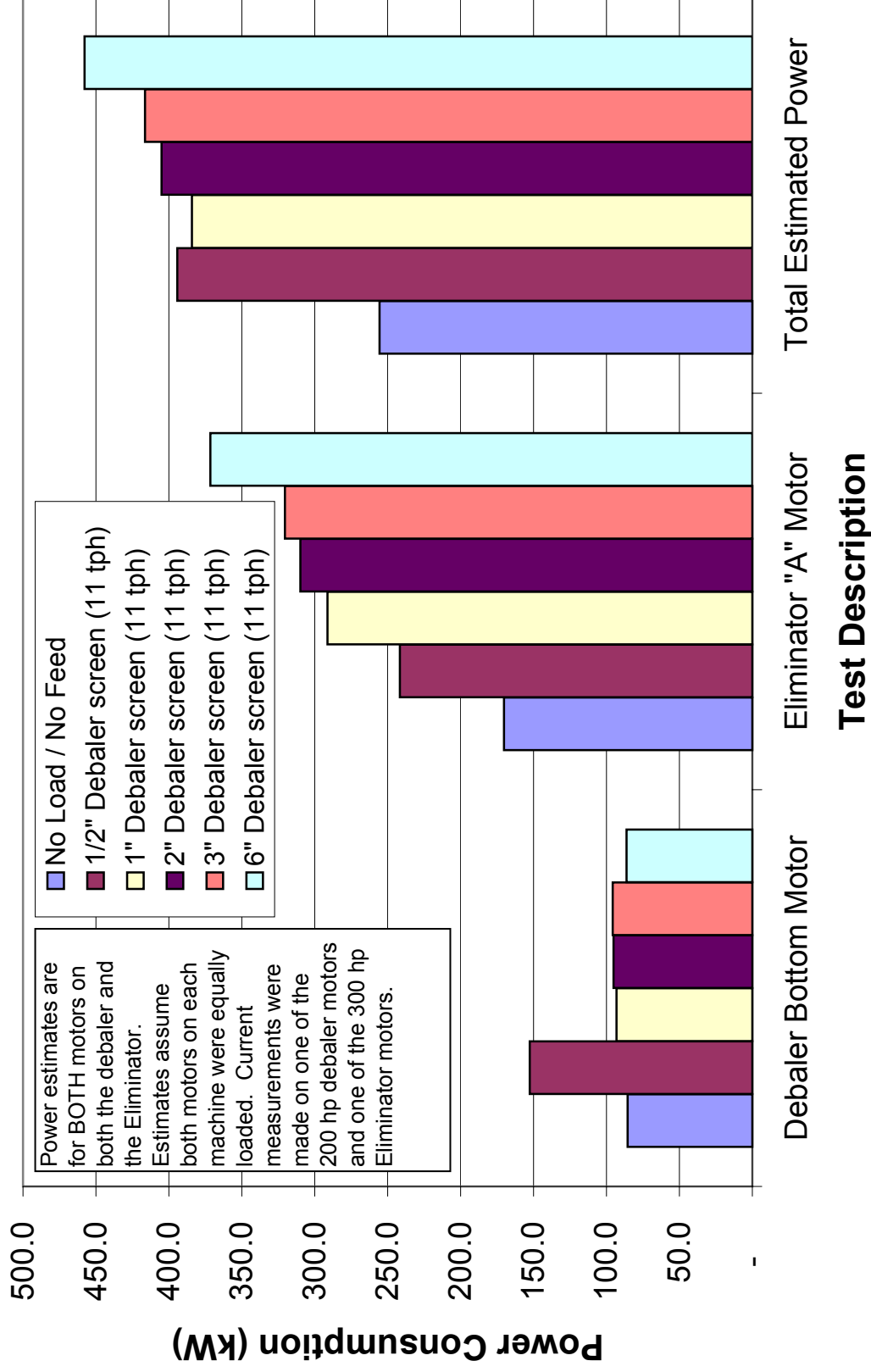
Ave Current for Switchgrass Process Tests

(Aug 9-12, 2004)



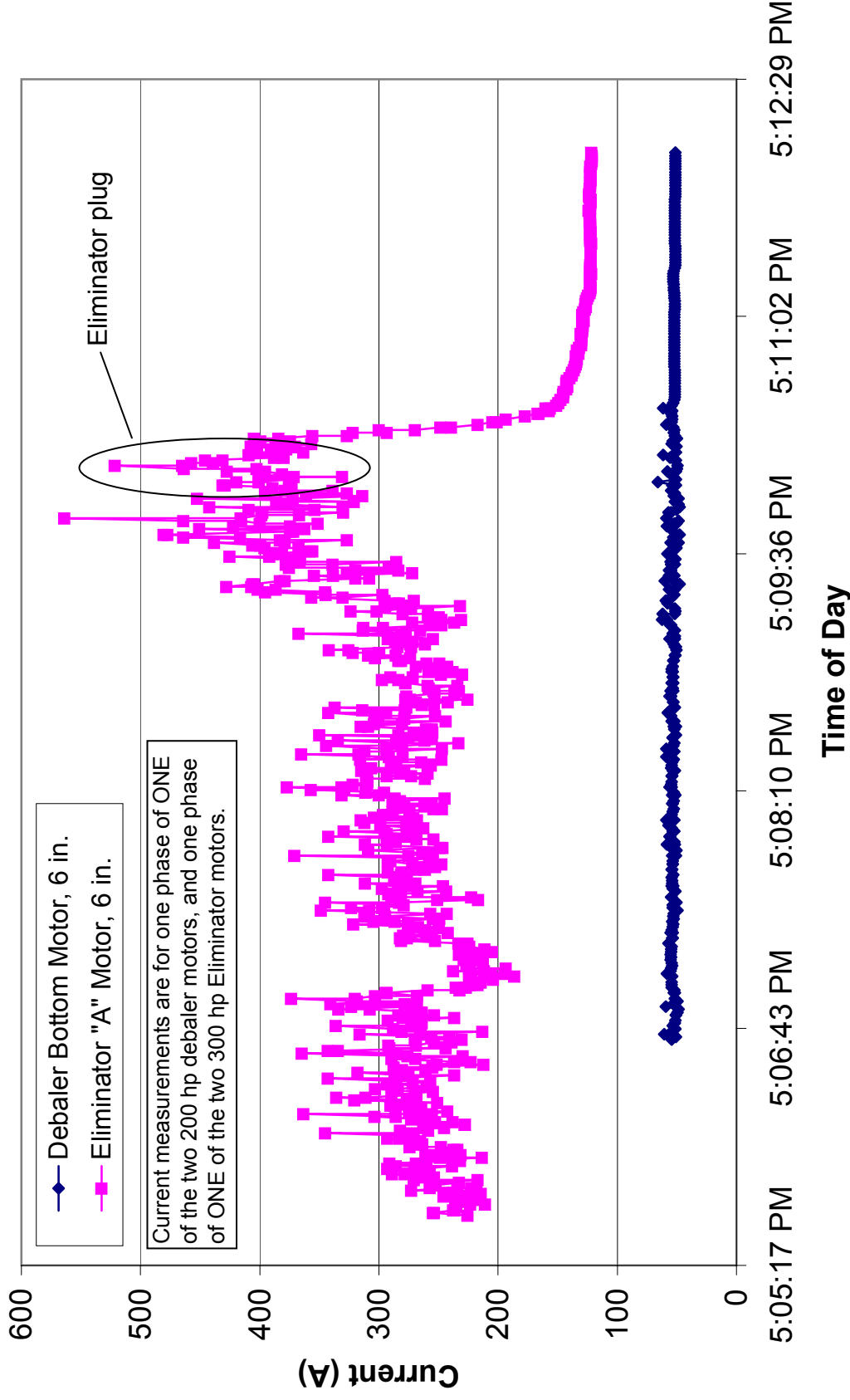
Ave Power for Switchgrass Process Tests

(Aug 9-12, 2004)



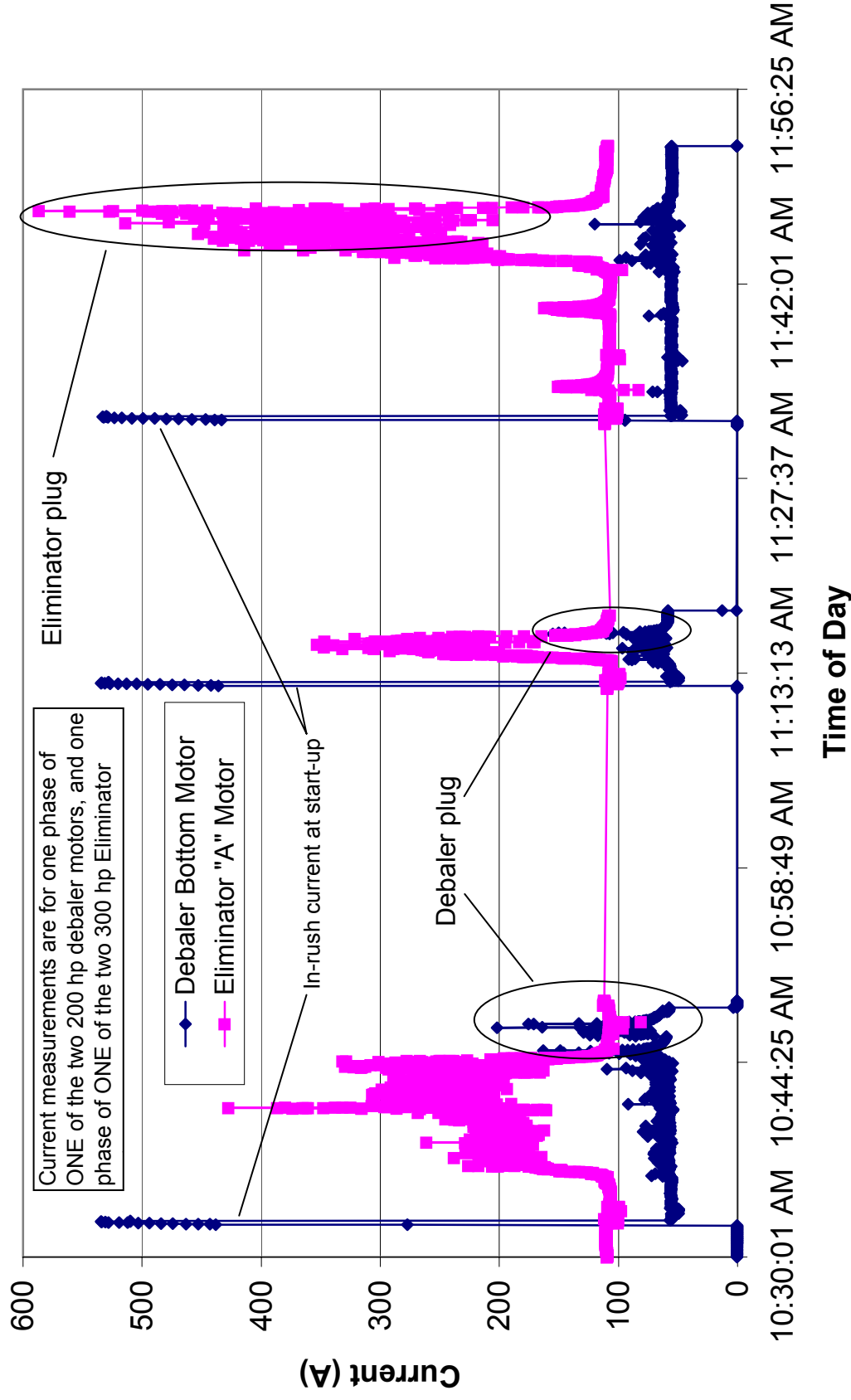
Debaler & Eliminator Current Readings

(6 inch debaler screen ; 11- 13.5 tph capacity test ; Aug 9, 2004)



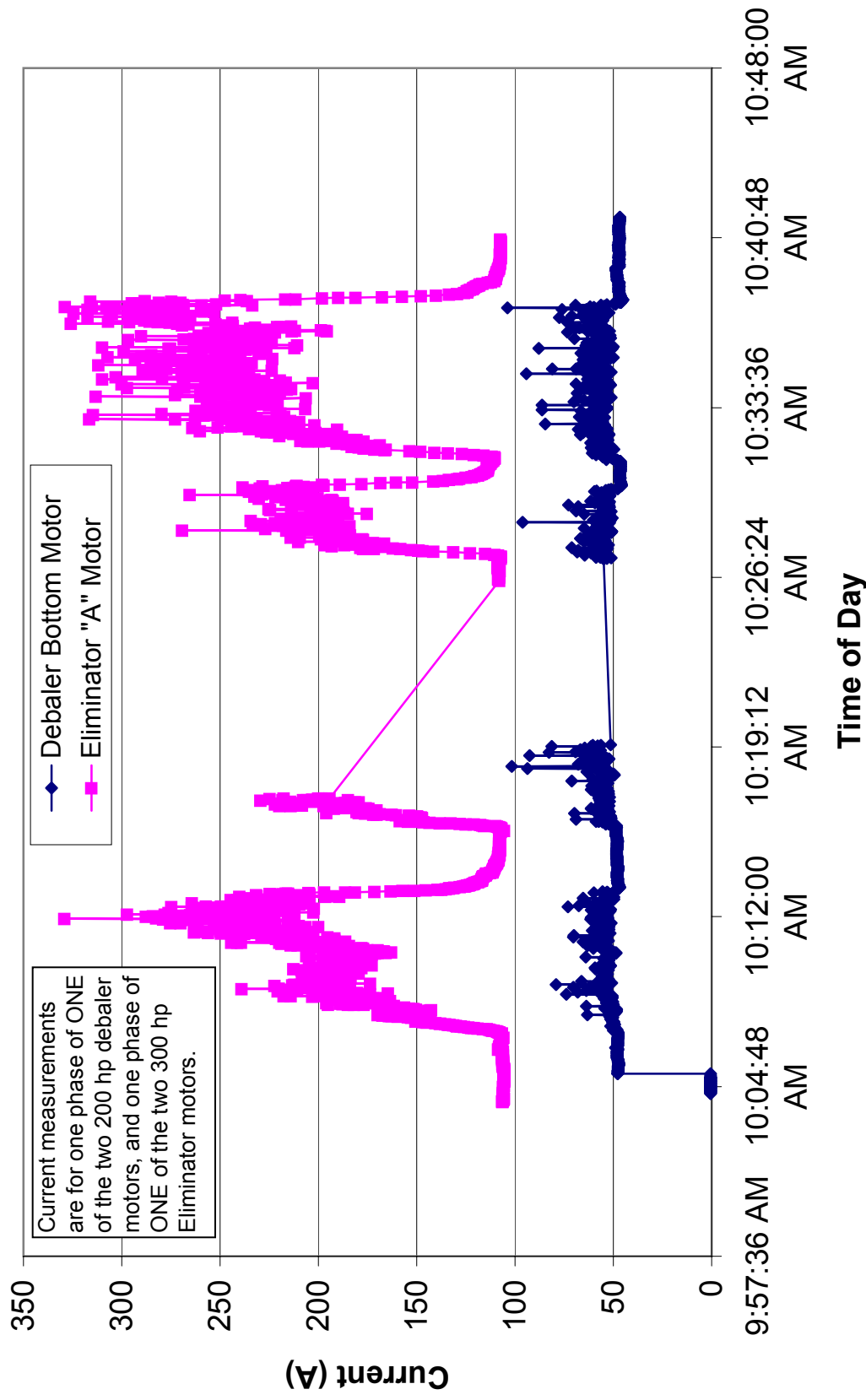
Debaler & Eliminator Current Readings

(3 inch debaler screen ; 11 - 15 tph ; Aug 12, 2004)



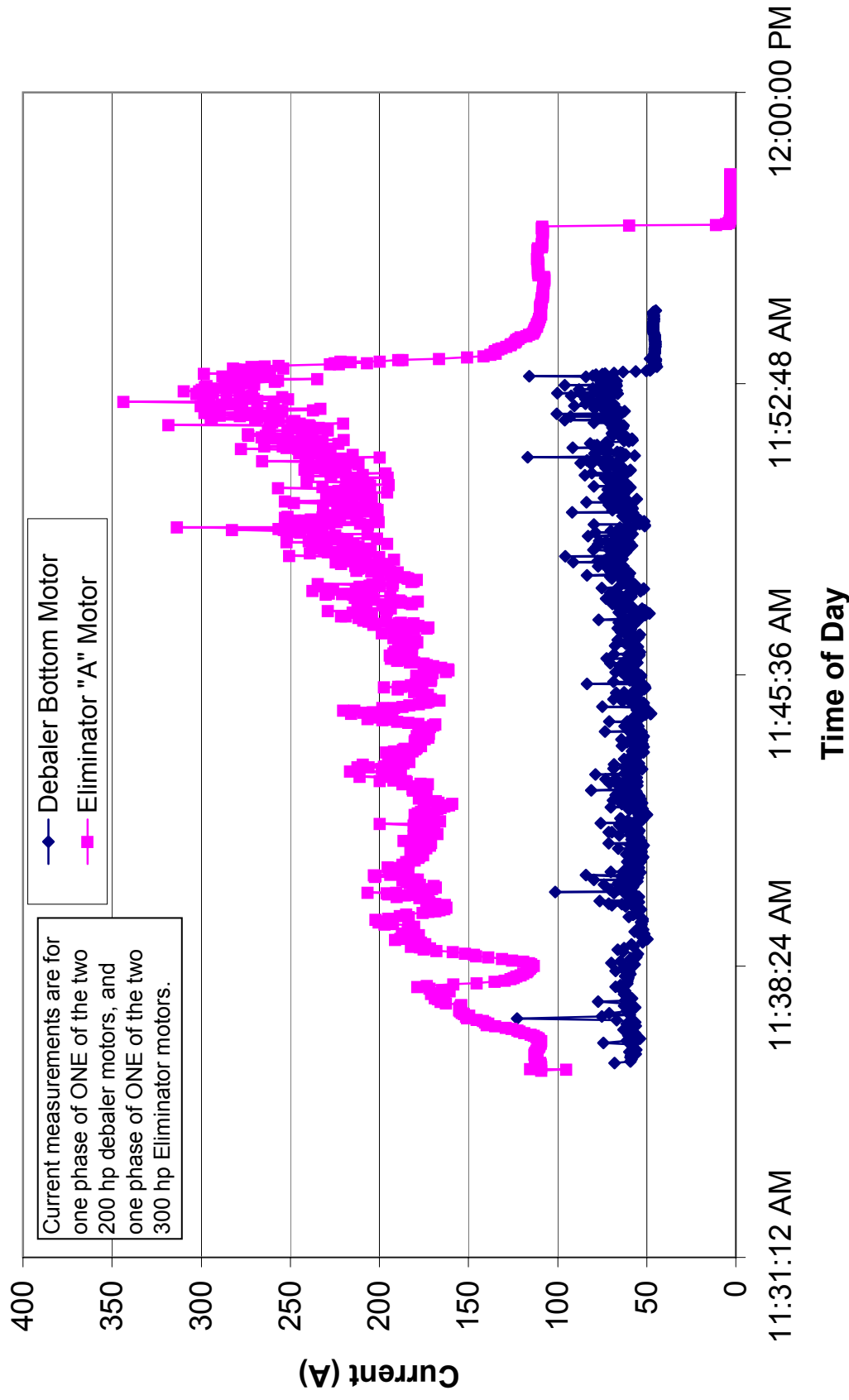
Debaler & Eliminator Current Readings

(2 inch debaler screen ; 11 - 14.5 tph ; Aug 11, 2004)



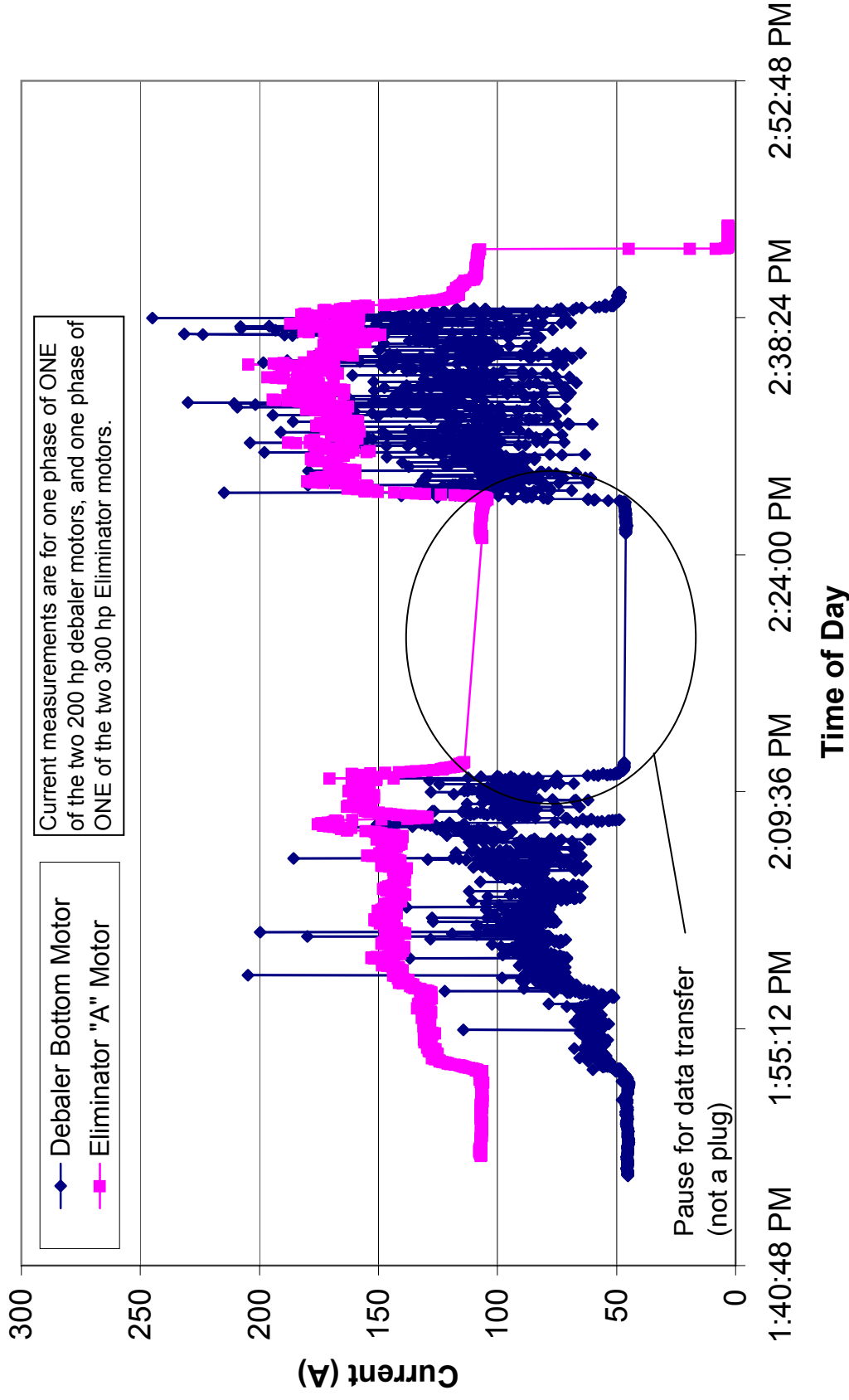
Debaler & Eliminator Current Readings

(1 inch debaler screen ; 11 - 15.2 tph ; Aug 11, 2004)



Debaler & Eliminator Current Readings

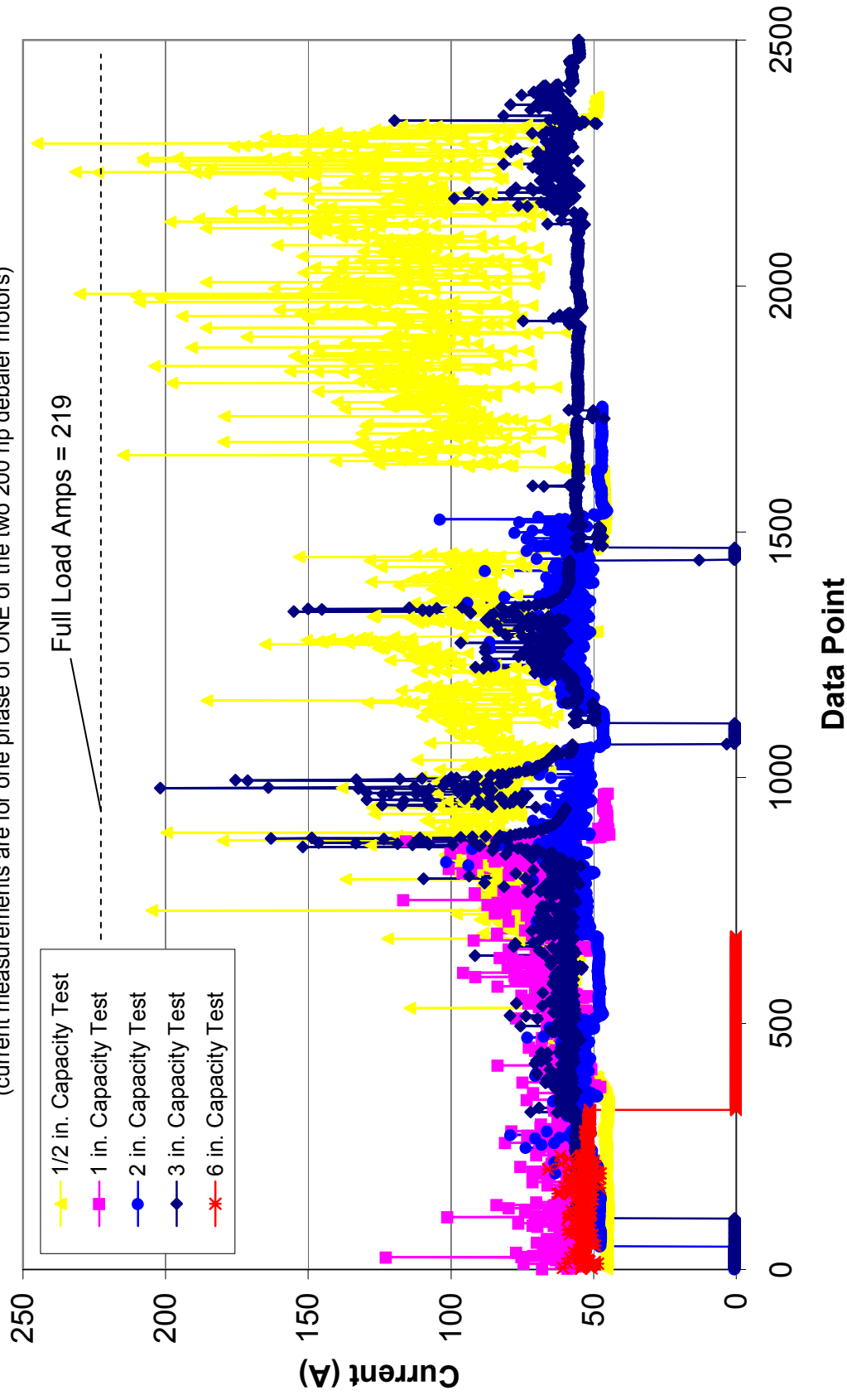
(1/2 inch debaler screen ; 6 - 14.1 tph ; Aug 11, 2004)



Debaler Current Readings

(Aug 9 - 12, 2004)

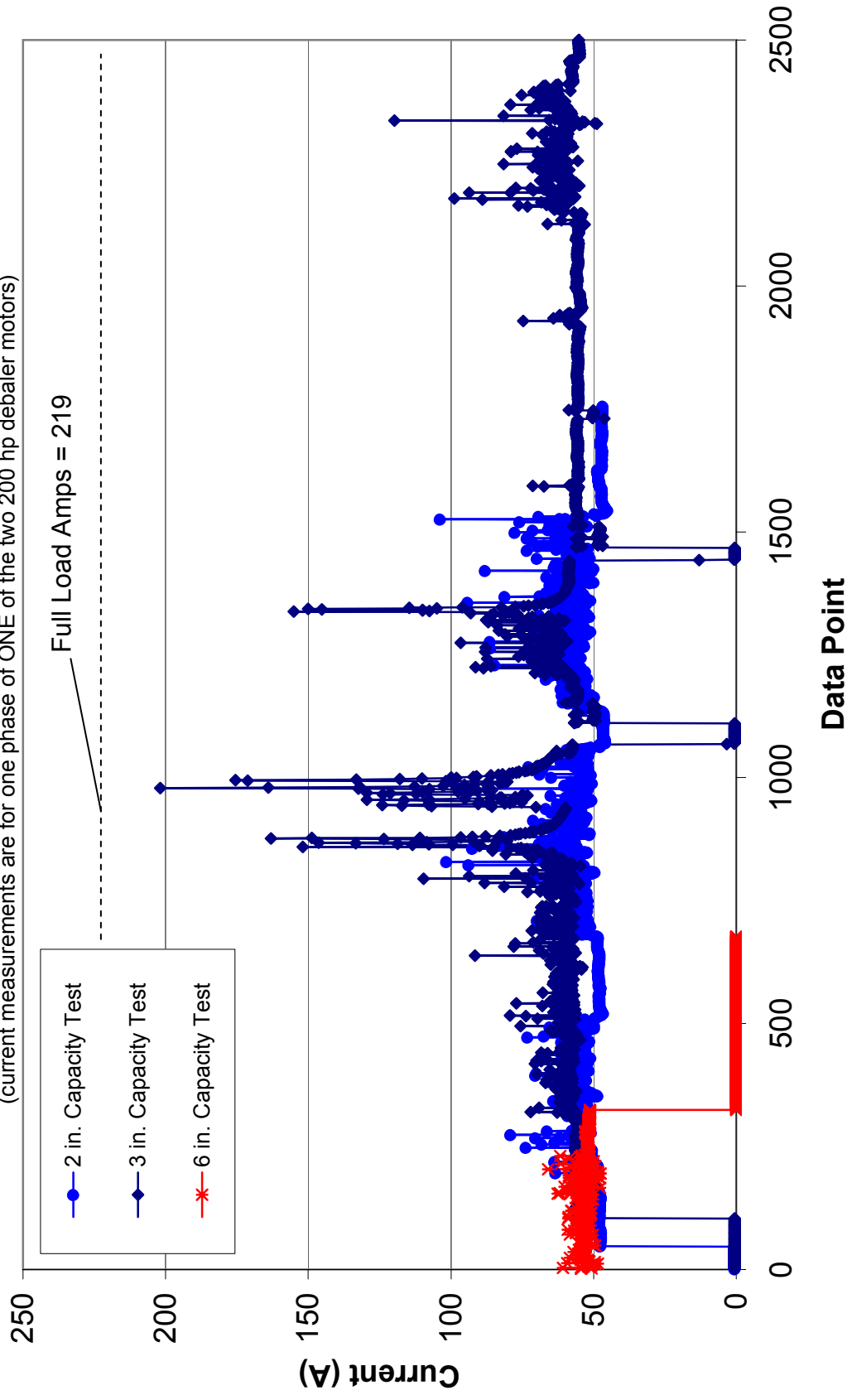
(current measurements are for one phase of ONE of the two 200 hp debaler motors)



Debaler Current Readings

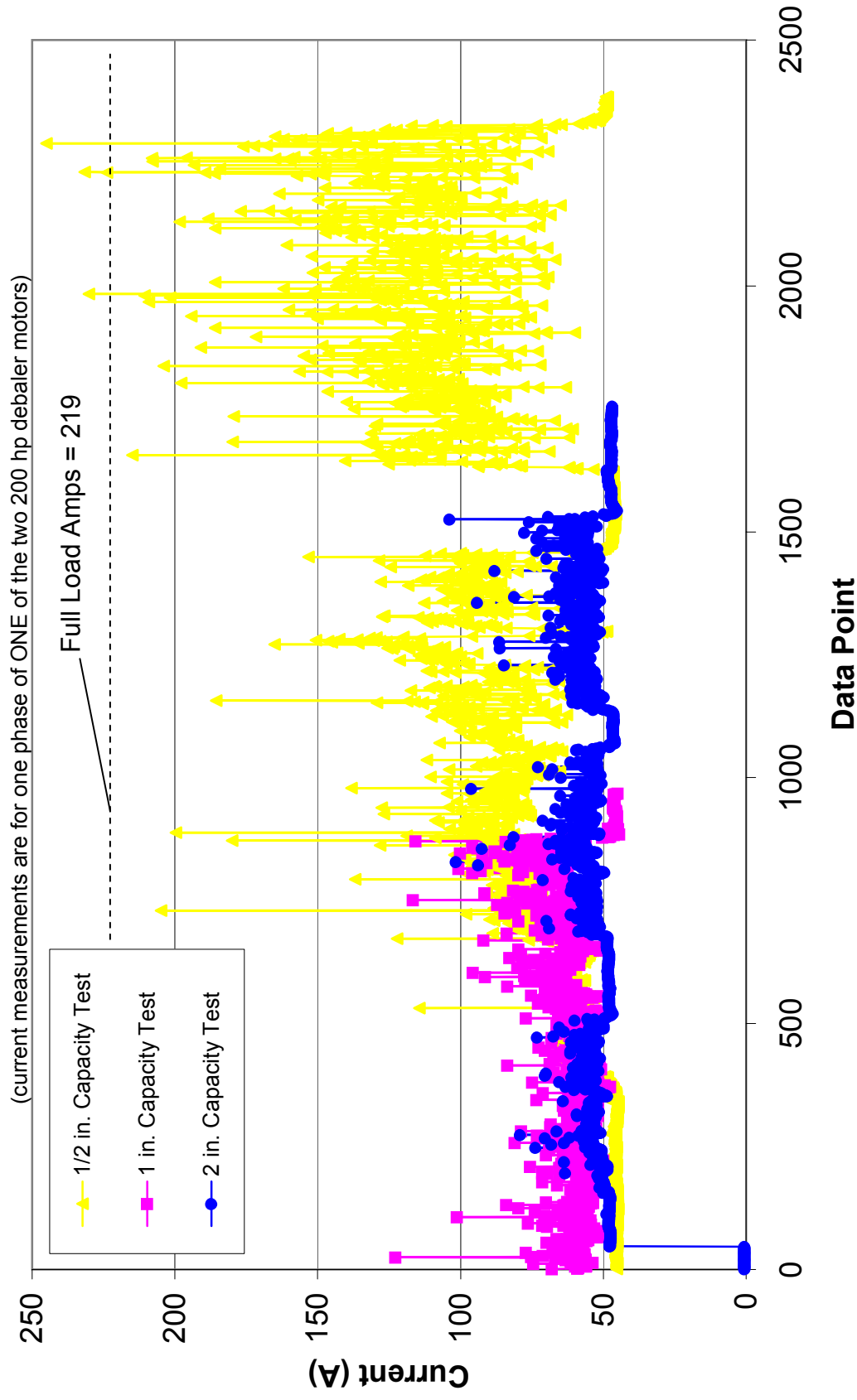
(Aug 9 - 12, 2004)

(current measurements are for one phase of ONE of the two 200 hp debaler motors)



Debaler Current Readings

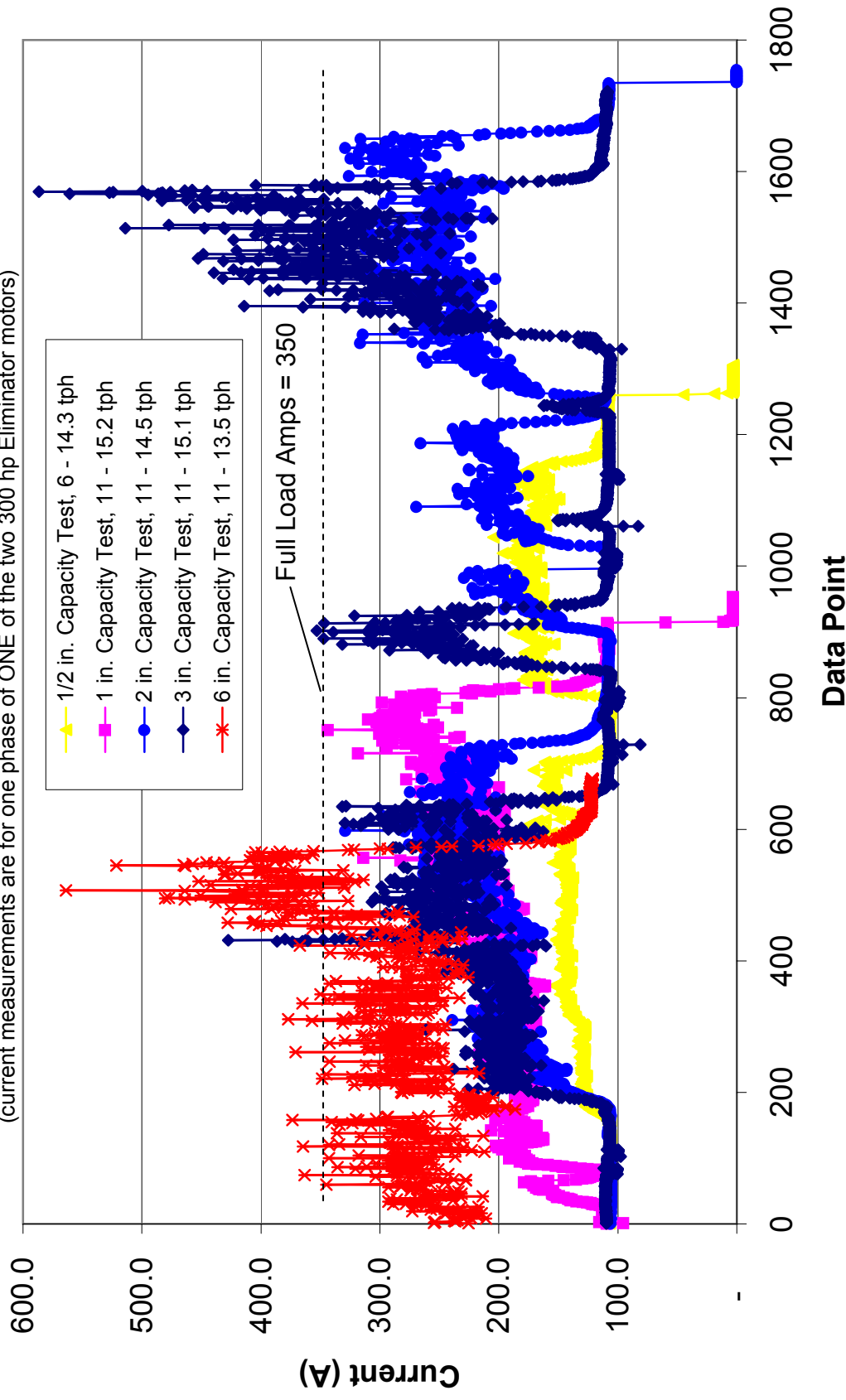
(Aug 9 - 12, 2004)



Eliminator Current Readings

(Aug 9 - 12, 2004)

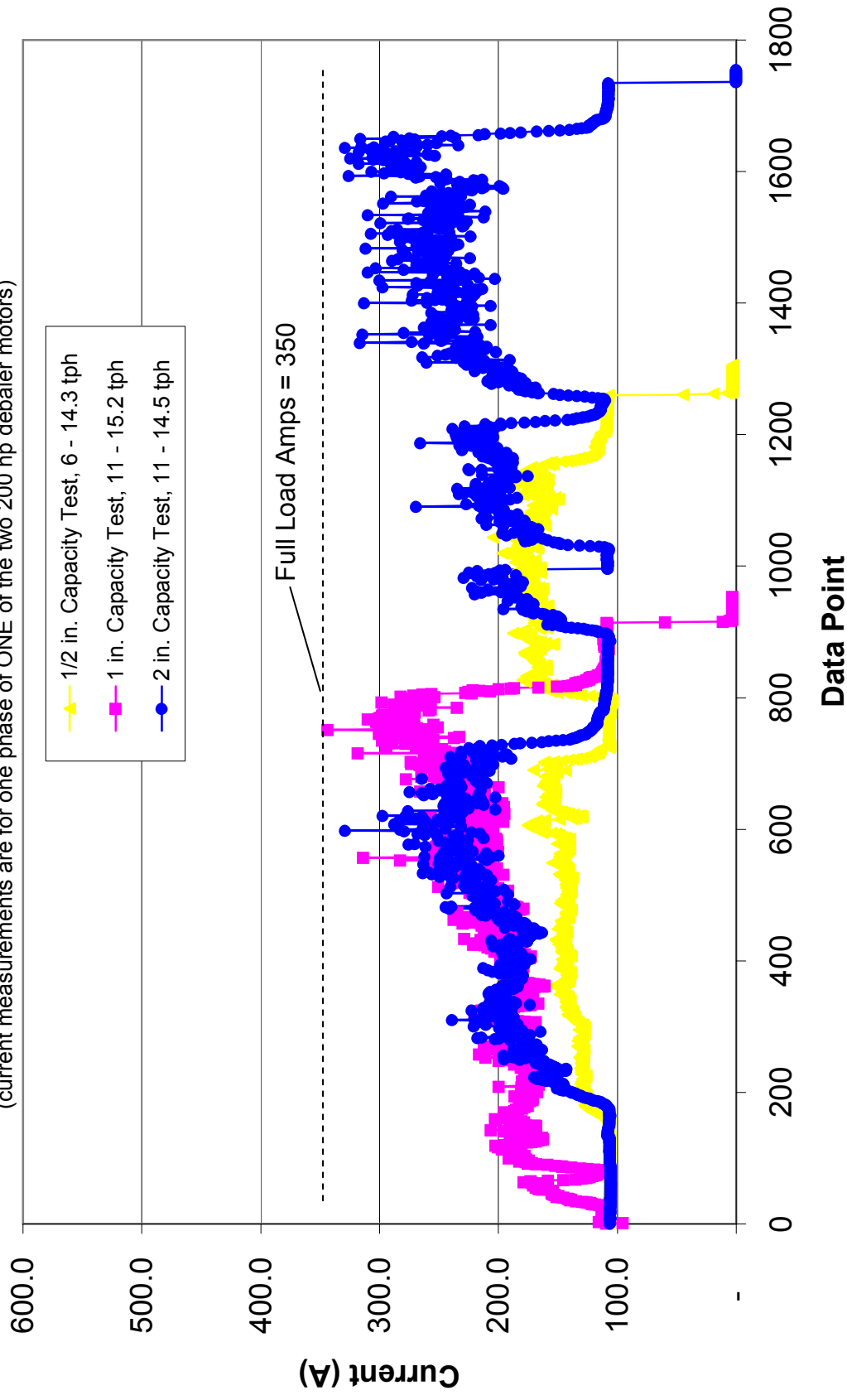
(current measurements are for one phase of ONE of the two 300 hp Eliminator motors)



Eliminator Current Readings

(Aug 9 - 12, 2004)

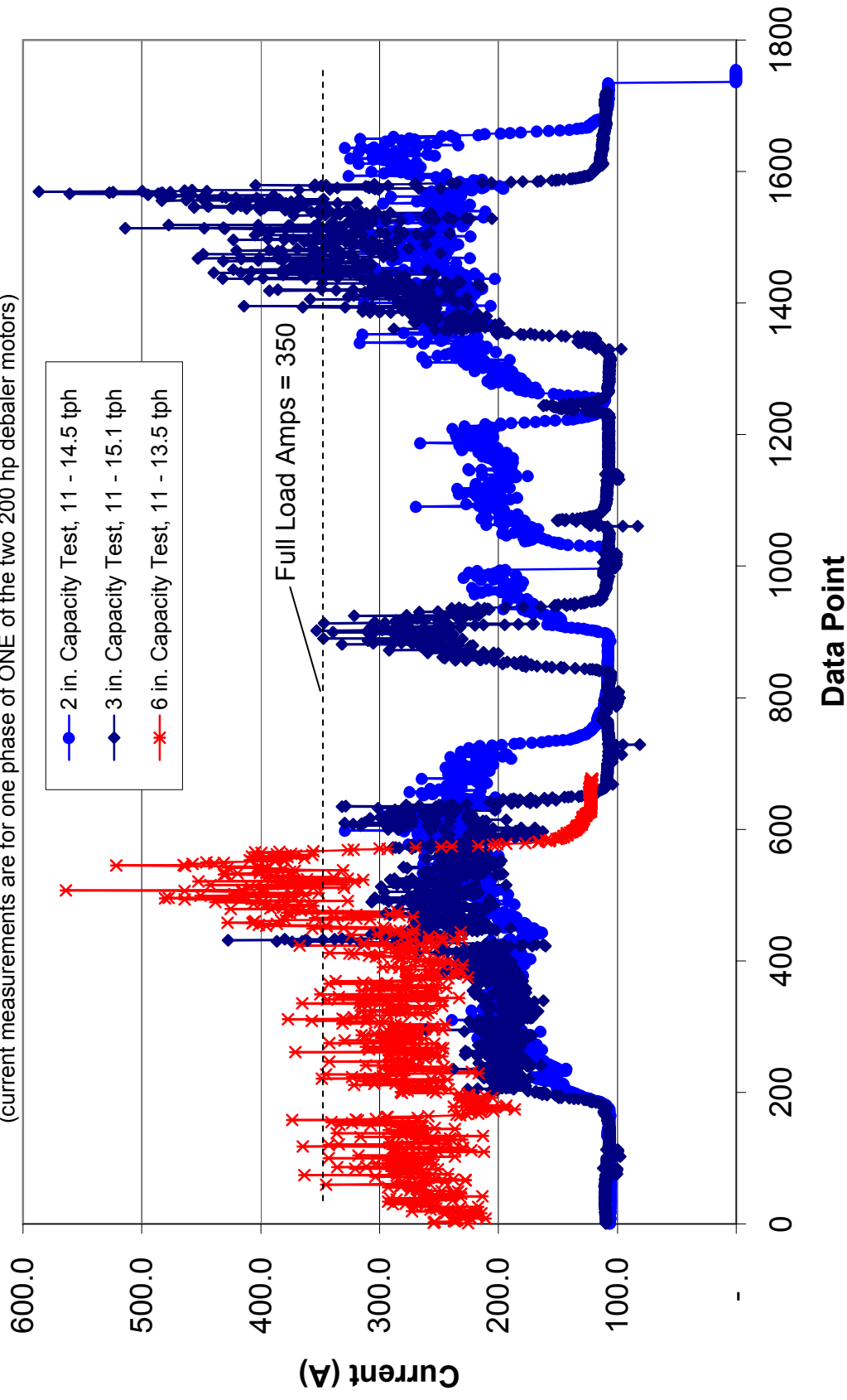
(current measurements are for one phase of ONE of the two 200 hp debaler motors)



Eliminator Current Readings

(Aug 9 - 12, 2004)

(current measurements are for one phase of ONE of the two 200 hp debaler motors)



Debaled Switchgrass
Bulk Density: 3.3 lbs/ft³

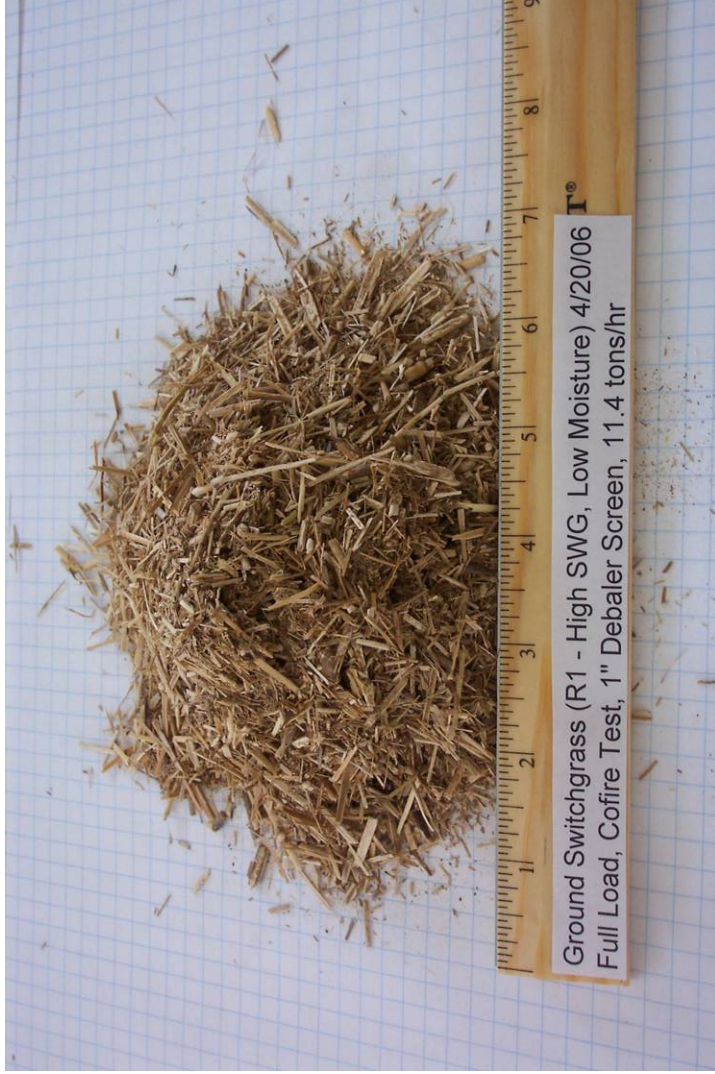


Ground Switchgrass
Bulk Density: 7.88 lbs/ft³





Debaled Switchgrass
Bulk Density: 3.00 lbs/ft³



Ground Switchgrass
Bulk Density: 11.06 lbs/ft³



Debaled Switchgrass
Bulk Density: 4.27 lbs/ft³



Ground Switchgrass
Bulk Density: 6.99 lbs/ft³

Debaled Switchgrass

Bulk Density: 2.97 lbs/ft³



Ground Switchgrass

Bulk Density: 4.95 lbs/ft³





Debaled Switchgrass
Bulk Density: 5.40 lbs/ft³



Ground Switchgrass
Bulk Density: 11.88 lbs/ft³

**EMISSION TEST REPORT
for
Chariton Valley RC&D
on
Switchgrass 1 (EP SWG1)
located in
Chillicothe, Iowa
on
March 22 and 23, 2006**

Conducted by

Comprehensive Emission Services, Inc.
P.O. Box 910
Waukee, Iowa 50263
(515) 987-0200

Project No. 2606

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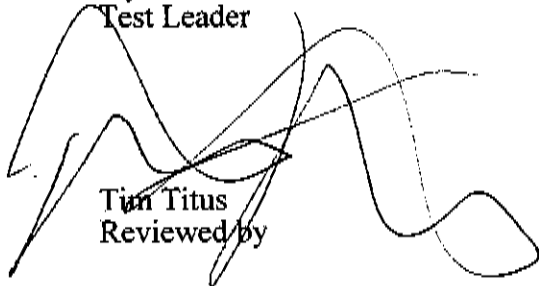
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PREFACE

This report summarizes the results of the data collected for compliance testing performed at the Chariton Valley Resource Conservation and Development facility in Chillicothe, Iowa. To the best of our knowledge, the data in this report are accurate and complete. Any questions concerning this report should be directed to Mr. Tim Titus or Mr. Jay Titus. They may be reached by phone at (515) 987-0200.



Jay Titus
Test Leader



Tim Titus
Reviewed by

March 30, 2006

INTRODUCTION

An emission test was conducted by Comprehensive Emission Services, Inc. on Switchgrass 1 (EP SWG1) at the Chariton Valley Resource Conservation and Development facility in Chillicothe, Iowa. Three Method 17 with 202 backhalf particulate sampling runs and three Method 9, Opacity runs were performed. PM_{10} emissions will have to be derived from the PM samples for this source. The testing fulfills the requirements for testing in the IDNR Permit #05-A-233. The testing was performed on March 22 and 23, 2006.

Coordinating the field tests:

Tim Titus - Comprehensive Emission Services, Inc.
Bill Belden - Chariton Valley Resource Conservation and Development

Conducting the field tests:

Mason Woltz - Comprehensive Emission Services, Inc.
Matt Milligan - Comprehensive Emission Services, Inc.

The appendices to this report contain the following information and data:

Appendix A: Example Calculations
Appendix B: Laboratory Data Forms
Appendix C: Field Data Forms
Appendix D: Pretest Calibrations
Appendix E: Post-test Calibrations
Appendix F: Process Data

SUMMARY OF RESULTS

In accordance with current IDNR protocol, when less than 10 mg of sample is collected, 10 mg of sample catch is used for calculations. Sources with sample collections less than 10 mg are shown with a '<' symbol in the following tables to indicate that actual samples were less than the assumed 10 mg catch. Both the actual and the assumed emission rates can be found in Appendix C.

Table 1 summarizes the test results for testing performed on Switchgrass 1 (EP SWG1). Three Method 17 with 202 backhalf particulate sampling runs and three Method 9, Opacity runs were performed. PM₁₀ emissions will have to be derived from the PM samples for this source. The testing fulfills the requirements for testing in the IDNR Permit #05-A-233. The testing was performed on March 22 and 23, 2006.

The allowable limit for PM₁₀ and PM is 1.29 lb/hr.
The allowable limit for Opacity is 40%.

Table 1
Summary of Test Results
Switchgrass 1 (EP SWG1)

	units	Run 1	Run 2	Run 3
PM Net Weight	g	<0.0100	<0.0100	<0.0100
PM Emissions	gr/dscf	<0.0013	<0.0013	<0.0013
PM Emission Rate	lb/hr	<0.22	<0.22	<0.21
Flow Rate	acfm	19,653	19,375	19,639
Flow Rate	dscfm	19,879	19,823	19,765
Isokinetics	%	98.6	98.9	99.3
Run Start Time	HH:MM	13:07	7:50	11:10
Run Stop Time	HH:MM	16:09	10:54	14:11
Date	mm/dd/yr	3/22/06	3/23/06	3/23/06
Opacity	%	0.0	0.0	0.0
Run Start Time	HH:MM	13:10	14:03	15:05
Run Stop Time	HH:MM	14:10	15:03	16:05
Date	mm/dd/yr	3/22/06	3/22/06	3/22/06

SAMPLING AND ANALYTICAL PROCEDURES

Sampling Procedures

Particulate emissions were determined by U.S. Environmental Protection Agency (EPA) Methods 1, 2, 3, 4, 17, 202 and 9. These Methods are titled;

- Method 1 - "Sample and Velocity Traverse for Stationary Sources"
- Method 2 - "Determination of Stack Gas Velocity and Volumetric Flow Rate"
- Method 3 - "Gas Analysis for Carbon Dioxide, Oxygen, Excess Air and Dry Molecular Weight"
- Method 4 - "Determination for Moisture Content in Stack Gases"
- Method 5 - "Determination of Particulate Emissions from Stationary Sources"
- Method 17 - "Determination of Particulate Emissions from Stationary Sources (In-Stack Filtration Method)"
- Method 202 - "Condensible Particulate Emissions"
- Method 9 - "Determination of Visual Emissions from Stationary Sources"

These methods appear in detail in Title 40, Code of Federal Regulations (CFR), Part 60, Appendix A.

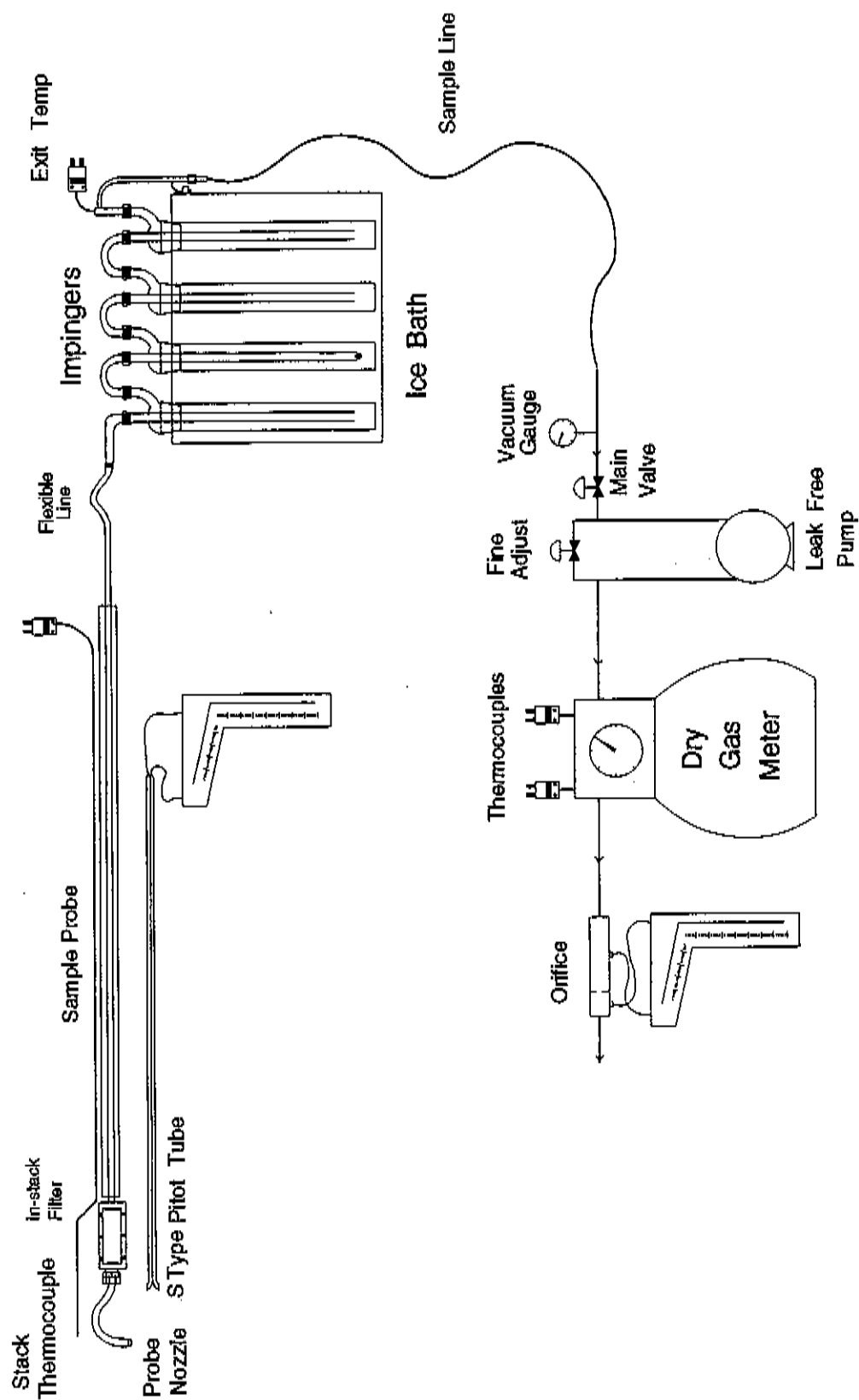
The Sampling Apparatus is shown in Figure 1 on Page 6. All equipment was calibrated at Comprehensive Emission Services' office prior to shipment to the test site.

Sampling Locations

A total of 24 sample points were used to determine particulate emissions. The sample time per point was 7.5 minutes, for a total sampling time of 180 minutes per test run. The stack sampling point locations can be found along with the field data sheets in Appendix C.

Analytical Procedures

The particulate emission rate was determined following procedures detailed in EPA Methods 17 and 202. Particulate samples collected on Whatman glass fiber filters were analyzed gravimetrically. The probe and nozzles were rinsed with acetone. The rinse was transferred to tarred beakers and evaporated to dryness. The back-half water was collected and separated into organic and in-organic parts. The samples were then transferred to tarred beakers and evaporated to dryness.



Schematic of Method 17 Sampling Train

Figure 1

Table 2
Particulate Emission Results
Switchgrass 1 (EP SWG1)

Parameters	Units	Run 1	Run 2	Run 3
PM Emissions				
Weight Collected	g	<0.0100	<0.0100	<0.0100
Actual	gr/dscf	<0.0013	<0.0013	<0.0013
Emission Rate	lb/hr	<0.22	<0.22	<0.21
Stack Flow Rates				
Velocity	ft/min	1,952	1,924	1,950
Actual	acfm	19,653	19,375	19,639
Standard Conditions	dscfm	19,879	19,823	19,765
Sampling Results				
Isokinetics	%	98.6	98.9	99.3
Sample Volume	dscf	121.685	121.765	121.931
Avg. Stack Temperature	°F	57	50	56
Avg. Square Root ΔP	inches H ₂ O	0.5834	0.5787	0.5825
Avg. ΔH	inches H ₂ O	1.52	1.53	1.55
Avg. Meter Temperature	°F	65.8	67.8	77.2
Oxygen	%	21.00	21.00	21.00
Carbon Dioxide	%	0.00	0.00	0.00
Moisture Collected	ml	14.0	18.0	27.0
Moisture	% H ₂ O	0.6	0.7	1.1
Run Start Time	HH:MM	13:07	7:50	11:10
Run Stop Time	HH:MM	16:09	10:54	14:11
Sampling Time	minutes	180	180	180
Date	mm/dd/yr	3/22/06	3/23/06	3/23/06
Opacity				
Opacity	%	0.0	0.0	0.0
Run Start Time	HH:MM	13:10	14:03	15:05
Run Stop Time	HH:MM	14:10	15:03	16:05
Sampling Time	minutes	60	60	60
Date	mm/dd/yr	3/22/06	3/22/06	3/22/06