Seaboard
T R A N S P O R T GROUP OF COMPANIES

Coal Import Process	**July 19, 2017**

PURPOSE

Document the entire import process of all coal data.
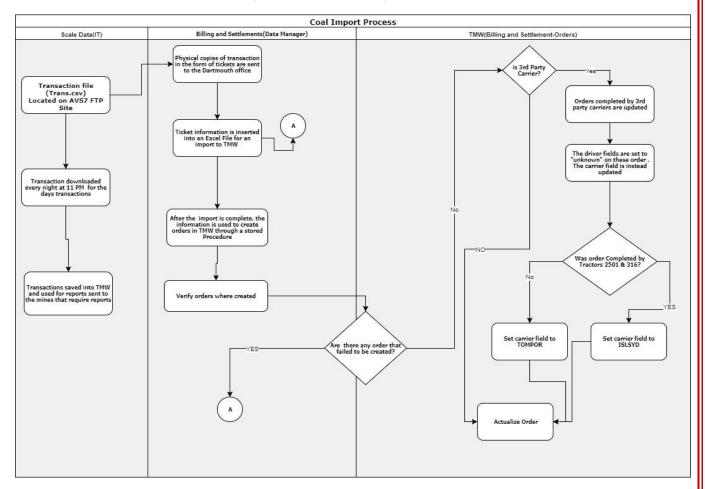From the data being downloaded from the scale to the uses of said data.

Contents

1 Overview

The AVS7 is a smart scale device manufactured by Avery WeighTronix. We presently have one of these units placed in Sydney at the Whitney Pier coal terminal where we are hauling petcoke and other coal products for Logistec, Kameron Coal, Lingan, to power stations and sometimes other locations from time to time.

The point of the AVS7 is to electronically capture all of the scale data and provide it in CSV format so it can be parsed into the TMW database. At present, the physically printed scale tickets are returned to Dartmouth for billing to process manually.

Coal Import Process

2 Processing the Scale Data

2.1 *Scale Information*

The AVS7 scale uses a FTP site that contains transaction data.
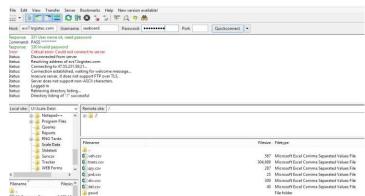
The site can be accessed using the information provided below:

Host:

Username: anonymous

Password:

Scale transaction are saved the file name *Trans.csv*.
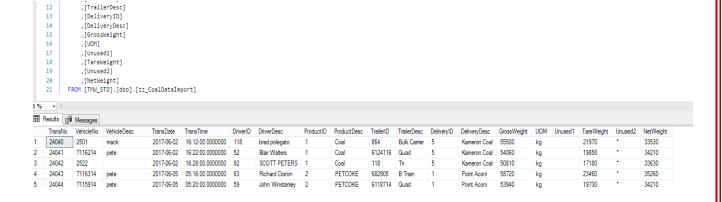
2.2 Downloading transactions from scale.

A task is scheduled to run every day, indefinitely, at 11 PM to download data from the scale. This task triggers a *.bat file to execute located on SEATRANLPI - C:\Scripts\TMW-Coal called "CoalImport.bat"

Step 1. CoalImport.bat is executed, upon execution and the bat file triggers a PowerShell script to run called "CoalData.ps1" located on SEATRANLPI - C:\Scripts\TMW-Coal.

CoalImport.bat - Notepad

File Edit Format View Help

```
powershell -command "& 'c:\Scripts\TMW-Coal\CoalData.ps1' "
```

Step 2: The PowerShell script downloads the trans.csv file from the ftp site and processes it into a table called TMW_STD.dbo.zz_CoalDataImport.

- Downloads the Trans.csv file.
- Clear the zz_CoalDataImport table by moving and new records that have not been archived into ztbl_CoalDataArchive then truncating the table.
- The entire trans.csv is inserted into zz_CoalDataImport.

```
12        ,[TrailerDesc]
13        ,[DeliveryID]
14        ,[DeliveryDesc]
15        ,[GrossWeight]
16        ,[UOM]
17        ,[Unused1]
18        ,[TareWeight]
19        ,[Unused2]
20        ,[NetWeight]
21    FROM [TMW_STD].[dbo].[zz_CoalDataImport]
```

	TransNo	VehicleNo	VehicleDesc	TransDate	TransTime	DriverID	DriverDesc	ProductID	ProductDesc	TrailerID	TrailerDesc	DeliveryID	DeliveryDesc	GrossWeight	UOM	Unused1	TareWeight	Unused2	NetWeight
1	24040	2501	mack	2017-06-02	16:12:00.0000000	118	brad polegato	1	Coal	864	Bulk Carrier	5	Kameron Coal	55500	kg		21970	*	33530
2	24041	7116214	pete	2017-06-02	16:22:00.0000000	52	Blair Walters	1	Coal	6124116	Quad	5	Kameron Coal	54060	kg		19850	*	34210
3	24042	2522		2017-06-02	16:28:00.0000000	92	SCOTT PETERS	1	Coal	118	Tri	5	Kameron Coal	50810	kg		17180	*	33630
4	24043	7116314	pete	2017-06-05	05:16:00.0000000	63	Richard Doiron	2	PETCOKE	682905	B Train	1	Point Aconi	58720	kg		23460	*	35260
5	24044	7115914	pete	2017-06-05	05:20:00.0000000	59	John Winstanley	2	PETCOKE	6118714	Quad	1	Point Aconi	53940	kg		19730	*	34210

```
$command = "c:\Program Files (x86)\WS_FTP Pro\ftpscrpt.exe"
$prm = "C:\Scripts\TMW-Coal\CoalImport.scp"
& $command $prm

# Database variables
$sqlserver = "shsql"
$database = "TMW_STD"
$table = "zz_CoalDataImport"

$conn = new-Object System.Data.SqlClient.SqlConnection('Server=shsql;Database=TMW_STD;User ID
                                  rusted_Connection=False;')

# CSV variables;
$csvfile = "C:\scripts\TMW-Coal\trans.csv"
$csvdelimiter = ","
$firstrowcolumnnames = $false

Write-Output "Script started..."
$elapsed = [System.Diagnostics.Stopwatch]::StartNew()

# 100k worked fastest and kept memory usage to a minimum
$batchsize = 100000

# Build the sqlbulkcopy connection, and set the timeout to infinite
$connectionString = new-Object
System.Data.SqlClient.SqlConnection('Server=shsql;Database=TMW_STD;User
                                  rusted_Connection=False;')
$bulkcopy = new-Object ("Data.SqlClient.Sqlbulkcopy") $connectionstring
$bulkcopy.DestinationTableName = $table
$bulkcopy.bulkcopyTimeout = 0
$bulkcopy.batchsize = $batchsize


#Delete old import data
$conn.Open()
$cmd = new-Object System.Data.SqlClient.SqlCommand("zsp_ClearCoalImportTable", $conn)
$cmd.CommandType = [System.Data.CommandType]::StoredProcedure
$cmd.ExecuteNonQuery()
$cmd.Dispose()
$conn.Close()

# Create the datatable, and autogenerate the columns.
$datatable = New-Object "System.Data.DataTable"

# Open the text file from disk
$reader = new-object System.IO.StreamReader($csvfile)
$line = $reader.ReadLine()
$columns = $line.Split($csvdelimiter)

    if ($firstrowcolumnnames -eq $false) {
        foreach ($column in $columns) {
            $null = $datatable.Columns.Add()
            }
        # start reader over
        $reader.DiscardBufferedData();
        $reader.BaseStream.Position = 0;
        }
    else {
        foreach ($column in $columns) {
            $null = $datatable.Columns.Add($column)
        }
    }

  # Read in the data, line by line
    while (($line = $reader.ReadLine()) -ne $null)  {
        $row = $datatable.NewRow()
        $row.itemarray = $line.Split($csvdelimiter)
        $datatable.Rows.Add($row)

        # Once you reach your batch size, write to the db,
        # then clear the datatable from memory
        $i++; if (($i % $batchsize) -eq 0) {
        $bulkcopy.WriteToServer($datatable)
        Write-Output "$i rows have been inserted in $($elapsed.Elapsed.ToString()).";
        $datatable.Clear()
        }
    }

# Close the CSV file
```

2.2.1 Reports

Report Location-Kameron Coal

Kameron Coal Daily Report

7/19/2017 2:12:34 PM

7/19/2017 2:12:34 PM

Page 1

Report Date:Tuesday, July 18, 2017

- PEV Crushed Coal -

Load No.	2501 864 Darrell Rogers	2522 118 George Mills	2529 116 Barry Peters	316 409 Donald Maclean	7115914 6118714 John Winstanley	7116014 6125517 Todd Mac Leod	7116414 6125717 Howie Young	7122317 6125617 Dan Fraser	7122517 6125917 Brian Penny
1	33.36	32.34	31.07	32.62	37.54	36.81	36.44	36.21	36.43
2	32.88	36.05	32.21	33.22	35.29	36.10	31.83	37.22	37.04
3	33.59	31.45	33.67	32.34	35.49	34.42	34.69	34.42	34.40
4	32.45	32.94		30.23	33.96	36.64	34.44	36.75	34.98
5	31.76	31.72		32.74	37.82	38.25	36.40	35.51	35.73
6	33.77	34.64		31.10	33.47	32.90	30.45	35.42	34.99
7	33.32	32.87		32.68	34.07	35.09	33.89	33.33	37.15
8		34.00		32.35				33.95	
Unit Total:	231.13	266.01	96.95	257.28	247.64	250.21	238.14	282.81	250.72

Gross MT 2120.89
Load Count 62
Avg Load Size 34.21

Kameron Coal Report — Please note that units of measurement are expressed in metric tonnes — Page 1 of 1

Report Location – Point Aconni

7/19/2017 2:16:57 PM

Page 1

Report Date:Thursday, July 06, 2017

- Coal -

Load No.	7104111 682905 Daniel Roland	7105512 682705 Fabian Poirier	7115914 6118714 John Winstanley	7116014 6125517 Todd Mac Leod	7116114 685506 Jordan Morrison	7116314 686906 Richard Doiron	7116414 6118914 Howie Young	7120115 685706 Darrell Mailman
1	37.62	39.42	35.22	34.07	37.61	38.79	36.03	40.55
2		38.33	34.84	36.04	38.50	37.01	35.65	36.34
3		38.13	33.66	34.01	38.40	36.69		35.81
4			33.83	33.76				
5			33.05	35.89				
6			32.74	34.14				
Unit Total:	37.62	115.88	203.34	207.91	114.51	112.49	71.68	112.7

Gross MT 976.13
Load Count 27
Avg Load Size 36.15

Logistec Coal Report — Please note that units of measurement are expressed in metric tonnes — Page 1 of 1

3 TMW Order Creation

3.1 *Ticket Stubs to Excel File*

1 Tickets from the previous day are sent to head office in physical form.

2 A list of all tickets processed that day is compiled into an Excel sheet with the necessary info.

3 The file contains the columns
   - Driver (TMW ID for the driver)
   - Tractor (Tractor used to complete load)
   - Trailer (Trailer used to complete load)
   - Comm (Commodity transported)
   - Weight (Net Weight in Tones)
   - Act Date(Date load was completed)
   - Master Order(Template used to create order i.e. ord_hdrnumber of master order)

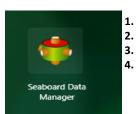4 Once the information in the list is verified it is imported into TMW through the Seaboard Data Manager.

SEABOARD TRANSPORT

```
08:28 2017 Jun , 16
Transaction....: 24924
Vehicle ID.....: 7116414
     pete
Driver ID......: 61
   Howie Young
Product ID.....: 2
   PETCOKE
Quarry ID......: 685706
   B Train
Delivery ID....: 1
   Point Aconi

G     59680 kg
T     23050 kg *
N     36630 kg
```

Driver	Tractor	Trailer	Comm	Weight	Act Date	Master Order
UNKNOWN	2522	118	CBCOAL1	32.34	2017-07-18	1310812
PENBRI	7122517	6125917	CBCOAL1	36.43	2017-07-18	1310812
UNKNOWN	2501	864	CBCOAL1	33.36	2017-07-18	1310812
FRADAN	7122317	6125617	CBCOAL1	36.21	2017-07-18	1310812
UNKNOWN	316	409	CBCOAL1	32.62	2017-07-18	1310812
MACTO	7116014	6125517	CBCOAL1	36.81	2017-07-18	1310812
WINJO	7115914	6118714	CBCOAL1	37.54	2017-07-18	1310812
YOUHO	7116414	6125717	CBCOAL1	36.44	2017-07-18	1310812
UNKNOWN	2522	118	CBCOAL1	36.05	2017-07-18	1310812
PENBRI	7122517	6125917	CBCOAL1	37.04	2017-07-18	1310812
UNKNOWN	2501	864	CBCOAL1	32.88	2017-07-18	1310812
FRADAN	7122317	6125617	CBCOAL1	37.22	2017-07-18	1310812
UNKNOWN	316	409	CBCOAL1	33.22	2017-07-18	1310812
MACTO	7116014	6125517	CBCOAL1	36.10	2017-07-18	1310812
WINJO	7115914	6118714	CBCOAL1	35.29	2017-07-18	1310812
YOUHO	7116414	6125717	CBCOAL1	31.83	2017-07-18	1310812
UNKNOWN	2522	118	CBCOAL1	31.45	2017-07-18	1310812
PENBRI	7122517	6125917	CBCOAL1	34.40	2017-07-18	1310812
UNKNOWN	2501	864	CBCOAL1	33.59	2017-07-18	1310812
FRADAN	7122317	6125617	CBCOAL1	34.42	2017-07-18	1310812
UNKNOWN	316	409	CBCOAL1	32.34	2017-07-18	1310812
MACTO	7116014	6125517	CBCOAL1	34.42	2017-07-18	1310812
WINJO	7115914	6118714	CBCOAL1	35.49	2017-07-18	1310812
YOUHO	7116414	6125717	CBCOAL1	34.69	2017-07-18	1310812
UNKNOWN	2522	118	CBCOAL1	32.94	2017-07-18	1310812
PENBRI	7122517	6125917	CBCOAL1	34.98	2017-07-18	1310812
FRADAN	7122317	6125617	CBCOAL1	36.75	2017-07-18	1310812
UNKNOWN	316	409	CBCOAL1	30.23	2017-07-18	1310812
MACTO	7116014	6125517	CBCOAL1	36.64	2017-07-18	1310812
WINJO	7115914	6118714	CBCOAL1	33.96	2017-07-18	1310812

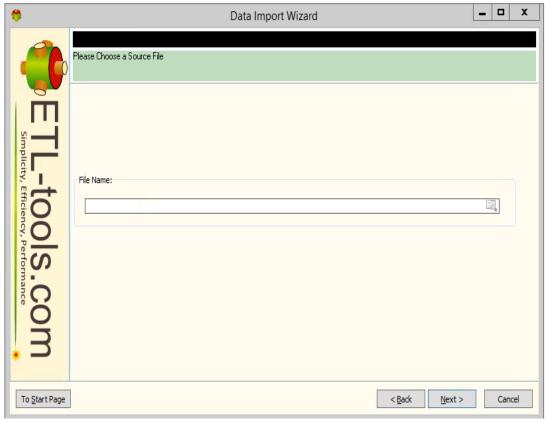### 3.2 *Seaboard Data Manager (Import into TMW)*

Seaboard Data Manager

1. Open Seaboard Data Manager on the Citrix Receiver
2. Enter Login Credentials.
3. Click on the "Tonnage CSV Import " option in the menu items on the left panel
4. Click on the "Import Data" toolbar Option

Tonnage CSV Import

Tonnage CSV Import

Driver	Tractor	Trailer	Weight	Commo	Act Date	Master Orde	Message Txt

When the Import Data toolbar option has been selected, a small window will prompt the user to select the file they wish to import. The file has to be in an Excel format and must have the same fields/Columns as the destination table in TMW. The file is selected and processed into TMW
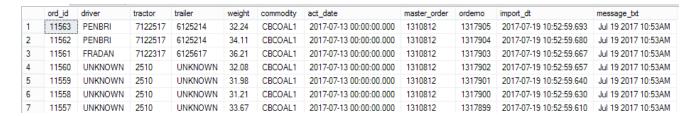
3.3 *SQL Creating TMW Orders*

- The data processed in the data manager is located in the table ztbl_Tonnage_CSV_Import on the TMW database.

The stored procedure zsp_Tonnage_CSV_Import runs once the import is complete. The procedure uses the column 'orderno' as a flag. All records with the order number set to '0' are considered new records. These new records are then processed into TMW using the stored procedure zsp_OrderFromMaster_Tonnage_CSV which inserts the records into the appropriate tables in TMW.

	ord_id	driver	tractor	trailer	weight	commodity	act_date	master_order	orderno	import_dt	message_txt
1	11563	PENBRI	7122517	6125214	32.24	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317905	2017-07-19 10:52:59.693	Jul 19 2017 10:53AM
2	11562	PENBRI	7122517	6125214	34.11	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317904	2017-07-19 10:52:59.680	Jul 19 2017 10:53AM
3	11561	FRADAN	7122317	6125617	36.21	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317903	2017-07-19 10:52:59.667	Jul 19 2017 10:53AM
4	11560	UNKNOWN	2510	UNKNOWN	32.08	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317902	2017-07-19 10:52:59.657	Jul 19 2017 10:53AM
5	11559	UNKNOWN	2510	UNKNOWN	31.98	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317901	2017-07-19 10:52:59.640	Jul 19 2017 10:53AM
6	11558	UNKNOWN	2510	UNKNOWN	31.21	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317900	2017-07-19 10:52:59.630	Jul 19 2017 10:53AM
7	11557	UNKNOWN	2510	UNKNOWN	33.67	CBCOAL1	2017-07-13 00:00:00.000	1310812	1317899	2017-07-19 10:52:59.610	Jul 19 2017 10:53AM

4   Design Document – New Process

	June 25, 2017
DRY BULK CSV Import	
Design Document	

Document Author:

Name: Momodou (Mo) Keita   Date: July 24, 2017

Report Author:

Name: Momodou (Mo) Keita   Date: September 18th 2017

4.1 *Purpose:*

This report will be used to assist billing and settlement analyst with creating orders in TMW from tickets received from the AVS 7 Scale in Sydney, NS. This will be an improvement in the current process documented above.

4.2 *Data source:*

The main data source for this report is the TMW database. TMW contains all the data required for this report. Stored procedures and views will be responsible for gathering all the information required for the report. The information will be gathered information from the following tables:

A	Description			
Table	Coal Product Information	Driver information	Master order Information	Transaction information
dbo.XREFCoalDrivers		1		
dbo.XREFCoalProducts	1			
dbo.XREFMineMasters			1	
dbo.ztbl.coalDataArchive				1

4.3 *Report Description:*

Below is a description of the parameters and fields of the report.

Parameters:

PARAMETER	DESCRIPTION
FROM DATE	Transactions from this date (transdate)
TO DATE	Transactions to this Date(transdate)
MINE	Company (DeliveryDesc)
MODE	Is data being verified or exported to be create orders

Fields:

FIELD	DESCRIPTION
DRIVER	The TMW ID of the driver : (**XREFCoalDriver**.TMW_ID)
TRACTOR	Tractor # used to complete the load
TRAILER	Trailer # used to complete the load
COMM	Commodity transported (**XREFCoalProducts**.TMWCommodityCode)
WEIGHT	Weight in Tonnes of the load.
ACT_DATE	Date of Transaction (**ztbl.coalDataArchive.TransDate**)
MASTER ORDER	Ord_hdrnumber for the Master order template used to create the order.
CARRIER	Third parties responsible for completed load if any.

4.4 *New Process*

DRY BULK IMPORT LINK

Step 1. Select the parameters you want to run the report for (Date range, Specific mining operation, mode). Setting the mode to preview allows the end user to review the data before final export

Home > Report Staging > Coal CSV Exports

From: 6/30/2017   To: 6/30/2017

Mine Lingan ▼   Mode Preview ▼

Step 2. Review returned dataset

From: 6/30/2017   To: 6/30/2017
Mine Lingan ▼   Mode Preview ▼

|◄ ◄ 1 of 2 ► ►| Find | Next

Dry Bulk Import   Page 1

Mine	Trasaction	Transaction Date	Driver	Tractor	Trailer	Commodity	Weight	Carrier
Lingan	25755	6/30/2017	UNKNOWN	2522	118	CBCOAL1	33.25	UNKNOWN
Lingan	25756	6/30/2017	PENBRI	7122517	6125214	CBCOAL1	33.56	UNKNOWN
Lingan	25757	6/30/2017	UNKNOWN	2501	864	CBCOAL1	33.58	ISLSYD
Lingan	25758	6/30/2017	UNKNOWN	2529	121	CBCOAL1	32.52	TOMPOR
Lingan	25760	6/30/2017	FRADAN	7122317	6125617	CBCOAL1	36.06	UNKNOWN
Lingan	25768	6/30/2017	UNKNOWN	316	409	CBCOAL1	33.25	ISLSYD
Lingan	25769	6/30/2017	UNKNOWN	2522	118	CBCOAL1	35.61	UNKNOWN
Lingan	25770	6/30/2017	PENBRI	7122517	6125214	CBCOAL1	35.76	UNKNOWN
Lingan	25771	6/30/2017	UNKNOWN	2501	864	CBCOAL1	32.72	ISLSYD
Lingan	25772	6/30/2017	UNKNOWN	2529	121	CBCOAL1	33.73	TOMPOR
Lingan	25773	6/30/2017	FRADAN	7122317	6125617	CBCOAL1	35.93	UNKNOWN
Lingan	25777	6/30/2017	UNKNOWN	316	409	CBCOAL1	32.59	ISLSYD
Lingan	25780	6/30/2017	UNKNOWN	2522	118	CBCOAL1	34.58	UNKNOWN

Step 3. If data displayed matches ticket stubs, switch mode to export and run the report again.

Step 4. Scroll orders to display newly created orders. E.g. order number 1368257 is completed by a carrier. As per the change request the new process should update carrier information on the orders created

Step 5. View order

4.4.1 NEW Process TMW Setup.

Step 1.   Create Table to hold extracted and updated ticket information.

```sql
USE [TMW_STD]

GO

SET ANSI_NULLS ON

GO

SET QUOTED_IDENTIFIER ON

GO

CREATE TABLE [ztbl_DryBulkOrders](

        [ord_id] [int] IDENTITY(1,1) NOT NULL,

        [driver] [varchar](8) NULL,

        [tractor] [varchar](8) NULL,

        [trailer] [varchar](8) NULL,

        [weight] [float] NULL,

        [commodity] [varchar](8) NULL,

        [act_date] [datetime] NULL,

        [master_order] [varchar](12) NULL,

        [Carrier] [varchar](12) NULL,

        [orderno] [int] NULL,

        [import_dt] [datetime] NULL,

        [message_txt] [varchar](255) NULL,

        [transno] [varchar](50) NULL

) ON [PRIMARY]

GO

ALTER TABLE [dbo].[ztbl_Tonnage_CSV_Import_Updated] ADD  CONSTRAINT
[DF_ztbl_Tonnage_CSV_Import_Updated_orderno]  DEFAULT ((0)) FOR [orderno]

GO

ALTER TABLE [dbo].[ztbl_Tonnage_CSV_Import_Updated] ADD  CONSTRAINT
[DF_ztbl_Tonnage_CSV_Import_import_Updated_dt]  DEFAULT (getdate()) FOR [import_dt]

GO
```

Step 2. Create the Procedure that handles the order creation. Will be attached in an Email.
Step 3. Move the report from the testing environment to live environment.
Step 4. Run Final Test