

# EMRS Tracing Toolkit

## A Guide to Approaching Tracing



### A Guide to Approaching Tracing in EMRS2

While knowing how to use EMRS2 is critical in tracing, the most crucial work is gathering and organizing the information for movements of animals to or from an affected/infected herd before ever firing up the software. The type and completeness of this information dictates how to approach tracing in EMRS2; organizing the information into logical traces before turning on your computer makes using the software much easier. The purpose of this document is to guide the User in preparing tracing information to facilitate streamlined EMRS2 data entry. This does not mean, however, that one needs all of the information required to begin the process within EMRS2. Tracing involves gathering information, the goal must be to keep the system up to date in as close to real time as possible.

### Step 1 - Gathering Information

When tracing animals onto or off infected/affected premises, it is often helpful to gather animal movement information from several sources and reconcile them for a complete picture of animal movements.

Key sources of information include:

- Owner sales records and purchase receipts
- Livestock market invoices (purchases and sales)
- Certificates of veterinary inspection (CVIs)
- Brand inspections (BI) conducted in the field or at livestock markets

Often State or Federal systems will have movement data such as Certificates of Veterinary Inspections (CVIs) or Brand Inspection documents (BIs) available through electronic data systems. This electronic information can serve as the source of your organizational tables. Prepare a robust query of these systems when searching for information. The frequency of misspelled names, cities, and other key information is high!

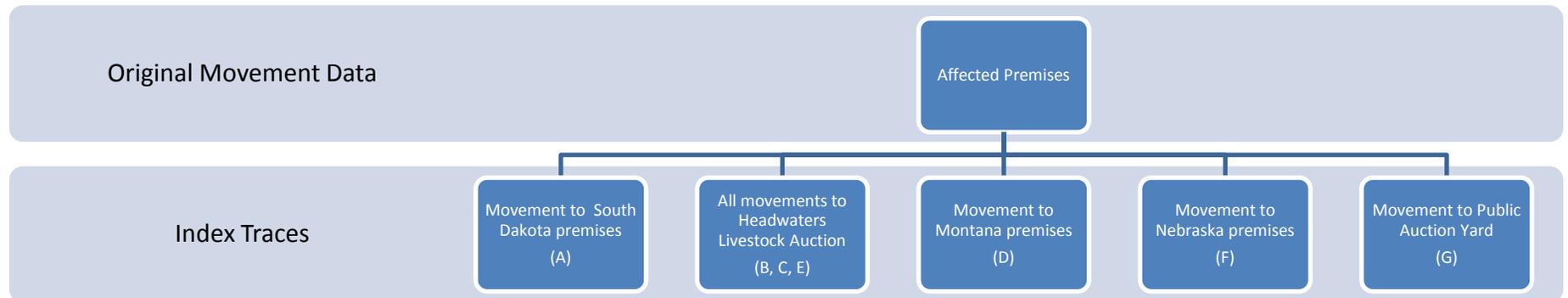
Table 1 below shows an example of a spreadsheet compiled from State CVI and BI data; this data was supplemented with market sales records. (*Disclaimer – this data is real data from an affected herd; names have been changed to protect the guilty!*) In addition to reconciling all sources of information for movements, data organized this way can then be sorted to facilitate data entry when tracing begins. The Reference Letter column was added to show how this original information can be manipulated to optimize creating Traces later in this document. Graphic 1 illustrates how this information will become the root of the tracing process.

In addition to movement information, it is also helpful to have a brief epidemiologic investigation summary prepared. This information can be copied and pasted into the Trace or attached as a separate document. The recipient of the Trace (usually the epidemiologist) will find this information useful to estimate or assess the potential risk the traced animals present to the trace-in or trace-out herd they will be working with.

Other statements that you will be using repetitively are worth storing in a document so they are readily accessible for copying and pasting. Email messages used to notify recipients and back tag prefixes for the livestock market are “reusable” text that are easily copied and pasted during the tracing process.

TABLE 1. EXAMPLE OF MOVEMENT DATA ORGANIZATIONAL TOOL (SPREADSHEET)									
Document type/source	Seller Name	Buyer Name	Buyer City	Buyer State	Sex	Number of head	Salebarn/sale type	Date (Sale/Inspection)	Reference Letter
Paper CVI	BUM CALF RANCHES	ROSEBUD CATTLE CO	PLATTE	SD	Heifer	46	Private sale	8/2/2012	A
Market BI, Market Invoice	BUM CALF RANCH CORPORATION					9	Headwaters Livestock Auction	9/23/2012	B
Market Invoice	BUM CALF RANCH CORP					75	Headwaters Livestock Auction	10/16/2012	C
Field BI	BUMMER CALF RANCH	FRANKLIN ROOSEVELT	BOZEMAN	MT	Cow	6	Private sale	10/16/2012	D
Market Invoice	BUM CALF RANCH CORP					3	Headwaters Livestock Auction	10/22/2012	E
Field BI	BUM CALF RANCH CORP	THOMAS JEFFERSON	DICKERSON	NE	Heifer calves	167	Private sale	11/2/2012	F
Market BI, Market Invoice	BUM CALF RANCH CORPORATION					23	Public Auction Yard	12/3/2012	G

**Graphic 1. Movement information converted to Index Traces**



## Step 2 – Information Organization

While Table 1 shows the major shipments off the premises, several of the shipments went to livestock markets. Therefore, we know the Index Trace lines for these movements will need to be continued; they will probably need split as well. Table 2 shows the information spreadsheet expanded to account for the further movements of the animals from the livestock market to their next destination premises. The expansion of information/data was accomplished using the information captured from market invoices reconciled with BI data.

After the preliminary information on animal movements has been expanded into individual movements, you can start thinking about further organizing it into Index Traces and continued Trace lines. Table 3 shows how sorting this information gives you a starting point for trace lines in EMRS. The graphic below shows the resulting traces; sketching this diagram on paper or an erase board can help keep you oriented as you prepare to create this structure in EMRS2.

For example, Movements B, C, and E will be “bundled” as a single Index Trace to the livestock market (See Graphic 1). This single Index Trace will show 3 shipments occurring between 9/23/12 and 10/22/12. The remaining movements A, D, and F will also become individual Index Traces from the herd to their respective premises and split/continued as necessary.

To streamline entering Continuation traces for Index Traces out of a market, sort the movement information spreadsheet data by Buyer State, Buyer Name, and Date. This organizes or “bundles” the information for individual shipments from a market into Continuation Trace lines to single premises.

For example, the shipment/movements B-1, C-2, and E-1 all originate from Headwaters Livestock, destined for Long Prairie Packing in MN. Rather than send 3 continuation traces, a single Continuation trace showing 3 shipments to a single destination premises is a cleaner and more efficient means of tracing these slaughter animals. This logic is shown in Table 2 and Graphic 2.

## Step 3 – Create EMRS2 Traces!

The mechanism used to create these Index Traces (or subsequent splits/continuations of the Trace line) depends on whether the animals are individually identified during the movement process. The specific keystrokes to accomplish tracing is outlined in detail in the EMRS2 Tracing and Movements Guide.

In the examples described in this document, the animals in each shipment were not individually identified; therefore, they were traced as groups of “Animals without ID”. Refer to the appropriate pages of the Tracing and Movements Guide for these types of traces. Note that loading and unloading animals is not an activity that you will need to complete for traces of these types!

In the event that movement information contains individual animal IDs (CVIs, test charts), the more robust method of tracing using Individually Identified Animals method is preferred. A full description of this type of tracing is outlined in the Tracing and Movements Guide.

**TABLE 2. EXAMPLE OF MOVEMENT DATA ORGANIZATIONAL TOOL (SPREADSHEET)  
EXPANDED TO SHOW ALL TRACEABLE MOVEMENTS/SHIPMENTS**

<b>Document type/source</b>	<b>Seller Name</b>	<b>Buyer Name</b>	<b>Buyer City</b>	<b>Buyer State</b>	<b>Sex</b>	<b>Number of head</b>	<b>Salebarn/sale type</b>	<b>Date (Sale/ Inspection)</b>	<b>Reference Letter</b>
Paper CVI	BUM CALF RANCHES	ROSEBUD CATTLE CO	PLATTE	SD	Heifer	46	Private sale	8/2/2012	A
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	LONG PRAIRIE PACK	LONG PRAIRIE	MN	Cow	3	Headwaters Livestock Auction	9/23/2012	B-1
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	TRADER JOE'S CATTLE CO	BILLINGS	MT	Cow	1	Headwaters Livestock Auction	9/23/2012	B-2
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	XL FOUR STAR BEEF INC.	OMAHA	NE	Cow	5	Headwaters Livestock Auction	9/23/2012	B-3
Market Invoice	BUM CALF RANCH CORP	CARGILL MEATS	FRESNO	CA	Cow	3	Headwaters Livestock Auction	10/16/2012	C-1
Market Invoice	BUM CALF RANCH CORP	LONG PRAIRIE PACK	LONG PRAIRIE	MN	Cow	25	Headwaters Livestock Auction	10/16/2012	C-2
Market Invoice	BUM CALF RANCH CORP	TRADER JOE'S CATTLE CO	BILLINGS	MT	Cow, heifer	47	Headwaters Livestock Auction	10/16/2012	C-3
Field BI	BUMMER CALF RANCH	FRANKLIN ROOSEVELT	BOZEMAN	MT	Cow	6	Private sale	10/16/2012	D
Market Invoice	BUM CALF RANCH CORP	LONG PRAIRIE PACK	LONG PRAIRIE	MN	Cow	1	Headwaters Livestock Auction	10/22/2012	E-1
Market Invoice	BUM CALF RANCH CORP	O & S CATTLE CO	SO ST PAUL	MN	Cow	1	Headwaters Livestock Auction	10/22/2012	E-2
Market Invoice	BUM CALF RANCH CORP	TRADER JOE'S CATTLE CO	BILLINGS	MT	Heiferette	1	Headwaters Livestock Auction	10/22/2012	E-3
Field BI	BUM CALF RANCH CORP	THOMAS JEFFERSON	DICKERSON	NE	Heifer calves	167	Private sale	11/2/2012	F
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	EVIL KNIEVEL LIVESTOCK	BUTTE	MT	Cow	3	Public Auction Yard	12/3/2012	G-1
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	RADIATION MINE RANCH, LTD	BASIN	MT	Cow	7	Public Auction Yard	12/3/2012	G-2
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	BARGAIN FARM & RANCH	MELSTONE	MT	Cow	6	Public Auction Yard	12/3/2012	G-3
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	MERIWEATHER LEWIS	LIVINGSTON	MT	Cow	2	Public Auction Yard	12/3/2012	G-4
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	HEADWATERS LIVESTOCK	J-LO CATTLE CO	MT	Heifer calves	1	Public Auction Yard	12/3/2012	G-5
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	SCOTTY TERRIER	RHAME	ND	Cow	4	Public Auction Yard	12/3/2012	G-6

**TABLE 3. EXAMPLE OF MOVEMENT DATA ORGANIZATIONAL TOOL (SPREADSHEET)  
SORTED TO SHOW "TRACE LINES"**

<b>Document type/source</b>	<b>Seller Name</b>	<b>Buyer Name</b>	<b>Buyer City</b>	<b>Buyer State</b>	<b>Sex</b>	<b>Number of head</b>	<b>Salebarn/sale type</b>	<b>Date (Sale/ Inspection)</b>	<b>Reference Letter</b>
Market Invoice	BUM CALF RANCH CORP	CARGILL MEATS	FRESNO	CA	Cow	3	Headwaters Livestock Auction	10/16/2012	C-1
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	LONG PRAIRIE PACK	LONG PRAIRIE	MN	Cow	3	Headwaters Livestock Auction	9/23/2012	B-1
Market Invoice	BUM CALF RANCH CORP	LONG PRAIRIE PACK	LONG PRAIRIE	MN	Cow	25	Headwaters Livestock Auction	10/16/2012	C-2
Market Invoice	BUM CALF RANCH CORP	LONG PRAIRIE PACK	LONG PRAIRIE	MN	Cow	1	Headwaters Livestock Auction	10/22/2012	E-1
Market Invoice	BUM CALF RANCH CORP	O & S CATTLE CO	SO ST PAUL	MN	Cow	1	Headwaters Livestock Auction	10/22/2012	E-2
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	BARGAIN FARM & RANCH	MELSTONE	MT	Cow	6	Public Auction Yard	12/3/2012	G-3
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	EVIL KNIEVEL LIVESTOCK	BUTTE	MT	Cow	3	Public Auction Yard	12/3/2012	G-1
Field BI	BUMMER CALF RANCH	FRANKLIN ROOSEVELT	BOZEMAN	MT	Cow	6	Private sale	10/16/2012	D
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	HEADWATERS LIVESTOCK	J-LO CATTLE CO	MT	Heifer calves	1	Public Auction Yard	12/3/2012	G-5
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	MERIWEATHER LEWIS	LIVINGSTON	MT	Cow	2	Public Auction Yard	12/3/2012	G-4
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	RADIATION MINE RANCH, LTD	BASIN	MT	Cow	7	Public Auction Yard	12/3/2012	G-2
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	TRADER JOE'S CATTLE CO	BILLINGS	MT	Cow	1	Headwaters Livestock Auction	9/23/2012	B-2
Market Invoice	BUM CALF RANCH CORP	TRADER JOE'S CATTLE CO	BILLINGS	MT	Cow, heifer	47	Headwaters Livestock Auction	10/16/2012	C-3
Market Invoice	BUM CALF RANCH CORP	TRADER JOE'S CATTLE CO	BILLINGS	MT	Heiferette	1	Headwaters Livestock Auction	10/22/2012	E-3
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	SCOTTY TERRIER	RHAME	ND	Cow	4	Public Auction Yard	12/3/2012	G-6
Field BI	BUM CALF RANCH CORP	THOMAS JEFFERSON	DICKERSON	NE	Heifer calves	167	Private sale	11/2/2012	F
Market BI, Market Invoice	BUM CALF RANCH CORPORATION	XL FOUR STAR BEEF INC.	OMAHA	NE	Cow	5	Headwaters Livestock Auction	9/23/2012	B-3
Paper CVI	BUM CALF RANCHES	ROSEBUD CATTLE CO	PLATTE	SD	Heifer	46	Private sale	8/2/2012	A

## Graphic 2 – Visualization of Index and Continuation Trace lines

Note – due to spatial limitations, not all continuation traces for this example are shown below.

