US EPA ARCHIVE DOCUMENT

EPA FIELD SHEETS

Part 3 of 4

This document relates to Doc ID

30884377, 30216104, 30816100

30216105

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Brian Zurbuchen	Garvey Elevator	23,24 / 03 / 2011	1 of

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
NUMBERS OF CONTAINERS PER SAMPLE NUMBER					4						
5282-1					3	X					MS/MSD Analysis
5282-2					1	X					
5282-3					1	X					
5282-4					1	X					
5282-5					1	X					
5282-6					1	X					
5282-7FB					1	X					
5282-8					1	X					
5282-9					1	X					
5282-10					1	X					
5282-11					1	X					
5282-12					1	X					
5282-12FD					1	X					Field Duplicate
5282-14					1	X					
5282-15					1	X					
5282-16					1	X					
5282-17					1	X					

ASK Not complete
Attitude

Chain Demo. Rec'd
Det. 0-, 0c
3/25/11

DESCRIPTION OF SHIPMENT

____ PIECE(S) CONSISTING OF ____ BOX(ES)

1 ICE CHEST(S): OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER: ____

____ COURIER

✓ SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED ☒	3/25/11	1105	[signature] SEALED UNSEALED ☒	Rec'd at lab
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Brian Zurbuchen	Garvey Elevator	25-27 (DAY) 03 (MONTH) 2011 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER 4										
5282-18					1	X					
5282-43 FB					1						Trip Blank
5282-19					1						
5282-20					1						
5282-21					1						
5282-22					1						
5282-22 FD					1						Field Duplicate
5282-24					1						
5282-25					3	X					MS/MSD Analysis
5282-26					1						
5282-26 FD					1						Field Duplicate
5282-28					1						
5282-29					1						
5282-30					1						
5282-31					1						
5282-32					1						
5282-33					1						
5282-34					1						
5282-35					1						Rinsate
5282-36					1						
5282-36 FD					1						Field Duplicate
5282-38					1	✓					
		ASR Complete									CRC Temp. Rec'd
		[signature] 3/27/11									bet. 0-1

3/29/11

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
____ PIECE(S) CONSISTING OF ____ BOX(ES)	____ COMMERCIAL CARRIER: ____
1 ICE CHEST(S); OTHER ____	✓ COURIER
	✓ SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED ☒	3-24-11	0915	R.D. Wiggans SEALED UNSEALED ☒	Rec'd at lab
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 1 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-1-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-31C

External Sample Number: MW-31C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 10:38
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.525	~~umhos~~ mS/cm
Dissolved Oxygen :	8.50	mg/L
Temperature :	10.65	Deg C
Turbidity :	0.0	NTU
pH :	6.79	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

ORP = 54 mV

Extra volume collected for MS/MSD

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 2 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-2-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-31A

External Sample Number: MW-31A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 11:31
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.717	~~umhos~~ mS/cm
Dissolved Oxygen :	0.74	mg/L AF
Temperature :	9.92	Deg C
Turbidity :	0.0	NTU
pH :	6.61	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = -111 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 3 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-3-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-30E

External Sample Number: MW-30E

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 13:12

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.555	~~umhos~~ mS/cm
Dissolved Oxygen :	18.67	mg/L
Temperature :	11.39	Deg C
Turbidity :	0.0	NTU
pH :	7.53	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = -90 mV

Sample Collected By: IAF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 4 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-4-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-30D

External Sample Number: MW-30D

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 13:53
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.610	~~umhos~~ mS/cm
Dissolved Oxygen :	3.40	mg/L
Temperature :	11.54	Deg C
Turbidity :	0.0	NTU
pH :	6.24	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

ORP = -199 mV

Sample Collected By: AF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 5 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-5-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-30C

External Sample Number: MW-30C

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/23/11	14:48
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.572	~~umhos~~ mS/cm
Dissolved Oxygen :	16.95	mg/L
Temperature :	10.68	Deg C
Turbidity :	0.0	NTU
pH :	7.70	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = -59 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 6 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-6-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-30A

External Sample Number: MW30A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 15:24
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.594	~~umhos~~ mS/cm
Dissolved Oxygen :	6.82	mg/L
Temperature :	11.00	Deg C
Turbidity :	0.0	NTU
pH :	6.94	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = -114 mV

Sample Collected By: AF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 7 **QC Code:** FB **Matrix:** Water **Tag ID:** 5282-7-FB

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: Trip Blank

External Sample Number: Trip Blank

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/23/11	15:20
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Deleted

Parameter	Value	Units
Conductance, Specific :		umhos/cm
Dissolved Oxygen :		mg/L
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: AF

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 8 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-8-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-19C

External Sample Number: MW-19C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 16:34
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.621	~~umhos~~ mS/cm
Dissolved Oxygen :	8.13	mg/L
Temperature :	11.02	Deg C
Turbidity :	0.0	NTU
pH :	6.94	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = 0 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 9 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-9-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-19A

External Sample Number: MW-19A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 17:17

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.845	~~umhos~~ mS/cm
Dissolved Oxygen :	4.25	mg/L
Temperature :	10.51	Deg C
Turbidity :	0.0	NTU
pH :	7.22	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = -18 mV

Sample Collected By: AF / LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 10 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-10-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-20E

External Sample Number: MW-20E

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/24/11 08:41
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.352	~~umhos~~ mS/cm
Dissolved Oxygen :	10.47	mg/L
Temperature :	9.82	Deg C
Turbidity :	0.0	NTU
pH :	7.05	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 64 mV

Sample Collected By: AF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 11 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-11-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-20D

External Sample Number: MW-20D

Expected Conc: (or Circle One: (Low) Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	09:12
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.349	~~umhos~~ mS/cm
Dissolved Oxygen :	0.45	mg/L
Temperature :	9.41	Deg C
Turbidity :	6.2	NTU
pH :	6.09	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = -184 mV

Sample Collected By: AF|LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 12 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-12-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-20C

External Sample Number: MW-20C

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	03/24/11	10:13
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.346	~~umhos~~ mS/cm
Dissolved Oxygen :	8.70	mg/L
Temperature :	7.81	Deg C
Turbidity :	0.0	NTU
pH :	6.57	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = 56 mV

Sample Collected By: AC/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

12 3/25/11

ASR Number: 5282 **Sample Number:** ~~13~~ 12 **QC Code:** FD **Matrix:** Water **Tag ID:** 5282-~~13~~ 12-FD AF

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-20C Duplicate

External Sample Number: MW-20C Duplicate

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	10:13
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :		~~umhos~~/cm
Dissolved Oxygen :		mg/L AF
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A) See fieldsheet 5282-12

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 14 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-14-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-20A

External Sample Number: MW-20A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/24/11 11:19
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.470	~~umhos~~ mS/cm
Dissolved Oxygen :	0.54	mg/L
Temperature :	7.60	Deg C
Turbidity :	0.0	NTU
pH :	7.60	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = -137 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 15 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-15-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-7B

External Sample Number: MW-7B

Expected Conc: (or Circle One: (Low) Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	14:09
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.536	~~umhos~~ mS/cm AF
Dissolved Oxygen :	1.78	mg/L
Temperature :	11.69	Deg C
Turbidity :	0.0	NTU
pH :	6.79	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 59 mV

Sample Collected By: AF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 16 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-16-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-7A

External Sample Number: MW-7A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	15:03
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.517	~~umhos~~ mS/cm
Dissolved Oxygen :	9.11	mg/L
Temperature :	11.66	Deg C
Turbidity :	0.0	NTU
pH :	6.63	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A) ORP = 94 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 17 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-17-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-9A

External Sample Number: MW-9A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	03/24/11	17:59
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.574	~~umhos~~ mS/cm
Dissolved Oxygen :	8.99	mg/L
Temperature :	10.25	Deg C
Turbidity :	0.0	NTU
pH :	6.72	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 113 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 18 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-18-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-8A

External Sample Number: MW-8A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/25/11 08:48

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.844	~~umhos~~ mS/cm
Dissolved Oxygen :	8.59	mg/L
Temperature :	9.93	Deg C
Turbidity :	0.0	NTU
pH :	6.80	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP=150 mV

Sample Collected By: AF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 19 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-19-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-2A

External Sample Number: MW-2A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/25/11 10:20
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.504	~~umhos~~ mS/cm
Dissolved Oxygen :	8.39	mg/L AF
Temperature :	9.63	Deg C
Turbidity :	0.0	NTU
pH :	6.48	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 136

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 20 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-20-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-1A

External Sample Number: MW-1A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/25/11 12:37
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.547	~~umhos~~ mS/cm
Dissolved Oxygen :	8.75	mg/L AR
Temperature :	11.10	Deg C
Turbidity :	29.3	NTU
pH :	6.72	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = 128 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 21 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-21-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-~~21~~ 5A
AF 3/25/11

External Sample Number: MW-5A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/25/11	13:56
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.601	~~umhos~~ mS/cm
Dissolved Oxygen :	9.69	mg/L AF
Temperature :	10.50	Deg C
Turbidity :	3.9	NTU
pH :	6.86	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 122 mV

Sample Collected By: AF | LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 22 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-22-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-5B

External Sample Number: MW-5B

Expected Conc: (or Circle One: (Low) Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/25/11	15:00
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.608	~~umhos~~ mS/cm
Dissolved Oxygen :	9.04	mg/L AC
Temperature :	10.36	Deg C
Turbidity :	0.0	NTU
pH :	6.82	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A) ORP = 126 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

22 3/29/11

ASR Number: 5282 **Sample Number:** ~~23~~ 22 **QC Code:** FD **Matrix:** Water **Tag ID:** 5282-~~23~~ 22-FD

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-5B Duplicate

External Sample Number: MW-5B Duplicate

Expected Conc: (or Circle One: Low Medium High)

Latitude: ___ ___ ___
Longitude: ___ ___ ___

Sample Collection: **Start:** 03/25/11 **Date** **Time(24 hr)** 5:00
End: __/__/__ __:__

Missing @ SA in added on 3/29/11

Field Measurement

Parameter	Value	Units
Conductance, Specific :		umhos/cm
Dissolved Oxygen :		mg/L
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

See fieldsheet 5282-22

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 24 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-24-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-5D

External Sample Number: MW-5D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ __	**Sample Collection: Start:**	03/25/11	16:12
Longitude: __ __ __	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.385	~~umhos~~ mS/cm
Dissolved Oxygen :	9.73	mg/L AF
Temperature :	9.79	Deg C
Turbidity :	1.8	NTU
pH :	6.87	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

DRP = 123 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 25 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-25-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-13E

External Sample Number: MW-13E

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/26/11 10:49
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.360	~~umhos~~ mS/cm
Dissolved Oxygen :	5.54	mg/L AF
Temperature :	8.35	Deg C
Turbidity :	4.5	NTU
pH :	7.14	SU

Laboratory Analyses:

12

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 166 mV

Extra volume collected for MS/MSD analysis

Sample Collected By: AF/LZ

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 26 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-26-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-13C

External Sample Number: MW-13C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/24/11 12:05
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.453	~~umhos~~ mS/cm
Dissolved Oxygen :	15.26	mg/L AP
Temperature :	9.52	Deg C
Turbidity :	0.0	NTU
pH :	7.01	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

ORP = 134 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

26 3/29/11 FD

ASR Number: 5282 **Sample Number:** ~~27~~ **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-~~27~~ 26 - FD AF

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-13C Duplicate

External Sample Number: ~~MW-13C~~ Duplicate

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	3/26/11	12:05
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Missing @ SR 3/29/11 m added

Parameter	Value	Units
Conductance, Specific :		umhos/cm
Dissolved Oxygen :	See #	mg/L
Temperature :	26	Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

see fieldsheet 5282-26

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 28 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-28-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-6D

External Sample Number: MW-6D

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/26/11 14:37

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.379	~~umhos~~ mS/cm
Dissolved Oxygen :	8.35	mg/L AF
Temperature :	9.11	Deg C
Turbidity :	~~NTU~~ 3.8	NTU
pH :	6.86	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = 119 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 29 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-29-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-6A

External Sample Number: MW-6A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	03/26/11	15:48
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.601	~~umhos~~ mS/cm
Dissolved Oxygen :	7.13	mg/L AF
Temperature :	8.54	Deg C
Turbidity :	0.1	NTU
pH :	6.79	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 124 mV

Sample Collected By: AF / LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 30 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-30-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-6E

External Sample Number: MW-6~~A~~ AF E

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/26/11 16:41
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.219	~~umhos~~ mS/cm
Dissolved Oxygen :	9.05	mg/L AF
Temperature :	9.00	Deg C
Turbidity :	0.0	NTU
pH :	7.15	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 108 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 31 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-31-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-3B

External Sample Number: MW-3B

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/27/11 08:32

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.646	~~umhos~~ mS/cm AF
Dissolved Oxygen :	3.64	mg/L
Temperature :	9.99	Deg C
Turbidity :	0.0	NTU
pH :	6.66	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 158 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 32 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-32-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-3A

External Sample Number: MW-3A

Expected Conc: (or Circle One: (Low) Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/27/11 09:26

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.603	~~umhos~~ mS/cm
Dissolved Oxygen :	9.79	mg/L AF
Temperature :	5.47	Deg C
Turbidity :	0.0	NTU
pH :	6.75	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP= 157 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 33 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-33-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-3E

External Sample Number: MW-3E

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/27/11	10:26
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.479	~~umhos~~ mS/cm
Dissolved Oxygen :	13.18	mg/L AF
Temperature :	9.17	Deg C
Turbidity :	0.0	NTU
pH :	7.64	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP=37 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 34 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-34-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-3D

External Sample Number: MW-3D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/27/11	11:26
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.473	~~umhos~~ mS/cm
Dissolved Oxygen :	8.62	mg/L AF
Temperature :	9.92	Deg C
Turbidity :	0.0	NTU
pH :	6.83	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 90 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 35 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-35-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: Rinsate

External Sample Number: Rinsate

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	03/29/11	12:35
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	NA	umhos/cm
Dissolved Oxygen :		mg/L
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 36 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-36-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-4B

External Sample Number: MW-4B

Expected Conc: (or Circle One: Low Medium (High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/27/11	13:29
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.624	~~umhos~~ mS/cm
Dissolved Oxygen :	11.79	mg/L AF
Temperature :	10.71	Deg C
Turbidity :	0.0	NTU
pH :	6.90	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = 107 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

36 3/29/11 FD

ASR Number: 5282 **Sample Number:** ~~37~~ 36 **QC Code:** FD **Matrix:** Water **Tag ID:** 5282-~~37~~ 36-FD

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-4B Duplicate

External Sample Number: MW-45 Duplicate

Expected Conc: (or Circle One: Low Medium (High)) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/27/11 13:29

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :		umhos/cm
Dissolved Oxygen :		mg/L
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) see fieldsheet 5282-36

Sample Collected By: AF / LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 38 **QC Code:** __ **Matrix:** Water **Tag ID:** 5282-38-__

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: MW-4A

External Sample Number: MW-4A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/27/11 14:42
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.609	~~umhos~~ mS/cm
Dissolved Oxygen :	4.51	mg/L AF
Temperature :	9.08	Deg C
Turbidity :	6.0	NTU
pH :	6.96	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)
ORP = 109 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5282 **Sample Number:** 43 **QC Code:** FB **Matrix:** Water **Tag ID:** 5282-43-FB

Project ID: BZA72Z01 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - ON-SITE SOILS AND GROUNDWATER **Site ID:** A72Z **Site OU:** 01

Location Desc: Trip Blank

External Sample Number: Trip Blank

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/25/11	09:55
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

Sample Collected By: AP

US EPA ARCHIVE DOCUMENT

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Zurbuchen, Brian	Garvey Elevator	23/24 (DAY) 03 (MONTH) 11 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER 4										
5281-1					1	X					
5281-2					1	X					
5281-3					1	X					
5281-4					1	X					
5281-5					1	X					
5281-6					1	X					
5281-48FB					1	X					Trip Blank
5281-7					1	X					
5281-8					1	X					
5281-9					1	X					
5281-10					3	X					Extra Vol for MS/MSD
5281-11					1	X					
5281-12					1	X					
5281-12FD					1	X					
5281-14					1	X					
5281-15					1	X					
5281-16					1	X					

ASR 5281

NOT Complete

3/24/11

Cler. Temp. Rec'd
bet. 0-1 °C
3/25/11

DESCRIPTION OF SHIPMENT

19 PIECE(S) CONSISTING OF _____ BOX(ES)

X ICE CHEST(S): OTHER _____ 3/25/11

MODE OF SHIPMENT

___ COMMERCIAL CARRIER: _____

___ COURIER

X SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED X	3/25/11	1105	R D Wiggans SEALED UNSEALED X	Rec'd at lab
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Furbacher, Brian	Garvey Elevator	25-27 03 11	1 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	~~BOTTLE~~ 2 VOA	VOA SET (~~12~~ VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
NUMBERS OF CONTAINERS PER SAMPLE NUMBER					4						
5281-17					1	X					
5281-18					1	X					
5281-19 FB					1	X					Trip Blank
5281-20					1	X					
5281-21					1	X					
5281-22					3	X					Extra Vol for MS/MSD
5281-24					1	X					
5281-25					1	X					
5281-26					1	X					
5281-27					1	X					
5281-28					1	X					
5281-28 FD					1	X					
5281-30					1	X					
5281-31					1	X					
5281-31 FD					1	X					
5281-33					1	X					
5281-34					1	X					
5281-37		Short	two VOAs	1	~~3~~ 2	X					Extra Vol for MS/MSD
5281-38					1	X					
5281-39					1	X					
5281-40					1	X					
5281-40 FD					1	X					
5281-42					1	X					
5281-43					1	X					

All Mislabeled

Look all times on sample collection + labeled as #23 but 1645 + as #24 but 1110 for cubi label had to correct too. All had #24 and cubi for #23

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
____ PIECE(S) CONSISTING OF ____ BOX(ES)	____ COMMERCIAL CARRIER: ____
2 ICE CHEST(S); OTHER ____	____ COURIER
	✓ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED ☐ UNSEALED ☒	3-27-11	0915	RD Wiggins SEALED ☐ UNSEALED ☒	Rec'd at lab
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☐			SEALED ☐ UNSEALED ☐	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☐			SEALED ☐ UNSEALED ☐	

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Zurbuchen, Brian	Garvey Elevator	27,28 / 03 / 11	2 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
NUMBERS OF CONTAINERS PER SAMPLE NUMBER					4						
5281-36					1	X					
5281-35					1	X					
5281-44					1	X					
5281-45					1	X					
5281-50FB					1	X					Added to COC Rec'd Sampler F.S. 3/29/11

ACP Complete 3-28-11

Wk. Temp. Rec'd blk 0-1°C 3/29/11

DESCRIPTION OF SHIPMENT

____ PIECE(S) CONSISTING OF ____ BOX(ES)

2 ICE CHEST(S); OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER: ____

____ COURIER

X SAMPLER CONVEYED

____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED X	3/29/11	0915	[signature] SEALED UNSEALED X	Rec'd at lab
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 1 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-1-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-17C

External Sample Number: MW-17C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 10:35
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.670	umhos/cm
Dissolved Oxygen :	8.53	mg/L
Temperature :	11.28	Deg C
Turbidity :	0.0	NTU
pH :	6.20	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WA/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 2 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-2-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-17 D

External Sample Number: MW-17 D

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/23/11 11:25

Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.296	~~umhos/cm~~ mS/cm
Dissolved Oxygen :	4.24	mg/L
Temperature :	11.72	Deg C
Turbidity :	0.0	NTU
pH :	6.49	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 3 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-3-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-17A

External Sample Number: MW-17A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/23/11	12:10
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.687	umhos/cm
Dissolved Oxygen :	8.16	mg/L
Temperature :	12.59	Deg C
Turbidity :	0.0	NTU
pH :	6.24	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 4 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-4-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-46D2

External Sample Number: MW-46D2

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/23/11 13:41
Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.515	umhos/cm
Dissolved Oxygen :	7.51	mg/L
Temperature :	11.16	Deg C
Turbidity :	0.0	NTU
pH :	6.33	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 5 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-5-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-46D1

External Sample Number: MW-46D1

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/23/14 14:40

Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.603	umhos/cm
Dissolved Oxygen :	6.61	mg/L
Temperature :	10.93	Deg C
Turbidity :	30.2	NTU
pH :	6.13	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 6 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-6-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-41D2

External Sample Number: MW-41D2

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/23/11 WM 15:57 3/24/11 ~~15:56~~

Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.358	umhos/cm
Dissolved Oxygen :	5.62	mg/L
Temperature :	11.50	Deg C
Turbidity :	12.7	NTU
pH :	6.35	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM / SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 7 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-7-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-41D1

External Sample Number: MW-41D1

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 3/23/11 17:35

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.698	umhos/cm
Dissolved Oxygen :	8.18	mg/L
Temperature :	10.27	Deg C
Turbidity :	2.8	NTU
pH :	6.16	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 8 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-8-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-104 D

External Sample Number: MW-104 D

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/24/11 08:50
Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.352	umhos/cm
Dissolved Oxygen :	3.34	mg/L
Temperature :	10.11	Deg C
Turbidity :	0.0	NTU
pH :	5.90	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 9 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-9-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-104C

External Sample Number: MW-104C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/24/11 09:25

Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.442	umhos/cm
Dissolved Oxygen :	5.09	mg/L
Temperature :	10.68	Deg C
Turbidity :	0.0	NTU
pH :	6.13	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 10 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-10-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-104A

External Sample Number: MW-104 A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/24/11 10:00
Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.771	umhos/cm
Dissolved Oxygen :	6.74	mg/L
Temperature :	9.20	Deg C
Turbidity :	0.0	NTU
pH :	6.31	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
13 4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

Extra Vol for MS/MSD

Sample Collected By: WM/SA

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 11 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-11-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-16A

External Sample Number: MW-16A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ __	**Sample Collection: Start:**	3/24/11	11:35
Longitude: __ __ __	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.967	umhos/cm
Dissolved Oxygen :	6.25	mg/L
Temperature :	10.71	Deg C
Turbidity :	24.1	NTU
pH :	6.04	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 12 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-12-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-16C

External Sample Number: MW-16C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/24/11 12:25

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.833	umhos/cm
Dissolved Oxygen :	6.45	mg/L
Temperature :	10.47	Deg C
Turbidity :	0.0	NTU
pH :	5.97	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

WM 03/24/11

ASR Number: 5281 **Sample Number:** ~~13~~ 12 **QC Code:** FD **Matrix:** Water **Tag ID:** 5281-~~13~~ 12-FD

3/29/11

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Duplicate of 5281-12

External Sample Number: Duplicate of 5281-12

Expected Conc: (or Circle One: (Low) Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	12:25
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.833	umhos/cm
Dissolved Oxygen :	6.45	mg/L
Temperature :	10.47	Deg C
Turbidity :	0.0	NTU
pH :	5.97	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 14 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-14-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-18D

External Sample Number: MW-18D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	13:45
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.576	umhos/cm
Dissolved Oxygen :	5.62	mg/L
Temperature :	11.12	Deg C
Turbidity :	0.0	NTU
pH :	6.16	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM | SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 15 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-15-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-18A

External Sample Number: MW-18A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/24/11 14:55

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.420	umhos/cm
Dissolved Oxygen :	4.54	mg/L
Temperature :	12.88	Deg C
Turbidity :	20.6	NTU
pH :	5.76	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 16 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-16-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-18C

External Sample Number: MW-18C

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/24/11	16:52
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.753	umhos/cm
Dissolved Oxygen :	5.73	mg/L
Temperature :	10.73	Deg C
Turbidity :	0.0	NTU
pH :	6.01	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/SA

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 17 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-17-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-44D

External Sample Number: MW-44D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/25/11	11:35
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.412	umhos/cm
Dissolved Oxygen :	4.56	mg/L
Temperature :	9.99	Deg C
Turbidity :	80.8	NTU
pH :	6.20	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 18 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-18-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-44E

External Sample Number: MW-44E

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	3/25/11	10:55
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.344	umhos/cm
Dissolved Oxygen :	4.92	mg/L
Temperature :	9.69	Deg C
Turbidity :	7.1	NTU
pH :	6.34	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 20 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-20-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-44D

External Sample Number: MW-44D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/25/11	14:25
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.599	umhos/cm
Dissolved Oxygen :	6.48	mg/L
Temperature :	8.11	Deg C
Turbidity :	8.2	NTU
pH :	6.10	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM | JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 21 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-21-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-43 E

External Sample Number: MW-43E

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/25/11	15:30
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.435	umhos/cm
Dissolved Oxygen :	6.31	mg/L
Temperature :	7.58	Deg C
Turbidity :	14.9	NTU
pH :	6.21	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 22 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-22-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-11A

External Sample Number: MW-11A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/25/11 16:45

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.677	umhos/cm
Dissolved Oxygen :	4.70	mg/L
Temperature :	9.60	Deg C
Turbidity :	0.0	NTU
pH :	5.97	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

~~Extra Vol for MS/MSD~~

7 w 2 cubis. 3/29/11

Rec'd 4 vials all labeled w/#22 time of sample collection but w/#24 CEMS

On Sample #24 had to correct a SR 3/29/11

Sample Collected By: WM/JG

tags 3/29/11 3/29/11

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 24 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-24-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-106 A

External Sample Number: MW-106 A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 3/26/11 11:00

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.927	umhos/cm
Dissolved Oxygen :	8.03	mg/L
Temperature :	10.65	Deg C
Turbidity :	0.0	NTU
pH :	5.95	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Rec'd 7 vials w/ #22 time of sample collection but 8 vials #24 + 5 vials #22 3/29/11

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 25 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-25-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-106 C

External Sample Number: MW-106 C

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	3/26/11	11:50
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.599	umhos/cm
Dissolved Oxygen :	7.15	mg/L
Temperature :	7.42	Deg C
Turbidity :	0.0	NTU
pH :	5.94	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 26 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-26-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-106D

External Sample Number: MW-106D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ __	**Sample Collection: Start:**	3/26/11	12:35
Longitude: __ __ __	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.402	umhos/cm
Dissolved Oxygen :	5.50	mg/L
Temperature :	8.41	Deg C
Turbidity :	0.0	NTU
pH :	6.70	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 27 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-27-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-42D

External Sample Number: MW-42D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/26/11	14:25
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.533	umhos/cm
Dissolved Oxygen :	4.08	mg/L
Temperature :	8.19	Deg C
Turbidity :	0.0	NTU
pH :	6.14	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 28 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-28-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: 3/26/11 ~~MW-42~~ MW-42E

External Sample Number: MW42E

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ __	**Sample Collection: Start:**	3/26/11	15:05
Longitude: __ __ __	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.451	umhos/cm
Dissolved Oxygen :	5.92	mg/L
Temperature :	8.50	Deg C
Turbidity :	0.0	NTU
pH :	6.19	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

WM 5/26/11

ASR Number: 5281 **Sample Number:** ~~29~~ 28 **QC Code:** FD **Matrix:** Water **Tag ID:** 5281-~~29~~ 28-FD

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Duplicate of 5281-28

External Sample Number: Duplicate of 5281-28

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/26/11	15:05
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.451	umhos/cm
Dissolved Oxygen :	5.92	mg/L
Temperature :	8.50	Deg C
Turbidity :	0.0	NTU
pH :	6.19	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 30 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-30-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-14A

External Sample Number: MW-14A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/26/11	16:25
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.857	umhos/cm
Dissolved Oxygen :	6.84	mg/L
Temperature :	4.98	Deg C
Turbidity :	0.0	NTU
pH :	5.97	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 31 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-31-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-105 D

External Sample Number: MW-105 D

Expected Conc: (or Circle One: Low Medium High) **Date** (WM) **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 3/27/11 3/27/11 ~~08:40~~ 10:40 ~~09:50~~

Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	(WM) 3/27/11 Value		Units	
Conductance, Specific :	~~0.444~~	~~0.889~~	umhos/cm	0.450
Dissolved Oxygen :	~~5.36~~	~~8.10~~	mg/L	5.93
Temperature :	~~8.25~~	~~8.02~~	Deg C	6.88
Turbidity :	~~0.0~~	~~0.0~~	NTU	0.0
pH :	~~6.19~~	~~6.22~~	SU	6.30

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM AG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** ~~32~~ 31 **QC Code:** FD **Matrix:** Water **Tag ID:** 5281-~~32~~ 31-FD

3/29/11

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Duplicate of 5281-31

External Sample Number: Duplicate of 5281-31

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)** 1040

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/27/11 3/27/11 ~~08:40~~ ~~09:50~~
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Field Measurement

Parameter	3/27/11 Value		Units	
Conductance, Specific :	~~0.444~~	~~0.809~~	umhos/cm	0.450
Dissolved Oxygen :	~~5.36~~	~~8.10~~	mg/L	5.93
Temperature :	~~8.25~~	~~8.02~~	Deg C	6.88
Turbidity :	~~0.0~~	~~0.0~~	NTU	0.0
pH :	~~6.19~~	~~6.22~~	SU	6.30

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 33 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-33-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-105A

External Sample Number: MW-105A

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 8/27/11 09:50
Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.889	umhos/cm
Dissolved Oxygen :	5.10	mg/L
Temperature :	8.02	Deg C
Turbidity :	0.0	NTU
pH :	6.22	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 34 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-34-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-105C

External Sample Number: MW-105C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 3/27/11 11:25
Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.699	umhos/cm
Dissolved Oxygen :	7.64	mg/L
Temperature :	7.80	Deg C
Turbidity :	0.0	NTU
pH :	6.19	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 35 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-35-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-10B

External Sample Number: MW-10B

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ __	**Sample Collection: Start:**	03/27/11	15:45
Longitude: __ __ __	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.582	~~umhos~~ mS/cm
Dissolved Oxygen :	9.32	mg/L AF
Temperature :	10.55	Deg C
Turbidity :	0.0	NTU
pH :	6.93	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A) ORP = 111 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 36 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-36-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-10A

External Sample Number: MW-10A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/27/11	16:48 ~~15:45~~ AF
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	AF ~~0.596~~ 0.625	~~umhos~~ mS/cm
Dissolved Oxygen :	AF ~~9.32~~ 8.65	mg/L
Temperature :	AF ~~10.55~~ 9.95	Deg C
Turbidity :	AF ~~0.0~~ 5.0	NTU
pH :	AF ~~6.93~~ 6.95	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

ORP = ~~111~~ 115 mV

Sample Collected By: AF/LZ

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 37 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-37-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-12C

External Sample Number: MW-12C

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ __	**Sample Collection: Start:**	3/27/11	12:55
Longitude: __ __ __	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	~~0.699~~ 0.650	umhos/cm
Dissolved Oxygen :	~~7.64~~ 7.55	mg/L
Temperature :	~~7.80~~ 7.22	Deg C
Turbidity :	~~0.0~~ 0.0	NTU
pH :	~~6.11~~ pH	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

Extra Volume for MS/MSD
Short two VOA's.
3/29/11

Sample Collected By: VM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 38 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-38-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-12A

External Sample Number: MW-12A

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/11	13:50
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.987	umhos/cm
Dissolved Oxygen :	7.80	mg/L
Temperature :	8.09	Deg C
Turbidity :	0.0	NTU
pH :	6.18	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 39 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-39-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-12D

External Sample Number: MW12D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	3/27/11	14:35
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0494	umhos/cm
Dissolved Oxygen :	6.02	mg/L
Temperature :	8.12	Deg C
Turbidity :	7.0	NTU
pH :	6.20	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 40 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-40-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-45C

External Sample Number: MW-45C

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/11	15:50
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0708	umhos/cm
Dissolved Oxygen :	11.50	mg/L
Temperature :	7.60	Deg C
Turbidity :	18.0	NTU
pH :	6.30	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** ~~41~~ 40 **QC Code:** FD **Matrix:** Water **Tag ID:** 5281-~~41~~ 40-__ FD

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Duplicate 5281-40

External Sample Number: Duplicate 5281-40

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	3/27/11	15:50
Longitude:	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.798	umhos/cm
Dissolved Oxygen :	11.50	mg/L
Temperature :	7.60	Deg C
Turbidity :	18.0	NTU
pH :	6.30	SU

Missing @ Sh. M added @ log in 3/29/11

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WM JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 42 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-42-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: MW-45D

External Sample Number: MW-45D

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/11	16:30
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	0.600	umhos/cm
Dissolved Oxygen :	8.87	mg/L
Temperature :	7.87	Deg C
Turbidity :	1.0	NTU
pH :	6.29	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: WN | JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 43 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-43-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Rinsate Blank

External Sample Number: Rinsate Blank

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/11	16:15
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	—	umhos/cm
Dissolved Oxygen :	—	mg/L
Temperature :	—	Deg C
Turbidity :	—	NTU
pH :	—	SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: [signature]

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 44 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-44-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Rolls Old Well

External Sample Number: Rolls Old Well

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: __ __ __ **Sample Collection: Start:** 03/28/11 09:25
Longitude: __ __ __ **End:** __/__/__ __:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	NA	umhos/cm
Dissolved Oxygen :		mg/L
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: AF/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 45 **QC Code:** __ **Matrix:** Water **Tag ID:** 5281-45-__

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: Rolls New Well

External Sample Number: Rolls New Well

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	03/28/11	09:30
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Field Measurement

Parameter	Value	Units
Conductance, Specific :	NA	umhos/cm
Dissolved Oxygen :		mg/L
Temperature :		Deg C
Turbidity :		NTU
pH :		SU

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: AF/JG

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 48 **QC Code:** FB **Matrix:** Water **Tag ID:** 5281-48-FB

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: LDL VOA Trip Blank sample

External Sample Number: Trip Blank

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/23/11 11:45

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: HGL

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 49 **QC Code:** FB **Matrix:** Water **Tag ID:** 5281-49-FB

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: LDL VOA Trip Blank sample

External Sample Number: Trip Blank

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/25/11	11:30
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:
(N/A)

Sample Collected By: HGL

US EPA ARCHIVE DOCUMENT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5281 **Sample Number:** 50 **QC Code:** FB **Matrix:** Water **Tag ID:** 5281-50-FB

Project ID: BZA72Z02 **Project Manager:** Brian Zurbuchen
Project Desc: Garvey Elevator - RI/FS sampling
City: Hastings **State:** Nebraska
Program: Superfund
Site Name: GARVEY ELEVATOR - OFF-SITE GROUNDWATER **Site ID:** A72Z **Site OU:** 02

Location Desc: LDL VOA Trip Blank sample

External Sample Number: Trip Blank

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 03/28/11 08:45

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: HGL

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

SEPTEMBER 2011

US EPA ARCHIVE DOCUMENT

WATER LEVEL DATA

HGL MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: Ganey Elevator DATE: 9/26/11

PROJECT NO.:

WATER LEVEL INDICATOR ID NO.: 23501 FIELD BOOK NO.:

LOCATION: Hastings, NE PAGE NO.: 96- 100

Monitor Well Name	Date/Time	Static Water Level (feet BTOC)	Total Well Depth (ft)	Explosimeter Reading (above background)	PID Reading (above background)
MW 44 D	9/26/11 1503	110.96			
MW 44 E	9/26/11, 1507	110.98			
MW 106 D	9/26/11 1517	123.93			
MW 106 C	9/26/11 1520	123.91			
MW 106 A	9/26/11 1523	120.65			
MW 42 D	9/26/11 1532	122.20			
MW 42 E	9/26/11, 1535	122.31			
MW 43 E	1546	126.48			
MW 43 D	1544	126.43			
MW 41 D1	1552	120.22			
MW 41 D2	1554	119.94			
MW 46 D1	1602	114.99			
MW 46 D2	1604	115.11			
MW 105 A	1608	119.37			
MW 105 C	1616	121.45			
MW 105 D	1612	121.28			
MW 104 A	1621	104.71			

Note: Total well depth to be measured at time of gauging.

Comments:

Monitoring Personnel

US EPA ARCHIVE DOCUMENT

MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: Cargill Elevator DATE: 9/26/11

PROJECT NO.: _____

WATER LEVEL INDICATOR ID NO.: 23501 FIELD BOOK NO.: _____

LOCATION: Hastings, NE PAGE NO.: 296-100

Monitor Well Name	Date/Time	Static Water Level (feet BTOC)	Total Well Depth (ft)	Explosimeter Reading (above background)	PID Reading (above background)
MW 109 C	9/26/11 1623	107.21			
MW 109 D	1624	107.11			
MW 18A	1642	~~109.00~~ 106.69			
MW 18C	1644	~~106.69~~ 109.00			
MW 18 D	1646	109.19			
MW 12 A	1657	112.59			
MW 12 C	1659	113.96			
MW 12D	1701	113.14			
MW 16 A	1713	108.11			
MW 16 C	1715	108.83			
MW 17A	1730	93.30			
MW 17C	1732	93.73			
MW 17D	1734	93.70			
MW 45C	1800	102.90			
MW 45D	1802	102.54			
MW 14 A	1809	101.08			
MW 11 A	1816	97.55			

Hwy 6

Note: Total well depth to be measured at time of gauging.

Comments: _____

Monitoring Personnel _____

US EPA ARCHIVE DOCUMENT

MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: Gawey Elevator DATE: 9/26 + 27/11

PROJECT NO.:

WATER LEVEL INDICATOR ID NO.: 23501 FIELD BOOK NO.:

LOCATION: Hastings, NE PAGE NO.: 3 96-100

Monitor Well Name	Date/Time	Static Water Level (feet BTOC)	Total Well Depth (ft)	Explosimeter Reading (above background)	PID Reading (above background)
MW 9A	9/26/11 1437	110.65			
MW 7A	9/26/11 1844	108.18			
MW 7B	9/26/11 1846	108.87			
MW 5A	9/26/11 1853	117.19			
MW 5B	9/26/11 1855	118.33			
MW 5D	9/26/11 1857	118.21			
MW 48B	9/27/11 0817	118.85			
MW 48C	9/27/11 0819	118.53			
MW 48D	9/27/11 0821	117.82			
MW 51B	9/27/11 0835	119.24			
MW 51C	9/27/11 0837	119.85			
MW 51D	9/27/11 0839	118.66			
MW 50B	9/27/11 0845	118.37			
MW 50C	9/27/11 0847	119.64			
MW 50D	9/27/11 0850	118.23			

Note: Total well depth to be measured at time of gauging.

Comments:

Monitoring Personnel

US EPA ARCHIVE DOCUMENT

HGL/CDM

MONITORING WELL WATER LEVEL DATA

Site: Garvey Elevator	Site Location: Hastings NE
Field Team: J. Gadt / W. Moreland	

Measurement Point: ☒ BTOC ☐ BGS ☐ Other (specify) _____

Measurement Device: ☒ Water Level Detector ☐ Weighted Tape

☐ Other (specify) _____

Date	Time	Well ID	PID Reading (ppm)	Well Depth (ft.)	Well SWL (ft.)	Comments/ Weather
9-26-11	1757	mw-8A	NA	NA	125.53	
	1801	mw-2A			115.03	bumper post knocked/broken
	1808	mw-6E			118.96	
	1809	mw-6D			118.01	
	1810	mw-6A			117.55	
	1820	mw-3E			118.46	
	1823	mw-3D			118.58	
	1824	mw-3A			120.70	
	1829	mw-3B			119.67	
	~~1835~~ 1846	mw-4B			118.40	
~~9-27-11~~ 10/14	~~1846~~ 1848	mw-4A			118.56	
9-27-11	~~1848~~ 0813	mw-49C			119.12	
	0815	mw-49D			118.06	
	0816	mw-49B			119.19	
9-26-11	1835	mw-1A			111.83	
9-27-11	0825	mw-19A			116.88	Read from PLC
		mw-19C			117.89	
		mw-20A			118.14	
		mw-20C			~~121.63~~ 121.01	
		mw-20D			117.97	
		mw-20E			118.38	

HGL/CDM

MONITORING WELL
WATER LEVEL
DATA

Site: Garvey Elevator Site	Site Location: Hastings, Nebraska
Field Team: J. Gadt / W. Moreland	

Measurement Point: ☒ BTOC ☐ BGS ☐ Other (specify) _____

Measurement Device: ☒ Water Level Detector ☐ Weighted Tape

☒ Other (specify) Select wells dedicated transducers

Date	Time	Well ID	PID Reading (ppm)	Well Depth (ft.)	Well SWL (ft.)	Comments/ Weather
9-27-11	0825	MW-30A			119.04	Read @ PLC
		MW-30C			118.90	
		MW-30D			119.10	
		MW-30E			119.83	
		MW-31A			119.46	
		MW-31C			119.24	
	0945	MW-13C			118.58	
	0950	MW-13E			118.09	
	0953	MW-47B			118.93	
	0957	MW-47C			121.62	
	1000	MW-47D			118.45	

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

PURGE SHEETS

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-1A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): — 111.83

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): — 111.83

QC Samples Collected: —

Purge Start Time: 1525

Sample Number: SS11-14

Sample Time: 1600

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 63 psi

Samplers= Signatures: VM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1535	111.82	15.34	6.92	0.723	8.24	63.2	17.2	100	
1540	111.82	15.23	6.91	0.722	8.02	63.4	14.9	100	
1545	111.82	15.03	6.89	0.718	7.94	63.0	8.37	100	
1550	111.82	14.98	6.88	0.717	7.97	62.9	4.77	100	
1555	111.82	15.11	6.87	0.716	8.04	63.4	3.41	100	
1600	111.83	15.26	6.86	0.716	7.95	64.3	2.50	100	(VM) 9/28/11

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-1-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-2A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 115.20

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): _____

QC Samples Collected: —

Purge Start Time: 1150

Sample Number: SS11-34

Sample Time: 1235

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 60 psi

Samplers= Signatures: JGfWM

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1200	115.22	18.82	7.14	0.623	9.91	162.0	5.70	100	
1205	115.22	18.46	6.82	0.658	9.40	162.5	6.13	100	
1210	115.22	16.99	6.56	0.679	8.59	165.3	3.66	100	Changed air tank
1215	115.19	17.09	6.57	0.680	8.50	164.6	3.01	100	
1220	115.19	17.06	6.56	0.681	8.44	164.4	3.19	100	
1225	115.19	15.97	6.54	0.687	8.55	166.1	2.98	100	
1230	115.19	15.22	6.51	0.686	8.70	167.8	1.84	100	
1235	115.19	15.13	6.49	0.686	8.54	168.3	1.86	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-30-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-3A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 120.88

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 120.85

QC Samples Collected: –

Purge Start Time: 1175

Sample Number: 5511-27

Sample Time: 1240

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 75 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1120	120.90	13.80	7.11	5.47	0.949	184.2	198	175	
1125	120.90	13.66	7.00	0.964	6.24	183.6	107	175	
1130	120.90	13.67	6.96	0.956	6.77	182.9	79.4	175	
1135	120.90	13.67	6.92	0.948	7.26	182.2	67.4	175	
1140	120.90	13.64	6.91	0.941	7.63	181.1	51.7	175	
1145	120.90	13.65	6.90	0.933	7.98	180.1	43.1	175	
1150	120.90	13.74	6.87	0.924	8.23	178.8	32.4	175	
1155	120.90	13.89	6.88	0.916	8.40	177.4	24.2	175	
1200	120.90	13.85	6.84	0.915	8.49	177.3	21.2	175	
1205	120.90	13.86	6.85	0.909	8.57	176.7	15.7	175	
1210	120.90	13.86	6.81	0.904	8.79	175.7	12.3	175	
1215	120.90	14.03	6.84	0.896	8.83	174.8	8.64	175	
1220	120.90	13.98	6.84	0.897	8.80	174.3	7.54	175	
1225	120.90	13.97	6.83	0.894	8.76	174.1	5.83	175	
1230	120.90	13.96	6.83	0.891	8.98	173.7	4.78	175	
~~1235~~									
1235	120.9	14.19	6.82	0.890	8.81	172.8	3.18	175	
1240	120.9	14.12	6.81	0.889	9.01	172.8	3.06	175	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-30-11

Well ID: MW-3B

Initial Static Water Level (feet btoc): 120.09

Final Water Level (feet btoc):

Purge Start Time: 0950

Sample Time: 1025

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: —

Sample Number: 5511-24

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 65 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1005	120.52	12.87	6.87	0.829	9.57	189.6	~~8~~ 5.84	100	
1010	120.52	12.82	6.82	0.832	8.90	195.0	2.95	100	
1015	120.52	12.84	6.81	0.832	8.80	194.6	1.16	100	
1020	120.52	12.82	6.80	0.831	8.65	191.7	0.97	100	
1025	120.52	12.88	6.80	0.830	8.78	190.3	0.43	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

Well ID: MW-3D

Initial Static Water Level (feet btoc): 120.49

Final Water Level (feet btoc): 120.49

Purge Start Time: 1420

Sample Time: 1455

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: ~~Extra Vol MS/MSD~~ WM 9/30/11

Sample Number: 5511-29

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 90 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1425	120.49	17.86	8.06	0.394	10.13	109.8	4.14	150	
1430	120.49	16.48	7.01	0.559	9.60	121.3	3.25	150	
1435	120.49	15.67	6.88	0.567	7.82	124.4	3.38	150	
1440	120.49	15.31	7.27	0.567	7.25	126.2	3.02	150	
1445	120.49	15.30	0.565	7.10	0.565	126.6	2.77	150	
1450	120.49	15.25	0.562	7.13	0.565	127.4	2.58	150	
1455	120.49	15.29	6.85	0.564	7.05	128.0	2.11	150	
~~1500~~									

WM 9/30/11

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-3E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): ~~118.40~~ 118.46

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 118.46

QC Samples Collected: Extra Vol MS/MSD

Purge Start Time: 1315

Sample Number: 5511-28

Sample Time: 1350

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 120 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1320	119.40	14.91	7.32	10.34	0.497	94.6	1.93	175	
1325	119.40	14.42	7.32	0.507	4.90	97.9	0.97	175	
1330	119.40	14.08	7.33	0.510	2.70	107.8	0.89	175	
1335	119.40	14.03	7.35	0.511	2.14	108.2	0.68	175	
1340	119.40	14.01	7.49	0.525	2.57	110.9	0.54	175	
1345	119.40	14.02	7.50	0.525	2.62	110.9	0.49	175	
1350	119.40	14.07	7.60	0.539	2.61	111.4	0.37	175	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/2/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 4A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.59

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 118.63

QC Samples Collected: None

Purge Start Time: 1040

Sample Number: 5511-55

Sample Time: 1110

Controller Settings: Recharge: 24 secs Discharge: 6 secs Pressure: 75 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1050	118.63	14.74	7.01	0.758	9.15	-127.9	5.17	100	
1055	118.63	14.81	6.94	0.760	8.82	-133.4	3.27	100	
1100	118.63	14.88	6.87	0.762	8.54	-139.0	2.20	100	
1105	118.63	14.92	6.88	0.764	8.63	-140.0	1.47	100	
1110	118.63	15.00	6.84	0.764	8.46	-142.9	1.27	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-2-11

Well ID: MW-4B

Initial Static Water Level (feet btoc): 118.40

Final Water Level (feet btoc):

Purge Start Time: 1050

Sample Time: 1155

Samplers= Signatures: WM JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: 5511-38 FD

Sample Number: 5511-38

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 75 psi

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1055	118.41	13.83	6.87	0.796	13.15	189.3	63.5	175	
1100	118.41	13.54	6.88	0.796	12.78	189.3	113	175	
1105	118.41	13.33	6.89	0.796	12.81	188.4	110	175	
1110	118.41	13.32	6.88	0.793	12.57	187.8	115	175	
1115	118.41	13.32	6.88	0.792	12.54	187.2	76.2	175	
1120	118.41	13.32	6.87	0.791	12.31	186.6	44.3	175	
1125	118.41	13.35	6.88	0.790	12.13	185.6	20.3	175	
1130	118.41	13.36	6.89	0.791	11.86	184.5	12.8	175	
1135	118.41	13.40	6.90	0.789	12.14	183.5	8.57	175	
1140	118.41	13.43	6.90	0.789	11.86	183.1	6.96	175	
1145	118.41	13.48	6.90	0.787	11.85	182.0	4.49	175	
1150	118.41	13.50	6.90	0.787	11.88	181.7	3.94	175	
1155	118.41	13.56	6.92	0.786	11.75	181.0	3.11	175	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 10-1-11

OVM: FID G PID G **In Casing (ppm): (Initial)** Not Applicable **(Vented to)** atmosphere

Well ID: MW-5A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 117.21

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 0910

Sample Number: SS11-32

Sample Time: ~~0910~~ 1010

Controller Settings: Recharge: 11 **secs Discharge:** 9 **secs Pressure:** 65 **psi**

Samplers= Signatures: WM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0915	117.23	13.40	6.88	0.785	9.86	173.1	37.4	150	
0920	117.23	13.49	6.90	0.785	9.47	173.8	37.6	150	
0925	117.23	13.66	6.89	0.786	9.12	171.5	31.5	150	
0930	117.23	13.66	6.89	0.786	9.00	171.6	27.1	150	
0935	117.23	13.81	6.90	0.789	9.06	170.8	21.3	150	
0940	117.23	13.86	6.90	0.784	9.05	169.8	13.3	150	
0945	117.23	13.84	6.88	0.795	9.11	169.0	9.13	150	
0950	117.23	13.88	6.89	0.795	9.09	169.0	7.04	150	
0955	117.23	13.89	6.90	0.796	9.15	168.5	5.23	150	
1000	117.23	14.26	6.90	0.794	9.02	168.0	3.84	150	
1005	117.23	14.32	6.90	0.793	8.93	167.2	3.56	150	
1010	117.23	14.38	6.90	0.793	8.84	167.1	3.51	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-1-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-5B

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.35

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 0800

Sample Number: 5511-31

Sample Time: 0835

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 75 psi

Samplers= Signatures: WM JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0805	118.38	11.80	6.70	0.863	9.48	191.4	24.3	150	
0810	118.38	11.86	6.74	0.860	9.49	189.1	14.8	150	
0815	118.38	11.94	6.76	0.858	9.44	187.3	8.10	150	
0820	118.38	12.04	6.57	0.859	9.39	186.8	5.21	150	
0825	118.38	12.17	6.74	0.862	9.46	184.4	3.30	150	
0830	118.38	12.19	6.78	0.863	9.38	183.5	2.17	150	
0835	118.38	12.18	6.78	0.865	9.47	182.9	2.00	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-1-11

Well ID: MW-5S

Initial Static Water Level (feet btoc): 118.58

Final Water Level (feet btoc):

Purge Start Time: 1045

Sample Time: 1120

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: —

Sample Number: 5511-33

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 90 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1050	118.39	14.63	6.91	0.587	10.89	160.3	3.51	150	
1055	118.39	14.25	6.84	0.570	12.51	161.8	13.0	150	
1100	118.39	14.32	6.82	0.568	12.32	162.0	8.87	150	
1105	118.39	14.36	6.82	0.567	12.03	162.1	5.63	150	
1110	118.39	14.50	6.84	0.565	11.64	161.9	4.88	150	
1115	118.39	14.53	6.84	0.565	11.93	161.8	3.91	150	
1120	118.39	14.56	6.83	0.563	11.82	161.8	4.02	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-6A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 117.55

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1000

Sample Number: 5511-17

Sample Time: 1035

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 65 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1005	117.65	14.77	6.89	0.658	10.12	144.9	10.3	150	
1010	117.66	13.88	6.73	0.818	9.30	146.0	3.47	150	
1015	117.66	13.55	6.70	0.828	9.11	148.5	3.29	150	
1020	117.66	13.57	6.70	0.829	9.12	148.5	1.51	150	
1025	117.66	13.58	6.71	0.831	9.08	147.7	1.25	150	
1030	117.66	13.58	6.71	0.833	9.07	147.9	0.73	150	
1035	117.66	13.68	6.71	0.833	8.92	147.5	1.14	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-29-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-6D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.01

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 118.01

QC Samples Collected: —

Purge Start Time: 0905

Sample Number: 5511-16

Sample Time: 0935

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 85 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0910	119.14	13.52	6.79	0.560	7.67	146.9	13.7	125	
0915 ~~0915~~	119.14	13.49	7.52	0.558	7.66	146.6	11.0	125	
0920 ~~0920~~	119.14	13.48	6.76	0.558	7.57	146.5	11.9	125	
0925	119.14	13.52	6.76	0.556	7.51	145.5	10.6	125	
0930	119.14	13.50	6.76	0.557	7.67	145.2	10.1	125	
0935	119.15	13.54	6.74	0.556	7.61	144.9	9.92	125	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-29-1

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: mw-6E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 120.05

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 120.05

QC Samples Collected: —

Purge Start Time: 1110

Sample Number: 5511-18

Sample Time: 1140

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 120 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1115	120.08	15.70	7.17	0.417	7.08	120.4	1.14	150	
1120	120.08	15.58	7.10	0.35	5.35	121.3	1.07	150	
1125	120.08	15.66	7.09	0.355	4.88	121.0	2.48	150	
1130	120.08	15.67	7.05	0.347	4.21	120.3	2.19	150	
1135	120.08	15.72	7.07	0.347	4.19	120.1	1.98	150	
1140	120.08	15.88	7.08	0.346	4.13	119.6	2.48	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-29-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-7A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 108.30

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected:

Purge Start Time: 1225

Sample Number: 5511-19

Sample Time: 1300

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 60 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1230	108.34	14.11	6.79	0.798	8.74	128.6	1.31	150	
1235	108.32	13.10	6.78	0.809	8.84	130.8	0.50	150	
1240	108.32	12.85	6.79	0.809	8.65	131.9	0.41	150	
1245	108.32	12.82	6.77	0.808	8.93	132.4	0.79	150	
1250	108.32	12.93	6.78	0.808	8.54	133.3	0.65	150	
1255	108.32	12.93	6.78	0.809	8.50	133.2	0.47	150	
1300	108.32	12.87	6.77	0.810	8.51	134.0	0.51	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

13'

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

Well ID: MW-7B

Initial Static Water Level (feet btoc): 108.90

Final Water Level (feet btoc):

Purge Start Time: 1330

Sample Time: 1400

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: –

Sample Number: 5511-20

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 70 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1335	108.91	14.34	6.73	0.806	8.55	130.2	0.59	200	
1340	108.91	14.09	6.76	0.798	8.03	130.9	0.97	200	
1345	108.91	14.00	6.75	0.801	7.77	130.9	0.81	200	
1350	108.91	14.05	6.73	0.798	7.27	131.7	0.69	200	
1355	108.91	14.01	6.74	0.797	7.29	131.7	0.59	200	
1400	108.91	14.02	6.73	0.798	7.05	131.9	0.25	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-30-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-8A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 125.53

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: —

Purge Start Time: 1640

Sample Number: 5511-30

Sample Time: 9/30/11 1710

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 70 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1645	125.77	18.71	7.00	1.074	11.44	128.0	309	115	
1650	125.77	16.86	6.94	1.070	10.59	131.3	3.00	115	
1655	125.77	16.02	6.91	1.137	9.68	132.3	2.04	115	
1700	125.77	15.67	6.91	1.146	8.86	132.4	1.27	115	
1705	125.77	15.50	6.92	1.149	8.75	132.2	0.69	115	
1710	125.77	15.25	6.86	1.150	8.22	132.5	0.58	115	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

Well ID: MW-9A

Initial Static Water Level (feet btoc): 110.58

Final Water Level (feet btoc): 110.58

Purge Start Time: 1700

Sample Time: 1730

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: —

Sample Number: 5511-15

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 60 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1705	110.71	15.83	7.13	0.713	11.34	65.5	3.38	150	
1710	110.71	15.82	7.10	0.874	9.71	71.7	2.17	150	
1715	110.71	14.50	7.11	0.890	9.33	71.9	1.87	150	
1720	110.71	14.99	7.12	0.899	9.89	72.4	3.15	150	
1725	110.71	15.09	7.22	0.904	9.34	70.9	3.30	150	
1730	110.71	14.29	7.15	0.909	9.29	73.5	3.16	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

pump @ 116' BTOC

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 10 A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 108.08

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 108.19

QC Samples Collected: N/A

Purge Start Time: 1348

Sample Number: 5512-40

Sample Time: 1445

Controller Settings: Recharge: 24 secs Discharge: 6 secs Pressure: 70 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1355	108.19	18.19	6.93	0.782	8.03	-175.0	335	100	
1400	108.19	18.22	6.93	0.782	7.53	-174.6	41.5	100	
1405	108.19	18.00	6.94	0.817	7.51	-173.7	86.1	100	
1410	108.19	17.51	6.94	0.848	7.99	-174.6	99.7	100	
1415	108.19	17.17	6.94	0.850	7.82	-175.2	62.1	100	
1420	108.19	17.01	6.96	0.855	7.94	-177.4	37.1	100	
1425	108.19	16.81	6.96	0.862	7.86	-176.9	24.7	100	
1430	108.19	16.69	6.92	0.863	8.01	-178.5	17.0	100	
1435	108.19	16.61	6.92	0.867	8.16	-179.4	11.6	100	
1440	108.19	16.41	6.92	0.869	8.21	-179.5	11.6	100	
1445	108.19	16.40	6.91	0.869	8.20	-179.9	11.2	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

Well ID: MW-10B

Initial Static Water Level (feet btoc): 109.75

Final Water Level (feet btoc): 109.81

Purge Start Time: 13:05

Sample Time: 1330

Samplers= Signatures: SA / SN

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-39

Controller Settings: Recharge: 17 secs Discharge: 13 secs Pressure: 65 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1310	109.81	18.11	6.76	0.864	7.00	-177.0	1.13	120	
1315	109.81	17.62	6.82	0.831	7.29	-176.1	1.00	100	
1320	109.81	17.15	6.89	0.798	7.25	-177.0	0.80	100	
1325	109.81	16.97	6.87	0.794	6.89	-178.8	0.40	100	
1330	109.81	17.68	6.91	0.788	7.04	-178.2	0.94	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

Well ID: MW 11A

Initial Static Water Level (feet btoc): 98.54

Final Water Level (feet btoc): 98.58

Purge Start Time: 1515

Sample Time: ~~1534~~ 1605

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5572 - 41

Controller Settings: Recharge: 25 secs Discharge: 5 secs Pressure: 70 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1520	98.58	20.01	6.91	0.713	7.71	-178.4	21.9	120	
1525	98.58	19.65	6.71	0.630	6.70	-187.9	37.2	120	
1530	98.58	18.78	6.67	0.587	6.03	-189.9	28.6	120	
1535	98.58	18.20	6.65	0.572	5.82	-195.2	17.3	120	
1540	98.58	18.01	6.63	0.562	5.55	-197.4	10.5	120	
1545	98.58	17.88	6.61	0.557	5.45	-199.3	6.82	120	
1550	98.58	17.84	6.65	0.560	5.41	-199.9	6.34	120	
1555	98.58	17.74	6.62	0.557	5.51	-201.0	5.60	120	
1600	98.58	17.75	6.61	0.555	5.39	-201.5	5.33	120	
1605	98.58	17.75	6.60	0.554	5.48	-199.7	4.59	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/01

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 12 A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 112.63

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): ~~112.63~~

QC Samples Collected: N/A

Purge Start Time: 0910

Sample Number: 5512-27

Sample Time: 0945

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 65 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0920	112.64	12.24	6.76	0.437	7.00	-172.8	2.56	100	
0925	112.64	13.27	6.71	0.715	6.84	-158.0	27.8	100	
0930	112.64	13.63	6.79	0.860	7.99	-153.8	19.2	100	
0935	112.64	13.78	6.81	0.895	8.14	-155.10	19.3	100	
0940	112.64	13.91	6.77	0.903	8.20	-153.9	18.1	100	
0945	112.64	13.99	6.80	0.905	8.12	-153.6	17.5	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 12 C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 114.33

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 114.35

QC Samples Collected: 5512-28 FD

Purge Start Time: 1005

Sample Number: 5512-28

Sample Time: 1040

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 95 psi

Samplers= Signatures: SA/SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1010	114.35	14.61	8.49	0.752	8.51	-146.9	10.4	110	
1015	114.35	14.65	8.53	0.731	8.50	-148.6	10.9	110	
1020	114.35	14.72	6.85	0.694	8.33	-149.9	7.11	110	
1025	114.35	14.88	6.78	0.615	8.14	-152.8	4.68	110	
1030	114.35	14.90	6.73	0.583	7.91	-153.8	3.98	110	
1035	114.35	14.96	6.69	0.570	7.78	-153.2	3.05	110	
1040	114.35	14.99	6.76	0.566	7.78	-151.9	3.05	110	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

Well ID: MW 12D

Initial Static Water Level (feet btoc): 113.54

Final Water Level (feet btoc): 113.55

Purge Start Time: 0810

Sample Time: 0850

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: ~~A/A~~ 9/30/11 MS/MSD

Sample Number: 5512-26

Controller Settings: Recharge: 23 secs Discharge: 7 secs Pressure: 160 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0820	113.55	10.92	7.67	0.432	10.91	-147.5	7.84	100	
0825	113.55	11.11	7.32	0.432	10.26	-150.9	7.94	100	
0830	113.55	11.42	6.94	0.430	9.15	-158.3	14.9	100	
0835	113.55	11.84	6.77	0.426	7.94	-164.0	36.7	100	
0840	113.55	12.05	6.75	0.424	7.23	-171.0	36.9	100	
0845	113.55	12.06	6.76	0.424	7.13	-173.9	39.7	100	
0850	113.55	12.19	6.72	0.423	7.08	-174.4	38.2	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-29-11

Well ID: MW-13C

Initial Static Water Level (feet btoc): 118.58

Final Water Level (feet btoc):

Purge Start Time: 1700

Sample Time: 1730

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: 5511-22FD

Sample Number: 5511-22

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 70 psi

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1705	118.60	16.04	7.36	0.616	10.77	138.0	1.11	150	
1710	118.60	15.15	7.04	0.615	12.56	142.4	0.47	150	
1715	118.60	14.96	7.07	0.615	12.97	143.2	0.47	150	
1720	118.60	14.79	7.04	0.615	13.11	144.9	0.42	150	
1725	118.60	14.81	7.03	0.615	13.05	145.0	0.27	150	
1730	118.60	14.71	7.02	0.616	12.95	146.0	0.45	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-13E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.09

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1445

Sample Number: 5511-21

Sample Time: 1530

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 120 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1450	118.10	17.23	7.25	0.331	11.31	123.2	16.2	100	
1455	118.10	17.26	7.23	0.553	10.56	128.6	10.5	100	
1500	118.10	16.96	7.20	0.577	10.59	129.1	09.54	100	
1505	118.10	16.56	7.17	0.606	10.75	130.9	7.54	100	
1510	118.10	16.36	7.18	0.618	10.91	131.4	6.21	100	
1515	118.10	16.45	7.17	0.618	10.94	131.3	5.41	100	
1520	118.10	16.34	7.16	0.623	10.07	131.6	3.05	100	
~~1525~~	~~118.10~~	15.73	7.13	0.625	11.51	133.4	2.94	100	
1530	118.10	15.70	7.10	0.625	11.53	134.3	2.95	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 14A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 100.98

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 101.03

QC Samples Collected: N/A

Purge Start Time: 1125

Sample Number: SS12-38

Sample Time: 1155

Controller Settings: Recharge: 19 secs Discharge: 11 secs Pressure: 60 psi

Samplers= Signatures: SA/SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1135	101.03	18.22	6.67	0.764	5.80	-193.0	1.26	100	
1140	101.03	18.12	6.65	0.860	6.34	-189.9	1.02	100	
1145	101.03	18.08	6.90	0.902	6.34	-190.3	1.26	100	
1150	101.03	18.22	6.71	0.913	6.62	-190.2	0.84	100	
1155	101.03	18.51	6.68	0.924	6.34	-190.1	1.11	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 16A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 108.68

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 108.69

QC Samples Collected: N/A

Purge Start Time: 1145

Sample Number: 5512-30

Sample Time: 1225

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 65 psi

Samplers= Signatures: SA/SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1150	108.69	16.07	6.94	0.331	8.90	-116.7	15.5	120	
1155	108.69	16.05	6.74	0.847	8.45	-127.8	17.8	120	
1200	108.69	15.64	6.63	0.879	8.30	-130.1	11.0	120	
1205	108.69	15.37	6.69	0.896	8.50	-132.0	10.1	120	
1210	108.69	15.29	6.70	0.900	8.48	-132.1	6.28	120	
1215	108.69	15.31	6.83	0.906	8.55	-134.2	5.75	120	
1220	108.69	15.30	6.78	0.908	8.48	-135.2	5.13	120	
1225	108.69	15.53	6.73	0.911	8.50	-133.3	4.12	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

Well ID: MW 16 C

Initial Static Water Level (feet btoc): 108.85

Final Water Level (feet btoc): 108.85

Purge Start Time: 1243

Sample Time: 1320

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-31

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 70 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1250	108.85	16.45	6.51	0.913	8.90	-128.1	5.88	100	
1255	108.85	16.03	6.62	0.843	6.91	-146.4	5.39	100	
1300	108.85	15.93	6.63	0.828	6.63	-148.5	4.54	100	
1305	108.85	15.76	6.62	0.799	6.58	-150.8	3.08	100	
1310	108.85	15.66	6.64	0.774	6.12	-156.2	2.49	100	
1315	108.85	15.64	6.62	0.770	6.16	-156.9	1.94	100	
1320	108.85	15.66	6.57	0.767	6.20	-157.3	1.87	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-30-11

Well ID: MW-17A

Initial Static Water Level (feet btoc): 94.37

Final Water Level (feet btoc): 94.37

Purge Start Time: 14.20

Sample Time: 1510

Samplers= Signatures: SH/SA

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: none

Sample Number: 5512-32

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 60 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
14:30	94.37	15.29	6.79	0.683	7.13	-148.4	2.90	100	
1435	94.37	13.68	6.75	0.650	7.52	-150.0	1.66	100	
1440	94.37	13.26	6.73	0.650	7.84	-151.7	1.00	100	
1445	94.37	13.07	6.72	0.658	8.02	-151.5	0.88	100	
1450	94.37	12.91	6.73	0.680	8.34	-149.0	0.71	100	
1455	94.37	13.14	6.80	0.718	8.46	-146.3	0.68	100	
1500	94.37	13.08	6.79	0.751	8.57	-143.7	0.70	100	
1505	94.37	13.01	6.77	0.759	8.55	-144.9	0.42	100	
1510	94.37	12.94	6.78	0.762	8.59	-144.4	0.45	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 17 C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 93.87

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 9

QC Samples Collected: N/A

Purge Start Time: 1525

Sample Number: 5512-33

Sample Time: 1610

Controller Settings: Recharge: 21 secs Discharge: 9 secs Pressure: 105 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1540	93.89	13.67	6.78	0.743	8.70	-131.9	2.48	90	
1545	93.89	13.70	7.01	0.522	8.75	-142.3	1.92	90	
1550	93.89	13.46	7.07	0.377	7.32	-163.9	1.78	90	
1555	93.89	13.35	7.01	0.325	6.15	-177.1	1.56	90	
1600	93.89	13.44	7.05	0.294	5.39	-186.8	1.51	90	
1605	93.89	13.54	7.02	0.289	5.02	-190.1	1.15	90	
1610	93.89	13.59	7.04	0.291	4.91	-191.3	1.09	90	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/30/11

Well ID: MW 17 D

Initial Static Water Level (feet btoc): 93.86

Final Water Level (feet btoc): 93.88

Purge Start Time: 1628

Sample Time: 1705

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: ~~MW~~ GW 9/30/11 5512-34

Controller Settings: Recharge: 21 secs Discharge: 9 secs Pressure: 80 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1635	93.88	15.05	7.11	0.344	4.97	-181.9	1.09	90	
1640	93.88	15.08	7.09	0.439	4.96	-185.1	3.62	90	
1645	93.88	15.05	6.85	0.548	6.29	-151.2	4.47	90	
1650	93.88	15.10	6.88	0.572	6.86	-146.6	4.29	90	
1655	93.88	15.08	6.81	0.591	7.23	-146.6	3.05	90	
1700	93.88	15.03	6.87	0.601	7.22	-146.5	2.27	90	
1705	93.88	15.12	6.86	0.607	7.32	-145.7	3.02	90	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

Well ID: MW 18 A

Initial Static Water Level (feet btoc): 106.67

Final Water Level (feet btoc): 106.60

Purge Start Time: 1225

Sample Time: 1325

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N4

Sample Number: 5512-2

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 160 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1230	106.62	17.33	6.96	0.508	5.55	-241.2	54.2	120	
1235	106.62	17.33	7.01	0.509	5.44	-247.6	49.6	120	
1240	106.62	17.41	7.13	0.513	3.82	-258.7	535	120	
1245	106.62	16.92	7.10	0.526	2.55	-266.5	679	120	
1250	106.62	16.90	7.12	0.524	2.62	-263.70	621	120	
1255	106.62	17.42	7.10	0.526	2.68	-259.3	592	120	
1300	106.62	17.01	7.20	0.525	2.58	-263.7	590	120	
1305	106.62	17.42	7.27	0.524	2.54	-265.7	562	120	
1310	106.60	17.47	7.23	0.520	2.46	-265.7	518	120	
1315	106.60	17.75	7.16	0.518	2.53	-260.7	461	120	
1320	106.60	18.27	7.26	0.515	2.57	-258.4	425	120	
1325	106.60	17.91	7.25	0.515	2.53	-260.8	430	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 18C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 109.05

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 109.04

QC Samples Collected: N/A

Purge Start Time: 1335

Sample Number: 5512-3

Sample Time: 1450

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 100 psi

Samplers= Signatures: JA | SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1425	109.08	24.26	6.93	0.727	6.02	134.3	14.0	90	Restarted pump at
1430	109.08	23.54	6.91	0.728	6.10	-137.5	5.35	90	1400 hrs
1435	109.08	23.40	6.90	0.728	5.98	-137.6	3.88	90	
1440	109.08	23.77	6.90	0.726	6.27	-136.2	2.48	90	
1445	109.08	24.09	6.90	0.727	5.98	-136.8	3.65	90	
1450	109.08	24.21	6.91	0.728	5.82	-136.2	2.06	90	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 9/27/11

OVM: FID G PID G **In Casing (ppm): (Initial)** Not Applicable **(Vented to)** atmosphere

Well ID: MW - 18 D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 109.22

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 109.25

QC Samples Collected: Extra Volume for MS/MSD

Purge Start Time: 1140

Sample Number: 5512-1

Sample Time: 1215

Controller Settings: Recharge: 20 **secs Discharge:** 10 **secs Pressure:** 100 **psi**

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
11:45	109.25	15.27	6.68	0.520	83.5	-200.4	5.58	200	
11:50	109.25	14.71	6.02	0.522	163.7	-151.9	3.62	200	
11:55	109.25	14.50	6.85	0.518	73.1	-214.40	5.12	200	
12:00	109.25	7.23	6.89	0.516	71.4	-217.90	4.89	200	
12:05	109.25	7.21	6.93	0.516	70.7	-220.6	3.81	200	
12:10	109.25	7.16	6.96	0.515	70.5	-222.5	3.17	200	
12:15	Collect Sample								

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-28-11

Well ID: MW-19A

Initial Static Water Level (feet btoc): —

Final Water Level (feet btoc): —

Purge Start Time: 1230

Sample Time: 1315

Samplers= Signatures: WM | JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected:

Sample Number: 5511-13

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 80 psi

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1240	—	18.45	6.81	0.930	4.45	-20.3	2.10	80	
1245	—	18.73	6.86	0.955	6.80	-16.5	1.77	~~80~~ 40	
1250	—	18.87	6.91	0.993	7.92	-7.1	1.32	~~80~~ 40	Turned up pressure.
1255	—	18.59	6.93	1.017	8.41	2.0	1.19	80	
1300	—	17.73	6.94	1.030	8.91	12.1	1.03	80	
1305	—	17.42	6.93	1.030	7.91	20.4	0.85	80	
1310	—	17.72	6.93	1.028	7.34	23.7	0.49	80	
1315	—	17.83	6.93	1.027	7.20	27.4	0.30	80	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9-28-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-19C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): —

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: —

Purge Start Time: 1330

Sample Number: 5511-12

Sample Time: 1410

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 25 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
WM 1335	—	16.51	6.72	0.751	7.48	37.3	0.25	150	Ran out of gas. Had to switch.
9/28 ~~1340~~	~~—~~	~~17.3~~						~~150~~	
1350	—	15.51	6.68	0.747	8.67	41.7	0.21	150	
1355	—	15.15	6.67	0.745	8.62	44.6	0.17	150	
1400	—	14.98	6.66	0.744	8.62	46.4	0.16	150	
1405	—	14.99	6.66	0.743	8.62	47.8	0.47	150	
1410	—	15.16	6.68	0.744	8.45	48.4	0.11	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-20A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): —

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: —

Purge Start Time: 1125

Sample Number: 5511-11

Sample Time: 1210

Controller Settings: Recharge: 11 ~~13~~ secs Discharge: ~~13~~ 9 secs Pressure: 65 psi

Samplers= Signatures: WM/JG (WM) 9/28/11

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU) (WM) 9/28/11 3.71	Flow Rate (mL/min)	Comments
1135	—	15.86	6.65	0.715	2.10	-13.5	~~2.64~~	75	Had trouble w/ well
1140	—	16.20	6.66	0.725	1.63	-23.9	2.64	75	spitting air. Stopped and
1145	—	16.48	6.69	0.731	1.55	-32.5	1.64	75	let well set for 15min,
1150	—	16.82	6.73	0.734	1.32	-40.2	1.51	75	and then brought the
1155	—	16.91	6.75	0.735	1.21	-43.9	1.86	75	pressure up from zero
1200	—	17.26	6.79	0.735	1.07	-47.8	1.65	75	to 65psi by raising it
1205	—	17.05	6.83	0.737	1.04	-50.2	1.59	75	5psi w/ every cycle.
1210	—	16.80	6.85	0.735	1.05	-50.7	1.09	75	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-20C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): –

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): –

QC Samples Collected: ✓

Purge Start Time: 0945

Sample Number: 5511-10

Sample Time: 1030

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 75 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0950	–	12.72	6.46	0.512	4.99	-66.9	4.51	200	
0955	–	12.71	6.67	0.523	6.97	-59.1	0.50	200	
1000	–	12.73	6.82	0.528	8.56	-40.5	0.30	200	
1005	–	12.81	6.85	0.531	8.80	-27.8	0.22	200	
~~1010~~	~~–~~	~~12.~~						~~200~~	
1015	–	12.86	6.87	0.525	8.88	-5.2	0.34	200	
1020	–	13.10	6.85	0.523	8.80	5.4	0.21	200	
1025	–	13.12	6.84	0.523	8.76	8.2	0.17	200	
1030	–	13.27	6.88	0.524	8.60	12.6	0.31	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-20D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): –

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): –

QC Samples Collected: –

Purge Start Time: 0845

Sample Number: 5511-9

Sample Time: 0935

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 80 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: ~~80~~ 2 9/28/11 WM

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0850	–	12.20	6.37	2.09	0.483	-39.1	7.89	200	
0855	–	12.22	6.42	0.473	2.54	-72.6	7.86	200	
~~0890~~ 0900	–	12.25	6.45	0.469	1.70	-96.1	8.11	200	
9/28/11 0905	–	12.27	6.47	0.467	1.31	-118.0	6.17	~~200~~	
0910	–	12.31	6.54	0.464	1.23	-127.9	5.87	200	
0915	–	12.38	6.55	0.460	1.17	-136.6	5.35	200	
0920	–	12.45	6.58	0.459	1.11	-136.5	4.54	200	
0925	–	12.46	6.57	0.457	1.11	-141.6	4.16	200	
0930	–	12.47	6.58	0.457	1.11	-145.5	3.98	200	
0935	–	12.54	6.56	0.456	1.04	-145.9	4.51	200	
~~0940~~								200	WM 9/28/11

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-20E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): —

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: —

Purge Start Time: 0755

Sample Number: 5511-8

Sample Time: 0830

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 100 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0800	—	12.19	6.37	0.500	4.99	65.3	1.66	200	
0805	—	12.11	6.88	0.479	7.39	60.2	1.10	200	
0810	—	12.10	7.14	0.474	7.52	61.5	0.92	200	
0815	—	12.09	7.33	0.467	7.60	63.4	0.57	200	
0820	—	12.10	7.39	0.459	7.36	62.3	0.51	200	
0825	—	12.10	7.43	0.452	7.13	59.6	0.44	200	
0830	—	12.11	7.47	0.448	7.05	56.1	0.37	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-30A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): —

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: — WM 9/27/11

Purge Start Time: 1720

Sample Number: 5511-8 7

Sample Time: 1755

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 75 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1725	—	—	—	—	—	—	—	~~80~~	missed reading
1730	—	14.76	6.81	0.676	7.90	-66.8	0.45	80	
1735	—	14.88	6.79	0.675	6.32	-76.8	0.40	80	
1740	—	14.83	6.79	0.676	6.68	-74.9	2.62	80	
1745	—	14.72	6.69	0.676	7.04	-69.4	2.11	80	
1750	—	14.65	6.66	0.676	7.16	-65.3	1.51	80	
1755	—	14.67	6.88	0.676	7.28	-64.3	1.16	80	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-30C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): —

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: 5511-5 FD

Purge Start Time: 1620

Sample Number: 5511-5

Sample Time: 1700

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 75 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1625	—	14.16	6.98	0.674	13.33	-90.1	14.0	120	
1630	—	14.04	7.40	0.667	12.72	-65.2	1.3	120	
1635	—	13.96	7.52	0.666	12.82	-54.7	1.10	120	
1640	—	13.86	7.41	0.665	12.89	-43.9	1.06	120	
1645	—	13.84	7.55	0.663	12.98	-36.0	0.91	120	
1650	—	13.93	7.56	0.663	12.78	-29.1	0.85	120	
1655	—	13.95	7.57	0.663	12.73	-24.6	0.52	120	
1700	—	13.97	7.56	0.663	12.93	-20.9	0.45	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-30 D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): —

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1500

Sample Number: 5511-4

Sample Time: 1600

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 85 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1505	—	13.74	5.87	0.747	1.45	-212.2	5.39	200	
1510	—	13.70	5.82	0.762	1.14	-220.8	5.06	200	WM 9/27/11
1515	—	13.61	5.81	0.758	0.93	-229.2	4.94	~~200~~ 180	
1520	—	13.59	5.79	0.745	0.92	-232.3	4.52	180	
1525	—	13.59	5.95	0.735	0.97	-232.1	4.35	180	
1530	—	13.52	6.07	0.727	1.03	-229.8	4.21	180	
1535	—	13.48	6.14	0.721	1.21	-224.8	5.12	180	
1540	—	13.50	6.18	0.715	1.98	-205.8	4.87	180	
1545	—	13.65	6.32	0.710	2.19	-201.2	10.0	180	
1550	—	13.60	6.49	0.704	2.73	-192.1	12.2	180	
1555	—	13.50	6.41	0.703	3.53	-190.2	12.8	180	
1600	—	13.52	6.50	0.701	3.88	-188.9	13.0	180	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-30E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): –

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): _____

QC Samples Collected: –

Purge Start Time: 1420

Sample Number: 5511-3

Sample Time: 1450

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 100 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1425	–	13.86	6.51	0.668	8.34	76.1	0.72	225	
1430	–	13.72	7.04	0.663	12.07	-69.7	0.71	225	
1435	–	13.68	7.23	0.661	12.83	-61.2	0.65	225	
1440	–	13.79	7.30	0.660	13.41	-58.6	0.61	225	
1445	–	13.81	7.39	0.660	13.25	-52.1	0.35	225	
1450	–	13.83	7.40	0.659	13.32	-51.0	0.31	225	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/27/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-31A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): –

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): –

QC Samples Collected: –

Purge Start Time: 1325

Sample Number: 5511-2

Sample Time: 1355

Controller Settings: Recharge: 90 secs Discharge: 5 secs Pressure: 75 psi

WM 9/27/11

Samplers= Signatures: WM/JG

Cycles Per Minute: 4

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1320	–	17.35	6.54	0.898	1.22	-103.0	1.93	80	
1335	–	16.40	6.53	0.891	1.04	-106.0	2.98	100	adjusted settings
1340	–	15.54	6.67	0.884	0.84	-115.0	1.28	100	
1345	–	15.37	6.69	0.880	0.78	-119.0	0.98	100	
1350	–	15.17	6.78	0.877	0.79	-128.3	0.91	100	
1355	–	15.09	6.75	0.878	0.70	-129.0	0.93	100	

Tubing Volume Calculations:

0.17-inch Tubing = 18 mL per foot of water in tubing

262 mL @ 14.58' WC
L to be purged

purge minimum of 4 min @ 50 mL min

HGL

CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 9/27/11

OVM: FID G PID G **In Casing (ppm):** (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-31 F

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): –

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): –

QC Samples Collected: Extra Vol ms/msD

Purge Start Time: 1150

Sample Number: 5511-1

Sample Time: ~~1150~~ (WM) 9/27/11 1255

Controller Settings: Recharge: 9 **secs Discharge:** 6 **secs Pressure:** 80 **psi**

Samplers= Signatures: WM/JG

Cycles Per Minute: 4

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU) (WM) 9/27/11	Flow Rate (mL/min)	Comments
1155	–	14.91	6.04	0.564	4.29	-0.6	~~80.42~~	~~50~~ 100	
1205	–	14.10	6.63	0.412	6.41	-7.1	0.30	100	
1210	–	13.93	6.72	0.400	6.65	1.2	0.22	100	
1215	–	14.05	6.77	0.393	7.02	8.8	0.17	100	
1220	–	14.08	6.78	0.390	6.91	14.6	0.19	100	
1225	–	14.27	6.80	0.387	6.88	20.7	0.15	100	
1230	–	14.33	6.81	0.387	6.96	21.9	0.30	100	
1235	–	14.37	6.77	0.386	6.68	25.3	0.31	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-41 D1

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 120.03

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 120.20

QC Samples Collected: N/A

Purge Start Time: 1102

Sample Number: 5512-9

Sample Time: 1235

Controller Settings: Recharge: 23 secs Discharge: 7 secs Pressure: 105 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1120	120.20	14.40	6.69	0.658	8.95	-207.7	27.5	100	
1125	120.20	14.74	6.69	0.657	8.60	-207.6	73.9	100	
1130	120.20	15.69	6.69	0.681	7.94	-205.1	66.3	100	
1135	120.20	16.12	6.72	0.683	8.02	-204.9	60.8	100	
1140	120.20	15.24	6.69	0.692	8.17	-207.2	43.3	100	
1145	120.20	15.21	6.63	0.690	8.29	-209.3	31.7	100	
1150	120.20	15.17	6.70	0.691	8.27	-210.4	26.5	100	
1155	120.20	15.27	6.66	0.692	8.17	-211.1	24.7	100	
1200	120.20	15.57	6.71	0.690	8.08	-210.3	16.0	100	
1205	120.20	15.65	6.70	0.692	8.17	-210.7	13.7	100	
1210	120.20	15.49	6.64	0.692	8.01	-211.2	10.3	100	
1215	120.20	15.39	6.68	0.692	8.02	-211.9	8.40	100	
1220	120.20	15.55	6.68	0.691	8.00	-208.9	7.22	100	
1225	120.20	15.77	6.68	0.691	7.99	-210.3	6.91	100	
1230	120.20	15.89	6.75	0.693	7.93	-209.3	5.49	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

1235 / 120.20 / 15.92 / 6.70 / 0.653 / 7.90 / -205.7 / 4.7 / 100

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/4

Well ID: MW 41 D2

Initial Static Water Level (feet btoc): 119.94

Final Water Level (feet btoc): 119.99

Purge Start Time: 1020

Sample Time: 1100

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512 -8

Controller Settings: Recharge: 17 secs Discharge: 13 secs Pressure: 105 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1035	119.98	14.31	6.90	0.388	6.67	-237.1	10.5	120	
1040	119.98	14.26	6.92	0.374	6.34	-242.4	26.6	120	
1045	119.98	14.23	6.91	0.365	6.04	-244.3	26.7	120	
1050	119.99	14.23	6.93	0.357	5.69	-247.6	26.6	120	
1055	119.99	14.24	6.89	0.355	5.60	-250.0	27.7	120	
1100	119.99	14.29	6.96	0.355	5.39	-251.6	27.5	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/4

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 42D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 122.35

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 122.36

QC Samples Collected: 5512-17 FD

Purge Start Time: 1005

Sample Number: 5512-17

Sample Time: 1030

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 105 psi

Samplers= Signatures: SA | SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1010	122.36	15.78	6.85	0.483	6.90	-168.5	57.7	120	
1015	122.36	15.63	6.85	0.496	7.12	-166.7	53.3	120	
1020	122.36	15.49	6.85	0.509	7.22	-165.6	58.9	120	
1025	122.36	15.45	6.86	0.512	7.34	-163.0	55.6	120	
1030	122.36	15.43	6.88	0.513	7.50	-163.0	~~-162~~ 54.6	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: _____

Well ID: ~~MW-142~~ MW-42 F

Initial Static Water Level (feet btoc): 122.46

Final Water Level (feet btoc): 122.49

Purge Start Time: 0854

Sample Time: 0940

Samplers= Signatures: SA | SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-16

Controller Settings: Recharge: 17 secs Discharge: 13 secs Pressure: 105 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0910	122.49	15.49	8.08	0.414	10.26	-151.0	93.4	100	
0915	122.49	15.36	6.50	0.422	9.58	-154.1	76.1	100	
0920	122.49	15.36	6.89	0.424	9.69	-162.7	76.9	100	
0925	122.49	15.41	6.91	0.424	7.45	-165.8	68.5	100	
0930	122.49	15.53	6.76	0.424	6.74	-169.8	62.8	100	
0935	122.49	15.73	6.95	0.425	6.60	-171.20	59.3	100	
0940	122.49	15.88	6.94	0.426	6.30	-172.60	57.7	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 43 D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 126.44

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 126.44

QC Samples Collected: N/A

Purge Start Time: 0915

Sample Number: 5512-7

Sample Time: 0945

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 105 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0925	126.44	13.42	6.72	0.502	8.92	-201.7	14.9	100	
0930	126.44	13.67	6.72	0.530	8.90	-207.0	15.8	100	
0935	126.44	13.73	6.71	0.541	8.86	-208.6	12.1	100	
0940	126.44	13.76	6.72	0.548	8.67	-209.8	12.6	100	
0945	126.44	13.78	6.72	0.554	8.53	-210.4	10.7	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 43 E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 126.44

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 126.42

QC Samples Collected: N/A

Purge Start Time: 0825

Sample Number: 5512-6

Sample Time: 0905

Controller Settings: Recharge: 10 secs Discharge: 20 secs Pressure: 105 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0835	126.42	12.86	8.40	0.388	~~10.95~~ 11.91	-197.3	15.3	130	
0840	126.42	12.75	8.04	0.392	10.41	-203.5	13.6	130	
0845	126.42	12.77	7.10	0.403	8.38	-207.7	16.6	130	
0850	126.42	12.79	6.98	0.404	7.62	-212.0	19.4	130	
0855	126.42	12.85	6.87	0.405	6.88	-215.7	21.4	130	
0900	126.42	12.88	6.93	0.405	6.64	-219.0	21.4	130	
0905	126.42	13.02	6.87	0.406	6.29	-222.3	22.5	130	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 9/27/11

OVM: FID G PID G **In Casing (ppm):** (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 44D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 110.97

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 110.94

QC Samples Collected: N/A

Purge Start Time: 1630

Sample Number: 5512-5

Sample Time: 1754

Controller Settings: Recharge: 20 **secs Discharge:** 10 **secs Pressure:** 105 **psi**

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1700	110.97	17.56	7.14	0.409	9.35	-160.3	91.3	100	1635 paused + Pulled Pump
1705	110.97	16.83	7.11	0.414	7.91	-173.1	80.8	100	Re built Pump
1710	110.96	16.00	7.07	0.415	6.64	-182.6	394	100	1645 Restarted Pump.
1715	110.95	15.55	7.05	0.415	6.27	-188.6	337	100	
1720	110.95	15.29	7.02	0.415	6.00	-192.6	273	100	
1725	110.95	15.26	7.02	0.415	5.90	-194.1	238	100	
1730	110.95	15.10	7.03	0.416	5.76	-198.2	182	100	
1735	110.95	15.07	7.02	0.416	5.67	-197.9	122	100	
1740	110.94	14.92	6.99	0.417	5.56	-201.9	87.2	100	
1743	110.94	14.75	6.97	0.417	5.46	-204.6	75.0	100	
1746	110.94	14.75	6.96	0.417	5.38	-206.7	74.3	100	
1749	110.94	14.68	6.99	0.418	5.40	-207.6	59.6	100	
1752	110.94	14.62	6.96	0.418	5.47	-208.7	55.3	100	
1755	110.94	14.58	6.97	0.418	5.43	-209.9	48.4	100	
1758	110.94	14.51	6.97	0.419	5.43	-210.40	42.7	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 9/27/11

OVM: FID G PID G **In Casing (ppm):** (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 44D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 110.97

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 110.94

QC Samples Collected:

Purge Start Time: 1630

Sample Number: 5512-5

Sample Time: 1813

Controller Settings: Recharge: 20 **secs Discharge:** 10 **secs Pressure:** 105 **psi**

Samplers= Signatures: SA/SA

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1801	110.94	14.29	6.94	0.419	5.41	-211.0	40.5	100	
1804	110.94	14.21	6.94	0.419	5.39	-216.6	36.5	100	
1807	110.94	14.08	6.94	0.419	5.49	-211.0	34.8	100	
1810	110.94	14.08	6.98	0.418	5.51	-211.2	32.2	100	
1813	110.94	13.98	6.99	0.418	5.54	-210.6	31.9		

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 9/27/11

OVM: FID G PID G **In Casing (ppm): (Initial)** Not Applicable **(Vented to)** atmosphere

Well ID: MW 44E

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 111.00

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 111.00

QC Samples Collected: N/A

Purge Start Time: 1535

Sample Number: 5512-4

Sample Time: 1620

Controller Settings: Recharge: 20 **secs Discharge:** 10 **secs Pressure:** 105 **psi**

Samplers= Signatures: JA / JH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1550	111.00	20.03	7.19	0.377	40.7	-192.90	6.69	100	
1550	111.00	19.55	7.25	0.367	41.1	-195.9	7.09	100	
1555	111.00	18.90	7.25	0.352	42.4	-199.8	8.10	100	
1600	111.00	18.01	7.25	0.352	44.7	-205.4	8.12	100	
1605	111.00	16.99	7.20	0.350	43.9	-209.4	12.8	100	
1610	111.00	16.69	7.19	0.348	43.3	-214.1	12.4	100	
1615	111.00	16.74	7.18	0.348	42.7	-215.9	12.9	100	
1620	111.00	16.61	7.17	0.349	43.9	-217.1	10.2	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

Well ID: MW 45 C

Initial Static Water Level (feet btoc): 103.38

Final Water Level (feet btoc): 103.38

Purge Start Time: 16:25

Sample Time: 1705

Samplers= Signatures: SH/SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: 5512-24-FD

Sample Number: 5512-24

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 90 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
16:35	103.38	20.06	7.33	0.373	9.22	-141.5	15.7	100	
16:45	103.38	19.99	7.33	0.658	9.16	-144.6	21.5	100	
16:50	103.38	19.80	7.23	0.662	8.59	-146.3	32.0	100	
16:55	103.38	19.47	7.24	0.666	7.04	-154.8	56.2	100	
1700	103.38	19.34	7.31	0.667	6.92	-156.1	55.8	100	
1705	103.38	19.17	7.24	0.668	6.59	-157.3	53.1	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

Well ID: MW 45 D

Initial Static Water Level (feet btoc): 103.02

Final Water Level (feet btoc): 103.04

Purge Start Time: 1455

Sample Time: 1545

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: ~~MW 45 D 9/29/11~~ 5512-23

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 100 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1510	103.04	19.46	7.42	0.406	8.92	-140.5	4.00	100	
1515	103.04	18.87	7.18	0.513	9.40	-137.1	8.63	100	
1520	103.04	18.20	7.04	0.571	9.37	-130.9	11.8	100	
1525	103.04	18.13	7.00	0.575	9.23	-127.3	13.1	100	
1530	103.04	18.26	7.00	0.578	9.07	-130.7	12.4	100	
1535	103.04	18.33	7.08	0.578	9.00	-128.3	10.6	100	
1540	103.04	18.47	7.05	0.580	9.01	-126.7	10.6	100	
1545	103.04	18.65	7.04	0.580	8.95	-126.2	9.70	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

Well ID: MW 96 D2

Initial Static Water Level (feet btoc): 115.05

Final Water Level (feet btoc): 115.06

Purge Start Time: 1600

Sample Time: 1635

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-14

Controller Settings: Recharge: 10 secs Discharge: 20 secs Pressure: ~~105~~ 100 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1610	115.06	20.99	7.10	0.489	9.65	-183.7	11.5	120	
1615	115.06	20.78	7.35	0.492	9.73	-183.9	10.9	120	
1620	115.06	19.00	7.00	0.550	8.07	-207.6	19.0	120	
1625	115.06	18.33	6.89	0.555	6.83	-217.0	19.0	120	
1630	115.06	18.58	6.73	0.554	6.70	-217.0	17.7	120	
1635	115.06	18.52	6.90	0.555	6.46	-216.8	18.0	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

Well ID: MW-46 D1

Initial Static Water Level (feet btoc): 114.67

Final Water Level (feet btoc): 114.76

Purge Start Time: 16:55

Sample Time: 1730

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-15

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 100 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1705	114.78	21.45	6.98	0.545	7.39	-185.9	30.4	100	
1710	114.78	21.99	6.93	0.551	7.04	-186.2	155	100	
1715	114.78	22.82	6.82	0.579	6.71	-187.5	451	100	
1720	114.76	22.86	6.79	0.588	6.42	-192.0	561	100	
1725	114.76	22.69	6.79	0.589	6.36	-194.1	580	100	
1730	114.76	22.64	6.77	0.589	6.12	-197.0	591	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/3/11

Well ID: MW-47B

Initial Static Water Level (feet btoc): 118.93

Final Water Level (feet btoc):

Purge Start Time: 0905

Sample Time: 0950

Samplers= Signatures: WM/JG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: MS/MSD 10/3/11

Sample Number: 5511-~~48~~ 43

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 7 psi

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0910	119.98	12.89	6.86	0.883	9.14	202.9	17.4	175	
0915	119.98	12.97	6.85	0.883	9.16	202.4	13.2	175	
0920	119.98	12.98	6.85	0.881	9.18	200.3	11.3	175	
0925	119.98	13.05	6.77	0.879	9.18	198.1	8.57	175	
0930	119.98	13.16	6.87	0.879	9.16	191.5	6.17	175	
0935	119.98	13.15	6.87	0.879	9.17	183.5	5.58	175	
0940	119.98	13.25	6.90	0.880	9.15	147.4	3.34	175	
0945	119.98	13.34	6.90	0.880	9.15	140.7	2.43	175	
0950	119.98	13.54	6.91	0.880	9.23	139.7	1.78	175	
~~0955~~					139.1	~~135.4~~		~~175~~	WM 10/7/11

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/3/11

Well ID: MW-47C

Initial Static Water Level (feet btoc): 121.62

Final Water Level (feet btoc): 121.59

Purge Start Time: 0925

Sample Time: 1000

Samplers= Signatures: WM/SG

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: –

Sample Number: 5511-44

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 80 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0935	121.58	14.33	6.89	0.798	8.48	-185.4	14.8	200	
0940	121.59	14.40	6.74	0.786	8.16	-191.5	2.76	200	
0945	121.59	14.47	6.72	0.784	8.12	-196.3	0.70	200	
0950	121.59	14.66	6.72	0.782	8.17	-197.8	0.36	200	
0955	121.59	14.96	6.72	0.780	7.88	-202.0	0.25	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/3/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-47D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.45

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1025 (WM) 10/3/11

Sample Number: 5511-46

Sample Time: ~~1100~~ 1100

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 90 psi

Samplers= Signatures: WM/DG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
~~1030~~	~~118.45~~	~~15.74~~	~~6.98~~	~~0.885~~	~~7.52~~	~~85.4~~		~~200~~	(WM) 10/3/11
1040 ~~1040~~	118.48	14.99	6.76	0.671	8.67	46.3	2.02	200	
10/3/11 1045 ~~1045~~	118.64	14.92	6.89	0.634	8.51	12.4	1.98	200	
1050 ~~1050~~	118.64	14.93	6.90	0.631	8.40	3.2	1.73	200	
1055 ~~1055~~	118.64	14.95	6.93	0.629	8.18	0.3	2.55	200	
1100 ~~1100~~	118.64	14.99	6.93	0.628	8.15	-4.3	2.12	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/2/11

Well ID: MW 48 B

Initial Static Water Level (feet btoc): 118.78

Final Water Level (feet btoc): 118.81

Purge Start Time: 1400

Sample Time: 1520

Samplers= Signatures: JA / JH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected:

Sample Number: 5511-59

Controller Settings: Recharge: 24 secs Discharge: 6 secs Pressure: 85 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1410	118.81	20.45	6.98	0.790	7.51	-159.3	73.2	100	
1415	118.81	20.44	6.98	0.801	7.66	-160.0	224	100	
1420	118.81	20.35	7.02	0.862	7.96	-158.2	264	100	
1425	118.81	20.18	7.03	0.876	7.94	-154.3	246	100	
1430	118.81	20.00	7.03	0.883	8.49	-151.5	153	100	
1435	118.81	20.05	7.03	0.884	8.36	-154.2	95.4	100	
1440	118.81	19.87	7.03	0.885	8.27	-155.7	73.6	100	
1445	118.81	19.84	7.00	0.885	8.29	-148.6	50.1	100	
1450	118.81	19.73	7.00	0.886	8.34	-152.0	37.2	100	
1455	118.81	19.70	6.99	0.886	8.09	-157.9	36.4	100	
1500	118.81	19.81	7.01	0.886	8.12	-157.8	24.3	100	
1505	118.81	19.79	7.01	0.886	8.01	-157.0	23.6	100	
1510	118.81	19.63	7.01	0.887	8.12	-155.0	19.7	100	
1513	118.81	19.55	6.99	0.887	8.18	-156.0	17.5	100	
1516	118.81	19.49	6.98	0.887	8.22	-158.4	17.5	100	
1519	118.81	19.55	6.98	0.887	8.28	-160.4	17.6	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 10/2/11

OVM: FID G PID G **In Casing (ppm): (Initial)** Not Applicable **(Vented to)** atmosphere

Well ID: MW 48C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.44

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 118.44

QC Samples Collected: 5511-57-FD

Purge Start Time: 1255

Sample Number: 5511-57

Sample Time: 1335

Controller Settings: Recharge: 25 **secs Discharge:** 5 **secs Pressure:** 100 **psi**

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1305	118.44	20.45	7.44	0.664	16.00	-128.0	40.7	120	
1310	118.44	22.11	6.99	0.680	8.70	-145.1	74.5	120	
1315	118.44	22.38	6.99	0.682	8.22	-147.6	81.4	120	
1320	118.44	21.86	6.90	0.696	7.74	-155.6	82.0	100	Switched Nitrogen Tank
1325	118.44	20.58	6.80	0.689	7.50	-160.7	49.5	100	105 psi 19-11
1330	118.44	20.68	6.82	0.688	7.38	-159.4	46.2	100	
1335	118.44	20.68	6.83	0.689	7.20	-159.8	45.6	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 10/3/11

OVM: FID G PID G **In Casing (ppm): (Initial)** Not Applicable **(Vented to)** atmosphere

Well ID: MW-48D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 117.81

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1400

Sample Number: S5511-49

Sample Time: 1440

Controller Settings: Recharge: 15 **secs Discharge:** 15 **secs Pressure:** 90 **psi**

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1405	117.83	20.31	7.50	0.675	11.72	33.1	16.4	200	
1410	117.83	17.98	7.35	0.680	12.54	38.6	14.6	200	
1415	117.83	17.56	7.33	0.681	12.70	40.7	14.6	200	
1420	117.83	16.79	7.31	0.683	13.53	48.2	11.7	200	
1425	117.83	15.94	7.27	0.680	13.38	55.7	6.14	200	
1430	117.83	16.13	7.26	0.678	13.88	56.1	4.93	200	
1435	117.83	16.30	7.28	0.679	13.92	58.8	4.57	200	
1440	117.83	16.37	7.27	0.679	14.33	62.1	3.38	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-49B

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 119.16

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): ~~130~~ 10/1/11

QC Samples Collected: —

Purge Start Time: 1310

Sample Number: 5511-35

Sample Time: 1345

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure 67 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1320	119.19	17.22	6.86	0.705	9.56	156.0	1.86	100	
1325	119.19	16.66	6.83	0.704	8.81	158.9	2.48	100	
1330	119.19	16.30	6.80	0.703	9.02	159.7	0.99	100	
1335	119.19	16.32	6.81	0.702	8.67	160.1	0.68	100	
1340	119.19	16.14	6.81	0.703	8.82	160.6	0.47	100	
1345	119.19	16.21	6.79	0.701	8.63	161.1	0.39	100	WM 10/1/11
~~1350~~	~~119.19~~							100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-1-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-49C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 119.14

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1410

Sample Number: 5511-36

Sample Time: 1515

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 80 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1415	119.14	16.22	6.94	~~9.51~~ 0.629	9.51	151.6	140	200	
1420	119.14	14.94	6.85	0.628	8.59	155.8	70.3	200	
1425	119.14	14.86	6.83	0.621	8.47	156.7	59.6	200	
1430	119.14	14.70	6.82	0.616	8.33	157.9	34.1	200	
1435	119.14	14.64	6.82	0.616	8.47	157.8	25.3	200	
1440	119.14	14.77	6.81	0.614	8.29	158.2	29.4	200	
1445	119.14	14.65	6.80	0.614	8.51	158.9	21.0	200	
1500	119.14	14.58	6.79	0.613	8.37	159.8	16.2	200	
1505	119.14	14.57	6.79	0.614	8.40	160.8	8.41	200	
1510	119.14	14.70	6.78	0.614	8.30	160.9	6.30	200	
1515	119.14	14.50	6.77	0.615	8.36	161.4	5.28	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-1-11

Well ID: MW-49D

Initial Static Water Level (feet btoc): 118.02

Final Water Level (feet btoc):

Purge Start Time: 1540

Sample Time: 1635

Samplers= Signatures: JG/WM

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: —

Sample Number: 5511-37

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 80 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
~~1545~~		~~21.02~~							WM 10/1/11
1550	118.03	15.47	6.89	0.559	8.57	150.4	51.3	150	
1555	118.03	15.26	6.86	0.552	8.20	152.3	45.3	150	
1600	118.03	15.08	6.84	0.548	8.03	153.8	36.6	150	
1605	118.03	14.83	6.83	0.547	7.91	154.7	30.1	150	
1610	118.03	14.84	6.82	0.543	8.11	155.8	23.7	150	
1615	118.03	14.79	6.81	0.543	8.13	156.5	18.9	150	
1620	118.03	14.68	6.82	0.544	8.06	157.1	16.3	150	
1625	118.03	14.58	6.80	0.543	8.08	158.7	12.8	150	
1630	118.03	14.52	6.80	0.543	8.13	159.8	12.1	150	
1635	118.03	14.52	6.80	0.545	8.13	159.2	11.7	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-2-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-50B

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.33

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): —

QC Samples Collected: —

Purge Start Time: 1440

Sample Number: 5511-42

Sample Time: 1515

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: ~~65~~ 70 psi WM 10/2/11

Samplers= Signatures: JG/WM

Cycles Per Minute: 2

Time	Water Level (ft btoc) WM 10/2/11	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1445	~~118.35~~	18.73	7.03	0.555	11.12	150.8	12.0	150	
1450	118.40	18.43	7.01	0.542	9.54	152.4	9.48	150	
1455	118.40	18.32	6.98	0.537	8.47	150.8	6.39	150	
1500	118.40	18.28	6.98	0.534	8.03	151.8	5.31	150	
1505	118.40	18.45	6.97	0.544	~~8~~ 7.85	152.0	4.11	150	
1510	118.40	18.43	6.97	0.544	7.74	151.4	3.54	150	
1515	118.40	18.39	6.96	0.543	7.68	151.8	2.85	150	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-2-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-50C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 119.68

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: 5511-40FD

Purge Start Time: ~~1250~~ 1250

Sample Number: 5511-40

Sample Time: 1410

Controller Settings: Recharge: 11 secs Discharge: 9 secs Pressure: 80 psi

Samplers= Signatures: WM/JG

Cycles Per Minute: 3

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1255	119.69	18.92	7.16	0.665	13.83	156.4	354	100	
1300	119.69	18.75	7.17	0.651	14.01	156.6	449	100	
1305	119.69	18.45	7.17	0.648	14.35	157.0	432	100	
1310	119.69	18.45	7.16	0.645	14.09	157.0	373	100	
1315	119.69	18.68	7.16	0.645	14.11	156.7	255	100	
1320	119.69	18.88	7.16	0.645	14.02	156.1	130	100	
1325	119.69	18.89	7.16	0.645	15.77	156.1	90.7	100	
1330	119.69	18.36	7.10	0.645	15.42	158.4	68.7	100	
1335	119.69	18.28	7.14	0.644	15.98	158.6	52.1	100	
1340	119.69	18.22	7.14	0.644	15.00	158.4	39.0	100	
1345	119.69	18.34	7.16	0.646	16.13	156.8	27.6	100	
1350	119.69	18.39	7.15	0.644	16.31	156.7	23.4	100	
1355	119.69	18.26	7.16	0.646	16.07	157.1	17.2	100	
1400	119.69	18.30	7.14	0.647	16.38	157.7	15.6	100	
1405	119.69	18.16	7.14	0.646	15.75	157.8	13.8	100	
1405	119.69	18.13	7.13	0.647	15.80	158.6	12.9	100	
1410	119.69	18.17	7.13	0.648	15.42	158.9	12.7	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:** 10-2-11

OVM: FID G PID G **In Casing (ppm):** (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-50D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 118.18

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: ~~QC~~ 10/2

Purge Start Time: 1550

Sample Number: 5511-~~4~~345

Sample Time: 1655

Controller Settings: Recharge: 15 **secs Discharge:** 15 **secs Pressure:** 40 **psi**

Samplers= Signatures: JG/WM

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1555	118.20	18.61	6.85	9.65	0.540	133.0	123	150	
1600	118.20	17.67	6.87	10.26	0.543	135.9	81.3	150	
1605	118.20	17.34	6.88	10.38	0.543	138.5	62.9	150	
1610	118.20	17.17	6.89	10.20	0.542	140.6	40.8	150	
1615	118.20	17.42	6.89	9.82	0.540	141.2	29.7	150	
1620	118.20	17.21	6.90	10.45	0.543	141.3	28.0	200	
1625	118.20	15.51	6.87	10.593	10.03	145.6	25.4	200	
1630	118.20	15.27	6.84	0.538	9.55	147.4	24.7	200	
1635	118.20	15.21	6.86	0.538	9.20	147.4	22.3	200	
1640	118.20	15.21	6.86	0.538	8.30	149.1	16.9	200	
1645	118.20	15.00	6.85	0.539	8.25	149.3	14.5	200	
1650	118.20	14.81	6.84	0.539	8.05	150.1	13.8	200	
1655	118.20	14.63	6.80	0.537	7.96	152.9	13.6	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/2/11

Well ID: MW 51 B

Initial Static Water Level (feet btoc): 119.19

Final Water Level (feet btoc): 119.20

Purge Start Time: 1610

Sample Time: 1655

Samplers= Signatures: JA / JH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5511-60

Controller Settings: Recharge: 24 secs Discharge: 6 secs Pressure: 90 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1620	119.20	19.99	7.05	0.853	9.10	-150.9	23.0	120	
1625	119.20	19.87	7.04	0.790	9.41	-148.9	15.0	120	
1630	119.20	19.67	7.06	0.746	9.75	-145.9	5.80	120	
1635	119.20	19.70	7.06	0.728	10.89	-142.5	2.45	120	
1640	119.20	19.75	7.07	0.728	10.37	-141.9	1.79	120	
1645	119.20	19.51	7.07	0.726	11.36	-142.1	1.25	120	
1650	119.20	19.37	7.07	0.724	10.34	-142.9	1.10	120	
1655	Sample								

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10-3-11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-51C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 119.90

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc):

QC Samples Collected: —

Purge Start Time: 1150

Sample Number: 5511-47

Sample Time: 1310

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: 80 psi

Samplers= Signatures: JG/WM

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1155	191.91	16.24	7.42	0.690	16.88	-29.1	2.25	200	
1200	191.91	16.11	7.54	0.695	14.37	-36.2	37.2	200	
1205	191.91	16.33	7.65	0.695	13.89	-40.1	30.7	200	
1210	191.91	16.45	7.58	0.697	13.72	-31.6	25.5	200	
1215	191.91	16.71	7.58	0.694	14.27	-19.0	17.9	200	
1220	191.91	16.70	7.61	0.695	14.30	-18.5	14.8	200	
1225	191.91	16.82	7.62	0.697	13.97	-20.4	13.7	200	
1230	191.91	16.87	7.62	0.698	15.70	-15.6	12.1	200	
1235	191.91	16.95	7.63	0.697	15.93	-18.4	13.4	200	
1240	191.91	17.27	7.63	0.697	14.84	-12.6	9.74	200	
1245	191.91	17.20	7.57	0.699	15.22	1.7	8.43	200	
1250	191.91	16.64	7.60	0.700	15.18	2.3	7.46	200	
1255	191.91	16.63	7.57	0.696	14.86	1.3	7.00	200	
1300	191.91	16.60	7.57	0.698	14.82	~~14.8~~ 9.3	4.98	200	
1305	191.91	16.38	7.56	0.697	14.44	14.5	4.95	200	
1310	191.91	16.32	7.55	0.697	14.45	14.5	4.85	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/3/11

Well ID: MW-51D

Initial Static Water Level (feet btoc): ~~117.35~~ 117.41

Final Water Level (feet btoc): 117.48

Purge Start Time: 1155

Sample Time: 1243

Samplers= Signatures: VN/JO

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: —

Sample Number: 5511-48

Controller Settings: Recharge: 15 secs Discharge: 15 secs Pressure: ~~85~~ 100 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1200	117.48	15.91	7.64	0.685	11.28	-189.2	26.2	200	
1205	117.48	15.55	7.68	0.676	8.42	-192.1	20.9	200	
1210	117.48	15.55	7.68	0.673	10.38	-186.7	10.2	200	
1215	117.48	15.41	7.68	0.671	10.42	-203.2	9.22	200	
1220	117.48	15.46	7.67	0.672	10.46	-199.7	5.76	200	
1225	117.48	15.37	7.67	0.672	10.55	-200.4	5.02	200	
1230	117.48	15.41	7.67	0.675	10.64	-200.4	3.13	200	
1235	117.48	15.36	7.67	0.673	10.56	-203.9	3.46	200	
1240	117.48	15.43	7.6	0.673	10.31	-207.8	3.49	200	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-104B

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 104.78

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 104.82

QC Samples Collected: N/A

Purge Start Time: 0750

Sample Number: 5512-35

Sample Time: 0825

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 60 psi

Samplers= Signatures: SA/SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0800	104.82	11.38	7.65	0.656	10.25	-184.6	1.51	100	
0805	104.82	12.12	6.94	0.718	9.14	-193.7	0.57	100	
0810	104.82	12.50	6.89	0.748	8.75	-197.5	0.44	100	
0815	104.82	12.74	6.89	0.763	8.44	-199.7	0.33	100	
0820	104.82	12.96	6.92	0.775	8.26	-202.4	0.27	100	
0825	104.82	13.03	6.91	0.780	8.21	-202.7	0.29	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

Well ID: MW-104C

Initial Static Water Level (feet btoc): 107.38

Final Water Level (feet btoc): 107.40

Purge Start Time: 0850

Sample Time: 0930

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-36

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 95 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
0905	107.40	13.71	6.93	0.556	6.60	-225.6	1.03	110	
0910	107.40	14.26	6.92	0.451	5.96	-229.7	1.04	110	
0915	107.40	14.33	6.89	0.430	5.83	-231.3	1.09	110	
0920	107.40	14.65	6.91	0.406	5.51	-231.2	1.03	110	
0925	107.40	14.98	6.88	0.397	5.39	-231.2	0.91	110	
0930	107.40	15.07	6.89	0.396	5.40	-231.5	0.86	110	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 10/1/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-104D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 107.28

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 107.30

QC Samples Collected: N/A

Purge Start Time: 0950

Sample Number: 5512-37

Sample Time: 1050

Controller Settings: Recharge: 19 secs Discharge: 41 secs Pressure: 100 psi

Samplers= Signatures: SA/SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1000	107.30	15.29	7.04	0.380	6.89	-219.10	2.83	100	
1005	107.30	15.75	7.40	0.348	8.43	-206.20	1.88	100	
1010	107.30	15.98	7.31	0.336	7.60	-207.1	1.69	100	
1015	107.30	16.11	7.20	0.324	6.74	-211.3	1.03	100	
1020	107.30	16.42	7.17	0.317	6.08	-216.7	0.69	100	
1025	107.30	16.62	7.12	0.313	5.45	-222.8	0.82	100	
1030	107.30	16.69	7.11	0.311	5.04	-225.1	0.62	100	
1035	107.30	16.99	7.10	0.309	4.30	-233.3	0.54	60	
1040	107.30	17.05	7.08	0.309	4.02	-236.9	0.42	100	change setting to 17/13 @ 105 psi
1045	107.30	16.72	7.08	0.309	3.93	-238.5	0.41	100	
1050	107.30	16.62	7.09	0.308	3.71	-241.0	0.46	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW-105A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 119.35

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 119.38

QC Samples Collected: N/A

Purge Start Time: 1500

Sample Number: 5512-13

Sample Time: 1530

Controller Settings: Recharge: 25 secs Discharge: 5 secs Pressure: 100 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1510	119.38	20.90	6.97	0.839	8.58	-179.7	1.49	150	
1515	119.38	19.20	6.92	0.874	8.75	-186.5	1.40	120	
1520	119.38	17.22	6.93	0.883	8.69	-189.9	1.26	120	
1525	119.38	17.05	6.91	0.882	8.50	-197.7	1.43	120	
1530	119.38	17.03	6.87	0.881	8.56	-196.5	1.28	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/28/4

Well ID: MW 105C

Initial Static Water Level (feet btoc): 121.45

Final Water Level (feet btoc): 121.48

Purge Start Time: 1400

Sample Time: 1435

Samplers= Signatures: SA / SH

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Analytical Parameters: LDL VOCs

QC Samples Collected: N/A

Sample Number: 5512-12

Controller Settings: Recharge: 20 secs Discharge: 10 secs Pressure: 105 psi

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1405	121.48	18.80	7.59	0.429	7.89	-202.1	9.78	120	
1410	121.48	18.91	6.85	0.542	8.12	-189.3	4.66	120	
1415	121.48	19.01	6.80	0.591	7.84	-191.7	4.31	120	
1420	121.48	19.22	6.77	0.630	7.57	-192.2	4.06	120	
1425	121.48	19.63	6.77	0.653	7.47	-190.0	3.08	120	
1430	121.48	20.18	6.76	0.657	7.26	-189.4	2.55	120	
1435	121.48	20.69	6.78	0.659	7.11	-186.9	2.06	120	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 8/28/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 105D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 121.29

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 121.32

QC Samples Collected: 5512-10 FD

Purge Start Time: 1310

Sample Number: 5512-10

Sample Time: 1345

Controller Settings: Recharge: 17 secs Discharge: 13 secs Pressure: 105 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1315	121.33	23.74	7.70	0.475	7.89	-187.7	8.66		
1320	121.32	23.22	8.05	0.448	8.07	-186.6	5.93		
1325	121.30	22.70	8.05	0.437	8.47	-186.6	5.39		
1330	121.32	22.20	7.17	0.431	8.11	-187.6	3.00		
1335	121.32	22.51	7.11	0.429	6.75	-193.20	2.18		
1340	121.32	23.08	7.08	0.430	6.38	-194.40	3.16		
1345	121.32	23.40	7.05	0.430	6.18	-194.1	1.86		

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 106A

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 120.90

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 120.90

QC Samples Collected: n/a

Purge Start Time: 1105

Sample Number: 5512-19

Sample Time: 1150

Controller Settings: Recharge: 25 secs Discharge: 5 secs Pressure: 90 psi

Samplers= Signatures: JA / SA

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1125	120.90	16.33	6.84	0.629	8.71	-149.3	6.47	110	
1130	120.90	15.79	6.84	0.788	8.84	-144.9	42.5	110	
1135	120.90	15.68	6.84	0.803	8.94	-144.6	10.0	110	
1140	120.90	15.58	6.83	0.813	8.75	-142.5	5.47	110	
1145	120.90	15.48	6.84	0.822	8.79	-145.0	2.33	110	
1150	120.90	15.52	6.83	0.831	8.51	-143.0	1.80	110	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site Date: 9/29/11

OVM: FID G PID G In Casing (ppm): (Initial) Not Applicable (Vented to) atmosphere

Well ID: MW 106C

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 124.02

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 124.05

QC Samples Collected: MS/MSD Collected

Purge Start Time: 1210

Sample Number: 5512-20

Sample Time: 1250

Controller Settings: Recharge: 22 secs Discharge: 8 secs Pressure: 100 psi

Samplers= Signatures: SA / SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1220	124.05	17.21	7.26	0.703	9.60	-134.9	11.3	100	
1225	124.05	17.36	7.04	0.692	9.96	-136.4	9.28	100	
1230	124.05	17.46	6.82	0.627	8.73	-142.5	4.26	100	
1235	124.05	17.34	6.82	0.612	8.40	-144.8	2.29	100	
1240	124.05	16.91	6.66	0.596	7.78	-151.6	1.43	100	
1245	124.05	16.81	6.68	0.588	7.64	-151.9	0.76	100	
1250	124.05	16.74	6.60	0.580	7.48	-151.2	0.50	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

HGL CDM

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

US EPA ARCHIVE DOCUMENT

LOW-FLOW GROUNDWATER SAMPLING LOG

Site Name: Garvey Elevator Site **Date:**

OVM: FID G PID G **In Casing (ppm): (Initial)** Not Applicable **(Vented to)** atmosphere

Well ID: MW 106 D

Purging/Sampling Device: QED Bladder Pump/compressed nitrogen

Initial Static Water Level (feet btoc): 124.04

Analytical Parameters: LDL VOCs

Final Water Level (feet btoc): 124.04

QC Samples Collected: N/A

Purge Start Time: 1308

Sample Number: 5512 - 21

Sample Time: 1355

Controller Settings: Recharge: 17 **secs Discharge:** 13 **secs Pressure:** 105 **psi**

Samplers= Signatures: SA | SH

Cycles Per Minute: 2

Time	Water Level (ft btoc)	Temperature (Degrees C)	pH	Specific Cond. (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Comments
1320	124.04	18.70	7.34	0.465	9.00	-137.8	1.21	100	
1325	124.04	19.14	7.36	0.432	9.24	-133.4	3.07	~~100~~ 60	increase pressure 5 psi
1330	124.04	19.01	7.23	0.427	8.67	-135.2	1.94	100	
1335	124.04	17.31	7.06	0.409	7.76	-152.2	2.84	100	
1340	124.04	17.04	7.04	0.407	6.33	-165.5	0.69	100	
1345	124.04	17.05	6.99	0.405	5.78	-169.6	0.64	100	
1350	124.04	17.06	6.99	0.405	5.63	-171.5	0.85	100	
1355	124.04	17.09	6.99	0.405	5.49	-169.00	0.71	100	

Tubing Volume Calculations:
0.17-inch Tubing = 18 mL per foot of water in tubing

PARAMETERS FOR WATER QUALITY STABILIZATION

Temperature	± 1° C	DO / Turbidity	± 10 %
pH	± 0.1 pH unit	ORP	± 10 mV
Conductivity	± 3 %	Water Level	± 0.3 feet

HGL CDM