

**Final
Meeting Minutes from TRIAD Project Team Meeting #3 with the Alaska
Department of Environmental Conservation
17 September 2013**

A TRIAD Meeting for the Former Galena Forward Operating Location (FOL), Alaska was held on 17 September 2013 via teleconference and on-line web viewing. The attendees and meeting agenda are listed below, and presentation materials are included in attachments.

Attendees:

Dennis Shepard – Alaska Department of Environmental Conservation (ADEC)
Fred Vreeman – ADEC
Dan McMahon – Shannon and Wilson
Donna Kozak – Booz Allen Hamilton (BAH)
Bruce Henry – Parsons Government Services, Inc. (Parsons)
Brian Blicher – Parsons

Agenda:

- TRIAD Discussion
 - o DSWD Test Pits
 - o Step Out Sampling Review
 - OWS1833 Soil Borehole
 - B400 GW Grab Samples
 - SS025 (WPR) Soil and GW Grab Borehole
 - DSWD Soil Borehole
 - SS019 GW Grab Sampling
 - SS015 Surface Soil Sample
 - o Sampling Priorities for Drill Rig

Introduction

The Technical Project Team (TPT) meeting began at 10:00 am Alaska time. Objectives of the meeting included:

- 1) Review observations and the release of waste oil from a punctured drum during test pit excavation at the DSWD site.
- 2) Review proposed step-out locations for all additional soil boreholes and groundwater grab samples, and prioritize sampling locations for limited drill rig availability.

TRIAD Reviews

Disposal Site West of Dike (DSWD)

Photographs and descriptions of the test pit excavations were presented (Attachment A). Parsons notified ADEC of the release of waste oil from a drum in Test Pit TP003. ADEC stated that they

needed to look into whether a spill report needed to be filed (most likely), and requested clarification of how the oil and oily waste were contained. Parsons indicated the waste oil and oil-stained soil were containerized in 55-gallon drums and staged at the RAPCON Yard. The Air Force indicated that the drums would be characterized for disposal by another Air Force contractor (Aerostar).

Based on observations from Test Pits TP002 and TP003, the Air Force proposed a soil boring to the south (downgradient) of Test Pit TP003 (See Attachment A for location). ADEC agreed with a soil boring at the proposed location.

Review of Step-Out Locations

A review of proposed step-out locations was conducted as follows (all tables in Attachment B):

- A surface soil sample will be taken within the drainage ditch at SS015 (discussed during TRIAD Meeting #1), and analyzed using the sample protocol listed in Table 1.
- The step-out soil boring for OWS1833 was reviewed (TRIAD Meeting #2), and approved using the sample protocol outlined in Table 2.
- A step-out location for groundwater was reviewed for the B400 site (TRIAD Meeting #1) using the sample protocol listed in Table 3. (*sampled 9/16/13*)
- A step-out soil boring and groundwater grab location for SS025 was reviewed (TRIAD Meeting #1) using the sample protocol listed in Table 4. (*sampling scheduled to start 9/17/13*)
- The soil boring step-out location for DSWD (described above) was reviewed and approved using the sample protocol listed in Table 5.
- A step-out groundwater grab sample location for SS019 (TRIAD Meeting #2) was reviewed and approved using the sampling protocol listed in Table 6.
- A suitable location for a boring at SS006 could not be located with a recent utility clearance. The Air Force reiterated that data from other nearby sites would be used to delineate the extent of the SS006 TCE plume to the southeast.

Sampling priorities for the drill rig were discussed, with the DSWD and SS025 sites generally taking precedence. Parsons indicated that the drill rig should be available for the proposed step-out locations.

Attachment A
DSWD Test Pit Presentation Materials

Attachment B
Step-Out Sample Protocol Tables

Table 1. SS015 Supplemental Remedial Investigation Step Out Sampling Plan - Amended 16 September 2013

Proposed Sampling Locations and Rationale

Sampling Location	Field Sample ID	Easting (meters UTM84) (estimated)	Northing (meters UTM84) (estimated)	Media	Sample Type	Sample Depth (ft bgs)	GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	VOCs SW8260B High Level	PAHs SW8270 CSIM	PCBs SW8082A	Rationale	
SS015_GP022	SS015GP022-SS_00-02	TBD	TBD	SS	N	0-2	1	1	1	1	1	1	1	Determine presence or absence of contamination in surface soil within the drainage swale south of SS015.	
	SS015GP922-SS_00-02			SS	FD	0-2	1	1	1	1	1	1	1		
	SS015GP022-SS_00-02MS			SS	MS	0-2	1	1	1	1	1	1	1		1
	SS015GP022-SS_00-02MSD			SS	MSD	0-2	1	1	1	1	1	1	1		1
NA	SS015EB01_DATE	NA	NA	ASTM Type II	EB	NA	1	1	1	1	1	1	Equipment Blank for Soil Sampling Equipment		
NA	SS015TB01_DATE	NA	NA	ASTM Type II	TB	NA	1			1			Trip Blank for GRO and VOCs		

Notes:

TOTALS		GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	VOCs SW8260B High Level	PAHs SW8270 CSIM	PCBs SW8082A
B400	Soil	1	1	1	1	1	1	1
B400	FD (Soil)	1	1	1	1	1	1	1
B400	MS (Soil)	1	1	1	1	1	1	1
B400	MSD (Soil)	1	1	1	1	1	1	1
B400	EB	1	1	1	1	0	1	1
B400	TB	1	0	0	1	0	0	0

Acronyms:
 amsl = above mean sea level
 ASTM = American Society of Testing and Materials
 DRO = diesel range organics
 EB = equipment blank
 FD = field duplicate sample
 ft bgs = feet below ground surface
 GRO = gasoline range organics
 GW = groundwater
 MS = matrix spike sample
 MSD = matrix spike duplicate sample
 NA = not applicable
 N = normal sample
 PAHs = polynuclear aromatic hydrocarbons
 PCBs = polychlorinated biphenyls
 PSZ = permanently saturated zone
 RRO = residual range organics
 SO = soil (subsurface)
 SVOCs = semi-volatile organic compounds
 TB = trip blank
 VOCs = volatile organic compounds
 VSZ = variably saturated zone
 WT = water table

Table 2. OWS1833 Supplemental Remedial Investigation Step Out Sampling Plan - Amended 16 September 2013

Proposed Sampling Locations and Rationale

Sampling Location	Field Sample ID	Easting (meters UTM84) (estimated)	Northing (meters UTM84) (estimated)	Media	Sample Type	Sample Depth (ft bgs)	GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	VOCs SW8260B High Level	Rationale	
OWS1833_GP011	OWS1833GP011-SO_00-02	TBD	TBD	SS	N	0-2	1	1	1	1	1	Delineate lateral extent of TCE in soil to the southwest of the former OWS1833	
	OWS1833GP011-SO_05-07			SO	N	5-7	1	1	1	1	1		
	OWS1833GP911-SO_05-07			SO	FD	5-7	1	1	1	1	1		1
	OWS1833GP011-SO_08-10			SO	N	~8 (Top VSZ)	1	1	1	1	1	1	The VSZ at the OWS1833 Site is anticipated to be from 8 to 30 feet bgs based on a ground surface elevation fo 145 feet amsl.
	OWS1833GP011-SO_18-20			SO	N	~19 (Mid VSZ)	1	1	1	1	1	1	
NA	OWS1833TB03_DATE	NA	NA	ASTM Type II	TB	NA	1			1		Trip Blank for VOCs and GRO	

Notes:

1. If there is no evidence of contamination within a specified depth interval targeted for soil sampling, the sample will be collected at the bottom of the interval.
2. If evidence of soil contamination is observed at depths other than those specified in the table, additional soil and co-located GW samples (if interval is saturated) will be collected at those depths. Evidence of soil contamination may include elevated photoionization detector (PID) readings over 20 parts per million (ppm), soil staining or discoloration, or unusual odor. Groundwater samples will be analyzed for GRO, DRO, RRO, and VOCs.
3. Additional quality assurance/quality control samples may be required if additional samples are collected, in accordance with Worksheet #20.

TOTALS

OWS1833	SS	1	1	1	1	1
OWS1833	Soil	3	3	3	3	3
OWS1833	FD (Soil)	1	1	1	1	1
OWS1833	TB	1	0	0	1	0

Acronyms

- amsl = above mean sea level
- ASTM = American Society of Testing and Materials
- DRO = diesel range organics
- EB = equipment blank
- FD = field duplicate sample
- ft bgs = feet below ground surface
- GRO = gasoline range organics
- GW = groundwater
- MS = matrix spike sample
- MSD = matrix spike duplicate sample
- NA = not applicable
- N = normal sample
- RRO = residual range organics
- SO = soil (subsurface)
- SS = surface soil
- TB = trip blank
- VOCs = volatile organic compounds
- VSZ = variably saturated zone

Table 3. B400 Supplemental Remedial Investigation Step Out Sampling Plan - Amended 16 September 2013

Proposed Sampling Locations and Rationale

Sampling Location	Field Sample ID	Easting (meters UTM84) (estimated)	Northing (meters UTM84) (estimated)	Media	Sample Type	Sample Depth (ft bgs)	GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	SVOCs SW8270C	PCBs SW8082A	Metals SW6010B	Rationale
B400_GP013	B400GP013-GW-13-17	TBD	TBD	GW	N	~15 (Top WT)	1	1	1	1	1	1	1	Evaluate potential for impacts to groundwater at the top of the WT. The sample interval will be adjusted for the depth of the WT at the time of sampling.
	GW			FD	~15 (Top WT)	1	1	1	1	1	1	1		
	B400GP013-GW-34-38			GW	N	~36 (PSZ)	1	1	1	1	1	1	1	1
NA	B400TB03_DATE	NA	NA	ASTM Type II	TB	NA	1			1				Trip Blank for GRO and VOCs

Notes:

1. Additional quality assurance/quality control samples may be required if additional samples are collected, in accordance with Worksheet #20.
2. Metals will include arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

TOTALS

B400	GW	2	2	2	2	2	2	2	2
B400	FD (GW)	1	1	1	1	1	1	1	1
B400	MS (GW)	0	0	0	0	0	0	0	0
B400	MSD (GW)	0	0	0	0	0	0	0	0
B400	TB	1	0	0	1	0	0	0	0

Acronyms:

- amsl = above mean sea level
- ASTM = American Society of Testing and Materials
- DRO = diesel range organics
- EB = equipment blank
- FD = field duplicate sample
- ft bgs = feet below ground surface
- GRO = gasoline range organics
- GW = groundwater
- MS = matrix spike sample
- MSD = matrix spike duplicate sample
- NA = not applicable
- N = normal sample
- PAHs = polynuclear aromatic hydrocarbons
- PCBs = polychlorinated biphenyls
- PSZ = permanently saturated zone
- RRO = residual range organics
- SO = soil (subsurface)
- SVOCs = semi-volatile organic compounds
- TB = trip blank
- VOCs = volatile organic compounds
- VSZ = variably saturated zone
- WT = water table

Table 4. SS025 Supplemental Remedial Investigation Step Out Sampling Plan - Amended 16 September 2013

Proposed Sampling Locations and Rationale

Sampling Location	Field Sample ID	Easting (meters UTM84) (estimated)	Northing (meters UTM84) (estimated)	Media	Sample Type	Sample Depth (ft bgs)	GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	VOCs SW8260B High Level	SVOCs SW8270C	PAHs SW8270 CSIM	Pesticides/PCBs SW 8081A/SW8082	Metals SW6010B	Rationale		
SS025_GP001	SS025GP001-SS_00-02	597067	7180947	SS	N	0-2	1	1	1	1	1					Determine presence or absence of chlorinated compounds in soil and groundwater at the southern (downgradient) extent of SS025. The VSZ is anticipated to be from 23 to 44 feet bgs at this location based on a ground surface elevation of 160 feet amsl.		
	SS025GP001-SO_5-7			SO	N	5-7	1	1	1	1	1							
	SS025GP001-SO_5-7MS			SO	MS	5-7	1	1	1	1	1							
	SS025GP001-SO_5-7MSD			SO	MSD	5-7	1	1	1	1	1							
	SS025GP001-SO_10-12			SO	N	10-12	1	1	1	1	1							Determine presence or absence of contamination in unsaturated zone at middle of VSZ
	SS025GP901-SO_10-12			SO	FD	10-12	1	1	1	1	1							
	SS025GP001-SO_18-20			SO	N	18-20	1	1	1	1	1	1	1	1	1	1	1	
	SS025GP001-SO_23-25			SO	N	~24 (top WT)	1	1	1	1	1	1	1	1	1	1	1	
	SS025GP001-SO_33-35			SO	N	~34 (Mid VSZ)	1	1	1	1	1	1	1	1	1	1	1	Determine presence or absence of contamination at middle of VSZ
	SS025GP001-SO_33-35			SO	N	~44 (Base VSZ)	1	1	1	1	1	1	1	1	1	1	1	Determine presence or absence of contamination at base of VSZ
	SS025GP001-SO_33-35			SO	N	~54 (PSZ)	1	1	1	1	1	1	1	1	1	1	1	Determine presence or absence of contamination in PSZ
	SS025GP001-GW_32-36			GW	N	~34 (Top WT)	1	1	1	1	1	1	1	1	1	1	1	Evaluate potential for impacts to groundwater at the top of the WT. The sample interval will be adjusted for the depth of the WT at the time of sampling.
	SS025GP001-GW_32-36			GW	MS	~34 (Top WT)	1	1	1	1	1	1	1	1	1	1	1	
	SS025GP001-GW_32-36			GW	MSD	~34 (Top WT)	1	1	1	1	1	1	1	1	1	1	1	
SS025GP001-GW_52-56	GW	N	~54 (PSZ)	1	1	1	1	1	1	1	1	1	1	1	Evaluate potential for impacts to groundwater in the PSZ.			
SS025GP901-GW_52-56	GW	FD	~54 (PSZ)	1	1	1	1	1	1	1	1	1	1	1	Evaluate potential for impacts to groundwater in the PSZ.			
NA	SS025EB01_DATE	NA	NA	ASTM Type II	EB	NA	1	1	1	1	1	1	1	1	1	Equipment Blank for Geoprobe Soil Sampling Equipment		
NA	SS025TB01_DATE	NA	NA	ASTM Type II	TB	NA	1			1						Trip Blank for GRO and VOCs		

Notes:

1. If there is no evidence of contamination within a specified depth interval targeted for soil sampling, the sample will be collected at the bottom of the interval.
2. If visible evidence of soil contamination is observed (in soil borings with grab GW samples are to be collected) at depths within the VSZ other than those specified in the table, additional soil and co-located GW samples will be collected at those depths.
3. PAH analysis should be performed on a minimum of 10% of soil samples, for soil intervals with the highest PID readings or other evidence of contamination. If no evidence of contamination is present, the PAH samples will be collected from a depth of 5-7 feet bgs.
4. Additional quality assurance/quality control samples may be required if additional samples are collected, in accordance with Worksheet #20.
5. Metals will include arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

TOTALS

SS025	Soil	8	8	8	8	8	5	2	5	5
SS025	FD (Soil)	1	1	1	1	1	0	0	0	0
SS025	MS (Soil)	1	1	1	1	1	0	0	0	0
SS025	MSD (Soil)	1	1	1	1	1	0	0	0	0
SS025	GW	2	2	2	2	0	2	1	2	2
SS025	FD (GW)	1	1	1	1	0	1	0	1	1
SS025	MS (GW)	1	1	1	1	0	1	1	1	1
SS025	MSD (GW)	1	1	1	1	0	1	1	1	1
SS025	EB	1	1	1	1	0	1	0	1	1
SS025	TB	1	0	0	1	0	0	0	0	0

Acronyms:

- amsl = above mean sea level
- ASTM = American Society of Testing and Materials
- DRO = diesel range organics
- EB = equipment blank
- FD = field duplicate sample
- ft bgs = feet below ground surface
- GRO = gasoline range organics
- GW = groundwater
- MS = matrix spike sample
- MSD = matrix spike duplicate sample
- NA = not applicable
- N = normal sample
- PAHs = polynuclear aromatic hydrocarbons
- PCBs = polychlorinated biphenyls
- PSZ = permanently saturated zone
- RRO = residual range organics
- SO = soil (subsurface)
- SVOCs = semi-volatile organic compounds
- TB = trip blank
- VOCs = volatile organic compounds
- VSZ = variably saturated zone
- WT = water table

Table 5. DSWD Supplemental Remedial Investigation Step Out Sampling Plan - Amended 16 September 2013

Proposed Sampling Locations and Rationale

Sampling Location	Field Sample ID	Easting (meters UTM84) (estimated)	Northing (meters UTM84) (estimated)	Media	Sample Type	Sample Depth (ft bgs)	GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	VOCs SW8260B High Level	SVOCs SW8270C	PAHs SW8270 CSIM	Pesticides/PCBs SW 8081A/SW8082	Metals SW6010B	Rationale		
DSWD_GP001	DSWDGP001-SS_00-02	TBD	TBD	SS	N	0-2	1	1	1	1	1	1		1	1	Determine presence or absence of contamination in soil and groundwater at the southern (downgradient) extent of DSWD. The VSZ is anticipated to be from 8 to 29 feet bgs at this location based on a ground surface elevation of 145 feet amsl.		
	DSWDGP001-SO_05-07			SO	N	5-7	1	1	1	1	1	1	1		1		1	
	DSWDGP901-SO_05-07			SO	FD	5-7	1	1	1	1	1	1	1	1	1		1	
	DSWDGP001-SO_08-10			SO	N	8-10 (top VSZ)	1	1	1	1	1	1	1	1	1		1	Determine presence or absence of contamination at top of VSZ
	DSWDGP001-SO_08-10MS			SO	MS	8-10 (top VSZ)	1	1	1	1	1	1	1	1	1		1	
	DSWDGP001-SO_08-10MSD			SO	MSD	8-10 (top VSZ)	1	1	1	1	1	1	1	1	1		1	
	DSWDGP001-SO_18-20			SO	N	~19 (Mid VSZ)	1	1	1	1	1	1	1	1	1		1	Determine presence or absence of contamination at middle of VSZ
	DSWDGP001-SO_28-30			SO	N	~29 (Base VSZ)	1	1	1	1	1	1	1	1	1		1	Determine presence or absence of contamination at base of VSZ
	DSWDGP001-SO_38-40			SO	N	~39 (PSZ)	1	1	1	1	1	1	1	1	1		1	Determine presence or absence of contamination in PSZ
NA	DSWDTB02_DATE	NA	NA	ASTM Type II	TB	NA	1			1						Trip Blank for GRO and VOCs		

Notes:

1. If there is no evidence of contamination within a specified depth interval targeted for soil sampling, the sample will be collected at the bottom of the interval.
2. PAH analysis should be performed on a minimum of 10% of soil samples, for soil intervals with the highest PID readings or other evidence of contamination, If no evidence of contamination is present, the PAH samples will be collected from a depth of 5-7 feet bgs.
3. Metals will include arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

TOTALS

SS025	Soil	6	6	6	6	6	6	6	1	6	6
SS025	FD (Soil)	1	1	1	1	1	1	1	1	1	1
SS025	MS (Soil)	1	1	1	1	1	1	1	1	1	1
SS025	MSD (Soil)	1	1	1	1	1	1	1	1	1	1
SS025	TB	1	0	0	1	0	0	0	0	0	0

Acronyms:

- amsl = above mean sea level
- ASTM = American Society of Testing and Materials
- DRO = diesel range organics
- EB = equipment blank
- FD = field duplicate sample
- ft bgs = feet below ground surface
- GRO = gasoline range organics
- GW = groundwater
- MS = matrix spike sample
- MSD = matrix spike duplicate sample
- NA = not applicable
- N = normal sample
- PAHs = polynuclear aromatic hydrocarbons
- PCBs = polychlorinated biphenyls
- PSZ = permanently saturated zone
- RRO = residual range organics
- SO = soil (subsurface)
- SVOCs = semi-volatile organic compounds
- TB = trip blank
- VOCs = volatile organic compounds
- VSZ = variably saturated zone
- WT = water table

Table 6. SS019 Supplemental Remedial Investigation Step Out Sampling Plan - Amended 16 September 2013
Proposed Sampling Locations and Rationale

Sampling Location	Field Sample ID	Easting (meters UTM84) (estimated)	Northing (meters UTM84) (estimated)	Media	Sample Type	Sample Depth (ft bgs)	GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level	Rationale
SS019_GP013	SS019GP013-GW_19-23	TBD	TBD	GW	N	~21 (top WT)	1	1	1	1	Determine extent of TCE in groundwater north of the SS006/SS019 TCE plume.
	SS019GP013-GW_19-23MS			GW	MS	~21 (top WT)	1	1	1	1	
	SS019GP013-GW_19-23MSD			GW	MSD	~21 (top WT)	1	1	1	1	
	SS019GP013-GW_41-45			GW	N	~43 (PSZ)	1	1	1	1	
	SS019GP913-GW_41-45			GW	FD	~43 (PSZ)	1	1	1	1	
	SS019GP013-GW_71-75			GW	N	~73 (PSZ)	1	1	1	1	
NA	SS019TB03_DATE			Type II ASTM	TB	NA	1			1	Trip Blank for GRO and VOCs

Notes:

TOTALS		GRO AK101	DRO AK102	RRO AK103	VOCs SW8260B Low Level
SS019	GW	3	3	3	3
SS019	FD (GW)	1	1	1	1
SS019	MS (GW)	1	1	1	1
SS019	MSD (GW)	1	1	1	1
SS019	TB	1	0	0	1

Acronyms:

amsl = above mean sea level
 ASTM = American Society of Testing and Materials
 DRO = diesel range organics
 EB = equipment blank
 FD = field duplicate sample
 ft bgs = feet below ground surface
 GRO = gasoline range organics
 GW = groundwater
 MS = matrix spike sample
 MSD = matrix spike duplicate sample
 NA = not applicable
 N = normal sample
 PAHs = polynuclear aromatic hydrocarbons
 PSZ = permanently saturated zone
 RRO = residual range organics
 SO = soil (subsurface)
 TB = trip blank
 VOCs = volatile organic compounds
 VSZ = variably saturated zone
 WT = water table