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 Blicker – Parsons

Agenda:

- TRIAD Discussion
    - DSWD Test Pits
    - 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
    - Sampling Priorities for Drill Rig

Introduction

The Technical Project Team (TPT) meeting began at10:00 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 A
DSWD Test Pit Presentation Materials

DSWD TP001 – Slit Trench

TP001 was located within the northern portion of the DSWD Slit Trench. The test pit excavation was approximately 15 feet long by 4 feet wide by 8 feet deep.

DSWD TP001 Slit Trench

View of final TP001 test pit excavation. Brown silt and fine sand was observed to a depth of approximately 3 feet. A 2-inch layer of brick material and wood debris was observed at 3 feet, with brown silt and sand to base of the trench. No metal debris was observed.

DSWD TP001 Slit Trench

View of TP001 side wall showing discolored soil from debris layer at 3 feet. Three soil samples were collected from the base of the test pit, and two sidewall samples were collected at a depth of approximately 3 feet (debris layer).

DSWD TP002

Test Pit TP002 was located within the geophysical anomaly on the west side of the DSWD site. Debris from the excavation included abundant metal cable, pipes, hoses, and what appeared to be parts of a demolished truck frame.

DSWD TP002

An old engine block attached to a piece of chassis frame was encountered in shallow soil at TP002

DSWD TP002

Upon excavation, the engine block in TP002 was attached to a transmission, and was partially covered with what appeared to be transmission fluid or engine oil.

DSWD TP002

Three crushed empty drums were also pulled from TP002. Groundwater was encountered at a depth 8 feet (bottom of excavation). Three soil samples were collected from the base of the excavation and two soil samples were collected from the side walls of the excavation at a depth of approximately 6 feet, corresponding to soil with elevated PID readings.

DSWD TP002

A nickel-cadmium (NiCad) alkaline battery label was exposed in the TP002 excavation along with wooden debris and stained soil.

DSWD TP003

TP003 was also located within the geophysical anomaly on the west side of the DSWD site. This photo shows the excavation after the initial scoop with the excavator bucket. A drum containing oil was removed from the test pit, with oil stained soil present in the excavation. Oil stained soil was removed to the extent practical and containerized in 55-gallon drums.

DSWD TP003

The drum was filled with what appeared to be waste oil was immediately placed on a tarp to contain oil and oil-stained soil. Oil can be seen leaking from the middle of the drum.

DSWD TP003

Approximately 35 gallons of oil leaked from the drum and was contained and placed in a 55-gallon drum for characterization and disposal. Excavated soil was also drummed for characterization and disposal. Two soil samples were collected from the oily soil on the tarp.

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 drainiage 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	
	SS015GP022-SS_00-02MSD			SS	MSD	0-2	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									
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	
	OWS1833GP011-SO_08-10			SO	N	~8 (Top VSZ)	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	
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 unusal 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

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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 ime of sampling.
	B400GP913-GW-13-17			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	Evaluate potential for impacts to groundwater in the PSZ.
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
B400	FD (GW)	1	1	1	1	1	1	1
B400	MS (GW)	0	0	0	0	0	0	0
B400	MSD (GW)	0	0	0	0	0	0	0
B400	TB	1	0	0	1	0	0	0

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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 zoneat 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	
	SS025GP001-SO_23-25			SO	N	~24 (top WT)	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	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	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	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	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	
	SS025GP001-GW_32-36			GW	MSD	~34 (Top WT)	1	1	1	1		1	1	1	1	
	SS025GP001-GW_52-56			GW	N	~54 (PSZ)	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	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	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:
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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	
	DSWDGP901-SO_05-07			SO	FD	5-7	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	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	
	DSWDGP001-SO_08-10MSD			SO	MSD	8-10 (top VSZ)	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	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	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	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	1	6	6
SS025	FD (Soil)	1	1	1	1	1	1	1	1	1
SS025	MS (Soil)	1	1	1	1	1	1	1	1	1
SS025	MSD (Soil)	1	1	1	1	1	1	1	1	1
SS025	TB	1	0	0	1	0	0	0	0	0

Acronyms:

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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					
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

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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