

**Final
Meeting Minutes from TRIAD Project Team Meeting #2 with the Alaska
Department of Environmental Conservation
12 September 2013**

A TRIAD meeting for the Former Galena Forward Operating Location (FOL), Alaska was held on 12 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)
AL Weilbacher – Air Force Civil Engineer Center (AFCEC)
Donna Kozak – Booz Allen Hamilton (BAH)
Angela Sederquist – BAH
Bruce Henry – Parsons Government Services, Inc. (Parsons)
Brian Blicher – Parsons
Luke Huang - Parsons

Agenda:

- TRIAD Discussion
 - o SS019/SS006 Groundwater Results
 - o OAP Passive Soil Vapor and Soil Results
 - o OWS1833 Soil Results

Introduction

The Technical Project Team (TPT) meeting began at 12:00 pm Alaska time. Objectives of the meeting included:

- 1) Review SS019/SS006 grab groundwater sampling results and gain ADEC approval for a step-out groundwater grab sampling location for SS019.
- 2) Review OAP passive soil vapor monitoring results for the OAP site.
- 3) Review soil data for the OWS1833 Site and gain ADEC approval for a soil step-out boring.

TRIAD Reviews

Groundwater Grab Sample Results for SS019/SS006

Groundwater analytical results for the SS019 and SS006 sites site were presented (see Attachment A). For the SS019 Site, TCE was detected in all three sampling locations (SS019_GP010, SS019_GP011, and SS019_GP012) at concentrations above 40 micrograms per liter ($\mu\text{g/L}$). TCE was delineated to concentrations less than 1.0 $\mu\text{g/L}$ at depth in each boring, less than the ADEC Table C cleanup level (CUL). The extent of TCE in groundwater was not

delineated to the north. Therefore, the Air Force proposed a groundwater grab sample location to the north of sample location SS019_GP010. It was agreed to install an additional groundwater grab sample location (SS019_GP013) to the north of the SS019 plume near where a former UST associated with Building 1769 was located. This location was selected, in part, because a geophysical survey for the UST investigation indicated it was clear of utilities.

TCE was not detected in groundwater grab samples collected from SS006 sampling locations SS006_GP22 and SS006_GP023. TCE was detected at a concentration of 36 µg/L at a depth of 18.5-22.5 feet at location SS006_GP024. Samples collected from this boring at depths of 42-44 feet and 71-74 feet were below 1.0 µg/L. Consideration was given to a step-out sample location to the southeast of SS006_GP024; however, there is no utility clearance in the area and the location of groundwater sample locations associated with other sites (e.g., Building 1812) were proposed to delineate the SS006 TCE plume to the south and east. Therefore, further consideration of a SS006 step-out location was given a low priority pending further review of available utility clearances for that location. Subsequent review determined this location was not feasible.

Soil Vapor Results for the OAP

Preliminary soil vapor results for the OAP in the vicinity of Site SS016 and the North Perimeter Road area were presented (Attachment B). Relatively low level soil vapor detections were present, based on the correlation between soil vapor concentrations and results of soil samples co-located with soil vapor locations from prior surveys. It was discussed that the higher concentrations of fuel hydrocarbons in soil vapor may be associated with Site SS016. Soil boring OAP_GP045 to the north of SS016 did not have any detection of fuel hydrocarbons above Extent Screening Levels (SLs). It was agreed that the soil vapor monitoring data did not indicate a release of petroleum hydrocarbons along this section of the OAP, and that additional soil sampling within the area of the soil vapor survey was not needed.

Soil Analytical Results for OWS1833

Soil results for volatile organic compounds (VOCs) collected from four step-out soil borings at the OWS1833 Site were presented (Attachment C). TCE exceeded its soil Extent SL of 0.02 milligrams per kilogram (mg/kg) at OWS1833_GP008 and OWS1833_GP009 at depths of 5-7 and 8-10 feet for both locations. Therefore, it was agreed that an additional soil step-out boring should be installed to the south of locations OWS1833_GP008 and OWS1833_GP009. In addition, Parsons presented the geophysical survey map for the OWS1833 Site (Attachment C). The geophysical survey confirmed that the former partially buried drum, used as a former underground injection control (UIC) well, was not present and had been removed as previously thought.

Next TRIAD Meeting

A tentative date for a third TRIAD meeting was discussed (16 September at 10:00 am Alaska time). Items for the third TRIAD meeting were to review potential step out locations at the DSWD and SS025 sites.

Attachment A
Presentation Materials for SS019 and SS006 Sites

SS006 TCE Preliminary Data Only

ERPIMS ID	LOGDATE	SA	SBD	SED	RUN	TCE (ug/L)
SS019_GP010	21-Aug-13	N	19	23	1	45
SS019_GP010	21-Aug-13	N	19	23	2	43
SS019_GP010	23-Aug-13	N	41	45	1	4.4
SS019_GP010	23-Aug-13	N	41	45	2	4.8 J
SS019_GP010	23-Aug-13	N	71	75	1	0.34 J

ERPIMS ID	LOGDATE	SA	SBD	SED	RUN	TCE (ug/L)
SS019_GP011	21-Aug-13	N	19	23	1	82
SS019_GP011	21-Aug-13	N	19	23	2	80
SS019_GP011	20-Aug-13	N	41	45	1	26
SS019_GP011	20-Aug-13	N	41	45	2	21 J
SS019_GP011	20-Aug-13	N	71	75	1	0.9 J

ERPIMS ID	LOGDATE	SA	SBD	SED	RUN	TCE (ug/L)
SS019_GP012	26-Aug-13	N	19	23	1	39
SS019_GP012	26-Aug-13	N	19	23	1	40
SS019_GP012	26-Aug-13	N	41	45	1	75
SS019_GP012	26-Aug-13	N	41	45	2	76
SS019_GP012	26-Aug-13	N	71	75	1	0.87 J

Boring	Depth	TCE (ug/L)
GP022	21-25	<1.0
	41-45	<1.0
	71-75	<1.0

Boring	Depth	TCE (ug/L)
GP023	20-24	<1.0
	41-44	<1.0
	66-70	<1.0

Boring	Depth	TCE (ug/L)
GP024	18.5-22.5	36
	42-44	0.75J
	71-74	0.13J

Note:
1. The groundwater flow direction shown is the predominant direction that persists from late August through breakup of the Yukon River (approximately May 15). Groundwater flow directions during the remainder of the year are variable depending on the timing of fluctuations in Yukon River stage.

Legend

- SS006/SS019
- Approximate Location of Former Feature
- Airfield Surface or Road
- Proposed 2013 Sample Locations
 - Monitoring Well (cluster)
 - Grab Groundwater Location
 - Monitoring Well with Soil Samples
 - Gore Sorber Survey
 - Test Pit/Trench
 - Soil Boring with Grab Groundwater
 - Soil Vapor
 - Soil Boring
 - Surface Soil
 - Hand Auger Location

TCE GW Contours Fall 2011
Estimated Extent of TCE in Groundwater

- 5
- 50
- 500
- 5,000

Maximum TCE Concentration (ug/L) 2007 - 2012 Grab Samples

- <=5
- 5 to <=50
- 50 to <=500
- 500 to <=5,000
- 5,000 to <=50,000
- Non-Detects

Maximum TCE Concentration (ug/L) 2007 - 2012 Monitoring Well

- <=5
- 5 to <=50
- 50 to <=500
- 500 to <=5,000
- 5,000 to <=50,000
- Non-Detects

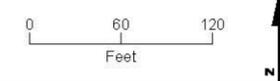
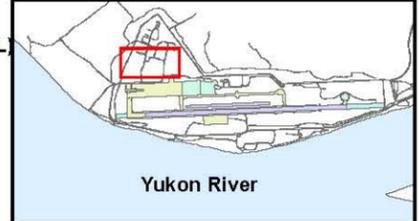


FIGURE 9
Step-Out Samples
Site Name: SS006/SS019
Analytes: TCE
Media: Groundwater
SLs: Groundwater Screening Levels
Data Range: Historical and 2010/2011/2012

Supplemental Remedial Investigation for Former Galena Forward Operating Location Galena Airport, Galena, Alaska



Attachment B
Presentation Materials for OAP Passive Soil Vapor Survey

Preliminary Soil Data Only

Depth (feet bgs)	Soil Extent SL (mg/kg)	Low Level Concentration (mg/kg)	High Level Concentration (mg/kg)
0-2	No exceedances	--	--
5-7	Bromomethane	0.16	0.18J
10-12	No exceedances	--	--
19-21	No exceedances	--	--

VP033
Total PH – 0.12 µg
BTEX – 0.06 µg

VP034
Total PH – ND
BTEX – ND

VP035
Total PH – 1.10 µg
BTEX – 0.28 µg

VP036
Total PH – ND
BTEX – ND

VP037
Total PH – 0.23 µg
BTEX – 0.09 µg

VP042
Total PH – 0.47 µg
BTEX – 0.24 µg

VP040
Total PH – 4.41 µg
BTEX – ND

VP041
Total PH – 6.00 µg
BTEX – 0.43 µg

Note:
1. The groundwater flow direction shown is the predominant direction that persists from late August through breakup of the Yukon River (approximately May 15). Groundwater flow directions during the remainder of the year are variable depending on the timing of fluctuations in Yukon River stage.

Legend

- Approximate Location of Former Feature
- Airfield Surface or Road
- OAP Old Abandoned Diesel Pipeline
- Main Wastewater Line
- Service Wastewater Line
- Abandoned Fuel Line (1952)
- Abandoned Fuel Line (1962)
- Abandoned 4-inch Underground Pipeline (2009 survey)
- OAP Pipeline
- Abandoned Fuel Line
- Service Fuel Line
- Main Fuel Line
- Water Line
- Heating/Cooling Line

Underground Utility Locates - 2010

- Communications
- Electrical
- Fuel/Gas
- Potable Water
- Sanitary Sewer

Proposed 2013 Sample Locations

- Monitoring Well (cluster)
- Grab Groundwater Location
- Monitoring Well with Soil Samples
- Gore Sorber Survey
- Test Pit/Trench
- Soil Boring with Grab Groundwater
- Soil Vapor
- Soil Boring
- Surface Soil
- Hand Auger Location

Sample Results Legend

- 2010/2011/2012 Sample Exceeds Screening Level (Greater than 100X analyte SL)
- 2010/2011/2012 Sample Exceeds Screening Level (Greater than 10X analyte SL)
- 2010/2011/2012 Sample Exceeds Screening Level (1 to 10X analyte SL)
- 2010/2011/2012 Sample Does Not Exceed Screening Level
- Previous Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Previous Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Previous Sample Exceeds Screening Level (1 to 10X analyte SL)
- Previous Sample Does Not Exceed Screening Level

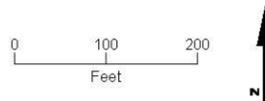
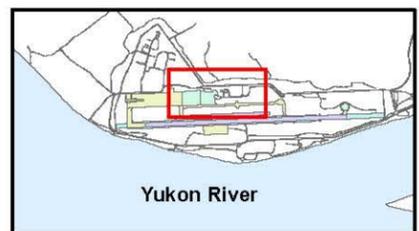
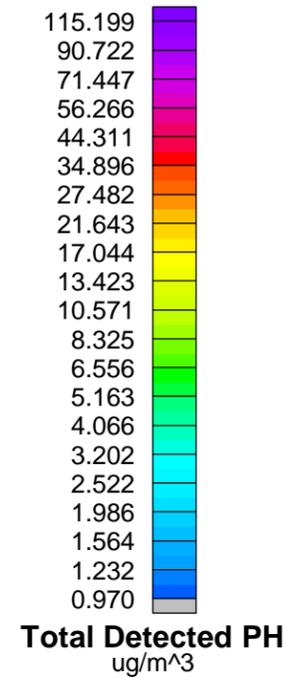
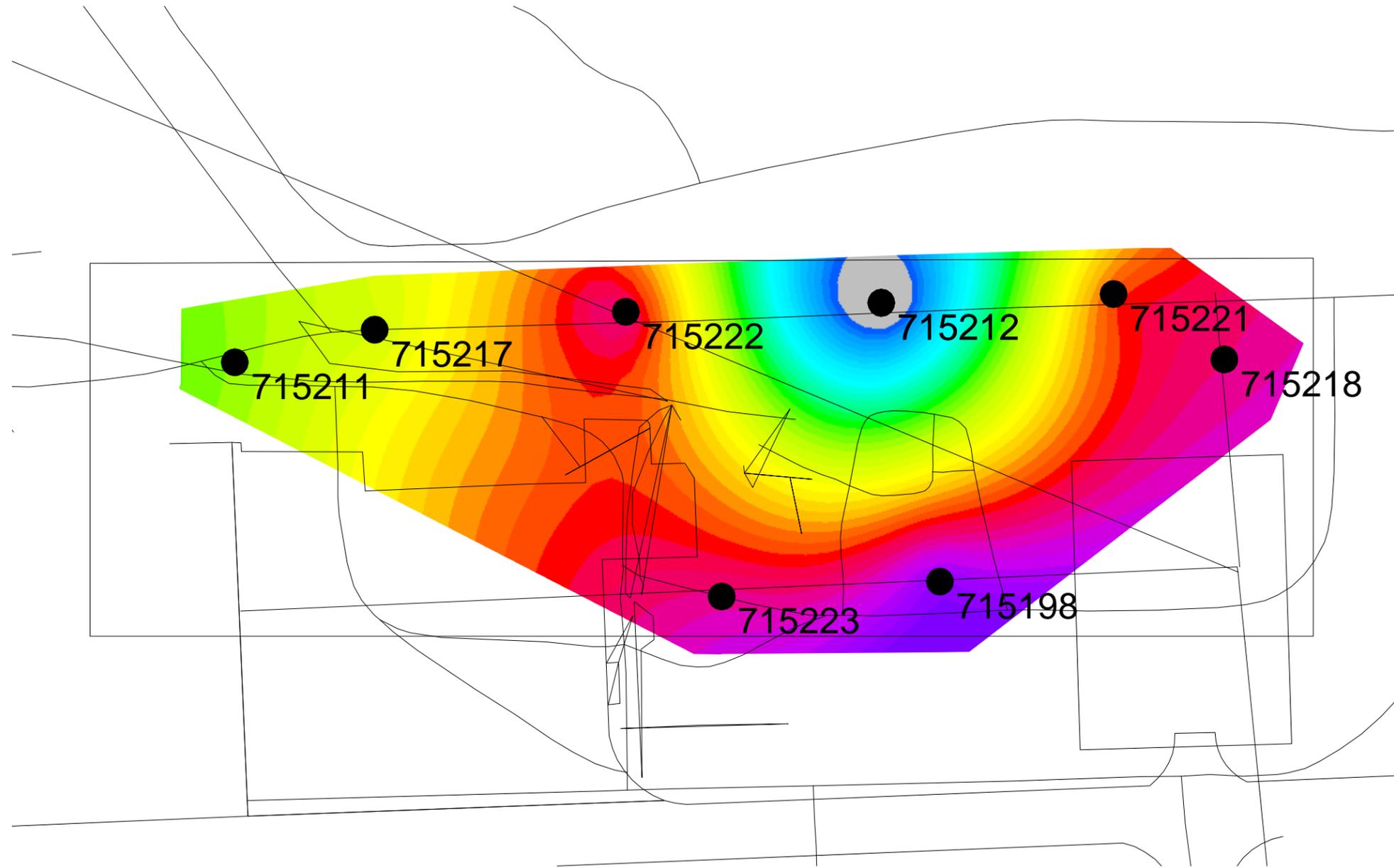


FIGURE 19
Step-Out Samples
Site Name: OAP Pipeline Across SS016 Area
Analytes: All Exceedances
Media: Soil
SLs: Soil Extent
Data Range: Historical and 2010/2011/2012

Supplemental Remedial Investigation for Former Galena Forward Operating Location Galena Airport, Galena, Alaska

AMPLIFIED GEOCHEMICAL IMAGING, LLC ANALYTICAL RESULTS
 100 CHESAPEAKE BLVD., ELKTON, MD
 PARSONS CORPORATION, DENVER, CO
 AGI STANDARD TARGET SVOCs/VOCs (8260M)
 ESTIMATED SOIL GAS CONCENTRATIONS
 GALENA FOL, AK
 PRODUCTION ORDER # 30000053-2

SAMPLE NAME	FIELD ID	BENZ ⁽²⁾ , ug/m ³	TOL, ug/m ³	OCT, ug/m ³	ETBENZ, ug/m ³	mpXYL, ug/m ³	oXYL, ug/m ³	135TMB, ug/m ³	124TMB, ug/m ³	UNDEC, ug/m ³	TRIDEC, ug/m ³	PENTADEC ⁽¹⁾ , ug/m ³	Total BTEX	Total
														Fuel Compounds
LOD =		27.2	2.72	2.80	1.23	1.13	1.57	1.69	1.27	0.97	0.97	0.97		
LOQ =		32.5	3.36	3.46	1.53	1.41	1.93	2.08	1.58	1.21	1.21	1.21		
715211	OAPVP033-GS 03-04	<28.8	4.55	<3.10	<1.38	<1.28	<1.75	<1.88	<1.43	<1.09	<1.09	<1.09	4.55	4.55
715217	OAPVP034-GS_03-04	<27.0	<2.70	<2.77	<1.22	<1.12	<1.55	<1.67	<1.26	<0.96	<0.96	<0.96	ND	ND
715222	OAPVP035-GS 03-04	<27.2	9.62	7.01	<1.23	2.56	1.61	<1.69	1.64	2.17	1.65	<0.98	13.79	26.26
715212	OAPVP036 GS-03-04	<17.9	<1.95	<2.02	<0.91	<0.84	<1.15	<1.23	<0.94	<0.72	<0.72	<0.72	ND	ND
715221	OAPVP037-GS_03-04	<27.2	5.78	3.65	<1.23	<1.13	<1.56	<1.68	<1.27	<0.97	<0.97	<0.97	ND	ND
715223	OAPVP040-GS 03-04	<27.2	<2.72	<2.80	<1.23	<1.13	<1.56	<1.69	<1.27	13.80	24.30	9.75	ND	47.85
715198	OAPVP041-GS 03-04	<27.2	<2.72	37.00	1.76	6.72	4.72	8.18	13.20	26.70	6.47	1.34	13.20	104.75
715218	OAPVP042-GS 03-04	33.90	6.41	<2.58	<1.12	1.87	<1.43	<1.54	<1.16	<0.89	<0.89	<0.89	42.18	42.18
715224	OAPTB01_081513 (Trip Blank)	<27.2	<2.72	<2.80	<1.23	<1.13	<1.57	<1.69	<1.27	<0.97	<0.97	<0.97		
method blank		<27.2	<2.72	<2.80	<1.23	<1.13	<1.57	<1.69	<1.27	<0.97	<0.97	<0.97		




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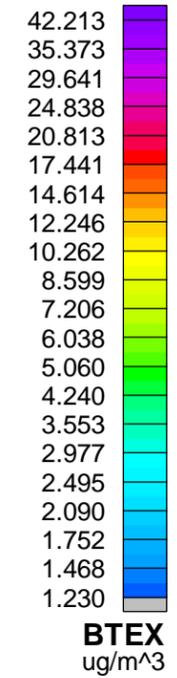
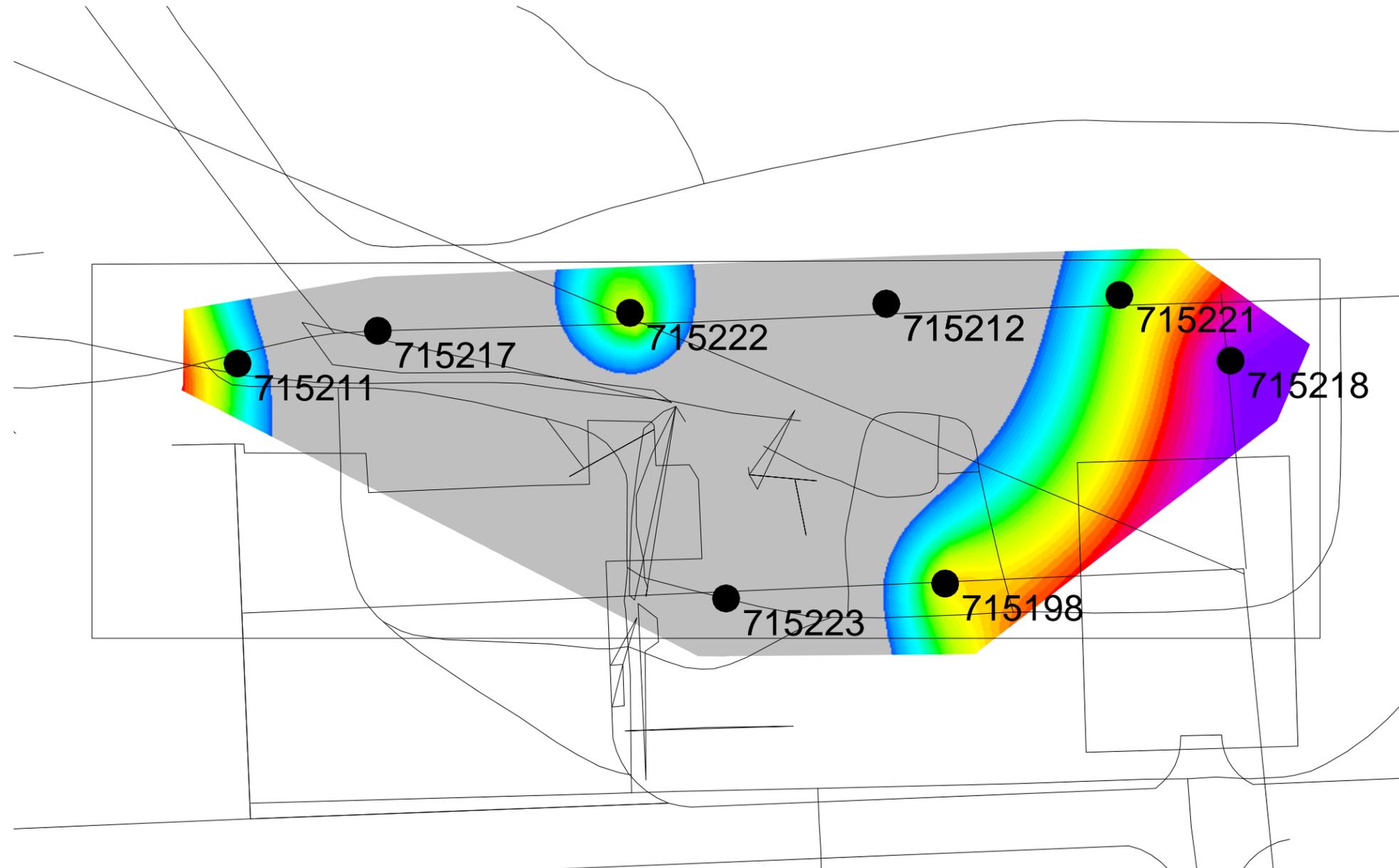


Parsons Corporation, Denver, CO
 Galena FOL - OAP Area
 Total Detected Petroleum Hydrocarbons



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DATE DRAWN: 06 Sep 2013	DRAWN BY: JW	ORIG. CAD: OAP_SS016...DWG	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 30000053	

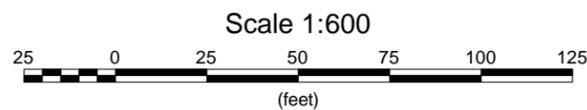


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**Parsons Corporation, Denver, CO
Galena FOL - OAP Area
BTEX**



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DATE DRAWN: 06 Sep 2013	DRAWN BY: JW	ORIG. CAD: OAP_SS016...DWG	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 30000053	

**Attachment C
Presentation Materials for OWS1833**

Abbreviate / Analyte / Matrix / Screening Level
 TCE / Trichloroethene (TCE) / SO / 0.02 (mg/kg)

TCE Preliminary Data Only

GP010	Depth (feet bgs)	TCE SL (mg/kg)	Low Level		High Level	
			LOQ (mg/kg)	TCE (mg/kg)	TCE (mg/kg)	TCE (mg/kg)
	0-2	0.02	0.0056	ND	ND	ND
	5-7	0.02	0.0064	ND	ND	ND
	8-10	0.02	0.0065	ND	ND	ND
	8-10 (Dup)	0.02	0.0062	ND	ND	ND
	18-20	0.02	0.0046	ND	ND	ND

OWS1833_GP005
 06/2011 : 0.31J (0.0318) TCE [140.27 - 138.27] [5 - 7]
 06/2011 : 0.0843J (0.0368) TCE [135.27 - 133.27] [10 - 12]

OWS1833_GP002
 08/2010 : 0.17J (0.037) TCE [145 - 143] [0 - 2]
 08/2010 : 0.62 (0.043) TCE [140 - 138] [5 - 7]

OWS1833_GP004
 06/2011 : 0.498 (0.0351) TCE [144.91 - 142.91] [0 - 2]
 06/2011 : 0.764 (0.0381) TCE [139.91 - 137.91] [5 - 7]
 06/2011 : 0.273J (0.041) TCE [132.91 - 130.91] [12 - 14]

OWS1833_GP003
 06/2011 : 0.035J (0.0339) TCE [144.98 - 142.98] [0 - 2]
 06/2011 : 0.324J (0.0379) TCE [139.98 - 137.98] [5 - 7]
 06/2011 : 0.358J (0.0374) TCE [130.98 - 128.98] [14 - 16]

OWS1833_GP006
 06/2011 : 0.0464J (0.0342) TCE [144.88 - 142.88] [0 - 2]
 06/2011 : 0.482 (0.0393) TCE [139.88 - 137.88] [5 - 7]
 06/2011 : 0.835 (0.0401) TCE [135.88 - 133.88] [9 - 11]

GP009	Depth (feet bgs)	TCE SL (mg/kg)	Low Level		High Level	
			LOQ (mg/kg)	TCE (mg/kg)	TCE (mg/kg)	TCE (mg/kg)
	0-2	0.02	0.0063	0.0069	ND	ND
	5-7	0.02	0.0060	0.013	0.067J	
	8-10	0.02	0.0060	0.014	0.065J	
	18-20	0.02	0.0047	ND	ND	

OWS1833_GP001
 08/2010 : 0.045J (0.025) TCE [144.96 - 142.96] [0 - 2]
 08/2010 : 1.1 (0.039) TCE [139.96 - 137.96] [5 - 7]
 08/2010 : 0.13J (0.042) TCE [131.96 - 129.96] [13 - 15]

GP007	Depth (feet bgs)	TCE SL (mg/kg)	Low Level		High Level	
			LOQ (mg/kg)	TCE (mg/kg)	TCE (mg/kg)	TCE (mg/kg)
	0-2	0.02	0.0055	ND	ND	ND
	5-7	0.02	0.0068	ND	ND	ND
	8-10	0.02	0.0060	ND	ND	ND
	18-20	0.02	0.0048	ND	ND	ND

GP008	Depth (feet bgs)	TCE SL (mg/kg)	Low Level		High Level	
			LOQ (mg/kg)	TCE (mg/kg)	TCE (mg/kg)	TCE (mg/kg)
	0-2	0.02	0.0068	0.0034J	0.038J	
	5-7	0.02	0.0062	0.052	0.30J	
	8-10	0.02	0.0062	0.13	0.32J	
	18-20	0.02	0.0043	ND	ND	

Location ID: 01-SS-01
 Sample Month/Year: 02/2009 : 0.028J (0.25) ACNP [144.1] [48.0]
 Solids Concentration (mg/kg):
 Data Qualifier:
 Sample Quantitation Limit (mg/kg):
 Analyte Abbreviate:
 Elevation (Feet NAVD88):
 Depth (Feet BGS):

Note:
 1. The groundwater flow direction shown is the predominant direction that persists from late August through breakup of the Yukon River (approximately May 15). Groundwater flow directions during the remainder of the year are variable depending on the timing of fluctuations in Yukon River stage.

- Legend**
- Approximate Location of Former Feature
 - Main Wastewater Line
 - Service Wastewater Line
 - Abandoned Fuel Line (1952)
 - Abandoned Fuel Line (1962)
 - OAP Pipeline
 - Abandoned Fuel Line
 - Service Fuel Line
 - Main Fuel Line
 - Water Line
 - Heating/Cooling Line
 - Airfield Surface or Road
 - Underground Utility Locates - 2010
 - Communications
 - Electrical
 - Fuel/Gas
 - Potable Water
 - Sanitary Sewer
 - Proposed 2013 Sample Locations
 - Monitoring Well (cluster)
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 - Monitoring Well with Soil Samples
 - Gore Sorber Survey
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 - Soil Boring with Grab Groundwater
 - Soil Vapor
 - Soil Boring
 - Surface Soil
 - Hand Auger Location
 - 2010/2011/2012 Sample Exceeds Screening Level (Greater than 100X analyte SL)
 - 2010/2011/2012 Sample Exceeds Screening Level (Greater than 10X analyte SL)
 - 2010/2011/2012 Sample Exceeds Screening Level (1 to 10X analyte SL)
 - 2010/2011/2012 Sample Does Not Exceed Screening Level
 - Previous Sample Exceeds Screening Level (Greater than 100X analyte SL)
 - Previous Sample Exceeds Screening Level (Greater than 10X analyte SL)
 - Previous Sample Exceeds Screening Level (1 to 10X analyte SL)
 - Previous Sample Does Not Exceed Screening Level

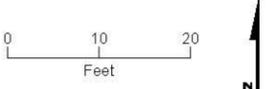
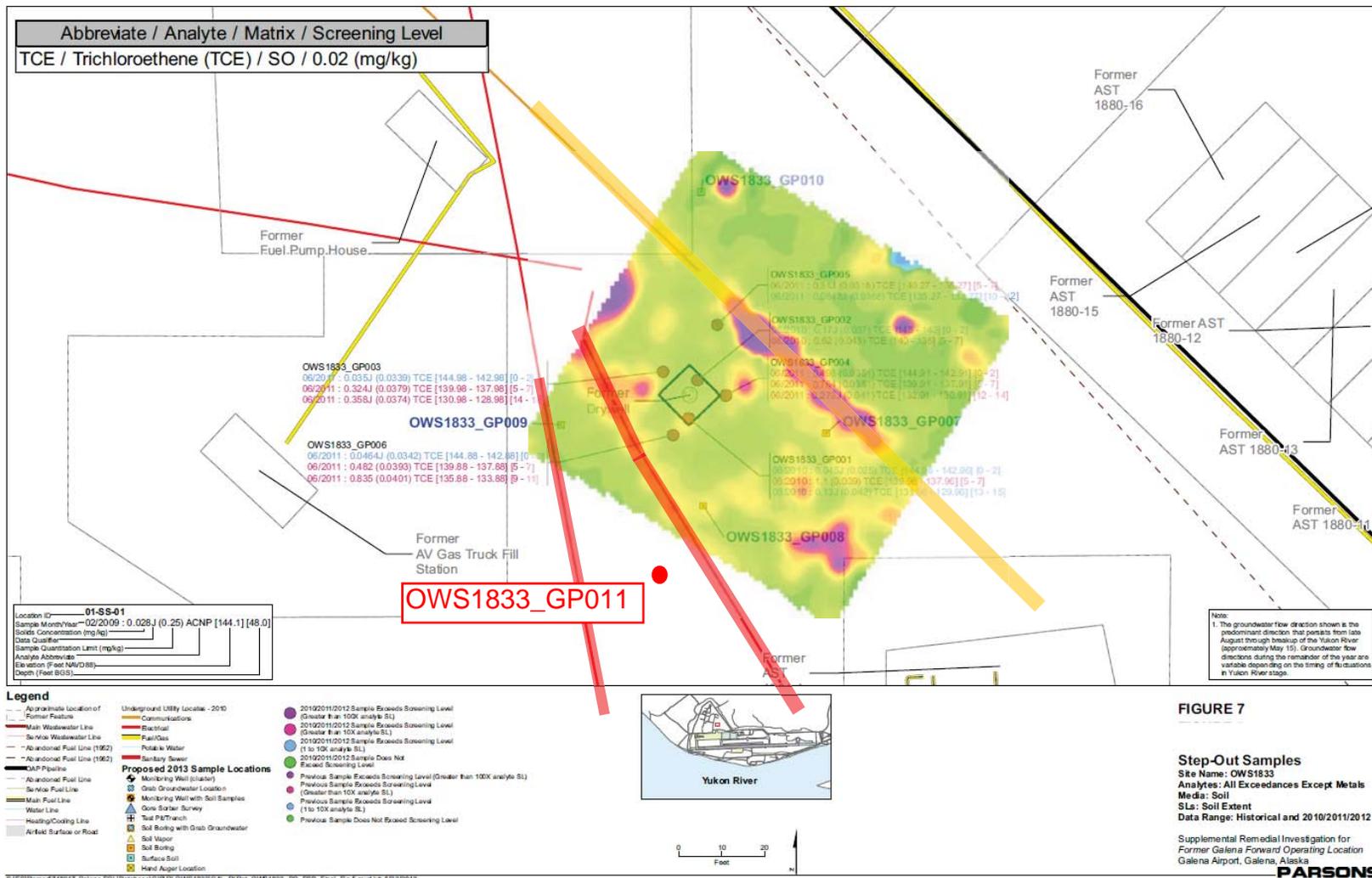


FIGURE 5
Step-Out Samples
 Site Name: OWS1833
 Analytes: All Exceedances Except Metals
 Media: Soil
 SLs: Soil Extent
 Data Range: Historical and 2010/2011/2012

Supplemental Remedial Investigation for
 Former Galena Forward Operating Location
 Galena Airport, Galena, Alaska





Site: OWS1833

Utilities Marked: buried electric, abandoned communication

Comments: TDEMI map prepared to verify UST removal (*maps below*)