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June 9, 2020

Attention: Mr. Shane Nelson, RPM/OSC
U.S. Environmental Protection Agency – Region 2
290 Broadway, Floor 19
New York, NY 10007-1866

Subject: Quanta Resources Corporation Superfund Site, Operable Unit 1 (OU1), Edgewater, New Jersey, Progress Report: May 2020

Dear Mr. Nelson

This letter is the progress report required pursuant to the U.S. Environmental Protection Agency (EPA) Consent Decree for the Remedial Design (RD) and Remedial Action (RA) at the Quanta Resources Corporation Superfund Site, OU1, which was finalized with the courts on March 11, 2013.

Health and Safety

Through May 31, 2020, approximately 252,420 labor hours worked.

During May, the efforts detailed in the March and April Progress Reports specific to preventing the spread of the COVID-19 virus during cleanup activities continued. These plans require best practices for site safety, including face covering, gloves, and other appropriate personal protective equipment (PPE) for employees and visitors, random temperature checks of employees, tracking employees who might be ill, and social distancing. Additional efforts have been taken to revise health and safety plans as well as best management practices on site as information becomes available in response to the COVID-19 pandemic. Onsite operations are continually evaluated to make sure onsite staff are safe in light of the current events.

Work Completed

The temporary suspension of soil solidification activities (with the exception of the Pier Building driveway (Area 6C)) due to the COVID 19 pandemic was lifted on May 8. During the week of May 11, activities inside the two tents on the Quanta site resumed.

The activities completed during May to comply with the Consent Decree are described in the following subsections. Figure 1 (attached) depicts the work activities completed as of the end of May.

OU1 General Civil Work

- Supported site contractor operations and continued general site maintenance activities.
- Began restoration of the northern slope in ISS Area 3A (northwest corner of the Site).

- Continued restoration of the sidewalk in ISS Area 6A (southeast of the Pier Building).
- Began grading ISS Area 6C (just north of Pier Building headhouse) to prepare for final restoration activities.
- Continued realignment of onsite utilities to accommodate future ISS activities.

OU1 ISS

- Managed and maintained the soil stockpile in Area 7A.
- Completed debris removal and ISS activities in Tent 3-4 located in ISS Area 3A (northwest corner of the Site). Seven (7) cells (2,174 CY of material) were treated. Loaded out overburden for offsite disposal, completed installation of temporary cap and final air clearance testing and prepared to relocate tent to ISS Areas 5B, 5C and 5D (southcentral portion of the Site).
- Completed debris removal and ISS activities in ISS Area 6C (just north of Pier Building headhouse) outside of a tent. Eight (8) cells (858 CY of material) were treated.

OU1 Bulkhead Installation

- Completed Segment B and C permanent deadman/tie-rod installation in ISS Areas 6B and 6C (just west of and just north of the Pier Building headhouse wall, respectively).
- Began installation of Segment C concrete cap in ISS Area 6C (just north of the Pier Building headhouse wall).
- Began installation of Segment E and F permanent deadman/tie-rod system in ISS Areas 7B and 8 (northeastern corner of the Site).

OU1 Vibration and Air Monitoring

- Continued with vibration and movement monitoring. Observed no vibrations outside the project limits during May.
- Continued perimeter air monitoring in accordance with the Perimeter Air Monitoring Plan and the applicable adjustments/addendums.

OU1 Offsite Waste Disposal

- Non-Hazardous
  - Fifty-four (54) 25-cy dump trucks of soil to the Fairless Landfill in Morrisville, PA.
  - One (1) 30-cy roll-off of turbidity curtain debris to Fairless Landfill in Morrisville, PA.
  - Eleven (11) 25-cy dump trucks of unimpacted asphalt to Bayshore Recycling Corporation in Keasbey, NJ.
  - Three (3) box trucks of spent carbon (total of sixty-five (65) 1,200-lb supersacks) to Evoqua Water Technologies in Darlington, PA.
- Hazardous
  - No hazardous waste was shipped from the site in May.

OU1 NAPL Recovery

- Pumped 23-gallons of NAPL from RW4-2.
- Sentinel wells measured on May 27.
- Due to the COVID-19, NAPL recovery operations were discontinued between May 1 and May 18.

Site Security, Maintenance, and Inspections

- Completed weekly boom and SWPP inspections on May 6, May 12, May 20, and May 28.
- Replaced the absorbent boom on the south side of the Pier Building on May 8, and on the north side of the Pier Building on May 22.

Two-Week Look-Ahead

- Continue pumping RW4-2.
- Gauge sentry wells.
- Continue load-out of the soil stockpile in Area 7A.
- Relocate Tent 3-4 in ISS Area 3A (northwest corner of the Site) to ISS Areas 5B, 5C and 5D (southcentral portion of the Site).
- Assemble and commission Tent 5-1 in ISS Areas 5B, 5C and 5D (southcentral portion of the Site).
- Complete restoration of the sidewalk in ISS Area 6A (southeast of the Pier Building)
- Complete installation of the concrete cap and final restoration activities in ISS Area 6C (just north of Pier Building headhouse).
- Complete installation of Segment E and F permanent deadman/tie-rod system in ISS Areas 7B and 8 (northeastern corner of the Site).

Data and Submittals

- None

Receipt of Approvals/Denials

- None

Issues and Corrective Actions ISS Compliance Data Summary

All samples required to demonstrate ISS compliance with the unconfined compressive strength and permeability criteria, and the 90 percent leaching reduction goal have been collected as required by the approved remedial action work plan and QAPP this month. As defined by Section 2.6 of the EPA approved UFP-QAPP, conformance testing is performed on samples after a 28-day cure process. As defined by the EPA approved remedial design, conformance testing includes UCS, permeability, and leachability using EPA Method 1315. UCS and permeability tests provide results within 5-days after the 28-day cure process. EPA Method 1315M (the Semi-Dynamic Leaching Modified for Organics)

provided as Attachment 2 of the UFP-QAPP, takes a total of 63-days to run (once the 28-day cure time has passed) followed by laboratory analysis, validation, and evaluation. Therefore, leaching results are available approximately 100-days after the 28-day cure time.

The attached ISS Results Dashboards (Attachment A) presents results for 28-day cure time conformance data results where available.

Air Monitoring

Provided perimeter and offsite air monitoring data when received (typically daily) to EPA. These results were uploaded upon receipt to www.quantaremediation.com

Other Deliverables and Submittals

- None

Corrective Actions

No corrective actions were required during this reporting period.

Stakeholder Communication and Community Involvement

- Met with Bergen County and EPA on Friday May 29th to begin to collaborate between parties related to the remediation and repair work planned for River Road.
- Reviewed and updated the Honeywell website as needed. Coordinated preparation of written updates and maps and submitted progress photos.
- Tracked community concerns and complaints. In May, no community concerns were submitted through the call center or by email.
- Provided weekly and as-needed progress updates for email distribution to pier tenants. Coordinated communicated with pier tenants regarding non-tent work that would block access to parking below the pier.
- Submitted weekly updates to EPA summarizing upcoming site activities.
- Uploaded daily air monitoring results to www.quantaremediation.com

Activities Planned for Next 6 Weeks

- Continue with NAPL recovery operations and submit the next quarterly data transmittal.
- Continue weekly boom inspections and SWPPP inspections and associated maintenance.
- Begin debris removal and ISS activities in Tent 5-1 in ISS Areas 5B, 5C and 5D (southcentral portion of the Site).
- Complete debris removal and ISS activities in Tent 8-1 in ISS Area 8 (northeastern corner of the Site). Load out overburden for offsite disposal, install temporary cap and perform final air clearance testing. Relocate Tent 8-1 to Tent 7-3 location in ISS Area 7A (just west of the bulkhead).

- Assemble and commission Tent 7-3 in ISS Area 7A (just west of the bulkhead) and potentially begin debris removal and ISS activities).

Schedule Update and Delays

Updated schedule provided to EPA on February 7, 2020 however the schedule is currently being updated in light of the recent impacts on progress related to the COVID-19 pandemic. A revised schedule will be submitted in future status reports.

Percent Complete

Work associated with the entire OU1 Remedial Action is approximately 71 percent complete.

Please feel free to contact me at 267-250-7387 or Steve Coladonato, Honeywell Remediation Manager, at 302-791-6738 if you have any questions or comments regarding the Quanta project.

Sincerely,

Stephen J. Zarlinski
Project Manager

Attachment – Figure 1 - ISS Status Map
In Situ Solidification/Stabilization Results Dashboard

Copies to:

Clay Monroe (EPA)
Steve Coladonato (Honeywell)
Erica Bergman (NJDEP)
Helen Fahy (Fahy Associates)
Neil Ravensbergen (USACE)
Frank Rossi (Boswell)
Michael Johnson (USACE)
Devin Sokolich (Hongkun USA)
Rich Puvogel (EPA)
John Mojka (Honeywell)
Greg Franz (Borough of Edgewater)
Tim Johnson (Anchor QEA)
Rich Gajdek (USACE)
Neil Kolb (USACE)

LEGEND

- Mixed ISS Cell pending Agency Inspection
- Mixed and inspected ISS Cell
- Phase 2 ISS Cell Remaining

Tent 3-4

AREA 3A DEEP

Treated previously during field demonstration

AREA 3A SHALLOW

AREA 3B

AREA 3C

AREA 5C

AREA 5D

AREA 5B

AREA 5A

AREA 4

AREA 2

AREA 1

AREA 8

Tent 8-1

AREA 7A

AREA 7B

AREA 6B

AREA 6C

AREA 6A

Phase 2 Mixed Volume: 44,132 CY
Estimated Phase 2 Remaining Volume: 36,645 CY
Phase 2 Percent Complete: 55%

DRAFT
WORKING COPY
For Discussion Purposes Only
All Information Presented is Subject to Change
Work Completed through May 31, 2020.

10 FT BUILDING SETBACK LINE

C-1 EXISTING RESIDENTIAL UNITS 400 SF RETAIL

0 50 100 150
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
DSGN	EA MCKENNA	DR	PA KARABAN	CHK	APVD

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HONEYWELL INTERNATIONAL INC.
QUANTA RESOURCES CORPORATION
SUPERFUND SITE
Edgewater, New Jersey

JACOBS

CIVIL

PHASE 2 ISS CELLS

1"=50'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE
PROJ 428872
DWG FIG-1
SHEET of

FILENAME: 10-C-F201-9-24-19.dgn PLOT DATE: 2019\09\25 PLOT TIME: 10:12:09 AM

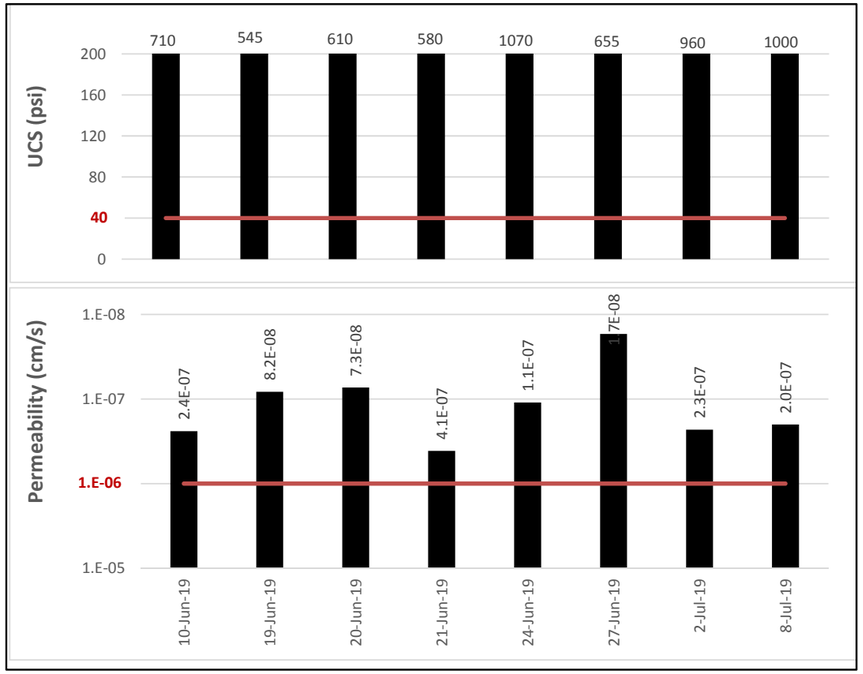
In Situ Solidification/Stabilization Results Dashboard, Tent 3-1 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
3-1	10-Jun-19	288	2%	6%	710	2.40E-07
3-1	19-Jun-19	167	2%	6%	545	8.20E-08
3-1	20-Jun-19	166	2%	6%	610	7.30E-08
3-1	21-Jun-19	280	2%	6%	580	4.10E-07
3-1	24-Jun-19	147	2%	6%	1070	1.10E-07
3-1	27-Jun-19	343	2%	6%	655	1.70E-08
3-1	2-Jul-19	343	2%	6%	960	2.30E-07
3-1	8-Jul-19	342	2%	6%	1000	2.00E-07

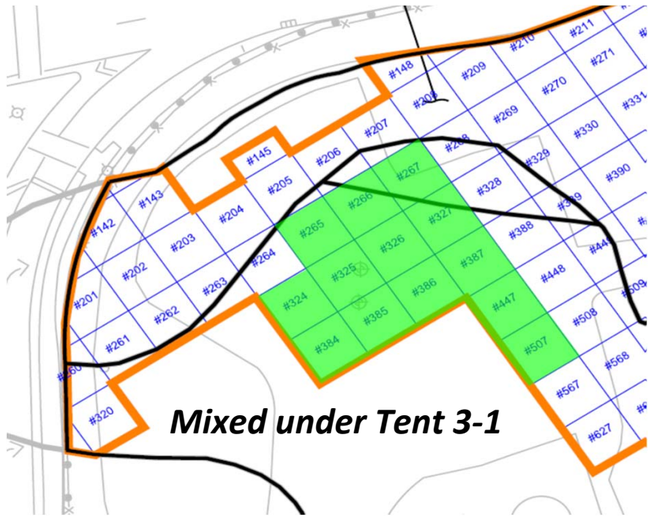
Total CY Mixed: **2076**



Site	Constituent	8-Jul-19	
1	Arsenic	97%	
2	Benzene	99%	
3	Toluene	99%	
4	Ethylbenzene	99%	
5	Total Xylenes	99%	
6	Naphthalene	96%	
7	Acenaphthene	88%	
8	Acenaphthylene	94%	
9	Anthracene	NE	<1% tPAH
10	Benzo(a)anthracene	NE	<1% tPAH
11	Benzo(a)pyrene	NE	<1% tPAH
12	Benzo(b)fluoranthene	NE	<1% tPAH
13	Benzo(g,h,i)perylene	NE	Not detected
14	Benzo(k)fluoranthene	NE	<1% tPAH
15	Chrysene	NE	<1% tPAH
16	Dibenz(a,h)anthracene	NE	Not detected
17	Fluoranthene	NE	<1% tPAH
18	Fluorene	83%	
19	Indeno(1,2,3-cd)pyrene	NE	Not detected
20	Phenanthrene	53%	
21	Pyrene	NE	<1% tPAH
	Constituents Passing	**7 of 10**	

Leaching Reduction by Constituent

Leaching calculations for each constituent provided in the ISS Memo for this Parcel. Boxed sample dates on table above indicate collection of a leaching sample. Constituents with 90+% reduction are shaded green. NE - Not Evaluated; constituent not detected in baseline sample or <1% of tPAH.



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

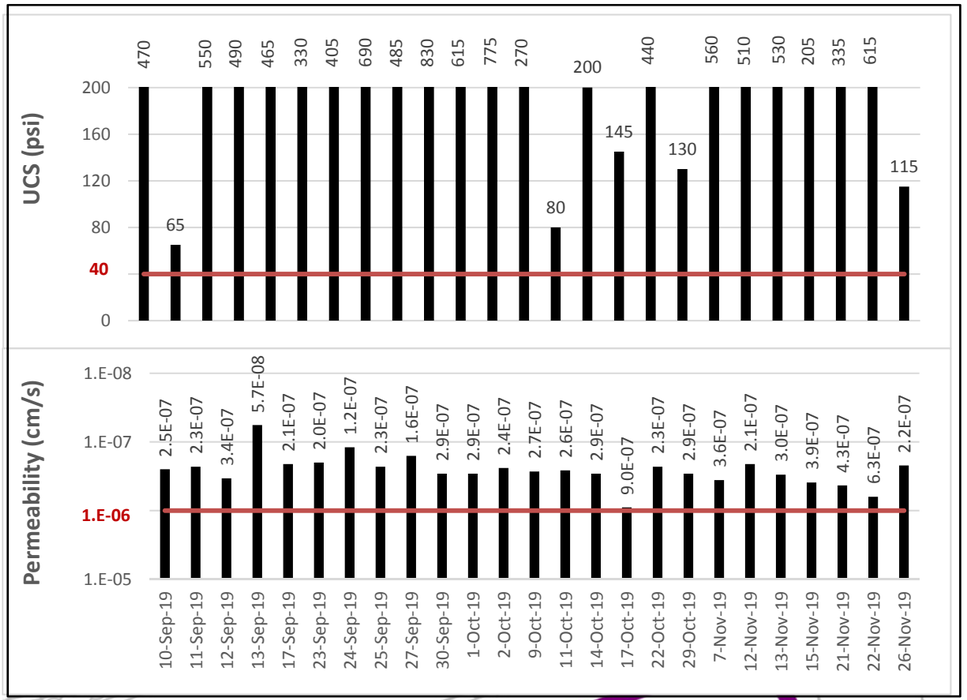
In Situ Solidification/Stabilization Results Dashboard, Tent 3-2 (Leaching Batch 5)

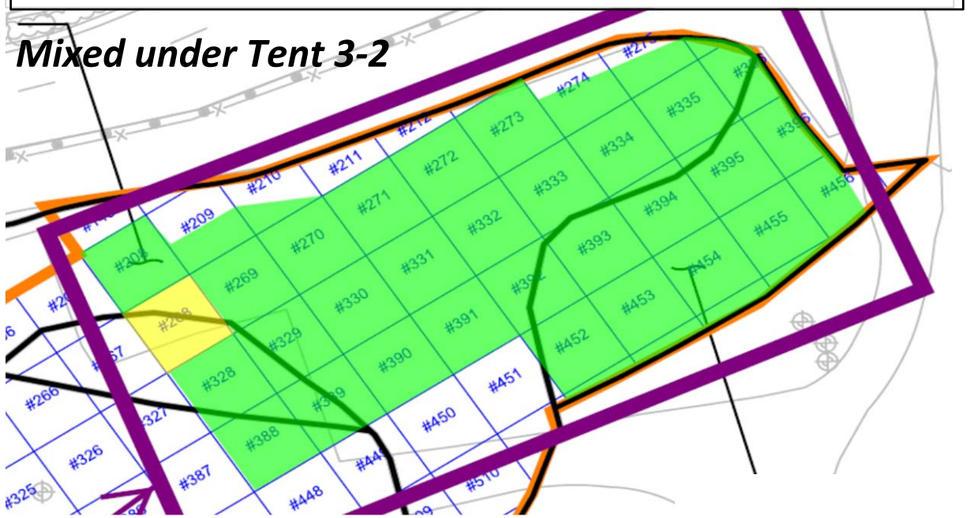
Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
3-2	10-Sep-19	179	2%	6%	470	2.50E-07
3-2	11-Sep-19	339	2%	6%	65	2.30E-07
3-2	12-Sep-19	293	2%	6%	550	3.40E-07
3-2	13-Sep-19	182	2%	6%	490	5.70E-08
3-2	17-Sep-19	343	2%	6%	465	2.10E-07
3-2	23-Sep-19	342	2%	6%	330	2.00E-07
3-2	24-Sep-19	329	2%	6%	405	1.20E-07
3-2	25-Sep-19	328	2%	6%	690	2.30E-07
3-2	27-Sep-19	414	2%	6%	485	1.60E-07
3-2	30-Sep-19	304	2%	6%	830	2.90E-07
3-2	1-Oct-19	348	2%	6%	615	2.90E-07
3-2	2-Oct-19	355	2%	6%	775	2.40E-07
3-2	9-Oct-19	306	2%	6%	270	2.70E-07
3-2	11-Oct-19	320	2%	6%	80	2.60E-07
3-2	14-Oct-19	71	2%	6%	200	2.90E-07
3-2	17-Oct-19	301	2%	6%	145	9.00E-07
3-2	22-Oct-19	320	2%	6%	440	2.30E-07
3-2	29-Oct-19	273	2%	6%	130	2.90E-07
3-2	7-Nov-19	261	2%	6%	560	3.60E-07
3-2	12-Nov-19	327	2%	6%	510	2.10E-07
3-2	13-Nov-19	104	2%	6%	530	3.00E-07
3-2	15-Nov-19	203	2%	6%	205	3.90E-07
3-2	21-Nov-19	320	2%	6%	335	4.30E-07
3-2	22-Nov-19	90	2%	6%	615	6.30E-07
3-2	26-Nov-19	317	2%	6%	115	2.20E-07

Total CY Mixed: **6969**





Leaching Reduction by Constituent

Site	Constituent	11-Oct-19	Site	Constituent	11-Oct-19
1	Arsenic	98%	12	Benzo(b)fluoranthene	NE
2	Benzene	80%	13	Benzo(g,h,i)perylene	NE
3	Toluene	82%	14	Benzo(k)fluoranthene	NE
4	Ethylbenzene	80%	15	Chrysene	NE
5	Total Xylenes	78%	16	Dibenz(a,h)anthracene	NE
6	Naphthalene		17	Fluoranthene	0%
7	Acenaphthene		18	Fluorene	1%
8	Acenaphthylene		19	Indeno(1,2,3-cd)pyrene	NE
9	Anthracene		20	Phenanthrene	0%
10	Benzo(a)anthracene	NE	21	Pyrene	0%
11	Benzo(a)pyrene	NE			

Extra Sample; See Tent 3-1 Dashboard for Batch 5 Leaching Results

Constituents Passing	N/A	Extra Sample

Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

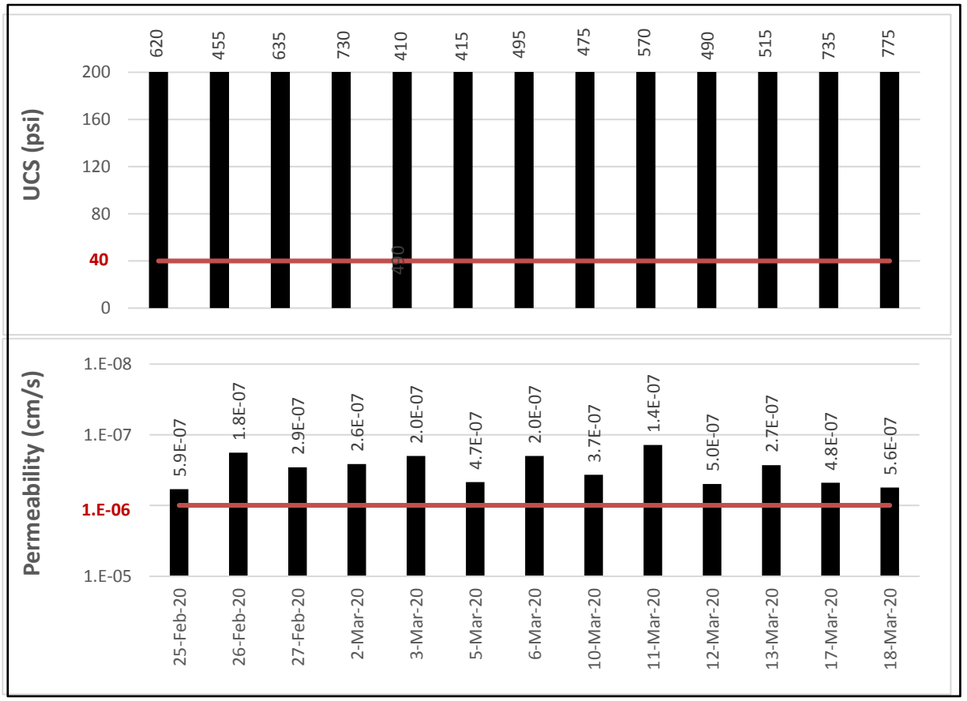
In Situ Solidification/Stabilization Results Dashboard, Tents 3-3 and 3-4 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

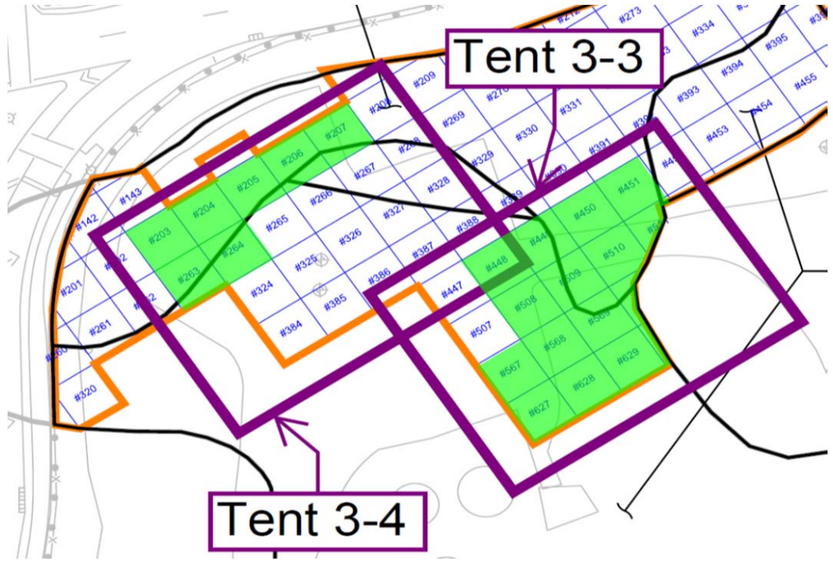
Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
3-3	25-Feb-20	313	2%	6%	620	5.90E-07
3-3	26-Feb-20	327	2%	6%	455	1.80E-07
3-3	27-Feb-20	173	2%	6%	635	2.90E-07
3-3	2-Mar-20	173	2%	6%	730	2.60E-07
3-3	3-Mar-20	210	2%	6%	410	2.00E-07
3-3	5-Mar-20	173	2%	6%	415	4.70E-07
3-3	6-Mar-20	36	2%	6%	495	2.00E-07
3-3	10-Mar-20	323	2%	6%	475	3.70E-07
3-3	11-Mar-20	173	2%	6%	570	1.40E-07
3-3	12-Mar-20	152	2%	6%	490	5.00E-07
3-3	13-Mar-20	173	2%	6%	515	2.70E-07
3-3	17-Mar-20	327	2%	6%	735	4.80E-07
3-3	18-Mar-20	125	2%	6%	775	5.60E-07
3-4	12-May-20	686	2%	6%		
3-4	14-May-20	610	2%	6%		
3-4	15-May-20	531	2%	6%		
3-4	18-May-20	347	2%	6%		
	Total CY Mixed:	**4855**				

Data Pending



Leaching Sample on February 27 Held; See Tent 3-1 Dashboard for Batch 5 Leaching

Leaching Reduction by Constituent			
Site Constituent		**Site Constituent**	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	Benzo(g,h,i)perylene
3	Toluene	14	Benzo(k)fluoranthene
4	Ethylbenzene	15	Chrysene
5	Total Xylenes	16	Dibenz(a,h)anthracene
6	Naphthalene	17	Fluoranthene
7	Acenaphthene	18	Fluorene
8	Acenaphthylene	19	Indeno(1,2,3-cd)pyrene
9	Anthracene	20	Phenanthrene
10	Benzo(a)anthracene	21	Pyrene
11	Benzo(a)pyrene		
Constituents Passing			



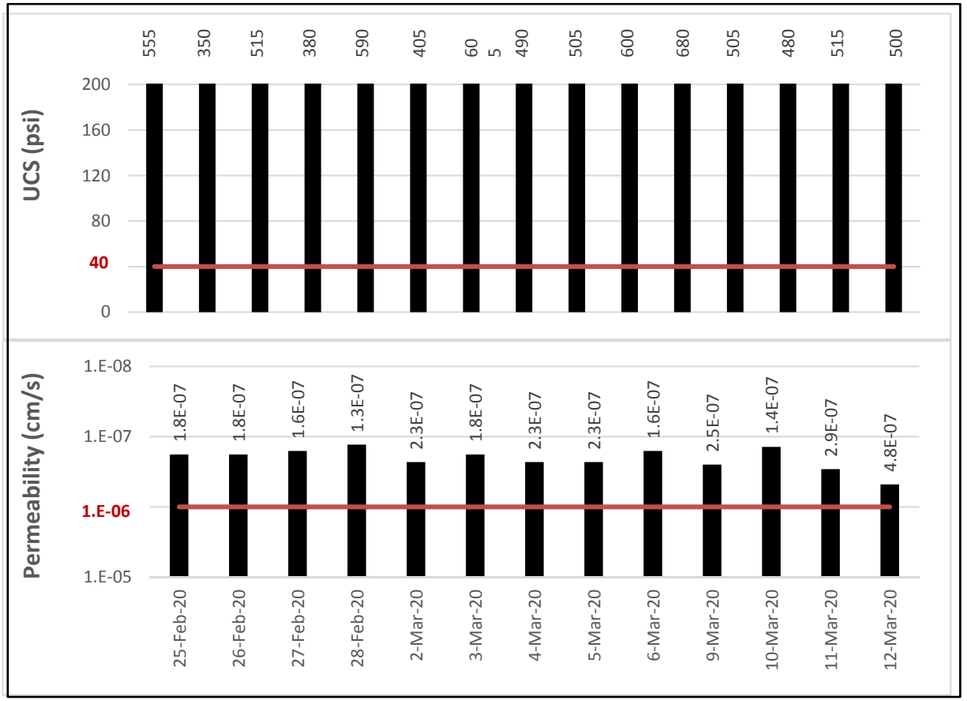
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

In Situ Solidification/Stabilization Results Dashboard, NT-31, 32, 33 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

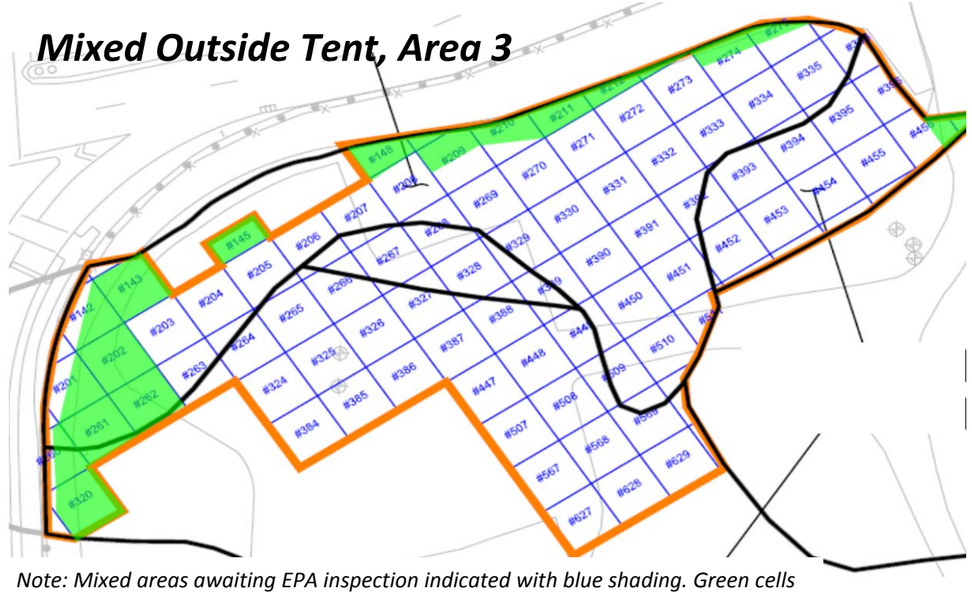
Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-33	25-Feb-20	39	2%	6%	555	1.80E-07
NT-32	26-Feb-20	131	2%	6%	350	1.80E-07
NT-32	27-Feb-20	269	2%	6%	515	1.60E-07
NT-32	28-Feb-20	258	2%	6%	380	1.30E-07
NT-32	2-Mar-20	291	2%	6%	590	2.30E-07
NT-32	3-Mar-20	66	2%	6%	405	1.80E-07
NT-31	4-Mar-20	367	2%	6%	605	2.30E-07
NT-31	5-Mar-20	166	2%	6%	490	2.30E-07
NT-31	6-Mar-20	167	2%	6%	505	1.60E-07
NT-31	9-Mar-20	151	2%	6%	600	2.50E-07
NT-31	10-Mar-20	333	2%	6%	680	1.40E-07
NT-31	11-Mar-20	167	2%	6%	505	2.90E-07
NT-31	12-Mar-20	303	2%	6%	480	4.80E-07
NT-31	17-Mar-20	173	2%	6%	515	9.10E-07
NT-31	24-Mar-20	333	2%	6%	500	2.10E-07
	Total CY Mixed:	**3215**				



Site Constituent		10-Mar-20
1	Arsenic	
2	Benzene	
3	Toluene	
4	Ethylbenzene	
5	Total Xylenes	
6	Naphthalene	
7	Acenaphthene	
8	Acenaphthylene	
9	Anthracene	
10	Benzo(a)anthracene	
11	Benzo(a)pyrene	
12	Benzo(b)fluoranthene	
13	Benzo(g,h,i)perylene	
14	Benzo(k)fluoranthene	
15	Chrysene	
16	Dibenz(a,h)anthracene	
17	Fluoranthene	
18	Fluorene	
19	Indeno(1,2,3-cd)pyrene	
20	Phenanthrene	
21	Pyrene	
	Constituents Passing	

Leaching Reduction by Constituent

Sample on March 10 Held; See Tent 3-1 Dashboard for Batch 5 Leaching Results



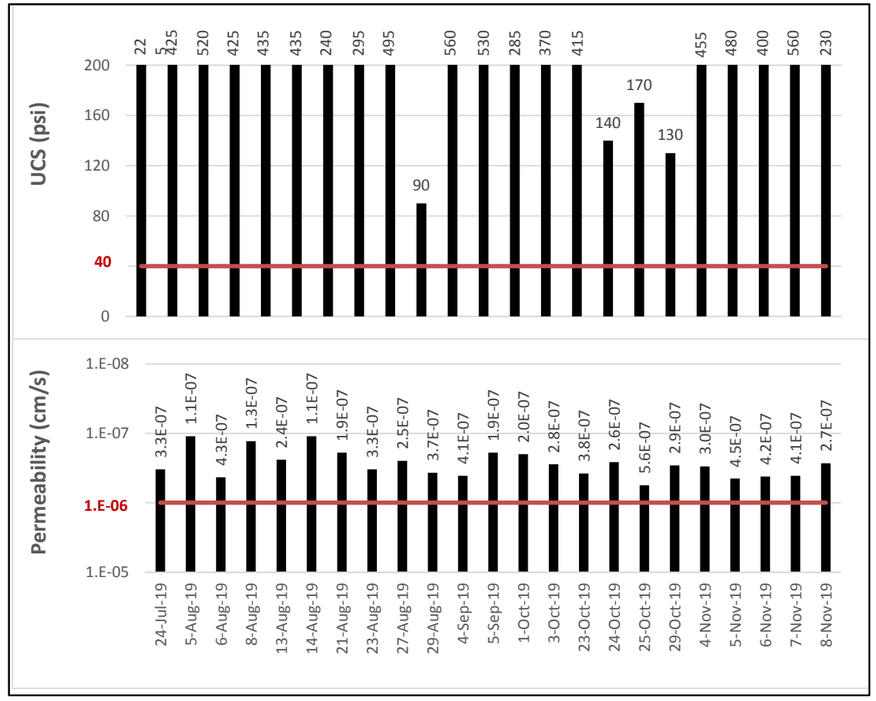
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

In Situ Solidification/Stabilization Results Dashboard, Tent 7-1 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

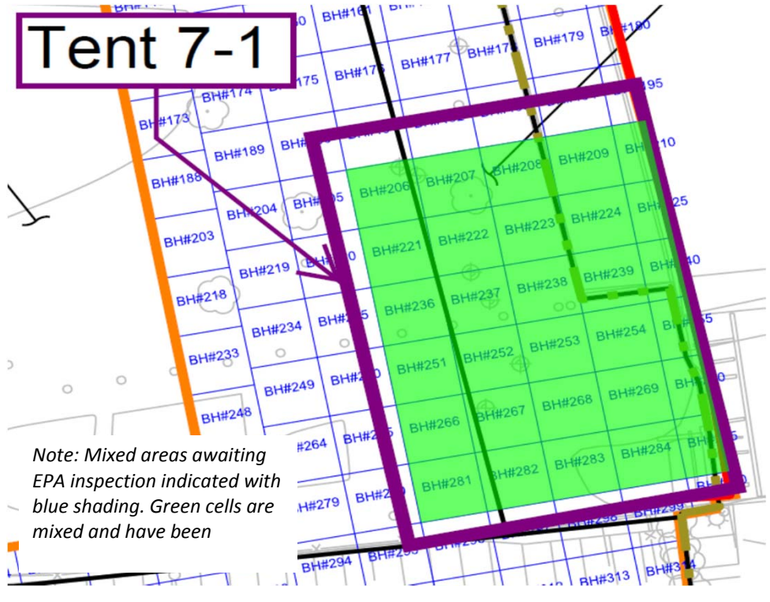
Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-1	24-Jul-19	536	2%	6%	225	3.3E-07
7-1	5-Aug-19	494	2%	6%	425	1.1E-07
7-1	6-Aug-19	488	2%	6%	520	4.3E-07
7-1	8-Aug-19	468	2%	6%	425	1.3E-07
7-1	13-Aug-19	502	2%	6%	435	2.4E-07
7-1	14-Aug-19	524	2%	6%	435	1.1E-07
7-1	21-Aug-19	354	2%	6%	240	1.9E-07
7-1	23-Aug-19	323	2%	6%	295	3.3E-07
7-1	27-Aug-19	291	2%	6%	495	2.5E-07
7-1	29-Aug-19	298	2%	6%	90	3.7E-07
7-1	4-Sep-19	335	2%	6%	560	4.1E-07
7-1	5-Sep-19	282	2%	6%	530	1.9E-07
7-1	1-Oct-19	457	2%	6%	285	2.0E-07
7-1	3-Oct-19	246	2%	6%	370	2.8E-07
7-1	23-Oct-19	596	2%	6%	415	3.8E-07
7-1	24-Oct-19	290	2%	6%	140	2.6E-07
7-1	25-Oct-19	308	2%	6%	170	5.6E-07
7-1	29-Oct-19	296	2%	6%	130	2.9E-07
7-1	4-Nov-19	260	2%	6%	455	3.0E-07
7-1	5-Nov-19	268	2%	6%	480	4.5E-07
7-1	6-Nov-19	159	2%	6%	400	4.2E-07
7-1	7-Nov-19	262	2%	6%	560	4.1E-07
7-1	8-Nov-19	276	2%	6%	230	2.7E-07
	Total CY Mixed:	**8311**				



Leaching Reduction by Constituent		8-Aug-19	23-Oct-19
1	Arsenic	100%	
2	Benzene	100%	
3	Toluene	100%	
4	Ethylbenzene	98%	
5	Total Xylenes	97%	
6	Naphthalene	99%	
7	Acenaphthene	NE; <1% tPAH	
8	Acenaphthylene	NE; <1% tPAH	
9	Anthracene	NE; <1% tPAH	
10	Benzo(a)anthracene	NE; <1% tPAH	
11	Benzo(a)pyrene	NE; <1% tPAH	
12	Benzo(b)fluoranthene	NE; <1% tPAH	
13	Benzo(g,h,i)perylene	NE; not detected	
14	Benzo(k)fluoranthene	NE; not detected	
15	Chrysene	NE; <1% tPAH	
16	Dibenz(a,h)anthracene	NE; not detected	
17	Fluoranthene	NE; <1% tPAH	
18	Fluorene	NE; <1% tPAH	
19	Indeno(1,2,3-cd)pyrene	NE; not detected	
20	Phenanthrene	NE; <1% tPAH	
21	Pyrene	NE; <1% tPAH	
	Constituents Passing	**6 of 6**	

HELD SAMPLE; See August 8 results for Batch 6

Leaching calculations for each constituent provided in Attachment 5 of the ISS Memo for this Parcel. Boxed sample dates on table above indicate collection of a leaching sample. Constituents with 90+% reduction are shaded green. NE - Not Evaluated; constituent not detected in baseline sample or comprises less than 1% of total PAHs .



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been

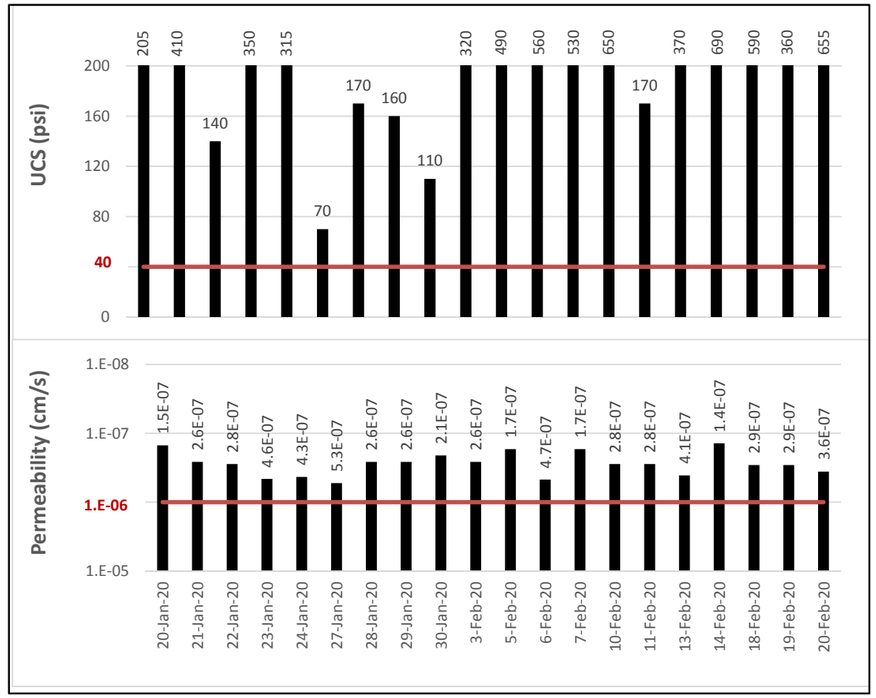
In Situ Solidification/Stabilization Results Dashboard, Tent 7-2 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

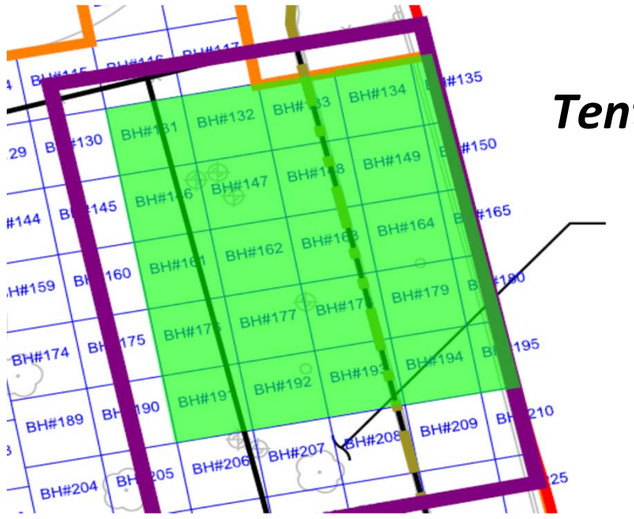
Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-2	20-Jan-20	312	4%	6%	205	1.5E-07
7-2	21-Jan-20	472	4%	6%	410	2.6E-07
7-2	22-Jan-20	564	4%	6%	140	2.8E-07
7-2	23-Jan-20	394	4%	6%	350	4.6E-07
7-2	24-Jan-20	538	4%	6%	315	4.3E-07
7-2	27-Jan-20	256	4%	6%	70	5.3E-07
7-2	28-Jan-20	295	4%	6%	170	2.6E-07
7-2	29-Jan-20	242	4%	6%	160	2.6E-07
7-2	30-Jan-20	329	4%	6%	110	2.1E-07
7-2	3-Feb-20	252	4%	6%	320	2.6E-07
7-2	5-Feb-20	198	4%	6%	490	1.7E-07
7-2	6-Feb-20	247	4%	6%	560	4.7E-07
7-2	7-Feb-20	249	4%	6%	530	1.7E-07
7-2	10-Feb-20	258	4%	6%	650	2.8E-07
7-2	11-Feb-20	239	4%	6%	170	2.8E-07
7-2	13-Feb-20	198	4%	6%	370	4.1E-07
7-2	14-Feb-20	214	4%	6%	690	1.4E-07
7-2	18-Feb-20	204	4%	6%	590	2.9E-07
7-2	19-Feb-20	237	4%	6%	360	2.9E-07
7-2	20-Feb-20	185	4%	6%	655	3.6E-07

Total CY Mixed: **5882**



Leaching Reduction by Constituent		30-Jan-20
1	Arsenic	
2	Benzene	
3	Toluene	
4	Ethylbenzene	
5	Total Xylenes	
6	Naphthalene	
7	Acenaphthene	
8	Acenaphthylene	
9	Anthracene	
10	Benzo(a)anthracene	
11	Benzo(a)pyrene	
12	Benzo(b)fluoranthene	
13	Benzo(g,h,i)perylene	
14	Benzo(k)fluoranthene	
15	Chrysene	
16	Dibenz(a,h)anthracene	
17	Fluoranthene	
18	Fluorene	
19	Indeno(1,2,3-cd)pyrene	
20	Phenanthrene	
21	Pyrene	
	Constituents Passing	

Held Sample, See Tent 7-1 Dashboard for Batch 6 Results



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, NT-61 (Leaching Batch 7)

Quanta Resources Corporation Superfund Site, OU1

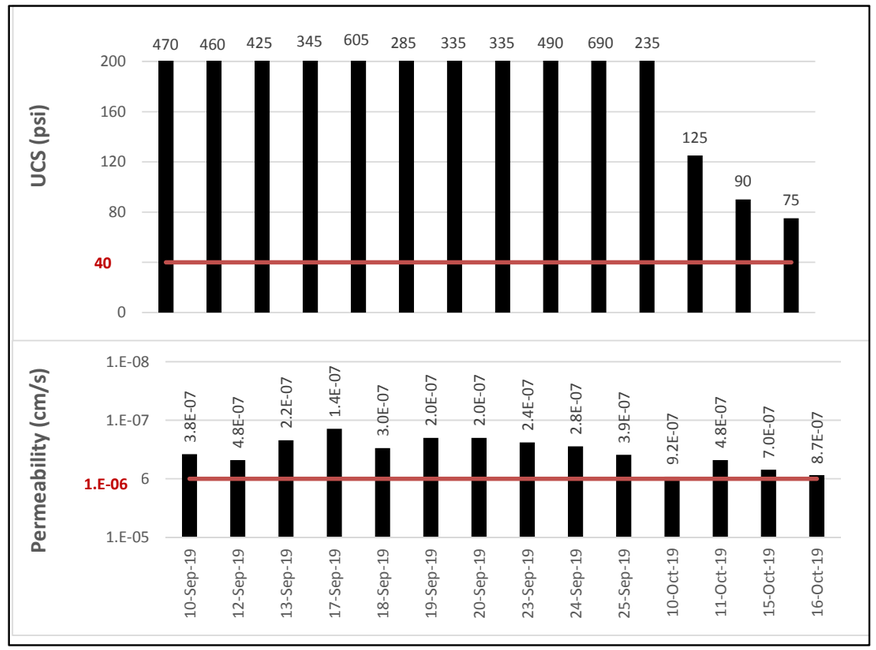
Data through: 6/3/2020

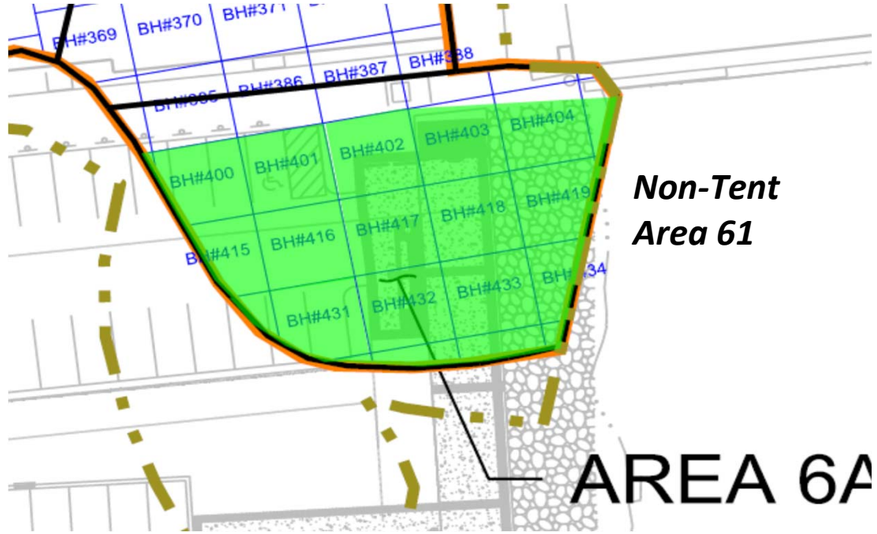
Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-61	10-Sep-19	237	4%	6%	470	3.8E-07
NT-61	12-Sep-19	247	4%	6%	460	4.8E-07
NT-61	13-Sep-19	220	4%	6%	425	2.2E-07
NT-61	17-Sep-19	292	4%	6%	345	1.4E-07
NT-61	18-Sep-19	266	4%	6%	605	3.0E-07
NT-61	19-Sep-19	354	4%	6%	285	2.0E-07
NT-61	20-Sep-19	239	4%	6%	335	2.0E-07
NT-61	23-Sep-19	244	4%	6%	335	2.4E-07
NT-61	24-Sep-19	221	4%	6%	490	2.8E-07
NT-61	25-Sep-19	226	4%	6%	690	3.9E-07
NT-61	10-Oct-19	225	4%	6%	235	9.2E-07
NT-61	11-Oct-19	210	4%	6%	125	4.8E-07
NT-61	15-Oct-19	172	4%	6%	90	7.0E-07
NT-61	16-Oct-19	118	4%	6%	75	8.7E-07

Total CY Mixed: **3271**

Leaching Reduction by Constituent			
Site Constituent		**13-Sep-19**	
1	Arsenic	100%	
2	Benzene	NE; not detected	
3	Toluene	NE; not detected	
4	Ethylbenzene	NE; not detected	
5	Total Xylenes	NE; not detected	
6	Naphthalene	NE; not detected	
7	Acenaphthene	NE; not detected	
8	Acenaphthylene	NE; not detected	
9	Anthracene	NE; not detected	
10	Benzo(a)anthracene	NE; not detected	
11	Benzo(a)pyrene	NE; not detected	
12	Benzo(b)fluoranthene	NE; not detected	
13	Benzo(g,h,i)perylene	NE; not detected	
14	Benzo(k)fluoranthene	NE; not detected	
15	Chrysene	NE; not detected	
16	Dibenz(a,h)anthracene	NE; not detected	
17	Fluoranthene	NE; not detected	
18	Fluorene	0%	Low baseline; no reduction
19	Indeno(1,2,3-cd)pyrene	NE; not detected	
20	Phenanthrene	0%	Low baseline; no reduction
21	Pyrene	0%	Low baseline; no reduction
	Constituents Passing	**1 of 4**	

Leaching calculations for each constituent provided in the ISS Memo for this Parcel. Boxed sample dates on table above indicate collection of a leaching sample. Constituents with 90+% reduction are shaded green. NE - Not Evaluated; constituent not detected in baseline sample or <1% of tPAH.





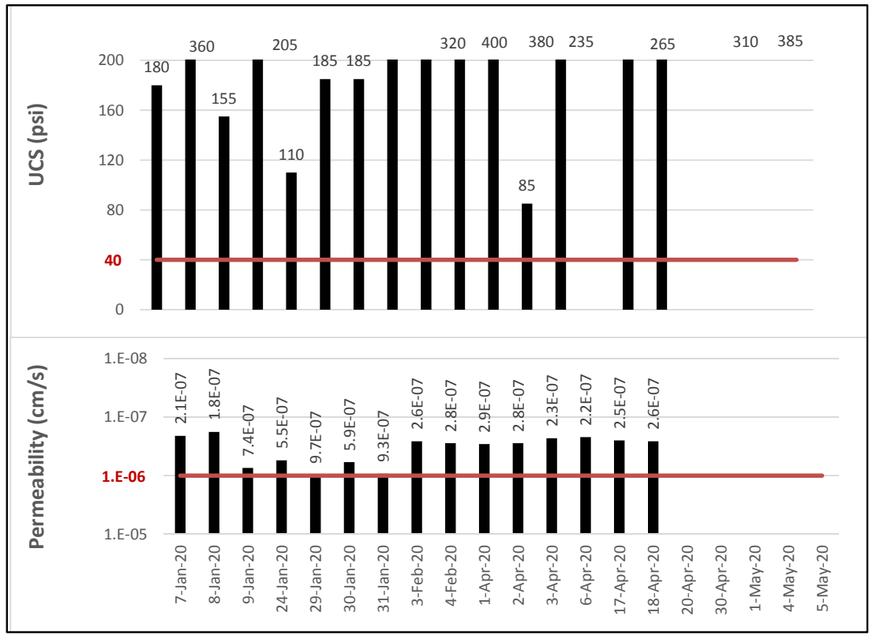
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, NT-62/63 (Leaching Batch 7)

Quanta Resources Corporation Superfund Site, OU1

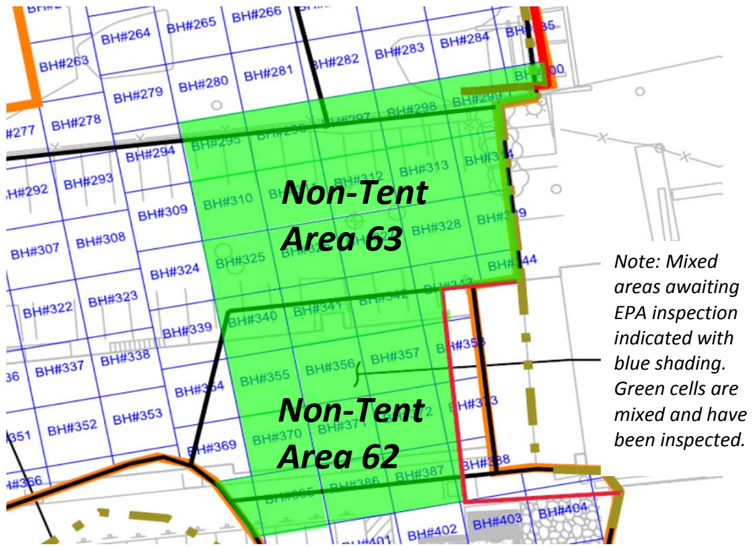
Data through: 6/3/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-62	7-Jan-20	236	4%	6%	180	2.1E-07
NT-62	8-Jan-20	188	4%	6%	360	1.8E-07
NT-62	9-Jan-20	142	4%	6%	155	7.4E-07
NT-62	24-Jan-20	271	4%	6%	205	5.5E-07
NT-62	29-Jan-20	206	4%	6%	110	9.7E-07
NT-62	30-Jan-20	195	4%	6%	185	5.9E-07
NT-62	31-Jan-20	180	4%	6%	185	9.3E-07
NT-62	3-Feb-20	235	4%	6%	320	2.6E-07
NT-62	4-Feb-20	170	4%	6%	400	2.8E-07
NT-63	1-Apr-20	225	4%	6%	380	2.9E-07
NT-63	2-Apr-20	187	4%	6%	235	2.8E-07
NT-63	3-Apr-20	253	4%	6%	85	2.3E-07
NT-63	6-Apr-20	333	4%	6%	265	2.2E-07
NT-63	17-Apr-20	319	4%	6%		2.5E-07
NT-64	18-Apr-20	230	4%	6%	310	2.6E-07
NT-65	20-Apr-20	222	4%	6%	385	
NT-66	30-Apr-20	90	4%	6%		
NT-67	1-May-20	296	4%	6%		
NT-68	4-May-20	189	4%	6%		
NT-69	5-May-20	374	4%	6%		
	Total CY Mixed:	**4541**				



Data Pending

Leaching Reduction by Constituent			
Site Constituent		**Site Constituent**	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	Benzo(g,h,i)perylene
3	Toluene	14	Benzo(k)fluoranthene
4	Ethylbenzene	15	Chrysene
5	Total Xylenes	16	Dibenz(a,h)anthracene
6	Naphthalene	17	Fluoranthene
7	Acenaphthene	18	Fluorene
8	Acenaphthylene	19	Indeno(1,2,3-cd)pyrene
9	Anthracene	20	Phenanthrene
10	Benzo(a)anthracene	21	Pyrene
11	Benzo(a)pyrene		
	Constituents Passing		



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, Area 8 (Leaching Batch 8)

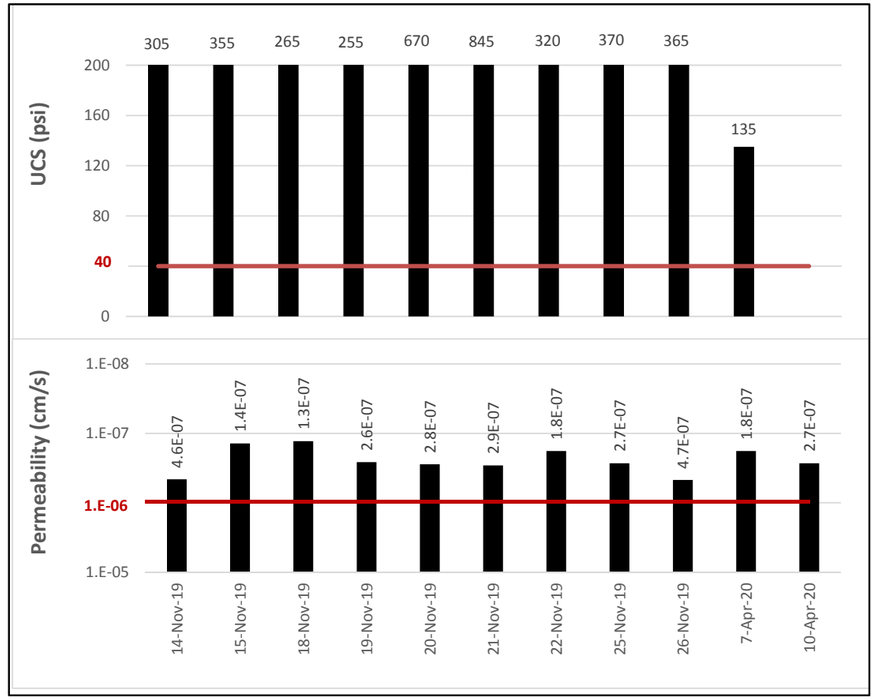
Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

Area	Date	Volume (CY)	Mix Design Cement	Mix Design Slag	UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
8	14-Nov-19	234	2%	6%	305	4.6E-07
8	15-Nov-19	125	2%	6%	355	1.4E-07
8	18-Nov-19	172	2%	6%	265	1.3E-07
8	19-Nov-19	304	2%	6%	255	2.6E-07
8	20-Nov-19	116	2%	6%	670	2.8E-07
8	21-Nov-19	195	2%	6%	845	2.9E-07
8	22-Nov-19	104	2%	6%	320	1.8E-07
8	25-Nov-19	123	2%	6%	370	2.7E-07
8	26-Nov-19	88	2%	6%	365	4.7E-07
8	7-Apr-20	310	2%	6%	135	1.8E-07
8	10-Apr-20	568	2%	6%		2.7E-07

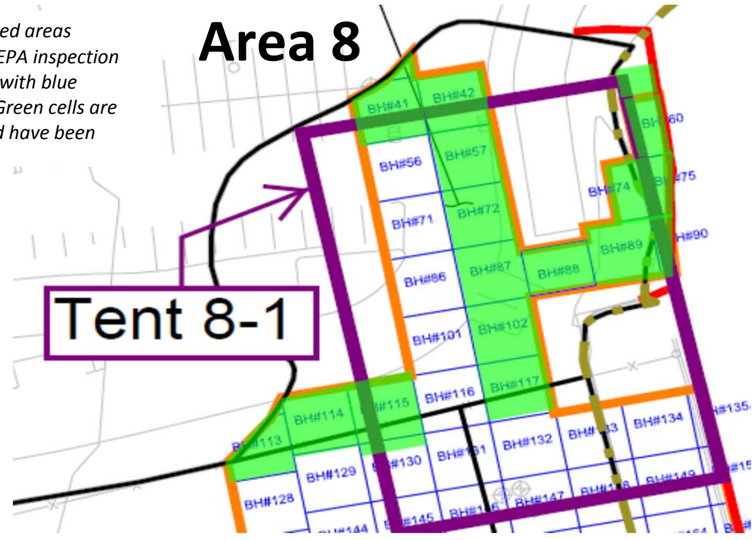
Total CY Mixed: **2338**

Data Pending



Leaching Reduction by Constituent			
Site	Constituent	25-Nov-19	
1	Arsenic	97.19%	
2	Benzene	98.63%	
3	Toluene	97.23%	
4	Ethylbenzene	95.71%	
5	Total Xylenes	95.57%	
6	Naphthalene	95.94%	
7	Acenaphthene	93.38%	
8	Acenaphthylene	NE	<1% tPAH
9	Anthracene	NE	<1% tPAH
10	Benzo(a)anthracene	NE	<1% tPAH
11	Benzo(a)pyrene	NE	Not detected
12	Benzo(b)fluoranthene	NE	Not detected
13	Benzo(g,h,i)perylene	NE	Not detected
14	Benzo(k)fluoranthene	NE	Not detected
15	Chrysene	NE	<1% tPAH
16	Dibenz(a,h)anthracene	NE	Not detected
17	Fluoranthene	NE	<1% tPAH
18	Fluorene	NE	<1% tPAH
19	Indeno(1,2,3-cd)pyrene	NE	Not detected
20	Phenanthrene	NE	<1% tPAH
21	Pyrene	NE	<1% tPAH
	Constituents Passing	**7 of 7**	

Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been



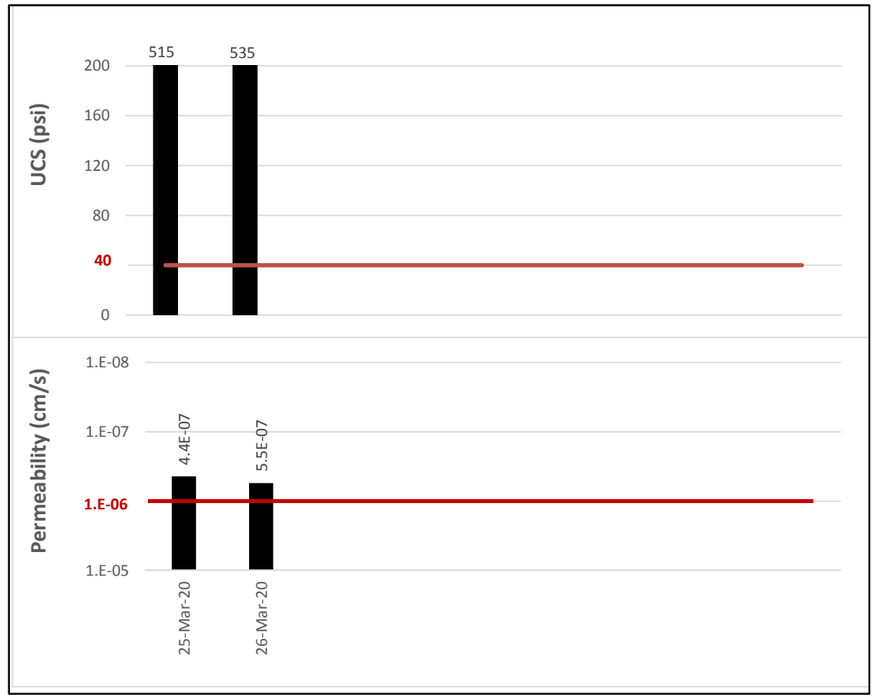
In Situ Solidification/Stabilization Results Dashboard, Area 4 (Leaching Batch 9)

Quanta Resources Corporation Superfund Site, OU1

Data through: 6/3/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-41	25-Mar-20	249	2%	6%	515	4.4E-07
NT-41	26-Mar-20	317	2%	6%	535	5.5E-07

Total CY Mixed: **566**



Leaching Reduction by Constituent		
Site Constituent		
1	Arsenic	
2	Benzene	
3	Toluene	
4	Ethylbenzene	
5	Total Xylenes	
6	Naphthalene	
7	Acenaphthene	
8	Acenaphthylene	
9	Anthracene	
10	Benzo(a)anthracene	
11	Benzo(a)pyrene	
12	Benzo(b)fluoranthene	
13	Benzo(g,h,i)perylene	
14	Benzo(k)fluoranthene	
15	Chrysene	
16	Dibenz(a,h)anthracene	
17	Fluoranthene	
18	Fluorene	
19	Indeno(1,2,3-cd)pyrene	
20	Phenanthrene	
21	Pyrene	
Constituents Passing		

Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green