APPENDIX D

APPENDIX D.1

TRIAD SAMPLING LOCATIONS

Table D.1-1. Wells G&H, 2001Sediment Triad Sampling Locations and Habitat Types

TTNUS Sampling Number, June 2001	Sample ID	Station Name	Location	Habitat Type	Date Sampled	Depth, (ft)	Comment[1]
IPSD-WH07-061801	SD-WH-07-TR	WH	23-acre wetland, near well H	wetland	6/18/01	1.2	PFO
IPSD-TT2201-061801	SD-22-01-TR	22	23-acre wetland, near rifle range	wetland	6/18/01	0.2	PFO
IPSD-TT1203-061901	SD-12-03-TR	12	23-acre wetland	stream	6/19/01	4.5	
IPSD-TT2903-061901	SD-TT-29-03-TR	TT-29	23-acre wetland	stream	6/19/01	1.0	
IPSD-TT1901-061901	SD-19-0-TR	19	23-acre wetland	wetland	6/19/01	0.8	PEM
IPSD-TT3302-062001	SD-TT-33-02-TR	TT-33	Cranberry Bog	wetland	6/20/01	0.5	PEM
IPSD-TT3202-062001	SD-TT-32-02-TR	TT-32	Cranberry Bog	wetland	6/20/01	0.6	PEM
IPSD-WW06-062101	SD-WW-06-TR	WW	23-acre wetland, near Wildwood	wetland	6/21/01	0.8	PFO
IPSD-TT1802-062101	SD-18-02-TR	18	23-acre wetland	stream	6/21/01	1.1	
IPSD-TT1002-062201	SD-10-01-TR	10	North of Salem Street	stream	6/22/01	1.4	
IPSD-TT1301-062201	SD-13-01-TR	13	23-acre wetland	wetland	6/22/01	0.3	PEM
IPSD-TT3001-062201	SD-TT-30-01-TR	TT-30	Cranberry bog	stream	6/22/01	0.6	
IPSD-PP03-062501	SD-MC-03-TR	03-IP	Phillips Pond	reference pond	6/25/01	13	
IPSD-TTSA01-062501	SD-SA-01-TR	SA	S. Branch Aberjona River, Arcadia Rd.	reference wetland	6/25/01	0.7	PFO
IPSD-TTSD01-062501	SD-MC-01-TR	01-IP	S. Branch Aberjona River, Willow St.	reference stream	6/25/01	0.3	
IPSD-TT04-062601	SD-MC-04-TR	04-IP	Hall’s Brook, Third Road	reference stream	6/26/01	0.4	
IPSD-HB00-062601	SD-HB-00-TR	HB	Hall’s Brook, Danforth St.	reference wetland	6/26/01	0.8	PEM
IPSD-TT0603-062601	SD-06-03-TR	06	Judkins Pond	pond	6/26/01	3.8	
IPSD-TTUF02-062701	SD-UF-02-TR	UF	Upper Forebay, Mystic Lake	pond	6/27/01	7.1	
IPSD-TTAO03-062701	SD-AO-03-TR	04	Upper Forebay, Mystic Lake	pond	6/27/01	5	

[1] PFO - Palustrine forested wetland, PEM - Palustrine emergent wetland

APPENDIX D.2

FIELD NOTES FOR JUNE 2001 TRIAD SAMPLING

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME	LOCATION	
STATION #_____ RIVERMILE_____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		
FORM COMPLETED BY	DATE _____ TIME _____ AM PM	REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score _____

FIELD NOTES FOR JUNE 2001 WELLS G&H TRIAD SAMPLING

The following field notes were compiles in order to detail the sampling activities in support of the triad sampling at Wells G&H between June 18 and June 27, 2001. These notes are organized in chronological order. Physical Characterization and Habitat Assessment Field Data Sheets for each of these locations were also completed for each station.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: WH
Sample Location:SD-WH-07-TR
Date: June 18, 2001
Time: 11:10 am
Weather: Sunny, 80°F, light breeze

Sampling team met at the MA Rifle Association parking log, at the end of Rifle Range Road in Woburn, at 9:15 am. The first station sampled, west of the rifle range, was the TTNUS sample location WH07. The station is located at the edge of the red maple swamp along the eastern border of the Well G& H 23-acre wetland. There had been heavy rains (estimated at 2.5 inches) in the last 24-hours. Water levels in the wetland were high for June due to this rain event, as evidenced by the depth of water around emergent vegetation including sensitive ferns. The site appears to be a seasonally inundated palustrine forested wetland. The open emergent marsh, dominated by common reed (*Phragmites australis*) is located approximately 50 ft to the west.

The sediment samples were collected in 1.2 ft of water, just west of the WH07 stake. The sediment was dark muck with a high content of coarse particulate organic matter. The three samples sieved for benthic community analysis were composed predominantly of leaf litter. A layer of moss was present floating just above the sediment surface. There was no observable flow of water at the site.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 22
Sample Location: SD-22-01-TR
Date: June 18, 2001
Time: 3:30 pm
Weather: Sunny, 85°F, light breeze

Station SD-22-01 was access through the northern fence of the Rifle Association property. The former stake marking TTNUS's sampling location was located. The area in the vicinity of the sample site is a palustrine forested wetland, dominated by red maple (*Acer rubrum*), swamp azalea (*Rhododendron viscosum*), and skunk cabbage (*Symplocarpus foetidus*).

The sample was collected within a small channel (2 ft wide) with slow, but detectable flow, through the red maple swamp. The banks were densely vegetated with maples, shrubs, and a herb layer dominated by skunk cabbage, cinnamon fern (*Osmunda cinnamomea*), jewelweed (*Impatiens capensis*) and lurid sedge (*Carex lurida*). In the channel itself, emergent and

submersed aquatic vegetation was absent. The sediment was composed of dark highly organic muck with a high content of coarse particulate organic matter. In the samples sieved for benthic community analysis, small beads, presumed to be lead shot from historic rifle range activity were found. The access road, which parallels the wetland to the east was covered in buck shot.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 12
Sample Location: SD-12-03-TR
Date: June 19, 2001
Time: 9:30 am
Weather: Sunny, 80°F, light breeze

Station SD-12-03 along the secondary channel of the Aberjona River near Well H in the 23-acre wetland. This location was characterized as a stream habitat and was collected in a depositional area of a side channel along the edge of the emergent marsh. The marsh vegetation was dominated by narrow-leaved cattail (*Typha angustifolia*), purple loosestrife (*Lythrum salicaria*) and tussock sedge. A few shrubs adjacent to the sampling location included button-bush and elderberry (*Sambucus canadensis*), although the area was generally open emergent marsh.

The sediment was composed of dark organic muck, with a high proportion of coarse particulate organic matter consisting mainly of cattail fragments. The main channel of the stream at this location was approximately 5-8 feet wide with moderate flow and 4 ft deep at the center. The small side channel where the sample was collected was 0.8 to 1.2 feet deep. The emergent marsh adjacent to the sample area is covered in dense vegetation and pockets of water.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: TT-29
Sample Location:SD-TT-29-03-TR
Date: June 19, 2001
Time: 11:50 am
Weather: Sunny, 85°F, light breeze

SD-TT-29-03 is south of Well H on the east branch of the river within the 23-acre wetland. This location was characterized as a stream habitat, and was collected adjacent to a small inlet in the wetland which forms a pool bordered by emergent wetland. The stream channel is distinct, deeper and wider than at SD-12-03. There is no canopy and few shrubs. The wetland vegetation is dominated by tussock sedge (*Carex stricta*), purple loosestrife and some cattails. The sediment was collected at a depth of 0.8 to 1.2 feet of water. The sediment was composed of dark organic muck with fine roots and slightly less undecomposed cattail fragments.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 19
Sample Location: SD-19-01-TR

Date: June 19, 2001
Time: 2:30 pm
Weather: Sunny, 90°F, light breeze

Station SD-19-01 is in the 23-acre wetland west of Well G. This wetland sediment sample was located in a isolated pocket or channel in the emergent wetland among tussock sedge. This open channel in the emergent wetland is not directly connected to the main channel of the river. The sediment samples were collected at a depth of 0.8 feet. Sediment consisted of dark organic muck with a higher content of fine particulate organic matter. Some orange floc was noted on the surface of the sediment. There was no tree or shrub cover. A dense stand of *Phragmites* is located to the north, but in the vicinity of the sample, the vegetation was primarily sedges. The original Foster-Wheeler sample was taken near this location. The M&E (1997) sample was collected closer to the forested wetland to the east.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: TT-33
Sample Location: SD-TT-33-02-TR
Date: June 20, 2001
Time: 11:20 am
Weather: Sunny, 80°F, light breeze

Sample site SD-TT-33-02 is just off the main channel of the Aberjona River near the southern end of the former Cranberry Bog, south of Salem Street. This wetland habitat was located along a minor side channel (east-west). The substrate was difficult to sample with the dredge because of the fibrous roots and particulate organic matter. The sediment was black organic muck with a higher sand component than many of the wetland samples. The dominant vegetation in the vicinity of the sample station included tussock sedge and purple loosestrife. The emergent marsh was mainly open in this area, but a few shrubs, mainly silky dogwood (*Cornus amomum*) were located adjacent to the sample location.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: TT-32
Sample Location: SD-TT-32-02-TR
Date: June 20, 2001
Time: 2:00 pm
Weather: Sunny, 90°F, light breeze

Sample station TT-32 was also located within the former Cranberry Bog, north of TT-33 The station was very similar in character to the wetland sample collected at SD-TT-33-02-TR. The sediment was collected at the mouth of one of the small side channels to the main stream. There was almost no flow in the channel and the sediment was collected in a depositional area 0.4-0.8 ft of water depth. The vegetation bordering the sampling location was dominated by emergent, hummock-forming grass, and purple loosestrife. The sediment consisted of organic muck and

some sand. The organic content and fine root fraction was also high, making dredging difficult. The dredge pressed in 6 inches into the substrate and frequently recovered only 2-3 inches of material for the chemistry and toxicity samples.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: WW
Sample Location: SD-WW-06-TR
Date: June 21, 2001
Time: 8:55 am
Weather: Cloudy, 70°F, light breeze

Station WW-06 is located along the eastern edge of the Wildwood Property. The station is at the out edge of the narrow forested wetland that borders the gravel cap for the treatment system at Wildwood. The sample was collected among clumps of emergent wetland plants including sensitive fern (*Onoclea sensibilis*) and purple loosestrife. The location is partially shaded by red maple trees and a few shrubs (norther arrowwood) were located adjacent to the sampling area.

The sediment was black organic sediment with many fine roots and cohesive structure. In order to get a sample, the jaws of the dredge had to be manually pushed closed. Water depth was 0.5 - 1.0 feet. The area appears to be a seasonally inundated location.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 18
Sample Location: SD-18-02-TR
Date: June 21, 2001
Time: 2:30 pm
Weather: Cloudy, 75°F, light breeze

The sample station was located on the east side of the Aberjona River and determined by the GPS co-ordinates for SD-18-02 recorded by M&E. The station was accessed by launching a boat from Wildwood. The location is a small inlet along the main river channel. The vegetation along the bank was dominated by tussock sedge and purple loosestrife. The banks of the stream are emergent marsh with a few red maple saplings present. The sediment was black organic muck, with a high content of fine particulate organic matter. Samples were collected in water 1.1 ft deep.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 10
Sample Location: SD-10-02-TR
Date: June 22, 2001

Time: 8:45 am
Weather: Cloudy, 75˚F, light breeze

Sampling station10 is located on the Aberjona River, just upstream of the bridge at Salem Street. This location is at the southern end of the 23-acre wetland and upstream of the Cranberry bog. Access was obtained through the backyard of a residence on Salem street to the west. A boat was used to collect the sample. GPS was used to locate the M&E co-ordinates for SD-10-03. This area is a wide point in the river with slow flow. The sample was collected in 1.4 feet of water at the northeast edge of a patch of water lilies (*Nuphar luteum*). The sediment was composed of black organic muck with a high content of coarse particulate organic matter. The riparian vegetative zone was limited on the western bank to a narrow shrub/tree border sloping up to a mowed residential lawn. The remainder of the surrounding banks were dominated by emergent vegetation including cattails and purple loosestrife.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 13
Sample Location: SD-13-01-TR
Date: June 22, 2001
Time: 10:45 am
Weather: Cloudy, 70˚F, light breeze

The location of the stake for station SD13-01 (Foster Wheeler) was determined with GPS co-ordinates. The location of the former SD13-01 was in an area of a scoured channel at the western edge of the 23-acre wetland, north of Wildwood. The area was inundated with water, but a location about 15 feet to the east was selected to sample. This location was a small channel into the adjacent to the emergent wetland. The sample was collected in the open water, 0.3 - 0.4 feet deep, adjacent to clumps of purple loosestrife and jewelweed.

The western bank, about 100 feet from the railroad tracks, consisted of a disturbed forest, dominated by oak. Shrubs, including northern arrowwood (*Viburnum recognitum*), were prevalent along the bank. The open water channel was about 20 feet wide and up to 2 feet deep. The sediment consisted of black organic muck, with some of the dredge samples with a higher content of peaty material.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: TT-30
Sample Location: SD-TT-30-01-TR
Date: June 22, 2001
Time: 1:20 pm
Weather: Partly cloudy, 75˚F

The sample was collected in a very small inlet on the east side of the stream channel south of Salem Street. The station was accessed from a parking lot off the south side of Salem Street.

There was moderate flow in the channel and slow flow at the sampling location behind a small clump of purple loosestrife. The western shoreline was a narrow band of forest including willow, red maple and gray birch . The sample was collected in an open are of emergent marsh dominated by purple loosestrife, tussock sedge and sensitive fern at a depth of 3-10 inches. The sediment was composed of back organic muck, fibrous roots, and some peat.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 03-IP
Sample Location: SD-MC-03-TR
Date: June 25, 2001
Time:10:10 am
Weather: Partly cloudy, 76°F

Phillips Pond was a reference location located on the South Branch of the Aberjona River between Commercial Way and Route 93. Access was obtained from road behind the Marshall's loading docks. The pond was sampled using an Ekman dredge from a boat. Station 03-IP is located off the southern shore about halfway up the pond. The sediment was collected at a depth of about 13 feet. Soft black organic muck was collected at the location determined from GPS co-ordinates provided in Menzie-Cura's data. While anchored at the same location, in some areas there was little recovery in the dredge and it felt like it was hitting hard bottom.

The pond was created in the mid-1970's. There is an active beaver dam at the outlet, and the water levels appeared to be quite high. The bordering vegetated buffer is a narrow forest (red maple gray birch, glossy buckthorn (*Rhamnus frangula*) and dogwood), with the exception of the west side, with is *Phragmites* and a bank up to the roadway. Beaver activity, muskrat and Great Blue Heron were observed at the pond. Ken Munney reported that a large number of bass were collected from this pond during the fish sampling.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: SA
Sample Location: SD-SA-01-TR
Date: June 25, 2001
Time: 2:00 pm
Weather: Mostly sunny, 85°F

A new wetland reference station was selected in the Town of Reading, at the end of Arcadia Road. The station is located off the north side of the cul-de-sac at the edge of the forested wetland in a small open channel (no flow) in the emergent wetland. At the time of sampling the water depth was 0.7 ft. At the sampling location there was no canopy cover, however, to the south and west (upstream), a mix of shrub and forested wetland was dominated by red maple, and northern arrowwood. Vegetation at SA-01 included broad-leaved cattail, skunk cabbage, jewel weed, purple loosestrife and sensitive fern. This vegetative community was characteristic of the emergent marsh along the edges of the open channel in the wetland where the sample was taken.

There was no rooted aquatic vegetation where the sediment was collected. The sediment consisted of black organic muck, on top of a sandier layer. There was a fairly high content of coarse particulate organic matter in the samples.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 01-IP
Sample Location: SD-MC-01-TR
Date: June 25, 2001
Time: 4:00 pm
Weather: Mostly sunny, 85°F

Station 01-IP is a stream reference location on the South Branch of the Aberjona River. The station is located behind residences on Willow Street in Reading. Access to the site was obtained through the back yard of #118 Willow Road. The stream is 8-10 feet wide, with forested wetland along the east bank and emergent/shrub wetland along the west bank. Shrubs along both banks included silky dogwood and glossy buckthorn. Trees were predominately red maple. Along the banks, the dominant herbaceous species included jewelweed and sensitive fern.

The substrate on west side of the stream channel was scoured and sandy. The sample was collected in the depositional area on the east side of the channel. The sediment was black organic muck, with some sand, and a high content of coarse organic matter. There were numerous sticks and woody debris. A few rooted macrophytes (*Ludwigia palustris*) were observed in the area of the sample collection.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 04-IP
Sample Location: SD-MC-04-TR
Date: 6/26/01
Time: 9:30 am
Weather: Sunny, 85°F

This station was a reference stream location, on Hall's Brook accessed from a dead-end street (Third Road). This station was used by Menzie-Cura for a reference stream for the Industri-Plex triad sampling. There is a distinct stream channel present through a wide emergent marsh dominated by reed canary grass. The sample was taken on the western end of the marsh in an area where the stream is bordered by a few shrubs and then flows into a forested wetland.

The sediment was collected along the reed-canary grass bank and consisted of a black organic muck. The substrate toward the center of the channel (not sampled) was sandy. Dogwood, speckled alder (*Alnus rugosa*) and elderberry were present along the northern bank. Other emergent wetland species present in the area included purple loosestrife and broad-leaved cattail (*Typha latifolia*).

Project name: Wells G&H Sediment Triad Sampling 2001
Station: HB
Sample Location: SD-HB-00-TR
Date: June 26, 01
Time: 11:50 am
Weather: Sunny, 90°F

This reference wetland, along Hall's Brook, was accessed from a dead-end street (Danforth) off of School Street in Woburn. The wetland was reached by going down a steep bank from the residential area and west along the bank, out to a peninsula that runs north into the wetland. The station is on the west side of the wetland adjacent to an scrub/shrub wetland dominated by speckled alder. The sample was taken in a channel in the wetland with no flow, among cattails. The water depth at the sampling location was 0.5 to 1.0 feet. The sediment was deep (approximately 2 ft) dark organic muck with coarse organic matter. The was duckweed (*Lemna* sp.) on the surface of the water among the cattails, and other emergent vegetation included purple loosestrife and for-get-me-nots (*Myosotis scorpoides*).

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 06
Sample Location: SD-06-03-TR
Date: June 26, 2001
Time: 3:00 pm
Weather: Sunny, 90°F

The sample location for Judkins Pond was located using co-ordinates for the M&E SD-06-03 station. Judkins Pond is a small pond in the center of Winchester. The sampling location is on the east side of the pond near a patch of water lilies (*Nuphar luteum*). The sample was collected at a depth of 3.5 - 4 feet. The sediment consisted of dark black organic muck with many fine roots and some sand in the sieved benthic community samples. Undisturbed vegetation grows along the bank in a narrow buffer, but the majority of the riparian zone consists of mowed grass, buildings and roadways.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: UF
Sample Location: SD-UF-02-TR
Date: June 27, 2001
Time: 9:30 am
Weather: Sunny, 75°F

This was one of two samples collected in the Upper Forebay of Upper Mystic Lake. The eastern shore of the pond is bordered by a park, and the western shore is residential. The samples were collected by boat, launched from the park on Mystic Valley Parkway. The first sample was collected in a bay on the western shore. Many of the residences on the shoreline have seawalls.

The water depth at the station was 7.1 feet. The sediment consisted of black orgainc muck with little coarse organic matter. There was a patch of water lilies (*Nymphea odorata*) approximately 6 ft from the sample location. Lilies were prevalent elsewhere on the pond. Cormorants and geese were present on the pond. Bluegills were noted along the eastern shore, and larger fish were jumping near the center of the lake.

Project name: Wells G&H Sediment Triad Sampling 2001
Station: 04
Sample Location: SD-AO-03-TR
Date: June 27, 2001
Time: 11:30 am
Weather: Sunny, 85°F

The second station in the Upper Forebay was located closer to the inlet of the Aberjona River. The sample was collected at a water depth of 5 ft. The sediment was similar with some leaf matter in the samples.

APPENDIX D.3

HABITAT ASSESSMENT

WELLS G&H TRIAD SAMPLING
June 2001
Habitat Assessment Field Data Sheets -
Low Gradient Stream Forms

Habitat Assessment Field Data Sheets- Low Gradient Stream Forms (HAFDS) were filled out at each station used as a sampling location for the June 2001 sediment triad sampling. In addition, a Physical Characterization/Water Quality Field Data Sheet (PC/WQFDS) and a Sample Log Sheet (TTNUS) were also completed for each station and are provided in Appendix A.5. Field notes were recorded in the field by D. Roberts and were summarized in Appendix D.2.

The HAFDS forms (*Rapid Bioassessment Protocols for Use in Streams and Wadeble Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Editions - Form 3*, See attached blank form) were filled out based on consensus of the professional judgement of three biologists. Team members participating included: D. Roberts (M&E), K. O'Neill (TTNUS), and either Bart Hoskins (Lockheed-Martin/ESAT) or Cornell Rosiu (EPA).

To try to achieve consistency in the numeric rankings given (0-20) for each of the 10 habitat parameters, some assumptions or interpretations were applied to the assessments. These assumptions are presented below. A summary of the assessments for each of the 20 Triad sampling stations sampled in June 2001 are presented in Table D.1-1.

Habitat Parameters: Habitat Assessment Field Data Sheets -Low Gradient Stream Forms

1. Epifaunal Substrate/ Available Cover
It was assumed for this parameter to rank in the optimal (16-20) category, there would be a mix a of substrate types present. In the majority of the depositional stations the substrate was 100% soft muck and the did not show evidence of the substrate being frequently disturbed or removed (marginal, 6-10). IF woody debris or undercut banks were present, the station was rated as higher sub-optimal.

2. Pool Substrate Characterization
The selected stations generally did not have a mixture of substrate materials and were therefore rated as less than optimal (<16). Depending on the presence or absence of root mats and submerged vegetation the stations were rated as marginal (6-10) or sub-optimal (11-16).

3. Pool Variability
The majority of the sampling locations were in areas of consistent depth, and were formed essentially in one small or large pool. Pool variability was consequently ranked consistently marginal (6-10) or poor (1-5), based on the depth of the pools. The parameter was assigned a value of NA (not applicable) in the pond locations.

4. Sediment Deposition
The sample locations were selected to be in areas of higher deposition of fine material. The stations were ranked as poor (0-5) unless deposition of sand was present, and a ranking of marginal (6-10).

5. Channel Flow Status
Since depositional areas and wetland locations were selected, most of the stations had little or no detectable water flow. This parameter was interpreted to mean that channel flow would be poor if water levels were very low and only found in isolated pool in a channel. Since the June sampling was conducted during a period of relatively high water levels, all of the locations had water reaching the base of both lower banks, with a minium of substrate exposed (optimal, 16-20). The ranking for this parameter may vary depending on the season during which the survey was conducted. Slightly lower rankings were given at locations where there was evidence of higher water levels than the existing water elevation at the time of sampling.

6. Channel Alteration
Channel alteration characterized how much the stream reach has been channelized or disrupted. Except in a few areas, such ass the Cranberry Bog and the forebay of Upper Mystic Lake, bank evidence of bank alteration was minimal or absent (Optimal, 16-20). In areas with historic dredging (Cranberry Bog, Phillips Pond, Judkins Pond), a ranking of sub-optimal was applied.

7. Channel Sinuosity
For the stream locations, channel sinuosity was evaluated based on the proportion of bends in the stream in the reach where the sample was taken. This parameter was not easily applied to wetland and pond locations. For the pond locations, values between 0 and 5 were assigned (poor) because all of the ponds represented impoundments in the river. At the wetland locations channel sinuosity only applied to locations where the adjacent channel could be rated. To be consistent, all of the values were converted to N/A (not applicable) because the condition of the adjacent channel was not relevant to habitat at the sampling station in the wetland. This results in essentially assigning the channel sinuosity a value of 0 for the wetland in the over-all score.

8. Bank Stability
Bank stability was generally rated as optimal (9-10) if the banks werer natural and fully vegetated. In areas where human disturbance resulted in small areas of erosion, values of 6-8 (sub-optimal) were assigned.

9. Vegetative Protection
The value of the bank stability was closely related to the bank stability parameter. The majority of the sites had banks that were more than 90% vegetated, with the exception of the pond locations. At the pond locations were vegetation had been removed or mowed, the vegetation protection was rated as sub-optimal or marginal.

10. Riparian Vegetative Zone Width
The riparian vegetative zone width was evaluated as optimal (9-10) if there was an undisturbed buffer of at least 18 m in width. Based on the thresholds in the condition categories, the width of undisturbed buffer was used to evaluate the condition of the riparian zone. Where mowing or pavement came within 6 m of the edge of water, the condition rating of poor was assigned.

Table D.3-1. Low Gradient Stream Habitat Assessment Scores for Wells G&H, Woburn, Massachusetts

Station:	WH	22	12	TT-29	19	TT-33	TT-32	WW	18	10	13	TT-30	03-IP	SA	01-IP	04-IP	HB	06	UF	04
1. Epifaunal Substrate/ Available Cover	11	12	14	14	14	11	11	13	15	13	13	11	11	13	16	13	15	11	11	11
2. Pool Substrate Characterization	13	10	12	11	12	14	12	14	6	14	10	14	8	10	11	14	10	8	8	8
3. Pool Variability	5	4	0	5	6	2	2	5	5	11	5	6	N/A	5	8	6	3	N/A	N/A	N/A
4. Sediment Deposition	2	3	5	5	5	8	8	5	8	5	4	5	2	5	10	8	5	2	3	3
5. Channel Flow Status	18	16	20	20	20	16	17	17	20	17	18	18	20	19	16	19	20	20	18	18
6. Channel Alteration	20	20	20	20	20	13	13	20	20	16	15	17	15	19	18	19	20	15	12	12
7. Channel Sinuosity	N/A	N/A	18	15	N/A	N/A	N/A	N/A	16	6	N/A	15	5	N/A	10	10	N/A	2	2	2
8. Bank Stability (Left Bank)	10	10	10	10	10	9	10	10	10	10	6	9	8	10	9	10	10	7	8	8
Bank Stability (Right Bank)	10	10	10	10	10	9	10	10	10	7	7	9	8	10	9	10	10	7	8	8
9. Vegetative Protection (Left Bank)	9	10	10	10	10	10	10	10	10	10	9	10	9	10	9	10	10	5	8	6
Vegetative Protection (Right Bank)	9	10	10	10	10	10	10	10	10	6	7	10	9	10	9	10	10	5	7	7
10. Riparian Vegetative Zone Width (Left Bank)	10	10	10	10	10	10	10	10	10	7	9	6	3	5	9	10	10	1	5	5
Riparian Vegetative Zone Width (Right Bank)	10	10	10	10	10	10	10	4	10	6	5	10	4	10	9	10	10	1	5	5
TOTAL SCORE	127	125	149	150	137	122	123	128	150	128	108	140	102	126	143	149	133	84	95	93

APPENDIX D.4

TRIAD CHEMISTRY DATA

TABLE D.4-1
SUMMARY OF TRIAD CHEMISTRY DATA - SD-HB-00-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	15
1,1,2,2-Tetrachloroethane						0 / 1	15
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	15
1,1,2-Trichloroethane						0 / 1	15
1,1-Dichloroethane						0 / 1	15
1,1-Dichloroethene						0 / 1	15
1,2,4-Trichlorobenzene						0 / 1	15
1,2-Dibromo-3-chloropropane						0 / 1	15
1,2-Dibromoethane						0 / 1	15
1,2-Dichlorobenzene						0 / 1	15
1,2-Dichloroethane						0 / 1	15
1,2-Dichloropropane						0 / 1	15
1,3-Dichlorobenzene						0 / 1	15
1,4-Dichlorobenzene						0 / 1	15
2-Butanone						0 / 1	15
2-Hexanone						0 / 1	15
4-Methyl-2-Pentanone						0 / 1	15
Acetone						0 / 1	60
Benzene						0 / 1	15
Bromodichloromethane						0 / 1	15
Bromoform						0 / 1	15
Bromomethane						0 / 1	15
Carbon Disulfide						0 / 1	15
Carbon Tetrachloride						0 / 1	15
Chlorobenzene						0 / 1	15
Chloroethane						0 / 1	15
Chloroform						0 / 1	15
Chloromethane						0 / 1	15
cis-1,2-Dichloroethene						0 / 1	15
cis-1,3-Dichloropropene						0 / 1	15
Cyclohexane						0 / 1	15
Dibromochloromethane						0 / 1	15
Dichlorodifluoromethane						0 / 1	15
Ethylbenzene						0 / 1	15
Isopropylbenzene						0 / 1	15
m&p-Xylene						0 / 1	15
Methyl Acetate	58		58		SD-HB-00-TR	1 / 1	58
Methyl tert-Butyl Ether						0 / 1	15
Methylcyclohexane						0 / 1	15
Methylene Chloride						0 / 1	15
o-Xylene						0 / 1	15
Styrene						0 / 1	15
Tetrachloroethene						0 / 1	15
Toluene						0 / 1	15
trans-1,2-Dichloroethene						0 / 1	15
trans-1,3-Dichloropropene						0 / 1	15
Trichloroethene						0 / 1	15
Trichlorofluoromethane						0 / 1	15
Vinyl Chloride						0 / 1	15
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	230
2,2'-oxybis(1-Chloropropane)						0 / 1	230
2,4,5-Trichlorophenol						0 / 1	550
2,4,6-Trichlorophenol						0 / 1	230
2,4-Dichlorophenol						0 / 1	230
2,4-Dimethylphenol						0 / 1	230
2,4-Dinitrophenol						0 / 1	550
2,4-Dinitrotoluene						0 / 1	230
2,6-Dinitrotoluene						0 / 1	230
2-Chloronaphthalene						0 / 1	230

TABLE D.4-1
SUMMARY OF TRIAD CHEMISTRY DATA - SD-HB-00-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
2-Chlorophenol						0 / 1	230
2-Methylnaphthalene						0 / 1	230
2-Methylphenol						0 / 1	230
2-Nitroaniline						0 / 1	550
2-Nitrophenol						0 / 1	230
3,3'-Dichlorobenzidine						0 / 1	230
3+4-Methylphenols						0 / 1	230
3-Nitroaniline						0 / 1	230
4,6-Dinitro-2-methylphenol						0 / 1	550
4-Bromophenyl-phenylether						0 / 1	230
4-Chloro-3-methylphenol						0 / 1	230
4-Chloroaniline						0 / 1	230
4-Chlorophenyl-phenylether						0 / 1	230
4-Nitroaniline						0 / 1	550
4-Nitrophenol						0 / 1	550
Acenaphthene						0 / 1	230
Acenaphthylene						0 / 1	230
Acetophenone						0 / 1	230
Anthracene						0 / 1	230
Atrazine						0 / 1	230
Benzaldehyde						0 / 1	230
Benzo(a)anthracene						0 / 1	230
Benzo(a)pyrene						0 / 1	230
Benzo(b)fluoranthene						0 / 1	230
Benzo(g,h,i)perylene						0 / 1	230
Benzo(k)fluoranthene						0 / 1	230
Bis(2-Chloroethoxy)methane						0 / 1	230
Bis(2-Chloroethyl)ether						0 / 1	230
bis(2-Ethylhexyl)phthalate						0 / 1	230
Butylbenzylphthalate						0 / 1	230
Caprolactam						0 / 1	230
Carbazole						0 / 1	230
Chrysene						0 / 1	230
Dibenzo(a,h)anthracene						0 / 1	230
Dibenzofuran						0 / 1	230
Diethylphthalate						0 / 1	230
Dimethylphthalate						0 / 1	230
Di-n-Butylphthalate						0 / 1	230
Di-n-octylphthalate						0 / 1	230
Fluoranthene						0 / 1	230
Fluorene						0 / 1	230
Hexachlorobenzene						0 / 1	230
Hexachlorobutadiene						0 / 1	230
Hexachlorocyclopentadiene						0 / 1	230
Hexachloroethane						0 / 1	230
Indeno(1,2,3-cd)pyrene						0 / 1	230
Isophorone						0 / 1	230
Naphthalene						0 / 1	230
Nitrobenzene						0 / 1	230
N-Nitroso-di-n-propylamine						0 / 1	230
N-Nitroso-diphenylamine						0 / 1	230
Pentachlorophenol						0 / 1	550
Phenanthrene						0 / 1	230
Phenol						0 / 1	230
Pyrene						0 / 1	230
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	1.8
4,4'-DDE						0 / 1	1.8
4,4'-DDT						0 / 1	1.8
Aldrin						0 / 1	0.90
alpha-BHC						0 / 1	0.90

TABLE D.4-1
SUMMARY OF TRIAD CHEMISTRY DATA - SD-HB-00-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
alpha-Chlordane						0 / 1	0.90
Aroclor-1016						0 / 1	18
Aroclor-1221						0 / 1	36
Aroclor-1232						0 / 1	18
Aroclor-1242						0 / 1	18
Aroclor-1248						0 / 1	18
Aroclor-1254						0 / 1	18
Aroclor-1260						0 / 1	18
beta-BHC						0 / 1	0.90
delta-BHC						0 / 1	0.90
Dieldrin						0 / 1	1.8
Endosulfan I						0 / 1	0.90
Endosulfan II						0 / 1	1.8
Endosulfan Sulfate						0 / 1	1.8
Endrin						0 / 1	1.8
Endrin Aldehyde						0 / 1	1.8
Endrin Ketone						0 / 1	1.8
gamma-BHC						0 / 1	0.90
gamma-Chlordane						0 / 1	0.90
Heptachlor						0 / 1	0.90
Heptachlor Epoxide						0 / 1	0.90
Methoxychlor						0 / 1	9.0
Toxaphene						0 / 1	90
Metals - mg/Kg							
Aluminum	6150		6150		SD-HB-00-TR	1 / 1	6150
Antimony	0.77	J	0.77	J	SD-HB-00-TR	1 / 1	0.77
Arsenic	16.2		16.2		SD-HB-00-TR	1 / 1	16
Barium	59.4		59.4		SD-HB-00-TR	1 / 1	59
Beryllium	0.73	J	0.73	J	SD-HB-00-TR	1 / 1	0.73
Cadmium	2.9		2.9		SD-HB-00-TR	1 / 1	2.9
Calcium	9160		9160		SD-HB-00-TR	1 / 1	9160
Chromium	18.2		18.2		SD-HB-00-TR	1 / 1	18
Cobalt	12.2	J	12.2	J	SD-HB-00-TR	1 / 1	12
Copper	37.5		37.5		SD-HB-00-TR	1 / 1	38
Iron	23300		23300		SD-HB-00-TR	1 / 1	23300
Lead	233		233		SD-HB-00-TR	1 / 1	233
Magnesium	1910		1910		SD-HB-00-TR	1 / 1	1910
Manganese	58.1		58.1		SD-HB-00-TR	1 / 1	58
Mercury						0 / 1	0.010
Nickel	27.3		27.3		SD-HB-00-TR	1 / 1	27
Potassium	395	J	395	J	SD-HB-00-TR	1 / 1	395
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	400		400		SD-HB-00-TR	1 / 1	400
Thallium						0 / 1	0.55
Vanadium	33.2		33.2		SD-HB-00-TR	1 / 1	33
Zinc	207	J	207	J	SD-HB-00-TR	1 / 1	207
AVS/SEM - umol/g							
Acid Volatile Sulfide						0 / 1	0.070
Simultaneously Extracted Metal	2.9839		2.9839		SD-HB-00-TR	1 / 1	3.0
Cadmium	0.0147		0.0147		SD-HB-00-TR	1 / 1	0.015
Copper	0.1221		0.1221		SD-HB-00-TR	1 / 1	0.12
Lead	0.6693		0.6693		SD-HB-00-TR	1 / 1	0.67
Mercury	0.0001	J	0.0001	J	SD-HB-00-TR	1 / 1	0.00010
Nickel	0.0999		0.0999		SD-HB-00-TR	1 / 1	0.10
Zinc	2.0778	J	2.0778	J	SD-HB-00-TR	1 / 1	2.1
SEM/AVS	21.3		21.3		SD-HB-00-TR	1 / 1	21
Total Organic Carbon	250000		250000		SD-HB-00-TR	1 / 1	250000

J = Estimated Value

TABLE D.4-2
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane	100	J	100	J	SD-MC-03-TR	1 / 1	100
1,1,2-Trichloro-1,2,2-trifluoroethane	52	J	52	J	SD-MC-03-TR	1 / 1	52
Acetone	400	J	400	J	SD-MC-03-TR	1 / 1	400
Methyl Acetate	350	J	350	J	SD-MC-03-TR	1 / 1	350
Methylene Chloride						0 / 1	80
Toluene	73	J	73	J	SD-MC-03-TR	1 / 1	73
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	185
2,2'-oxybis(1-Chloropropane)						0 / 1	185
2,4,5-Trichlorophenol						0 / 1	460
2,4,6-Trichlorophenol						0 / 1	185
2,4-Dichlorophenol						0 / 1	185
2,4-Dimethylphenol						0 / 1	185
2,4-Dinitrophenol						0 / 1	460
2,4-Dinitrotoluene						0 / 1	185
2,6-Dinitrotoluene						0 / 1	185
2-Chloronaphthalene						0 / 1	185
2-Chlorophenol						0 / 1	185
2-Methylnaphthalene						0 / 1	185
2-Methylphenol						0 / 1	185
2-Nitroaniline						0 / 1	460
2-Nitrophenol						0 / 1	185
3,3'-Dichlorobenzidine						0 / 1	185
3+4-Methylphenols						0 / 1	185
3-Nitroaniline						0 / 1	185
4,6-Dinitro-2-methylphenol						0 / 1	460
4-Bromophenyl-phenylether						0 / 1	185
4-Chloro-3-methylphenol						0 / 1	185
4-Chloroaniline						0 / 1	185
4-Chlorophenyl-phenylether						0 / 1	185
4-Nitroaniline						0 / 1	460
4-Nitrophenol						0 / 1	460
Acenaphthene						0 / 1	185
Acenaphthylene						0 / 1	185
Acetophenone						0 / 1	185
Anthracene						0 / 1	185
Atrazine						0 / 1	185
Benzaldehyde						0 / 1	185
Benzo(a)anthracene						0 / 1	185
Benzo(a)pyrene						0 / 1	185
Benzo(b)fluoranthene	180	J	180	J	SD-MC-03-TR	1 / 1	180
Benzo(g,h,i)perylene						0 / 1	185
Benzo(k)fluoranthene						0 / 1	185
Bis(2-Chloroethoxy)methane						0 / 1	185
Bis(2-Chloroethyl)ether						0 / 1	185
bis(2-Ethylhexyl)phthalate						0 / 1	185
Butylbenzylphthalate						0 / 1	185
Caprolactam						0 / 1	185
Carbazole						0 / 1	185
Chrysene						0 / 1	185
Dibenzo(a,h)anthracene						0 / 1	185
Dibenzofuran						0 / 1	185
Diethylphthalate						0 / 1	185
Dimethylphthalate						0 / 1	185
Di-n-Butylphthalate						0 / 1	185
Di-n-octylphthalate						0 / 1	185
Fluoranthene	220	J	220	J	SD-MC-03-TR	1 / 1	220

TABLE D.4-2
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Fluorene						0 / 1	185
Hexachlorobenzene						0 / 1	185
Hexachlorobutadiene						0 / 1	185
Hexachlorocyclopentadiene						0 / 1	185
Hexachloroethane						0 / 1	185
Indeno(1,2,3-cd)pyrene						0 / 1	185
Isophorone						0 / 1	185
Naphthalene						0 / 1	185
Nitrobenzene						0 / 1	185
N-Nitroso-di-n-propylamine						0 / 1	185
N-Nitroso-diphenylamine						0 / 1	185
Pentachlorophenol						0 / 1	460
Phenanthrene						0 / 1	185
Phenol						0 / 1	185
Pyrene	230	J	230	J	SD-MC-03-TR	1 / 1	230
PCBs/Pesticides - ug/Kg							
4,4'-DDD	1.1	J	1.1	J	SD-MC-03-TR	1 / 1	1.1
4,4'-DDE	1.6	J	1.6	J	SD-MC-03-TR	1 / 1	1.6
4,4'-DDT						0 / 1	1.5
Aldrin						0 / 1	0.75
alpha-BHC						0 / 1	0.75
alpha-Chlordane						0 / 1	0.75
Aroclor-1016						0 / 1	15
Aroclor-1221						0 / 1	30
Aroclor-1232						0 / 1	15
Aroclor-1242						0 / 1	15
Aroclor-1248						0 / 1	15
Aroclor-1254						0 / 1	15
Aroclor-1260						0 / 1	15
beta-BHC						0 / 1	0.75
delta-BHC						0 / 1	0.75
Dieldrin						0 / 1	1.5
Endosulfan I						0 / 1	0.75
Endosulfan II						0 / 1	1.5
Endosulfan Sulfate						0 / 1	1.5
Endrin						0 / 1	1.5
Endrin Aldehyde						0 / 1	1.5
Endrin Ketone						0 / 1	1.5
gamma-BHC						0 / 1	0.75
gamma-Chlordane						0 / 1	0.75
Heptachlor						0 / 1	0.75
Heptachlor Epoxide						0 / 1	0.75
Methoxychlor						0 / 1	7.5
Toxaphene						0 / 1	75
Metals - mg/Kg							
Aluminum	20200		20200		SD-MC-03-TR	1 / 1	20200
Antimony	1.5		1.5		SD-MC-03-TR	1 / 1	1.5
Arsenic	34.4		34.4		SD-MC-03-TR	1 / 1	34
Barium	155		155		SD-MC-03-TR	1 / 1	155
Beryllium	1.3	J	1.3	J	SD-MC-03-TR	1 / 1	1.3
Cadmium	4.1		4.1		SD-MC-03-TR	1 / 1	4.1
Calcium	6570		6570		SD-MC-03-TR	1 / 1	6570
Chromium	71.1		71.1		SD-MC-03-TR	1 / 1	71
Cobalt	19.2	J	19.2	J	SD-MC-03-TR	1 / 1	19
Copper	125		125		SD-MC-03-TR	1 / 1	125
Iron	27700		27700		SD-MC-03-TR	1 / 1	27700
Lead	259		259		SD-MC-03-TR	1 / 1	259
Magnesium	5810		5810		SD-MC-03-TR	1 / 1	5810
Manganese	423		423		SD-MC-03-TR	1 / 1	423
Mercury	0.09	J	0.09	J	SD-MC-03-TR	1 / 1	0.090

TABLE D.4-2
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Nickel	32.1		32.1		SD-MC-03-TR	1 / 1	32
Potassium	2330	J	2330	J	SD-MC-03-TR	1 / 1	2330
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	5400		5400		SD-MC-03-TR	1 / 1	5400
Thallium						0 / 1	0.55
Vanadium	56		56		SD-MC-03-TR	1 / 1	56
Zinc	645	J	645	J	SD-MC-03-TR	1 / 1	645
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.14	J	0.14	J	SD-MC-03-TR	1 / 1	0.14
Simultaneously Extracted Metal	8.3679		8.3679		SD-MC-03-TR	1 / 1	8.4
Cadmium	0.0238		0.0238		SD-MC-03-TR	1 / 1	0.024
Copper	1.1141		1.1141		SD-MC-03-TR	1 / 1	1.1
Lead	0.8143		0.8143		SD-MC-03-TR	1 / 1	0.81
Mercury	0.0004	J	0.0004	J	SD-MC-03-TR	1 / 1	0.00040
Nickel	0.2967		0.2967		SD-MC-03-TR	1 / 1	0.30
Zinc	6.1186	J	6.1186	J	SD-MC-03-TR	1 / 1	6.1
SEM/AVS	59.8		59.8		SD-MC-03-TR	1 / 1	60
Total Organic Carbon	330000		330000		SD-MC-03-TR	1 / 1	330000

J = Estimated Value

TABLE D.4-3
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-04-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	16
1,1,2,2-Tetrachloroethane						0 / 1	16
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	16
1,1,2-Trichloroethane						0 / 1	16
1,1-Dichloroethane						0 / 1	16
1,1-Dichloroethene						0 / 1	16
1,2,4-Trichlorobenzene						0 / 1	16
1,2-Dibromo-3-chloropropane						0 / 1	16
1,2-Dibromoethane						0 / 1	16
1,2-Dichlorobenzene						0 / 1	16
1,2-Dichloroethane						0 / 1	16
1,2-Dichloropropane						0 / 1	16
1,3-Dichlorobenzene						0 / 1	16
1,4-Dichlorobenzene						0 / 1	16
2-Butanone						0 / 1	16
2-Hexanone						0 / 1	16
4-Methyl-2-Pentanone						0 / 1	16
Acetone						0 / 1	90
Benzene						0 / 1	16
Bromodichloromethane						0 / 1	16
Bromoform						0 / 1	16
Bromomethane						0 / 1	16
Carbon Disulfide						0 / 1	16
Carbon Tetrachloride						0 / 1	16
Chlorobenzene						0 / 1	16
Chloroethane						0 / 1	16
Chloroform						0 / 1	16
Chloromethane						0 / 1	16
cis-1,2-Dichloroethene						0 / 1	16
cis-1,3-Dichloropropene						0 / 1	16
Cyclohexane						0 / 1	16
Dibromochloromethane						0 / 1	16
Dichlorodifluoromethane						0 / 1	16
Ethylbenzene						0 / 1	16
Isopropylbenzene						0 / 1	16
m&p-Xylene						0 / 1	16
Methyl Acetate	36		36		SD-MC-04-TR	1 / 1	36
Methyl tert-Butyl Ether						0 / 1	16
Methylcyclohexane						0 / 1	16
Methylene Chloride						0 / 1	16
o-Xylene						0 / 1	16
Styrene						0 / 1	16
Tetrachloroethene						0 / 1	16
Toluene						0 / 1	16
trans-1,2-Dichloroethene						0 / 1	16
trans-1,3-Dichloropropene						0 / 1	16
Trichloroethene						0 / 1	16
Trichlorofluoromethane						0 / 1	16
Vinyl Chloride						0 / 1	16
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	215
2,2'-oxybis(1-Chloropropane)						0 / 1	215
2,4,5-Trichlorophenol						0 / 1	550
2,4,6-Trichlorophenol						0 / 1	215
2,4-Dichlorophenol						0 / 1	215
2,4-Dimethylphenol						0 / 1	215
2,4-Dinitrophenol						0 / 1	550
2,4-Dinitrotoluene						0 / 1	215
2,6-Dinitrotoluene						0 / 1	215
2-Chloronaphthalene						0 / 1	215

TABLE D.4-3
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-04-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
2-Chlorophenol						0 / 1	215
2-Methylnaphthalene						0 / 1	215
2-Methylphenol						0 / 1	215
2-Nitroaniline						0 / 1	550
2-Nitrophenol						0 / 1	215
3,3'-Dichlorobenzidine						0 / 1	215
3+4-Methylphenols						0 / 1	215
3-Nitroaniline						0 / 1	215
4,6-Dinitro-2-methylphenol						0 / 1	550
4-Bromophenyl-phenylether						0 / 1	215
4-Chloro-3-methylphenol						0 / 1	215
4-Chloroaniline						0 / 1	215
4-Chlorophenyl-phenylether						0 / 1	215
4-Nitroaniline						0 / 1	550
4-Nitrophenol						0 / 1	550
Acenaphthene						0 / 1	215
Acenaphthylene						0 / 1	215
Acetophenone						0 / 1	215
Anthracene						0 / 1	215
Atrazine						0 / 1	215
Benzaldehyde						0 / 1	215
Benzo(a)anthracene						0 / 1	215
Benzo(a)pyrene						0 / 1	215
Benzo(b)fluoranthene	210	J	210	J	SD-MC-04-TR	1 / 1	210
Benzo(g,h,i)perylene						0 / 1	215
Benzo(k)fluoranthene						0 / 1	215
Bis(2-Chloroethoxy)methane						0 / 1	215
Bis(2-Chloroethyl)ether						0 / 1	215
bis(2-Ethylhexyl)phthalate						0 / 1	215
Butylbenzylphthalate						0 / 1	215
Caprolactam						0 / 1	215
Carbazole						0 / 1	215
Chrysene						0 / 1	215
Dibenzo(a,h)anthracene						0 / 1	215
Dibenzofuran						0 / 1	215
Diethylphthalate						0 / 1	215
Dimethylphthalate						0 / 1	215
Di-n-Butylphthalate						0 / 1	215
Di-n-octylphthalate						0 / 1	215
Fluoranthene	230	J	230	J	SD-MC-04-TR	1 / 1	230
Fluorene						0 / 1	215
Hexachlorobenzene						0 / 1	215
Hexachlorobutadiene						0 / 1	215
Hexachlorocyclopentadiene						0 / 1	215
Hexachloroethane						0 / 1	215
Indeno(1,2,3-cd)pyrene						0 / 1	215
Isophorone						0 / 1	215
Naphthalene						0 / 1	215
Nitrobenzene						0 / 1	215
N-Nitroso-di-n-propylamine						0 / 1	215
N-Nitroso-diphenylamine						0 / 1	215
Pentachlorophenol						0 / 1	550
Phenanthrene						0 / 1	215
Phenol						0 / 1	215
Pyrene	220	J	220	J	SD-MC-04-TR	1 / 1	220
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	1.7
4,4'-DDE						0 / 1	1.7
4,4'-DDT						0 / 1	1.7
Aldrin						0 / 1	0.85
alpha-BHC						0 / 1	0.85

TABLE D.4-3
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-04-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
alpha-Chlordane						0 / 1	0.85
Aroclor-1016						0 / 1	17
Aroclor-1221						0 / 1	34
Aroclor-1232						0 / 1	17
Aroclor-1242						0 / 1	17
Aroclor-1248						0 / 1	17
Aroclor-1254						0 / 1	17
Aroclor-1260						0 / 1	17
beta-BHC						0 / 1	0.85
delta-BHC						0 / 1	0.85
Dieldrin						0 / 1	1.7
Endosulfan I						0 / 1	0.85
Endosulfan II						0 / 1	1.7
Endosulfan Sulfate						0 / 1	1.7
Endrin						0 / 1	1.7
Endrin Aldehyde						0 / 1	1.7
Endrin Ketone						0 / 1	1.7
gamma-BHC						0 / 1	0.85
gamma-Chlordane						0 / 1	0.85
Heptachlor						0 / 1	0.85
Heptachlor Epoxide						0 / 1	0.85
Methoxychlor						0 / 1	8.5
Toxaphene						0 / 1	85
Metals - mg/Kg							
Aluminum	11600		11600		SD-MC-04-TR	1 / 1	11600
Antimony	5.6		5.6		SD-MC-04-TR	1 / 1	5.6
Arsenic	44.5		44.5		SD-MC-04-TR	1 / 1	45
Barium	173		173		SD-MC-04-TR	1 / 1	173
Beryllium	0.87	J	0.87	J	SD-MC-04-TR	1 / 1	0.87
Cadmium	5.2		5.2		SD-MC-04-TR	1 / 1	5.2
Calcium	9640		9640		SD-MC-04-TR	1 / 1	9640
Chromium	512		512		SD-MC-04-TR	1 / 1	512
Cobalt	21.8	J	21.8	J	SD-MC-04-TR	1 / 1	22
Copper	344		344		SD-MC-04-TR	1 / 1	344
Iron	51600		51600		SD-MC-04-TR	1 / 1	51600
Lead	369		369		SD-MC-04-TR	1 / 1	369
Magnesium	2890		2890		SD-MC-04-TR	1 / 1	2890
Manganese	1980		1980		SD-MC-04-TR	1 / 1	1980
Mercury	0.08	J	0.08	J	SD-MC-04-TR	1 / 1	0.080
Nickel	25.6		25.6		SD-MC-04-TR	1 / 1	26
Potassium	724	J	724	J	SD-MC-04-TR	1 / 1	724
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	402		402		SD-MC-04-TR	1 / 1	402
Thallium						0 / 1	0.55
Vanadium	53.8		53.8		SD-MC-04-TR	1 / 1	54
Zinc	611	J	611	J	SD-MC-04-TR	1 / 1	611
AVS/SEM - umol/g							
Acid Volatile Sulfide						0 / 1	0.065
Simultaneously Extracted Metal	8.3724		8.3724		SD-MC-04-TR	1 / 1	8.4
Cadmium	0.0251		0.0251		SD-MC-04-TR	1 / 1	0.025
Copper	2.5826		2.5826		SD-MC-04-TR	1 / 1	2.6
Lead	0.9334		0.9334		SD-MC-04-TR	1 / 1	0.93
Mercury	0.0005	J	0.0005	J	SD-MC-04-TR	1 / 1	0.00050
Nickel	0.1701		0.1701		SD-MC-04-TR	1 / 1	0.17
Zinc	4.6607	J	4.6607	J	SD-MC-04-TR	1 / 1	4.7
SEM/AVS	64.4		64.4		SD-MC-04-TR	1 / 1	64
Total Organic Carbon	290000		290000		SD-MC-04-TR	1 / 1	290000

J = Estimated Value

TABLE D.4-4
SUMMARY OF TRIAD CHEMISTRY DATA - SD-06-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	13
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	13
Acetone						0 / 1	95
Methyl Acetate	35	J	35	J	SD-06-03-TR	1 / 1	35
Methylene Chloride						0 / 1	15
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	315
2,2'-oxybis(1-Chloropropane)						0 / 1	315
2,4,5-Trichlorophenol						0 / 1	800
2,4,6-Trichlorophenol						0 / 1	315
2,4-Dichlorophenol						0 / 1	315
2,4-Dimethylphenol						0 / 1	315
2,4-Dinitrophenol						0 / 1	800
2,4-Dinitrotoluene						0 / 1	315
2,6-Dinitrotoluene						0 / 1	315
2-Chloronaphthalene						0 / 1	315
2-Chlorophenol						0 / 1	315
2-Methylnaphthalene						0 / 1	315
2-Methylphenol						0 / 1	315
2-Nitroaniline						0 / 1	800
2-Nitrophenol						0 / 1	315
3,3'-Dichlorobenzidine						0 / 1	315
3+4-Methylphenols						0 / 1	315
3-Nitroaniline						0 / 1	800
4,6-Dinitro-2-methylphenol						0 / 1	800
4-Bromophenyl-phenylether						0 / 1	315
4-Chloro-3-methylphenol						0 / 1	315
4-Chloroaniline						0 / 1	315
4-Chlorophenyl-phenylether						0 / 1	315
4-Nitroaniline						0 / 1	800
4-Nitrophenol						0 / 1	800
Acenaphthene						0 / 1	315
Acenaphthylene						0 / 1	315
Acetophenone						0 / 1	315
Anthracene	64	J	64	J	SD-06-03-TR	1 / 1	64
Atrazine						0 / 1	315
Benzaldehyde						0 / 1	315
Benzo(a)anthracene	310	J	310	J	SD-06-03-TR	1 / 1	310
Benzo(a)pyrene	370	J	370	J	SD-06-03-TR	1 / 1	370
Benzo(b)fluoranthene	610	J	610	J	SD-06-03-TR	1 / 1	610
Benzo(g,h,i)perylene	150	J	150	J	SD-06-03-TR	1 / 1	150
Benzo(k)fluoranthene	160	J	160	J	SD-06-03-TR	1 / 1	160
Bis(2-Chloroethoxy)methane						0 / 1	315
Bis(2-Chloroethyl)ether						0 / 1	315
bis(2-Ethylhexyl)phthalate	430	J	430	J	SD-06-03-TR	1 / 1	430
Butylbenzylphthalate						0 / 1	315
Caprolactam						0 / 1	315
Carbazole						0 / 1	315
Chrysene	450	J	450	J	SD-06-03-TR	1 / 1	450
Dibenzo(a,h)anthracene						0 / 1	315
Dibenzofuran						0 / 1	315
Diethylphthalate						0 / 1	315
Dimethylphthalate						0 / 1	315
Di-n-Butylphthalate						0 / 1	315
Di-n-octylphthalate						0 / 1	315
Fluoranthene	780		780		SD-06-03-TR	1 / 1	780
Fluorene						0 / 1	315
Hexachlorobenzene						0 / 1	315
Hexachlorobutadiene						0 / 1	315
Hexachlorocyclopentadiene						0 / 1	315
Hexachloroethane						0 / 1	315

TABLE D.4-4
SUMMARY OF TRIAD CHEMISTRY DATA - SD-06-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene	150	J	150	J	SD-06-03-TR	1 / 1	150
Isophorone						0 / 1	315
Naphthalene						0 / 1	315
Nitrobenzene						0 / 1	315
N-Nitroso-di-n-propylamine						0 / 1	315
N-Nitroso-diphenylamine						0 / 1	315
Pentachlorophenol						0 / 1	800
Phenanthrene	340	J	340	J	SD-06-03-TR	1 / 1	340
Phenol						0 / 1	315
Pyrene	600	J	600	J	SD-06-03-TR	1 / 1	600
PCBs/Pesticides - ug/Kg							
4,4'-DDD	2.2		2.2		SD-06-03-TR	1 / 1	2.2
4,4'-DDE	2.6		2.6		SD-06-03-TR	1 / 1	2.6
4,4'-DDT						0 / 1	0.7
Aldrin						0 / 1	0.32
alpha-BHC						0 / 1	0.32
alpha-Chlordane						0 / 1	0.32
Aroclor-1016						0 / 1	7
Aroclor-1221						0 / 1	13
Aroclor-1232						0 / 1	7
Aroclor-1242						0 / 1	7
Aroclor-1248						0 / 1	7
Aroclor-1254						0 / 1	7
Aroclor-1260						0 / 1	7
beta-BHC						0 / 1	0.32
delta-BHC						0 / 1	0.32
Dieldrin						0 / 1	0.7
Endosulfan I						0 / 1	0.32
Endosulfan II						0 / 1	0.7
Endosulfan Sulfate						0 / 1	0.7
Endrin						0 / 1	0.7
Endrin Aldehyde						0 / 1	0.7
Endrin Ketone						0 / 1	0.7
gamma-BHC						0 / 1	0.32
gamma-Chlordane						0 / 1	0.32
Heptachlor						0 / 1	0.32
Heptachlor Epoxide						0 / 1	0.32
Methoxychlor						0 / 1	3.2
Toxaphene						0 / 1	32
Metals - mg/Kg							
Aluminum	8800		8800		SD-06-03-TR	1 / 1	8800
Antimony	2.7		2.7		SD-06-03-TR	1 / 1	2.7
Arsenic	67.3		67.3		SD-06-03-TR	1 / 1	67
Barium	82.6		82.6		SD-06-03-TR	1 / 1	83
Beryllium	0.6	J	0.6	J	SD-06-03-TR	1 / 1	0.60
Cadmium	5.5		5.5		SD-06-03-TR	1 / 1	5.5
Calcium	3600		3600		SD-06-03-TR	1 / 1	3600
Chromium	197		197		SD-06-03-TR	1 / 1	197
Cobalt	13.7	J	13.7	J	SD-06-03-TR	1 / 1	14
Copper	219		219		SD-06-03-TR	1 / 1	219
Iron	20900		20900		SD-06-03-TR	1 / 1	20900
Lead	354		354		SD-06-03-TR	1 / 1	354
Magnesium	2930		2930		SD-06-03-TR	1 / 1	2930
Manganese	628		628		SD-06-03-TR	1 / 1	628
Mercury	0.69	J	0.69	J	SD-06-03-TR	1 / 1	0.69
Nickel	19.5		19.5		SD-06-03-TR	1 / 1	20
Potassium	837	J	837	J	SD-06-03-TR	1 / 1	837
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	214		214		SD-06-03-TR	1 / 1	214

TABLE D.4-4
SUMMARY OF TRIAD CHEMISTRY DATA - SD-06-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	29.9		29.9		SD-06-03-TR	1 / 1	30
Zinc	971	J	971	J	SD-06-03-TR	1 / 1	971
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.66	J	0.66	J	SD-06-03-TR	1 / 1	0.66
Simultaneously Extracted Metal	14.3865		14.3865		SD-06-03-TR	1 / 1	14
Cadmium	0.0434		0.0434		SD-06-03-TR	1 / 1	0.043
Copper	2.4454		2.4454		SD-06-03-TR	1 / 1	2.4
Lead	1.2966		1.2966		SD-06-03-TR	1 / 1	1.3
Mercury	0.0005	J	0.0005	J	SD-06-03-TR	1 / 1	0.00050
Nickel	0.1996		0.1996		SD-06-03-TR	1 / 1	0.20
Zinc	10.401	J	10.401	J	SD-06-03-TR	1 / 1	10
SEM/AVS	21.8		21.8		SD-06-03-TR	1 / 1	22
Total Organic Carbon	100000		100000		SD-06-03-TR	1 / 1	100000

J = Estimated Value

TABLE D.4-5
SUMMARY OF TRIAD CHEMISTRY DATA - SD-10-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	18
1,1,2,2-Tetrachloroethane						0 / 1	18
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	18
1,1,2-Trichloroethane						0 / 1	18
1,1-Dichloroethane						0 / 1	18
1,1-Dichloroethene						0 / 1	18
1,2,4-Trichlorobenzene						0 / 1	18
1,2-Dibromo-3-chloropropane						0 / 1	18
1,2-Dibromoethane						0 / 1	18
1,2-Dichlorobenzene						0 / 1	18
1,2-Dichloroethane						0 / 1	18
1,2-Dichloropropane						0 / 1	18
1,3-Dichlorobenzene						0 / 1	18
1,4-Dichlorobenzene						0 / 1	18
2-Butanone						0 / 1	18
2-Hexanone						0 / 1	18
4-Methyl-2-Pentanone						0 / 1	18
Acetone						0 / 1	125
Benzene						0 / 1	18
Bromodichloromethane						0 / 1	18
Bromoform						0 / 1	18
Bromomethane						0 / 1	18
Carbon Disulfide	29	J	29	J	SD-10-02-TR	1 / 1	29
Carbon Tetrachloride						0 / 1	18
Chlorobenzene						0 / 1	18
Chloroethane						0 / 1	18
Chloroform						0 / 1	18
Chloromethane						0 / 1	18
cis-1,2-Dichloroethene						0 / 1	18
cis-1,3-Dichloropropene						0 / 1	18
Cyclohexane						0 / 1	18
Dibromochloromethane						0 / 1	18
Dichlorodifluoromethane						0 / 1	18
Ethylbenzene						0 / 1	18
Isopropylbenzene						0 / 1	18
m&p-Xylene						0 / 1	18
Methyl Acetate						0 / 1	18
Methyl tert-Butyl Ether						0 / 1	18
Methylcyclohexane						0 / 1	18
Methylene Chloride						0 / 1	18
o-Xylene						0 / 1	18
Styrene						0 / 1	18
Tetrachloroethene						0 / 1	18
Toluene						0 / 1	18
trans-1,2-Dichloroethene						0 / 1	18
trans-1,3-Dichloropropene						0 / 1	18
Trichloroethene						0 / 1	18
Trichlorofluoromethane						0 / 1	18
Vinyl Chloride						0 / 1	18
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	270
2,2'-oxybis(1-Chloropropane)						0 / 1	270
2,4,5-Trichlorophenol						0 / 1	650
2,4,6-Trichlorophenol						0 / 1	270
2,4-Dichlorophenol						0 / 1	270
2,4-Dimethylphenol						0 / 1	270
2,4-Dinitrophenol						0 / 1	650
2,4-Dinitrotoluene						0 / 1	270
2,6-Dinitrotoluene						0 / 1	270
2-Chloronaphthalene						0 / 1	270

TABLE D.4-5
SUMMARY OF TRIAD CHEMISTRY DATA - SD-10-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
2-Chlorophenol						0 / 1	270
2-Methylnaphthalene						0 / 1	270
2-Methylphenol						0 / 1	270
2-Nitroaniline						0 / 1	650
2-Nitrophenol						0 / 1	270
3,3'-Dichlorobenzidine						0 / 1	270
3+4-Methylphenols						0 / 1	270
3-Nitroaniline						0 / 1	270
4,6-Dinitro-2-methylphenol						0 / 1	650
4-Bromophenyl-phenylether						0 / 1	270
4-Chloro-3-methylphenol						0 / 1	270
4-Chloroaniline						0 / 1	270
4-Chlorophenyl-phenylether						0 / 1	270
4-Nitroaniline						0 / 1	650
4-Nitrophenol						0 / 1	650
Acenaphthene						0 / 1	270
Acenaphthylene						0 / 1	270
Acetophenone						0 / 1	270
Anthracene						0 / 1	270
Atrazine						0 / 1	270
Benzaldehyde						0 / 1	270
Benzo(a)anthracene						0 / 1	270
Benzo(a)pyrene						0 / 1	270
Benzo(b)fluoranthene						0 / 1	270
Benzo(g,h,i)perylene						0 / 1	270
Benzo(k)fluoranthene						0 / 1	270
Bis(2-Chloroethoxy)methane						0 / 1	270
Bis(2-Chloroethyl)ether						0 / 1	270
bis(2-Ethylhexyl)phthalate						0 / 1	270
Butylbenzylphthalate						0 / 1	270
Caprolactam						0 / 1	270
Carbazole						0 / 1	270
Chrysene						0 / 1	270
Dibenzo(a,h)anthracene						0 / 1	270
Dibenzofuran						0 / 1	270
Diethylphthalate						0 / 1	270
Dimethylphthalate						0 / 1	270
Di-n-Butylphthalate						0 / 1	270
Di-n-octylphthalate						0 / 1	270
Fluoranthene						0 / 1	270
Fluorene						0 / 1	270
Hexachlorobenzene						0 / 1	270
Hexachlorobutadiene						0 / 1	270
Hexachlorocyclopentadiene						0 / 1	270
Hexachloroethane						0 / 1	270
Indeno(1,2,3-cd)pyrene						0 / 1	270
Isophorone						0 / 1	270
Naphthalene						0 / 1	270
Nitrobenzene						0 / 1	270
N-Nitroso-di-n-propylamine						0 / 1	270
N-Nitroso-diphenylamine						0 / 1	270
Pentachlorophenol						0 / 1	650
Phenanthrene						0 / 1	270
Phenol						0 / 1	270
Pyrene						0 / 1	270
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	2.1
4,4'-DDE						0 / 1	2.1
4,4'-DDT						0 / 1	2.1
Aldrin						0 / 1	1.1
alpha-BHC						0 / 1	1.1

TABLE D.4-5
SUMMARY OF TRIAD CHEMISTRY DATA - SD-10-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
alpha-Chlordane						0 / 1	1.1
Aroclor-1016						0 / 1	21
Aroclor-1221						0 / 1	42
Aroclor-1232						0 / 1	21
Aroclor-1242						0 / 1	21
Aroclor-1248						0 / 1	21
Aroclor-1254						0 / 1	21
Aroclor-1260						0 / 1	21
beta-BHC						0 / 1	1.1
delta-BHC						0 / 1	1.1
Dieldrin						0 / 1	2.1
Endosulfan I						0 / 1	1.1
Endosulfan II						0 / 1	2.1
Endosulfan Sulfate						0 / 1	2.1
Endrin						0 / 1	2.1
Endrin Aldehyde						0 / 1	2.1
Endrin Ketone						0 / 1	2.1
gamma-BHC						0 / 1	1.1
gamma-Chlordane						0 / 1	1.1
Heptachlor						0 / 1	1.1
Heptachlor Epoxide						0 / 1	1.1
Methoxychlor						0 / 1	11
Toxaphene						0 / 1	105
Metals - mg/Kg							
Aluminum	28600		28600		SD-10-02-TR	1 / 1	28600
Antimony	39.7		39.7		SD-10-02-TR	1 / 1	40
Arsenic	2180		2180		SD-10-02-TR	1 / 1	2180
Barium	102		102		SD-10-02-TR	1 / 1	102
Beryllium	1.7	J	1.7	J	SD-10-02-TR	1 / 1	1.7
Cadmium	13.9		13.9		SD-10-02-TR	1 / 1	14
Calcium	10400		10400		SD-10-02-TR	1 / 1	10400
Chromium	1570		1570		SD-10-02-TR	1 / 1	1570
Cobalt	28.6	J	28.6	J	SD-10-02-TR	1 / 1	29
Copper	2030		2030		SD-10-02-TR	1 / 1	2030
Iron	46700		46700		SD-10-02-TR	1 / 1	46700
Lead	837		837		SD-10-02-TR	1 / 1	837
Magnesium	1880		1880		SD-10-02-TR	1 / 1	1880
Manganese	727		727		SD-10-02-TR	1 / 1	727
Mercury	0.19	J	0.19	J	SD-10-02-TR	1 / 1	0.19
Nickel	26.2		26.2		SD-10-02-TR	1 / 1	26
Potassium	533	J	533	J	SD-10-02-TR	1 / 1	533
Selenium	1.9	J	1.9	J	SD-10-02-TR	1 / 1	1.9
Silver						0 / 1	0.50
Sodium	1300		1300		SD-10-02-TR	1 / 1	1300
Thallium						0 / 1	0.55
Vanadium	68.6		68.6		SD-10-02-TR	1 / 1	69
Zinc	2420	J	2420	J	SD-10-02-TR	1 / 1	2420
AVS/SEM - umol/g							
Acid Volatile Sulfide	5.97	J	5.97	J	SD-10-02-TR	1 / 1	6.0
Simultaneously Extracted Metal	42.5591		42.5591		SD-10-02-TR	1 / 1	43
Cadmium	0.0899		0.0899		SD-10-02-TR	1 / 1	0.090
Copper	14.7738		14.7738		SD-10-02-TR	1 / 1	15
Lead	2.7329		2.7329		SD-10-02-TR	1 / 1	2.7
Mercury	0.006	J	0.006	J	SD-10-02-TR	1 / 1	0.0060
Nickel	0.2412		0.2412		SD-10-02-TR	1 / 1	0.24
Zinc	24.7153	J	24.7153	J	SD-10-02-TR	1 / 1	25
SEM/AVS	7.1		7.1		SD-10-02-TR	1 / 1	7.1
Total Organic Carbon	680000		680000		SD-10-02-TR	1 / 1	680000

J = Estimated Value

TABLE D.4-6
SUMMARY OF TRIAD CHEMISTRY DATA - SD-12-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	45
Acetone	370	J	370	J	SD-12-03-TR	1 / 1	370
Methylene Chloride						0 / 1	45
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	195
2,2'-oxybis(1-Chloropropane)						0 / 1	195
2,4,5-Trichlorophenol						0 / 1	490
2,4,6-Trichlorophenol						0 / 1	195
2,4-Dichlorophenol						0 / 1	195
2,4-Dimethylphenol						0 / 1	195
2,4-Dinitrophenol						0 / 1	490
2,4-Dinitrotoluene						0 / 1	195
2,6-Dinitrotoluene						0 / 1	195
2-Chloronaphthalene						0 / 1	195
2-Chlorophenol						0 / 1	195
2-Methylnaphthalene						0 / 1	195
2-Methylphenol						0 / 1	195
2-Nitroaniline						0 / 1	490
2-Nitrophenol						0 / 1	195
3,3'-Dichlorobenzidine						0 / 1	195
3-Nitroaniline						0 / 1	195
4,6-Dinitro-2-methylphenol						0 / 1	490
4-Bromophenyl-phenylether						0 / 1	195
4-Chloro-3-methylphenol						0 / 1	195
4-Chloroaniline						0 / 1	195
4-Chlorophenyl-phenylether						0 / 1	195
4-Nitroaniline						0 / 1	490
4-Nitrophenol						0 / 1	490
Acenaphthene						0 / 1	195
Acenaphthylene						0 / 1	195
Acetophenone						0 / 1	195
Anthracene						0 / 1	195
Atrazine						0 / 1	195
Benzaldehyde						0 / 1	195
Benzo(a)anthracene	290	J	290	J	SD-12-03-TR	1 / 1	290
Benzo(a)pyrene	520	J	520	J	SD-12-03-TR	1 / 1	520
Benzo(b)fluoranthene	960		960		SD-12-03-TR	1 / 1	960
Benzo(g,h,i)perylene	280	J	280	J	SD-12-03-TR	1 / 1	280
Benzo(k)fluoranthene	360	J	360	J	SD-12-03-TR	1 / 1	360
Bis(2-Chloroethoxy)methane						0 / 1	195
Bis(2-Chloroethyl)ether						0 / 1	195
bis(2-Ethylhexyl)phthalate	260	J	260	J	SD-12-03-TR	1 / 1	260
Butylbenzylphthalate						0 / 1	195
Caprolactam						0 / 1	195
Carbazole						0 / 1	195
Chrysene	510		510		SD-12-03-TR	1 / 1	510
Dibenzo(a,h)anthracene						0 / 1	195
Dibenzofuran						0 / 1	195
Diethylphthalate						0 / 1	195
Dimethylphthalate						0 / 1	195
Di-n-Butylphthalate						0 / 1	195
Di-n-octylphthalate						0 / 1	195
Fluoranthene	730		730		SD-12-03-TR	1 / 1	730
Fluorene						0 / 1	195
Hexachlorobenzene						0 / 1	195
Hexachlorobutadiene						0 / 1	195
Hexachlorocyclopentadiene						0 / 1	195
Hexachloroethane						0 / 1	195

TABLE D.4-6
SUMMARY OF TRIAD CHEMISTRY DATA - SD-12-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene	260	J	260	J	SD-12-03-TR	1 / 1	260
Isophorone						0 / 1	195
Naphthalene						0 / 1	195
Nitrobenzene						0 / 1	195
N-Nitroso-di-n-propylamine						0 / 1	195
N-Nitroso-diphenylamine						0 / 1	195
Pentachlorophenol						0 / 1	490
Phenanthrene	230	J	230	J	SD-12-03-TR	1 / 1	230
Phenol						0 / 1	195
Pyrene	670		670		SD-12-03-TR	1 / 1	670
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	1.6
4,4'-DDE	1.3	J	1.3	J	SD-12-03-TR	1 / 1	1.3
4,4'-DDT						0 / 1	1.6
Aldrin						0 / 1	0.80
alpha-BHC						0 / 1	0.80
alpha-Chlordane						0 / 1	0.80
Aroclor-1016						0 / 1	16
Aroclor-1221						0 / 1	32
Aroclor-1232						0 / 1	16
Aroclor-1242						0 / 1	16
Aroclor-1248						0 / 1	16
Aroclor-1254						0 / 1	16
Aroclor-1260						0 / 1	16
beta-BHC						0 / 1	0.80
delta-BHC						0 / 1	0.80
Dieldrin						0 / 1	1.6
Endosulfan I						0 / 1	0.80
Endosulfan II						0 / 1	1.6
Endosulfan Sulfate						0 / 1	1.6
Endrin						0 / 1	1.6
Endrin Aldehyde						0 / 1	1.6
Endrin Ketone						0 / 1	1.6
gamma-BHC						0 / 1	0.80
gamma-Chlordane						0 / 1	0.80
Heptachlor						0 / 1	0.80
Heptachlor Epoxide						0 / 1	0.80
Methoxychlor						0 / 1	8.0
Toxaphene						0 / 1	80
Metals - mg/Kg							
Aluminum	16500		16500		SD-12-03-TR	1 / 1	16500
Antimony	19.2		19.2		SD-12-03-TR	1 / 1	19
Arsenic	958		958		SD-12-03-TR	1 / 1	958
Barium	121		121		SD-12-03-TR	1 / 1	121
Beryllium	1.3	J	1.3	J	SD-12-03-TR	1 / 1	1.3
Cadmium	13.5		13.5		SD-12-03-TR	1 / 1	14
Calcium	5340		5340		SD-12-03-TR	1 / 1	5340
Chromium	1310		1310		SD-12-03-TR	1 / 1	1310
Cobalt	37.9	J	37.9	J	SD-12-03-TR	1 / 1	38
Copper	718		718		SD-12-03-TR	1 / 1	718
Iron	94600		94600		SD-12-03-TR	1 / 1	94600
Lead	459		459		SD-12-03-TR	1 / 1	459
Magnesium	3070		3070		SD-12-03-TR	1 / 1	3070
Manganese	1180		1180		SD-12-03-TR	1 / 1	1180
Mercury						0 / 1	0.085
Nickel	28.1		28.1		SD-12-03-TR	1 / 1	28
Potassium	837	J	837	J	SD-12-03-TR	1 / 1	837
Selenium						0 / 1	0.50
Silver	1.8		1.8		SD-12-03-TR	1 / 1	1.8
Sodium	793	J	793	J	SD-12-03-TR	1 / 1	793

TABLE D.4-6
SUMMARY OF TRIAD CHEMISTRY DATA - SD-12-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	60.6	J	60.6	J	SD-12-03-TR	1 / 1	61
Zinc	2680	J	2680	J	SD-12-03-TR	1 / 1	2680
AVS/SEM - umol/g							
Acid Volatile Sulfide	24.09		24.09		SD-12-03-TR	1 / 1	24
Simultaneously Extracted Metal	27.517		27.517		SD-12-03-TR	1 / 1	28
Cadmium	0.694		0.694		SD-12-03-TR	1 / 1	0.69
Copper	5.217		5.217		SD-12-03-TR	1 / 1	5.2
Lead	1.1493		1.1493		SD-12-03-TR	1 / 1	1.1
Mercury	0.0008	J	0.0008	J	SD-12-03-TR	1 / 1	0.00080
Nickel	0.22		0.22		SD-12-03-TR	1 / 1	0.22
Zinc	22.0096		22.0096		SD-12-03-TR	1 / 1	22
SEM/AVS	1.14		1.14		SD-12-03-TR	1 / 1	1.1
Total Organic Carbon	150000	J	150000	J	SD-12-03-TR	1 / 1	150000

J = Estimated Value

TABLE D.4-7
SUMMARY OF TRIAD CHEMISTRY DATA - SD-13-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane	59	J	59	J	SD-13-01-TR	1 / 1	59
1,1,2,2-Tetrachloroethane						0 / 1	11
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	11
1,1,2-Trichloroethane						0 / 1	11
1,1-Dichloroethane						0 / 1	11
1,1-Dichloroethene						0 / 1	11
1,2,4-Trichlorobenzene						0 / 1	11
1,2-Dibromo-3-chloropropane						0 / 1	11
1,2-Dibromoethane						0 / 1	11
1,2-Dichlorobenzene						0 / 1	11
1,2-Dichloroethane						0 / 1	11
1,2-Dichloropropane						0 / 1	11
1,3-Dichlorobenzene						0 / 1	11
1,4-Dichlorobenzene						0 / 1	11
2-Butanone						0 / 1	11
2-Hexanone						0 / 1	11
4-Methyl-2-Pentanone						0 / 1	11
Acetone						0 / 1	4300
Benzene						0 / 1	11
Bromodichloromethane						0 / 1	11
Bromoform						0 / 1	11
Bromomethane						0 / 1	11
Carbon Disulfide						0 / 1	11
Carbon Tetrachloride						0 / 1	11
Chlorobenzene						0 / 1	11
Chloroethane						0 / 1	11
Chloroform						0 / 1	11
Chloromethane						0 / 1	11
cis-1,2-Dichloroethene						0 / 1	11
cis-1,3-Dichloropropene						0 / 1	11
Cyclohexane						0 / 1	11
Dibromochloromethane						0 / 1	11
Dichlorodifluoromethane						0 / 1	11
Ethylbenzene						0 / 1	11
Isopropylbenzene						0 / 1	11
m&p-Xylene						0 / 1	11
Methyl Acetate						0 / 1	11
Methyl tert-Butyl Ether						0 / 1	11
Methylcyclohexane						0 / 1	11
Methylene Chloride						0 / 1	11
o-Xylene						0 / 1	11
Styrene						0 / 1	11
Tetrachloroethene						0 / 1	11
Toluene						0 / 1	11
trans-1,2-Dichloroethene						0 / 1	11
trans-1,3-Dichloropropene						0 / 1	11
Trichloroethene						0 / 1	11
Trichlorofluoromethane						0 / 1	11
Vinyl Chloride						0 / 1	11
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	140
2,2'-oxybis(1-Chloropropane)						0 / 1	140
2,4,5-Trichlorophenol						0 / 1	345
2,4,6-Trichlorophenol						0 / 1	140
2,4-Dichlorophenol						0 / 1	140
2,4-Dimethylphenol						0 / 1	140
2,4-Dinitrophenol						0 / 1	345
2,4-Dinitrotoluene						0 / 1	140
2,6-Dinitrotoluene						0 / 1	140
2-Chloronaphthalene						0 / 1	140

TABLE D.4-7
SUMMARY OF TRIAD CHEMISTRY DATA - SD-13-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
2-Chlorophenol						0 / 1	140
2-Methylnaphthalene						0 / 1	140
2-Methylphenol						0 / 1	140
2-Nitroaniline						0 / 1	345
2-Nitrophenol						0 / 1	140
3,3'-Dichlorobenzidine						0 / 1	140
3+4-Methylphenols						0 / 1	140
3-Nitroaniline						0 / 1	140
4,6-Dinitro-2-methylphenol						0 / 1	345
4-Bromophenyl-phenylether						0 / 1	140
4-Chloro-3-methylphenol						0 / 1	140
4-Chloroaniline						0 / 1	140
4-Chlorophenyl-phenylether						0 / 1	140
4-Nitroaniline						0 / 1	345
4-Nitrophenol						0 / 1	345
Acenaphthene						0 / 1	140
Acenaphthylene						0 / 1	140
Acetophenone						0 / 1	140
Anthracene						0 / 1	140
Atrazine						0 / 1	140
Benzaldehyde						0 / 1	140
Benzo(a)anthracene	110	J	110	J	SD-13-01-TR	1 / 1	110
Benzo(a)pyrene	150	J	150	J	SD-13-01-TR	1 / 1	150
Benzo(b)fluoranthene	270	J	270	J	SD-13-01-TR	1 / 1	270
Benzo(g,h,i)perylene						0 / 1	140
Benzo(k)fluoranthene						0 / 1	140
Bis(2-Chloroethoxy)methane						0 / 1	140
Bis(2-Chloroethyl)ether						0 / 1	140
bis(2-Ethylhexyl)phthalate	140	J	140	J	SD-13-01-TR	1 / 1	140
Butylbenzylphthalate						0 / 1	140
Caprolactam						0 / 1	140
Carbazole						0 / 1	140
Chrysene	150	J	150	J	SD-13-01-TR	1 / 1	150
Dibenzo(a,h)anthracene						0 / 1	140
Dibenzofuran						0 / 1	140
Diethylphthalate						0 / 1	140
Dimethylphthalate						0 / 1	140
Di-n-Butylphthalate						0 / 1	140
Di-n-octylphthalate						0 / 1	140
Fluoranthene	230	J	230	J	SD-13-01-TR	1 / 1	230
Fluorene						0 / 1	140
Hexachlorobenzene						0 / 1	140
Hexachlorobutadiene						0 / 1	140
Hexachlorocyclopentadiene						0 / 1	140
Hexachloroethane						0 / 1	140
Indeno(1,2,3-cd)pyrene						0 / 1	140
Isophorone						0 / 1	140
Naphthalene						0 / 1	140
Nitrobenzene						0 / 1	140
N-Nitroso-di-n-propylamine						0 / 1	140
N-Nitroso-diphenylamine						0 / 1	140
Pentachlorophenol						0 / 1	345
Phenanthrene						0 / 1	140
Phenol						0 / 1	140
Pyrene	230	J	230	J	SD-13-01-TR	1 / 1	230
PCBs/Pesticides - ug/Kg							
4,4'-DDD	4.4		4.4		SD-13-01-TR	1 / 1	4.4
4,4'-DDE	2.9		2.9		SD-13-01-TR	1 / 1	2.9
4,4'-DDT						0 / 1	1.1
Aldrin						0 / 1	0.55
alpha-BHC						0 / 1	0.55

TABLE D.4-7
SUMMARY OF TRIAD CHEMISTRY DATA - SD-13-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
alpha-Chlordane						0 / 1	0.55
Aroclor-1016						0 / 1	11
Aroclor-1221						0 / 1	23
Aroclor-1232						0 / 1	11
Aroclor-1242						0 / 1	11
Aroclor-1248						0 / 1	11
Aroclor-1254	45		45		SD-13-01-TR	1 / 1	45
Aroclor-1260						0 / 1	11
beta-BHC						0 / 1	0.55
delta-BHC						0 / 1	0.55
Dieldrin						0 / 1	1.1
Endosulfan I						0 / 1	0.55
Endosulfan II						0 / 1	1.1
Endosulfan Sulfate						0 / 1	1.1
Endrin						0 / 1	1.1
Endrin Aldehyde						0 / 1	1.1
Endrin Ketone						0 / 1	1.1
gamma-BHC						0 / 1	0.55
gamma-Chlordane						0 / 1	0.55
Heptachlor						0 / 1	0.55
Heptachlor Epoxide						0 / 1	0.55
Methoxychlor						0 / 1	5.5
Toxaphene						0 / 1	55
Metals - mg/Kg							
Aluminum	17000		17000		SD-13-01-TR	1 / 1	17000
Antimony	6.6		6.6		SD-13-01-TR	1 / 1	6.6
Arsenic	353		353		SD-13-01-TR	1 / 1	353
Barium	128		128		SD-13-01-TR	1 / 1	128
Beryllium	1.2	J	1.2	J	SD-13-01-TR	1 / 1	1.2
Cadmium	7.8		7.8		SD-13-01-TR	1 / 1	7.8
Calcium	6190		6190		SD-13-01-TR	1 / 1	6190
Chromium	494		494		SD-13-01-TR	1 / 1	494
Cobalt	21.6	J	21.6	J	SD-13-01-TR	1 / 1	22
Copper	474		474		SD-13-01-TR	1 / 1	474
Iron	50900		50900		SD-13-01-TR	1 / 1	50900
Lead	756		756		SD-13-01-TR	1 / 1	756
Magnesium	4440		4440		SD-13-01-TR	1 / 1	4440
Manganese	607		607		SD-13-01-TR	1 / 1	607
Mercury	0.48	J	0.48	J	SD-13-01-TR	1 / 1	0.48
Nickel	27.9		27.9		SD-13-01-TR	1 / 1	28
Potassium	1370	J	1370	J	SD-13-01-TR	1 / 1	1370
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	570		570		SD-13-01-TR	1 / 1	570
Thallium						0 / 1	0.55
Vanadium	61		61		SD-13-01-TR	1 / 1	61
Zinc	1420	J	1420	J	SD-13-01-TR	1 / 1	1420
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.68	J	0.68	J	SD-13-01-TR	1 / 1	0.68
Simultaneously Extracted Metal	18.8356		18.8356		SD-13-01-TR	1 / 1	19
Cadmium	0.0451		0.0451		SD-13-01-TR	1 / 1	0.045
Copper	3.9998		3.9998		SD-13-01-TR	1 / 1	4.0
Lead	2.2561		2.2561		SD-13-01-TR	1 / 1	2.3
Mercury	0.0027	J	0.0027	J	SD-13-01-TR	1 / 1	0.0027
Nickel	0.2421		0.2421		SD-13-01-TR	1 / 1	0.24
Zinc	12.2898	J	12.2898	J	SD-13-01-TR	1 / 1	12
SEM/AVS	27.7		27.7		SD-13-01-TR	1 / 1	28
Total Organic Carbon	300000		300000		SD-13-01-TR	1 / 1	300000

J = Estimated Value

TABLE D.4-8
SUMMARY OF TRIAD CHEMISTRY DATA - SD-18-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	35
Acetone	385	J	385	J	SD-18-02-TR	1 / 1	385
Methylene Chloride						0 / 1	28
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	205
2,2'-oxybis(1-Chloropropane)						0 / 1	205
2,4,5-Trichlorophenol						0 / 1	500
2,4,6-Trichlorophenol						0 / 1	205
2,4-Dichlorophenol						0 / 1	205
2,4-Dimethylphenol						0 / 1	205
2,4-Dinitrophenol						0 / 1	500
2,4-Dinitrotoluene						0 / 1	205
2,6-Dinitrotoluene						0 / 1	205
2-Chloronaphthalene						0 / 1	205
2-Chlorophenol						0 / 1	205
2-Methylnaphthalene						0 / 1	205
2-Methylphenol						0 / 1	205
2-Nitroaniline						0 / 1	500
2-Nitrophenol						0 / 1	205
3,3'-Dichlorobenzidine						0 / 1	205
3-Nitroaniline						0 / 1	205
4,6-Dinitro-2-methylphenol						0 / 1	500
4-Bromophenyl-phenylether						0 / 1	205
4-Chloro-3-methylphenol						0 / 1	205
4-Chloroaniline						0 / 1	205
4-Chlorophenyl-phenylether						0 / 1	205
4-Nitroaniline						0 / 1	500
4-Nitrophenol						0 / 1	500
Acenaphthene						0 / 1	205
Acenaphthylene						0 / 1	205
Acetophenone						0 / 1	205
Anthracene						0 / 1	205
Atrazine						0 / 1	205
Benzaldehyde						0 / 1	205
Benzo(a)anthracene						0 / 1	205
Benzo(b)fluoranthene	180	J	180	J	SD-18-02-TR	1 / 1	180
Benzo(g,h,i)perylene						0 / 1	205
Benzo(k)fluoranthene	410	J	410	J	SD-18-02-TR	1 / 1	410
Bis(2-Chloroethoxy)methane						0 / 1	205
Bis(2-Chloroethyl)ether						0 / 1	205
bis(2-Ethylhexyl)phthalate						0 / 1	205
Butylbenzylphthalate						0 / 1	205
Caprolactam						0 / 1	205
Carbazole						0 / 1	205
Chrysene						0 / 1	205
Dibenzo(a,h)anthracene						0 / 1	205
Dibenzofuran						0 / 1	205
Diethylphthalate						0 / 1	205
Dimethylphthalate						0 / 1	205
Di-n-Butylphthalate						0 / 1	205
Di-n-octylphthalate						0 / 1	205
Fluoranthene	220	J	220	J	SD-18-02-TR	1 / 1	220
Fluorene						0 / 1	205
Hexachlorobenzene						0 / 1	205
Hexachlorobutadiene						0 / 1	205
Hexachlorocyclopentadiene						0 / 1	205
Hexachloroethane						0 / 1	205
Indeno(1,2,3-cd)pyrene						0 / 1	205
Isophorone						0 / 1	205

TABLE D.4-8
SUMMARY OF TRIAD CHEMISTRY DATA - SD-18-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Naphthalene						0 / 1	205
Nitrobenzene						0 / 1	205
N-Nitroso-di-n-propylamine						0 / 1	205
N-Nitroso-diphenylamine						0 / 1	205
Pentachlorophenol						0 / 1	500
Phenanthrene						0 / 1	205
Phenol						0 / 1	205
Pyrene	200	J	200	J	SD-18-02-TR	1 / 1	200
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	1.6
4,4'-DDE						0 / 1	1.6
4,4'-DDT						0 / 1	1.6
Aldrin						0 / 1	0.80
alpha-BHC						0 / 1	0.80
alpha-Chlordane						0 / 1	0.80
Aroclor-1016						0 / 1	16
Aroclor-1221						0 / 1	32
Aroclor-1232						0 / 1	16
Aroclor-1242						0 / 1	16
Aroclor-1248						0 / 1	16
Aroclor-1254						0 / 1	16
Aroclor-1260						0 / 1	16
beta-BHC						0 / 1	0.80
delta-BHC						0 / 1	0.80
Dieldrin						0 / 1	1.6
Endosulfan I						0 / 1	0.80
Endosulfan II						0 / 1	1.6
Endosulfan Sulfate						0 / 1	1.6
Endrin						0 / 1	1.6
Endrin Aldehyde						0 / 1	1.6
Endrin Ketone						0 / 1	1.6
gamma-BHC						0 / 1	0.80
gamma-Chlordane						0 / 1	0.80
Heptachlor						0 / 1	0.80
Heptachlor Epoxide						0 / 1	0.80
Methoxychlor						0 / 1	8.0
Toxaphene						0 / 1	80
Metals - mg/Kg							
Aluminum	16200		16200		SD-18-02-TR	1 / 1	16200
Antimony	26.9		26.9		SD-18-02-TR	1 / 1	27
Arsenic	1490		1490		SD-18-02-TR	1 / 1	1490
Barium	147		147		SD-18-02-TR	1 / 1	147
Beryllium	1.4	J	1.4	J	SD-18-02-TR	1 / 1	1.4
Cadmium	13		13		SD-18-02-TR	1 / 1	13
Calcium	7850		7850		SD-18-02-TR	1 / 1	7850
Chromium	2140		2140		SD-18-02-TR	1 / 1	2140
Cobalt	37.8	J	37.8	J	SD-18-02-TR	1 / 1	38
Copper	854		854		SD-18-02-TR	1 / 1	854
Iron	120000		120000		SD-18-02-TR	1 / 1	120000
Lead	440		440		SD-18-02-TR	1 / 1	440
Magnesium	2460		2460		SD-18-02-TR	1 / 1	2460
Manganese	1740		1740		SD-18-02-TR	1 / 1	1740
Mercury	0.35		0.35		SD-18-02-TR	1 / 1	0.35
Nickel	24.3		24.3		SD-18-02-TR	1 / 1	24
Potassium	694	J	694	J	SD-18-02-TR	1 / 1	694
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	592	J	592	J	SD-18-02-TR	1 / 1	592
Thallium						0 / 1	0.55
Vanadium	56	J	56	J	SD-18-02-TR	1 / 1	56
Zinc	2400	J	2400	J	SD-18-02-TR	1 / 1	2400
AVS/SEM - umol/g							

TABLE D.4-8
SUMMARY OF TRIAD CHEMISTRY DATA - SD-18-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Acid Volatile Sulfide	4.78		4.78		SD-18-02-TR	1 / 1	4.8
Simultaneously Extracted Metal	29.255		29.255		SD-18-02-TR	1 / 1	29
Cadmium	0.0696		0.0696		SD-18-02-TR	1 / 1	0.070
Copper	7.3627		7.3627		SD-18-02-TR	1 / 1	7.4
Lead	1.3371		1.3371		SD-18-02-TR	1 / 1	1.3
Mercury	0.0095	J	0.0095	J	SD-18-02-TR	1 / 1	0.0095
Nickel	0.2345		0.2345		SD-18-02-TR	1 / 1	0.23
Zinc	21.5788		21.5788		SD-18-02-TR	1 / 1	22
SEM/AVS	6.12		6.12		SD-18-02-TR	1 / 1	6.1
Total Organic Carbon	300000	J	300000	J	SD-18-02-TR	1 / 1	300000

J = Estimated Value

TABLE D.4-9
SUMMARY OF TRIAD CHEMISTRY DATA - SD-19-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	26
Acetone	310	J	310	J	SD-19-01-TR	1 / 1	310
Methylene Chloride						0 / 1	26
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	200
2,2'-oxybis(1-Chloropropane)						0 / 1	200
2,4,5-Trichlorophenol						0 / 1	500
2,4,6-Trichlorophenol						0 / 1	200
2,4-Dichlorophenol						0 / 1	200
2,4-Dimethylphenol						0 / 1	200
2,4-Dinitrophenol						0 / 1	500
2,4-Dinitrotoluene						0 / 1	200
2,6-Dinitrotoluene						0 / 1	200
2-Chloronaphthalene						0 / 1	200
2-Chlorophenol						0 / 1	200
2-Methylnaphthalene						0 / 1	200
2-Methylphenol						0 / 1	200
2-Nitroaniline						0 / 1	500
2-Nitrophenol						0 / 1	200
3,3'-Dichlorobenzidine						0 / 1	200
3-Nitroaniline						0 / 1	200
4,6-Dinitro-2-methylphenol						0 / 1	500
4-Bromophenyl-phenylether						0 / 1	200
4-Chloro-3-methylphenol						0 / 1	200
4-Chloroaniline						0 / 1	200
4-Chlorophenyl-phenylether						0 / 1	200
4-Nitroaniline						0 / 1	500
4-Nitrophenol						0 / 1	500
Acenaphthene						0 / 1	200
Acenaphthylene						0 / 1	200
Acetophenone						0 / 1	200
Anthracene						0 / 1	200
Atrazine						0 / 1	200
Benzaldehyde						0 / 1	200
Benzo(a)anthracene						0 / 1	200
Benzo(a)pyrene	210	J	210	J	SD-19-01-TR	1 / 1	210
Benzo(b)fluoranthene	410		410		SD-19-01-TR	1 / 1	410
Benzo(g,h,i)perylene						0 / 1	200
Benzo(k)fluoranthene	400	J	400	J	SD-19-01-TR	1 / 1	400
Bis(2-Chloroethoxy)methane						0 / 1	200
Bis(2-Chloroethyl)ether						0 / 1	200
bis(2-Ethylhexyl)phthalate						0 / 1	200
Butylbenzylphthalate						0 / 1	200
Caprolactam						0 / 1	200
Carbazole						0 / 1	200
Chrysene	210	J	210	J	SD-19-01-TR	1 / 1	210
Dibenzo(a,h)anthracene						0 / 1	200
Dibenzofuran						0 / 1	200
Diethylphthalate						0 / 1	200
Dimethylphthalate						0 / 1	200
Di-n-Butylphthalate						0 / 1	200
Di-n-octylphthalate						0 / 1	200
Fluoranthene	280	J	280	J	SD-19-01-TR	1 / 1	280
Fluorene						0 / 1	200
Hexachlorobenzene						0 / 1	200
Hexachlorobutadiene						0 / 1	200
Hexachlorocyclopentadiene						0 / 1	200
Hexachloroethane						0 / 1	200

TABLE D.4-9
SUMMARY OF TRIAD CHEMISTRY DATA - SD-19-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene						0 / 1	200
Isophorone						0 / 1	200
Naphthalene						0 / 1	200
Nitrobenzene						0 / 1	200
N-Nitroso-di-n-propylamine						0 / 1	200
N-Nitroso-diphenylamine						0 / 1	200
Pentachlorophenol						0 / 1	500
Phenanthrene						0 / 1	200
Phenol						0 / 1	200
Pyrene	270	J	270	J	SD-19-01-TR	1 / 1	270
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	1.6
4,4'-DDE	1.6	J	1.6	J	SD-19-01-TR	1 / 1	1.6
4,4'-DDT						0 / 1	1.6
Aldrin						0 / 1	0.80
alpha-BHC						0 / 1	0.80
alpha-Chlordane						0 / 1	0.80
Aroclor-1016						0 / 1	16
Aroclor-1221						0 / 1	32
Aroclor-1232						0 / 1	16
Aroclor-1242						0 / 1	16
Aroclor-1248						0 / 1	16
Aroclor-1254						0 / 1	16
Aroclor-1260						0 / 1	16
beta-BHC						0 / 1	0.80
delta-BHC						0 / 1	0.80
Dieldrin						0 / 1	1.6
Endosulfan I						0 / 1	0.80
Endosulfan II						0 / 1	1.6
Endosulfan Sulfate						0 / 1	1.6
Endrin						0 / 1	1.6
Endrin Aldehyde						0 / 1	1.6
Endrin Ketone						0 / 1	1.6
gamma-BHC						0 / 1	0.80
gamma-Chlordane						0 / 1	0.80
Heptachlor						0 / 1	0.80
Heptachlor Epoxide						0 / 1	0.80
Methoxychlor						0 / 1	8.0
Toxaphene						0 / 1	80
Metals - mg/Kg							
Aluminum	7060		7060		SD-19-01-TR	1 / 1	7060
Antimony	16.4		16.4		SD-19-01-TR	1 / 1	16
Arsenic	4250		4250		SD-19-01-TR	1 / 1	4250
Barium	205		205		SD-19-01-TR	1 / 1	205
Beryllium	0.68	J	0.68	J	SD-19-01-TR	1 / 1	0.68
Cadmium	8.3		8.3		SD-19-01-TR	1 / 1	8.3
Calcium	4120		4120		SD-19-01-TR	1 / 1	4120
Chromium	866		866		SD-19-01-TR	1 / 1	866
Cobalt	37.3	J	37.3	J	SD-19-01-TR	1 / 1	37
Copper	354		354		SD-19-01-TR	1 / 1	354
Iron	258000		258000		SD-19-01-TR	1 / 1	258000
Lead	206		206		SD-19-01-TR	1 / 1	206
Magnesium	1280		1280		SD-19-01-TR	1 / 1	1280
Manganese	2020		2020		SD-19-01-TR	1 / 1	2020
Mercury						0 / 1	0.055
Nickel						0 / 1	0.40
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium						0 / 1	183
Thallium						0 / 1	0.55

TABLE D.4-9
SUMMARY OF TRIAD CHEMISTRY DATA - SD-19-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Vanadium	32.4	J	32.4	J	SD-19-01-TR	1 / 1	32
Zinc	1600	J	1600	J	SD-19-01-TR	1 / 1	1600
AVS/SEM - umol/g							
Acid Volatile Sulfide	5.63		5.63		SD-19-01-TR	1 / 1	5.6
Simultaneously Extracted Metal	22.551		22.551		SD-19-01-TR	1 / 1	23
Cadmium	0.0658		0.0658		SD-19-01-TR	1 / 1	0.066
Copper	4.2687		4.2687		SD-19-01-TR	1 / 1	4.3
Lead	0.8486		0.8486		SD-19-01-TR	1 / 1	0.85
Mercury	0.0001	J	0.0001	J	SD-19-01-TR	1 / 1	0.00010
Nickel	0.0137		0.0137		SD-19-01-TR	1 / 1	0.014
Zinc	18.203		18.203		SD-19-01-TR	1 / 1	18
SEM/AVS	4.01		4.01		SD-19-01-TR	1 / 1	4.0
Total Organic Carbon	290000	J	290000	J	SD-19-01-TR	1 / 1	290000

J = Estimated Value

TABLE D.4-10
SUMMARY OF TRIAD CHEMISTRY DATA - SD-22-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	75
Acetone	2400	J	2400	J	SD-22-01-TR	1 / 1	2400
Methylene Chloride						0 / 1	75
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	270
2,2'-oxybis(1-Chloropropane)						0 / 1	270
2,4,5-Trichlorophenol						0 / 1	700
2,4,6-Trichlorophenol						0 / 1	270
2,4-Dichlorophenol						0 / 1	270
2,4-Dimethylphenol						0 / 1	270
2,4-Dinitrophenol						0 / 1	700
2,4-Dinitrotoluene						0 / 1	270
2,6-Dinitrotoluene						0 / 1	270
2-Chloronaphthalene						0 / 1	270
2-Chlorophenol						0 / 1	270
2-Methylnaphthalene						0 / 1	270
2-Methylphenol						0 / 1	270
2-Nitroaniline						0 / 1	700
2-Nitrophenol						0 / 1	270
3,3'-Dichlorobenzidine						0 / 1	270
3-Nitroaniline						0 / 1	270
4,6-Dinitro-2-methylphenol						0 / 1	700
4-Bromophenyl-phenylether						0 / 1	270
4-Chloro-3-methylphenol						0 / 1	270
4-Chloroaniline						0 / 1	270
4-Chlorophenyl-phenylether						0 / 1	270
4-Nitroaniline						0 / 1	700
4-Nitrophenol						0 / 1	700
Acenaphthene						0 / 1	270
Acenaphthylene						0 / 1	270
Acetophenone						0 / 1	270
Anthracene						0 / 1	270
Atrazine						0 / 1	270
Benzaldehyde						0 / 1	270
Benzo(a)anthracene						0 / 1	270
Benzo(b)fluoranthene						0 / 1	270
Benzo(g,h,i)perylene						0 / 1	270
Benzo(k)fluoranthene	540	J	540	J	SD-22-01-TR	1 / 1	540
Bis(2-Chloroethoxy)methane						0 / 1	270
Bis(2-Chloroethyl)ether						0 / 1	270
bis(2-Ethylhexyl)phthalate						0 / 1	270
Butylbenzylphthalate						0 / 1	270
Caprolactam						0 / 1	270
Carbazole						0 / 1	270
Chrysene						0 / 1	270
Dibenzo(a,h)anthracene						0 / 1	270
Dibenzofuran						0 / 1	270
Diethylphthalate						0 / 1	270
Dimethylphthalate						0 / 1	270
Di-n-Butylphthalate						0 / 1	270
Di-n-octylphthalate						0 / 1	270
Fluoranthene						0 / 1	270
Fluorene						0 / 1	270
Hexachlorobenzene						0 / 1	270
Hexachlorobutadiene						0 / 1	270
Hexachlorocyclopentadiene						0 / 1	270
Hexachloroethane						0 / 1	270

TABLE D.4-10
SUMMARY OF TRIAD CHEMISTRY DATA - SD-22-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene						0 / 1	270
Isophorone						0 / 1	270
Naphthalene						0 / 1	270
Nitrobenzene						0 / 1	270
N-Nitroso-di-n-propylamine						0 / 1	270
N-Nitroso-diphenylamine						0 / 1	270
Pentachlorophenol						0 / 1	700
Phenanthrene						0 / 1	270
Phenol						0 / 1	270
Pyrene						0 / 1	270
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	2.3
4,4'-DDE						0 / 1	2.3
4,4'-DDT						0 / 1	2.3
Aldrin						0 / 1	1.2
alpha-BHC						0 / 1	1.2
alpha-Chlordane						0 / 1	1.2
Aroclor-1016						0 / 1	23
Aroclor-1221						0 / 1	46
Aroclor-1232						0 / 1	23
Aroclor-1242						0 / 1	23
Aroclor-1248						0 / 1	23
Aroclor-1254						0 / 1	23
Aroclor-1260						0 / 1	23
beta-BHC						0 / 1	1.2
delta-BHC						0 / 1	1.2
Dieldrin						0 / 1	2.3
Endosulfan I						0 / 1	1.2
Endosulfan II						0 / 1	2.3
Endosulfan Sulfate						0 / 1	2.3
Endrin						0 / 1	2.3
Endrin Aldehyde						0 / 1	2.3
Endrin Ketone						0 / 1	2.3
gamma-BHC						0 / 1	1.2
gamma-Chlordane						0 / 1	1.2
Heptachlor						0 / 1	1.2
Heptachlor Epoxide						0 / 1	1.2
Methoxychlor						0 / 1	12
Toxaphene						0 / 1	115
Metals - mg/Kg							
Aluminum	3010		3010		SD-22-01-TR	1 / 1	3010
Antimony	38.2		38.2		SD-22-01-TR	1 / 1	38
Arsenic	12.6		12.6		SD-22-01-TR	1 / 1	13
Barium	48.1		48.1		SD-22-01-TR	1 / 1	48
Beryllium	0.31	J	0.31	J	SD-22-01-TR	1 / 1	0.31
Cadmium	1		1		SD-22-01-TR	1 / 1	1.0
Calcium	19300		19300		SD-22-01-TR	1 / 1	19300
Chromium	10.6		10.6		SD-22-01-TR	1 / 1	11
Cobalt	2.5		2.5		SD-22-01-TR	1 / 1	2.5
Copper	29.5		29.5		SD-22-01-TR	1 / 1	30
Iron	3310		3310		SD-22-01-TR	1 / 1	3310
Lead	3880		3880		SD-22-01-TR	1 / 1	3880
Magnesium	1510		1510		SD-22-01-TR	1 / 1	1510
Manganese	51.8		51.8		SD-22-01-TR	1 / 1	52
Mercury						0 / 1	0.015
Nickel	7.4		7.4		SD-22-01-TR	1 / 1	7.4
Potassium	303	J	303	J	SD-22-01-TR	1 / 1	303
Selenium	1.9	J	1.9	J	SD-22-01-TR	1 / 1	1.9
Silver						0 / 1	0.50
Sodium	1320		1320		SD-22-01-TR	1 / 1	1320

TABLE D.4-10
SUMMARY OF TRIAD CHEMISTRY DATA - SD-22-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	41.6		41.6		SD-22-01-TR	1 / 1	42
Zinc	111	J	111	J	SD-22-01-TR	1 / 1	111
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.29		0.29		SD-22-01-TR	1 / 1	0.29
Simultaneously Extracted Metal	1.4		1.4		SD-22-01-TR	1 / 1	1.4
Cadmium	0.0053	J	0.0053	J	SD-22-01-TR	1 / 1	0.0053
Copper	0.1908		0.1908		SD-22-01-TR	1 / 1	0.19
Lead	7.8262		7.8262		SD-22-01-TR	1 / 1	7.8
Mercury	0.0022	J	0.0022	J	SD-22-01-TR	1 / 1	0.0022
Nickel	0.0928		0.0928		SD-22-01-TR	1 / 1	0.093
Zinc	1.1092		1.1092		SD-22-01-TR	1 / 1	1.1
SEM/AVS	4.82		4.82		SD-22-01-TR	1 / 1	4.8
Total Organic Carbon	430000	J	430000	J	SD-22-01-TR	1 / 1	430000

J = Estimated Value

TABLE D.4-11
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-29-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	35
Acetone	1100	J	1100	J	SD-TT-29-03-TR	1 / 1	1100
Methylene Chloride						0 / 1	29

J = Estimated Value

TABLE D.4-12
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-30-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane	110	J	110	J	SD-TT-30-01-TR	1 / 1	110
Acetone						0 / 1	7300
Methyl Acetate						0 / 1	530
Methylene Chloride						0 / 1	24
Toluene	22	J	22	J	SD-TT-30-01-TR	1 / 1	22
SVOCs - ug/Kg							
Benzo(a)pyrene	33	J	33	J	SD-TT-30-01-TR	1 / 1	33
Benzo(b)fluoranthene	47	J	47	J	SD-TT-30-01-TR	1 / 1	47
Chrysene	40	J	40	J	SD-TT-30-01-TR	1 / 1	40
Fluoranthene	71	J	71	J	SD-TT-30-01-TR	1 / 1	71
Pyrene	55	J	55	J	SD-TT-30-01-TR	1 / 1	55
Metals - mg/Kg							
Aluminum	17900		17900		SD-TT-30-01-TR	1 / 1	17900
Antimony	23.6	J	23.6	J	SD-TT-30-01-TR	1 / 1	24
Arsenic	541		541		SD-TT-30-01-TR	1 / 1	541
Barium	85		85		SD-TT-30-01-TR	1 / 1	85
Beryllium	1.3	J	1.3	J	SD-TT-30-01-TR	1 / 1	1.3
Cadmium	5.2		5.2		SD-TT-30-01-TR	1 / 1	5.2
Calcium	5960		5960		SD-TT-30-01-TR	1 / 1	5960
Chromium	2290		2290		SD-TT-30-01-TR	1 / 1	2290
Cobalt	22.9	J	22.9	J	SD-TT-30-01-TR	1 / 1	23
Copper	835		835		SD-TT-30-01-TR	1 / 1	835
Iron	51500		51500		SD-TT-30-01-TR	1 / 1	51500
Lead	664		664		SD-TT-30-01-TR	1 / 1	664
Magnesium	3280		3280		SD-TT-30-01-TR	1 / 1	3280
Manganese	980		980		SD-TT-30-01-TR	1 / 1	980
Mercury	1.7	J	1.7	J	SD-TT-30-01-TR	1 / 1	1.7
Nickel	26.9		26.9		SD-TT-30-01-TR	1 / 1	27
Potassium	784	J	784	J	SD-TT-30-01-TR	1 / 1	784
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	468		468		SD-TT-30-01-TR	1 / 1	468
Thallium						0 / 1	0.55
Vanadium	66.2		66.2		SD-TT-30-01-TR	1 / 1	66
Zinc	1370	J	1370	J	SD-TT-30-01-TR	1 / 1	1370
AVS/SEM - umol/g							
Acid Volatile Sulfide						0 / 1	0.040
Simultaneously Extracted Metal	20.5874		20.5874		SD-TT-30-01-TR	1 / 1	21
Cadmium	0.0303		0.0303		SD-TT-30-01-TR	1 / 1	0.030
Copper	6.8404		6.8404		SD-TT-30-01-TR	1 / 1	6.8
Lead	1.7625		1.7625		SD-TT-30-01-TR	1 / 1	1.8
Mercury	0.0059	J	0.0059	J	SD-TT-30-01-TR	1 / 1	0.0059
Nickel	0.2229		0.2229		SD-TT-30-01-TR	1 / 1	0.22
Zinc	11.7254	J	11.7254	J	SD-TT-30-01-TR	1 / 1	12
SEM/AVS	260.6		260.6		SD-TT-30-01-TR	1 / 1	261
Total Organic Carbon	240000		240000		SD-TT-30-01-TR	1 / 1	240000

J = Estimated Value

TABLE D.4-13
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-32-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	35
Acetone						0 / 1	260
Methylene Chloride						0 / 1	24
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	120
2,2'-oxybis(1-Chloropropane)						0 / 1	120
2,4,5-Trichlorophenol						0 / 1	295
2,4,6-Trichlorophenol						0 / 1	120
2,4-Dichlorophenol						0 / 1	120
2,4-Dimethylphenol						0 / 1	120
2,4-Dinitrophenol						0 / 1	295
2,4-Dinitrotoluene						0 / 1	120
2,6-Dinitrotoluene						0 / 1	120
2-Chloronaphthalene						0 / 1	120
2-Chlorophenol						0 / 1	120
2-Methylnaphthalene						0 / 1	120
2-Methylphenol						0 / 1	120
2-Nitroaniline						0 / 1	295
2-Nitrophenol						0 / 1	120
3,3'-Dichlorobenzidine						0 / 1	120
3-Nitroaniline						0 / 1	120
4,6-Dinitro-2-methylphenol						0 / 1	295
4-Bromophenyl-phenylether						0 / 1	120
4-Chloro-3-methylphenol						0 / 1	120
4-Chloroaniline						0 / 1	120
4-Chlorophenyl-phenylether						0 / 1	120
4-Nitroaniline						0 / 1	295
4-Nitrophenol						0 / 1	295
Acenaphthene						0 / 1	120
Acenaphthylene						0 / 1	120
Acetophenone						0 / 1	120
Anthracene						0 / 1	120
Atrazine						0 / 1	120
Benzaldehyde						0 / 1	120
Benzo(a)anthracene	400		400		SD-TT-32-02-TR	1 / 1	400
Benzo(a)pyrene	470	J	470	J	SD-TT-32-02-TR	1 / 1	470
Benzo(b)fluoranthene	810		810		SD-TT-32-02-TR	1 / 1	810
Benzo(g,h,i)perylene	230	J	230	J	SD-TT-32-02-TR	1 / 1	230
Benzo(k)fluoranthene	180	J	180	J	SD-TT-32-02-TR	1 / 1	180
Bis(2-Chloroethoxy)methane						0 / 1	120
Bis(2-Chloroethyl)ether						0 / 1	120
bis(2-Ethylhexyl)phthalate	370		370		SD-TT-32-02-TR	1 / 1	370
Butylbenzylphthalate	130	J	130	J	SD-TT-32-02-TR	1 / 1	130
Caprolactam						0 / 1	120
Carbazole						0 / 1	120
Chrysene	460		460		SD-TT-32-02-TR	1 / 1	460
Dibenzo(a,h)anthracene						0 / 1	120
Dibenzofuran						0 / 1	120
Diethylphthalate						0 / 1	120
Dimethylphthalate						0 / 1	120
Di-n-Butylphthalate						0 / 1	120
Di-n-octylphthalate						0 / 1	120
Fluoranthene	1000		1000		SD-TT-32-02-TR	1 / 1	1000
Fluorene						0 / 1	120
Hexachlorobenzene						0 / 1	120
Hexachlorobutadiene						0 / 1	120
Hexachlorocyclopentadiene						0 / 1	120
Hexachloroethane						0 / 1	120

TABLE D.4-13
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-32-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene	210	J	210	J	SD-TT-32-02-TR	1 / 1	210
Isophorone						0 / 1	120
Naphthalene						0 / 1	120
Nitrobenzene						0 / 1	120
N-Nitroso-di-n-propylamine						0 / 1	120
N-Nitroso-diphenylamine						0 / 1	120
Pentachlorophenol						0 / 1	295
Phenanthrene	450		450		SD-TT-32-02-TR	1 / 1	450
Phenol						0 / 1	120
Pyrene	860		860		SD-TT-32-02-TR	1 / 1	860
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	0.47
4,4'-DDE	0.78	J	0.78	J	SD-TT-32-02-TR	1 / 1	0.78
4,4'-DDT						0 / 1	0.47
Aldrin						0 / 1	0.24
alpha-BHC						0 / 1	0.24
alpha-Chlordane						0 / 1	0.24
Aroclor-1016						0 / 1	4.7
Aroclor-1221						0 / 1	10
Aroclor-1232						0 / 1	4.7
Aroclor-1242						0 / 1	4.7
Aroclor-1248						0 / 1	4.7
Aroclor-1254						0 / 1	4.7
Aroclor-1260						0 / 1	4.7
beta-BHC						0 / 1	0.24
delta-BHC						0 / 1	0.24
Dieldrin						0 / 1	0.47
Endosulfan I						0 / 1	0.24
Endosulfan II						0 / 1	0.47
Endosulfan Sulfate						0 / 1	0.47
Endrin						0 / 1	0.47
Endrin Aldehyde						0 / 1	0.47
Endrin Ketone						0 / 1	0.47
gamma-BHC						0 / 1	0.24
gamma-Chlordane						0 / 1	0.24
Heptachlor						0 / 1	0.24
Heptachlor Epoxide						0 / 1	0.24
Methoxychlor						0 / 1	2.4
Toxaphene						0 / 1	24
Metals - mg/Kg							
Aluminum	11500		11500		SD-TT-32-02-TR	1 / 1	11500
Antimony	9.1	J	9.1	J	SD-TT-32-02-TR	1 / 1	9.1
Arsenic	313		313		SD-TT-32-02-TR	1 / 1	313
Barium	87.2		87.2		SD-TT-32-02-TR	1 / 1	87
Beryllium	0.82	J	0.82	J	SD-TT-32-02-TR	1 / 1	0.82
Cadmium	5.7		5.7		SD-TT-32-02-TR	1 / 1	5.7
Calcium	4880		4880		SD-TT-32-02-TR	1 / 1	4880
Chromium	699		699		SD-TT-32-02-TR	1 / 1	699
Cobalt	26.4	J	26.4	J	SD-TT-32-02-TR	1 / 1	26
Copper	403		403		SD-TT-32-02-TR	1 / 1	403
Iron	33300		33300		SD-TT-32-02-TR	1 / 1	33300
Lead	288		288		SD-TT-32-02-TR	1 / 1	288
Magnesium	2890		2890		SD-TT-32-02-TR	1 / 1	2890
Manganese	372		372		SD-TT-32-02-TR	1 / 1	372
Mercury	0.44		0.44		SD-TT-32-02-TR	1 / 1	0.44
Nickel	21.3		21.3		SD-TT-32-02-TR	1 / 1	21
Potassium	646	J	646	J	SD-TT-32-02-TR	1 / 1	646
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium						0 / 1	200

TABLE D.4-13
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-32-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	38.1	J	38.1	J	SD-TT-32-02-TR	1 / 1	38
Zinc	1250	J	1250	J	SD-TT-32-02-TR	1 / 1	1250
AVS/SEM - umol/g							
Acid Volatile Sulfide	2.79		2.79		SD-TT-32-02-TR	1 / 1	2.8
Simultaneously Extracted Metal	14.513		14.513		SD-TT-32-02-TR	1 / 1	15
Cadmium	0.0318		0.0318		SD-TT-32-02-TR	1 / 1	0.032
Copper	3.1821		3.1821		SD-TT-32-02-TR	1 / 1	3.2
Lead	0.7762		0.7762		SD-TT-32-02-TR	1 / 1	0.78
Mercury	0.0041	J	0.0041	J	SD-TT-32-02-TR	1 / 1	0.0041
Nickel	0.1968		0.1968		SD-TT-32-02-TR	1 / 1	0.20
Zinc	11.0978		11.0978		SD-TT-32-02-TR	1 / 1	11
SEM/AVS	5.2		5.2		SD-TT-32-02-TR	1 / 1	5.2
Total Organic Carbon	150000	J	150000	J	SD-TT-32-02-TR	1 / 1	150000

J = Estimated Value

TABLE D.4-14
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-33-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	14
Acetone	200	J	200	J	SD-TT-33-02-TR	1 / 1	200
Methylene Chloride						0 / 1	12
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	65
2,2'-oxybis(1-Chloropropane)						0 / 1	65
2,4,5-Trichlorophenol						0 / 1	165
2,4,6-Trichlorophenol						0 / 1	65
2,4-Dichlorophenol						0 / 1	65
2,4-Dimethylphenol						0 / 1	65
2,4-Dinitrophenol						0 / 1	165
2,4-Dinitrotoluene						0 / 1	65
2,6-Dinitrotoluene						0 / 1	65
2-Chloronaphthalene						0 / 1	65
2-Chlorophenol						0 / 1	65
2-Methylnaphthalene						0 / 1	65
2-Methylphenol						0 / 1	65
2-Nitroaniline						0 / 1	165
2-Nitrophenol						0 / 1	65
3,3'-Dichlorobenzidine						0 / 1	65
3-Nitroaniline						0 / 1	65
4,6-Dinitro-2-methylphenol						0 / 1	165
4-Bromophenyl-phenylether						0 / 1	65
4-Chloro-3-methylphenol						0 / 1	65
4-Chloroaniline						0 / 1	65
4-Chlorophenyl-phenylether						0 / 1	65
4-Nitroaniline						0 / 1	165
4-Nitrophenol						0 / 1	165
Acenaphthene						0 / 1	65
Acenaphthylene						0 / 1	65
Acetophenone						0 / 1	65
Anthracene						0 / 1	65
Atrazine						0 / 1	65
Benzaldehyde						0 / 1	65
Benzo(a)anthracene	110	J	110	J	SD-TT-33-02-TR	1 / 1	110
Benzo(a)pyrene	140	J	140	J	SD-TT-33-02-TR	1 / 1	140
Benzo(b)fluoranthene	260		260		SD-TT-33-02-TR	1 / 1	260
Benzo(g,h,i)perylene	60	J	60	J	SD-TT-33-02-TR	1 / 1	60
Benzo(k)fluoranthene	99	J	99	J	SD-TT-33-02-TR	1 / 1	99
Bis(2-Chloroethoxy)methane						0 / 1	65
Bis(2-Chloroethyl)ether						0 / 1	65
bis(2-Ethylhexyl)phthalate	81	J	81	J	SD-TT-33-02-TR	1 / 1	81
Butylbenzylphthalate						0 / 1	65
Caprolactam						0 / 1	65
Carbazole						0 / 1	65
Chrysene	160		160		SD-TT-33-02-TR	1 / 1	160
Dibenzo(a,h)anthracene						0 / 1	65
Dibenzofuran						0 / 1	65
Diethylphthalate						0 / 1	65
Dimethylphthalate						0 / 1	65
Di-n-Butylphthalate						0 / 1	65
Di-n-octylphthalate						0 / 1	65
Fluoranthene	290		290		SD-TT-33-02-TR	1 / 1	290
Fluorene						0 / 1	65
Hexachlorobenzene						0 / 1	65
Hexachlorobutadiene						0 / 1	65
Hexachlorocyclopentadiene						0 / 1	65
Hexachloroethane						0 / 1	65

TABLE D.4-14
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-33-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene	60	J	60	J	SD-TT-33-02-TR	1 / 1	60
Isophorone						0 / 1	65
Naphthalene						0 / 1	65
Nitrobenzene						0 / 1	65
N-Nitroso-di-n-propylamine						0 / 1	65
N-Nitroso-diphenylamine						0 / 1	65
Pentachlorophenol						0 / 1	165
Phenanthrene	130	J	130	J	SD-TT-33-02-TR	1 / 1	130
Phenol						0 / 1	65
Pyrene	270		270		SD-TT-33-02-TR	1 / 1	270
PCBs/Pesticides - ug/Kg							
4,4'-DDD	1.2		1.2		SD-TT-33-02-TR	1 / 1	1.2
4,4'-DDE	1.7		1.7		SD-TT-33-02-TR	1 / 1	1.7
4,4'-DDT						0 / 1	0.55
Aldrin						0 / 1	0.27
alpha-BHC						0 / 1	0.27
alpha-Chlordane						0 / 1	0.27
Aroclor-1016						0 / 1	5.5
Aroclor-1221						0 / 1	11
Aroclor-1232						0 / 1	5.5
Aroclor-1242						0 / 1	5.5
Aroclor-1248						0 / 1	5.5
Aroclor-1254						0 / 1	5.5
Aroclor-1260						0 / 1	5.5
beta-BHC						0 / 1	0.27
delta-BHC						0 / 1	0.27
Dieldrin						0 / 1	0.55
Endosulfan I						0 / 1	0.27
Endosulfan II						0 / 1	0.55
Endosulfan Sulfate						0 / 1	0.55
Endrin						0 / 1	0.55
Endrin Aldehyde						0 / 1	0.55
Endrin Ketone						0 / 1	0.55
gamma-BHC						0 / 1	0.27
gamma-Chlordane						0 / 1	0.27
Heptachlor						0 / 1	0.27
Heptachlor Epoxide						0 / 1	0.27
Methoxychlor						0 / 1	2.7
Toxaphene						0 / 1	27
Metals - mg/Kg							
Aluminum	6640		6640		SD-TT-33-02-TR	1 / 1	6640
Antimony	6	J	6	J	SD-TT-33-02-TR	1 / 1	6.0
Arsenic	221		221		SD-TT-33-02-TR	1 / 1	221
Barium	56.8		56.8		SD-TT-33-02-TR	1 / 1	57
Beryllium	0.48	J	0.48	J	SD-TT-33-02-TR	1 / 1	0.48
Cadmium	2.8		2.8		SD-TT-33-02-TR	1 / 1	2.8
Calcium	2370		2370		SD-TT-33-02-TR	1 / 1	2370
Chromium	420		420		SD-TT-33-02-TR	1 / 1	420
Cobalt	14.1	J	14.1	J	SD-TT-33-02-TR	1 / 1	14
Copper	270		270		SD-TT-33-02-TR	1 / 1	270
Iron	34600		34600		SD-TT-33-02-TR	1 / 1	34600
Lead	141		141		SD-TT-33-02-TR	1 / 1	141
Magnesium	1380		1380		SD-TT-33-02-TR	1 / 1	1380
Manganese	776		776		SD-TT-33-02-TR	1 / 1	776
Mercury	1.2		1.2		SD-TT-33-02-TR	1 / 1	1.2
Nickel	9.2		9.2		SD-TT-33-02-TR	1 / 1	9.2
Potassium	315	J	315	J	SD-TT-33-02-TR	1 / 1	315
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium						0 / 1	49

TABLE D.4-14
SUMMARY OF TRIAD CHEMISTRY DATA - SD-TT-33-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	19.3		19.3		SD-TT-33-02-TR	1 / 1	19
Zinc	581	J	581	J	SD-TT-33-02-TR	1 / 1	581
AVS/SEM - umol/g							
Acid Volatile Sulfide	1.95		1.95		SD-TT-33-02-TR	1 / 1	2.0
Simultaneously Extracted Metal	9.053		9.053		SD-TT-33-02-TR	1 / 1	9.1
Cadmium	0.0197		0.0197		SD-TT-33-02-TR	1 / 1	0.020
Copper	2.7992		2.7992		SD-TT-33-02-TR	1 / 1	2.8
Lead	0.5021		0.5021		SD-TT-33-02-TR	1 / 1	0.50
Mercury	0.0057	J	0.0057	J	SD-TT-33-02-TR	1 / 1	0.0057
Nickel	0.1033		0.1033		SD-TT-33-02-TR	1 / 1	0.10
Zinc	6.1247		6.1247		SD-TT-33-02-TR	1 / 1	6.1
SEM/AVS	4.64		4.64		SD-TT-33-02-TR	1 / 1	4.6
Total Organic Carbon	86000	J	86000	J	SD-TT-33-02-TR	1 / 1	86000

J = Estimated Value

TABLE D.4-15
SUMMARY OF TRIAD CHEMISTRY DATA - SD-AO-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	25
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	25
2-Butanone	99	J	99	J	SD-AO-03-TR	1 / 1	99
Acetone	340	J	340	J	SD-AO-03-TR	1 / 1	340
Methyl Acetate	140	J	140	J	SD-AO-03-TR	1 / 1	140
Methylene Chloride						0 / 1	25
Toluene	17	J	17	J	SD-AO-03-TR	1 / 1	17
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	175
2,2'-oxybis(1-Chloropropane)						0 / 1	175
2,4,5-Trichlorophenol						0 / 1	435
2,4,6-Trichlorophenol						0 / 1	175
2,4-Dichlorophenol						0 / 1	175
2,4-Dimethylphenol						0 / 1	175
2,4-Dinitrophenol						0 / 1	435
2,4-Dinitrotoluene						0 / 1	175
2,6-Dinitrotoluene						0 / 1	175
2-Chloronaphthalene						0 / 1	175
2-Chlorophenol						0 / 1	175
2-Methylnaphthalene						0 / 1	175
2-Methylphenol						0 / 1	175
2-Nitroaniline						0 / 1	435
2-Nitrophenol						0 / 1	175
3,3'-Dichlorobenzidine						0 / 1	175
3+4-Methylphenols						0 / 1	175
3-Nitroaniline						0 / 1	175
4,6-Dinitro-2-methylphenol						0 / 1	435
4-Bromophenyl-phenylether						0 / 1	175
4-Chloro-3-methylphenol						0 / 1	175
4-Chloroaniline						0 / 1	175
4-Chlorophenyl-phenylether						0 / 1	175
4-Nitroaniline						0 / 1	435
4-Nitrophenol						0 / 1	435
Acenaphthene						0 / 1	175
Acenaphthylene						0 / 1	175
Acetophenone						0 / 1	175
Anthracene						0 / 1	175
Atrazine						0 / 1	175
Benzaldehyde						0 / 1	175
Benzo(a)anthracene	240	J	240	J	SD-AO-03-TR	1 / 1	240
Benzo(a)pyrene	290	J	290	J	SD-AO-03-TR	1 / 1	290
Benzo(b)fluoranthene	520		520		SD-AO-03-TR	1 / 1	520
Benzo(g,h,i)perylene						0 / 1	175
Benzo(k)fluoranthene						0 / 1	175
Bis(2-Chloroethoxy)methane						0 / 1	175
Bis(2-Chloroethyl)ether						0 / 1	175
bis(2-Ethylhexyl)phthalate	230	J	230	J	SD-AO-03-TR	1 / 1	230
Butylbenzylphthalate						0 / 1	175
Caprolactam						0 / 1	175
Carbazole						0 / 1	175
Chrysene	290	J	290	J	SD-AO-03-TR	1 / 1	290
Dibenzo(a,h)anthracene						0 / 1	175
Dibenzofuran						0 / 1	175
Diethylphthalate						0 / 1	175
Dimethylphthalate						0 / 1	175
Di-n-Butylphthalate						0 / 1	175
Di-n-octylphthalate						0 / 1	175
Fluoranthene	540		540		SD-AO-03-TR	1 / 1	540

TABLE D.4-15
SUMMARY OF TRIAD CHEMISTRY DATA - SD-AO-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Fluorene						0 / 1	175
Hexachlorobenzene						0 / 1	175
Hexachlorobutadiene						0 / 1	175
Hexachlorocyclopentadiene						0 / 1	175
Hexachloroethane						0 / 1	175
Indeno(1,2,3-cd)pyrene						0 / 1	175
Isophorone						0 / 1	175
Naphthalene						0 / 1	175
Nitrobenzene						0 / 1	175
N-Nitroso-di-n-propylamine						0 / 1	175
N-Nitroso-diphenylamine						0 / 1	175
Pentachlorophenol						0 / 1	435
Phenanthrene	200	J	200	J	SD-AO-03-TR	1 / 1	200
Phenol						0 / 1	175
Pyrene	500		500		SD-AO-03-TR	1 / 1	500
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	1.4
4,4'-DDE	2.4	J	2.4	J	SD-AO-03-TR	1 / 1	2.4
4,4'-DDT						0 / 1	1.4
Aldrin						0 / 1	0.70
alpha-BHC						0 / 1	0.70
alpha-Chlordane						0 / 1	0.70
Aroclor-1016						0 / 1	14
Aroclor-1221						0 / 1	28
Aroclor-1232						0 / 1	14
Aroclor-1242						0 / 1	14
Aroclor-1248						0 / 1	14
Aroclor-1254						0 / 1	14
Aroclor-1260						0 / 1	14
beta-BHC						0 / 1	0.70
delta-BHC						0 / 1	0.70
Dieldrin						0 / 1	1.4
Endosulfan I						0 / 1	0.70
Endosulfan II						0 / 1	1.4
Endosulfan Sulfate						0 / 1	1.4
Endrin						0 / 1	1.4
Endrin Aldehyde						0 / 1	1.4
Endrin Ketone						0 / 1	1.4
gamma-BHC						0 / 1	0.70
gamma-Chlordane						0 / 1	0.70
Heptachlor						0 / 1	0.70
Heptachlor Epoxide						0 / 1	0.70
Methoxychlor						0 / 1	7.0
Toxaphene						0 / 1	70
Metals - mg/Kg							
Aluminum	18400		18400		SD-AO-03-TR	1 / 1	18400
Antimony	5.1		5.1		SD-AO-03-TR	1 / 1	5.1
Arsenic	128		128		SD-AO-03-TR	1 / 1	128
Barium	189		189		SD-AO-03-TR	1 / 1	189
Beryllium	1.1	J	1.1	J	SD-AO-03-TR	1 / 1	1.1
Cadmium	10		10		SD-AO-03-TR	1 / 1	10
Calcium	9840		9840		SD-AO-03-TR	1 / 1	9840
Chromium	317		317		SD-AO-03-TR	1 / 1	317
Cobalt	26.6	J	26.6	J	SD-AO-03-TR	1 / 1	27
Copper	403		403		SD-AO-03-TR	1 / 1	403
Iron	43400		43400		SD-AO-03-TR	1 / 1	43400
Lead	553		553		SD-AO-03-TR	1 / 1	553
Magnesium	5830		5830		SD-AO-03-TR	1 / 1	5830
Manganese	1210		1210		SD-AO-03-TR	1 / 1	1210
Mercury	0.29	J	0.29	J	SD-AO-03-TR	1 / 1	0.29

TABLE D.4-15
SUMMARY OF TRIAD CHEMISTRY DATA - SD-AO-03-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Nickel	36.4		36.4		SD-AO-03-TR	1 / 1	36
Potassium	1840	J	1840	J	SD-AO-03-TR	1 / 1	1840
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	732		732		SD-AO-03-TR	1 / 1	732
Thallium						0 / 1	0.55
Vanadium	65.7		65.7		SD-AO-03-TR	1 / 1	66
Zinc	1860	J	1860	J	SD-AO-03-TR	1 / 1	1860
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.1275	J	0.1275	J	SD-AO-03-TR	1 / 1	0.13
Simultaneously Extracted Metal	21.358		21.358		SD-AO-03-TR	1 / 1	21
Cadmium	0.0568		0.0568		SD-AO-03-TR	1 / 1	0.057
Copper	3.29435		3.29435		SD-AO-03-TR	1 / 1	3.3
Lead	1.679		1.679		SD-AO-03-TR	1 / 1	1.7
Mercury	0.00055	J	0.00055	J	SD-AO-03-TR	1 / 1	0.00055
Nickel	0.28545		0.28545		SD-AO-03-TR	1 / 1	0.29
Zinc	16.04185	J	16.04185	J	SD-AO-03-TR	1 / 1	16
SEM/AVS	179.35		179.35		SD-AO-03-TR	1 / 1	179
Total Organic Carbon	210000		210000		SD-AO-03-TR	1 / 1	210000

J = Estimated Value

TABLE D.4-16
SUMMARY OF TRIAD CHEMISTRY DATA - SD-SA-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	8.0
1,1,2,2-Tetrachloroethane						0 / 1	8.0
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	8.0
1,1,2-Trichloroethane						0 / 1	8.0
1,1-Dichloroethane						0 / 1	8.0
1,1-Dichloroethene						0 / 1	8.0
1,2,4-Trichlorobenzene						0 / 1	8.0
1,2-Dibromo-3-chloropropane						0 / 1	8.0
1,2-Dibromoethane						0 / 1	8.0
1,2-Dichlorobenzene						0 / 1	8.0
1,2-Dichloroethane						0 / 1	8.0
1,2-Dichloropropane						0 / 1	8.0
1,3-Dichlorobenzene						0 / 1	8.0
1,4-Dichlorobenzene						0 / 1	8.0
2-Butanone						0 / 1	8.0
2-Hexanone						0 / 1	8.0
4-Methyl-2-Pentanone						0 / 1	8.0
Acetone						0 / 1	90
Benzene						0 / 1	8.0
Bromodichloromethane						0 / 1	8.0
Bromoform						0 / 1	8.0
Bromomethane						0 / 1	8.0
Carbon Disulfide						0 / 1	8.0
Carbon Tetrachloride						0 / 1	8.0
Chlorobenzene						0 / 1	8.0
Chloroethane						0 / 1	8.0
Chloroform						0 / 1	8.0
Chloromethane						0 / 1	8.0
cis-1,2-Dichloroethene						0 / 1	8.0
cis-1,3-Dichloropropene						0 / 1	8.0
Cyclohexane						0 / 1	8.0
Dibromochloromethane						0 / 1	8.0
Dichlorodifluoromethane						0 / 1	8.0
Ethylbenzene						0 / 1	8.0
Isopropylbenzene						0 / 1	8.0
m&p-Xylene						0 / 1	8.0
Methyl Acetate	24		24		SD-SA-01-TR	1 / 1	24
Methyl tert-Butyl Ether						0 / 1	8.0
Methylcyclohexane						0 / 1	8.0
Methylene Chloride						0 / 1	25
o-Xylene						0 / 1	8.0
Styrene						0 / 1	8.0
Tetrachloroethene						0 / 1	8.0
Toluene	13	J	13	J	SD-SA-01-TR	1 / 1	13
trans-1,2-Dichloroethene						0 / 1	8.0
trans-1,3-Dichloropropene						0 / 1	8.0
Trichloroethene						0 / 1	8.0
Trichlorofluoromethane						0 / 1	8.0
Vinyl Chloride						0 / 1	8.0
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	115
2,2'-oxybis(1-Chloropropane)						0 / 1	115
2,4,5-Trichlorophenol						0 / 1	285
2,4,6-Trichlorophenol						0 / 1	115
2,4-Dichlorophenol						0 / 1	115
2,4-Dimethylphenol						0 / 1	115
2,4-Dinitrophenol						0 / 1	285
2,4-Dinitrotoluene						0 / 1	115
2,6-Dinitrotoluene						0 / 1	115
2-Chloronaphthalene						0 / 1	115

TABLE D.4-16
SUMMARY OF TRIAD CHEMISTRY DATA - SD-SA-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
2-Chlorophenol						0 / 1	115
2-Methylnaphthalene						0 / 1	115
2-Methylphenol						0 / 1	115
2-Nitroaniline						0 / 1	285
2-Nitrophenol						0 / 1	115
3,3'-Dichlorobenzidine						0 / 1	115
3+4-Methylphenols						0 / 1	115
3-Nitroaniline						0 / 1	115
4,6-Dinitro-2-methylphenol						0 / 1	285
4-Bromophenyl-phenylether						0 / 1	115
4-Chloro-3-methylphenol						0 / 1	115
4-Chloroaniline						0 / 1	115
4-Chlorophenyl-phenylether						0 / 1	115
4-Nitroaniline						0 / 1	285
4-Nitrophenol						0 / 1	285
Acenaphthene						0 / 1	115
Acenaphthylene						0 / 1	115
Acetophenone						0 / 1	115
Anthracene						0 / 1	115
Atrazine						0 / 1	115
Benzaldehyde						0 / 1	115
Benzo(a)anthracene	110	J	110	J	SD-SA-01-TR	1 / 1	110
Benzo(a)pyrene	130	J	130	J	SD-SA-01-TR	1 / 1	130
Benzo(b)fluoranthene	180	J	180	J	SD-SA-01-TR	1 / 1	180
Benzo(g,h,i)perylene						0 / 1	115
Benzo(k)fluoranthene						0 / 1	115
Bis(2-Chloroethoxy)methane						0 / 1	115
Bis(2-Chloroethyl)ether						0 / 1	115
bis(2-Ethylhexyl)phthalate						0 / 1	115
Butylbenzylphthalate						0 / 1	115
Caprolactam						0 / 1	115
Carbazole						0 / 1	115
Chrysene	140	J	140	J	SD-SA-01-TR	1 / 1	140
Dibenzo(a,h)anthracene						0 / 1	115
Dibenzofuran						0 / 1	115
Diethylphthalate						0 / 1	115
Dimethylphthalate						0 / 1	115
Di-n-Butylphthalate						0 / 1	115
Di-n-octylphthalate						0 / 1	115
Fluoranthene	210	J	210	J	SD-SA-01-TR	1 / 1	210
Fluorene						0 / 1	115
Hexachlorobenzene						0 / 1	115
Hexachlorobutadiene						0 / 1	115
Hexachlorocyclopentadiene						0 / 1	115
Hexachloroethane						0 / 1	115
Indeno(1,2,3-cd)pyrene						0 / 1	115
Isophorone						0 / 1	115
Naphthalene						0 / 1	115
Nitrobenzene						0 / 1	115
N-Nitroso-di-n-propylamine						0 / 1	115
N-Nitroso-diphenylamine						0 / 1	115
Pentachlorophenol						0 / 1	285
Phenanthrene	170	J	170	J	SD-SA-01-TR	1 / 1	170
Phenol						0 / 1	115
Pyrene	280		280		SD-SA-01-TR	1 / 1	280
PCBs/Pesticides - ug/Kg							
4,4'-DDD	4.5		4.5		SD-SA-01-TR	1 / 1	4.5
4,4'-DDE	3.9		3.9		SD-SA-01-TR	1 / 1	3.9
4,4'-DDT	2.2		2.2		SD-SA-01-TR	1 / 1	2.2
Aldrin						0 / 1	0.47
alpha-BHC						0 / 1	0.47

TABLE D.4-16
SUMMARY OF TRIAD CHEMISTRY DATA - SD-SA-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
alpha-Chlordane						0 / 1	0.47
Aroclor-1016						0 / 1	9.5
Aroclor-1221						0 / 1	19
Aroclor-1232						0 / 1	9.5
Aroclor-1242						0 / 1	9.5
Aroclor-1248						0 / 1	9.5
Aroclor-1254						0 / 1	9.5
Aroclor-1260						0 / 1	9.5
beta-BHC						0 / 1	0.47
delta-BHC						0 / 1	0.47
Dieldrin						0 / 1	1.0
Endosulfan I						0 / 1	0.47
Endosulfan II						0 / 1	1.0
Endosulfan Sulfate						0 / 1	1.0
Endrin						0 / 1	1.0
Endrin Aldehyde						0 / 1	1.0
Endrin Ketone						0 / 1	1.0
gamma-BHC						0 / 1	0.47
gamma-Chlordane						0 / 1	0.47
Heptachlor						0 / 1	0.47
Heptachlor Epoxide						0 / 1	0.47
Methoxychlor						0 / 1	4.7
Toxaphene						0 / 1	47
Metals - mg/Kg							
Aluminum	14300		14300		SD-SA-01-TR	1 / 1	14300
Antimony	1.1	J	1.1	J	SD-SA-01-TR	1 / 1	1.1
Arsenic	27.2		27.2		SD-SA-01-TR	1 / 1	27
Barium	87.5		87.5		SD-SA-01-TR	1 / 1	88
Beryllium	1	J	1	J	SD-SA-01-TR	1 / 1	1.0
Cadmium	1.5		1.5		SD-SA-01-TR	1 / 1	1.5
Calcium	5500		5500		SD-SA-01-TR	1 / 1	5500
Chromium	42.3		42.3		SD-SA-01-TR	1 / 1	42
Cobalt	13.2	J	13.2	J	SD-SA-01-TR	1 / 1	13
Copper	57.6		57.6		SD-SA-01-TR	1 / 1	58
Iron	24200		24200		SD-SA-01-TR	1 / 1	24200
Lead	456		456		SD-SA-01-TR	1 / 1	456
Magnesium	4090		4090		SD-SA-01-TR	1 / 1	4090
Manganese	263		263		SD-SA-01-TR	1 / 1	263
Mercury	0.2	J	0.2	J	SD-SA-01-TR	1 / 1	0.20
Nickel	23.2		23.2		SD-SA-01-TR	1 / 1	23
Potassium	819	J	819	J	SD-SA-01-TR	1 / 1	819
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	262		262		SD-SA-01-TR	1 / 1	262
Thallium						0 / 1	0.55
Vanadium	52.7		52.7		SD-SA-01-TR	1 / 1	53
Zinc	246	J	246	J	SD-SA-01-TR	1 / 1	246
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.16	J	0.16	J	SD-SA-01-TR	1 / 1	0.16
Simultaneously Extracted Metal	3.8836		3.8836		SD-SA-01-TR	1 / 1	3.9
Cadmium	0.0091		0.0091		SD-SA-01-TR	1 / 1	0.0091
Copper	0.4567		0.4567		SD-SA-01-TR	1 / 1	0.46
Lead	1.2745		1.2745		SD-SA-01-TR	1 / 1	1.3
Mercury	0.0003	J	0.0003	J	SD-SA-01-TR	1 / 1	0.00030
Nickel	0.1736		0.1736		SD-SA-01-TR	1 / 1	0.17
Zinc	1.9694	J	1.9694	J	SD-SA-01-TR	1 / 1	2.0
SEM/AVS	24.3		24.3		SD-SA-01-TR	1 / 1	24
Total Organic Carbon	170000		170000		SD-SA-01-TR	1 / 1	170000

J = Estimated Value

TABLE D.4-17
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	28
1,1,2-Trichloro-1,2,2-trifluoroethane						0 / 1	28
Acetone						0 / 1	110
Methyl Acetate	210		210		SD-MC-01-TR	1 / 1	210
Methylene Chloride						0 / 1	32
Toluene	7.9	J	7.9	J	SD-MC-01-TR	1 / 1	7.9
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	190
2,2'-oxybis(1-Chloropropane)						0 / 1	190
2,4,5-Trichlorophenol						0 / 1	475
2,4,6-Trichlorophenol						0 / 1	190
2,4-Dichlorophenol						0 / 1	190
2,4-Dimethylphenol						0 / 1	190
2,4-Dinitrophenol						0 / 1	475
2,4-Dinitrotoluene						0 / 1	190
2,6-Dinitrotoluene						0 / 1	190
2-Chloronaphthalene						0 / 1	190
2-Chlorophenol						0 / 1	190
2-Methylnaphthalene						0 / 1	190
2-Methylphenol						0 / 1	190
2-Nitroaniline						0 / 1	475
2-Nitrophenol						0 / 1	190
3,3'-Dichlorobenzidine						0 / 1	190
3+4-Methylphenols						0 / 1	190
3-Nitroaniline						0 / 1	190
4,6-Dinitro-2-methylphenol						0 / 1	475
4-Bromophenyl-phenylether						0 / 1	190
4-Chloro-3-methylphenol						0 / 1	190
4-Chloroaniline						0 / 1	190
4-Chlorophenyl-phenylether						0 / 1	190
4-Nitroaniline						0 / 1	475
4-Nitrophenol						0 / 1	475
Acenaphthene						0 / 1	190
Acenaphthylene						0 / 1	190
Acetophenone						0 / 1	190
Anthracene						0 / 1	190
Atrazine						0 / 1	190
Benzaldehyde						0 / 1	190
Benzo(a)anthracene	210	J	210	J	SD-MC-01-TR	1 / 1	210
Benzo(a)pyrene	250	J	250	J	SD-MC-01-TR	1 / 1	250
Benzo(b)fluoranthene	310	J	310	J	SD-MC-01-TR	1 / 1	310
Benzo(g,h,i)perylene						0 / 1	190
Benzo(k)fluoranthene						0 / 1	190
Bis(2-Chloroethoxy)methane						0 / 1	190
Bis(2-Chloroethyl)ether						0 / 1	190
bis(2-Ethylhexyl)phthalate						0 / 1	190
Butylbenzylphthalate						0 / 1	190
Caprolactam						0 / 1	190
Carbazole						0 / 1	190
Chrysene	250	J	250	J	SD-MC-01-TR	1 / 1	250
Dibenzo(a,h)anthracene						0 / 1	190
Dibenzofuran						0 / 1	190
Diethylphthalate						0 / 1	190
Dimethylphthalate						0 / 1	190
Di-n-Butylphthalate						0 / 1	190
Di-n-octylphthalate						0 / 1	190
Fluoranthene	400		400		SD-MC-01-TR	1 / 1	400

TABLE D.4-17
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Fluorene						0 / 1	190
Hexachlorobenzene						0 / 1	190
Hexachlorobutadiene						0 / 1	190
Hexachlorocyclopentadiene						0 / 1	190
Hexachloroethane						0 / 1	190
Indeno(1,2,3-cd)pyrene						0 / 1	190
Isophorone						0 / 1	190
Naphthalene						0 / 1	190
Nitrobenzene						0 / 1	190
N-Nitroso-di-n-propylamine						0 / 1	190
N-Nitroso-diphenylamine						0 / 1	190
Pentachlorophenol						0 / 1	475
Phenanthrene	220	J	220	J	SD-MC-01-TR	1 / 1	220
Phenol						0 / 1	190
Pyrene	440		440		SD-MC-01-TR	1 / 1	440
PCBs/Pesticides - ug/Kg							
4,4'-DDD	5.7		5.7		SD-MC-01-TR	1 / 1	5.7
4,4'-DDE	11		11		SD-MC-01-TR	1 / 1	11
4,4'-DDT	3	J	3	J	SD-MC-01-TR	1 / 1	3.0
Aldrin						0 / 1	0.80
alpha-BHC						0 / 1	0.80
alpha-Chlordane						0 / 1	0.80
Aroclor-1016						0 / 1	16
Aroclor-1221						0 / 1	32
Aroclor-1232						0 / 1	16
Aroclor-1242						0 / 1	16
Aroclor-1248						0 / 1	16
Aroclor-1254						0 / 1	16
Aroclor-1260						0 / 1	16
beta-BHC						0 / 1	0.80
delta-BHC						0 / 1	0.80
Dieldrin						0 / 1	1.6
Endosulfan I						0 / 1	0.80
Endosulfan II						0 / 1	1.6
Endosulfan Sulfate						0 / 1	1.6
Endrin						0 / 1	1.6
Endrin Aldehyde						0 / 1	1.6
Endrin Ketone						0 / 1	1.6
gamma-BHC						0 / 1	0.80
gamma-Chlordane						0 / 1	0.80
Heptachlor						0 / 1	0.80
Heptachlor Epoxide						0 / 1	0.80
Methoxychlor						0 / 1	8.0
Toxaphene						0 / 1	80
Metals - mg/Kg							
Aluminum	8560		8560		SD-MC-01-TR	1 / 1	8560
Antimony	1.4	J	1.4	J	SD-MC-01-TR	1 / 1	1.4
Arsenic	27.8		27.8		SD-MC-01-TR	1 / 1	28
Barium	95.7		95.7		SD-MC-01-TR	1 / 1	96
Beryllium	0.71	J	0.71	J	SD-MC-01-TR	1 / 1	0.71
Cadmium	2.2		2.2		SD-MC-01-TR	1 / 1	2.2
Calcium	10900		10900		SD-MC-01-TR	1 / 1	10900
Chromium	28.4		28.4		SD-MC-01-TR	1 / 1	28
Cobalt	8.3	J	8.3	J	SD-MC-01-TR	1 / 1	8.3
Copper	70.8		70.8		SD-MC-01-TR	1 / 1	71
Iron	19400		19400		SD-MC-01-TR	1 / 1	19400
Lead	252		252		SD-MC-01-TR	1 / 1	252
Magnesium	2570		2570		SD-MC-01-TR	1 / 1	2570
Manganese	225		225		SD-MC-01-TR	1 / 1	225
Mercury	0.03	J	0.03	J	SD-MC-01-TR	1 / 1	0.030

TABLE D.4-17
SUMMARY OF TRIAD CHEMISTRY DATA - SD-MC-01-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Nickel	16.6		16.6		SD-MC-01-TR	1 / 1	17
Potassium	547	J	547	J	SD-MC-01-TR	1 / 1	547
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	334		334		SD-MC-01-TR	1 / 1	334
Thallium						0 / 1	0.55
Vanadium	38.2		38.2		SD-MC-01-TR	1 / 1	38
Zinc	282	J	282	J	SD-MC-01-TR	1 / 1	282
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.8	J	0.8	J	SD-MC-01-TR	1 / 1	0.80
Simultaneously Extracted Metal	3.459		3.459		SD-MC-01-TR	1 / 1	3.5
Cadmium	0.01		0.01		SD-MC-01-TR	1 / 1	0.010
Copper	0.5085		0.5085		SD-MC-01-TR	1 / 1	0.51
Lead	0.6017		0.6017		SD-MC-01-TR	1 / 1	0.60
Mercury	0.0002	J	0.0002	J	SD-MC-01-TR	1 / 1	0.00020
Nickel	0.1389		0.1389		SD-MC-01-TR	1 / 1	0.14
Zinc	2.1997	J	2.1997	J	SD-MC-01-TR	1 / 1	2.2
SEM/AVS	4.3		4.3		SD-MC-01-TR	1 / 1	4.3
Total Organic Carbon	270000		270000		SD-MC-01-TR	1 / 1	270000

J = Estimated Value

TABLE D.4-18
SUMMARY OF TRIAD CHEMISTRY DATA - SD-UF-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane	79.5	J	79.5	J	SD-UF-02-TR	1 / 1	80
1,1,2-Trichloro-1,2,2-trifluoroethane	37.5	J	37.5	J	SD-UF-02-TR	1 / 1	38
Acetone	565	J	565	J	SD-UF-02-TR	1 / 1	565
Methyl Acetate	150	J	150	J	SD-UF-02-TR	1 / 1	150
Methylene Chloride						0 / 1	37
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	255
2,2'-oxybis(1-Chloropropane)						0 / 1	255
2,4,5-Trichlorophenol						0 / 1	650
2,4,6-Trichlorophenol						0 / 1	255
2,4-Dichlorophenol						0 / 1	255
2,4-Dimethylphenol						0 / 1	255
2,4-Dinitrophenol						0 / 1	650
2,4-Dinitrotoluene						0 / 1	255
2,6-Dinitrotoluene						0 / 1	255
2-Chloronaphthalene						0 / 1	255
2-Chlorophenol						0 / 1	255
2-Methylnaphthalene						0 / 1	255
2-Methylphenol						0 / 1	255
2-Nitroaniline						0 / 1	650
2-Nitrophenol						0 / 1	255
3,3'-Dichlorobenzidine						0 / 1	255
3+4-Methylphenols						0 / 1	255
3-Nitroaniline						0 / 1	255
4,6-Dinitro-2-methylphenol						0 / 1	650
4-Bromophenyl-phenylether						0 / 1	255
4-Chloro-3-methylphenol						0 / 1	255
4-Chloroaniline						0 / 1	255
4-Chlorophenyl-phenylether						0 / 1	255
4-Nitroaniline						0 / 1	650
4-Nitrophenol						0 / 1	650
Acenaphthene						0 / 1	255
Acenaphthylene						0 / 1	255
Acetophenone						0 / 1	255
Anthracene						0 / 1	255
Atrazine						0 / 1	255
Benzaldehyde						0 / 1	255
Benzo(a)anthracene						0 / 1	255
Benzo(a)pyrene						0 / 1	255
Benzo(b)fluoranthene	290	J	290	J	SD-UF-02-TR	1 / 1	290
Benzo(g,h,i)perylene						0 / 1	255
Benzo(k)fluoranthene						0 / 1	255
Bis(2-Chloroethoxy)methane						0 / 1	255
Bis(2-Chloroethyl)ether						0 / 1	255
bis(2-Ethylhexyl)phthalate						0 / 1	255
Butylbenzylphthalate						0 / 1	255
Caprolactam						0 / 1	255
Carbazole						0 / 1	255
Chrysene						0 / 1	255
Dibenzo(a,h)anthracene						0 / 1	255
Dibenzofuran						0 / 1	255
Diethylphthalate						0 / 1	255
Dimethylphthalate						0 / 1	255
Di-n-Butylphthalate						0 / 1	255
Di-n-octylphthalate						0 / 1	255
Fluoranthene	270	J	270	J	SD-UF-02-TR	1 / 1	270
Fluorene						0 / 1	255
Hexachlorobenzene						0 / 1	255
Hexachlorobutadiene						0 / 1	255
Hexachlorocyclopentadiene						0 / 1	255
Hexachloroethane						0 / 1	255

TABLE D.4-18
SUMMARY OF TRIAD CHEMISTRY DATA - SD-UF-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene						0 / 1	255
Isophorone						0 / 1	255
Naphthalene						0 / 1	255
Nitrobenzene						0 / 1	255
N-Nitroso-di-n-propylamine						0 / 1	255
N-Nitroso-diphenylamine						0 / 1	255
Pentachlorophenol						0 / 1	650
Phenanthrene						0 / 1	255
Phenol						0 / 1	255
Pyrene	270	J	270	J	SD-UF-02-TR	1 / 1	270
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	2.1
4,4'-DDE	3.05	J	3.05	J	SD-UF-02-TR	1 / 1	3.1
4,4'-DDT						0 / 1	2.1
Aldrin						0 / 1	1.1
alpha-BHC						0 / 1	1.1
alpha-Chlordane						0 / 1	1.1
Aroclor-1016						0 / 1	21
Aroclor-1221						0 / 1	42
Aroclor-1232						0 / 1	21
Aroclor-1242						0 / 1	21
Aroclor-1248						0 / 1	21
Aroclor-1254						0 / 1	21
Aroclor-1260						0 / 1	21
beta-BHC						0 / 1	1.1
delta-BHC						0 / 1	1.1
Dieldrin						0 / 1	2.1
Endosulfan I						0 / 1	1.1
Endosulfan II						0 / 1	2.1
Endosulfan Sulfate						0 / 1	2.1
Endrin						0 / 1	2.1
Endrin Aldehyde						0 / 1	2.1
Endrin Ketone						0 / 1	2.1
gamma-BHC						0 / 1	1.1
gamma-Chlordane						0 / 1	1.1
Heptachlor						0 / 1	1.1
Heptachlor Epoxide						0 / 1	1.1
Methoxychlor						0 / 1	11
Toxaphene						0 / 1	105
Metals - mg/Kg							
Aluminum	23350		23350		SD-UF-02-TR	1 / 1	23350
Antimony	8.15		8.15		SD-UF-02-TR	1 / 1	8.2
Arsenic	177.5		177.5		SD-UF-02-TR	1 / 1	178
Barium	174		174		SD-UF-02-TR	1 / 1	174
Beryllium	1.6	J	1.6	J	SD-UF-02-TR	1 / 1	1.6
Cadmium	19.15		19.15		SD-UF-02-TR	1 / 1	19
Calcium	8300		8300		SD-UF-02-TR	1 / 1	8300
Chromium	805.5		805.5		SD-UF-02-TR	1 / 1	806
Cobalt	32.15	J	32.15	J	SD-UF-02-TR	1 / 1	32
Copper	681.5		681.5		SD-UF-02-TR	1 / 1	682
Iron	47100		47100		SD-UF-02-TR	1 / 1	47100
Lead	1070		1070		SD-UF-02-TR	1 / 1	1070
Magnesium	6045		6045		SD-UF-02-TR	1 / 1	6045
Manganese	568.5		568.5		SD-UF-02-TR	1 / 1	569
Mercury	0.3	J	0.3	J	SD-UF-02-TR	1 / 1	0.30
Nickel	46.95		46.95		SD-UF-02-TR	1 / 1	47
Potassium	1975	J	1975	J	SD-UF-02-TR	1 / 1	1975
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium	1165		1165		SD-UF-02-TR	1 / 1	1165

TABLE D.4-18
SUMMARY OF TRIAD CHEMISTRY DATA - SD-UF-02-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	95.3		95.3		SD-UF-02-TR	1 / 1	95
Zinc	3035	J	3035	J	SD-UF-02-TR	1 / 1	3035
AVS/SEM - umol/g							
Acid Volatile Sulfide	15.71	J	15.71	J	SD-UF-02-TR	1 / 1	16
Simultaneously Extracted Metal	35.80895		35.80895		SD-UF-02-TR	1 / 1	36
Cadmium	0.1023		0.1023		SD-UF-02-TR	1 / 1	0.10
Copper	4.97725		4.97725		SD-UF-02-TR	1 / 1	5.0
Lead	3.17175		3.17175		SD-UF-02-TR	1 / 1	3.2
Mercury	0.0003	J	0.0003	J	SD-UF-02-TR	1 / 1	0.00030
Nickel	0.33375		0.33375		SD-UF-02-TR	1 / 1	0.33
Zinc	27.2236	J	27.2236	J	SD-UF-02-TR	1 / 1	27
SEM/AVS	2.45		2.45		SD-UF-02-TR	1 / 1	2.5
Total Organic Carbon	360000		360000		SD-UF-02-TR	1 / 1	360000

J = Estimated Value

TABLE D.4-19
SUMMARY OF TRIAD CHEMISTRY DATA - SD-WH-07-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	70
Acetone	2700	J	2700	J	SD-WH-07-TR	1 / 1	2700
Methylene Chloride						0 / 1	70
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	300
2,2'-oxybis(1-Chloropropane)						0 / 1	300
2,4,5-Trichlorophenol						0 / 1	750
2,4,6-Trichlorophenol						0 / 1	300
2,4-Dichlorophenol						0 / 1	300
2,4-Dimethylphenol						0 / 1	300
2,4-Dinitrophenol						0 / 1	750
2,4-Dinitrotoluene						0 / 1	300
2,6-Dinitrotoluene						0 / 1	300
2-Chloronaphthalene						0 / 1	300
2-Chlorophenol						0 / 1	300
2-Methylnaphthalene						0 / 1	300
2-Methylphenol						0 / 1	300
2-Nitroaniline						0 / 1	750
2-Nitrophenol						0 / 1	300
3,3'-Dichlorobenzidine						0 / 1	300
3-Nitroaniline						0 / 1	300
4,6-Dinitro-2-methylphenol						0 / 1	750
4-Bromophenyl-phenylether						0 / 1	300
4-Chloro-3-methylphenol						0 / 1	300
4-Chloroaniline						0 / 1	300
4-Chlorophenyl-phenylether						0 / 1	300
4-Nitroaniline						0 / 1	750
4-Nitrophenol						0 / 1	750
Acenaphthene						0 / 1	300
Acenaphthylene						0 / 1	300
Acetophenone						0 / 1	300
Anthracene						0 / 1	300
Atrazine						0 / 1	300
Benzaldehyde						0 / 1	300
Benzo(a)anthracene						0 / 1	300
Benzo(b)fluoranthene						0 / 1	300
Benzo(g,h,i)perylene						0 / 1	300
Benzo(k)fluoranthene	660	J	660	J	SD-WH-07-TR	1 / 1	660
Bis(2-Chloroethoxy)methane						0 / 1	300
Bis(2-Chloroethyl)ether						0 / 1	300
bis(2-Ethylhexyl)phthalate						0 / 1	300
Butylbenzylphthalate						0 / 1	300
Caprolactam						0 / 1	300
Carbazole						0 / 1	300
Chrysene						0 / 1	300
Dibenzo(a,h)anthracene						0 / 1	300
Dibenzofuran						0 / 1	300
Diethylphthalate						0 / 1	300
Dimethylphthalate						0 / 1	300
Di-n-Butylphthalate						0 / 1	300
Di-n-octylphthalate						0 / 1	300
Fluoranthene						0 / 1	300
Fluorene						0 / 1	300
Hexachlorobenzene						0 / 1	300
Hexachlorobutadiene						0 / 1	300
Hexachlorocyclopentadiene						0 / 1	300
Hexachloroethane						0 / 1	300

TABLE D.4-19
SUMMARY OF TRIAD CHEMISTRY DATA - SD-WH-07-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene						0 / 1	300
Isophorone						0 / 1	300
Naphthalene						0 / 1	300
Nitrobenzene						0 / 1	300
N-Nitroso-di-n-propylamine						0 / 1	300
N-Nitroso-diphenylamine						0 / 1	300
Pentachlorophenol						0 / 1	750
Phenanthrene						0 / 1	300
Phenol						0 / 1	300
Pyrene						0 / 1	300
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	2.5
4,4'-DDE						0 / 1	2.5
4,4'-DDT						0 / 1	2.5
Aldrin						0 / 1	1.3
alpha-BHC						0 / 1	1.3
alpha-Chlordane						0 / 1	1.3
Aroclor-1016						0 / 1	25
Aroclor-1221						0 / 1	50
Aroclor-1232						0 / 1	25
Aroclor-1242						0 / 1	25
Aroclor-1248						0 / 1	25
Aroclor-1254						0 / 1	25
Aroclor-1260						0 / 1	25
beta-BHC						0 / 1	1.3
delta-BHC						0 / 1	1.3
Dieldrin						0 / 1	2.5
Endosulfan I						0 / 1	1.3
Endosulfan II						0 / 1	2.5
Endosulfan Sulfate						0 / 1	2.5
Endrin						0 / 1	2.5
Endrin Aldehyde						0 / 1	2.5
Endrin Ketone						0 / 1	2.5
gamma-BHC						0 / 1	1.3
gamma-Chlordane						0 / 1	1.3
Heptachlor						0 / 1	1.3
Heptachlor Epoxide						0 / 1	1.3
Methoxychlor						0 / 1	13
Toxaphene						0 / 1	125
Metals - mg/Kg							
Aluminum	6705		6705		SD-WH-07-TR	1 / 1	6705
Antimony	24.35		24.35		SD-WH-07-TR	1 / 1	24
Arsenic	24.2		24.2		SD-WH-07-TR	1 / 1	24
Barium	75.85		75.85		SD-WH-07-TR	1 / 1	76
Beryllium	0.685	J	0.685	J	SD-WH-07-TR	1 / 1	0.69
Cadmium	3		3		SD-WH-07-TR	1 / 1	3.0
Calcium	14350		14350		SD-WH-07-TR	1 / 1	14350
Chromium	45.85		45.85		SD-WH-07-TR	1 / 1	46
Cobalt	8.15		8.15		SD-WH-07-TR	1 / 1	8.2
Copper	66.55		66.55		SD-WH-07-TR	1 / 1	67
Iron	12400		12400		SD-WH-07-TR	1 / 1	12400
Lead	1900		1900		SD-WH-07-TR	1 / 1	1900
Magnesium	1380		1380		SD-WH-07-TR	1 / 1	1380
Manganese	101.2		101.2		SD-WH-07-TR	1 / 1	101
Mercury						0 / 1	0.010
Nickel	14.5		14.5		SD-WH-07-TR	1 / 1	15
Potassium	227	J	227	J	SD-WH-07-TR	1 / 1	227
Selenium	1.55	J	1.55	J	SD-WH-07-TR	1 / 1	1.6
Silver						0 / 1	0.50
Sodium	939.5		939.5		SD-WH-07-TR	1 / 1	940

TABLE D.4-19
SUMMARY OF TRIAD CHEMISTRY DATA - SD-WH-07-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	57.1		57.1		SD-WH-07-TR	1 / 1	57
Zinc	543	J	543	J	SD-WH-07-TR	1 / 1	543
AVS/SEM - umol/g							
Acid Volatile Sulfide	4.955		4.955		SD-WH-07-TR	1 / 1	5.0
Simultaneously Extracted Metal	10.4925		10.4925		SD-WH-07-TR	1 / 1	10
Cadmium	0.0319		0.0319		SD-WH-07-TR	1 / 1	0.032
Copper	0.9057		0.9057		SD-WH-07-TR	1 / 1	0.91
Lead	6.5611		6.5611		SD-WH-07-TR	1 / 1	6.6
Mercury	0.00395	J	0.00395	J	SD-WH-07-TR	1 / 1	0.0040
Nickel	0.3042		0.3042		SD-WH-07-TR	1 / 1	0.30
Zinc	9.2467		9.2467		SD-WH-07-TR	1 / 1	9.2
SEM/AVS	3.31		3.31		SD-WH-07-TR	1 / 1	3.3
Total Organic Carbon	815000	J	815000	J	SD-WH-07-TR	1 / 1	815000

J = Estimated Value

TABLE D.4-20
SUMMARY OF TRIAD CHEMISTRY DATA - SD-WW-06-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
VOCs - ug/Kg							
1,1,1-Trichloroethane						0 / 1	55
Acetone	410	J	410	J	SD-WW-06-TR	1 / 1	410
Methylene Chloride						0 / 1	30
SVOCs - ug/Kg							
1,1'-Biphenyl						0 / 1	305
2,2'-oxybis(1-Chloropropane)						0 / 1	305
2,4,5-Trichlorophenol						0 / 1	750
2,4,6-Trichlorophenol						0 / 1	305
2,4-Dichlorophenol						0 / 1	305
2,4-Dimethylphenol						0 / 1	305
2,4-Dinitrophenol						0 / 1	750
2,4-Dinitrotoluene						0 / 1	305
2,6-Dinitrotoluene						0 / 1	305
2-Chloronaphthalene						0 / 1	305
2-Chlorophenol						0 / 1	305
2-Methylnaphthalene						0 / 1	305
2-Methylphenol						0 / 1	305
2-Nitroaniline						0 / 1	750
2-Nitrophenol						0 / 1	305
3,3'-Dichlorobenzidine						0 / 1	305
3-Nitroaniline						0 / 1	305
4,6-Dinitro-2-methylphenol						0 / 1	750
4-Bromophenyl-phenylether						0 / 1	305
4-Chloro-3-methylphenol						0 / 1	305
4-Chloroaniline						0 / 1	305
4-Chlorophenyl-phenylether						0 / 1	305
4-Nitroaniline						0 / 1	750
4-Nitrophenol						0 / 1	750
Acenaphthene						0 / 1	305
Acenaphthylene						0 / 1	305
Acetophenone						0 / 1	305
Anthracene						0 / 1	305
Atrazine						0 / 1	305
Benzaldehyde						0 / 1	305
Benzo(a)anthracene						0 / 1	305
Benzo(b)fluoranthene	330	J	330	J	SD-WW-06-TR	1 / 1	330
Benzo(g,h,i)perylene						0 / 1	305
Benzo(k)fluoranthene	610	J	610	J	SD-WW-06-TR	1 / 1	610
Bis(2-Chloroethoxy)methane						0 / 1	305
Bis(2-Chloroethyl)ether						0 / 1	305
bis(2-Ethylhexyl)phthalate						0 / 1	305
Butylbenzylphthalate						0 / 1	305
Caprolactam						0 / 1	305
Carbazole						0 / 1	305
Chrysene	300	J	300	J	SD-WW-06-TR	1 / 1	300
Dibenzo(a,h)anthracene						0 / 1	305
Dibenzofuran						0 / 1	305
Diethylphthalate						0 / 1	305
Dimethylphthalate						0 / 1	305
Di-n-Butylphthalate						0 / 1	305
Di-n-octylphthalate						0 / 1	305
Fluoranthene	500	J	500	J	SD-WW-06-TR	1 / 1	500
Fluorene						0 / 1	305
Hexachlorobenzene						0 / 1	305
Hexachlorobutadiene						0 / 1	305
Hexachlorocyclopentadiene						0 / 1	305
Hexachloroethane						0 / 1	305

TABLE D.4-20
SUMMARY OF TRIAD CHEMISTRY DATA - SD-WW-06-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Indeno(1,2,3-cd)pyrene						0 / 1	305
Isophorone						0 / 1	305
Naphthalene						0 / 1	305
Nitrobenzene						0 / 1	305
N-Nitroso-di-n-propylamine						0 / 1	305
N-Nitroso-diphenylamine						0 / 1	305
Pentachlorophenol						0 / 1	750
Phenanthrene						0 / 1	305
Phenol						0 / 1	305
Pyrene	480	J	480	J	SD-WW-06-TR	1 / 1	480
PCBs/Pesticides - ug/Kg							
4,4'-DDD						0 / 1	2.5
4,4'-DDE	2.1	J	2.1	J	SD-WW-06-TR	1 / 1	2.1
4,4'-DDT						0 / 1	2.5
Aldrin						0 / 1	1.3
alpha-BHC						0 / 1	1.3
alpha-Chlordane						0 / 1	1.3
Aroclor-1016						0 / 1	25
Aroclor-1221						0 / 1	50
Aroclor-1232						0 / 1	25
Aroclor-1242						0 / 1	25
Aroclor-1248						0 / 1	25
Aroclor-1254						0 / 1	25
Aroclor-1260						0 / 1	25
beta-BHC						0 / 1	1.3
delta-BHC						0 / 1	1.3
Dieldrin						0 / 1	2.5
Endosulfan I						0 / 1	1.3
Endosulfan II						0 / 1	2.5
Endosulfan Sulfate						0 / 1	2.5
Endrin						0 / 1	2.5
Endrin Aldehyde						0 / 1	2.5
Endrin Ketone						0 / 1	2.5
gamma-BHC						0 / 1	1.3
gamma-Chlordane						0 / 1	1.3
Heptachlor						0 / 1	1.3
Heptachlor Epoxide						0 / 1	1.3
Methoxychlor						0 / 1	13
Toxaphene						0 / 1	125
Metals - mg/Kg							
Aluminum	8280		8280		SD-WW-06-TR	1 / 1	8280
Antimony	57.3	J	57.3	J	SD-WW-06-TR	1 / 1	57
Arsenic	4.4	J	4.4	J	SD-WW-06-TR	1 / 1	4.4
Barium	125		125		SD-WW-06-TR	1 / 1	125
Beryllium	0.77	J	0.77	J	SD-WW-06-TR	1 / 1	0.77
Cadmium	3.2		3.2		SD-WW-06-TR	1 / 1	3.2
Calcium	16200		16200		SD-WW-06-TR	1 / 1	16200
Chromium	6550		6550		SD-WW-06-TR	1 / 1	6550
Cobalt	6.8		6.8		SD-WW-06-TR	1 / 1	6.8
Copper	210		210		SD-WW-06-TR	1 / 1	210
Iron	8430		8430		SD-WW-06-TR	1 / 1	8430
Lead	369		369		SD-WW-06-TR	1 / 1	369
Magnesium	2520		2520		SD-WW-06-TR	1 / 1	2520
Manganese	186		186		SD-WW-06-TR	1 / 1	186
Mercury						0 / 1	0.045
Nickel	21.9		21.9		SD-WW-06-TR	1 / 1	22
Potassium	372	J	372	J	SD-WW-06-TR	1 / 1	372
Selenium						0 / 1	0.50
Silver						0 / 1	0.50
Sodium						0 / 1	290

TABLE D.4-20
SUMMARY OF TRIAD CHEMISTRY DATA - SD-WW-06-TR
WELLS G&H SUPERFUND SITE (OU3)

Parameter	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Average Concentration
Thallium						0 / 1	0.55
Vanadium	56.9		56.9		SD-WW-06-TR	1 / 1	57
Zinc	888	J	888	J	SD-WW-06-TR	1 / 1	888
AVS/SEM - umol/g							
Acid Volatile Sulfide	0.65		0.65		SD-WW-06-TR	1 / 1	0.65
Simultaneously Extracted Metal	15.435		15.435		SD-WW-06-TR	1 / 1	15
Cadmium	0.0287		0.0287		SD-WW-06-TR	1 / 1	0.029
Copper	1.3047		1.3047		SD-WW-06-TR	1 / 1	1.3
Lead	1.1423		1.1423		SD-WW-06-TR	1 / 1	1.1
Mercury	0.0078	J	0.0078	J	SD-WW-06-TR	1 / 1	0.0078
Nickel	0.2361		0.2361		SD-WW-06-TR	1 / 1	0.24
Zinc	13.8565		13.8565		SD-WW-06-TR	1 / 1	14
SEM/AVS	23.75		23.75		SD-WW-06-TR	1 / 1	24
Total Organic Carbon	760000	J	760000	J	SD-WW-06-TR	1 / 1	760000

J = Estimated Value

APPENDIX D.5

HYALELLA AZTECA, 10-DAY ACUTE TOXICITY TESTS

Method 100.1HA

Amphipod, Hyalella azteca, 10 Day Survival and Growth for Sediments

Associated Protocol:

Hyalella azteca 10-d Survival Test for Sediments. EPA/600/R-94/024

	Parameter	Conditions
1.	Test type:	Whole-sediment toxicity test with overlying water renewal
2.	Temperature:	23 +/- 1 C
3.	Light Quality:	Wide-spectrum fluorescent lights
4.	Illuminance:	~100 to 1000 lux
5.	Photoperiod	16L:8D
6.	Test chamber:	300-mL beaker
7.	Sediment Volume	100mL
8.	Overlying water volume:	175mL
9.	Renewal of overlying water:	2 volume additions/d
10.	Age of organisms	7 to 14-d at test start (1 to 2mm size range)
11.	Number of organisms/chamber:	10
12.	Replicates/sample:	8
13.	Feeding:	Daily 1.0 mL YCT/replicate chamber
14.	Aeration:	None, unless DO <2.5 mg/l
15.	Overlying water:	Reconstituted water
16.	Test chamber cleaning:	When screens clogged outside of screen brushed
17.	Overlying water quality:	Hardness, alkalinity, conductivity, pH and ammonia at the beginning and end of test (day 9 or 10). Water bath temperatures and sample replicate DO daily
18.	Test duration	10-d
19.	Endpoints:	Survival and dry weight growth
20.	Test acceptability:	Minimum mean control survival of 80% and measurable growth in control sediment
21.	Data Interpretation:	Hypothesis test vs. the control or reference sediment. Samples with responses quantitatively equal to or higher than the control responses are excluded from the statistical (and assumed to be non-significant)

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Toxicity Summary Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Method: 100.1HA Species: *Hyalella azteca*

Sample ID	Sample Name	Control Group	Mean Proportion Surviving	Mean Weight Growth (mg)
019971	D03193	A	0.95	0.114
019972	D03198	A	0.84	0.120
019981	D03201	A	0.94	0.097
019982	D03206	A	0.95	0.102
019983	D03211	A	1.00	0.103
020001	D03387	A	0.96	0.106
020002	D03392	A	0.98	0.096
020012	D03396	A	1.00	0.113
020013	D03401	A	1.00	0.108
020024	D03407	A	0.99	0.120
020025	D03412	A	0.89	0.098
020026	D03417	A	1.00	0.119
020038	Control	A	0.89	0.099
020039	D03424	B	0.78 *	0.130
020040	D03429	B	1.00	0.157
020041	D03476	B	0.95	0.140
020072	D03486	B	0.98	0.122

273 Commerce Street, Williston, VT 05495 Tel: 802.860.1638 Fax: 802.658.3189

000001

Toxicity Summary Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Method: 100.1HA Species: *Hyalella azteca*

Sample ID	Sample Name	Control Group	Mean Proportion Surviving	Mean Weight Growth (mg)
020073	D03491	B	0.98	0.138
020074	D03496	B	0.98	0.106
020118	D03504	B	0.99	0.133
020119	D03510	B	0.94	0.129
020182	Control	B	0.94	0.109

* Indicates a statistically significant reduction (P<0.05) in the response relative to the corresponding response in the laboratory control sample.

Toxicity Summary Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-322

Samples Received

Number	Sample Name	Date Time and Collected		Type
019971	D03193 IPSD-WHO7-06180	6/18/01	11:30:00 AM	sediment
019972	D03198 IPSD-TT2201-0618	6/18/01	3:30:00 PM	sediment
019981	D03201 IPSD-TT1203-0619	6/19/01	9:45:00 AM	Sediment
019982	D03206 IPSD-TT2903-0619	6/19/01	11:30:00 AM	Sediment
019983	D03211 IPSD-TT1901-0619	6/19/01	2:30:00 PM	Sediment
020001	D03387 IPSD-TT3302-0620	6/20/01	11:20:00 AM	Sediment
020002	D03392 IPSD-TT3202-0620	6/20/01	2:10:00 PM	Sediment
020012	D03396 IPSD-WW06-06210	6/21/01	9:12:00 AM	Sediment
020013	D03401 IPSD-TT1802-0621	6/21/01	2:30:00 PM	Sediment
020024	D03407 IPSD-TT1002-0622	6/22/01	8:45:00 AM	Sediment
020025	D03412 IPSD-TT1301-0622	6/22/01	10:46:00 AM	Sediment
020026	D03417 IPSD-TT3001-0622	6/22/01	1:25:00 PM	Sediment
020039	D03424 IPSD-PPO3-062501	6/25/01	10:10:00 AM	Sediment
020040	D03429 IPSD-TTSA01-0625	6/25/01	1:50:00 PM	Sediment
020041	D03476 IPSD-TTSD01-0625	6/25/01	4:30:00 PM	Sediment
020072	D03486 IPSD-TT04-062601	6/26/01	9:15:00 AM	Sediment
020073	D03491 IPSD-HB00-062601	6/26/01	11:55:00 AM	Sediment
020074	D03496 IPSD-TT0603-0626	6/26/01	2:50:00 PM	Sediment
020118	D03504 IPSD-TTUF02-0627	6/27/01	9:50:00 AM	Sediment
020119	D03510 IPSD-TTUF03-0627	6/27/01	11:25:00 AM	Sediment

Submitted By: _____

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019971 Sample Name: D03193 IPSD-WHO7-061 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	40.43	41.54	10	0.111
B	10	10	1.00	34.31	35.47	10	0.116
C	10	8	0.80	28.22	29.07	8	0.106
D	10	10	1.00	34.14	34.95	10	0.081
E	10	10	1.00	34.00	35.27	10	0.127
F	10	10	1.00	34.28	35.33	10	0.105
G	10	9	0.90	35.48	36.74	9	0.140
H	10	9	0.90	40.11	41.27	9	0.129
		Mean Surviving:	0.95			Mean Weight:	0.114

Sample ID: 019972 Sample Name: D03198 IPSD-TT2201-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	40.72	42.21	9	0.166
B	10	9	0.90	38.99	40.12	9	0.126
C	10	8	0.80	31.12	32.00	8	0.110
D	10	9	0.90	28.00	29.16	9	0.129
E	10	8	0.80	36.58	37.44	8	0.107
F	10	9	0.90	37.15	38.16	9	0.112
G	10	5	0.50	36.99	37.36	5	0.074
H	10	10	1.00	37.68	39.07	10	0.139
		Mean Surviving:	0.84			Mean Weight:	0.120

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019981 Sample Name: D03201 IPSD-TT1203-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	37.74	38.91	10	0.117
B	10	10	1.00	34.30	35.31	10	0.101
C	10	8	0.80	35.04	35.72	8	0.085
D	10	10	1.00	38.97	39.85	10	0.088
E	10	10	1.00	32.50	33.48	10	0.098
F	10	10	1.00	32.22	33.47	10	0.125
G	10	7	0.70	38.45	38.92	7	0.067 * spiked
H	10	10	1.00	39.29	40.21	10	0.092
		Mean Surviving:	0.94			Mean Weight:	0.097

Sample ID: 019982 Sample Name: D03206 IPSD-TT2903-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	40.96	41.90	10	0.094
B	10	10	1.00	36.21	37.38	10	0.117
C	10	7	0.70	36.44	37.13	7	0.099
D	10	10	1.00	37.18	38.17	10	0.099
E	10	10	1.00	43.03	44.26	10	0.123
F	10	10	1.00	39.71	40.61	10	0.090
G	10	10	1.00	42.73	43.81	10	0.108
H	10	9	0.90	35.80	36.59	9	0.088
		Mean Surviving:	0.95			Mean Weight:	0.102

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019983 Sample Name: D03211 IPSD-TT1901-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	36.86	37.89	10	0.103
B	10	10	1.00	38.02	38.97	10	0.095
C	10	10	1.00	34.45	35.54	10	0.109
D	10	10	1.00	37.44	38.31	10	0.087
E	10	10	1.00	40.67	41.93	10	0.126
F	10	10	1.00	40.40	41.42	10	0.102
G	10	10	1.00	43.33	44.35	10	0.102
H	10	10	1.00	37.94	38.91	10	0.097
		Mean Surviving:	1.00			Mean Weight:	0.103

Sample ID: 020001 Sample Name: D03387 IPSD-TT3302-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	37.71	38.78	9	0.119
B	10	10	1.00	34.43	35.66	10	0.123
C	10	10	1.00	30.55	31.53	10	0.098
D	10	10	1.00	31.09	32.04	10	0.095
E	10	9	0.90	32.57	33.52	9	0.106
F	10	10	1.00	30.61	31.78	10	0.117
G	10	9	0.90	33.02	33.79	9	0.086
H	10	10	1.00	32.17	33.23	10	0.106
		Mean Surviving:	0.96			Mean Weight:	0.106

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020002 Sample Name: D03392 IPSD-TT3202-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	35.79	36.65	10	0.086
B	10	10	1.00	35.43	36.57	10	0.114
C	10	10	1.00	34.38	35.40	10	0.102
D	10	10	1.00	40.54	41.52	10	0.098
E	10	10	1.00	38.31	39.38	10	0.107
F	10	10	1.00	33.38	34.10	10	0.072
G	10	9	0.90	43.02	43.77	9	0.083
H	10	9	0.90	33.87	34.79	9	0.102
		Mean Surviving:	0.98			Mean Weight:	0.096

Sample ID: 020012 Sample Name: D03396 IPSD-WW06-062 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	35.14	36.32	10	0.118
B	10	10	1.00	34.94	35.98	10	0.104
C	11	11	1.00	37.05	38.34	11	0.117
D	10	10	1.00	31.36	32.58	10	0.122
E	10	10	1.00	32.29	33.36	10	0.107
F	10	10	1.00	38.86	39.89	10	0.103
G	10	10	1.00	33.52	34.62	10	0.110
H	10	10	1.00	32.82	34.02	10	0.120
		Mean Surviving:	1.00			Mean Weight:	0.113

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020013 Sample Name: D03401 IPSD-TT1802-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	39.19	40.25	10	0.106
B	10	10	1.00	34.08	35.36	10	0.128
C	10	10	1.00	39.56	40.62	10	0.106
D	10	10	1.00	36.78	37.87	10	0.109
E	10	10	1.00	34.52	35.68	10	0.116
F	10	10	1.00	26.11	27.10	10	0.099
G	10	10	1.00	23.34	24.35	10	0.101
H	10	10	1.00	37.39	38.40	10	0.101
		Mean Surviving:	1.00			Mean Weight:	0.108

Sample ID: 020024 Sample Name: D03407 IPSD-TT1002-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	38.37	39.54	10	0.117
B	10	10	1.00	36.90	38.47	10	0.157
C	10	10	1.00	34.80	36.32	10	0.152
D	10	10	1.00	37.44	38.43	10	0.099
E	10	10	1.00	37.41	38.55	10	0.114
F	10	10	1.00	37.44	38.51	10	0.107
G	10	10	1.00	36.11	37.11	10	0.100
H	10	9	0.90	37.52	38.53	9	0.112
		Mean Surviving:	0.99			Mean Weight:	0.120

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020025 Sample Name: D03412 IPSD-TT1301-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	36.34	37.38	10	0.104
B	10	4	0.40	26.65	27.00	4	0.088
C	10	10	1.00	36.41	37.40	10	0.099
D	10	10	1.00	38.91	39.93	10	0.102
E	10	9	0.90	37.18	38.06	9	0.098
F	10	10	1.00	37.86	38.94	10	0.108
G	10	8	0.80	33.59	34.29	8	0.088
H	10	10	1.00	27.05	28.05	10	0.100
		Mean Surviving:	0.89			Mean Weight:	0.098

Sample ID: 020026 Sample Name: D03417 IPSD-TT3001-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	34.66	35.82	10	0.116
B	10	10	1.00	31.33	32.72	10	0.139
C	10	10	1.00	33.59	35.04	10	0.145
D	10	10	1.00	35.40	36.80	10	0.140
E	10	10	1.00	41.68	42.70	10	0.102
F	10	10	1.00	45.38	46.47	10	0.109
G	10	10	1.00	43.13	44.14	10	0.101
H	10	10	1.00	34.44	35.41	10	0.097
		Mean Surviving:	1.00			Mean Weight:	0.119

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020038 Sample Name: Control Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	39.63	40.92	10	0.129
B	10	10	1.00	39.34	40.44	10	0.110
C	10	10	1.00	30.66	31.74	10	0.108
D	10	10	1.00	35.14	36.07	10	0.093
E	10	8	0.80	38.07	38.64	8	0.071
F	10	8	0.80	38.58	39.32	8	0.092
G	10	10	1.00	37.53	38.37	10	0.084
H	10	5	0.50	34.47	34.98	5	0.102 * overlooked
		Mean Surviving:	0.89			Mean Weight:	0.099

Sample ID: 020039 Sample Name: D03424 IPSD-PPO3-062 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	8	0.80	34.74	35.73	8	0.124
B	10	8	0.80	34.58	35.56	8	0.122
C	10	5	0.50	32.68	33.23	5	0.110
D	10	10	1.00	34.07	35.88	10	0.181
E	10	9	0.90	40.07	41.29	9	0.136
F	10	8	0.80	38.59	39.52	8	0.116
G	10	5	0.50	37.00	37.60	5	0.120
H	10	9	0.90	35.40	36.58	9	0.131
		Mean Surviving:	0.78			Mean Weight:	0.130

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020040 Sample Name: D03429 IPSD-TTSA01-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	36.34	38.12	10	0.178
B	10	10	1.00	32.44	33.61	10	0.117
C	10	10	1.00	35.23	37.20	10	0.197
D	10	10	1.00	33.60	34.98	10	0.138
E	10	10	1.00	33.68	35.53	10	0.185
F	10	10	1.00	38.23	39.62	10	0.139
G	10	10	1.00	37.11	38.51	10	0.140
H	10	10	1.00	32.71	34.36	10	0.165
		Mean Surviving:	1.00			Mean Weight:	0.157

Sample ID: 020041 Sample Name: D03476 IPSD-TTSD01-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	30.56	32.23	10	0.167
B	10	10	1.00	34.34	35.89	10	0.155
C	10	9	0.90	36.61	37.62	9	0.112
D	10	10	1.00	32.86	33.97	10	0.111
E	10	10	1.00	32.81	34.44	10	0.163
F	10	7	0.70	33.89	34.71	7	0.117
G	10	10	1.00	35.45	36.94	10	0.149
H	10	10	1.00	31.93	33.36	10	0.143
		Mean Surviving:	0.95			Mean Weight:	0.140

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020072 Sample Name: D03486 IPSD-TT04-0626 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	35.13	36.05	10	0.092
B	10	10	1.00	35.21	36.62	10	0.141
C	10	10	1.00	32.30	33.55	10	0.125
D	10	10	1.00	37.81	38.96	10	0.115
E	10	10	1.00	36.66	37.75	10	0.109
F	10	9	0.90	37.25	38.60	9	0.150
G	10	9	0.90	35.52	36.63	9	0.123
H	10	10	1.00	29.87	31.09	10	0.122
		Mean Surviving:	0.98			Mean Weight:	0.122

Sample ID: 020073 Sample Name: D03491 IPSD-HB00-0626 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	38.36	39.75	10	0.139
B	10	9	0.90	36.58	37.86	9	0.142
C	10	10	1.00	35.92	37.22	10	0.130
D	10	10	1.00	34.48	35.67	10	0.119
E	10	10	1.00	34.79	36.23	10	0.144
F	10	10	1.00	37.81	38.99	10	0.118
G	10	10	1.00	33.67	35.13	10	0.146
H	10	9	0.90	34.85	36.36	9	0.168
		Mean Surviving:	0.98			Mean Weight:	0.138

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020074 Sample Name: D03496 IPSD-TT0603-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	32.75	33.78	10	0.103
B	10	10	1.00	42.08	43.01	10	0.093
C	10	10	1.00	34.38	35.61	10	0.123
D	10	10	1.00	30.21	31.27	10	0.106
E	10	9	0.90	35.22	36.14	9	0.102
F	10	10	1.00	31.97	33.12	10	0.115
G	10	9	0.90	35.18	36.13	9	0.106
H	10	10	1.00	35.95	36.97	10	0.102
		Mean Surviving:	0.98			Mean Weight:	0.106

Sample ID: 020118 Sample Name: D03504 IPSD-TTUF02-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	37.24	38.59	10	0.135
B	10	10	1.00	33.27	34.46	10	0.119
C	10	10	1.00	34.27	35.52	10	0.125
D	10	9	0.90	29.85	30.96	9	0.123
E	10	10	1.00	38.07	39.08	10	0.101
F	10	10	1.00	33.67	35.09	10	0.142
G	10	10	1.00	37.98	39.68	10	0.170
H	10	10	1.00	27.20	28.68	10	0.148
		Mean Surviving:	0.99			Mean Weight:	0.133

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/6/01
Project: 01032
SDG 5286
Site: N0564-322

Sample ID: 020119 Sample Name: D03510 IPSD-TTUF03-06 Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	32.98	34.06	10	0.108
B	10	10	1.00	31.73	32.90	10	0.117
C	10	8	0.80	30.13	31.28	8	0.144
D	10	9	0.90	33.13	34.85	9	0.191
E	10	10	1.00	36.05	37.06	10	0.101
F	10	10	1.00	27.16	28.07	10	0.091
G	10	10	1.00	30.33	31.61	10	0.128
H	10	8	0.80	25.00	26.20	8	0.150
		Mean Surviving:	0.94			Mean Weight:	0.129

Sample ID: 020182 Sample Name: Control Method: 100.1HA

Replicate	Start Count	Total Surviving	Proportion Surviving	Initial Weight	Final Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	26.35	27.43	9	0.120
B	10	10	1.00	28.57	29.68	10	0.111
C	10	9	0.90	33.61	34.43	9	0.091
D	10	10	1.00	29.93	31.10	10	0.117
E	10	10	1.00	33.41	34.56	10	0.115
F	10	9	0.90	30.83	31.64	9	0.090
G	10	10	1.00	26.18	27.09	10	0.091
H	10	8	0.80	30.72	31.82	8	0.138
		Mean Surviving:	0.94			Mean Weight:	0.109

Aquatec Biological Sciences

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Quality Assurance Report

Tetra Tech NUS Inc	Date:	8/7/01
55 Jonspin Road	Project:	01032
	SDG	5286
Wilmington, MA 01887-1062	Site:	N0564-0322

Qualifiers and Special Conditions

Replicate H of sample 20038 (Control) overflowed on July 1, 2002, Day 2 of the test, resulting in the possible loss of some of the test organisms. Five amphipods were recovered from this replicate at the end of the test and the proportion surviving was based on the original number of 10 amphipods (survival 0.5).

Replicate G of sample 19981 (D03201) spilled on July 4, 2001, Day 6 of the test, resulting in the possible loss of some of the test organisms. Seven amphipods were recovered from this replicate at the end of the test and the proportion surviving was based on the original number of 10 amphipods (survival 0.7).

Replicate G of sample 20024 (D03407) had 9 surviving amphipods recorded when the test was ended. When the organisms were submitted for dry weight analysis, 10 amphipods were present. The number surviving (10) was based on the number weighed.

The hardness measurement for sample 20119 (D03510) on Day 0 resulted in a value of "0" because the titration endpoint (color change) occurred immediately. The hardness of the overlying water for this sample should be considered as "undetermined" due to unexplained interference for the analysis.

273 Commerce Street, Williston, VT 05495 Tel: 802.860.1638 Fax: 802.658.3189

APPENDIX D.6

CHIRONOMUS TENTANS, 10-DAY ACUTE TOXICITY TESTS

Method 100.2CT

Midge, Chironomus tentans 10-Day Survival and Growth Test for Sediment

Associated Protocol:

Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates (EPA/600/R-99/064)

	Parameter	Conditions
1.	Test type:	Whole-sediment toxicity test with renewal of overlying water
2.	Temperature:	Average 23 +/- 1 C; Instanteneous temperature 23+/- 3 C
3.	Light quality:	Wide-spectrum fluorescent lights
4.	Illuminance:	~100 to 1000 lux
5.	Photoperiod	16L:8D
6.	Test chamber:	300mL beaker
7.	Sediment volume	100mL
8.	Overlying water volume:	175mL
9.	Renewal of overlying water:	2 volume addiitions/d
10.	Life stage of organisms:	Second or third instar (50% or more in third instar)
11.	Organisms/test chamber:	10
12.	Replicates/sample:	8
13.	Feeding:	Tetrafin slurry, 1.5 mL daily to each test chamber
14.	Aeration:	None, unless D.O. drops below 2.5mg/L
15.	Overlying water:	Reconstituted water
16.	Test chamber cleaning:	When screen clogs, gently brush the outside of the screen
17.	Overlying water quality:	Hardness, alkalinity, conductivity, pH, and ammonia in the overlying water at the beginning and end of test. Incubator temperature daily and DO in one replicate per sample daily.
18.	Test duration:	10-d
19.	Endpoints:	Survival and Ash-Free-Dry-Weight growth
20.	Test acceptability:	Minimum mean control survival of 70% and minimum control mean AFDW of 0.48mg/surviving control
21.	Data Interpretation:	Hypothesis testing (e.g., t-test) versus laboratory control and/or reference site control. Samples with responses quantitatively equal to or higher than the control responses are excluded from the statistical analyses and assumed non-significant.

Aquatec Biological Sciences

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Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/7/01
Project: 01032
SDG 5286
Site: N0564-0322

Method: 100.2CT Species: *Chironomus tentans*

Number	Client Identifier	Control Group	Mean Proportion Surviving	Mean Weight Growth (mg)	
019971	D03193	A	0.89	1.06	
019972	D03198	A	0.84	1.01	
019981	D03201	A	0.93	0.67	*
019982	D03206	A	0.90	0.95	
019983	D03211	A	0.80	0.97	
020001	D03387	A	0.88	0.99	
020002	D03392	A	0.94	0.89	
020012	D03396	A	0.94	1.16	
020013	D03401	A	0.93	0.90	
020024	D03407	A	0.59	0.81	
020025	D03412	A	0.91	0.55	*
020026	D03417	A	0.80	0.85	
020038	Control	A	0.76	0.92	
020039	D03424	B	0.94	1.37	
020040	D03429	B	0.76	1.40	
020041	D03476	B	0.94	1.35	
020072	D03486	B	0.96	1.14	
020073	D03491	B	0.25	1.73	*
020074	D03496	B	0.95	1.04	

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Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/7/01
Project: 01032
SDG 5286
Site: N0564-322

Method: 100.2CT Species: *Chironomus tentans*

Number	Client Identifier	Control Group	Mean Proportion Surviving	Mean Weight Growth (mg)	
020118	D03504	B	0.86	1.24	
020119	D03510	B	0.95	0.91	*
020182	Control	B	0.94	1.13	

* Indicates a statistically significant reduction (P<0.05) in the response relative to the corresponding response in the laboratory control sample.

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-322

Samples Received

Number	Sample Name	Date Time and Collected		Type
019971	D03193 IPSD-WHO7-06180	6/18/01	11:30:00 AM	sediment
019972	D03198 IPSD-TT2201-0618	6/18/01	3:30:00 PM	sediment
019981	D03201 IPSD-TT1203-0619	6/19/01	9:45:00 AM	Sediment
019982	D03206 IPSD-TT2903-0619	6/19/01	11:30:00 AM	Sediment
019983	D03211 IPSD-TT1901-0619	6/19/01	2:30:00 PM	Sediment
020001	D03387 IPSD-TT3302-0620	6/20/01	11:20:00 AM	Sediment
020002	D03392 IPSD-TT3202-0620	6/20/01	2:10:00 PM	Sediment
020012	D03396 IPSD-WW06-06210	6/21/01	9:12:00 AM	Sediment
020013	D03401 IPSD-TT1802-0621	6/21/01	2:30:00 PM	Sediment
020024	D03407 IPSD-TT1002-0622	6/22/01	8:45:00 AM	Sediment
020025	D03412 IPSD-TT1301-0622	6/22/01	10:46:00 AM	Sediment
020026	D03417 IPSD-TT3001-0622	6/22/01	1:25:00 PM	Sediment
020039	D03424 IPSD-PPO3-062501	6/25/01	10:10:00 AM	Sediment
020040	D03429 IPSD-TTSA01-0625	6/25/01	1:50:00 PM	Sediment
020041	D03476 IPSD-TTSD01-0625	6/25/01	4:30:00 PM	Sediment
020072	D03486 IPSD-TT04-062601	6/26/01	9:15:00 AM	Sediment
020073	D03491 IPSD-HB00-062601	6/26/01	11:55:00 AM	Sediment
020074	D03496 IPSD-TT0603-0626	6/26/01	2:50:00 PM	Sediment
020118	D03504 IPSD-TTUF02-0627	6/27/01	9:50:00 AM	Sediment
020119	D03510 IPSD-TTUF03-0627	6/27/01	11:25:00 AM	Sediment

Submitted By:

Aquatec Biological Sciences

Ecology | Environmental Toxicology | Natural Resource Assessments | Microbiology

Quality Assurance Report

Tetra Tech NUS Inc	Date:	8/9/01
55 Jonspin Road	Project:	01032
	SDG	5286
Wilmington, MA 01887-1062	Site:	N0564-0322

Qualifiers and Special Conditions

For the group of samples tested beginning on June 26, 2001, there were insufficient larvae to measure initial (pre-test) ash-free dry weights. Larval development stage for this batch of organisms was determined by head capsule measurement. For the group of samples tested beginning on June 30, 2001, both initial ash-free dry weights and head capsule measurements were completed on a sub-set of the test organisms.

One test replicate had a discrepancies between the number of surviving larvae recorded and the number of larvae weighed: According to the test data, Sample 20012 (D03396) Replicate G had 11 surviving larvae, however only 10 larvae were weighed. The data were used as recorded.

Several test replicates may have received more than 10 larvae when the test was started: Sample 20025 (D03412) Replicate C and Sample 20072 (D03486) Replicates A, B, and C had 11 larvae recorded as surviving and weighed. Sample 20118 (D03504) Replicate D had 13 larvae recorded as surviving and weighed. The data were used as recorded.

Sample 20026 (D03417) Replicate F had no surviving larvae while the other seven replicates had 8-10 surviving larvae. Sample 20040 (D03429) Replicate C had no surviving larvae while the other seven replicates had 6-10 surviving larvae. The data were used as recorded.

Two possible weighing errors were detected during the data review. Sample 20039 (D03424) Replicate H had an ashed weight recorded that was less than the original crucible weight. Sample 20074 (D03496) Replicate G had a dry weight recorded which appeared to be 100 mg above the expected value. The weight data for these two replicates were excluded from the data tabulation and the statistical analysis.

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Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019971 Sample Name: D03193 IPSD-WHO7-061 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	8	0.80	42.25	50.69	43.29	8	0.92
B	10	9	0.90	35.91	48.8	37.73	9	1.23
C	10	6	0.60	45.54	52.95	46.41	6	1.09
D	10	10	1.00	41.74	50.11	42.88	10	0.72
E	10	10	1.00	43.27	57.37	45.46	10	1.19
F	10	10	1.00	43.58	54.02	44.89	10	0.91
G	10	10	1.00	45.60	56.25	46.91	10	0.93
H	10	8	0.80	43.23	56.48	44.85	8	1.45
	Mean Survival:		0.89			Mean Growth Weight:		1.06

Sample ID: 019972 Sample Name: D03198 IPSD-TT2201-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	41.56	50.33	42.39	9	0.88
B	10	9	0.90	43.12	53.87	44.18	9	1.08
C	10	9	0.90	41.83	49.67	42.63	9	0.78
D	10	9	0.90	45.28	52.39	46.07	9	0.70
E	10	6	0.60	44.67	54.98	45.69	6	1.55
F	10	10	1.00	45.38	59.8	46.83	10	1.30
G	10	8	0.80	45.73	53.66	46.53	8	0.89
H	10	7	0.70	43.69	50.98	44.48	7	0.93
	Mean Survival:		0.84			Mean Growth Weight:		1.01

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019981 Sample Name: D03201 IPSD-TT1203-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	46.20	57.54	49.53	10	0.80
B	10	10	1.00	41.81	51.14	44.29	10	0.68
C	10	10	1.00	49.63	59.49	53.43	10	0.61
D	10	10	1.00	43.43	55.52	47.55	10	0.80
E	10	6	0.60	45.00	50.74	47.43	6	0.55
F	10	9	0.90	46.73	54.34	50.03	9	0.48
G	10	10	1.00	48.90	60.65	54.21	10	0.64
H	10	9	0.90	51.73	63.25	56.15	9	0.79
	Mean Survival:		0.93			Mean Growth Weight:		0.67

Sample ID: 019982 Sample Name: D03206 IPSD-TT2903-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	54.48	62.99	55.73	9	0.81
B	10	8	0.80	53.04	64.63	55.07	8	1.19
C	10	10	1.00	49.86	59.47	51.41	10	0.81
D	10	10	1.00	55.15	66.5	56.84	10	0.97
E	10	9	0.90	50.25	60.85	51.58	9	1.03
F	10	6	0.60	47.68	55.68	48.95	6	1.12
G	10	10	1.00	53.84	63.96	55.56	10	0.84
H	10	10	1.00	49.08	58.86	50.58	10	0.83
	Mean Survival:		0.90			Mean Growth Weight:		0.95

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019983 Sample Name: D03211 IPSD-TT1901-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	50.77	60.57	51.78	10	0.88
B	10	8	0.80	51.31	59.18	52.11	8	0.88
C	10	9	0.90	49.90	58.15	50.86	9	0.81
D	10	7	0.70	45.81	53.83	46.46	7	1.05
E	10	7	0.70	45.23	54.99	46.34	7	1.24
F	10	10	1.00	45.48	58.12	47.06	10	1.11
G	10	6	0.60	46.45	53.06	47.20	6	0.98
H	10	7	0.70	42.03	48.5	42.61	7	0.84
	Mean Survival:		0.80			Mean Growth Weight:		0.97

Sample ID: 020001 Sample Name: D03387 IPSD-TT3302-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	42.19	53.44	43.89	9	1.06
B	10	10	1.00	42.24	51.1	43.39	10	0.77
C	10	8	0.80	42.32	52.91	43.98	8	1.12
D	10	10	1.00	42.42	52.66	43.80	10	0.89
E	10	7	0.70	40.36	49.36	41.55	7	1.12
F	10	8	0.80	46.96	55.66	48.14	8	0.94
G	10	9	0.90	46.52	55.26	47.93	9	0.81
H	10	9	0.90	43.93	56.46	45.61	9	1.21
	Mean Survival:		0.88			Mean Growth Weight:		0.99

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020002 Sample Name: D03392 IPSD-TT3202-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	47.47	57.55	48.93	10	0.86
B	10	9	0.90	45.45	52.29	46.58	9	0.63
C	10	8	0.80	47.07	60.3	49.09	8	1.40
D	10	9	0.90	44.69	55.2	46.49	9	0.97
E	10	10	1.00	44.52	54.99	46.26	10	0.87
F	10	9	0.90	49.24	60.12	50.87	9	1.03
G	10	10	1.00	43.88	54.1	45.39	10	0.87
H	10	10	1.00	45.13	51.07	45.99	10	0.51
	Mean Survival:		0.94			Mean Growth Weight:		0.89

Sample ID: 020012 Sample Name: D03396 IPSD-WW06-062 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	45.50	58.91	47.22	10	1.17
B	10	9	0.90	47.41	60.35	48.92	9	1.27
C	10	10	1.00	40.81	53.84	42.29	10	1.15
D	10	7	0.70	46.58	57.99	47.99	7	1.43
E	10	9	0.90	48.90	59.7	50.05	9	1.07
F	10	10	1.00	37.79	49.27	39.05	10	1.02
G	11	11	1.00	46.29	57.92	47.50	10	1.04
H	10	10	1.00	43.91	56.34	45.25	10	1.11
	Mean Survival:		0.94			Mean Growth Weight:		1.16

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020013 Sample Name: D03401 IPSD-TT1802-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	8	0.80	44.76	53.3	45.94	8	0.92
B	10	9	0.90	54.40	61.39	55.25	9	0.68
C	10	9	0.90	48.97	59.12	50.26	9	0.98
D	10	9	0.90	51.64	61.08	52.51	9	0.95
E	10	9	0.90	46.78	58.05	48.37	9	1.08
F	10	10	1.00	48.82	61.46	50.93	10	1.05
G	10	10	1.00	46.94	54.57	47.93	10	0.66
H	10	10	1.00	42.72	52.96	43.92	10	0.90
	Mean Survival:		0.93			Mean Growth Weight:		0.90

Sample ID: 020024 Sample Name: D03407 IPSD-TT1002-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	6	0.60	45.75	52.86	47.67	6	0.87
B	10	9	0.90	51.07	60.45	53.11	9	0.82
C	10	9	0.90	42.38	53.59	44.85	9	0.97
D	10	3	0.30	49.49	51.25	49.95	3	0.43
E	10	2	0.20	46.13	49.66	47.16	2	1.25
F	10	6	0.60	45.24	49.97	46.72	6	0.54
G	10	4	0.40	43.56	48.07	44.89	4	0.80
H	10	8	0.80	43.07	52.61	46.44	8	0.77
	Mean Survival:		0.59			Mean Growth Weight:		0.81

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020025 Sample Name: D03412 IPSD-TT1301-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	52.55	60.53	56.20	9	0.48
B	10	10	1.00	52.67	64.77	58.45	10	0.63
C	11	11	1.00	50.63	62.19	55.99	11	0.56
D	10	9	0.90	42.44	49.97	45.97	9	0.44
E	10	9	0.90	50.13	62.64	57.01	9	0.63
F	10	8	0.80	45.70	55.41	51.08	8	0.54
G	10	9	0.90	48.26	58.36	53.39	9	0.55
H	10	9	0.90	44.91	55.9	50.84	9	0.56
	Mean Survival:		0.91			Mean Growth Weight:		0.55

Sample ID: 020026 Sample Name: D03417 IPSD-TT3001-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	35.33	51.14	40.40	9	1.19
B	10	8	0.80	47.02	55.14	49.56	8	0.70
C	10	10	1.00	46.27	57.14	50.54	10	0.66
D	10	9	0.90	48.95	63.81	54.15	9	1.07
E	10	9	0.90	46.44	57.69	49.61	9	0.90
F	10	0	0.00	40.76				
G	10	9	0.90	52.83	64.7	57.32	9	0.82
H	10	10	1.00	44.98	54.3	48.30	10	0.60
	Mean Survival:		0.80			Mean Growth Weight:		0.85

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020038 Sample Name: Control Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	35.29	48.14	40.90	10	0.72
B	10	7	0.70	49.94	61.77	55.12	7	0.95
C	10	9	0.90	43.39	60.36	51.92	9	0.94
D	10	6	0.60	46.01	55.7	49.28	6	1.07
E	10	8	0.80	40.77	52.81	45.69	8	0.89
F	10	7	0.70	43.92	56.36	48.29	7	1.15
G	10	6	0.60	44.39	50.76	47.15	6	0.60
H	10	8	0.80	43.54	56.21	48.00	8	1.03
	Mean Survival:		0.76			Mean Growth Weight:		0.92

Sample ID: 020039 Sample Name: D03424 IPSD-PPO3-062 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	8	0.80	2162.80	2176.61	2165.67	8	1.37
B	10	10	1.00	2148.41	2163.25	2151.02	10	1.22
C	10	10	1.00	2103.15	2118.02	2106.27	10	1.17
D	10	10	1.00	2186.94	2205.89	2191.01	10	1.49
E	10	10	1.00	2247.78	2265.42	2250.66	10	1.48
F	10	10	1.00	2138.83	2154.32	2141.60	10	1.27
G	10	9	0.90	2030.52	2047.65	2033.58	9	1.56
H	10	8	0.80					
	Mean Survival:		0.94			Mean Growth Weight:		1.37

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020040 Sample Name: D03429 IPSD-TTSA01-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	2157.60	2173.89	2161.22	10	1.27
B	10	10	1.00	2182.39	2198	2184.73	10	1.33
C	10	0	0.00	2058.03			0	
D	10	9	0.90	2194.86	2208.03	2197.29	9	1.19
E	10	9	0.90	2111.22	2128.37	2113.88	9	1.61
F	10	9	0.90	2194.07	2212.3	2197.73	9	1.62
G	10	9	0.90	2204.37	2211.74	2205.65	8	0.76
H	10	5	0.50	2219.10	2231.69	2221.44	5	2.05
	Mean Survival:		0.76			Mean Growth Weight:		1.40

Sample ID: 020041 Sample Name: D03476 IPSD-TTSD01-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	2116.49	2131.05	2118.86	9	1.35
B	10	10	1.00	2052.98	2066.76	2054.98	10	1.18
C	10	10	1.00	2183.70	2199.03	2186.00	10	1.30
D	10	8	0.80	2138.33	2151.81	2140.06	8	1.47
E	10	9	0.90	2204.69	2221.34	2206.83	9	1.61
F	10	9	0.90	2189.80	2203.82	2191.95	9	1.32
G	10	10	1.00	2218.66	2194.39	2182.65	10	1.17
H	10	10	1.00	2222.70	2238.7	2224.84	10	1.39
	Mean Survival:		0.94			Mean Growth Weight:		1.35

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020072 Sample Name: D03486 IPSD-TT04-0626 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	11	11	1.00	2175.18	2190.29	2177.70	11	1.14
B	11	11	1.00	2208.08	2224.94	2210.56	11	1.31
C	10	10	1.00	2165.63	2177.56	2167.24	10	1.03
D	10	9	0.90	2435.89	2467.08	2457.29	9	1.09
E	10	10	1.00	2142.72	2157.84	2144.74	10	1.31
F	10	10	1.00	2105.66	2118.35	2107.45	10	1.09
G	10	8	0.80	2110.92	2120.82	2112.04	8	1.10
H	11	11	1.00	2111.83	2125.39	2113.60	11	1.07
	Mean Survival:		0.96			Mean Growth Weight:		1.14

Sample ID: 020073 Sample Name: D03491 IPSD-HB00-0626 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	4	0.40	2018.82	2026.5	2019.73	4	1.69
B	10	3	0.30	2224.13	2229.84	2224.66	3	1.73
C	10	0	0.00	2226.59	0		0	
D	10	0	0.00	2111.01	0		0	
E	10	0	0.00	2125.10	0		0	
F	10	0	0.00	2099.83	0		0	
G	10	3	0.30	2180.49	2187.85	2181.25	3	2.20
H	10	10	1.00	2200.94	2216.04	2203.00	10	1.30
	Mean Survival:		0.25			Mean Growth Weight:		1.73

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020074 Sample Name: D03496 IPSD-TT0603-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	9	0.90	2140.49	2152.29	2142.71	9	1.06
B	10	10	1.00	2281.80	2296.65	2284.99	10	1.17
C	10	9	0.90	2063.02	2073.88	2065.46	9	0.94
D	10	9	0.90	2020.84	2032.64	2023.29	9	1.04
E	10	10	1.00	2193.22	2204.43	2195.20	10	0.92
F	10	10	1.00	2196.25	2207.79	2197.76	10	1.00
G	10	9	0.90					
H	10	10	1.00	2217.78	2232.79	2220.98	10	1.18
	Mean Survival:		0.95			Mean Growth Weight:		1.04

Sample ID: 020118 Sample Name: D03504 IPSD-TTUF02-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	8	0.80	2533.64	2549.31	2536.69	8	1.58
B	10	9	0.90	2137.66	2150.75	2140.56	9	1.13
C	10	8	0.80	2187.68	2199.55	2190.38	8	1.15
D	13	13	1.00	2241.83	2261.94	2246.05	13	1.22
E	10	10	1.00	2046.14	2062.48	2049.08	10	1.34
F	10	8	0.80	2119.30	2129.37	2120.96	8	1.05
G	10	10	1.00	2188.41	2203.55	2191.76	10	1.18
H	10	6	0.60	2119.59	2127.77	2121.25	5	1.30
	Mean Survival:		0.86			Mean Growth Weight:		1.24

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/8/01
Project: 01032
SDG 5286
Site: N0564-322

Sample ID: 020119 Sample Name: D03510 IPSD-TTUF03-06 Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	2302.24	2316.83	2305.24	10	1.16
B	10	10	1.00	2158.78	2169.74	2161.10	10	0.86
C	10	10	1.00	2091.97	2102.5	2094.26	10	0.82
D	10	10	1.00	2145.41	2155.72	2147.75	10	0.80
E	10	10	1.00	2254.98	2263.57	2256.81	10	0.68
F	10	9	0.90	2068.60	2084.82	2072.60	9	1.36
G	10	9	0.90	2245.30	2253.48	2246.54	9	0.77
H	10	8	0.80	2207.91	2215.83	2209.35	8	0.81
	Mean Survival:		0.95			Mean Growth Weight:		0.91

Sample ID: 020182 Sample Name: Control Method: 100.2CT

Replicate	Start Count	Total Surviving	Proportion Surviving	Pan Weight	Dry Weight	Ash Weight	Weighed	Mean Replicate Weight
A	10	10	1.00	2101.24	2115.88	2105.74	10	1.01
B	10	9	0.90	2221.66	2236.03	2226.01	9	1.11
C	10	10	1.00	2195.63	2212.77	2200.87	10	1.19
D	10	10	1.00	2120.77	2135.83	2124.85	10	1.10
E	10	8	0.80	2291.98	2303.04	2294.19	8	1.11
F	10	9	0.90	2210.83	2228.95	2216.54	9	1.38
G	10	9	0.90	2158.14	2176.99	2165.99	9	1.22
H	10	10	1.00	2145.06	2156.84	2147.40	10	0.94
	Mean Survival:		0.94			Mean Growth Weight:		1.13

APPENDIX D.7

HYALELLA AZTECA, 42-DAY CHRONIC TOXICITY TESTS

Method 100.4HA

Amphipod, Hyalella azteca, 42-day Survival, Growth and Reproduction Test

Associated Protocol:

Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates (EPA/600/R-99/064)

	Parameter	Conditions
1.	Test Type:	Whole-sediment toxicity test with renewal of overlying water
2.	Temperature:	Average bath temperature 23 +/- 1 C; Instantenious temperature 23 +/- 3 C
3.	Light Quality:	Wide-spectrum fluorescent lights
4.	Illuminance:	~100 to 1000 lux
5.	Photoperiod:	16L:8D
6.	Test chamber:	300mL beaker
7.	Sediment volume:	100ml
8.	Overlying water volume:	175ml during sediment exposure (day 0 to day 28); 175-275ml during water exposure (day 29-42)
9.	Renewal of overlying water:	2 volume addiitions/d
10.	Life stage of organisms:	7- to 8-d old at test start
11.	Organisms/test chamber:	10
12.	Replicates/sample:	12 (4 for 28-d survival/growth; 8 for 35 and 42d survival, growth and reproduction)
13.	Feeding:	1ml of YCT daily to each test chamber
14.	Aeration:	None, unless DO drops below 2.5mg/l
15.	Overlying water:	Mixture of surface water and reconstituted water
16.	Test chamber cleaning:	When screen clogs, gently brush the outside of the screen
17.	Overlying water quality:	Hardness, alkalinity, conductivity, and ammonia on day 0 and day 28. Water bath temperature daily, conductivity weekly and DO and pH three times per week.
18.	Test duration:	42-d
19.	Endpoints:	28-d survival/growth; 35-d survival/reproduction; 42-d survival/growth/reproduction/adult sex composition
20.	Test acceptability:	28-d control survival 80% or more: Performance-based criteria

Aquatec Biological Sciences

Ecology | Environmental Toxicology | Natural Resource Assessments | Microbiology

Toxicity Summary Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Method: 100.4HA Species: *Hyalella azteca*

Number	Name	Control Group	Day:	Survival (Proportion) 28	35	42	Growth (mg) 28	42	Reproduction (Neonates/Female) 42
019971	D03193	A		0.96	0.91	0.89	0.37	0.52	7.45
019972	D03198	A		0.86	0.86	0.83	0.58	0.63	9.95
019981	D03201	A		0.83	0.89	0.89	0.30	0.45	5.00
019982	D03206	A		0.81	0.87	0.84	0.30	0.49	5.80
019983	D03211	A		0.92	0.91	0.90	0.40	0.49	4.00
020001	D03387	A		0.91	0.89	0.85	0.39	0.52	5.43
020002	D03392	A		0.79	0.79	0.76	0.36	0.55	5.68
020012	D03396	A		0.93	0.93	0.90	0.43	0.57	5.43
020013	D03401	A		0.91	0.84	0.83	0.28	0.53	3.29
020024	D03407	A		0.93	0.90	0.90	0.27	0.51	5.12
020025	D03412	A		0.74	0.73	0.70	0.29	0.56	4.81
020026	D03417	A		0.90	0.94	0.94	0.25	0.47	5.21
020038	Control	A		0.82	0.79	0.75	0.33	0.51	5.61
020039	D03424	B		0.92	0.86	0.84	0.43	0.53	8.46
020040	D03429	B		0.97	0.96	0.94	0.39	0.45	6.75
020041	D03476	B		0.87	0.85	0.80	0.30	0.44	3.23
020072	D03486	B		0.93	0.88	0.86	0.37	0.44	4.51
020073	D03491	B		0.89	0.93	0.88	0.47	0.50	8.16
020074	D03496	B		0.85	0.84	0.84	0.35	0.48	5.16
020118	D03504	B		0.98	0.88	0.88	0.32	0.44	5.40
020119	D03510	B		0.93	0.87	0.86	0.33	0.47	6.59
020182	Control	B		0.93	0.71	0.63	0.21	0.37	3.91

* Indicates a statistically significant reduction ($P<0.05$) in the response relative to the corresponding response in the laboratory control sample.

273 Commerce Street, Williston, VT 05495 Tel: 802.860.1638 Fax: 802.658.3189

000001

Toxicity Summary Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-322

Sample Received

019971	D03193 IPSD-WHO7-061801	6/18/01	11:30:00 AM	sediment
019972	D03198 IPSD-TT2201-061801	6/18/01	3:30:00 PM	sediment
019981	D03201 IPSD-TT1203-061901	6/19/01	9:45:00 AM	Sediment
019982	D03206 IPSD-TT2903-061901	6/19/01	11:30:00 AM	Sediment
019983	D03211 IPSD-TT1901-061901	6/19/01	2:30:00 PM	Sediment
020001	D03387 IPSD-TT3302-062001	6/20/01	11:20:00 AM	Sediment
020002	D03392 IPSD-TT3202-062001	6/20/01	2:10:00 PM	Sediment
020012	D03396 IPSD-WW06-062101	6/21/01	9:12:00 AM	Sediment
020013	D03401 IPSD-TT1802-062101	6/21/01	2:30:00 PM	Sediment
020024	D03407 IPSD-TT1002-062201	6/22/01	8:45:00 AM	Sediment
020025	D03412 IPSD-TT1301-062201	6/22/01	10:46:00 AM	Sediment
020026	D03417 IPSD-TT3001-062201	6/22/01	1:25:00 PM	Sediment
020039	D03424 IPSD-PPO3-062501	6/25/01	10:10:00 AM	Sediment
020040	D03429 IPSD-TTSA01-062501	6/25/01	1:50:00 PM	Sediment
020041	D03476 IPSD-TTSD01-062501	6/25/01	4:30:00 PM	Sediment
020072	D03486 IPSD-TT04-062601	6/26/01	9:15:00 AM	Sediment
020073	D03491 IPSD-HB00-062601	6/26/01	11:55:00 AM	Sediment
020074	D03496 IPSD-TT0603-062601	6/26/01	2:50:00 PM	Sediment
020118	D03504 IPSD-TTUF02-062701	6/27/01	9:50:00 AM	Sediment
020119	D03510 IPSD-TTUF03-062701	6/27/01	11:25:00 AM	Sediment

Submitted By: _____

Aquatec Biological Sciences

Ecology | Environmental Toxicology | Natural Resource Assessments | Microbiology

Quality Assurance Report

Tetra Tech NUS Inc	Date:	8/31/01
55 Jonspin Road	Project:	01032
	SDG	5286
Wilmington, MA 01887-1062	Site:	N0564-0322

Qualifiers and Special Conditions

Renewal water:
Water used for the twice-daily renewal of overlying water was a 1:1 mixture of Lake Champlain water and laboratory-prepared reconstituted water, with the exception that on July 21 and July 22, 2001 the renewals were completed with a 1:3 mix and the midnight renewal of July 22 consisted of reconstituted water only.

Temperature monitoring:
The automated temperature monitoring system was not activated until July 11, 2001 for the Hyalella azteca chronic tests (Carts 8, 9, 10, 12, 13). Water bath temperature was monitored at least once, but usually twice daily with a hand-held thermometer throughout the duration of the tests – both before and during the operation of the automated system. The manual temperature measurements were recorded on the Daily Checklist included in the data package. The printout for the automated temperature data (July 11 – August 18, 2001) is also included in the data package. Four anomalous temperature events (19.3C on August 4; 18.7C on August 11; 18.3C and 20.0C on August 14, 2001) were believed to be artifacts of temporary movement of temperature sensors out of the testing system during days of biological monitoring (e.g. Days 28, 35, or 42) and they are not included in the range and average of automated temperature measurements.

Qualifiers regarding individual samples and test replicates:
Several test replicates apparently had one or more extra amphipods added when the test was started. The affected test replicates include: Sample 19971 (D03193) Replicate G (eleven amphipods); Sample19982 (D03201) Replicate B (eleven amphipods); Sample 20001 (D03387) Replicate D (eleven amphipods); 20012 (D03396) Replicate L (eleven amphipods); Sample 20013 (D03401) Replicate I (twelve amphipods); and, Sample 20041 (D03476) Replicate D (twenty amphipods). The data for these replicates were tabulated and reported as recorded.

273 Commerce Street, Williston, VT 05495 Tel: 802.860.1638 Fax: 802.658.3189

Quality Assurance Report

Tetra Tech NUS Inc		Date:	8/31/01
55 Jonspin Road		Project:	01032
		SDG	5286
Wilmington, MA	01887-1062	Site:	N0564-0322

Qualifiers and Special Conditions

In several instances a higher number of amphipods was recorded as surviving than was recorded on a previous observation. When this occurred it was assumed that a counting error might have occurred on the earlier assessment date. For data tabulation and reporting, the observation of number surviving at the earlier date was increased to equal the highest number surviving at a later observation date. The affected test replicates included Sample19982 (D03201) Replicate B; Sample 20001 (D03387) Replicate D; Sample 20013 (D03401) Replicate D; Sample 20025 (D03412) Replicate D; Sample 20026 (D03417) Replicate E; Sample 20026 Replicate G; Sample 20038 (Control) Replicate B; Sample 20041 (D03476) Replicate A; Sample 20072 (D03486) Replicate C; Sample 20072 (D03486) Replicate H; and, Sample 20119 (D03510) Replicate D.

Sample 19972 (D03198) – Some replicates of this sample exhibited a peculiarity whereby the sediment was observed to float. Possibly gases resulting from biological degradation within the sediment affected the buoyancy of the sediment mass. When this phenomenon was observed, the sediments were re-submerged.

Sample 19972 (D03198) Replicate E – This replicate was accidentally tipped over on Day 10 of the test, with the possible loss of test organisms. This test replicate was excluded from data analysis

Sample19981 (D03201) Replicate F and Sample 19982 (D03201) Replicate D – No surviving amphipods were recovered from these replicates. Possibly amphipods were inadvertently not distributed to these replicates on Day 0, however the data were tabulated and reported as recorded.

In two instances the number of surviving amphipods was higher (by one amphipod) than the number recorded for the dry weight determination. One amphipod for each of these replicates may have been lost during the transfer to holding cups or weigh pans. The affected replicates included Sample 19983 (D03211) Replicate L on Day 28 and Sample 20012 (D03396) Replicate I on Day 28. In these cases the data were used as recorded

Sample 20038 (Control) Replicate G – Eight amphipods were recovered on Day 28, however one amphipod was accidentally killed during transfer to a holding cup. Eight amphipods were reported as surviving on Day 28.

Quality Assurance Report

Tetra Tech NUS Inc		Date:	8/31/01
55 Jonspin Road		Project:	01032
		SDG	5286
Wilmington, MA	01887-1062	Site:	N0564-0322

Qualifiers and Special Conditions

Sample 20038 (Control) Replicate I – This test replicate was accidentally tipped over after adding organisms on Day 0, resulting in the possible loss of test organisms. An additional 10 amphipods were added to the replicate on Day 0. Sixteen amphipods were recovered on Day 28, however this replicate was excluded from data tabulation and data analysis because of uncertainty regarding the number of amphipods allocated to the replicate on Day 0.

Sample 20074 (D03496) Replicate A – On Day 35 the number of neonates was inadvertently not recorded. For data tabulation and reporting it was assumed that no neonates were present on Day 35.

Sample 20118 (D03504) Replicates E and F – On Day 42 Replicate E had eight amphipods recovered and Replicate F had nine recovered. When the amphipods were transferred for weighing, Replicate E had seven amphipods while Replicate F had 10 amphipods. It appears that an amphipod from Replicate E got transferred to Replicate F. The Day 42 survival and dry weight data were tabulated and reported as recorded.

Sample 20119 (D03510) Replicate A – Nine amphipods were recorded as surviving on Day 28, while no amphipods were recorded as surviving on Day 35. This replicate was excluded from data tabulation and reporting due to uncertainty regarding the loss of or possible mortality of the amphipods in this replicate.

A sample designated as 20204 on the data forms was a locally-collected experimental sediment sample that was not a part of the Tetra Tech NUS study. The data for this sample were not reported.

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019971 Sample Name: D03193 IPSD-WHO7-061 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					9	22	9	14	36	5	7.2	39.87	44.65	9	0.53
B	10	10					9	20	9	29	49	5	9.8	42.32	47.95	9	0.63
C	10	9					8	24	8	40	64	5	12.8	41.21	46.06	8	0.61
D	10	10					10	10	10	43	53	7	7.6	37.70	42.92	10	0.52
E	10	9					9	12	8	20	32	4	8.0	42.13	46.10	8	0.50
F	10	10					10	4	10	8	12	4	3.0	43.34	48.80	10	0.55
G	11	11					11	16	10	7	23	6	3.8	45.25	48.74	10	0.35
H	10	8					8	31	8	6	37	5	7.4	41.67	45.65	8	0.50
I	10	10	45.36	48.65	10	0.33											
J	10	10	41.31	45.41	10	0.41											
K	10	10	41.32	44.32	10	0.30											
L	10	9	39.19	43.07	9	0.43											

Mean Proportion Surviving on Day 28: 0.96
Mean Proportion Surviving on Day 35: 0.91
Mean Proportion Surviving on Day 42: 0.89

Mean Growth (mg) on Day 28: 0.37
Mean Growth (mg) on Day 42: 0.52

Mean Neonates Per Female on Days 35 and 42: 7.45

900006

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019972 Sample Name: D03198 IPSD-TT2201-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	8					8	21	8	37	58	3	19.3	43.98	48.97	8	0.62
B	10	10					10	2	10	32	34	7	4.9	41.38	46.76	10	0.54
C	10	9					9	16	9	7	23	2	11.5	38.34	44.07	9	0.64
D	10	8					7	13	7	7	20	3	6.7	46.32	50.84	7	0.65
F	10	9					9	21	9	21	42	4	10.5	39.85	46.74	9	0.77
G	10	7					7	12	7	8	20	2	10.0	41.66	46.61	7	0.71
H	10	10					10	12	8	22	34	5	6.8	40.31	44.05	8	0.47
I	10	7	47.53	51.99	7	0.64											
J	10	9	51.19	56.40	9	0.58											
K	10	9	43.70	48.36	9	0.52											
L	10	9	37.74	43.01	9	0.59											

Mean Proportion Surviving on Day 28: 0.86
Mean Proportion Surviving on Day 35: 0.86
Mean Proportion Surviving on Day 42: 0.83

Mean Growth (mg) on Day 28: 0.58
Mean Growth (mg) on Day 42: 0.63

Mean Neonates Per Female on Days 35 and 42: 9.95

000007

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019981 Sample Name: D03201 IPSD-TT1203-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	7					7	15	7	20	35	5	7.0	39.44	42.50	7	0.44
B	10	9					9	11	9	13	24	6	4.0	41.34	45.01	9	0.41
C	10	10					10	1	10	5	6	3	2.0	37.23	41.66	10	0.44
D	10	10					9	12	9	13	25	5	5.0	41.73	45.66	9	0.44
E	10	10					10	6	10	10	16	5	3.2	42.75	47.22	10	0.45
F	10	0															
G	10	10					10	19	10	14	33	6	5.5	42.28	46.93	10	0.47
H	10	7					7	15	7	10	25	3	8.3	40.17	43.97	7	0.54
I	10	10	46.88	49.75	10	0.29											
J	10	8	46.95	49.39	8	0.30											
K	10	10	53.20	56.12	10	0.29											
L	10	8	48.31	50.83	8	0.32											

Mean Proportion Surviving on Day 28: 0.83
Mean Proportion Surviving on Day 35: 0.89
Mean Proportion Surviving on Day 42: 0.89

Mean Growth (mg) on Day 28: 0.30
Mean Growth (mg) on Day 42: 0.45

Mean Neonates Per Female on Days 35 and 42: 5.00

800008

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019982 Sample Name: D03206 IPSD-TT2903-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	8					8	1	8	5	6	2	3.0	40.20	43.74	8	0.44
B	11	11					11	12	11	3	15	5	3.0	42.32	46.81	11	0.41
C	10	9					9	1	8	9	10	2	5.0	38.97	42.78	8	0.48
D	10	0															
E	10	8					7	24	7	14	38	4	9.5	38.49	42.57	7	0.58
F	10	8					8	10	8	4	14	2	7.0	39.94	44.26	8	0.54
G	10	9					9	12	9	16	28	5	5.6	38.41	42.79	9	0.49
H	10	10					10	11	9	34	45	6	7.5	39.71	44.19	9	0.50
I	10	9	43.45	46.20	9	0.31											
J	10	9	42.67	45.01	9	0.26											
K	10	8	41.05	43.88	8	0.35											
L	10	9	43.76	46.12	9	0.26											

Mean Proportion Surviving on Day 28: 0.81
Mean Proportion Surviving on Day 35: 0.87
Mean Proportion Surviving on Day 42: 0.84

Mean Growth (mg) on Day 28: 0.30
Mean Growth (mg) on Day 42: 0.49

Mean Neonates Per Female on Days 35 and 42: 5.80

600000

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 019983 Sample Name: D03211 IPSD-TT1901-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					8	4	8	9	13	3	4.3	38.76	43.23	8	0.56
B	10	10					9	6	8	2	8	2	4.0	39.64	43.42	8	0.47
C	10	9					9	0	9	19	19	5	3.8	36.83	40.51	9	0.41
D	10	10					10	18	10	13	31	6	5.2	41.57	46.33	10	0.48
E	10	9					9	7	9	5	12	4	3.0	39.49	43.97	9	0.50
F	10	9					9	9	9	4	13	3	4.3	38.52	43.62	9	0.57
G	10	10					10	0	10	17	17	5	3.4	38.43	42.86	10	0.44
H	10	9					9	5	9	7	12	3	4.0	38.80	43.17	9	0.49
I	10	9	43.59	47.23	9	0.40											
J	10	8	50.05	53.03	8	0.37											
K	10	8	47.86	50.64	8	0.35											
L	10	10	46.59	50.98	9	0.49											

Mean Proportion Surviving on Day 28: 0.92
Mean Proportion Surviving on Day 35: 0.91
Mean Proportion Surviving on Day 42: 0.90

Mean Growth (mg) on Day 28: 0.40
Mean Growth (mg) on Day 42: 0.49

Mean Neonates Per Female on Days 35 and 42: 4.00

000010

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020001 Sample Name: D03387 IPSD-TT3302-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					10	18	9	17	35	5	7.0	39.73	44.20	9	0.50
B	10	9					8	7	8	14	21	5	4.2	41.59	45.45	8	0.48
C	10	9					9	5	9	6	11	3	3.7	40.75	44.99	9	0.47
D	11	11					11	8	11	11	19	5	3.8	42.68	48.36	11	0.52
E	10	9					9	9	7	4	13	4	3.3	41.95	45.34	7	0.48
F	10	6					6	4	6	10	14	2	7.0	42.33	46.22	6	0.65
G	10	9					9	9	9	10	19	3	6.3	41.42	46.08	9	0.52
H	10	10					10	10	10	39	49	6	8.2	42.41	47.74	10	0.53
I	10	9	43.85	47.09	9	0.36											
J	10	10	37.57	41.55	10	0.40											
K	10	9	37.07	40.98	9	0.43											
L	10	9	41.88	45.28	9	0.38											

Mean Proportion Surviving on Day 28: 0.91
Mean Proportion Surviving on Day 35: 0.89
Mean Proportion Surviving on Day 42: 0.85

Mean Growth (mg) on Day 28: 0.39
Mean Growth (mg) on Day 42: 0.52

Mean Neonates Per Female on Days 35 and 42: 5.43

000011

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020002 Sample Name: D03392 IPSD-TT3202-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					10	15	10	12	27	5	5.4	37.31	41.60	10	0.43
B	10	9					9	19	9	35	54	8	6.8	40.39	44.68	9	0.48
C	10	10					9	7	8	22	29	4	7.3	35.45	39.34	8	0.49
D	10	8					8	14	8	12	26	5	5.2	41.63	45.39	8	0.47
E	10	8					8	5	7	15	20	3	6.7	39.66	43.01	7	0.48
F	10	7					7	1	7	6	7	2	3.5	42.10	46.80	7	0.67
G	10	9					9	4	9	11	15	3	5.0	38.13	43.00	9	0.54
H	10	3					3		3					41.40	43.86	3	0.82
I	10	5	43.51	45.54	5	0.41											
J	10	7	48.59	51.75	7	0.45											
K	10	10	47.45	50.17	10	0.27											
L	10	9	44.75	47.44	9	0.30											

Mean Proportion Surviving on Day 28: 0.79
Mean Proportion Surviving on Day 35: 0.79
Mean Proportion Surviving on Day 42: 0.76

Mean Growth (mg) on Day 28: 0.36
Mean Growth (mg) on Day 42: 0.55

Mean Neonates Per Female on Days 35 and 42: 5.68

000012

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020012 Sample Name: D03396 IPSD-WW06-062 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					9	15	8	8	23	3	7.7	38.96	43.55	8	0.57
B	10	10					9	3	8	8	11	2	5.5	39.20	44.98	8	0.72
C	10	10					10	24	10	15	39	6	6.5	40.81	45.78	10	0.50
D	10	10					10	0	10	4	4	3	1.3	41.16	45.84	10	0.47
E	10	8					8	0	8	6	6	2	3.0	41.74	46.66	8	0.61
F	10	10					10	12	10	18	30	5	6.0	41.08	45.71	10	0.46
G	10	8					8	12	8	25	37	4	9.3	42.51	47.57	8	0.63
H	10	10					10	9	10	12	21	5	4.2	38.31	43.99	10	0.57
I	10	9	46.95	50.45	8	0.44											
J	10	9	46.32	50.68	9	0.48											
K	10	9	55.16	59.37	9	0.47											
L	11	11	46.53	50.36	11	0.35											

Mean Proportion Surviving on Day 28: 0.93
Mean Proportion Surviving on Day 35: 0.93
Mean Proportion Surviving on Day 42: 0.90

Mean Growth (mg) on Day 28: 0.43
Mean Growth (mg) on Day 42: 0.57

Mean Neonates Per Female on Days 35 and 42: 5.43

000013

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020013 Sample Name: D03401 IPSD-TT1802-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	7					6	8	6	16	24	4	6.0	42.21	45.88	6	0.61
B	10	8					8	1	8	3	4	4	1.0	43.83	47.63	8	0.47
C	10	10					9	2	9	4	6	3	2.0	40.82	45.31	9	0.50
D	10	10					8	6	8	9	15	3	5.0	40.97	45.46	8	0.56
E	10	9					9	11	9	10	21	5	4.2	38.74	43.40	9	0.52
F	10	10					10	6	10	12	18	5	3.6	36.37	40.77	10	0.44
G	10	7					7	2	7	10	12	4	3.0	37.87	41.83	7	0.57
H	10	10					10	2	9	1	3	2	1.5	39.05	44.49	9	0.60
I	12	12	40.73	43.19	12	0.20											
J	10	9	51.57	54.64	9	0.34											
K	10	9	43.56	46.20	9	0.29											
L	10	10	47.79	50.77	10	0.30											

Mean Proportion Surviving on Day 28: 0.91
Mean Proportion Surviving on Day 35: 0.84
Mean Proportion Surviving on Day 42: 0.83

Mean Growth (mg) on Day 28: 0.28
Mean Growth (mg) on Day 42: 0.53

Mean Neonates Per Female on Days 35 and 42: 3.29

000014

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020024 Sample Name: D03407 IPSD-TT1002-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					7	5	7	3	8	2	4.0	40.86	44.92	7	0.58
B	10	9					9	4	9	13	17	3	5.7	35.24	39.58	9	0.48
C	10	9					9	8	9	0	8	2	4.0	37.45	42.73	9	0.59
D	10	10					10	8	10	6	14	4	3.5	38.03	42.14	10	0.41
E	10	8					8	14	8	30	44	5	8.8	39.06	43.56	8	0.56
F	10	10					10	7	10	8	15	5	3.0	37.00	42.21	10	0.52
G	10	9					9	20	9	9	29	4	7.3	38.37	42.54	9	0.46
H	10	10					10	14	10	5	19	4	4.8	37.53	42.63	10	0.51
I	10	7	43.02	45.05	7	0.29											
J	10	10	46.16	48.77	10	0.26											
K	10	10	33.01	35.28	10	0.23											
L	10	10	37.11	40.28	10	0.32											

Mean Proportion Surviving on Day 28: 0.93
Mean Proportion Surviving on Day 35: 0.90
Mean Proportion Surviving on Day 42: 0.90

Mean Growth (mg) on Day 28: 0.27
Mean Growth (mg) on Day 42: 0.51

Mean Neonates Per Female on Days 35 and 42: 5.12

000015

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020025 Sample Name: D03412 IPSD-TT1301-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					8	3	8	5	8	3	2.7	45.70	49.79	8	0.51
B	10	5					5	0	5	9	9	1	9.0	46.19	49.76	5	0.71
C	10	8					7	11	7	13	24	4	6.0	49.57	53.68	7	0.59
D	10	7					7	4	7	3	7	4	1.8	45.73	49.50	7	0.54
E	10	9					8	19	6	9	28	3	9.3	43.08	46.20	6	0.52
F	10	7					7	4	7	5	9	2	4.5	37.52	41.18	7	0.52
G	10	8					8	5	8	8	13	4	3.3	39.61	43.92	8	0.54
H	10	8					8	6	8	4	10	5	2.0	47.56	51.62	8	0.51
I	10	4	44.77	46.07	4	0.32											
J	10	9	48.62	50.16	9	0.17											
K	10	5	45.54	47.96	5	0.48											
L	10	10	52.22	53.94	10	0.17											

Mean Proportion Surviving on Day 28: 0.74
Mean Proportion Surviving on Day 35: 0.73
Mean Proportion Surviving on Day 42: 0.70

Mean Growth (mg) on Day 28: 0.29
Mean Growth (mg) on Day 42: 0.56

Mean Neonates Per Female on Days 35 and 42: 4.81

000016

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020026 Sample Name: D03417 IPSD-TT3001-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					10	21	10	7	28	5	5.6	43.70	48.04	10	0.43
B	10	10					10	4	10	8	12	4	3.0	46.15	49.62	10	0.35
C	10	9					9	10	9	18	28	4	7.0	46.31	51.20	9	0.54
D	10	8					9	12	9	15	27	5	5.4	45.80	49.65	9	0.43
E	10	9					9	21	9	20	41	5	8.2	47.68	52.60	9	0.55
F	10	10					10	0	10	5	5	2	2.5	45.55	50.52	10	0.50
G	10	9					9	5	9	6	11	3	3.7	42.33	46.70	9	0.49
H	10	9					9	16	9	22	38	6	6.3	42.22	46.82	9	0.51
I	10	8	50.65	52.62	8	0.25											
J	10	8	41.76	44.98	8	0.40											
K	10	10	46.32	48.38	10	0.21											
L	10	8	42.71	44.03	8	0.16											

Mean Proportion Surviving on Day 28: 0.90
Mean Proportion Surviving on Day 35: 0.94
Mean Proportion Surviving on Day 42: 0.94

Mean Growth (mg) on Day 28: 0.25
Mean Growth (mg) on Day 42: 0.47

Mean Neonates Per Female on Days 35 and 42: 5.21

000017

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020038 Sample Name: Control Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					8	13	8	10	23	3	7.7	44.65	49.01	8	0.54
B	10	9					9	11	9	2	13	7	1.9	45.48	49.96	9	0.50
C	10	9					8	17	8	5	22	3	7.3	45.00	49.15	8	0.52
D	10	6					6	8	6	28	36	5	7.2	44.25	47.63	6	0.56
E	10	8					8	14	7	2	16	4	4.0	42.52	45.68	7	0.45
F	10	8					8	1	7	5	6	1	6.0	46.30	50.13	7	0.55
G	10	8					7	3	6	5	8	1	8.0	43.17	46.77	6	0.60
H	10	9					9	6	9	14	20	7	2.9	48.81	52.29	9	0.39
J	10	9	52.46	55.76	9	0.37											
K	10	6	45.07	47.19	6	0.35											
L	10	9	49.39	51.77	9	0.26											

Mean Proportion Surviving on Day 28: 0.82
Mean Proportion Surviving on Day 35: 0.79
Mean Proportion Surviving on Day 42: 0.75

Mean Growth (mg) on Day 28: 0.33
Mean Growth (mg) on Day 42: 0.51

Mean Neonates Per Female on Days 35 and 42: 5.61

000018

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020039 Sample Name: D03424 IPSD-PPO3-062 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					9	5	8	10	15	3	5.0	39.95	44.01	8	0.51
B	10	10					10	27	10	21	48	4	12.0	44.78	50.30	10	0.55
C	10	9					9	7	9	19	26	4	6.5	44.19	48.27	9	0.45
D	10	10					9	15	9	6	21	5	4.2	47.10	50.42	9	0.37
E	10	8					7	5	6	17	22	2	11.0	54.68	57.91	6	0.54
F	10	9					9	16	9	33	49	4	12.3	52.45	58.18	9	0.64
G	10	9					8	17	8	25	42	4	10.5	47.88	52.71	8	0.60
H	10	9					8	12	8	13	25	4	6.3	43.99	48.46	8	0.56
I	10	10	47.32	51.44	10	0.41											
J	10	9	49.19	53.57	9	0.49											
K	10	8	51.22	53.84	8	0.33											
L	10	9	56.30	60.69	9	0.49											

Mean Proportion Surviving on Day 28: 0.92
Mean Proportion Surviving on Day 35: 0.86
Mean Proportion Surviving on Day 42: 0.84

Mean Growth (mg) on Day 28: 0.43
Mean Growth (mg) on Day 42: 0.53

Mean Neonates Per Female on Days 35 and 42: 8.46

000019

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020040 Sample Name: D03429 IPSD-TTSA01-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					9	26	8	1	27	3	9.0	44.05	48.65	8	0.58
B	10	10					10	0	10	6	6	2	3.0	30.82	35.11	10	0.43
C	10	10					10	16	10	27	43	9	4.8	37.34	41.92	10	0.46
D	10	10					9	10	9	44	54	6	9.0	41.50	45.24	9	0.42
E	10	10					10	19	10	12	31	4	7.8	46.49	50.65	10	0.42
F	10	10					10	4	9	13	17	6	2.8	47.36	51.44	9	0.45
G	10	10					10	25	10	24	49	6	8.2	48.31	52.27	10	0.40
H	10	9					9	7	9	12	19	2	9.5	48.82	53.09	9	0.47
I	10	9	50.86	53.60	9	0.30											
J	10	10	51.99	55.86	10	0.39											
K	10	9	39.70	43.01	9	0.37											
L	10	10	43.24	48.16	10	0.49											

Mean Proportion Surviving on Day 28: 0.97
Mean Proportion Surviving on Day 35: 0.96
Mean Proportion Surviving on Day 42: 0.94

Mean Growth (mg) on Day 28: 0.39
Mean Growth (mg) on Day 42: 0.45

Mean Neonates Per Female on Days 35 and 42: 6.75

020000

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020041 Sample Name: D03476 IPSD-TTSD01-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					9	1	9	8	9	4	2.3	36.05	40.18	9	0.46
B	10	8					9	6	8	52	58	6	9.7	44.37	47.78	8	0.43
C	10	10					9	2	8	8	10	5	2.0	45.97	49.92	8	0.49
D	(20)	(20) ??					20	10	18	5	15	11	1.4	39.52	44.46	18	0.27
E	10	9					9	10	8	15	25	5	5.0	45.15	48.76	8	0.45
F	10	5					5	0	5	0	0	1	0.0	46.84	49.94	5	0.62
G	10	8					9	4	9	15	19	5	3.8	45.59	48.51	9	0.32
H	10	8					8	4	8	3	7	4	1.8	45.13	48.76	8	0.45
I	10	8	50.41	53.04	8	0.33											
J	10	10	56.58	59.08	10	0.25											
K	10	10	45.29	48.21	10	0.29											
L	10	9	43.73	46.84	9	0.35											

Mean Proportion Surviving on Day 28: 0.87
Mean Proportion Surviving on Day 35: 0.85
Mean Proportion Surviving on Day 42: 0.80

Mean Growth (mg) on Day 28: 0.30
Mean Growth (mg) on Day 42: 0.44

Mean Neonates Per Female on Days 35 and 42: 3.23

000021

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020072 Sample Name: D03486 IPSD-TT04-0626 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					10	11	9	34	45	8	5.6	42.11	46.46	9	0.48
B	10	10					10	6	10	11	17	4	4.3	43.29	48.55	10	0.53
C	10	10					10	8	10	31	39	7	5.6	37.82	41.40	10	0.36
D	10	7					7	3	7	3	6	1	6.0	40.82	44.56	7	0.53
E	10	9					8	2	8	6	8	3	2.7	42.38	45.98	8	0.45
F	10	9					7	2	7	1	3	1	3.0	40.69	43.62	7	0.42
G	10	10					8	18	8	6	24	7	3.4	42.66	45.73	8	0.38
H	10	10					10	15	10	18	33	6	5.5	40.60	44.58	10	0.40
I	10	8	50.03	52.89	8	0.36											
J	10	10	57.23	60.30	10	0.31											
K	10	9	46.79	50.62	9	0.43											
L	10	10	47.61	51.32	10	0.37											

Mean Proportion Surviving on Day 28: 0.93
Mean Proportion Surviving on Day 35: 0.88
Mean Proportion Surviving on Day 42: 0.86

Mean Growth (mg) on Day 28: 0.37
Mean Growth (mg) on Day 42: 0.44

Mean Neonates Per Female on Days 35 and 42: 4.51

000022

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020073 Sample Name: D03491 IPSD-HB00-0626 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					10	14	10	26	40	4	10.0	55.85	60.87	10	0.50
B	10	10					10	17	10	28	45	4	11.3	57.30	62.50	10	0.52
C	10	9					9	9	9	23	32	4	8.0	60.15	64.90	9	0.53
D	10	9					9	17	9	22	39	3	13.0	59.18	63.71	9	0.50
E	10	9					9	4	9	11	15	3	5.0	57.34	61.24	9	0.43
F	10	9					8	0	6	0	0	1	0.0	55.31	58.68	6	0.56
G	10	10					10	21	10	23	44	4	11.0	50.47	56.24	10	0.58
H	10	9					9	9	7	12	21	3	7.0	52.25	54.78	7	0.36
I	10	10	41.36	45.24	10	0.39											
J	10	3	39.22	41.27	3	0.68											
K	10	10	48.39	52.47	10	0.41											
L	10	9	41.54	45.08	9	0.39											

Mean Proportion Surviving on Day 28: 0.89
Mean Proportion Surviving on Day 35: 0.93
Mean Proportion Surviving on Day 42: 0.88

Mean Growth (mg) on Day 28: 0.47
Mean Growth (mg) on Day 42: 0.50

Mean Neonates Per Female on Days 35 and 42: 8.16

000023

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-0322

Sample ID: 020074 Sample Name: D03496 IPSD-TT0603-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9					9	0	9	8	8	6	1.3	44.05	48.00	9	0.44
B	10	7					7	3	7	1	4	3	1.3	52.48	55.94	7	0.49
C	10	10					9	13	9	19	32	6	5.3	53.76	57.66	9	0.43
D	10	9					9	11	9	4	15	2	7.5	42.07	45.95	9	0.43
E	10	6					6	16	6	42	58	5	11.6	44.91	49.70	6	0.80
F	10	7					7	5	7	5	10	2	5.0	43.00	45.81	7	0.40
G	10	10					10	24	10	3	27	6	4.5	42.23	46.65	10	0.44
H	10	10					10	13	10	20	33	7	4.7	46.57	50.72	10	0.42
I	10	6	34.50	36.30	6	0.30											
J	10	9	38.24	41.58	9	0.37											
K	10	10	37.21	40.22	10	0.30											
L	10	9	35.80	39.53	9	0.41											

Mean Proportion Surviving on Day 28: 0.85
Mean Proportion Surviving on Day 35: 0.84
Mean Proportion Surviving on Day 42: 0.84

Mean Growth (mg) on Day 28: 0.35
Mean Growth (mg) on Day 42: 0.48

Mean Neonates Per Female on Days 35 and 42: 5.16

000034

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-322

Sample ID: 020118 Sample Name: D03504 IPSD-TTUF02-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	10					9	20	9	19	39	6	6.5	44.55	48.49	9	0.44
B	10	9					8	7	8	16	23	6	3.8	40.17	43.44	8	0.41
C	10	10					9	8	9	7	15	3	5.0	47.17	51.18	9	0.45
D	10	10					10	14	10	29	43	9	4.8	45.66	49.53	10	0.39
E	10	10					8	11	8	10	21	3	7.0	45.70	48.58	7	0.41
F	10	10					9	18	9	7	25	3	8.3	50.01	54.97	10	0.50
G	10	10					9	13	9	2	15	4	3.8	43.21	47.33	9	0.46
H	10	9					8	5	8	3	8	2	4.0	46.24	49.93	8	0.46
I	10	10	32.58	36.47	10	0.39											
J	10	9	40.93	43.73	9	0,31											
K	10	10	31.55	34.86	10	0.33											
L	10	10	34.10	36.75	10	0.27											

Mean Proportion Surviving on Day 28: 0.98
Mean Proportion Surviving on Day 35: 0.88
Mean Proportion Surviving on Day 42: 0.88

Mean Growth (mg) on Day 28: 0.32
Mean Growth (mg) on Day 42: 0.44

Mean Neonates Per Female on Days 35 and 42: 5.40

020025

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-322

Sample ID: 020119 Sample Name: D03510 IPSD-TTUF03-06 Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	9															
B	10	9					9	20	9	9	29	4	7.3	45.72	50.48	9	0.53
C	10	8					7	3	7	9	12	3	4.0	43.40	46.54	7	0.45
D	10	9					9	11	8	18	29	3	9.7	44.94	48.79	8	0.48
E	10	10					8	14	8	23	37	4	9.3	46.87	51.13	8	0.53
F	10	10					9	13	9	20	33	5	6.6	45.60	49.73	9	0.46
G	10	10					10	0	10	7	7	3	2.3	49.32	53.21	10	0.39
H	10	9					9	2	9	12	14	2	7.0	47.81	51.58	9	0.42
I	10	9	57.47	61.70	9	0.47											
J	10	9	64.98	66.35	9	0.15											
K	10	10	58.69	62.12	10	0.34											
L	10	10	69.44	72.96	10	0.35											

Mean Proportion Surviving on Day 28: 0.93
Mean Proportion Surviving on Day 35: 0.87
Mean Proportion Surviving on Day 42: 0.86

Mean Growth (mg) on Day 28: 0.33
Mean Growth (mg) on Day 42: 0.47

Mean Neonates Per Female on Days 35 and 42: 6.59

Toxicity Detail Report

Tetra Tech NUS Inc
55 Jonspin Road

Wilmington, MA 01887-1062

Date: 8/30/01
Project: 01032
SDG 5286
Site: N0564-322

Sample ID: 020182 Sample Name: Control Method: 100.4HA Species: *Hyalella azteca*

Rep	Start Count	Total Surviving	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight	Total Surviving	Neonates	Total Surviving	Neonates	Total Neonates	Females	Neonates per Female	Initial Weight (mg)	Total Dry Weight (mg)	Weighed	Mean Replicate Weight
	0	28	28	28	28	28	35	35	42	42	35/42	42	42	42	42	42	42
A	10	8					5	0	5	2	2	3	0.7	44.61	46.82	5	0.44
B	10	10					7	9	6	15	24	3	8.0	60.69	62.74	6	0.34
C	10	10					9	17	7	9	26	4	6.5	58.37	60.75	7	0.34
D	10	9					8	7	5	6	13	3	4.3	48.57	50.24	5	0.33
E	10	7					5	3	5	2	5	1	5.0	59.80	61.92	5	0.42
F	10	9					9	3	8	6	9	2	4.5	56.04	59.08	8	0.38
G	10	9					5	5	5	2	7	4	1.8	44.41	46.22	5	0.36
H	10	10					9	0	9	2	2	4	0.5	44.88	47.78	9	0.32
I	10	10	53.22	55.52	10	0.23											
J	10	10	60.99	62.96	10	0.20											
K	10	10	59.19	61.21	10	0.20											
L	10	10	58.02	60.20	10	0.22											

Mean Proportion Surviving on Day 28: 0.93
Mean Proportion Surviving on Day 35: 0.71
Mean Proportion Surviving on Day 42: 0.63

Mean Growth (mg) on Day 28: 0.21
Mean Growth (mg) on Day 42: 0.37

Mean Neonates Per Female on Days 35 and 42: 3.91

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