

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name	<u>GOULD (Portland)</u>	ProjectID: 10-07
Last Updated:	01/09/02	
City:	Portland	
County:	Multnomah	
State:	OR	
Country:	USA	
Bodies of Water:	East Doane Lake	
US EPA Region:	X	
Status (Active, Complete, or Monitoring Only):	Complete	
Date On NPL:	1983	
ROD/ESD Date:	1988; 1997 Amendment	
Operable Unit:	N/A	
Areas of Concern (length or acres):	3.1 acre East Doane Lake remnant, a shallow impoundment.	
Other Characteristics of Water Body:	<p>The East Doane Lake remnant is approximately 3.1 acres in size. It is the remnant of a larger water body that has been gradually filled as a result of industrial development and waste disposal activities, which includes the disposal of smelter and battery waste generated by the former operations on the Gould property.</p> <p>The East Doane Lake remnant was impacted by historical chemical contamination, and was considered an aquatic resource of very limited natural function. East Doane Lake has been used for industrial waste discharge from the lead smelting facility formerly located on the Gould property, and also an adjacent acetylene gas production facility and a herbicide production facility.</p>	
Contaminants of Concern:	volatile organics, chlorinated herbicides, petroleum hydrocarbons, lead and other heavy metals, furans	
Source of Contamination:	Waste and wastewater discharges from adjacent facilities which included such operations as lead-acid battery recycling, lead smelting and refining, zinc alloying and casting, lead oxide production, acetylene gas production, and herbicide production.	
Contaminated Area Physical Characteristics:	Refer to "Other Characteristics of Water Body"	
Type of Regulatory Action:	Superfund. Final. Sediment removal an Interim Measure.	
Overall Status Summary:	<p>The East Doane Lake remnant, part of the Gould Superfund site in Portland, was a 3.1 acre impoundment, the result of a larger water body that had been gradually filled as a result of industrial development and waste disposal activities. Contaminants from several adjacent industrial sites include volatile organics, chlorinated herbicides, petroleum hydrocarbons, heavy metals (especially lead), and furans. Extensive industrial debris was present on the bottom of the lake.</p> <p>A 1997 ROD Amendment called for removal of the most contaminated layer of sediment, generally the top two feet on average (the range was 0 - 3 feet depending on the area of the lake) and focusing on lead as the primary contaminant in this sediment layer, with disposal in an onsite RCRA containment cell -- to be sized and constructed to contain waste generated from both lake and onsite cleanup activities. The PRPs were responsible for this portion of the removal action. In addition, ODEQ determined that any remaining deeper, organic-contaminated</p>	

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sediments, based on ODEQ historical lake bottom delineation coring samples, should also be removed from the lake. ODEQ worked with the PRPs to "piggy-back" onto the PRP dredging contract to have all contaminated sediments removed during a single dredging operation. ODEQ required that the organic-contaminated sediments be removed down to the "historic" lake bottom, at times requiring removal of sediments down to 5 feet deep. ODEQ financed the additional dredging work.

The removal was performed as an Interim Measure over a four-month period, August through November 1998. Debris was first removed by divers, followed by hydraulic dredging of 11,000 cy of sediments. A 10-inch specialty dredge was used - - an IMS 4010 horizontal auger Versi-Dredge. The dredged slurry was pumped into 20,000 gallon holding tanks, then dewatered using filter presses. Dewatered material and removed debris was stockpiled onsite, then disposed into a new onsite RCRA landfill which was constructed in 1999. The lake was backfilled with 95,000 tons of rock. Cost was \$3 million.

Remedial Action Planned: ☒

Risk Assessment: ☒

Remedial Action Implemented: ☒

Status of Dredging ☐

PRPs: ☒

Contacts: ☒

References: ☒

Modeling: ☐

Fishing Advisory: ☐

Key Conditions: dedicated landfill or CDF, dredging, specialty dredge

REMEDIAL ACTION PLANNED

Project Name	<u>GOULD (Portland)</u>	ProjectID: 10-07
Last Updated:	02/19/99	
Target Sediment Cleanup Standards (TSCS):	As stated in the 1997 ROD Amendment: "In general, the highest concentrations of organics in the East Doane Lake sediments are in the shallow zone (upper 2 ft). The shallow sediments also contain lead levels that exceed the RCRA hazardous waste characteristic of EP toxicity, the cleanup level set in the 1998 ROD. The levels of organics reported do not appear to have had a significant adverse impact on lead stabilization."	
How TSCS Established:	Not Identified	
Target Bank and Floodplain Cleanup Levels (if applicable):	N/A	
Other Target:		
Environmental Sample Data References:	<ul style="list-style-type: none">• Sediment:• Water:• Fish:	
Estimated Target Volume:	6000 cy (1997 ROD Amendment)	
Planned Disposal Method:	Onsite dedicated RCRA landfill, to be constructed.	
Estimated Calendar Time to Implement Remedy:		
Estimated Time to Implement Remedy:		
Estimated Cost to Implement Remedy:	Not identified. In lake remedial costs not separated from on-land remedial costs.	
Stated Remedial Action Objectives (and Source):		
Measures of Success to be Used:		
Planned Monitoring and Restoration:	As stated in the Response Summary in the 1997 ROD Amendment: "The proposed plan for the Amended Remedy indicated that sediments removal will occur to a depth of between 1.5 to 2.0 feet (the depth may vary at individual locations). (The PRP) is, pursuant to a consent agreement with DEQ, committed to evaluate the residual organic contamination in sediments below two feet. The results of the evaluation will be used by DEQ to determine if sediments not addressed by this remedy, i.e., below 2 ft or in areas not contaminated with lead above the cleanup levels, need to be removed or otherwise remediated to be protective. The work is being conducted as a time critical action under an existing consent order and is scheduled to be completed in time to allow a determination during the preliminary design phase of this remedy. If DEQ determines that additional removal of sediments is required, this work will be coordinated with the sediment removal to be conducted as part of this ROD Amendment and will occur prior to the construction of the onsite containment facility."	
Agency Position on Sediment Removal (and Source):	Source: 1997 ROD Amendment: "The dredging of East Doane Lake was a component of the original remedy and is anticipated to have minor adverse impacts because of the limited and	

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GOULD (Portland)

ProjectID: 10-07

Last Updated:

02/19/99

degraded nature of the aquatic ecosystem and organisms. Filling of East Doane Lake remnant with clean imported fill will eliminate the East Doane Lake aquatic ecosystem. Existing biological communities in the East Doane Lake remnant are considered to be degraded due to physical and chemical intrusions."

RISK ASSESSMENT

Project Name ***GOULD (Portland)***

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Last Updated: 02/19/99

RA Type:

RA Status:

RA Objectives:

Company

Performing RA:

RA Reference Report:

RA Summary and

Conclusions:

Above information not identified. The following EPA response from the Responsiveness Summary in the 1997 ROD Amendment is pertinent: "EPA believes that the Amended Remedy is protective of human health and the environment. The Amended Remedy protects adjoining landowners from Site contamination . . . The proposed action will include excavation of contaminated sediments from the commenter's property and containment in a lined and capped containment facility located on the Gould property. The sediments that will be removed are contaminated with lead above specified cleanup levels. Organic contamination is commingled with the lead-contaminated sediments and will be removed from the commenter's property and placed in the OCF. Some sediments with low levels of organic contamination may not be removed. However, if such sediments are not removed, it will be after DEQ has determined that removal of such contamination is not necessary to protect human health or the environment. The Amended Remedy as implemented along with any State directed removal actions will substantially reduce or eliminate the potential for exposure to hazardous substances in this area."

REMEDIAL ACTION IMPLEMENTED

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Physical Target:	Removal of two feet, on average, of contaminated sediment (using lead as the primary COC) in 3.1-acre Doane Lake remnant. Additional deeper sediments (up to 5 feet) which exhibited elevated levels of organics were removed at the request of ODEQ.	
Goals:	Reduction or elimination of the potential for exposure to hazardous substances.	
Primary Contractor:	Four Seasons Environmental (dredging)	
Other Contractors:	Canonie Environmental (RI); Advanced GeoServices Corporation (construction oversight); David Evans & Associates (hydrographic survey and debris location)	
Generic Remediation Method:	Hydraulic dredging	
Equipment:	10-inch IMS 4010 Versi-Dredge, a hydraulic auger dredge (specialty features included a suction pump with no suction line, mounted on the cutterhead; allows passage of larger-size objects than is typical, and stringy material). Also, the dredge was modified to accommodate a sophisticated WINOPS Dredge Positioning System. Further, the 8-foot heavy duty horizontal auger contained special cutter knives to facilitate handling the debris.	
Material Handling:	Dredged sediment slurry was pumped 600 feet to shore into 20,000 gallon FRAC tanks and was then dewatered by filter presses. The filter cakes were stockpiled onsite and covered. (Refer to "Restoration and Post Monitoring" for additional detail).	
Volume Removed:	11,000 cy	
Calendar Time:	August 1- November 30, 1998	
Time To Implement:	Four months; 24 hour, 7 day per week operation	
Total Cost:	\$3 million; \$273 per cy (cost does not include landfill cost)	
Dredging Cost:	Not Identified	
Disposal of Sediment:	Dewatered material, as well as removed debris, was stockpiled onsite then disposed into an onsite RCRA landfill which was constructed in 1999. The landfill is sized to contain not only dewatered sediments, but material from the onsite cleanup also, including battery casings, soil, and debris.	
Volume of Water:		
Method of Water Treatment:		
Water Discharge Limit:		
Air Monitoring During Remediation:		
Water Monitoring During Remediation:		
Outcome:		
Restoration and Post-Monitoring:	The lake was divided into 12 sectors for sequential removal. A survey team surveyed behind the dredge. Sediment removal depths varied from one to 5 feet. Each sector was sampled and if judged	

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"clean" (using the EPA Toxicity Criteria for lead of 5 mg/L for lead-contaminated sediments and depth horizon [removal down to original "historic" lake bottom] for organic-contaminated sediments) was isolated from the other sectors by barriers (not identified). Clean sectors were then sequentially backfilled with 6-9 inch aggregate. A total of 95,000 tons of rock was backfilled into the lake - - to fill the lake.

Site-Specific Difficulties:

- The lake contained extensive industrial debris, including cables, batteries, gas cylinders, concrete blocks, tires and the like. A complete bottom survey of the lake was done before dredging using an echo sounder, side scan sonar, magnetometer, and video. Debris was then tagged and mapped and most large items were removed by divers before the dredging began. The dredge, however, continued to encounter objects throughout the project. These were removed by a backhoe on a barge as dredging progressed.
- All workers, including dredge operators and support personnel, surveyors, and filter press operators were required to wear protective suits, gloves, and boots.

Monitoring Data

References:

- *Sediment*
- *Water:*
- *Fish:*

POTENTIALLY RESPONSIBLE PARTIES

Project Name **GOULD (Portland)**

ProjectID: 10-07

PRP Name: PRP INFORMATION NOT RELEASED

PRPID:

Street Address:

City:

State:

KEY CONTACTS

Project Name **GOULD (Portland)**

ProjectID: 10-07

Last Name: KEY CONTACT INFORMATION NOT RELEASED

Contact ID:

First Name:

Title:

Company:

Address:

City:

State:

Postal Code:

Work Phone # :

Other Phone #:

Fax # :

Email Address:

REFERENCES

Project Name GOULD (Portland)

ProjectID: 10-07

Reference Type: A

ReferenceID: 408

Title: **Record of Decision Amendment: Gould, Inc., Soils Operable Unit, Portland, OR (EPA/541/R-97/060)**

Location: AEM

Category: ROD/Proposed Plan/Action Memo/Decision Document

Prepared by/Author: US EPA Region X

Preparer/Author Address: 1200 Sixth Avenue
Seattle, WA 98101

Prepared For: General Public

Date Published: June 3, 1997

Key Words and Phrases:

Reference Type: A

ReferenceID: 900

Title: **Final Close Out Report**

Location: AEM

Category: Close-Out Report

Prepared by/Author:

Preparer/Author Address:

Prepared For:

Date Published: August 6, 2002

Key Words and Phrases:

Reference Type: B

ReferenceID: 303

Title: **Dredging/Dewatering Remediation Lead/Dioxin Sediments, Gould CERCLA Site, Portland, OR**

Location: AEM

Category: Site Update

Prepared by/Author: Four Seasons Environmental, Inc.

Preparer/Author Address:

Prepared For: Undated

Date Published:

Key Words and Phrases:

REFERENCES

Project Name GOULD (Portland)

ProjectID: 10-07

Reference Type: B

ReferenceID: 304

Title: *Dredging Construction Plan and Specifications, Containment Facility Design, Contractor Selection/Oversight (one page summary plus photographs)*

Location: AEM

Category: Site Update

Prepared by/Author: Advanced GeoServices Corporation

Preparer/Author Address: Chadds Ford Business Campus
Rts 202 & 1, Brandywine One - Suite 202
Chadds Ford, PA 19317-9676

Prepared For: Distribution

Date Published: Undated

Key Words and Phrases:

Reference Type: B

ReferenceID: 738

Title: *Action: Notice of Intent to delete Gould Site from the National Priorities List*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author Address:

Prepared For: Federal Register, Vol. 67, No. 164

Date Published: August 23, 2002

Key Words and Phrases:

Reference Type: C

ReferenceID: 433

Title: *Gould fix could start in summer*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author Address:

Prepared For: Superfund Week

Date Published: April 11, 1997

Key Words and Phrases:

REFERENCES

Project Name GOULD (Portland)

ProjectID: 10-07

Reference Type: C

ReferenceID: 434

Title: *\$12M Gould Cleanup Begins at Lake, Rest of Cleanup Comes Next Summer*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author Address:

Prepared For: Superfund Week

Date Published: August 28, 1998

Key Words and Phrases:

Reference Type: C

ReferenceID: 435

Title: *Four Seasons Uses Auger Dredge to Remove Hazardous Sediment in Superfund Contract*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author Address:

Prepared For: International Dredging Review (IDR), 1999, Vol. 18, No. 2

Date Published: February 1999

Key Words and Phrases:

Reference Type: C

ReferenceID: 520

Title: *\$10M Gould on-site containment plan eyed*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author Address:

Prepared For: Superfund Week

Date Published: April 26, 1996

Key Words and Phrases:

REFERENCES

Project Name GOULD (Portland)

ProjectID: 10-07

Reference Type: C

ReferenceID: 965

Title: *Ore.: No Further Actions Needed*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author

Address:

Prepared For: Hazardous Waste/Superfund Week

Date Published: September 2, 2002

**Key Words and
Phrases:**

Reference Type: K

ReferenceID: 3

Title: *Series of 3 photographs:
Photo 1 - East Doane Lake during dredging (foreground)
Photo 2 - Containment facility construction and filled in East
Doane Lake (1999 photo)
Photo 3 - Existing blocks of stabilized (using concrete)
contaminated site materials; to be permanently disposed of in the
onsite containment facility*

Location: AEM

Category: Site Update

Prepared by/Author: Advanced GeoServices Corporation

**Preparer/Author
Address:** Chadds Ford Business Campus
Rts 202 & 1, Brandywine One - Suite 202
Chadds Ford, PA 19317-9676

Prepared For:

Date Published: 1999

**Key Words and
Phrases:**

REFERENCES

Project Name GOULD (Portland)

ProjectID: 10-07

Reference Type: R

ReferenceID: 29

Title: *Letter to PRP re: Case Histories: Contaminated Sediment Sites
(with written comments from Advanced GeoServices)*

Location: AEM

Category: Site Update

Prepared by/Author: AEM, Inc. with written comments from Advanced GeoServices

**Preparer/Author
Address:** Malvern, PA 19355

Prepared For: Advanced GeoServices Corporation, submitted to

Date Published: May 14, 1999

**Key Words and
Phrases:**

Reference Type: R

ReferenceID: 35

Title: *Letter to PRP re: Case Histories: Contaminated Sediment Sites
(with response from Gould Electronics)*

Location: AEM

Category: Site Update

Prepared by/Author: AEM, Inc. with response from Gould Electronics

**Preparer/Author
Address:** Malvern, PA 19355

Prepared For: Gould Electronics, submitted to

Date Published: May 24, 1999

**Key Words and
Phrases:**
