DECLARATION FOR THE
EXPLANATION OF SIGNIFICANT DIFFERENCES
CALLAHAN MINE SUPERFUND SITE
OPERABLE UNITS 1 & 3
BROOKSVILLE, MAINE
SEPTEMBER 2013

Site Name and Location

Callahan Mine Superfund Site
Brooksville, Hancock County, Maine
MED980524128
Site ID No: 0101028
Operable Units 1 & 3

Lead Agency

United States Environmental Protection Agency

Support Agency

Maine Department of Environmental Protection

Statement of Purpose

This decision document sets forth the basis for the determination to issue the attached Explanation of Significant Differences (ESD) for Operable Units 1 and 3 at the Callahan Mine Superfund Site (Site). The U.S. Environmental Protection Agency (EPA) developed this decision document after consulting with the Maine Department of Environmental Protection (Maine DEP). The Maine DEP's letter of concurrence is provided as Attachment A to this ESD.

Statutory Basis for Issuance of the ESD

Pursuant to Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9617(c), and the National Contingency Plan (NCP) at 40 C.F.R. § 300.435(c)(2)(i), if EPA determines that the remedial action being undertaken at a site differs significantly from the Record of Decision (ROD) for that site, EPA shall publish an Explanation of Significant Differences and the reasons such changes are being made. According to 40 C.F.R. § 300.435(c)(2)(i), and EPA guidance (Office of Solid Waste and Emergency Response (OSWER) Directive 9200.1-23-P, July 1999), an Explanation of Significant Differences, rather than a ROD Amendment, is appropriate where the adjustments being

made to the ROD are significant but do not fundamentally alter the remedy with respect to scope, performance or cost. EPA has determined that the adjustments to the ROD provided in this ESD are significant but do not fundamentally alter the overall remedy for the Site with respect to scope, performance, or cost. Therefore, this ESD is being properly issued.

In accordance with Section 117(d) of CERCLA, 42 U.S.C. § 9617(d), and the NCP at 40 C.F.R. §§ 300.435(c)(2)(i)(A) and 300.825(a)(2), this ESD will be available for public review at the EPA Records Center in Boston, Massachusetts and the public information repository located at the Brooksville Public Library, Brooksville, Maine. The ESD will also be available at Maine DEP's offices in Augusta, Maine.

Background

The Site was listed on the National Priorities List (NPL) on September 5, 2002. EPA began the Remedial Investigation (RI) and Feasibility Study (FS) at the Site in 2004. In 2005, EPA signed an Administrative Order by Consent (AOC) to allow the State of Maine to complete the RI/FS. Prior to the issuance of a Proposed Plan for Operable Unit 1 (OU1) in July 2009, the OU1 RI/FS was completed. On September 30, 2009, EPA signed the OU1 Record of Decision (ROD) selecting the cleanup remedy for OU1. At the time of the OU1 ROD in 2009, EPA determined that additional investigation would be necessary to finalize a cleanup plan for the groundwater and the waste/soil located outside of the OU1 defined source areas and created Operable Unit 2 (OU2). The OU2 RI/FS will continue until sufficient data are collected to develop a cleanup plan for those areas. The OU2 RI/FS is being performed by the State of Maine in accordance with the AOC.

The OU1 ROD documented the major components of the OU1 remedy:

- Performance of pre-design investigations and studies;
- Construction of surface water diversions to reduce the amount of upslope runoff flowing onto and infiltrating the Tailings Impoundment;
- Installation of a low-permeability cover system to contain and isolate the Tailings Impoundment (cover material to be quarried from on-site);
- Installation of a horizontal drain, or other drainage methods (e.g., vertical wells or drains), to facilitate the dewatering of the Tailings Impoundment and the collection and treatment of the discharge from the horizontal drain, or other drainage methods (e.g., vertical wells or drains), in a constructed wetland (It is possible that additional measures, including a toe shear key or buttress would be identified during design as a necessary component to stabilize the Tailings Impoundment);
- Subaqueous disposal of Waste Rock Pile-3, Ore Pad, and Mine Operations Area source material, and Residential Use Area soil exceeding cleanup levels in a confined aquatic disposal (CAD) cell in the submerged former mine pit in Goose Pond;

- Excavation and off-site disposal of material contaminated with polychlorinated biphenyls (PCBs) exceeding site-specific PCB cleanup levels and petroleum-contaminated soil commingled with CERCLA waste;
- Dredging and subaqueous disposal of sediments exceeding the sediment cleanup levels from southern Goose Pond and the adjacent salt marsh into the CAD cell in the former mine pit;
- Mitigation, restoration, and compensation for wetland impacts, including the dredging and subaqueous disposal of Dyer Cove and Goose Cove sediments that contain mine waste in the CAD cell in the submerged former mine pit, along with other measures that may be identified in remedial design;
- Implementation of institutional controls to prevent disturbance to the components of the remedy and long-term monitoring of compliance with the restrictions;
- Installation of monitoring wells;
- Performance of long-term operation and maintenance, and monitoring; and
- Performance of five-year reviews to continue to evaluate potential human-health and ecological risks due to exposure to contaminated waste material being permanently managed on-site.

The estimated present value cost of the remedy selected in the OU1 ROD was $22.8 million.

In 2010, EPA separated the OU1 ROD components into two operable units. The cleanup actions relating to the Residential Use Area soil and the PCB contamination in the Mine Operations Area along with any other associated activities remained as part of OU1. The remaining components of the OU1 ROD are to be performed as part of Operable Unit 3 (OU3).

In August 2010, EPA entered into a Settlement Agreement with the State of Maine Department of Transportation (Maine DOT) for the implementation of the remedial design of OU1 and OU3. Under the AOC, the Maine DOT is also responsible for the completion of the OU2 RI/FS. The OU1 Remedial Design was completed in September 2010. The OU3 Remedial Design is ongoing and is schedule to be completed in 2015.

Also in August 2010, EPA and the Maine DEP entered into a State Superfund Contract for the OU1 selected remedy, including both the OU1 and OU3. In September 2010, EPA entered into a Cooperative Agreement to allow Maine DEP to become the lead for the implementation of the OU1 Remedial Action. The Cooperative Agreement was amended in July 2012, December 2012, and May 2013 to provide additional funding for the OU1 Remedial Action.

The OU1 Remedial Action began in September 2010. The cleanup of the Residential Use Area was completed in 2011. The cleanup of the PCB contamination in the Mine Operations Area is expected to be completed by September 30, 2013. The entire OU1 Remedial Action is expected to be completed by September 30, 2013.

Overview of the ESD

This ESD documents the following changes to the OU1 ROD:

- Separation of the OU1 ROD components into two operable units, with the re-defined OU1 consisting of the: arsenic, lead, and thallium cleanup of the Residential Use Area; waste rock removal from the Ore Pad and portions of the former Mine Operations Area; and cleanup of the PCB contamination within the former Callahan Mine property. OU3 consists of the remaining components of the OU1 ROD;
- Expansion of the OU1 Residential Use Area cleanup to include one additional property which was found to contain soil contaminated with arsenic, lead, and thallium above the site-specific cleanup levels;
- Excavation and off-site disposal of a greater quantity of soil contaminated with PCBs than anticipated in the OU1 ROD, and on-site consolidation of a portion of the PCB contaminated soil (soil with PCBs greater than 1 ppm but less than 10 ppm) into the Tailings Impoundment for placement under the Tailings Impoundment cover system;
- Consolidation of the Residential Use Area soil into the Tailings Impoundment for placement under the Tailings Impoundment cover system; and
- Excavation of the waste rock at the Mine Operations Area and Ore Pad, and consolidation of such excavated material into the Tailings Impoundment for placement under the Tailings Impoundment cover system.

There are no substantive changes to the applicable or relevant and appropriate requirements (ARARs) identified in the September 2009 OU1 ROD as a result of remedy changes documented in this ESD. This ESD does include clarification of the cleanup actions to comply with the TSCA requirements identified in the OU1 ROD.

Declaration

In the September 2009 OU1 ROD, EPA cited the Toxic Substances Control Act (TSCA) PCB Regulations at 40 C.F.R. § 761.61(c) as an applicable requirement. EPA made a specific finding under the TSCA PCB Regulations at 40 C.F.R. § 761.61(c), that the cleanup level of 1 ppm established for PCBs at this Site will not pose an unreasonable risk of injury to health or the environment.

This ESD re-affirms that finding. More specifically, this ESD confirms that the alternative strategy for the in-situ delineation and cleanup verification established for the PCB cleanup at this Site will not pose an unreasonable risk of injury to health or the environment and that the Site documentation has met the substantive requirements of 40 C.F.R. § 761.61(a) 3. The OU1 PCB cleanup from 2010-2011 was documented through the development of the Remedial Design, Remedial Action implementation plans, including Quality Assurance Project Plans, and Remedial Action completion reports.

In addition, the ESD confirms that the temporary cover system installed over the PCB contaminated material with less than 10 ppm PCBs will not pose an unreasonable risk of injury to health or the environment. As part of the OU3 Remedial Action, a 40 C.F.R. §§ 761.61(a)(7), 761.75(b)(1)(ii-v), and 264.310(a) compliant low-permeability cover system will be installed over the PCB containing waste material at the location of the temporary cover system. Institutional controls compliant with 40 C.F.R. § 761.61(a)(8) will be implemented to prevent disturbance of the Tailings Impoundment as part of the OU2 Early Action[1] and OU3 Remedial Action. The maintenance requirements in 40 C.F.R. § 761.61(a)(8) will be performed by the Maine DEP pursuant to the State Superfund Contract.

For the foregoing reasons and as explained herein, by my signature below, I approve the issuance of an Explanation of Significant Differences for Operable Units 1 and 3 at the Callahan Mine Superfund Site in Brooksville, Maine, and the changes stated therein.

Nancy Barmakian for

James T. Owens III, Director
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency – New England

09/20/13
Date

[1] The OU2 Early Action is described in the September 30, 2009 Memorandum re: Early Action for OU2, which is included in the Administrative Record for the September 2009 OU1 ROD.

EXPLANATION OF SIGNIFICANT DIFFERENCES
CALLAHAN MINE SUPERFUND SITE
OPERABLE UNITS 1 & 3
BROOKSVILLE, MAINE
SEPTEMBER 2013

Site Name and Location

Callahan Mine Superfund Site
Brooksville, Hancock County, Maine
MED980524128
Site ID No: 0101028
Operable Units 1 & 3

Lead Agency

United States Environmental Protection Agency

Support Agency

Maine Department of Environmental Protection

I. INTRODUCTION

This Explanation of Significant Differences (ESD) is being issued for Operable Units 1 and 3 at the Callahan Mine Superfund Site (Site) to document changes in the remedy since the OU1 Record of Decision (ROD) for the Site was issued in September 2009. EPA is required to publish this ESD pursuant to Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9617(c), and the National Contingency Plan (NCP) at 40 C.F.R. § 300.435(c)(2)(i).

This ESD documents the following changes to the OU1 ROD:

- Separation of the OU1 ROD components into two operable units, with the re-defined OU1 consisting of the: lead and arsenic cleanup of the Residential Use Area; waste rock removal from the Ore Pad and portions of the former Mine Operations Area; and cleanup of the polychlorinated biphenyl (PCB) contamination within the former Callahan Mine property. OU3 consists of the remaining components of the OU1 ROD;
- Expansion of the OU1 Residential Use Area cleanup to include one additional property which was found to contain soil contaminated with arsenic, lead, and thallium above the site-specific cleanup levels;
- Excavation and off-site disposal of a greater quantity of soil contaminated with PCBs than anticipated in the OU1 ROD, and on-site consolidation of a portion of the PCB

contaminated soil (soil with PCBs greater than 1 ppm but less than 10 ppm) into the Tailings Impoundment for placement under the Tailings Impoundment cover system;
- Consolidation of the Residential Use Area soil into the Tailings Impoundment for placement under the Tailings Impoundment cover system; and
- Excavation of the waste rock at the Mine Operations Area and Ore Pad, and consolidation of such excavated material into the Tailings Impoundment for placement under the Tailings Impoundment cover system.

The basis for these decisions is outlined below.

In accordance with CERCLA § 117(d), 42 U.S.C. § 9617(d), and the NCP at 40 C.F.R. §§ 300.435(c)(2)(i)(A) and 300.825(a)(2), this ESD and its supporting documents will be made available for public inspection and will be added to the Administrative Record file for the Site. The changes included in this ESD were presented to the local community at public meetings held July 18, 2012 and July 24, 2013. The Administrative Record for this ESD is available for public review at the EPA Region 1 Records Center in Boston, Massachusetts, and the repository located at the Brooksville Public Library, at the addresses listed below:

EPA Region 1 Records Center
Five Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
By appointment only: 617-918-1440

Brooksville Public Library
Brooksville, ME 05055

This OU1 & OU3 ESD is also available at Maine DEP's offices in Augusta, Maine.

II. SITE HISTORY AND CONTAMINATION

Site History

Mining for copper and zinc began at the Site in 1880 when an outcrop of massive zinc and copper ore was discovered in Goose Pond at low tide. That year Shaft #1 was advanced approximately 400 feet along the strike of the ore body. Shafts #2 and #3 were advanced the following year. Between 1881 and 1883, about 10,000 tons of ore were mined. The ore reportedly contained 20 percent zinc, 2.8 percent copper, and some lead. Sporadic mining continued from 1883 to 1887 when the mine closed because of low metal prices. Intermittent exploration continued at the Site through the 1950s, although little mining occurred. In 1956, the mine property was optioned by the Penobscot Mining Company, Ltd., of Toronto. The Penobscot Mining Company drilled a few exploratory boreholes, cleaned out the old workings, and mined some ore from underground shafts and tunnels. Mining soon ceased because of a decline in metal prices and lack of funds.

In 1964, the mine property was brought to the attention of Callahan Mining Corporation (Callahan). Historical tunnel mining at the Site had proved uneconomical. Re-evaluation of past work and Callahan's own investigations indicated that sufficient values might exist to warrant an open-pit mining operation. Based on this analysis, Callahan negotiated a lease with the

Penobscot Mining Company in 1964 and subsequently acquired the shoreline property. In order to operate an open-pit mine, a portion of which was within the limits of Goose Pond, from 1968 to 1972, Callahan first obtained a variety of government leases, legislation, and permits.

Callahan began pre-construction activities at the mine in 1965 with ditch digging to control water flow and site work at the Mine Operations Area. Dam construction to enable draining of Goose Pond was completed in 1966. A $4 million ore processing facility was completed and open-pit mining operations commenced on February 17, 1968. When the pit reached a depth of approximately 100 feet, mining operations were interrupted when approximately 225,000 tons of mud flowed into the pit from Stink Cove leaving a 33-foot thick layer of organic silt covering some excavation equipment. Callahan spent six months removing silt and disposing it at Waste Rock Pile-1 (WRP-1). When mining operations ceased in 1972, the mine consisted of a roughly circular open pit approximately 600 feet in diameter and 320 feet deep. Callahan sold the former Callahan Mine property in 1976 to Maine Sea Farms.

In 1987, the land portion of the Site property was acquired by Smith Cove Protection Association (now known as Smith Cove Preservation Trust) (Smith Cove). Smith Cove is a non-profit Maine corporation. According to its bylaws, the corporation's general purpose is to conserve "natural resources, especially the scenic beauty of the shoreline, on the coast of Maine." The Smith Cove Preservation Trust is the current owner of the land portion of the former Callahan Mine.

In 2004, EPA began the Remedial Investigation (RI) and Feasibility Study (FS) at the Site. EPA initially began the RI/FS as a fund lead activity. In 2005, EPA signed an Administrative Order by Consent (AOC) to allow the State of Maine to complete the RI/FS. Prior to the issuance of a Proposed Plan for Operable Unit 1 (OU1) in July 2009, the OU1 RI/FS was completed. On September 30, 2009, EPA signed the OU1 Record of Decision (ROD) selecting the cleanup remedy for OU1. At the time of the OU1 ROD in 2009, EPA determined that additional investigation would be necessary to finalize a cleanup plan for the groundwater and the waste/soil located outside of the OU1 defined source areas and created Operable Unit 2 (OU2). The OU2 RI/FS will continue until sufficient data are collected to develop a cleanup plan for those areas. The OU2 RI/FS is being performed by the State of Maine in accordance with the AOC.

In 2010, EPA separated the OU1 ROD components into two operable units. The cleanup actions relating to the Residential Use Area soil and the PCB contamination in the Mine Operations Area along with any other associated activities remained as part of OU1. The remaining components of the OU1 ROD are to be performed as part of Operable Unit 3 (OU3).

In August 2010, EPA entered into a Settlement Agreement with the State of Maine Department of Transportation (Maine DOT) for the implementation of the remedial design of OU1 and OU3. Under the AOC, the Maine DOT is also responsible for the completion of the OU2 RI/FS. The OU1 Remedial Design was completed in September 2010. The OU3 Remedial Design is ongoing and is scheduled for completion in 2015.

Also in August 2010, EPA and the Maine DEP entered into a State Superfund Contract for the OU1 selected remedy, including both the OU1 and OU3. In September 2010, EPA entered into a Cooperative Agreement to allow Maine DEP to become the lead for the implementation of the OU1 Remedial Action. The Cooperative Agreement was amended in July 2012, December 2012, and May 2013 to provide additional funding for the OU1 Remedial Action.

The OU1 remedial action began in September 2010. The cleanup of the Residential Use Area was completed in 2011. The cleanup of the PCB contamination in the Mine Operations Area is expected to be completed by September 30, 2013. The entire OU1 Remedial Action is expected to be completed by September 30, 2013. The OU1 Remedial Action has been conducted in accordance with the OU1 ROD as revised by this ESD.

Contamination:

The Remedial Investigation (RI) Report for the OU1 ROD documented the presence of contamination resulting from the mine extraction, processing, and waste disposal activities at the Site in the soil, sediment, groundwater, and surface water. The RI Report, along with the Human Health and Ecological Risk Assessments, documented the presence of contamination at the Site at concentrations that may present a threat to human health and the environment. The key findings of the RI are:

- PCBs are present in soil in the former Mine Operations Area of the Site at levels that are unsafe for even occasional human contact.
- Arsenic, lead, and thallium concentrations in soil within the Residential Use Area are above levels considered acceptable for long-term residential exposure.
- Lead and arsenic in the waste material (waste rock, ore, and tailings) would be unsafe for long-term human contact assuming future residential use.
- Elevated levels of contaminants were found in soil, sediment, surface water, groundwater, and biota (clams, fish, salt grass).
- Groundwater beneath a portion of the Site is unsuitable for human consumption.
- Sediments in certain areas of Goose Pond and Goose Cove contain very high levels of copper, lead, and zinc.
- Sediments in Southern Goose Pond that contain mine waste along with high levels of copper, lead, and zinc, were found to be acutely toxic to benthic organisms.
- Lead is accumulating in biota at the Site, including fish, crabs, clams, and salt grass.
- Surface water contains copper and zinc above levels that could adversely impact aquatic organisms.
- The extent of the sediment contamination is limited to Goose Pond and Goose Cove.
- The extent of soil and waste material contamination is limited to the areas of former mining activity and a few areas along the Site access road.

III. THE SELECTED REMEDY

The specific Remedial Action Objectives identified in the OU1 ROD are:

- Protect current and future recreational visitors by preventing direct contact and incidental ingestion of site soils and waste material containing PCBs that represent a non-cancer threat with a hazard quotient (HQ) greater than 1 and a cancer risk greater than $1x10^{-6}$ using the site-specific risk assessment assumptions for current and future recreational use.
- Protect current residents by preventing direct contact and incidental ingestion of site soils and waste material in the current Residential Use Area of the Site containing lead that would result in greater than 5 percent of the exposed population with a blood lead level above 10 ug/dl, or the Maine Solid Waste Lead Remediation Regulations, whichever is lower, using the site-specific risk assessment assumptions for current and future residential use.
- Protect current residents by preventing direct contact and incidental ingestion of site soils and waste material in the current Residential Use Area of the Site containing arsenic above background levels that represent a non-cancer threat with a HQ greater than 1 and a cancer risk greater than $1.4x10^{-5}$ using the site-specific risk assessment assumptions for current and future residential use.
- Prevent exposure of biota to sediments, including the sediment/soil in the salt marsh, with concentrations of copper, lead, or zinc that may represent a threat to insectivorous and piscivorous birds, fish, and other aquatic organisms.
- Minimize acid rock drainage from mineralized waste rock and tailings that may act as a continuing source of copper, lead, and zinc to groundwater, surface water, and sediment.
- Stabilize the Tailings Impoundment berm to achieve acceptable stability criteria.
- Comply with all Federal and State applicable or relevant and appropriate requirements (ARARs), including achieving closure standards under State mining regulations.

The OU1 ROD described the following major components of the remedy:

- Performance of pre-design investigations and studies;
- Construction of surface water diversions to reduce the amount of upslope runoff flowing onto and infiltrating the Tailings Impoundment;
- Installation of a low-permeability cover system to contain and isolate the Tailings Impoundment (cover material to be quarried from on-site);
- Installation of a horizontal drain, or other drainage methods (e.g., vertical wells or drains), to facilitate the dewatering of the Tailings Impoundment and the collection and treatment of the discharge from the horizontal drain, or other drainage methods (e.g., vertical wells or drains), in a constructed wetland (It is possible that additional measures, including a toe shear key or buttress would be identified during design as a necessary component to stabilize the Tailings Impoundment);
- Subaqueous disposal of Waste Rock Pile-3, Ore Pad, and Mine Operations Area source material, and Residential Use Area soil exceeding cleanup levels in a confined aquatic disposal (CAD) cell in the submerged former mine pit in Goose Pond;

- Excavation and off-site disposal of material contaminated with PCBs exceeding site-specific PCB cleanup levels and petroleum-contaminated soil commingled with CERCLA waste;
- Dredging and subaqueous disposal of sediments exceeding the sediment cleanup levels from southern Goose Pond and the adjacent salt marsh into the CAD cell in the former mine pit;
- Mitigation, restoration, and compensation for wetland impacts, including the dredging and subaqueous disposal of Dyer Cove and Goose Cove sediments that contain mine waste in the CAD cell in the submerged former mine pit, along with other measures that may be identified in remedial design;
- Implementation of institutional controls to prevent disturbance to the components of the remedy and long-term monitoring of compliance with the restrictions;
- Installation of monitoring wells;
- Performance of long-term operation and maintenance, and monitoring; and
- Performance of five-year reviews to continue to evaluate potential human-health and ecological risks due to exposure to contaminated waste material being permanently managed on-site.

The OU1 ROD estimated present value cost of the selected remedy as $22.8 million.

IV. BASIS FOR THIS ESD

This ESD documents the following changes to the OU1 ROD:

- Separation of the OU1 ROD components into two operable units, with the re-defined OU1 consisting of the: arsenic, lead, and thallium cleanup of the Residential Use Area; waste rock removal from the Ore Pad and portions of the former Mine Operations Area; and cleanup of the PCB contamination within the former Callahan Mine property. OU3 consists of the remaining components of the OU1 ROD;
- Expansion of the OU1 Residential Use Area cleanup to include one additional property which was found to contain soil contaminated with arsenic, lead, and thallium above the site-specific cleanup levels;
- Excavation and off-site disposal of a greater quantity of soil contaminated with PCBs than anticipated in the OU1 ROD, and on-site consolidation of a portion of the PCB contaminated soil (soil with PCBs greater than 1 ppm but less than 10 ppm) into the Tailings Impoundment for placement under the Tailings Impoundment cover system;
- Consolidation of the Residential Use Area soil into the Tailings Impoundment for placement under the Tailings Impoundment cover system; and
- Excavation of the waste rock at the Mine Operations Area and Ore Pad, and consolidation of such excavated material into the Tailings Impoundment for placement under the Tailings Impoundment cover system.

Separation of the OU1 ROD components into two operable units with the re-defined OU1 consisting of the: lead and arsenic cleanup of the Residential Use Area; waste rock removal from the Ore Pad and portions of the former Mine Operations Area; and cleanup of the PCB contamination within the former Callahan Mine property. OU3 consists of the remaining components of the OU1 ROD

In 2010, EPA decided to separate the OU1 ROD components into two operable units to expedite the cleanup of the arsenic, lead, and thallium contamination in the Residential Use Area and the PCB contamination in the former Mine Operation Area. The design for several components of the OU1 ROD, particularly the final Tailings Impoundment cover system, the sediment dredging and waste rock excavation, confined aquatic disposal (CAD) cell, and the wetland restoration were expected to require several years for completion, whereas EPA believed the design for the cleanup of Residential Use Area and Mine Operation Area could be completed in much less time. To avoid delaying the cleanup for the areas where a current unacceptable human health threat was identified, EPA created two operable units. The areas identified for remedial action in the 2009 OU1 ROD are shown in Figure 1. The revised OU1 area and the revised OU3 area is show in Figure 2.

The components of the OU1 ROD associated with the cleanup of the arsenic, lead, and thallium contamination in the Residential Use Area and the PCB contamination in the former Mine Operations Area remained part of the re-defined OU1. In addition, the removal of the waste rock from the Ore Pad Area was also included in OU1 because the run-off from this drains into the former Mine Operations Area. OU1 also includes the consolidation of the contaminated material that is removed from the Ore Pad, Mine Operations Area, and Residential Use Area to the Tailings Impoundment for placement under the Tailings Impoundment cover system.

The revised OU1 includes the following major components:

- Pre-design investigations and studies;
- Excavation and off-site disposal of soil contaminated with PCBs exceeding site-specific PCB cleanup levels. PCBs with a concentration below 10 ppm may remain on-site and be placed beneath the cover system to be installed for the Tailings Impoundment;
- Excavation and off-site or on-site disposal of any petroleum-contaminated soil commingled with CERCLA waste (PCB-contaminated soil exceeding site-specific PCB cleanup levels);
- Excavation of soil containing arsenic, lead, and thallium exceeding site-specific cleanup levels in the Residential Use Area of the Site. The Residential Use Area of the Site is expanded to include one additional property. The excavated material may be placed at the Tailings Impoundment. The OU3 remedial design will determine whether the material will be placed beneath the Tailings Impoundment cover system or placed in the CAD cell;
- Excavation and consolidation of Ore Pad and Mine Operations waste material at the Tailings Impoundment. The OU3 remedial design will determine whether the material will be placed beneath the Tailings Impoundment cover system or placed in the CAD cell;
- Installation of monitoring wells, if necessary, to assess Residential Area cleanup;
- Long-term operation and maintenance, and monitoring; and five-year reviews.

The remaining components of the OU1 ROD have been designated as OU3. OU3 also includes the final restoration of the Mine Operations Area and Ore Pad area. The Mine Operations Area and Ore Pad will likely be disturbed as part of the OU3 on-site quarry, material storage, and site management activities performed as part of the OU3 Remedial Action. In addition, it is possible that additional material may be removed from the Mine Operations Area as part of OU3 to achieve the OU3 cleanup levels for arsenic and lead (based on recreational exposure). OU3 will include the final restoration of all areas disturbed under OU1 and OU3.

The selected remedy for the newly-created OU3 includes the following major components:

- Pre-design investigations and studies;
- Excavation and subaqueous disposal of Waste Rock Pile-3 and Mine Operations Area source material in a confined aquatic disposal (CAD) cell in the submerged former mine pit in Goose Pond;
- Construction of surface water diversions to reduce the amount of upslope runoff flowing onto and infiltrating the Tailings Impoundment;
- Installation of a low-permeability cover system to contain and isolate the Tailings Impoundment, including the PCB material beneath the temporary cover system (cover material to be quarried from on-site);
- Installation of a horizontal drain, or other drainage methods (e.g., vertical wells or drains), to facilitate the dewatering of the Tailings Impoundment and the collection and treatment of the discharge from the horizontal drain, or other drainage methods (e.g., vertical wells or drains), in a constructed wetland (It is possible that additional measures, including a toe shear key or buttress would be identified during design as a necessary component to stabilize the Tailings Impoundment);
- Dredging and subaqueous disposal of sediments exceeding the sediment cleanup levels from southern Goose Pond and the adjacent salt marsh into the CAD cell in the former mine pit;
- Mitigation, restoration, and compensation for wetland impacts, including the dredging and subaqueous disposal of Dyer Cove and Goose Cove sediments that contain mine waste in the CAD cell in the submerged former mine pit, along with other measures that may be identified in remedial design;
- Implementation of institutional controls to prevent disturbance to the components of the remedy and long-term monitoring of compliance with the restrictions;
- Installation of monitoring wells;
- Performance of long-term operation and maintenance, and monitoring; and
- Performance of five-year reviews to continue to evaluate potential human-health and ecological risks due to exposure to contaminated waste material being permanently managed on-site.

Expansion of the OU1 Residential Use Area cleanup to include one additional property which was found to contain soil contaminated with arsenic and lead above the site-specific cleanup levels

In October 2010, a field investigation program was implemented to refine the volume of contaminated soil in the Residential Use Area and the former Mine Operations Area. The field program included an assessment of three residential properties not included within, but in close proximity to, the Residential Use Area to develop a better estimate of the background concentrations for arsenic, lead, and thallium and to determine whether these properties would require cleanup. The field program also provided a revised delineation and volume estimate for the soil contamination. The field program identified that one of the three residential properties outside the original Residential Use Area contained soil contaminated with arsenic and lead above site-specific cleanup levels. The field program determined that the other two properties outside the original Residential Use Area did not contain arsenic, lead, or thallium in soil that was significantly above background concentrations.

The property with site-specific contamination above the arsenic, thallium, and lead cleanup levels, identified as lot E, was included in the expanded OU1 Remedial Action for the Residential Use Area. The removal of the soil contaminated with arsenic, lead, and thallium above site-specific cleanup levels was completed in 2011. Restoration activities for the Residential Use Area were completed in 2012. The soil contamination required the removal of the septic systems at all four properties (Lot A, combined Lots B and C, Lot D, and Lot E). New septic systems were installed to replace the systems removed as part of the cleanup. Two residential wells also required relocation due to current setback rules for septic systems. A boat ramp was also removed and replaced as to allow access to contaminated soil on Lot E. In addition, the fill that created Old Mine Road was contaminated with arsenic and lead above site-specific cleanup levels. The contaminated material was removed and placed at the Tailings Impoundment. The road was restored and paved to stabilize the road due to the site-related traffic.

The OU1 ROD estimated that 5,000 cubic yards of contaminated soil would require excavation to achieve the cleanup of the Residential Use Area. The final quantity of contaminated soil excavated from the entire Residential Use Area, including Lot E, was 4,809 cubic yards. Confirmation sampling implemented as part of the cleanup confirmed that the 95% upper confidence limit of the mean for each residential property is below the site-specific cleanup levels for arsenic, lead, and thallium. Figure 3 shows the original and revised extent of the Residential Use Area cleanup.

Excavation and off-site disposal of a greater quantity of soil contaminated with PCBs than anticipated in the OU1 ROD, and on-site consolidation of a portion of the PCB contaminated soil (soil with PCBs greater than 1 ppm but less than 10 ppm) into the Tailings Impoundment for placement under the Tailings Impoundment cover system

The OU1 ROD estimated the total quantity of soil/waste contaminated with PCBs above a concentration of 1 mg/kg (i.e., ppm) to be 2,200 cubic yards, or about 3,880 tons. This estimate

was based on the sampling performed as part of the OU1 RI. Additional sampling was performed in October 2010 to support the OU1 pre-excavation delineation. The revised volume estimate prior to the initiation of the PCB contaminated soil excavation was 4,288 cubic yards or about 6,432 tons. During the implementation of the OU1 cleanup, the PCB contamination was found to extend to a greater depth and across a larger area than initially delineated. By the end of 2012, 12,869 cubic yards or about 19,303 tons had been excavated and disposed at an off-site facility or at the Tailings Impoundment. An additional 9,487 cubic yards or about 14,231 tons of PCB contaminated soil was excavated and disposed at an off-site facility or at the Tailings Impoundment during 2013. A significant portion, about 65%, of the soil remaining for excavation in 2012 and 2013 was contaminated with PCB below 10 mg/kg. To reduce the cost of off-site disposal and the truck volume on local roads, EPA decided to place the soil with PCB contamination above 1 mg/kg and below 10 mg/kg at the Tailings Impoundment in a designated location. This approach will remove all PCB contamination above 10 mg/kg from the Site while eliminating 735 truck loads from local roads and reducing the cost of the cleanup. This approach is consistent with the OU1 ROD's intent to permanently eliminate the principle threat waste, PCBs material with a concentration above 10 ppm, from the Site. The principle threat waste has been excavated and disposed at an appropriate off-site facility. Only the low level threat waste was consolidated to the Tailings Impoundment for placement beneath the cover system. This is also consistent with the OU1 ROD which included the on-site consolidation of low level threat waste material to the CAD and Tailings Impoundment.

The PCB contaminated soil has been separated from the other waste material by a geotextile layer, and a two foot thick interim cover has been placed over the PCB contaminated soil until the final cover for the Tailings Impoundment is installed as part of the OU3 cleanup. Table 1 contains a summary of the volume changes for the PCB contamination. Figure 4 shows the extent of the area where PCB contamination was excavated. Figure 5 shows the location of the material relocated from the Residential Use Area, Ore Pad, and Mine Operations Area, including the location of the soil with PCB contamination below 10 ppm that has been placed beneath the temporary cover system.

Table 1
Summary of PCB Excavation Volume

	ROD Estimate (tons)	*Pre-Excavation Estimate of Volume (tons)*	*Actual Excavated Volume 2011 (tons)*	*Actual Excavated Volume 2012 (tons)*	*Actual Excavated Volume 2013 (tons)*	*Total Volume (2011-2013)*
≥ 50 ppm PCBs	386	666	2,896	1,250	2,154	6,300
< 50 ppm > 10 ppm PCBs	3,494	5,766	7,490	1,807	2,784	12,081
< 10 ppm PCBs > 1ppm PCBs				5,860	9,293	15,153
	3,880	6,432	10,386	8,917	14,231	33,534

Consolidation of the Residential Use Area soil into the Tailings Impoundment for placement under the Tailings Impoundment cover system

The OU1 ROD assumed that the timing of the cleanup action would allow the disposal of the contaminated soil excavated from the Residential Use Area in the CAD cell. The ROD also stated: "If fill material is needed under the Tailings Impoundment cap, some material designated for disposal in the mine pit may be used under the cap." Because the OU3 remedial action that involves placement of material in the CAD cell may not be implemented for several years, EPA decided to place the contaminated soil excavated from the Residential Use Area into the Tailings Impoundment. The material will permanently remain at the Tailings Impoundment and will be beneath the final OU3 cover system for the Tailings Impoundment unless the remedial design or remedial action for OU3 requires re-location of this material to the CAD. .

Excavation of the waste rock at the Mine Operations Area and Ore Pad, and consolidation of such excavated material into the Tailings Impoundment for placement under the Tailings Impoundment cover system

The OU1 ROD identified the Ore Pad as an area where soil contamination was acting as a source for groundwater and surface water contamination. The Ore Pad is situated up gradient of the Mine Operations Area. Upon completion of the PCB cleanup in the Mine Operations Area, portions of the Mine Operations Area are expected to also have achieved the cleanup objectives related to the removal of the arsenic and lead soil contamination. Because the Ore Pad material is a significant source of arsenic and lead contamination, EPA decided to excavate and relocate the Ore Pad Material to the Tailings Impoundment as part of the OU1 cleanup action to minimize the potential for the Ore Pad material to contaminate the former Mine Operations. An estimated 21,813 cubic yards of material from the Ore Pad was relocated to the Tailings Impoundment from September to November 2011. The OU1 ROD has estimated 16,000 cubic yards of material at the Ore Pad. Post-excavation confirmation sampling confirmed that the former Ore Pad area achieves the cleanup levels for arsenic and lead.

The OU1 ROD assumed that the timing of the cleanup action would allow the disposal of the contaminated soil excavated from the Ore Pad and Mine Operations Area (excluding the PCB contaminated soils) in the CAD cell. Because the OU3 remedial action that involves placement of material in the CAD cell may not be implemented for several years, EPA decided to place the contaminated soil excavated from the Ore Pad and Mine Operations Area into the Tailings Impoundment. The material will permanently remain at the Tailings Impoundment and will be beneath the final OU3 cover system for the Tailings Impoundment unless the remedial design or remedial action for OU3 require re-location of this material to the CAD.

To confirm that the Tailings Impoundment could accept the additional weight of the material from the Residential Use Area, Ore Pad, and former Mine Operations Area, additional geotechnical studies and analysis were performed. An updated stability assessment was completed to guide the placement of the material placed at the Tailings Impoundment.

OU1 Cost:

The estimated cost for the components of the OU1 ROD that remain as part of the re-defined OU1 was $2 million, based on the 2009 Feasibility Study. The estimated cost was revised to $3 million at the end of the RD. The actual amount expended to complete the OU1 cleanup is $7 million.

V. DESCRIPTION OF SIGNIFICANT DIFFERENCES

This ESD documents the following changes to the OU1 ROD:

September 2009 OU1 ROD Selected Remedy	Significant Changes to OU1 ROD for OU1 & OU3
The selected remedy in the OU1 ROD included the following major components: • Performance of pre-design investigations and studies; • Excavation and off-site disposal of material contaminated with polychlorinated biphenyls (PCBs) exceeding site-specific PCB cleanup levels and petroleum-contaminated soil commingled with CERCLA waste; • Subaqueous disposal of Waste Rock Pile-3, Ore Pad, and Mine Operations Area source material, and Residential Use Area soil exceeding cleanup levels in a confined aquatic disposal (CAD) cell in the submerged former mine pit in Goose Pond; • Construction of surface water diversions to reduce the amount of upslope runoff flowing onto and infiltrating the Tailings Impoundment; • Installation of a low-permeability cover system to contain and isolate the Tailings Impoundment (cover material to be quarried from on-site); • Installation of a horizontal drain, or other drainage methods (e.g., vertical wells or drains), to facilitate the dewatering of the Tailings Impoundment and the collection and treatment of the discharge from the horizontal drain, or other drainage methods (e.g., vertical wells or drains), in a constructed wetland (It is possible that additional measures, including a toe shear key or buttress would be identified during design as a necessary component to stabilize the Tailings Impoundment); • Dredging and subaqueous disposal of sediments exceeding the sediment cleanup levels from southern Goose Pond and the adjacent salt marsh into the CAD cell in the former mine pit; • Mitigation, restoration, and compensation for wetland impacts, including the dredging and subaqueous disposal of Dyer Cove and Goose Cove sediments that contain mine waste in the CAD cell	The revised OU1 includes the following major components: • Pre-design investigations and studies; • Excavation and off-site disposal of soil contaminated with PCBs exceeding site-specific PCB cleanup levels. PCBs with a concentration below 10 ppm may remain on-site and be placed beneath the cover system to be installed for the Tailings Impoundment; • Excavation and off-site or on-site disposal of any petroleum-contaminated soil commingled with CERCLA waste (PCB-contaminated soil exceeding site-specific PCB cleanup levels),; • Excavation of soil containing arsenic, lead, and thallium exceeding site-specific cleanup levels in the Residential Use Area of the Site. The Residential Use Area of the Site is expanded to include one additional property. The excavated material may be placed at the Tailings Impoundment. The OU3 remedial design will determine whether the material will be placed beneath the Tailings Impoundment cover system or placed in the CAD cell; • Excavation and consolidation of Ore Pad and Mine Operations waste material at the Tailings Impoundment. The OU3 remedial design will determine whether the material will be placed beneath the Tailings Impoundment cover system or placed in the CAD cell; • Installation of monitoring wells, if necessary, to assess Residential Area cleanup; • Long-term operation and maintenance, and monitoring; and • Five-year reviews. The selected remedy for the newly-created OU3 includes the following major components:

in the submerged former mine pit, along with other measures that may be identified in remedial design; • Implementation of institutional controls to prevent disturbance to the components of the remedy and long-term monitoring of compliance with the restrictions; • Installation of monitoring wells; • Performance of long-term operation and maintenance, and monitoring; and • Performance of five-year reviews to continue to evaluate potential human-health and ecological risks due to exposure to contaminated waste material being permanently managed on-site.	Pre-design investigations and studies; • Excavation and subaqueous disposal of Waste Rock Pile-3 and Mine Operations Area source material in a confined aquatic disposal (CAD) cell in the submerged former mine pit in Goose Pond; • Construction of surface water diversions to reduce the amount of upslope runoff flowing onto and infiltrating the Tailings Impoundment; • Installation of a low-permeability cover system to contain and isolate the Tailings Impoundment, including the PCB material beneath the temporary cover system (cover material to be quarried from on-site); • Installation of a horizontal drain, or other drainage methods (e.g., vertical wells or drains), to facilitate the dewatering of the Tailings Impoundment and the collection and treatment of the discharge from the horizontal drain, or other drainage methods (e.g., vertical wells or drains), in a constructed wetland (It is possible that additional measures, including a toe shear key or buttress would be identified during design as a necessary component to stabilize the Tailings Impoundment); • Dredging and subaqueous disposal of sediments exceeding the sediment cleanup levels from southern Goose Pond and the adjacent salt marsh into the CAD cell in the former mine pit; • Mitigation, restoration, and compensation for wetland impacts, including the dredging and subaqueous disposal of Dyer Cove and Goose Cove sediments that contain mine waste in the CAD cell in the submerged former mine pit, along with other measures that may be identified in remedial design; • Implementation of institutional controls to prevent disturbance to the components of the remedy and long-term monitoring of compliance with the restrictions; • Installation of monitoring wells; • Performance of long-term operation and maintenance, and monitoring; and • Performance of five-year reviews to continue to evaluate potential human-health and ecological risks due to exposure to contaminated waste material being permanently managed on-site.
OU1 ROD assumed about 3,800 tons of PCB contaminated soil and waste material will require excavation and disposal.	The revised estimate is that about 33,534 tons of PCB contaminated soil and waste will require excavation and disposal. 18,381 tons were excavated and disposed off-site and 15,153 were excavated and consolidated on-site to the tailings impoundment.
The OU1 FS and ROD anticipated that all PCB waste would go to an off-site facility and that other on-site waste would be placed into the Tailings Impoundment or	Consolidation of a portion of the PCB contaminated soil (soil with PCBs greater than 1 ppm but less than 10 ppm) into the Tailings Impoundment for placement

CAD cell.	under the Tailings Impoundment cover system to be installed as a component of OU3. The cover system selected for the Tailings Impoundment in the 2009 OU1 ROD will meet the requirement for a PCB cover.
The FS and OU1 ROD identified three properties (four parcels – one property has two parcels) that contained levels of site related contamination above cleanup levels. The sampling performed to refine the Residential Use Area as part of the OU1 Remedial Action identified a fourth property (fifth parcel) that contained site related contamination above cleanup levels. This property was included in the OU1 Residential Area Cleanup.	Expansion of the OU1 Residential Use Area cleanup to include one additional property which was found to contain soil contaminated with arsenic and lead above the site-specific cleanup levels. In addition, the Residential Use Area cleanup required the replacement of four septic systems that were removed to implement the cleanup along with the relocation of two residential wells.

Change in Expected Outcomes

There is no change in the expected outcome for the Remedial Action.

VI. Support Agency Comments

Maine DEP participated with EPA in developing the changes to the selected remedy described herein and concurs with these changes as provided in Attachment A.

VII. Statutory Determinations

There are no substantive changes to the applicable or relevant and appropriate requirements (ARARs) identified in the September 2009 OU1 ROD as a result of remedy changes documented in this ESD. This ESD does include clarification of the cleanup actions to comply with the TSCA requirements identified in the OU1 ROD.

In the September 2009 OU1 ROD, EPA cited the Toxic Substances Control Act (TSCA) PCB Regulations at 40 C.F.R. § 761.61(c) as an applicable requirement. EPA made a specific finding under the TSCA PCB Regulations at 40 C.F.R. § 761.61(c), that the cleanup level of 1 ppm established for PCBs at this Site will not pose an unreasonable risk of injury to health or the environment.

This ESD re-affirms that finding. More specifically, this ESD confirms that the alternative strategy for the in-situ delineation and cleanup verification established for the PCB cleanup at this Site will not pose an unreasonable risk of injury to health or the environment and that the Site documentation has met the substantive requirements of 40 C.F.R. § 761.61(a) 3. The OU1 PCB cleanup from 2010-2011 was documented through the development of the Remedial Design, Remedial Action implementation plans, including Quality Assurance Project Plans, and Remedial Action completion reports.

In addition, the ESD confirms that the temporary cover system installed over the PCB contaminated material with less than 10 ppm PCBs will not pose an unreasonable risk of injury

to health or the environment. As part of the OU3 Remedial Action, a 40 C.F.R. §§ 761.61(a)(7), 761.75(b)(1)(ii-v), and 264.310(a) compliant low-permeability cover system will be installed over the PCB containing waste material at the location of the temporary cover system. Institutional controls compliant with 40 C.F.R. § 761.61(a)(8) will be implemented to prevent disturbance of the Tailings Impoundment as part of the OU2 Early Action[2] and OU3 Remedial Action. The maintenance requirements in 40 C.F.R. § 761.61(a)(8) will be performed by the Maine DEP pursuant to the State Superfund Contract.

EPA believes that the remedy as adjusted herein remains protective of human health and the environment and satisfies the requirements in Section 121 of CERCLA. The changes made in this ESD have not changed the remedial action objectives for OU1 and OU3 at the Site.

VIII. Public Participation Compliance

In accordance with Section 117(d) of CERCLA and Section 300.825(a) of the NCP, this OU1 & OU3 ESD and all documents that form the basis for the ESD will be added to the Site's Administrative Record file, which is available for public review at the locations identified in the introduction to this document. As required by Section 300.435(c)(2)(i)(B) of the NCP, EPA will publish a notice of availability and a brief description of this ESD in a major local newspaper of general circulation following the signing of this ESD.

EPA announced the proposed changes to the selected OU1 ROD at public information update meetings on July 18, 2012 and July 24, 2013. EPA also placed a copy of the July 18, 2012 presentation handout, which included a discussion of the changes to the OU1 ROD, on the EPA website for the Callahan Mine Superfund Site. Only limited feedback was provided to EPA at and subsequent to these public meetings. The community appears to be generally supportive of the revisions to the OU1 ROD, particularly the reduction in truck traffic. The community expressed a concern that the PCB contamination remaining at the Site be secured in a manner that would not allow for public contact. EPA explained that the low level PCB contamination remaining at the Site has been placed beneath two feet of material as a temporary cover until the final cover system is installed as part of OU3. In addition, access restrictions including fencing and boulders will be used to limit access to the location of the covered PCB contaminated soil.

ATTACHMENT A
Maine DEP Concurrence Letter

ATTACHMENT B
Figures

[2] The OU2 Early Action is described in the September 30, 2009 Memorandum re: Early Action for OU2, which is included in the Administrative Record for the September 2009 OU1 ROD.

ATTACHMENT A

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

September 18, 2013

Mr. James T. Owens, III, Director
Office of Site Remediation and Restoration
EPA New England
5 Post Office Square
Suite 100, mailcode: OSRR07-5
Boston, MA 02109-3912

Re: Explanation of Significant Differences, OU 1&3, Callahan Mine Site, Brooksville, Maine, September 2013

Dear Mr. Owens:

The Maine Department of Environmental Protection (MEDEP) has reviewed the September 2013 Explanation of Significant Differences (ESD) for the Callahan Mine Superfund Site located in Brooksville, Maine that was submitted to MEDEP on August 29, 2013. Additionally, the MEDEP worked closely with EPA throughout the selection of the remedy set forth in the September 30, 2009 Record of Decision (ROD), the August 2010 Settlement Agreement, the August 2010 State Superfund Contract, and the September 2010 Cooperative Agreement, which was amended in July 2012, December 2012, and May 2013.

The MEDEP concurs with the ESD, which in summary consists of:

- Separation of the Operable Unit 1 (OU1) ROD components into two operable units, with the re-defined OU1 consisting of the: arsenic, lead and thallium cleanup of the Residential Use Area; waste rock removal from the Ore Pad and portions of the former Mine Operations Area; and cleanup of the PCB contamination within the former Callahan Mine property . OU3 consists of the remaining components of the OU1 ROD;
- Expansion of the OU1 Residential Use Area cleanup to include one additional property which was found to contain soil contaminated with arsenic, lead and thallium from the site above the site-specific cleanup levels;
- Excavation and off-site disposal of a greater quantity of soil contaminated with PCBs than anticipated in the OU1 ROD, and on-site consolidation of a portion of the PCB contaminated soil (soil with PCBs greater than 1 ppm but less than 10 ppm) into the Tailings Impoundment with a temporary cover that will ultimately be under the OU3 Tailings Impoundment final cover system;
- Consolidation of the Residential Use Area soil into the Tailings Impoundment, which will ultimately be under the OU3 Tailings Impoundment final cover system or placed in

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

the confined aquatic disposal cell in the submerged former mine pit in Goose Pond (CAD cell); and

- Excavation of the waste rock at the Mine Operations Area and Ore Pad, and consolidation of such excavated material into the Tailings Impoundment, which will ultimately be under the OU3 Tailings Impoundment final cover system or placed in the CAD cell.

The MEDEP looks forward to a continuation of our collaborative working relationship with EPA on this and the other CERCLA sites in Maine. If you have any questions do not hesitate to call me at (207) 446-4366.

Sincerely,

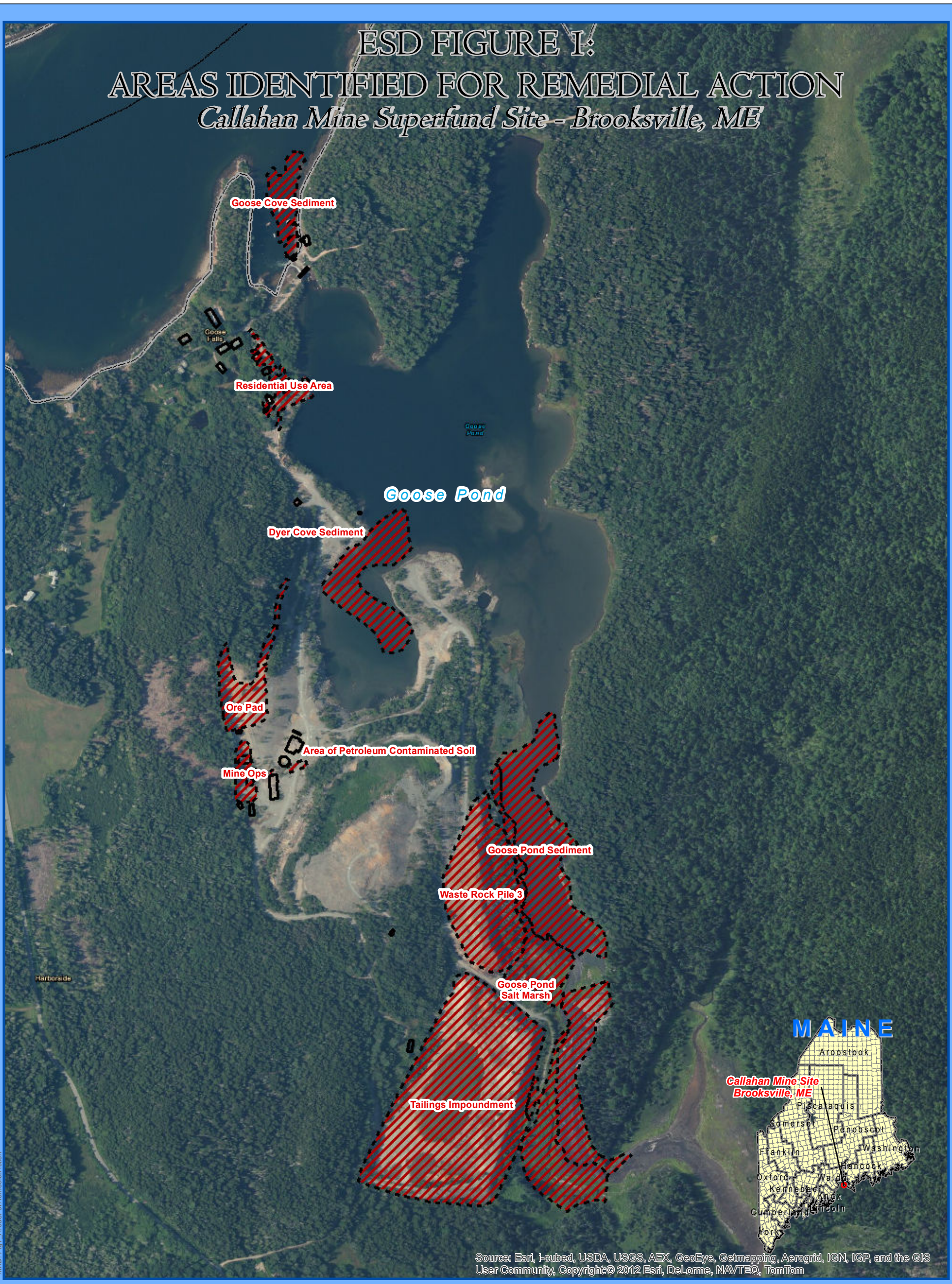
David Wright

David Wright, Director
Division of Remediation
Bureau of Remediation and Waste Management

cc: Ed Hathaway, EPA
Naji Akladiss, MEDEP

ATTACHMENT B

ESD FIGURE 1:
AREAS IDENTIFIED FOR REMEDIAL ACTION
Callahan Mine Superfund Site - Brooksville, ME



MXD: Fig1_AreasForRemedialAction

MAP AUTHOR: lladd

N

500 250 0 500

Feet

Legend

Areas Identified for Remedial Action at Callahan Mine Superfund Site in 2009 OU1 ROD

Structures

CES INC
ENGINEERING · SURVEYING · PLANNING · SCIENCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION · STATE OF MAINE

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY

MAP NOTES:

1: CONTAMINATION AREAS COURTESY OF MAINE DEP, 2010-2013.

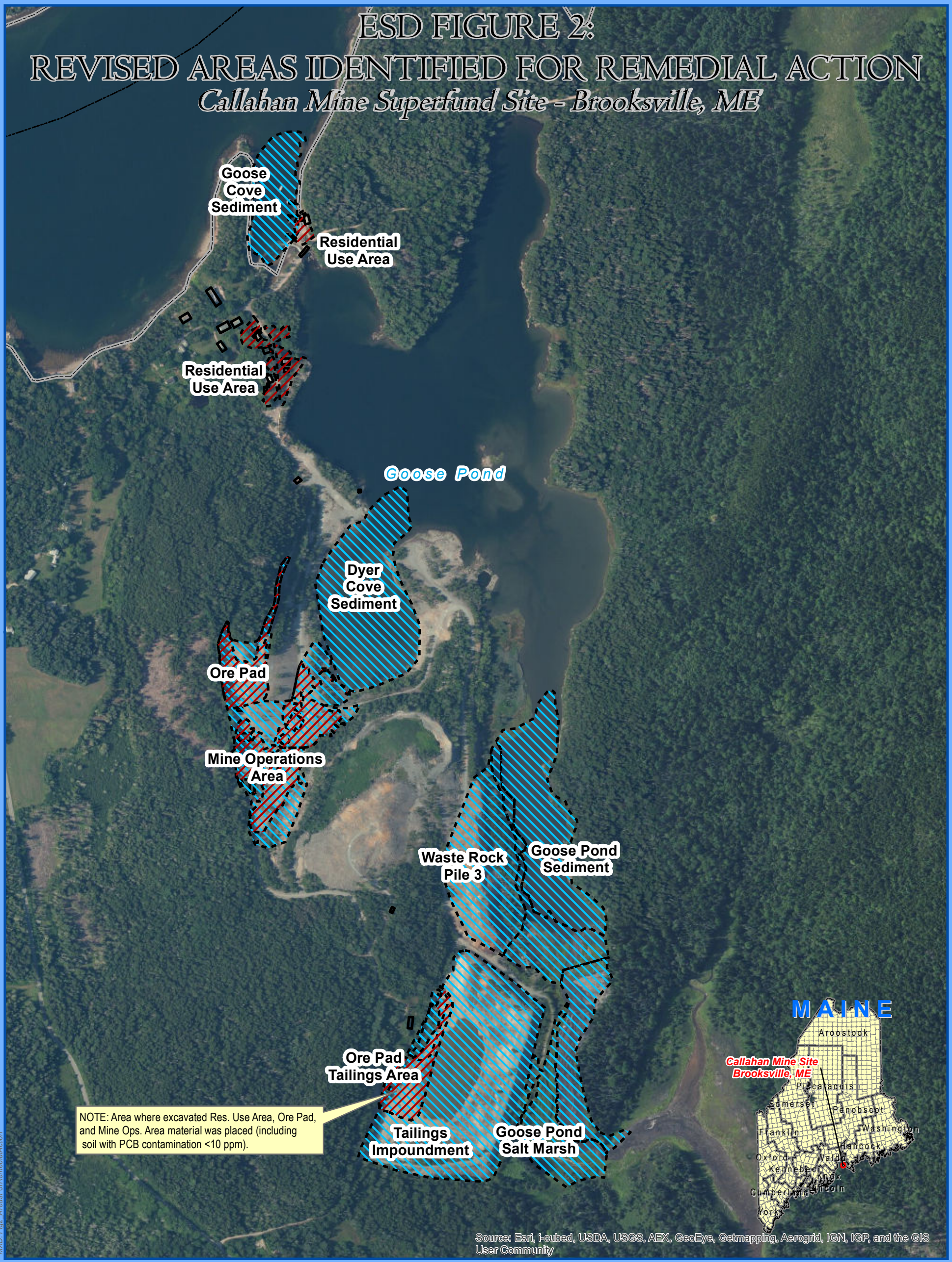
2: IMAGERY COURTESY OF GOOGLE. ACQUIRED FEB. 5, 2013, VIA GEOTIFF EXPORT 1:6000 SCALE TILES. GOOGLE AND ITS AFFILIATES MAINTAIN NO ASSOCIATION OR RESPONSIBILITY FOR THE CONTENT OR IMAGERY DEPICTED IN THIS MAP. THE IMAGERY DISPLAYED HEREIN IS BEING DISPLAYED UNALTERED AND INDEPENDENTLY OF THE VECTOR DATA BEING OVERLAIN ON THE IMAGERY. NEITHER GOOGLE NOR ITS AFFILIATES WERE INVOLVED WITH THE DEVELOPMENT THESE WORKS.

3: CES, INC. DEVELOPED THIS MAP FOR GENERAL REFERENCE PURPOSES ONLY. ANY USE OF THIS MAP AND/OR IMAGERY AND/OR THE THEMES THEY REPRESENT FOR ANY OTHER PURPOSE IS NOT RECOMMENDED AND WOULD CONSTRAIN MAP INTEGRITY.

4: MAP IS PROJECTED TO MAINE STATE PLANE COORDINATES, EAST ZONE (FIPS 1801), U.S. SURVEY FOOT AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

ESD FIGURE 2:
REVISED AREAS IDENTIFIED FOR REMEDIAL ACTION
Callahan Mine Superfund Site - Brooksville, ME



MXD: Fig2_AreasForRemedialAction

MAP AUTHOR: lladd

N

500 250 0 500

Feet

Legend

- Revised Areas for OU1 Remedial Action
- Revised Areas for OU3 Remedial Action
- Structures

CES INC
ENGINEERING · SURVEYING · PLANNING · SCIENCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION · STATE OF MAINE ·

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY ·

MAP NOTES:

1: CONTAMINATION AREAS COURTESY OF MAINE DEP, 2010-2013.

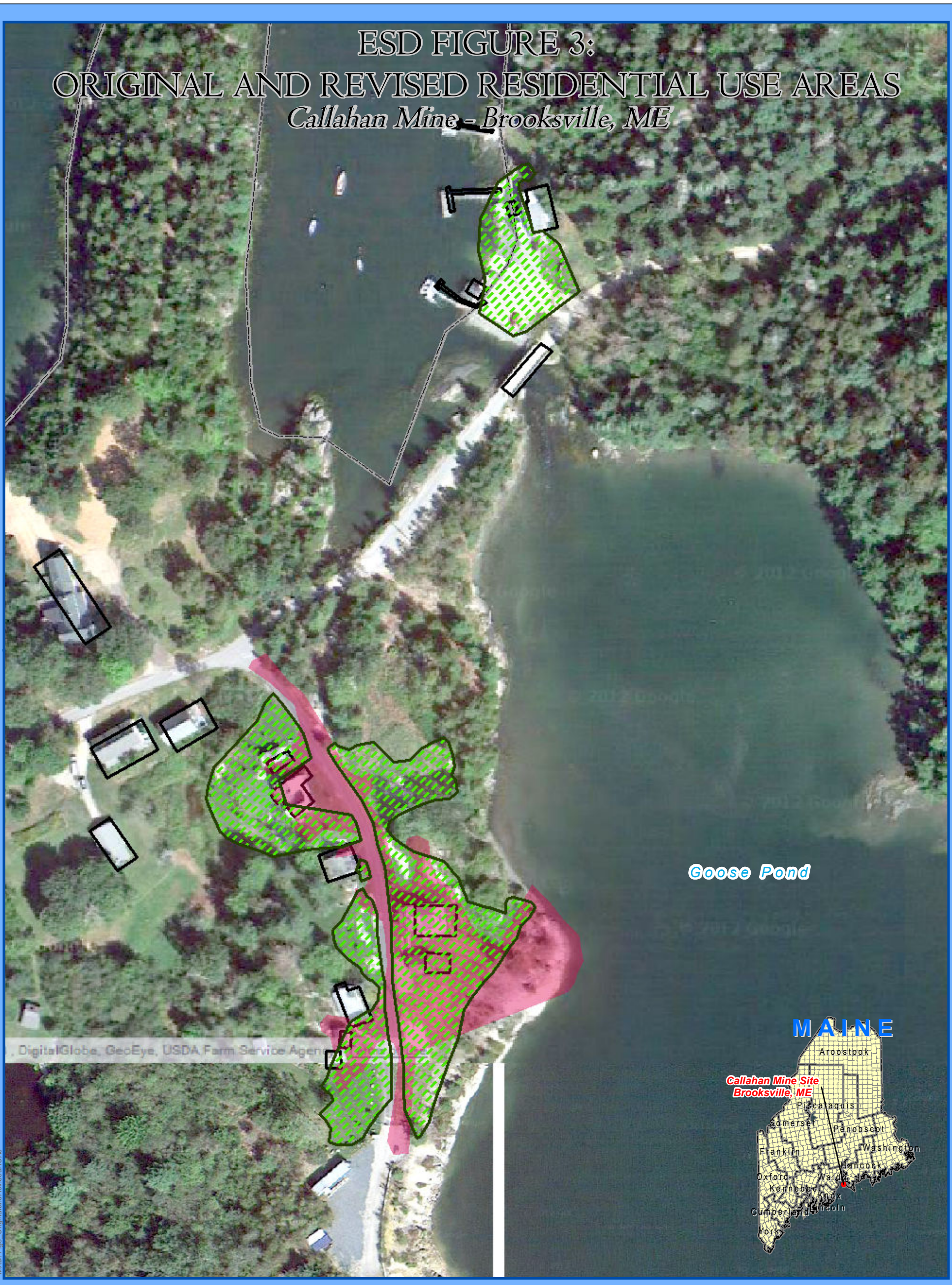
2: IMAGERY COURTESY OF GOOGLE. ACQUIRED FEB. 5, 2013, VIA GEOTIFF EXPORT 1:6000 SCALE TILES. GOOGLE AND ITS AFFILIATES MAINTAIN NO ASSOCIATION OR RESPONSIBILITY FOR THE CONTENT OR IMAGERY DEPICTED IN THIS MAP. THE IMAGERY DISPLAYED HEREIN IS BEING DISPLAYED UNALTERED AND INDEPENDENTLY OF THE VECTOR DATA BEING OVERLAIN ON THE IMAGERY. NEITHER GOOGLE NOR ITS AFFILIATES WERE INVOLVED WITH THE DEVELOPMENT THESE WORKS.

3: CES, INC. DEVELOPED THIS MAP FOR GENERAL REFERENCE PURPOSES ONLY. ANY USE OF THIS MAP AND/OR IMAGERY AND/OR THE THEMES THEY REPRESENT FOR ANY OTHER PURPOSE IS NOT RECOMMENDED AND WOULD CONSTRAIN MAP INTEGRITY.

4: MAP IS PROJECTED TO MAINE STATE PLANE COORDINATES, EAST ZONE (FIPS 1801), U.S. SURVEY FOOT AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

ESD FIGURE 3:
ORIGINAL AND REVISED RESIDENTIAL USE AREAS
Callahan Mine - Brooksville, ME



MXD: Fig3_OriginalandRevisedRUAs

MAP AUTHOR: lladd

N

100 50 0 100

Feet

Legend

- OU1 Residential Use Area (2009)
- Revised OU1 Residential Use Area
- Structures

CES INC
ENGINEERING · SURVEYING · PLANNING · SCIENCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION · STATE OF MAINE ·

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY ·

MAP NOTES:

1: CONTAMINATION AREAS COURTESY OF MAINE DEP, 2010-2013.

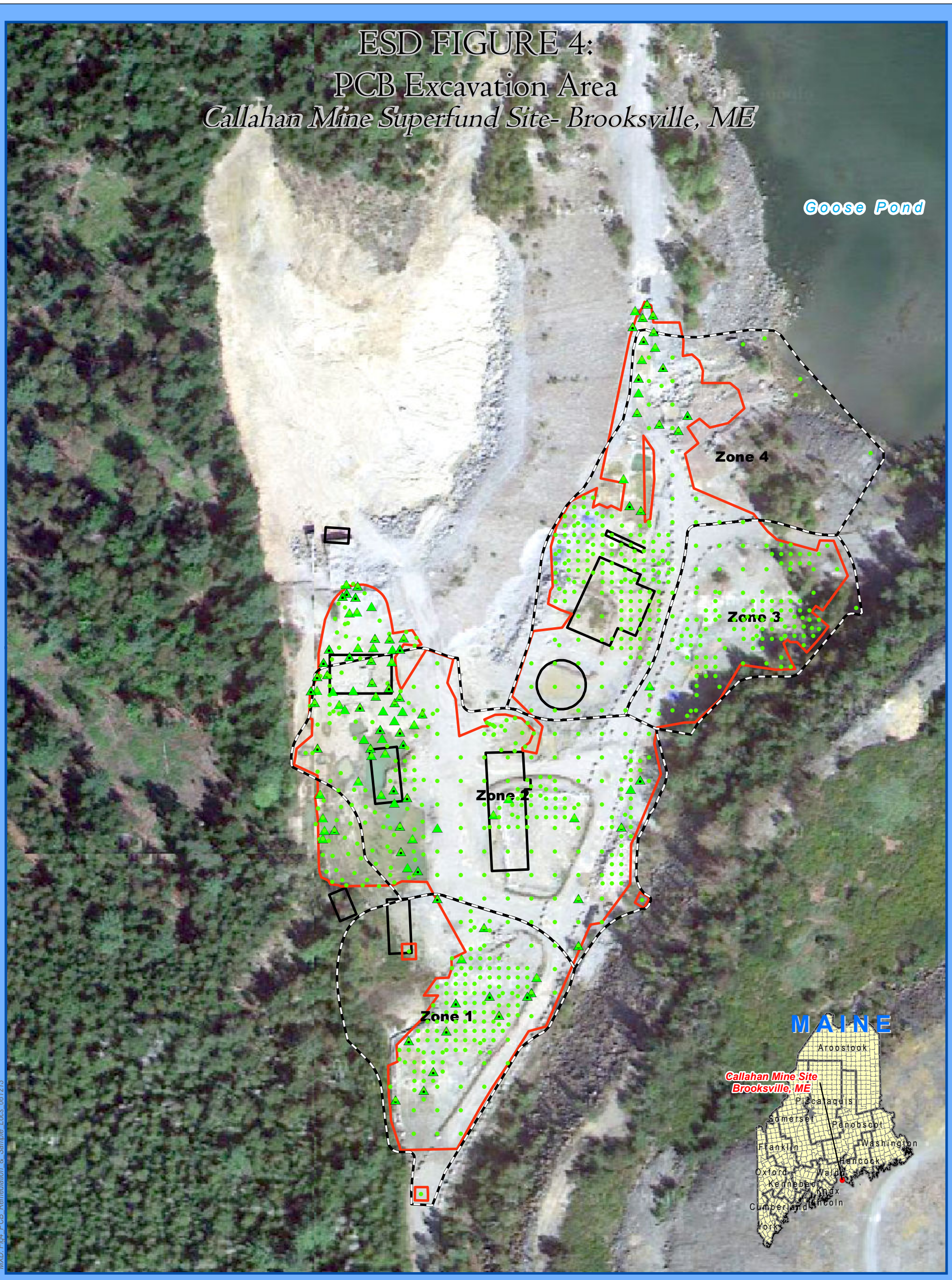
2: IMAGERY COURTESY OF GOOGLE. ACQUIRED FEB. 5, 2013, VIA GEOTIFF EXPORT 1:6000 SCALE TILES. GOOGLE AND ITS AFFILIATES MAINTAIN NO ASSOCIATION OR RESPONSIBILITY FOR THE CONTENT OR IMAGERY DEPICTED IN THIS MAP. THE IMAGERY DISPLAYED HEREIN IS BEING DISPLAYED UNALTERED AND INDEPENDENTLY OF THE VECTOR DATA BEING OVERLAIN ON THE IMAGERY. NEITHER GOOGLE NOR ITS AFFILIATES WERE INVOLVED WITH THE DEVELOPMENT THESE WORKS.

3: CES, INC. DEVELOPED THIS MAP FOR GENERAL REFERENCE PURPOSES ONLY. ANY USE OF THIS MAP AND/OR IMAGERY AND/OR THE THEMES THEY REPRESENT FOR ANY OTHER PURPOSE IS NOT RECOMMENDED AND WOULD CONSTRAIN MAP INTEGRITY.

4: MAP IS PROJECTED TO MAINE STATE PLANE COORDINATES, EAST ZONE (FIPS 1801), U.S. SURVEY FOOT AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

ESD FIGURE 4:
PCB Excavation Area
Callahan Mine Superfund Site- Brooksville, ME



MXD: Fig4_PCB_Remediation_&_Sample_Locs_081213

MAP AUTHOR: lladd

N

100 50 0 100

Feet

Legend

- Location of On-site Confirmation Samples
- Location of Off-site Confirmation Samples
- PCB Remediation Zones
- PCB Excavation Area
- Structures

CES INC
ENGINEERING · SURVEYING · PLANNING · SCIENCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION · STATE OF MAINE ·

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY ·

MAP NOTES:

1: SAMPLE LOCATIONS & CONTAMINATION AREAS COURTESY OF MAINE DEP, 2010-2013.

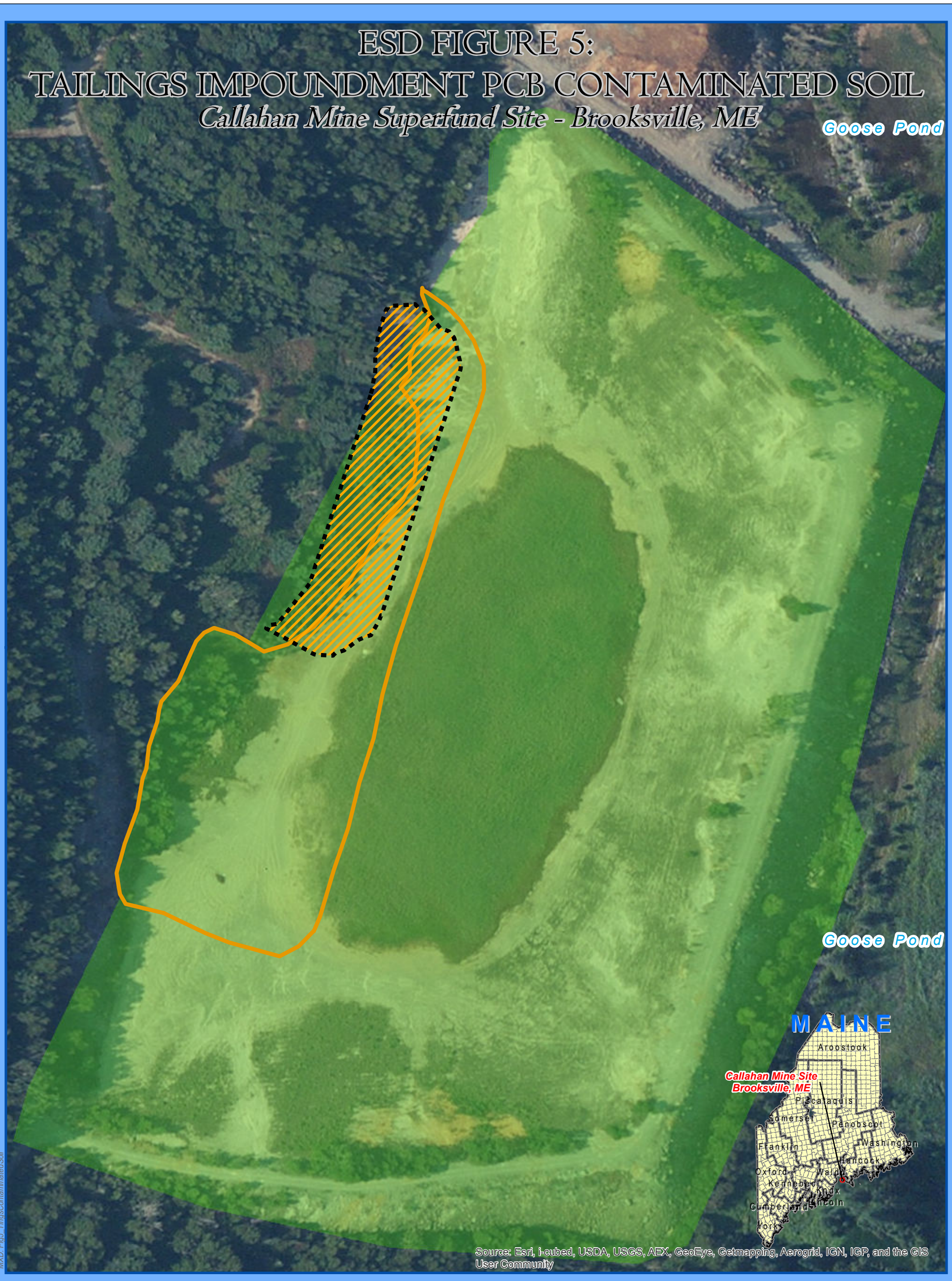
2: IMAGERY COURTESY OF GOOGLE. ACQUIRED FEB. 5, 2013, VIA GEOTIFF EXPORT 1:6000 SCALE TILES. GOOGLE AND ITS AFFILIATES MAINTAIN NO ASSOCIATION OR RESPONSIBILITY FOR THE CONTENT OR IMAGERY DEPICTED IN THIS MAP. THE IMAGERY DISPLAYED HEREIN IS BEING DISPLAYED UNALTERED AND INDEPENDENTLY OF THE VECTOR DATA BEING OVERLAIN ON THE IMAGERY. NEITHER GOOGLE NOR ITS AFFILIATES WERE INVOLVED WITH THE DEVELOPMENT THESE WORKS.

3: CES, INC. DEVELOPED THIS MAP FOR GENERAL REFERENCE PURPOSES ONLY. ANY USE OF THIS MAP AND/OR IMAGERY AND/OR THE THEMES THEY REPRESENT FOR ANY OTHER PURPOSE IS NOT RECOMMENDED AND WOULD CONSTRAIN MAP INTEGRITY.

4: MAP IS PROJECTED TO MAINE STATE PLANE COORDINATES, EAST ZONE (FIPS 1801), U.S. SURVEY FOOT AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

ESD FIGURE 5:
TAILINGS IMPOUNDMENT PCB CONTAMINATED SOIL
Callahan Mine Superfund Site - Brooksville, ME



MXD: Fig5_TlngsContaminatedSoil

MAP AUTHOR: lladd

N

100 50 0 100

Feet

Legend

- General Location of Soils with PCB Concentraion <10 ppm that have been placed below Temporary Cover System
- General Location of Material from Ore Pad, Residential Use Area, & Mine Ops Area (not including PCB contaminated Soil)
- Tailings Impoundment (OU1 ROD)

CES INC
ENGINEERING · SURVEYING · PLANNING · SCIENCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION · STATE OF MAINE ·

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAP NOTES:

1: CONTAMINATION AREAS COURTESY OF MAINE DEP, 2010-2013.

2: IMAGERY COURTESY OF GOOGLE. ACQUIRED FEB. 5, 2013, VIA GEOTIFF EXPORT 1:6000 SCALE TILES. GOOGLE AND ITS AFFILIATES MAINTAIN NO ASSOCIATION OR RESPONSIBILITY FOR THE CONTENT OR IMAGERY DEPICTED IN THIS MAP. THE IMAGERY DISPLAYED HEREIN IS BEING DISPLAYED UNALTERED AND INDEPENDENTLY OF THE VECTOR DATA BEING OVERLAIN ON THE IMAGERY. NEITHER GOOGLE NOR ITS AFFILIATES WERE INVOLVED WITH THE DEVELOPMENT THESE WORKS.

3: CES, INC. DEVELOPED THIS MAP FOR GENERAL REFERENCE PURPOSES ONLY. ANY USE OF THIS MAP AND/OR IMAGERY AND/OR THE THEMES THEY REPRESENT FOR ANY OTHER PURPOSE IS NOT RECOMMENDED AND WOULD CONSTRAIN MAP INTEGRITY.

4: MAP IS PROJECTED TO MAINE STATE PLANE COORDINATES, EAST ZONE (FIPS 1801), U.S. SURVEY FOOT AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.