

SECTION ONE

INITIAL SITE ASSESSMENT REPORT
ST. CATHERINE'S WILDLIFE RESERVE WELL
(ARMSTRONG-UNION OIL 3)
SSID NO. Z4U5
NATCHEZ, ADAMS COUNTY, MISSISSIPPI
EPA CONTRACT NO. EP-S4-14-03
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1.0 INTRODUCTION

This report has been prepared under the provisions of Technical Direction Document (TDD) No. TT-03-017, which the U.S. Environmental Protection Agency (EPA) Region 4 assigned to the Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) under Contract No. EP-S4-14-03. The overall scope of this TDD, which is monitored by On-Scene Coordinator (OSC) Perry Gaughan and Chuck Eger, PG, was to conduct an initial site assessment of an abandoned and leaking oil well located within the St. Catherine Creek National Wildlife Refuge (NWR) in Natchez, Adams County, Mississippi, which is owned and exclusively managed by the U.S. Fish and Wildlife Service (USFWS).

This report discusses the well information (Section 2.0), refuge background (Section 3.0); assessment objective and scope (Section 4.0); and findings and conclusions (Section 5.0). Appendix A of this report provides figures that illustrate the site location and layout. Appendix B contains the National Response Center (NRC) incident report. Appendix C provides a copy of email correspondence pertaining to the well discovery. Appendix D presents a photographic log of site conditions and removal action activities. Appendix E provides copies of file information obtained from the Mississippi State Oil and Gas Board (MSOGB). Appendix F provides a copy of the Comprehensive Conservation Plan prepared in August 2006 by the USFWS for the St. Catherine Creek NWR. Appendix G provides a copy of the warranty deed for the tract of land where the abandoned well is located. Appendix H provides a copy of the business information for Callon Petroleum Company obtained from the Mississippi Secretary of State website. Appendix I contains a table of witnesses.

2.0 WELL INFORMATION

This section of the report summarizes information pertaining to the abandoned well, including well discovery, assessment, and history.

2.1 WELL DISCOVERY

On November 22, 2016, a refuge hunter discovered an abandoned and leaking oil well located in the Cloverdale Unit of the St. Catherine Creek NWR and reported the discovery that same day to Mark Cupit, a Federal Wildlife Officer with the USFWS. Prior to this time, USFWS representatives were unaware of the well's existence due to the large area (nearly 25,000 acres) of the refuge. Mr. Cupit subsequently inspected and documented the well location, and contacted the National Response Center (NRC) and filed NRC Incident Report No. 1164705 (see Appendix B). The EPA Region 4 phone duty officer was notified of the incident report by the NRC on November 22, 2016.

On November 28, 2016, Mr. Cupit sent an email to Chuck Eger at EPA to summarize his findings from the date of discovery, including photographs illustrating the well location and his concerns regarding threats posed by the release (see Appendices C and D). Mr. Cupit's findings are briefly listed below:

- Geographic coordinates for the well location are 31.488654 north latitude, 91.456062 west longitude.
- The well was observed to be leaking crude oil from the casing that remained in the ground in a portion of the refuge located adjacent to a waterfowl impoundment approximately 0.5-mile from Old St. Catherine Creek, which leads directly to the Mississippi River.
- The area where the well was discovered is annually flooded with water from the Mississippi River that can cover the location with 20 feet of water.
- The well is located approximately 0.5-mile from an active bald eagle nest, and in the middle of an area of ongoing research regarding Alligator gar.
- St. Catherine Creek NWR is situated in the center of the Mississippi Flyway for migratory birds, and is considered to be a vibrant ecosystem.

2.2 WELL ASSESSMENT

On February 22, 2017, Mr. Eger and Tetra Tech START met at the St. Catherine Creek NWR with USFWS representatives, including Mark Cupit, and conducted an assessment of the well and its

associated threats to surface water and the surrounding environment. The site visit was delayed until February due to flooding of the area, which prohibited access to the well location. During the site visit, evidence of high water levels were observed, including the presence of water staining on tree branches in the area of the well approximately 8 to 10 feet above the ground surface (see Appendix D). According to USFWS representatives, the high water had only recently receded, approximately one week prior to the site visit. At the time of this site visit, the well location was still covered by a small pool of water so the casing was not visible.

2.3 WELL HISTORY

Following the site visit, Mr. Eger and Tetra Tech START used the Mississippi State Oil and Gas Board (MSOGB) website (<http://gis.ogb.state.ms.us/MSOGBOnline/>) to identify wells in the area that may correspond to the one identified by USFWS. Based on a review of the well history information obtained from the MSOGB website, the subject well was determined to be one of the three wells identified in Table 1 below (see also Appendix E):

**Table 1
Well History Information**

	Well Name		
	Armstrong-Union Oil 1	Armstrong-Union Oil 3	Armstrong-Union Oil 4
API Well No.	23001202770000	23001203010000	23001203300000
Operator	Callon Petroleum Co.	Callon Petroleum Co.	R&H Oil & Gas Inc. ^a
Status	PA	PA	PA
Latitude	31.48658	31.48867	31.48877
Longitude	-91.45515	-91.45656	-91.45434
Total depth	6,380 feet	6,215 feet	6,210 feet
Date total depth reached	9/4/1968	10/28/1968	11/24/1968
Surface casing set / depth set	8-5/8-inches / 461 feet	8-5/8-inches / 461 feet	8-5/8-inches / 413 feet
Production casing set / depth set	5-1/2-inches / 6,135 feet	5-1/2-inches / 6,138 feet	5-1/2-inches / 6,139 feet
Date of first production	5/27/1971	10/31/1968	12/8/1968
Date plugged	10/7/1972	8/1/1972	8/7/1985 ^b

Notes:

^a According to MSOGB, the operator of this well changed from Callon Petroleum Company to R&H Oil & Gas, Inc. (R&H) effective November 1, 1984. Although documents indicate that this well was plugged on 8/7/1985, correspondence from R&H to MSOGB on 5/7/1987 indicates that this well had not yet been plugged, as R&H was requesting to hold it for future saltwater disposal.

^b Well information from MSOGB indicates that the surface casing was cut at approximately 4 feet and a plate was welded on top during plugging activities.

According to local oil and gas industry personnel, it was not uncommon for field personnel to modify the specific well drilling location based on field conditions to allow for the placement of equipment. As a

result, the actual well locations do not always correlate exactly with those shown on the MSOGB website. Using the geographic coordinates obtained from MSOGB documents that were plotted onto Google Earth® and compared to the coordinates for the known well location, the abandoned well has been identified as Armstrong-Union Oil 3.

Based on volumetric calculations (5.5-inch production casing and vertical well depth of 6,200 feet), this well could release more than 7,600 gallons of crude oil in the event of a worst-case scenario (catastrophic failure), which poses a significant threat to the environment. The USFWS (grantee) purchased the property where the well is located in 1991 from Armstrong et al, Thomas K. (grantor) (see Appendix G). In accordance with the warranty deed filed with the Adams County Chancery Clerk's office, the oil and gas / mineral rights for the property were retained by the grantor. As a result, the grantor also owns the remaining trade fixtures (well casing) associated with this well. In addition, the USFWS never operated the well and did not become aware of its existence until November 2016 when it was discovered by a hunter. Due to the large acreage (nearly 25,000 acres) associated with the refuge and the limited information available, it would not be feasible for the USFWS to perform due diligence for the abandoned oil wells. The passage of time and increased exploration of the area help to explain how wells are just now being discovered, despite the fact that the land was acquired in 1991.

3.0 REFUGE BACKGROUND

St. Catherine Creek NWR was established in January 1990 under the Migratory Bird Conservation Act to preserve wintering habitat for mallards, pintails, and blue-winged teal and to provide production habitat for wood ducks to meet the goals of the North American Waterfowl Management Plan (see Appendix F). The NWR also provides critical resources for wading birds, shorebirds, neotropical migratory birds, and resident wildlife in the Lower Mississippi River Valley, including threatened and endangered species.

The NWR currently covers a total of 24,931 acres within an approved acquisition boundary of 34,732 acres located within Adams and Wilkinson Counties in west-central Mississippi (see Figures 1 and 2 in Appendix A). Its western boundary lies along about 18 miles of the Mississippi River approximately seven miles south of the City of Natchez. The northernmost boundary is about two miles south of the City of Natchez. The eastern boundary generally follows the loess bluffs that run along the eastern side of the Mississippi River from Vicksburg, Mississippi to Baton Rouge, Louisiana. The Homochitto River forms the refuge's southern boundary.

There are three contiguous units on the refuge: the northernmost Cloverdale Unit; the Butler Lake Unit; and the southernmost Sibley Unit. The Cloverdale Unit is a waterfowl sanctuary and is closed to public access. Historically, the refuge lands were entirely forested; however, nearly two-thirds of the area was cleared and converted to row-crop agriculture during the 1960s before USFWS ownership. Flooding from the Mississippi and Homochitto Rivers was, and still is, an annual event.

3.1 HYDROLOGY

The refuge's hydrology is greatly influenced by the annual inundation of floodwaters from the Mississippi and Homochitto Rivers. There are approximately 1,300 acres of perennially flooded lakes. In addition, Old St. Catherine Creek, a perennial stream, flows from north to south through the refuge into the Mississippi River at Catherine Bend. The remaining water bodies, which total 1,700 acres, consist of 35 impoundments ranging from two to 200 acres in size. These are formed by earthen natural and/or man-made levees that hold intermittent floodwaters. These refuge impoundments provide bodies of moist soil and mudflat habitat for shorebirds.

Flooding from the Mississippi and Homochitto Rivers is an annual event and can cover the entire floodplain of the refuge for a few days to several months of the year. Historically, maximum flooding occurs in late winter and spring, while dry periods are usually experienced in the summer and fall.

Water management is necessary to meet a primary objective of the refuge, which is to enhance aquatic habitat to provide support for migrating and wintering waterfowl. Waterfowl management also benefits shorebirds, wading birds, and other aquatic species. Overall, the refuge manages approximately 1,500 acres of moist, soil-impounded water for waterfowl, wading birds, and shorebirds, including seven impoundments totaling at least 85 acres in the northernmost Cloverdale Unit of the refuge.

3.2 BIOLOGICAL RESOURCES

The habitats on the refuge offer a wide variety of ecological niches for wildlife. Bottomland hardwood forests, including cypress swamps and upland hardwood forests, cover 90 percent of the refuge. The other habitats consist of wetlands, cleared land, and open water.

3.2.1 Threatened and Endangered Species

Three threatened and three endangered species are known to occur on the refuge:

- Bald eagles (*Haliaeetus leucocephalus*), a threatened species, nest on the refuge, including one nest located approximately 0.5-mile north of the abandoned oil well.
- American alligator (*Alligator mississippiensis*), a threatened species by similarity of appearance to the American crocodile.
- Louisiana black bear (*Ursus americanus luteolus*), a threatened species.
- Fat pocketbook mussels (*Potamilus capax*), an endangered species, have been documented in the Old St. Catherine Creek channel.
- Least terns (*Sterna antillarum*), an endangered species.
- Wood storks (*Mycteria Americana*) are common on the refuge during the early summer and fall. The east coast population of wood storks is endangered while the Mexican population is not. Studies are underway to determine whether the storks observed at the refuge are part of the east coast population or the Mexican population.
- Other species of concern on the refuge include the peregrine falcon, Rafinesque's big-eared bat, southeastern myotis, white pelican, black-necked stilt, white ibis, paddlefish, and spring darters.

3.2.2 Other Species

Other species of wildlife that utilize the refuge are briefly summarized below:

- At least 159 species of birds:
 - Year round residents include the wood duck, numerous songbirds and neotropicals, and wild turkey.
 - Waterfowl, including mallard, pintail, gadwall, wigeon, and spoonbill, as well as green-winged teal, ringneck, and scaup.
 - Shorebirds, including American woodcock, greater and lesser yellowlegs, numerous species of sandpipers, killdeer, plover, black-necked stilts, and common snipe.
 - Wading birds, including the great blue heron and great egret, which are year-round residents. During the summer, the refuge hosts large numbers of snowy and cattle egrets, wood storks, little blue herons, green herons, white and glossy ibis, and black-crowned and yellow-crowned night herons.
 - Other species of resident and migratory birds common to the refuge include several species of woodpeckers, the ruby-throated hummingbird, wild turkeys, red-tailed hawks, red-shouldered hawks, American kestrels, northern harriers, osprey, great-horned and barred owls, barn owls, burrowing owls, and Mississippi kites. Golden eagles are occasionally spotted on the refuge.
- At least 19 different species of mammals:
 - Year-round residents include the white-tailed deer, gray and fox squirrels, rabbit, raccoon, opossum, beaver, and muskrat.
 - Nutria and wild boar, both non-native species, also occur.
 - Bottomland hardwood and cypress stands in the refuge are heavily used by bobcat, coyote, and fox.
 - Six species of bats have been documented, including Rafinesque's big-eared bats, which are a species of concern and are known to roost and breed on the refuge.
- More than 50 species of reptiles and amphibians:
 - American alligator is the most notable and are commonly observed on the refuge.
 - Snakes, including the garter snake, canebrake rattlesnake, cottonmouth, and southern copperhead.
 - Box, mud, snapping, and map turtles.

- Several species of fish are known to occur on the refuge:
 - Alligator gar, including within an ongoing research area located less than 0.25-mile of the well location.
 - Paddlefish and spring darters.
 - Crappie, bluegill, largemouth bass, and white bass.
 - Flathead, blue, and channel catfish.
 - Carp, buffalo, and gar.
- Ten species of mussels have been found on the refuge:
 - Fat pocketbook mussels (*Potamilus capax*), an endangered species, have been documented in the Old St. Catherine Creek channel.

4.0 OBJECTIVE AND SCOPE

The overall objective and scope of this assessment involved the assessment of an abandoned and leaking oil well located within the St. Catherine Creek NWR in Natchez, Adams County, Mississippi, including an evaluation of the need for potential removal actions.

4.1 ASSESSMENT FINDINGS

On February 22, 2017 EPA and Tetra Tech START met with Mark Cupit, a Federal Wildlife Officer with the USFWS (property owner), for a site visit and hiked to the abandoned well location. At that time, the well location was still submerged under a small pool of water remaining from recent flooding of the area. However, based on field observations during the site visit, as well as discussions with and documentation provided by representatives of the USFWS, an ongoing release of oil is occurring, resulting in a discharge of oil into Old St. Catherine Creek and the Mississippi River, which are surface waters of the United States. Approximately one week prior to the site visit, the well location was flooded by waters from the Mississippi River that covered the area with approximately 8 to 10 feet of water; evidence of this flooding was documented during the site visit in photographs showing a “bathtub ring” left by high water levels in vegetation near the well location (see Appendix D). Based on volumetric calculations (5.5-inch production casing and vertical well depth of 6,200 feet), this well could release more than 7,600 gallons of crude oil in the event of a worst-case scenario (catastrophic failure), which poses a significant threat to the environment. Based on the assessment findings, EPA has determined that a removal action is necessary to address the uncontrolled discharge of oil from the well.

4.2 POTENTIALLY RESPONSIBLE PARTIES

While a formal search for potentially responsible parties (PRP) will be prepared under a separate report, EPA and Tetra Tech START conducted research during the site visit on the operations, ownership, and corporate history of the well to identify PRPs. The list below provides a brief summary of the sources of information used during this research.

- Adams County Chancery Clerk’s Office (ACCC)
- EPA
- USFWS
- MSOGB

According to information obtained from the MSOGB website, the well was drilled in 1968, operated by Callon Petroleum Company (Natchez, Mississippi), and plugged in August 1972.

4.3 ACCESS AND OWNER CONCERNS

During discussions with the property owner (USFWS), representatives stated that they had never owned or operated the well. The USFWS (grantee) purchased the property (surface rights only) where the well is located in 1991 from *Armstrong et al, Thomas K.* (grantor) (see Appendix G). In accordance with the warranty deed filed with the Adams County Chancery Clerk's office, the oil and gas / mineral rights for the property were retained by the grantor. As a result, the grantor also owns the remaining trade fixtures (well casing) associated with the Armstrong-Union Oil Well 3. In addition, the USFWS never operated the well and did not become aware of its existence until November 2016 when it was discovered by a hunter. Due to the large acreage (nearly 25,000 acres) associated with the refuge and the limited information available, it would not be feasible for the USFWS to perform due diligence for the abandoned oil wells. The passage of time and increased exploration of the area help to explain how wells are just now being discovered, despite the fact that the land was acquired in 1991.

Access to the well was provided by USFWS representatives and includes travel along existing roads (private) within the refuge to a point approximately 1,700 feet north of the well location. Construction of additional access roads will be required to provide access for personnel and equipment to the well location for plugging activities. EPA told the property owner that all access roads to the well location would be constructed as necessary and all disturbed land would be returned to its original state to the best of EPA's ability.

5.0 FINDINGS

This section provides a summary of the findings and conclusions regarding the abandoned well identified as Armstrong-Union Oil 3.

5.1 LEGAL BASIS FOR EPA RESPONSE ACTIVITIES

Federal regulations that authorize EPA to conduct response activities at this abandoned and leaking well are briefly summarized below.

- Title 40 Code of Federal Regulation (CFR) Part 300.322(b)
 - *“If the investigation by the OSC shows that the discharge poses or may present a substantial threat to public health or welfare of the United States, the OSC shall direct all federal, state, or private actions to remove the discharge or to mitigate or prevent the threat of such a discharge, as appropriate. In directing the response in such cases, the OSC may act without regard to any other provision of law governing contracting procedures or employment of personnel by the federal government to: (1) Remove or arrange for the removal of the discharge; (2) Mitigate or prevent the substantial threat of the discharge; and (3) Remove and, if necessary, destroy a vessel discharging, or threatening to discharge, by whatever means are available....”*
- Title 33 CFR Part 154.1020
 - *“Oil means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, oil mixed with wastes other than dredge spoil.”*
 - *“Response activities means the containment and removal of oil from the land, water, and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the public health or welfare or the environment.”*
 - *“Response resources means the personnel, equipment, supplies, and other capability necessary to perform the response activities identified in a response plan.”*
 - *“Substantial threat of a discharge means any incident or condition involving a facility that may create a risk of discharge of oil. Such incidents include, but are not limited to storage tank or piping failures, above ground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrences.”*

- Title 40 CFR Part 112.1 to 112.2:
 - *“this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines....or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States...”*
 - *“Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil...”*
 - *“Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, ...”*
 - *“Fish and wildlife and sensitive environments means areas that may be identified by their legal designation...These areas may include...wildlife refuges...”*
 - *“Navigable waters of the United States means navigable waters as defined in section 502(7) of the FWPCA and includes (1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA and tributaries of such waters; (2) Interstate waters; (3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and ...”*
 - *“Oil means oil of any kind or in any form, including but not limited to....petroleum fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredge spoil.”*
 - *“Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.”*
 - *“Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.”*
 - *“Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including*

condensate) or associated storage or measurement, and is located in an oil or gas field at a facility. This definition governs whether such structures, piping, or equipment are subject to a specific section of this part.”

- *“Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions....”*
- Clean Water Act, Section 311
 - *“The discharge of oil or hazardous substances into or upon the navigable waters of the United States, or adjoining shorelines, Or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States is prohibited.”*

5.2 THREATS TO PUBLIC HEALTH AND WELFARE OR THE ENVIRONMENT

Threats documented for this uncontrolled discharge of oil are listed and described below:

- The ongoing and uncontrolled discharge of oil to surface waters of the United States poses a significant threat of exposure to the diverse wildlife within the refuge, including threatened and endangered species known to occur there. Wildlife could be directly exposed through contact and ingestion. In addition, humans using the refuge and the Mississippi River for recreational purposes could be exposed through direct contact or ingestion of animals.
- The ongoing and uncontrolled discharge of oil to surface waters of the United States is occurring within the St Catherine Creek NWR, a sensitive ecosystem under the management of USFWS. Given the well’s age (i.e. over 45 years), its lack of mechanical integrity, the ongoing uncontrolled discharge of oil to land surface, its location within the flood plain of the Mississippi River and its tributaries, the potential for this abandoned well to continue to impact surface waters of the United States is extremely high.
- Crude oil has been observed to be leaking from the surface casing of the abandoned well onto the ground surface. The area is annually flooded with waters from Old St. Catherine Creek and the Mississippi River resulting in an uncontrolled discharge of oil to surface waters of the United States.
- The well location is annually flooded with waters from Old St. Catherine Creek and the Mississippi River resulting in an uncontrolled discharge of oil to surface waters of the United States.

- Given the well's penetration through multiple oil- and gas-producing formations, the threat of fire or explosion is significant.
- There are no other federal or state agencies with the ability to respond to the release. The well's remote location and the limited ability of the USFWS to continuously monitor the well's integrity will ultimately result in sustained surface and subsurface discharges of oil and oily brine via annular spaces and unplugged casing or tubular goods. In order to prevent the uncontrolled discharge of oil, EPA will likely be required to drill out and permanently plug the abandoned well.

5.3 OWNERS AND OPERATORS (PRELIMINARY FINDINGS)

The USFWS (grantee) purchased the property (surface rights only) where the well is located in 1991 from *Armstrong et al, Thomas K.* (grantor) (see Appendix G). In accordance with the warranty deed filed with the Adams County Chancery Clerk's office, the oil and gas / mineral rights for the property were retained by the grantor. As a result, the grantor also owns the remaining trade fixtures (well casing) associated with the Armstrong-Union Oil Well 3. In addition, the USFWS never operated the well and did not become aware of its existence until November 2016 when it was discovered by a refuge hunter. Due to the large acreage (nearly 25,000 acres) associated with the refuge and the limited information available, it would not be feasible for the USFWS to perform due diligence for the abandoned oil wells. The passage of time and increased exploration of the area help to explain how wells are just now being discovered, despite the fact that the land was acquired in 1991.

Under Mississippi Statewide Rules and Regulations (Mississippi Administrative Code, Title 26, Part 2), the following definitions apply:

- *"Owner" shall mean the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another or others.*
- *"Royalty owner" shall mean any person who possesses an interest in the production but who is not an "owner" herein.*
- *"Operator" shall mean any person who, duly authorized, is in charge of the development of a lease or the operation of a producing well.*

Under the criteria listed above, the USFWS does not meet the legal definition of owner or operator. Furthermore, the oil, gas, and mineral rights were severed from the surface rights in 1991 by the grantor (*Armstrong et al, Thomas K.*) at the time of sale of the tract to the USFWS.

Furthermore, under the Oil Pollution Act (OPA) of 1990, Title I, Section 1001:

- *“Responsible Party” means in the case of an abandoned vessel, onshore facility, deep water port, pipeline, or offshore facility, the persons who would have been responsible parties immediately prior to the abandonment of the vessel or facility.*

Under this criteria, the USFWS cannot be identified as the responsible party because they never owned or operated the well prior to its abandonment by the Callon Petroleum Company (1972) and prior to the USFWS purchasing the surface rights land (1991). Callon Petroleum Company meets the definition of Responsible Party under OPA 1990.

5.3.1 Callon Petroleum Company (Armstrong-Union Oil Wells 3 and 1)

A review of the MSOGB records indicates that the Callon Petroleum Company (Callon) was the only operator of record for the Armstrong-Union Oil 3 well (and Armstrong-Union Oil 1). Plugging records for the well indicate that it was plugged on August 1, 1972. The last known address for Callon was PO Box 1287, Natchez, Mississippi, 39120. The company is not listed as a current operator on the MSOGB website. However, The Mississippi Secretary of State website (<https://corp.sos.ms.gov/corp/portal/c/page/corpBusinessIdSearch/portal.aspx#clear=1>) includes multiple listings for Callon (see Appendix H).

5.3.2 R&H Oil and Gas Inc. (Armstrong-Union Oil Well 4)

A review of the MSOGB records indicates that the R&H Oil and Gas Inc. (R&H) was the last operator of record for the Armstrong-Union Oil 4 well, having obtained the title of operator from Callon effective November 1, 1984. Plugging records for the well indicate that it was plugged on August 7, 1985, although some discrepancy exists regarding this date (see notes at the bottom of Table 1 in Section 2.3). The last known address for R&H was Route 1, Box 96C, Tickfaw, Louisiana, 70466. The company is not listed as a current operator on the MSOGB website, and their status is listed as “Revoked” on the Mississippi Secretary of State website (<https://corp.sos.ms.gov/corp/portal/c/page/corpBusinessIdSearch/portal.aspx#clear=1>).

6.0 CONCLUSIONS AND RECOMMENDATIONS

The findings of this initial assessment report document that an uncontrolled discharge of oil is occurring from Armstrong-Union Oil 3. Based on volumetric calculations (5.5-inch production casing and vertical well depth of 6,200 feet), this well could release more than 7,600 gallons of crude oil in the event of a worst-case scenario (catastrophic failure), which poses a significant threat to the environment. The discharge of oil into surface waters of the United States will continue unless appropriate mitigating actions are taken. Tetra Tech recommends that EPA initiate a removal action to drill out and properly plug the well.

APPENDIX A
FIGURES
(Two Pages)

- Figure 1: Site Location
- Figure 2: Site Layout

