



**US Army Corps
of Engineers®**
Portland District

SEDIMENT QUALITY REPORT

**MCNARY DAM, LAKE WALLULA
COLUMBIA RIVER BASIN
SNAKE RIVER, WASHINGTON**

McNary Dam, Lake Wallula



**Sediment Quality Report
September 2020**

EXECUTIVE SUMMARY

This report provides a detailed analysis of the existing conditions for the McNary Lock and Dam (McNary Dam) reach of the lower Columbia River. This reach encompasses the lower Columbia River, immediately downstream of McNary Dam, upstream to the confluence of the Yakima River and Columbia River. The analysis of the existing conditions is limited to sediment. Both physical and chemical parameters associated with sediment quality are presented. In cases where biological data associated with sediment is available, a discussion of physical and chemical impacts to biological receptors is discussed.

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ACRONYMS

Acronym	Description
cm/yr	Centimeters Per Year
cms	Cubic Meters Per Second
Corps	U.S. Army Corps Of Engineers
DDT	Dichlorodiphenyltrichloroethane
DOH	Washington State Department Of Health
Ecology	Washington State Department Of Ecology
EPA	U.S. Environmental Protection Agency
FTEC	Fish Tissue Equivalent Concentration
g/cm ² /yr	Grams Per Square Centimeter Per Year
ODEQ	Oregon Department Of Environmental Quality
mg/kg	Milligrams Per Kilogram
n/a	Not Applicable
NA	Not Analyzed
NAVD88	North American Vertical Datum Of 1988
NC	Not Calculated
ND	Not Defined
NS	Not Specified
PBDE	Polybrominated Diphenyl Ether
PCB	Polychlorinated Biphenyl
pCi/g	Picocuries Per Gram
RI	Remedial Investigation
RM	River Mile
RSET	Northwest Regional Sediment Evaluation Team
SEF	Sediment Evaluation Framework
SL	Screening Level
TMDL	Total Maximum Daily Load
TTL	Target Tissue Level
USGS	U.S. Geological Survey

SECTION 1 - INTRODUCTION

This report provides a detailed analysis of the existing conditions for the McNary Lock and Dam (McNary Dam) reach of the lower Columbia River. This reach encompasses the lower Columbia River, immediately downstream of McNary Dam, upstream to the confluence of the Yakima River and Columbia River. The analysis of the existing conditions is limited to sediment. Both physical and chemical parameters associated with sediment quality are presented. In cases where biological data associated with sediment is available, a discussion of physical and chemical impacts to biological receptors is discussed.

1.1 RIVER SEGMENT DESCRIPTION

The scope of this evaluation includes the McNary Dam, located at River Mile (RM) 292 on the Columbia River, as well as the area immediately downstream of the McNary Dam and upstream to the confluence of the Yakima River and Columbia River (RM 335).

1.2 SEDIMENT EVALUATION FRAMEWORK GUIDANCE

The Sediment Evaluation Framework (SEF) for the Pacific Northwest (Northwest Regional Sediment Evaluation Team [RSET] Agencies 2016) is a regional guidance manual produced by Federal and state agencies. It provides a framework for the consistent characterization and assessment of sediment. Specifically, the framework can be used to determine the suitability of the materials for unconfined aquatic placement and to predict water quality impacts during dredging operations. The framework is intended for use in the states of Washington, Oregon, and Idaho. It serves as an implementation manual for the *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.—Testing Manual* (Inland Testing Manual) (1998) produced by the U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (Corps) for satisfying Clean Water Act testing requirements.

Although the SEF was produced specifically for the evaluation of dredged materials for unconfined aquatic placement, the framework is also used for evaluating non-navigational projects and for anti-degradation evaluations. Because the purpose of the Columbia River System Operations Environmental Impact Statement is similar to an anti-degradation evaluation, the SEF provides a suitable approach for this report.

The SEF provides a “tiered” approach to make risk-based sediment assessments. Level 1 includes an evaluation of historically available data and the development of a conceptual site model. Level 2 includes the physical, chemical, and biological evaluation of the sediment and is conducted if the information collected for Level 1 is insufficient to make a risk based determination. This report focuses on a Level 1 evaluation; no additional sediment data will be collected at this time. This report does discuss data gaps and data needs for potential future project implementation and provides recommendations on future data collection.

SECTION 2 - WATER QUALITY

2.1 GENERAL DESCRIPTION

The McNary reach is defined as the stretch of the Columbia River beginning immediately downstream of the McNary Dam at RM 292 upstream to the confluence of the Yakima River and Columbia River at RM 335. McNary Lock and Dam construction began in May 1947 and became fully operational in February 1957. McNary Lock and Dam consists of a powerhouse, navigation lock, two fish ladders, and a system of levees and pumping plants. The McNary Lock and Dam provides for navigation, hydroelectric power generation, recreation, wildlife habitat, and incidental irrigation (Corps, 2019).

Significant cities within and near McNary reach include the Tri-Cities (Pasco, Kennewick, and Richland – population 290,296), Yakima (population 250,193), and Walla Walla (population 64,614) (U.S. Census Bureau 2018).

The McNary reach is located in the Columbia Plateau ecoregion (EPA 2016) which includes the Columbia River and associated watersheds between The Dalles and Wanapum Dams on the Columbia River and Ice Harbor Dam on the Snake River (Yakama Nation, Washington Department of Fish and Wildlife, and Klickitat County 2004). Mountainous ecoregions surround the Columbia Plateau on all sides; to the west is the Cascade Range, to the southeast are the Blue Mountains, to the north are the Okanogan Highlands, to the east are the loess hills of the Palouse region, and further to the east, the Rocky Mountains (Clarke and Bryce 1997, Thorson et al. 2003).

Temperature and precipitation vary greatly within the Columbia Plateau, with lower temperatures and increased rainfall occurring at higher elevation areas around the boundaries with mountainous areas, and higher temperatures and less rainfall occurring in the central, lower elevation portions of the ecoregion. The primary plant community in the Lower Middle Columbia Subbasin is shrub-steppe and grasslands (big sagebrush (*Artemisia tridentata*) and bluebunch wheatgrass (*Pseudoroegneria spicata*)), though much of this has been converted to agricultural use in the past 150 years.

Approximately 47 percent of lands in the subbasin are used for agriculture, and more than 90 percent of the lands are privately held (Yakama Nation, Washington Department of Fish and Wildlife, and Klickitat County 2004).

The most notable tributaries in the McNary reach are the Yakima River (at RM 335, Washington), Snake River (at RM 324, Washington) and Walla Walla River (at RM 314, Washington) (Table 2-1). There are other smaller tributaries that flow into this reach from both the Oregon and Washington borders. In the McNary reach, the Columbia River sits at an approximate elevation of 342 feet (NAVD88) (U.S. Geological Survey [USGS] 2018b).

Table 2-1. McNary Reach Tributaries

Tributary	Length (miles)	Drainage Area (miles²)	Average Discharge (cfs)	Columbia River Confluence
Yakima River	214	6,150	3,493	RM 335
Snake River	1,078	108,500	54,830	RM 324
Walla Walla River	61	1,758	1,212	RM 314

In the Yakima Subbasin, major cover types include forest (40 percent), rangeland (40 percent), and irrigated cropland (15 percent) (Yakima Subbasin Fish and Wildlife Planning Board 2004). Approximately 33 percent of lands in the subbasin are owned by the Federal government, 32% are privately held, 23 percent are Yakama Nation lands, and 9 percent are Washington State owned (Yakima Subbasin Fish and Wildlife Planning Board 2004).

The Corps' Lower Snake River Projects sediment management area encompasses an area of approximately 32,000 square miles (Corps 2014a). Within this area, approximately 35 percent of the lands are privately held and the remainder are primarily publicly owned. Approximately 20 percent of this area is used for agricultural purposes (Corps 2014a). Approximately 20 percent of this area has been burned by wildfires between 1971 and 2010; these are primarily forested lands in the Salmon River and Selway Basins (Corps 2014a).

Lands in the Walla Walla Subbasin are predominately privately owned and used for agriculture. Forestry and timber harvest represent another land use in the Walla Walla Subbasin. There are approximately 227,000 acres (355 square miles) of forested land in the subbasin, approximately 45 percent of which is under public (Federal or state) management (Walla Walla County and Walla Walla Basin Watershed Council 2004).

2.1.1 Geology and Soils

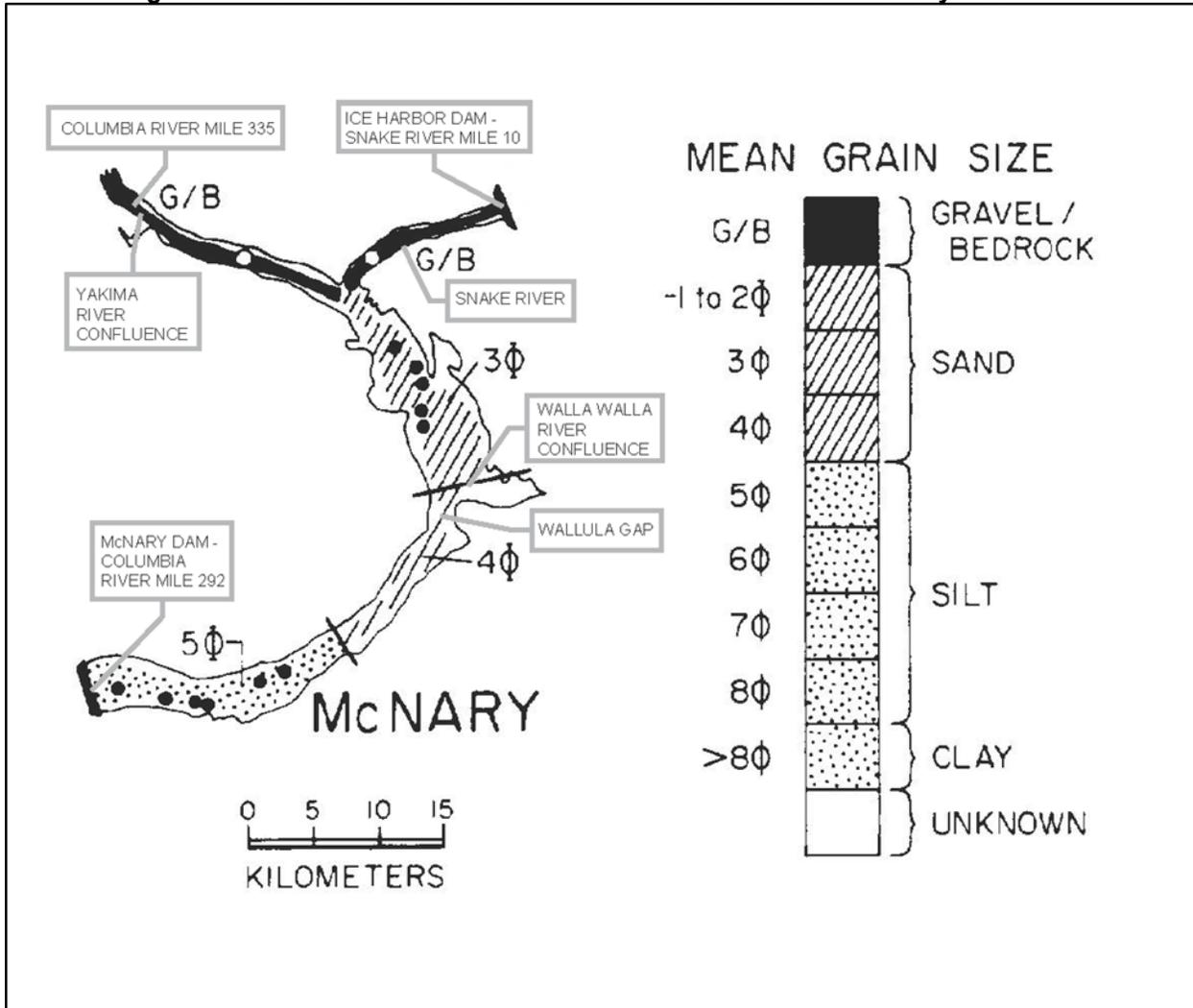
The geological formations through which the Columbia River passes in the McNary reach from McNary Dam up to the Walla Walla River confluence are alternating layers of basalt lava flows and sedimentary formations that were deposited during the middle and late Miocene (between 6 and 17 million years ago) (Hunting et al. 1961; Walker and MacLeod 1991). These formations are collectively called the Columbia River Basalt Group and cover about 62,000 square miles and extend to depths of up to 2 miles below ground surface (Clarke and Bryce 1997). The weight of the lava flows has caused gradual sinking and sloping of the earth's crust, forming a basin that slopes from the outside edges to a low point near Pasco, WA (Clarke and Bryce 1997). During the Pleistocene, an aerially deposited layer of soil (i.e., loess soil) was deposited across these basalt flows (Clarke and Bryce 1997). At Wallula Gap, located immediately downstream of the Walla Walla confluence, the Columbia River passes through a narrow opening between sheer cliffs on either side of the river. The Missoula Floods, a series of up to 50 extreme flood episodes caused by the failure of ice dams at glacial Lake Missoula approximately 15,000 to 13,000 years ago, resulted in mass erosion of loess deposits across the Columbia Plateau (Clarke and Bryce 1997). The former water channels and severely eroded areas from this period are referred to as "channeled scablands" (U.S. Department of the Interior/Geological Survey 1976). Wallula Gap

limited the passage of these floodwaters, causing repeated inundation and deposition of lacustrine sediments across large areas of the Columbia Basin upstream of this point (Carson and Pogue 1996.). During these catastrophic glacio-fluvial events, the cliff sides of Wallula Gap were scoured by the floodwaters, ice, sediments, and debris, exposing the layers of the Columbia River Basalt Group (U.S. Department of the Interior/Geological Survey 1976).

Soils in the Columbia Plateau region are characterized by low moisture levels, resulting in low levels of clay and organic matter (Clarke and Bryce 1997). The McNary reach is located in the driest part of the Cascade rain shadow, receiving 6 to 12 inches of precipitation annually (Clarke and Bryce 1997). Soils in the immediate area of McNary reach are derived from basaltic colluvium on hilltops and canyon walls, and alluvium or gravelly flood and glacial outwash material at lower elevations. Soils north and east of McNary reach (much of which is within the lower Snake River watershed) are loess that derives from granitic and metamorphic rock. This material was eroded from the Rocky Mountains to the east and transported first by glaciers, then by wind, over the past 50,000 years to the Columbia Plateau (Clarke and Bryce 1997). Loess is highly productive agricultural soil, but it is susceptible to erosion. In the Palouse River Basin (a tributary of the lower Snake River), steep slopes, moderate precipitation, and farming practices lead to erosion of loess soil at rates of 20 tons per acre during the wet season (Clarke and Bryce 1997).

The riverbed in most reaches of the Columbia River contains little fine sediment and is composed of scoured bedrock or a thin deposit of coarse gravel (Whetten, Kelley, and Hanson 1969). However, retention of silt and sand behind McNary Dam since the time of its construction is significant (Figure 2-1). Haushild, Dempster, and Stevens (1975) found that the mixing of the Columbia and Snake river waters is incomplete from the Columbia/Snake confluence to Wallula Gap. In this portion of the river, the western third of the river is a deep channel (30 to 60 feet) carrying primarily Columbia River water; the eastern two-thirds of the river is relatively shallow, carries primarily water from the Snake River. Haushild, Dempster, and Stevens (1975) report that the western portion of the reach features a gravel-armored streambed and that the eastern portion has finer sands and silt. Haushild, Dempster, and Stevens (1975) also concluded that these finer sediments are derived principally from the Snake and Walla Walla Rivers and have been deposited since the time of McNary Dam's construction. Beasley, Jennings, and McCollough (1986) and Blanton Gardiner, and Dirkes (1995) report fine sand on the Washington shore and silt and clay along Oregon shore. These studies point to general patterns of sediment deposition within the reach, but available data is insufficient to identify sediment characteristics and distribution at finer scales within the McNary reach.

Figure 2-1. Particle-Size Distribution of Bottom Sediments in McNary Reservoir



Source: Whetten, Kelley, and Hanson 1969

This portion of the Columbia River is notable for its commercial navigation and recreational activities, including fishing. Highway 12 in Washington and Highway 730 in Oregon and Washington parallel a portion of this reach of river. It is in this reach of the Columbia River that the river crosses the Oregon and Washington state borders and is then bordered by Washington on both sides of its banks.

The McNary reach hosts the only breeding colony of white American pelicans (*Pelecanus erythrorhynchos*) in the state of Washington. White American pelicans began nesting at Badger Island (near RM 318) in 1997. The population of white American pelicans occupying Badger Island during the nesting season has steadily increased by an average of approximately 200 individuals per year since 2000 and numbered in excess of 3,000 individuals in 2015 and 2016 (Stinson 2016). Due in part to the increase in breeding population at Badger Island, the Washington Department of Fish and Wildlife changed the status of the white American pelican from “endangered” to “threatened” in 2016 (Cary 2016). The presence of the breeding colony within

McNary reach is significant because white American pelicans are sensitive to organochlorine pesticides such dichlorodiphenyltrichloroethane (DDT); recent breeding success suggests that legacy pesticide contamination concentrations or bioavailability may be declining within the reach. The species is also sensitive to human disturbance and changes in habitat water levels.

2.1.2 Sediment Loading in the Reservoir

A number of factors have influenced sediment loading and transport with the Columbia River generally and McNary reach specifically in historical times. The development of agricultural lands, increasing incidence of wildfire, and other land-use changes have increased the rate of erosion and sedimentation loading. The operation of the Columbia River System has reduced the capacity of the Columbia River to transport sediment and has changed the pattern of sedimentation within the reservoirs behind the dams.

Beasley, Jennings, and McCollough (1986) measured sediment accumulation rates in the reservoir behind McNary Dam. This paper reflects the most recent direct measurement of sediment accumulation rates in McNary reach. More recent sediment studies (such as quantification of sediment loading, estimation of sediment budgets, bathymetry, or river bed mapping) have not been completed and were not available for inclusion in this description of McNary reach. Beasley, Jennings, and McCollough (1986) measured an average surface sediment accumulation rate in McNary reach of 5 centimeters per year (cm/yr) (+/- 3 cm/yr) and a sediment storage rate of 2 grams per square centimeter per year (g/cm²/yr) (+/- 1 g/cm²/yr). From these measures, Beasley, Jennings, and McCollough (1986) estimate sediment storage in Lake Wallula at 2.9 trillion kilograms per year, a value that represents 20 percent of all suspended sediment discharged by the Columbia River on average annually. Beasley, Jennings, and McCollough (1986) also note that sediment textures within McNary reach vary considerably and that downstream of this reach, sediment textures are both coarser and more uniform.

A significant and diverse agricultural economy has developed in the McNary reach, primarily enabled by clearing of grass and shrubland and the construction of irrigation infrastructure. In the Yakima Subbasin, there are approximately 1,000 square miles of irrigated agricultural lands used to grow orchards, grapes, hops, hay, and field crops (Yakima Subbasin Fish and Wildlife Planning Board 2004). In the Lower Middle Columbia Subbasin, approximately 1,000 additional square miles of agricultural lands are also irrigated and used for similar crops. In the Walla Walla Subbasin, there are 1,125 square miles of agricultural lands, the majority of which is dryland cropland (Walla Walla County and Walla Walla Basin Watershed Council 2004). The remainder (approximately 15 percent) is irrigated cropland.

Rates of erosion and sedimentation due to agricultural uses are highly dependent on farming practices, soil type, slope, and precipitation. Pesticides tend to enter the aquatic environment via adhering to soil particles that subsequently erode and deposit in sediments. Legacy pesticide contamination of agricultural soils represents a potential

ongoing source of pesticides to the sediment in McNary reach and the rest of the Columbia River System.

Within the lower Snake River Basin, approximately 4,416 square miles (13.6 percent of total land area) are used for agricultural purposes (Corps 2014a)

Naik and Jay (2011) examined Columbia River flow and sediment transport long-term data (some datasets going back to 1858) to estimate these processes and to distinguish between human and climate effects on changes in flow volume/timing and sediment transport in the Columbia River over the past ~150 years. Mean spring freshet flow (May to July) on the Columbia River prior to 1900 was approximately 13,610 cubic meters per second (cms); this has decreased in recent times to 7,060 cms. The freshet flow reduction is primarily due to flow regulation by dams (~26 percent), irrigation depletion (~12 percent) and climate change (~11 percent). The timing of freshet flow is now approximately 2 weeks earlier, and maximum daily flow is 45 percent less than prior to 1900. Naik and Jay (2011) note that sediment transport varies more than linearly with flow; in other words, as flow decreases, transport of sediment decreases more quickly. Naik and Jay (2011) concluded that, due to the non-linear relationship between flow and sediment transport, distinguishing unambiguous, quantitative differences between flow management and climate effects on flow characteristics and sediment transport was impossible. Reductions of peak flows due to the reservoir system is the largest single factor affecting flow and sediment transport. Annual mean total sediment load is estimated to have decreased from 20.5 million tons prior to 1900 to ~8 million tons in recent times. Sand transport is estimated to have decreased from ~14 million tons prior to 1900 to 2.1 million tons in recent times. Most of the reduction in sediment transport in the Columbia River upstream of the Cascade Mountains is related to the dam system, especially its reduction of spring freshet flow.

In historical times (preceding construction of the Columbia River System), peak spring freshet flows likely served to scour and transport sediments from the mouths of Columbia and Snake River tributaries; reduction of spring freshet flows related to the presence of dams has likely reduced the scouring and transport of sediments at tributary mouths and has likely contributed to accumulation of sediments in the areas since the time of the dams' construction.

Table 2-2 summarizes data from the USGS Geospatial Multi-Agency Coordination about wildfire size and frequency in the Yakima and Lower Middle Columbia Subbasins (USGS 2018a). Data for fires greater than 1,000 acres in size occurring over the past 10 years was included in the analysis. The annual area burned and size of fires appears to have increased over this period; however, Mann-Kendall trend analysis showed that the increase is not statistically significant. The same trend analysis showed that the frequency of wildfires over this period is increasing in a statistically significant manner. The increase in fire frequency likely is due to the increasing population of the region (many of the fires are human caused) and due to an increase in extreme heat and dry conditions during this time period. Further population increases and more extreme fire seasons due to climate change are likely to continue to drive increases in fire frequency in the future.

Table 2-2. Wildfire Frequency and Size Within the Yakima and Lower Middle Columbia Subbasins

Year	Number of Wildfires Greater than 1,000 Acres ^{1/}	Total Area Burned (acres) ^{2/}	Average Fire Size (acres) ^{2/}
2008	1	1,192	1,192
2009	2	53,632	26,816
2010	2	16,294	8,147
2011	1	4,510	4,510
2012	7	81,689	11,670
2013	5	43,926	8,785
2014	1	12,595	12,595
2015	4	29,635	7,409
2016	6	202,445	33,741
2017	8	181,682	22,710

Note: The table does not contain information about wildfire in the Snake River watershed. 1/ The increase in wildfire frequency from 2008 to 2017 is a statistically significant increasing trend per Mann-Kendall trend analysis (alpha=0.05). 2/ Apparent increases in total area burned and average fire size from 2008 to 2017 are not statistically significant trends per Mann-Kendall trend analysis (alpha=0.05).

Erosion following wildfire is also a significant source of sedimentation within the Snake River watershed. Wildfire has affected 22 percent of the Lower Granite Reservoir watershed between 1971 and 2010 (Corps 2014a). Wildfire with the lower and middle Snake watershed has been increasing since the 1970s, primarily affecting the Salmon, Clearwater, and Snake River-Hells Canyon Reach Subbasins (Corps 2014a). Erosion of burned areas in the Salmon River watershed are the primary source of sand entering the Snake River; this sand is retained to a large extent behind Lower Granite Dam (Corps 2014a). Erosion following wildfire also contributes fine sediment, but this is not the exclusive source as agriculture and forest management in the Snake River watershed are also significant sources of fine sediment (Corps 2014a).

Burned land is more erodible due to physical and chemical changes to the soil that occur during wildfire and due to removal of the vegetation that anchors soil and absorbs precipitation. Generally, an increase in land area affected by wildfire will result in increased sedimentation. However, the degree of erosion and increased sedimentation following fire events is variable and depends on characteristics of the burned area, such as slope, soil type, and the timing, intensity, and total amount of precipitation. As a result, the nature and rates of sedimentation from burned areas may not correspond to the size of area affected by wildfire.

Sediments in the Columbia River appear to be derived from two distinct sources (Whetten, Kelley, and Hanson 1969). Sediment from the Snake River and upstream tributaries is fine grained and derived from metamorphic, plutonic, and sedimentary rocks and is primarily transported in suspension. Sediment from downstream tributaries is coarser grained and derived from erosion of volcanic rock. This coarser sediment generally forms the bedload. Historically, little sediment accumulated on the bed of the Columbia River above the location of Bonneville Dam (Whetten, Kelley, and Hanson 1969). However, the construction of dams has reduced the magnitude of freshet flow, reducing the ability to transport sediment (Naik and Jay 2011) while increasing the retention of coarse sediment at the head of reservoirs and fine sediment behind the dams (Randle and Bountry 2017). Additionally, the presence of dams has generally

slowed the flow of the river, increasing the level of sediment deposition in delta formations at tributary confluences (Randle and Bountry 2017).

The Columbia River transitions from a free-flowing condition to a slower, low-energy reservoir character upstream of the McNary reach at Johnson Island, located north of Richland, Washington, at about RM 345 (Washington Closure Hanford 2011). Since the time of McNary Dam’s construction, deposition of additional sediment has likely occurred downstream from this point, with larger and denser sediment fractions depositing first and finer sediments farther downstream. There are also numerous large tributaries that enter the Columbia River in the McNary reach, namely the Yakima, Snake, and Walla Walla Rivers. While the Snake River encompasses about 42 percent of the total drainage area of the Columbia system, it accounts for about 21 percent of the total flow (Naik and Jay 2011). Despite this relatively small contribution to flow, the Snake River provides the most suspended sediment of all Columbia River tributaries of McNary reach to the mouth of the Columbia (Beasley, Jennings, and McCollough 1986).

The Lower Snake River Programmatic Sediment Management Plan identifies areas where sediments tend to accumulate that could potentially interfere with safe navigation; these are summarized in Table 2-3. The approach to the Ice Harbor navigation locks is listed as a sediment accumulation area and has required dredging in the past to maintain safe navigation (Corps 2014a).

Table 2-3. Areas of Lower Snake River Sediment Accumulation with Potential Interference with Safe Navigation

Snake River Mile ^{1/}	Site Name	Purpose
0.0–1.5	Snake River Entrance	Navigation
1.5	Hood Park Boat Ramp	Recreation
2.0–10.0	Nav Channel Below Ice Harbor	Navigation
9.2	Ice Harbor Lock Approach/Nav Coffers Cells	Navigation

Note: 1/ Indicates the number of miles upstream of the mouth of the Snake River at its confluence with the Columbia River.

Source: Corps (2014a)

2.1.3 Past Dredging

Past dredging in the McNary reach includes construction of Ice Harbor Dam on the Snake River, including navigational approaches and channels downstream of the dam. Table 2-4 summarizes past navigation dredging in McNary reach. Since the completion of Ice Harbor Dam in 1962, there has been regular maintenance dredging at the navigation approach (Corps 2014a). The most recent dredging at the Ice Harbor Dam navigation approach occurred in 2015 (Corps 2015).

Some dredging in the Columbia River portion of the McNary reach has also occurred. Prior to the construction of McNary Dam, Clover Island (near RM 329) was a low-lying island in the Columbia River floodway approximately 162 acres in size. In anticipation of the impoundment of the Columbia River and creation of Wallula Lake, the island’s elevation was increased using materials dredged from adjacent areas and imported from upland locations (Corps 2017). Once the McNary pool was raised to the operational elevation of approximately 340 feet, most of the island was submerged with

the exception of the built up portion consisting of 14.3 acres. During the 1960s, imported fill was placed at the east end of Clover Island, expanding its size to 18.4 acres. Clover Island is currently a commercial area with a hotel, restaurants, and a marina. Ecological restoration of shallow water fish habitat and riparian vegetation along the shore of Clover Island is currently planned for construction in 2018–2019 (Corps 2017).

Crescent Island (near RM 317) was created in 1985 from material dredged from the navigation approach to the nearby Wallula pulp mill (Corps 2014b). White American pelicans nested here from 1994 to 1998; currently the island hosts a colony of Caspian terns (*Hydroprogne caspia*) (Stinson 2016).

Table 2-4. History of Navigation Dredging in McNary Reach

Dredging Location	Year	Purpose	Amount Dredged in Cubic Yards	Dredged Material Placement
Navigation Channel Ice Harbor, Part I and II, Channel Construction	1961	Navigation	3,309,500	Upland and in-water
Navigation Channel, Ice Harbor Part III, Channel Construction	1962	Navigation	120,000	Upland and in-water
Downstream Navigation Channel Ice Harbor Lock and Dam	1972	Navigation	80,000	Upland and in-water
Navigation Channel Downstream of Ice Harbor Lock and Dam	1973	Navigation	185,000	Upland and in-water
Downstream Approach Channel Construction Ice Harbor Lock	1978	Navigation	110,000	Upland and in-water
Downstream Approach Channel Construction Ice Harbor Lock	1978/81/82	Navigation	816,814	Upland and in-water
Downstream Approach Channel Construction Ice Harbor Lock	1985	Navigation	98,826	In-water
Boise Cascade—McNary Reservoir near Wallula, WA	1992	Navigation	120,742	In-water
Port of Kennewick—McNary Reservoir	1993	Navigation	6,130	Not applicable
Downstream Lock Approach, Ice Harbor Dam	2014–2015	Navigation	2,000	In-water

2.2 PAST STUDIES

2.2.1 Previous Studies

The Hanford Site is a former nuclear materials production complex, approximately 586 square miles in size, located immediately upstream of McNary reach. Ongoing cleanup is occurring at the Hanford Site under the direction of the U.S. Department of Energy. The U.S. Department of Energy published a study in 1995 (Blanton, Gardiner, and Dirkes 1995) to characterize Hanford Site-derived chemical transport in the Columbia River. The McNary Dam monitoring sites were characterized by very fine sand on the Washington shore and silt and clay on the Oregon shore. This study found that the majority of radionuclide concentrations to be below minimum detection levels at all sites, with the exception of cesium-137 and uranium-238. Average uranium-238 and strontium-90 concentrations at the McNary Dam monitoring station were above minimum detection levels. There were no significant differences between monitoring sites with respect to uranium-238 and strontium-90. Presence of U-238 was attributed

to natural background sources; strontium-90 was attributed to production activities at the Hanford Site and atmospheric fallout from nuclear weapons testing. Average cesium-137 concentrations from McNary Dam were higher than those from a monitoring station up-stream of the Hanford Site (i.e. the Priest Rapids Dam monitoring station) and was attributed to past Hanford activities and nuclear weapons testing. All metals analyzed were detected in each sediment sample. Sediment from the McNary Dam monitoring sites had the highest concentrations of metals, with the exception of barium, lead, and zinc. A transect across the McNary Dam monitoring sites revealed gradually increasing metals concentrations toward the Oregon shore, with a direct correlation between grain size and total organic carbon content with metals concentrations. Organics (i.e., polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and pesticides) were undetected in nearly all sediments (Blanton, Gardiner, and Dirkes, 1995). In contrast, organics in tissues are readily detectable at levels that have prompted water quality classifications/Clean Water Act 303(d) listings for McNary reach (Table 2-5 and Table 2-6). Organics in McNary sediments are likely present at concentrations lower than laboratory detection limits achieved by Blanton, Gardiner, and Dirkes (1995), and their relatively higher concentrations in biological tissue likely indicate that organic contaminants are being bioaccumulated or biomagnified by ecological food webs in McNary reach.

A multi-agency study was conducted in 2003 to characterize sediment impacts from the Hanford Nuclear Site. While radionuclides are not considered contaminants of interest under SEF guidance, given the potential influence of the Hanford Nuclear Site on downstream sediment in the Columbia River, data from this study was reviewed as part of the analysis for existing conditions. The study found low concentrations of radionuclides throughout the lower Columbia River. These sediment concentrations were found to be similar to background values measured upstream from the Hanford Site (Washington State Department of Health [DOH] 2005).

Further study was undertaken in 2009 as part of the Remedial Investigation of Hanford Site Releases to the Columbia River (Washington Closure Hanford 2011). Sample data from this study is found in the 2011 Data Summary Report for the Remedial Investigation of Hanford Site Releases to the Columbia River, Hanford Site, Washington (Washington Closure Hanford 2011).

2.2.2 303(d) and 305(c) Status

Under the Clean Water Act, each state reports information on water quality for all waters of the state (section 305[b]). Additionally, states report that subset of waters that are impaired by a pollutant and in need of a total maximum daily load (TMDL) (section 303(d) of the Clean Water Act). The states categorize the status of state waters into water quality assessment categories. Category 5 listings are for those impaired waters that are on the 303(d) list and that are in need of establishment of a TMDL under a water quality improvement plan. Category 4A listings are for those waters that have an approved TMDL that is actively being implemented. Category 4B listings are for waters that have an established pollution control program, similar to a TMDL plan. Category 4C listings are for waters that are impaired by causes that cannot be addressed through a

TMDL plan (such as lack of flow). Category 3 listings are for waters that do not have sufficient data to place them into one of the other water quality categories. Oregon further subcategorizes Category 3 listings under Category 3B for those waters where data is insufficient to determine whether the water supports a designated use, but some data indicates non-attainment of a water quality criterion. Category 2 listings are for those waters that have some evidence of a water quality problem, though not enough to show persistent impairment that would justify a different classification. Category 1 listings are for those waters that meet the state water quality standards.

There is an established TMDL for total dissolved gas for the lower Columbia River to include McNary reach. EPA approved this TMDL on November 18, 2002 (ODEQ and Ecology, 2002). There is also a TMDL for dioxin discharges. EPA approved this TMDL on February 25, 1991 (EPA, 1991).

The most recent state water quality classifications for Washington and Oregon (based on sediment or biological tissue sample results) are shown in Table 2-5 and Table 2-6, respectively (Ecology 2017; ODEQ 2017).

Table 2-5. Washington State Water Quality Classifications and 303(d) Listings

Assessment Unit ID	Listing ID	Category	Medium	Parameter	Initial Listing	Listing Sample Description
170200160604_01_01	8800	4A	Biological tissue	Dioxin	2004, Category 4A	See Note 20.
170701010201_01_02	72218	5	Biological tissue	4,4'-DDE	2004, Category 3	See Note 1.
170701010201_01_02	78816	5	Biological tissue	Polychlorinated biphenyls (PCBs)	2004, Category 3	See Note 1.
170701010201_01_02	78611	2	Biological tissue	2,3,7,8-TCDD TEQ	2004, Category 3	See Note 2.
170701010201_01_02	70808	1	Biological tissue	1,2-Dichlorobenzene	2004, Category 3	See Note 3.
170701010201_01_02	75274	1	Biological tissue	Endrin	2004, Category 3	See Note 3.
170701010201_01_02	78688	1	Biological tissue	Endosulfan (sum of result values for Endosulfan I, Endosulfan II, and Endosulfan sulfate)	2004, Category 3	See Note 3.
170701010201_01_02	70811	1	Biological tissue	1,3-Dichlorobenzene	2004, Category 3	See Note 4.
170701010201_01_02	70816	1	Biological tissue	1,4-Dichlorobenzene	2004, Category 3	See Note 4.
170701010201_01_02	70820	1	Biological tissue	2,4-Dichlorophenol	2004, Category 3	See Note 4.
170701010201_01_02	70827	1	Biological tissue	Bis(2-chloroisopropyl)ether	2004, Category 3	See Note 4.
170701010201_01_02	70838	1	Biological tissue	Di-n-butyl phthalate	2004, Category 3	See Note 4.
170701010201_01_02	70842	1	Biological tissue	Diethyl phthalate	2004, Category 3	See Note 4.
170701010201_01_02	70846	1	Biological tissue	Dimethyl phthalate	2004, Category 3	See Note 4.
170701010201_01_02	70898	1	Biological tissue	N-Nitrosodiphenylamine	2004, Category 3	See Note 4.
170701010201_01_02	70899	1	Biological tissue	Phenol	2004, Category 3	See Note 4.
170701010201_01_02	75000	1	Biological tissue	4,4'-DDD	2004, Category 3	See Note 4.
170701010201_01_02	75082	1	Biological tissue	4,4'-DDT	2004, Category 3	See Note 4.
170701010201_01_02	75453	1	Biological tissue	Heptachlor	2004, Category 3	See Note 3 and Note 5.
170701010201_01_02	75649	1	Biological tissue	Hexachlorocyclopentadiene	2004, Category 3	See Note 3 and Note 5.
170701010201_01_02	75725	1	Biological tissue	Hexachlorocyclohexane (Lindane)	2004, Category 3	See Note 3 and Note 5.
170701010201_01_02	78547	1	Biological tissue	2,3,7,8-TCDD (Dioxin)	2004, Category 3	See Note 3 and Note 5.
170701010201_01_02	79442	1	Biological tissue	Pyrene	2004, Category 3	See Note 3 and Note 6.
170701010201_01_02	79444	1	Biological tissue	Anthracene	2004, Category 3	See Note 3 and Note 6.
170701010201_01_02	79450	1	Biological tissue	Fluorene	2004, Category 3	See Note 3 and Note 6.
170701010201_01_02	79452	1	Biological tissue	Fluoranthene	2004, Category 3	See Note 3 and Note 6.
170701010201_01_02	79522	1	Biological tissue	Mercury	2004, Category 3	See Note 3 and Note 6.
170701010201_01_02	34874	4A	Biological tissue	Dioxin	2004, Category 4A	See Note 3 and Note 6.
170701010204_01_01	15232	3	Biological tissue	1,3-Dichlorobenzene	2004, Category 1	See Note 7.
170701010204_01_01	16472	3	Biological tissue	Phenol	2004, Category 1	See Note 7 and 8.
170701010204_01_01	17687	3	Biological tissue	Antimony	2004, Category 1	See Note 7 and 8.
170701010204_01_01	17688	3	Biological tissue	Mercury	2004, Category 1	See Note 7 and 8.
170701010204_01_01	17689	3	Biological tissue	Nickel	2004, Category 1	See Note 7 and 8.
170701010204_01_01	17690	3	Biological tissue	Thallium	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18397	3	Biological tissue	1,2-Dichlorobenzene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18416	3	Biological tissue	1,2-Diphenylhydrazine	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18435	3	Biological tissue	1,4-Dichlorobenzene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18454	3	Biological tissue	2,4,6-Trichlorophenol	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18473	3	Biological tissue	2,4-Dichlorophenol	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18492	3	Biological tissue	2,4-Dinitrotoluene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18511	3	Biological tissue	4,4'-DDD	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18549	3	Biological tissue	4,4'-DDT	2004, Category 1	See Note 7 and 8.

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Assessment Unit ID	Listing ID	Category	Medium	Parameter	Initial Listing	Listing Sample Description
170701010204_01_01	18572	3	Biological tissue	Anthracene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18601	3	Biological tissue	Beta-BHC	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18620	3	Biological tissue	Bis(2-chloroisopropyl)ether	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18658	3	Biological tissue	Endosulfan Sulfate	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18677	3	Biological tissue	Fluoranthene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18696	3	Biological tissue	Fluorene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18715	3	Biological tissue	Hexachlorocyclohexane (Lindane)	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18734	3	Biological tissue	Heptachlor	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18762	3	Biological tissue	Hexachlorobutadiene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18781	3	Biological tissue	Hexachloroethane	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18800	3	Biological tissue	Nitrobenzene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18960	3	Biological tissue	Pyrene	2004, Category 1	See Note 7 and 8.
170701010204_01_01	18520	2	Biological tissue	4,4'-DDE	2004, Category 2	See Note 7 and 8.
170701010204_01_01	18553	2	Biological tissue	Aldrin	2004, Category 2	See Notes 8, 9, 10, and 11; and 19.
170701010204_01_01	18628	2	Biological tissue	Chlordane	2004, Category 2	See Notes 8, 9, 10, and 11; and 19.
170701010204_01_01	18740	2	Biological tissue	Hexachlorobenzene	2004, Category 2	See Notes 8, 9, 10, and 11; and 19.
170701010204_01_01	18819	2	Biological tissue	PCBs	2004, Category 2	See Notes 8, 9, 10, and 11; and 19.
170701010204_01_01	8799	4A	Biological tissue	Dioxin	2004, Category 4A	See Notes 8, 9, 10, and 11; and 19.
170701010206_01_01	15229	3	Biological tissue	1,3-Dichlorobenzene	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	16469	3	Biological tissue	Phenol	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	16488	3	Biological tissue	Pyrene	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	17675	3	Biological tissue	Antimony	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	17676	3	Biological tissue	Mercury	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	17677	3	Biological tissue	Nickel	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	17678	3	Biological tissue	Thallium	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18394	3	Biological tissue	1,2-Dichlorobenzene	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18413	3	Biological tissue	1,2-Diphenylhydrazine	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18432	3	Biological tissue	1,4-Dichlorobenzene	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18451	3	Biological tissue	2,4,6-Trichlorophenol	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18470	3	Biological tissue	2,4-Dichlorophenol	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18489	3	Biological tissue	2,4-Dinitrotoluene	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18508	3	Biological tissue	4,4'-DDD	2004, Category 1	See Notes 12, 13, and 14.
170701010206_01_01	18546	3	Biological tissue	4,4'-DDT	2004, Category 1	See Notes 12, 13, 14, and 15.
170701010206_01_01	18569	3	Biological tissue	Anthracene	2004, Category 1	See Notes 12, 13, 14, and 15.
170701010206_01_01	18598	3	Biological tissue	Beta-BHC	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18617	3	Biological tissue	Bis(2-chloroisopropyl)ether	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18655	3	Biological tissue	Endosulfan sulfate	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18674	3	Biological tissue	Fluoranthene	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18693	3	Biological tissue	Fluorene	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18712	3	Biological tissue	Hexachlorocyclohexane (Lindane)	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18731	3	Biological tissue	Heptachlor	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18759	3	Biological tissue	Hexachlorobutadiene	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18778	3	Biological tissue	Hexachloroethane	2004, Category 1	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18797	3	Biological tissue	Nitrobenzene	2004, Category 1	See Notes 12, 13, 14, 15, and 16.

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Assessment Unit ID	Listing ID	Category	Medium	Parameter	Initial Listing	Listing Sample Description
170701010206_01_01	18517	2	Biological tissue	4,4'-DDE	2004, Category 2	See Notes 12, 13, 14, 15, and 16.
170701010206_01_01	18550	2	Biological tissue	Aldrin	2004, Category 2	See Notes 15, 16, 17, and 18.
170701010206_01_01	18625	2	Biological tissue	Chlordane	2004, Category 2	See Notes 15, 16, 17, and 18.
170701010206_01_01	18737	2	Biological tissue	Hexachlorobenzene	2004, Category 2	See Notes 15, 16, 17, and 18.
170701010206_01_01	18816	2	Biological tissue	PCBs	2004, Category 2	See Note 16 and Note 17.

Notes:

- 1) In 2003, > Location ID(s) [WAL-F] -- 1 of 1 composite sample(s) of smallmouth bass (*Micropterus dolomieu*) fillet, skin on; tissue exceeded Washington's Fish Tissue Equivalent Concentration (FTEC).
- 2) In 2008, > Location ID(s) [COLRNRPORTKEL-F] -- 1 of 1 composite sample(s) of smallmouth bass fillet, skin on; tissue exceeded Washington's FTEC.
- 3) In 2003, > Location ID(s) [WAL-F] -- 0 of 1 composite sample(s) of smallmouth bass fillet, skin on; tissue exceeded Washington's FTEC.
- 4) In 2003, > Location ID(s) [COLRNRPORTKEL-F] -- 0 of 1 composite sample(s) of smallmouth bass fillet, skin on; tissue exceeded Washington's FTEC.
- 5) In 2008, > Location ID(s) [COLRNRPORTKEL-F] -- 0 of 1 composite sample(s) of smallmouth bass fillet, skin on; tissue exceeded Washington's FTEC.
- 6) EVS Environmental Consultants (2000) show excursions beyond the National Toxic Rule criterion from a white sturgeon (*Acipenser transmontanus*) composite of one fillet without skin collected in 1997 at station 9-D (RM 304) sample #97500965.
- 7) EVS Environmental Consultants (2000) show no excursions beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-D (RM 304) sample #97500965.
- 8) EVS Environmental Consultants (2000) show an excursion beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-D (RM 304) sample #97500965.
- 9) EVS Environmental Consultants (2000) show excursions beyond the National Toxic Rule criterion from a white sturgeon composite of one fillet without skin collected in 1997 at station 9-B sample #97500966.
- 10) EVS Environmental Consultants (2000) show excursions beyond the National Toxic Rule criterion from a white sturgeon composite of one fillet without skin collected in 1997 at station 9-B sample #97500967.
- 11) EVS Environmental Consultants (2000) show excursions beyond the National Toxic Rule criterion from a white sturgeon composite of one fillet without skin collected in 1997 at station 9-A (RM 295) sample #97500968.
- 12) EVS Environmental Consultants (2000) show no excursions beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-A (RM 295) sample #97500968.
- 13) EVS Environmental Consultants (2000) show no excursions beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-B (RM 299) sample #97500966.
- 14) EVS Environmental Consultants (2000) show no excursions beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-B (RM 299) sample #97500967.
- 15) EVS Environmental Consultants (2000) show an excursion beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-A (RM 295) sample #97500968.
- 16) EVS Environmental Consultants (2000) show an excursion beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-B (RM 299) sample #97500966.
- 17) EVS Environmental Consultants (2000) show an excursion beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-A (RM 295) sample #97500968.
- 18) EVS Environmental Consultants (2000) show an excursion beyond the National Toxic Rule criterion from white sturgeon composite of one fillet without skin collected in 1997 at station 9-B (RM 299) sample #97500967.
- 19) Serdar et al. (1991) show excursions beyond the National Toxic Rule criterion in white sturgeon collected in 1990.
- 20) Beak Consultants, Inc. (1989) found excursions beyond the tissue criterion in white sturgeon (*Acipenser transmontanus*), and carp (*Cyprinus carpio*) at Study Site 5 (between RM 326 and RM 332).

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Table 2-6. Oregon State Water Quality Classifications and 303(d) Listings

Record ID	Reach to Which Classification or 303(d) Listing Applies (River Miles)	Parameter	Criteria	Beneficial Uses	Status
25983	142 to 303.9	Arsenic	Table 40 Human Health Criteria for Toxic Pollutants	Human health; aquatic life	Cat 3: Insufficient data
25986	142 to 303.9	Cadmium	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data
20020	142 to 303.9	Iron	Table 20 Toxic Substances	Aquatic life; human health	Cat 3: Insufficient data
25985	142 to 303.9	Lead	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data
25984	142 to 303.9	Silver	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data
20024	137.1 to 303.9	Manganese	Table 20 Toxic Substances	Human health	Cat 2: Attaining some criteria/uses
19999	0 to 303.9	Ammonia	Table 20 Toxic Substances	Aquatic life	Cat 2: Attaining some criteria/uses
20002	0 to 303.9	Barium	Table 20 Toxic Substances	Human health	Cat 3: Insufficient data
20006	0 to 303.9	Chloride	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data
25982	0 to 303.9	Chromium	Table 20 Toxic Substances	Aquatic life	Cat 2: Attaining some criteria/uses
20010	0 to 303.9	Copper	Table 20 Toxic Substances	Aquatic life; human health	Cat 2: Attaining some criteria/uses
20025	0 to 303.9	Nickel	Table 20 Toxic Substances	Aquatic life; human health	Cat 2: Attaining some criteria/uses
20026	0 to 303.9	Nitrates	Table 20 Toxic Substances	Human health	Cat 3: Insufficient data
20032	0 to 303.9	Selenium	Table 20 Toxic Substances	Aquatic life; human health	Cat 2: Attaining some criteria/uses
20035	0 to 303.9	Thallium	Table 20 Toxic Substances	Human health	Cat 3: Insufficient data
20036	0 to 303.9	Zinc	Table 20 Toxic Substances	Aquatic life; human health	Cat 2: Attaining some criteria/uses
45	287.1 to 303.9	Dioxin (2,3,7,8-TCDD)	Table 20 Toxic Substances	Resident fish and aquatic life; anadromous fish passage; drinking water	Cat 4A: Water quality limited, TMDL approved
46	287.1 to 303.9	Dioxin (2,3,7,8-TCDD)	Table 20 Toxic Substances	Drinking water; resident fish and aquatic life; anadromous fish passage	Cat 4A: Water quality limited, TMDL approved

2.2.3 Land Use Within the Segment

The Lower Mid-Columbia Mainstem Subbasin Plan (Yakama Nation, Washington Department of Fish and Wildlife, and Klickitat County, 2004) reports that over 90% of land area within the subbasin is held in private ownership and nearly half of the land area is dedicated to agricultural use. The Tri-Cities (Pasco, Kennewick, and Richland, Washington) is a significant population center located on the Columbia River within the McNary Reach. In 2017, the U.S. Census estimated the population to be approximately 290,000 (U.S. Census Bureau 2018).

2.3 MANAGEMENT AREAS

Due to the lack of sitewide data, it is difficult to identify management areas with distinct sediment characteristics within McNary reach.

2.4 CHEMICALS OF CONCERN

2.4.1 Sources of Chemicals of Concern

Nuclear reactor coolant water at the Hanford site was discharged to the Columbia River from 1944 to 1971 (Tetra Tech 1992). Radionuclides in the discharged coolant water were produced primarily by fission of uranium and by neutron activation of elements present in both the coolant system components and in the coolant water (Washington Closure Hanford 2011). Non-radioactive contaminants released in the reactor coolant water included lead (present in coolant system components) and chromium (added to coolant water as sodium dichromate for inhibition of corrosion) (Washington Closure Hanford 2011).

Many of the contaminants of concern in the Columbia River System are widely distributed and derive from a variety of point and non-point sources.

Mercury contamination is released to the environment through erosion of natural deposits; mining and smelting activities; agricultural activities; wastewater and stormwater discharges; and recirculation and redistribution of sediments (EPA 2009). Atmospheric deposition from sources within and outside of the Columbia River drainage is thought to be a major pathway for mercury (EPA 2009).

DDT is an organochlorine pesticide that was banned in the United States in 1972. DDT and its breakdown products are legacy contaminants that are bound to soil particles in agricultural areas (EPA 2009). The main pathway to the Columbia River System is through erosion and runoff from agricultural areas that transport DDT-contaminated soil and sediment to the aquatic environment (EPA 2009).

PCBs are a class of chlorine-containing organic chemicals that were widely used in industrial process and electrical equipment until they were banned in the United States in 1976. Historical spills and improper disposal are important point sources of PCBs. PCBs can be generated and spread by the incineration of trash and atmospherically deposited from distant sources (EPA 2009). PCBs (both point and non-point sources)

are transported into the aquatic environment via erosion and stormwater runoff (EPA 2009).

Polybrominated diphenyl ethers (PBDEs) are a class of bromine-containing organic chemicals used as flame retardants in a variety of materials and consumer products, including electronics, plastics, foam padding, and fabrics (EPA 2009). Fate and transport of PBDEs in the environment is not fully understood, but possible pathways include atmospheric deposition, as well as wastewater and stormwater discharges (EPA 2009). Manufacturers voluntarily phased out the use of Penta-BDE and Octa-BDE by the end of 2004 (Van Bergen et al. 2015). Washington state has enacted restrictions on certain uses of Deca-BDE, and the three major producers of Deca-BDE reached an agreement with EPA halting the production, importation, and sale by the end of 2012 (Van Bergen et al. 2015). Despite the recent phase-out of these forms of PBDEs, releases to the environment are likely to continue as there is a reservoir of these chemicals in materials and consumer goods currently used in homes and businesses.

Metals enter the Columbia River via stormwater runoff from developed areas. Additionally, metals enter the reach by air and wastewater discharges from mines and smelters upstream in Washington, British Columbia, and Idaho (EPA 2009).

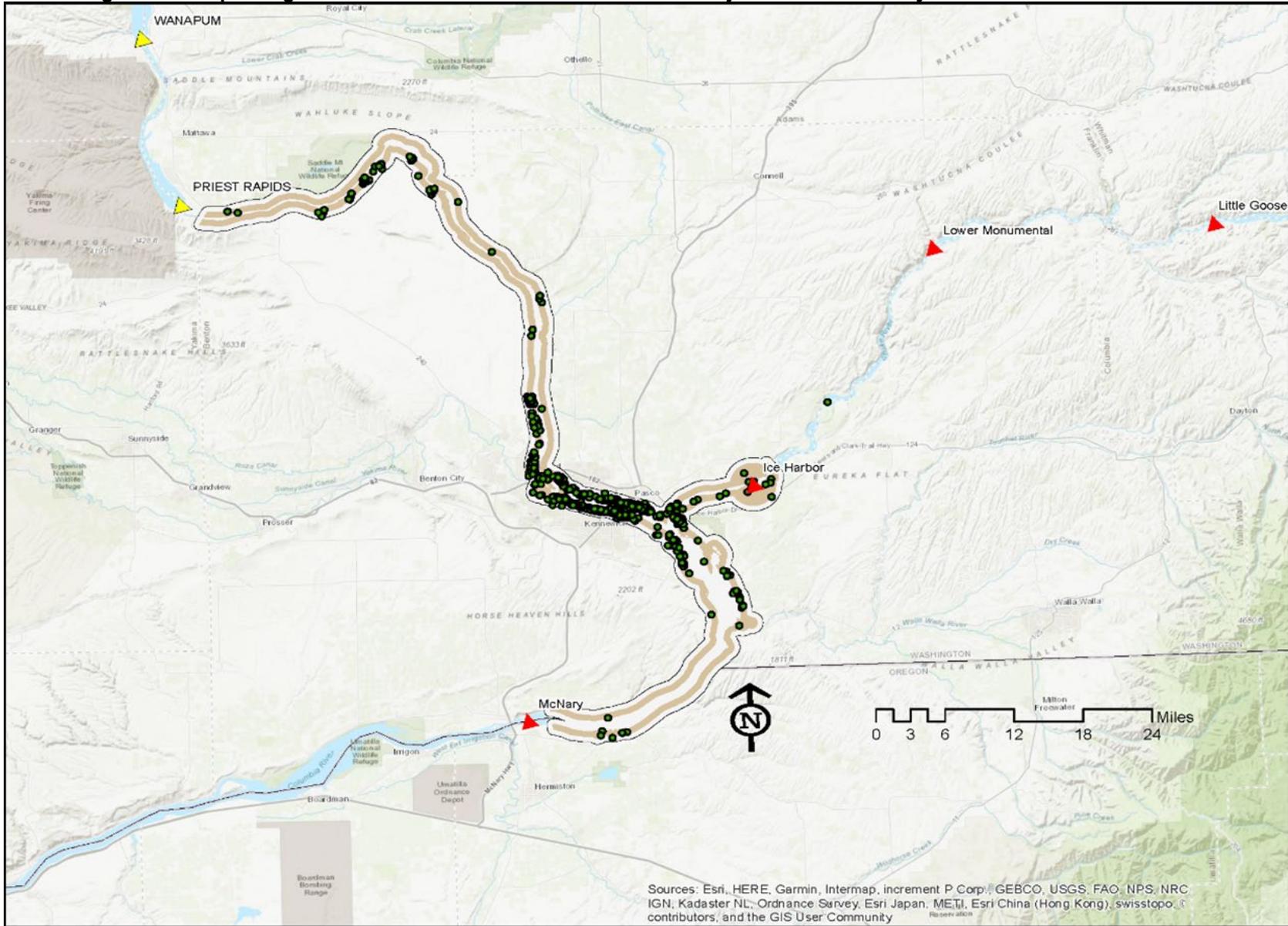
Dioxins and dioxin-like compounds are byproducts of combustion and manufacturing processes, including bleaching of wood pulp with chlorine during paper production. Incomplete combustion of materials containing chlorine can under certain conditions generate dioxin and dioxin-like compounds (EPA 2006). Following formation during combustion, dioxins adsorbed to particulates deposit on waters and soil from the atmosphere. Dioxins do not appreciably volatilize; once they have deposited in soil, they are primarily transported by action of wind or erosion of soil particles (EPA 2006). The aquatic environment receives some dioxins by direct atmospheric deposition, but a more significant portion is received through transport of dioxin-contaminated soil particles by runoff and stormwater (EPA 2006). On the Columbia River, in addition to non-point atmospheric and stormwater deposition, dioxins enter the system from the industrial wastewater discharge from pulp and paper mills. Releases of dioxin were reduced in the early 1990s when the TMDL for dioxin on the Columbia River was enacted and the mills changed their bleaching chemistry to reduce the generation of dioxin (EPA 2009).

A commercial database search was used to identify potential sources or other areas of contamination along the shore of the McNary reach of the Columbia River. The extent of the search included a half-mile extent either side of the high pool elevation line for McNary reach, from McNary Dam to Priest Rapids Dam (RM 416) on the Columbia River and to Ice Harbor Dam on the Snake River. A separate 1-mile search radius was used at both dam locations. Figure 2-2 shows a summary of the locations of the 1,431 “significant” sites found (see Chapter 5 – Supplemental Table for a full list of sites). In this study, “significance” is a matter of professional judgment and includes broad categories of sites that might be expected to have an environmental impact on sediment quality (such as National Pollution Discharge Elimination System point discharges, Resource Conservation and Recovery Act listed sites or Comprehensive Environmental

Response, Compensation, and Liability Act listed sites, non-compliant facilities regulated under state or Federal laws, landfills including historical landfills, and other large and discrete sites or potential contamination sources). Sites that generally are expected to have little or no impact or only transient impacts were not plotted (including minor spill reports, clandestine drug labs, schools and day-care facilities, and conditionally exempt small quantity generators.) The database search results are being used for screening purposes only to identify appropriate chemical parameters or pollutants reflective of these potential sources that may affect sediment quality. The identification of the potential for sediment contamination from these sources does not imply that these are current sources or that regulatory action is recommended or required. Any specific proposed project would require a site-specific Phase I environmental assessment to adequately characterize existing site conditions.

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Figure 2-2. Map of Significant Potential Contamination Sources Adjacent to the McNary Reach of the Columbia River



2.5 SUMMARY OF EXISTING DATA

2.5.1 Physical Data

Blanton, Gardiner, and Dirkes (1995) found the McNary Dam monitoring sites were characterized by very fine sand on the Washington shore and silt and clay on the Oregon shore. Whetten, Kelley, and Hanson (1969) characterized sediment of bed load within the McNary reach and found that typical sediment particle sizes consist of silt to fine sand and that particle sizes increase as you move upriver. Recent or fine-scale characterization of sediment particle sizes within McNary reach could not be located for inclusion in this summary.

To evaluate the pathways of contaminant fate and transport, more information about organic carbon content and grain size would be needed. Due to these data gaps, it is not possible to model either the bioavailability of contaminants or the relative importance of suspended and non-suspended sediment fractions for storage or transport of contaminants. Understanding these dynamics is critical for effective system operations optimization with respect to reducing exposure to sediment contamination.

2.5.2 Chemical Data

2.5.2.1 *Organic compounds*

Information on organic contaminants in sediments is extremely limited for the McNary reach and is omitted from this synopsis.

2.5.2.2 *Metals and Radionuclides*

Blanton, Gardiner, and Dirkes (1995) provided a limited analysis of metals to evaluate impacts of contaminants from the Hanford Site (Figure 2-3).

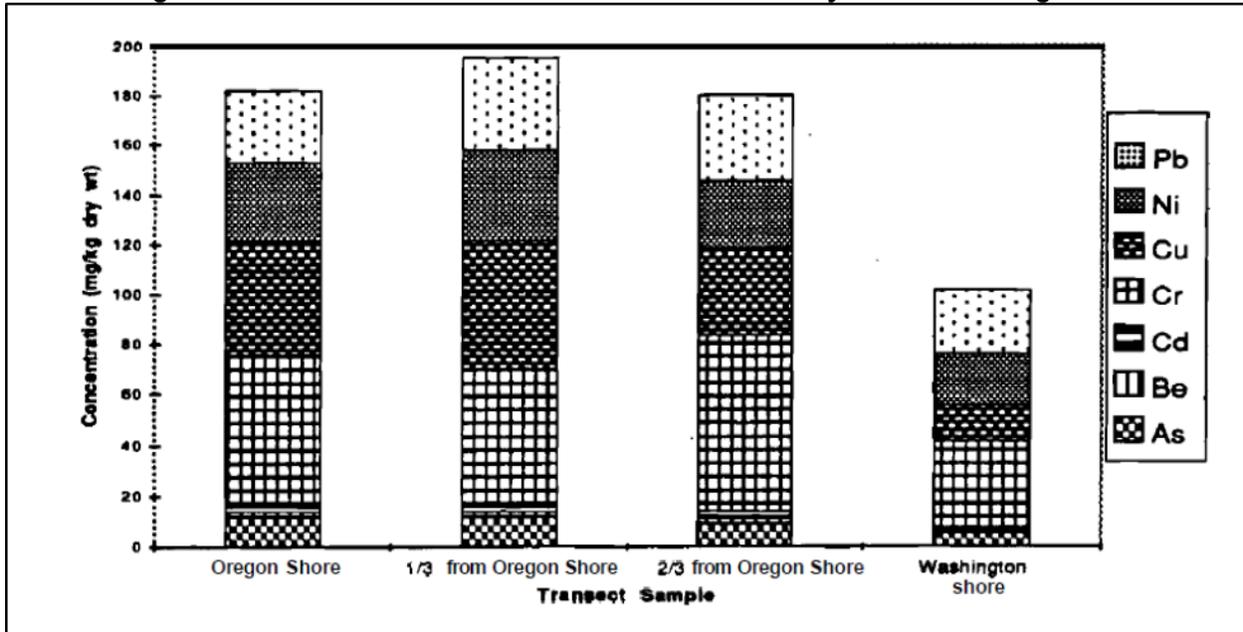
Washington Closure Hanford collected and analyzed sediments on behalf of the U.S. Department of Energy in the Hanford reach of the Columbia River in 2009 and 2010. The data from this effort is found in the Data Summary Report for the Remedial Investigation (RI) of Hanford Site Releases to the Columbia River, Hanford Site, Washington (Washington Closure Hanford 2011). The study area encompassed the Columbia River from the Interstate 90 bridge to McNary Dam, as well as the pool behind Bonneville Dam. The Hanford Site Releases RI study area is further divided into subareas, including the Lake Wallula subarea that encompasses the reach of the Columbia River from McNary Dam to RM 339. Data in Table 2-7 and Table 2-8 summarizes data specific to the Lake Wallula RI study subarea, with available SEF SL1 screening levels shown for reference.

Sediment cores were advanced from the mudline to refusal. Typically in the Lake Wallula subarea, refusal occurred between 4 and 8 feet below the mudline. The sediment cores were divided into approximate 20-centimeter intervals, and the core intervals were analyzed. Neither average nor maximum total chromium and lead concentrations for core sediments exceeded SEF Screening Level 1 values. The

highest chromium concentrations were measured at the Yakima River confluence and at the McNary Dam Pool. The highest lead concentration was recorded at McNary Dam pool. The SEF does not define screening levels for radionuclides. The lowest values for radionuclides were measured at Foundation Island, and the highest values were measured at the Yakima River confluence, at RM 312, and at the McNary Dam pool.

Sediment surface samples were collected at 0 to 0.3 feet below the mudline. Average total chromium and lead concentrations for surface sediments were below SEF Screening Level 1 values. The highest chromium and lead levels in surface sediments were collected at urban marinas (Columbia Park, Clover Island, and Columbia Marine Center/Schlagel Park). The SEF does not define screening levels for radionuclides. The highest radionuclide concentrations in surface sediments were found at the McNary Dam boat launches. However, there is no clear spatial trend or distribution of radionuclides in Lake Wallula surface sediments.

Figure 2-3. Concentrations of Select Metals from McNary Dam Monitoring Sites



Source: Blanton, Gardiner, and Dirkes (1995)

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Table 2-7. Lake Wallula Sediment Core Metals and Radionuclides Averages

Sample Location	Chromium mg/kg	Hexavalent Chromium mg/kg	Lead mg/kg	Uranium mg/kg	Strontium - 90 pCi/g	Uranium - 238 pCi/g	Uranium - 235 pCi/g	Uranium - 233/234 pCi/g	Cesium - 137 pCi/g	Europium - 152 pCi/g	Technetium - 99 pCi/g
Yakima River Confluence 1	28.4 J	0.322 J	5.35 J	–	–	0.686	–	0.699	–	–	–
Yakima River Confluence 2	28.9	–	7.28	–	–	0.757	–	0.96	0.0882	–	–
Foundation Island (upstream)	13.1 J	0.361 J	8.4 J	1.54 B	–	0.576	–	0.783	0.123	–	–
Foundation Island (downstream)	14.2	–	7.74 J	–	–	0.587	–	0.671	0.0623	–	–
Lake Wallula near RM 312	20.6	–	16.3 J	–	–	0.79	0.0421	0.917	0.587	0.698	–
Lake Wallula near RM 305	20.6	–	15.3	–	–	0.86	–	0.729	0.557	0.455	–
McNary Dam pool	26.8	–	32 J	–	–	0.684	–	0.92	1.145	1.038	–
SEF SL1 ^{1/}	72	ND	360	ND	ND	ND	ND	ND	ND	ND	ND

Notes: Non-detects were omitted in calculation of averages. ND = not defined; mg/kg = milligrams per kilogram; pCi/g = picocuries per gram.

– = non-detect for all results for the analyte in the area.

B = the analyte was detected at a value less than the contract required detection limit, but greater than or equal to the instrument detection limit/method detection limit (as appropriate).

J = the reported value is an estimate. Analyte was analyzed for and detected, but has potentially larger associated error factors in the result.

1/ Freshwater benthic SL1 used in SEF; this screening level corresponds to a concentration below which adverse effects to benthic communities would not be expected.

Table 2-8. Lake Wallula Surface Sediment Metals and Radionuclides Averages

Sample Area	Chromium mg/kg	Hexavalent Chromium mg/kg	Lead mg/kg	Uranium mg/kg	Strontium - 90 pCi/g	Uranium - 238 pCi/g	Uranium - 235 pCi/g	Uranium - 233/234 pCi/g	Cesium - 137 pCi/g	Europium - 152 pCi/g	Technetium - 99 pCi/g
Batement Island	20.9	1.73 J	11	–	–	0.638	0.312	0.61	0.635	0.239	–
Columbia Park	21.7	–	49.1	–	–	0.491	–	0.62	0.102	–	–
Clover Island	25.6 J	NA	21.7	–	–	0.803	–	0.891	0.179	0.232	–
Columbia Marine Center/Schlagel Park	30.1 J	NA	26.7	–	–	0.957	–	1.31	0.167	0.102	–
Sacajawea State Park	13.1	–	5.54	–	–	0.545	–	0.55	0.0745	–	–
Two Rivers Park	11.9	–	–	–	–	0.686	0.0346	0.713	0.081	–	–
Snake River	13.2 J	.656 J	3.9 J	–	–	0.697	–	0.787	0.048	–	–
Peavine Island	15.5	NA	4.74 J	–	–	0.836	–	0.934	0.11	–	–
Toothaker Wildlife Management Unit	5.89	NA	4.03	–	–	0.309	–	0.361	0.0765	–	–
Badger Island	16.9	NA	3.95 J	–	–	0.45	–	0.413	0.037	–	–
Crescent Island	14.9 J	–	6.31 J	–	–	1.02	–	1.15	0.121	–	–
Wallula	14	NA	5.5	–	–	0.686	–	0.929	0.065	–	–
Walla Walla River	12.1	0.601 J	5.69 J	–	–	0.567	–	0.654	0.048	–	–
Port Kelly Boat Launch	9.13	–	3.77 J	–	–	0.308	–	0.424	0.0524	–	–
Lake Wallula—RM 298 to RM 310	23.4	–	16.2	–	–	0.924	–	1.44	0.233	–	–
Hat Rock State Park	7.77	0.51 J	11 J	–	–	0.39	0.059	0.412	–	–	–
McNary Beach Recreation Area	8.07	–	3.84	–	–	0.454	–	0.518	0.089	–	–
McNary Dam boat launches	21.9	–	14.3	–	–	0.831	–	1	1.19	–	–
SEF SL1 ^{1/}	72	ND	360	ND	ND	ND	ND	ND	ND	ND	ND

Notes: Non-detects were omitted in calculation of averages. NA = not analyzed. ND = not defined; mg/kg = milligrams per kilogram; pCi/g = picocuries per gram.

– = non-detect for all results for the analyte in the area.

J = the reported value is an estimate. Analyte was analyzed for and detected, but has potentially larger associated error factors in the result.

1/ Freshwater benthic SL1 used in SEF; this screening level corresponds to a concentration below which adverse effects to benthic communities would not be expected.

2.5.3 Contaminants in Fish Tissues

Hinck et al. (2006) reported tissue contaminant concentrations for a variety of fish species in the Columbia River. Carp (*Cyprinus carpio*), Sucker (*Catostomus macrocheilus*), and Bass (*Micropterus dolomieu*) tissue samples were collected from 1970 to 1997 at two sites in the McNary Reach: at Ice Harbor Dam and at Pasco, Washington. Heavy metals, p,p'-DDE, and PCBs were detected in all species sampled. All species at all locations exceeded the SEF Target Tissue Levels (TTLs) for p,p'-DDE. Sucker and Bass at collected Ice Harbor Dam exceeded the SEF TTL for total mercury.

Table 2-9. Mean concentrations of McNary Reach tissue samples (1970 - 1997)

Species	Taxon, station	Arsenic mg/kg	Cadmium mg/kg	Total Mercury mg/kg	Selenium mg/kg	Lead mg/kg	Zinc mg/kg	p,p'-DDE mg/kg	Total PCBs mg/kg
<i>Carp (Cyprinus carpio)</i>	Ice Harbor Dam, WA	0.46	0.2	0.1	0.51	0.1	66	0.81	0.24
<i>Carp (Cyprinus carpio)</i>	Pasco, WA	0.22	0.35	0.04	1	0.1	89	0.27	0.04
<i>Sucker (Catostomus macrocheilus)</i>	Ice Harbor Dam, WA	0.12	0.08	0.11	0.31	0.1	22	0.31	0.11
<i>Bass (Micropterus dolomieu)</i>	Ice Harbor Dam, WA	0.31	0.03	0.14	0.45	0.1	13	0.23	0.03
<i>Bass (Micropterus dolomieu)</i>	Pasco, WA	0.13	0.03	0.1	0.81	0.1	17	0.21	0.03
<i>Bass (Micropterus dolomieu)</i>	SEF SSD-Derived TTL ^{1/}	NS	NS	0.11	7.9	NS	NS	NS	1.4 ^{2/}
<i>Bass (Micropterus dolomieu)</i>	SEF Interim TTL ^{3/}	6.6	NS	NS	NS	0.1	NS	0.054	NS

Notes: Figure reported in this table are least-squares geometric mean concentrations calculated using values of 1/2 the limit of detection in place of non-detect values; Figures are all wet-weight values unless noted. 1/ Species Sensitivity Distribution (SSD)-derived Target Tissue Level (TTL) used in SEF.

2/ lipid adjusted. 3/ Freshwater Ambient Water Quality Interim Target Tissue Levels (TTLs) for protection of aquatic life used in SEF; the SEF interim values were established in absence of data needed to support an SSD approach. NS = not specified. Values greater or equal to SEF TTLs are highlighted in bold. Table adapted from Hinck, et al. 2006

Washington Closure Hanford collected and analyzed resident fish tissue on behalf of the U.S. Department of Energy in the Hanford reach of the Columbia River in 2009 and 2010 (Washington Closure Hanford 2011). The Hanford reach as designated in Washington Closure Hanford's 2011 report includes upriver (RM 420 to RM 388), 100 Area (RM 388 to RM 362), 300 Area (RM 362 to RM 339), and Lake Wallula (RM 339 to RM 292). Fish tissues were analyzed for PCBs, metals (including mercury), pesticides, and radionuclides. Six resident fish species were represented in the dataset: common carp (*Cyprinus carpio*), mountain whitefish (*Prosopium williamsoni*), walleye (*Stizostedion vitreum*), smallmouth bass, bridgelip sucker (*Catostomus columbianus*), and white sturgeon. These are year-round resident fish that experience higher rates of harvest and consumption by the local population. Approximately 25 individuals of each species (except

sturgeon) were collected and composited into 5 composite samples for each of three tissue types. Composite samples were prepared for all species, except for sturgeon. (Six individual sturgeon were collected in the Lake Wallula subarea and analyzed as discrete samples.) Samples representing three different tissue types were analyzed—fillet, whole carcass, and liver/kidney. Fillets were analyzed with skin on, except for the sturgeon samples, which were skinless fillets from individual animals.

The Data Summary Report for Hanford Site Releases to the Columbia River (Washington Closure Hanford 2011), Appendix A summarizes data for all analytes detected in all media sampled at and near the Hanford reach, including sample results for fish tissues. Table 2-10 through 2-12 summarize data from Washington Closure Hanford's Data Summary Report (2011) Appendix A relevant to the McNary reach of the Columbia River. Table 2-10 tabulates the frequency of contaminant detection and maximum contaminant concentrations for fish tissue samples collected from the Lake Wallula subarea. Table 2-11 provides a breakdown by species of Lake Wallula subarea fish tissue contaminant detection frequency.

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Table 2-12 summarizes fish tissue SEF target tissue level (TTL) exceedances of across the entire Hanford reach. Table 2-13 provides a breakdown of fish tissue exceedances of SEF TTLs by species for the Lake Wallula subarea.

Table 2-10. Lake Wallula Subarea Fish Tissue Data Frequency of Detection and Maximum Contaminant Concentrations (all species combined)

Contaminant	Tissue Type	Detects	Maximum Detected Concentration	Unit of Measure
Carbon - 14	Fillet	–		
Carbon - 14	Carcass	1	1.41E+02	pCi/g
Carbon - 14	Liver/kidney	1	5.30E+00	pCi/g
Cesium - 137	Liver/kidney	–		
Plutonium - 239/240	Fillet	–		
Plutonium - 239/240	Carcass	–		
Strontium - 90	Fillet	–		
Strontium - 90	Carcass	–		
Strontium - 90	Liver/kidney	–		
Technetium - 99	Liver/kidney	–		
Tritium	Fillet	1	6.25E+00	pCi/g
Tritium	Carcass	–		
Tritium	Liver/kidney	–		
Uranium - 233/234	Liver/kidney	–		
Uranium - 238	Liver/kidney	–		
Arsenic	Fillet	7	9.44E-01	mg/kg
Arsenic	Carcass	6	1.22E+00	mg/kg
Arsenic	Liver/kidney	13	1.21E+00	mg/kg
Inorganic Arsenic	Fillet	12	5.15E-03	mg/kg
Inorganic Arsenic	Carcass	13	7.12E-03	mg/kg
Cadmium	Fillet	8	5.50E-02	mg/kg
Cadmium	Carcass	12	8.90E-02	mg/kg
Cadmium	Liver/kidney	42	5.16E+00	mg/kg
Chromium	Fillet	26	2.01E+00	mg/kg
Chromium	Carcass	30	1.45E+00	mg/kg
Chromium	Liver/kidney	7	3.25E-01	mg/kg
Hexavalent chromium	Fillet	1	1.54E-01	mg/kg
Lead	Fillet	3	6.35E-01	mg/kg
Lead	Carcass	6	5.42E-01	mg/kg
Lead	Liver/kidney	–		
Mercury	Fillet	32	4.01E-01	mg/kg
Mercury	Carcass	32	2.85E-01	mg/kg
Mercury	Liver/kidney	42	1.89E-01	mg/kg
Methyl mercury	Fillet	1	7.21E-02	mg/kg
Methyl mercury	Carcass	1	3.30E-02	mg/kg
Uranium	Carcass	4	2.10E+00	mg/kg
Uranium	Liver/kidney	–		
PCBs (total congeners)	Fillet	31	4.29E-01	mg/kg
PCBs (total congeners)	Carcass	31	7.96E-01	mg/kg
PCBs (total congeners)	Liver/kidney	6	3.22E-01	mg/kg
DDD	Fillet	23	2.86E-01	mg/kg
DDD	Carcass	26	3.05E-01	mg/kg
DDD	Liver/kidney	42	3.44E-01	mg/kg
DDE	Fillet	31	6.80E-01	mg/kg

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Contaminant	Tissue Type	Detects	Maximum Detected Concentration	Unit of Measure
DDE	Carcass	31	1.00E+00	mg/kg
DDE	Liver/kidney	37	7.91E-01	mg/kg
DDT	Fillet	4	1.49E-02	mg/kg
DDT	Carcass	13	3.37E-02	mg/kg
DDT	Liver/kidney	12	2.36E+00	mg/kg
Endrin	Fillet	–		
Endrin	Carcass	–		
Endrin	Liver/kidney	1	6.90E-03	mg/kg

Notes: mg/kg = milligrams per kilogram; pCi/g = picocuries per gram

Source: Washington Closure Hanford (2011, Appendix A)

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Table 2-11. Lake Wallula Subarea Tissue Data Frequency of Detection (by individual species)

Species	Contaminant	# Detected (fillet)	# Sampled (fillet)	# Detected (whole carcass)	# Sampled (whole carcass)	# Detected (liver/kidney)	# Sampled (liver/kidney)
Bass	Arsenic	0	5	0	5	0	5
Bass	Inorganic arsenic	0	5	1	5	NA	NA
Bass	Cadmium	1	5	1	5	5	5
Bass	Chromium	5	5	5	5	0	5
Bass	Mercury	5	5	5	5	5	5
Bass	PCBs (total PCB congeners)	5	5	5	5	NA	NA
Bass	DDD	1	5	5	5	5	5
Bass	DDE	5	5	5	5	5	5
Bass	DDT	0	5	3	5	5	5
Carp	Arsenic	0	5	0	5	0	5
Carp	Inorganic arsenic	3	5	3	5	NA	NA
Carp	Cadmium	1	5	3	5	5	5
Carp	Chromium	5	5	5	5	0 - kidney 1 - liver	5
Carp	Mercury	5	5	5	5	5	5
Carp	PCBs (total PCB congeners)	5	5	5	5	NA	NA
Carp	DDD	5	5	5	5	5	5
Carp	DDE	5	5	5	5	5	5
Carp	DDT	0	5	1	5	1	1
Sturgeon	Arsenic	2	6	2	6	3 - kidney 5 - liver	6
Sturgeon	Inorganic arsenic	2	6	1	6	NA	NA
Sturgeon	Cadmium	1	6	0	6	6	6
Sturgeon	Chromium	2	6	6	6	1	6
Sturgeon	Mercury	7	7	7	7	6	6
Sturgeon	PCBs (total PCB congeners)	6	6	6	6	6	6
Sturgeon	DDD	6	6	6	6	6	6
Sturgeon	DDE	6	6	6	6	6	6
Sturgeon	DDT	4	6	4	6	4 - kidney 1 - liver	4 - kidney 1 - liver
Sucker	Arsenic	0	5	0	5	0	5
Sucker	Inorganic arsenic	3	5	3	5	NA	NA
Sucker	Cadmium	1	5	3	5	5	5
Sucker	Chromium	4	5	5	5	0	5
Sucker	Mercury	5	5	5	5	5	5

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Species	Contaminant	# Detected (fillet)	# Sampled (fillet)	# Detected (whole carcass)	# Sampled (whole carcass)	# Detected (liver/kidney)	# Sampled (liver/kidney)
Sucker	PCBs (total PCB congeners)	5	5	5	5	NA	NA
Sucker	DDD	5	5	5	5	5	5
Sucker	DDE	5	5	5	5	5	5
Sucker	DDT	0	5	2	5	NA	NA
Walleye	Arsenic	0	5	0	5	0	5
Walleye	Inorganic arsenic	4	5	5	5	NA	NA
Walleye	Cadmium	1	5	0	5	5	5
Walleye	Chromium	5	5	4	5	0	5
Walleye	Mercury	5	5	5	5	5	5
Walleye	PCBs (total PCB congeners)	5	5	5	5	NA	NA
Walleye	DDD	1	5	0	5	NA	NA
Walleye	DDE	5	5	5	5	NA	NA
Walleye	DDT	0	5	1	5	NA	NA
Whitefish	Arsenic	5	5	4	5	5	5
Whitefish	Inorganic arsenic	0	5	0	5	NA	NA
Whitefish	Cadmium	3	5	4	5	5	5
Whitefish	Chromium	5	5	5	5	4	5
Whitefish	Mercury	5	5	5	5	5	5
Whitefish	PCBs (total PCB congeners)	5	5	5	5	NA	NA
Whitefish	DDD	5	5	5	5	5	5
Whitefish	DDE	5	5	5	5	5	5
Whitefish	DDT	0	5	2	5	2	2

Note: The figures presented here represent the frequency of contaminant detections for all species and all tissue sample types collected in the Lake Wallula subarea. NA = not analyzed

Source: Washington Closure Hanford (2011, Appendix A)

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Table 2-12. Hanford Reach Fish Tissue Exceedances of SEF Target Tissue Levels

Contaminant	Average Fillet Median Concentration (mg/kg wet weight) ^{1/}	Average Whole Carcass Median Concentration (mg/kg wet weight) ^{1/}	Average Liver/Kidney Median Concentration (mg/kg wet weight) ^{1/}	Freshwater Ambient Water Quality Criteria Interim TTLs (mg/kg wet weight) ^{4/}	Nearshore/Inland Sites— Endangered Species Act Species (mg/kg wet weight) ^{5/}	Nearshore/Inland Sites— Population (mg/kg wet weight) ^{5/}
Arsenic	3.84E-01	4.23E-01	4.21E-01	6.60E+00	2.70E+00	1.40E+01
Inorganic arsenic	3.16E-03	3.66E-02	no data	NS	NS	NS
Cadmium	4.46E-02	5.53E-02	2.04E+00	NS	NS	NS
Chromium	3.78E-01	5.72E-01	1.79E-01	NS	NS	NS
Mercury	<i>1.14E-01</i>	<i>8.02E-02</i>	<i>7.24E-02</i>	1.10E-01	2.00E-02	3.00E-02
PCBs (total PCB congeners)	<i>1.65E-01</i>	<i>3.37E-01</i>	<i>4.03E-01</i>	1.40E+00 ^{2/}	4.00E-02 ^{3/}	1.80E-01 ^{3/}
DDD	<i>7.08E-02</i>	<i>9.64E-02</i>	<i>1.09E-01</i>	5.40E-02	NS	NS
DDE	<i>1.86E-01</i>	<i>4.10E-01</i>	<i>3.07E-01</i>	5.40E-02	NS	NS
DDT	7.19E-03	1.21E-02	2.16E-01	NS	NS	NS
Sum of DDD, DDE, DDT	<i>2.64E-01</i>	<i>5.19E-01</i>	<i>6.32E-01</i>	9.00E-02	1.00E-02	5.00E-02

Notes: Values that exceed at least one SEF TTL are highlighted in bold; values that exceed SEF TTLs for protection of aquatic life and aquatic-dependent wildlife are bold and italicized.

NS = not specified.

1/ Median contaminant concentration values for each tissue type are averaged across all species and all Hanford reach subareas.

2/ Total PCB Arochlors – mg/kg lipid.

3/ Total PCB Arochlors – mg/kg wet weight.

4/ SEF Target Tissue Levels for Protection of Aquatic Life.

5/ SEF Target Tissue Levels for Protection of Aquatic-Dependent Wildlife

Source: Washington Closure Hanford (2011, Appendix A); RSET Agencies (2016)

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Table 2-13. Lake Wallula Subarea Fish Tissue Exceedances of SEF Target Tissue Levels (by species)

Species	Contaminant	Fillet Median Concentration (mg/kg wet weight)	Whole Carcass Median Concentration (mg/kg wet weight)	Liver/Kidney Median Concentration (mg/kg wet weight)	Freshwater Ambient Water Quality Criteria Interim TTLs (mg/kg wet weight) ^{3/}	Nearshore/Inland Sites— Endangered Species Act species (mg/kg wet weight) ^{4/}	Nearshore/Inland Sites— Population (mg/kg wet weight) ^{4/}
Bass	Arsenic	NA	NA	NA	6.60E+00	2.70E+00	1.40E+01
Bass	Inorganic arsenic	NA	NC	NA	NS	NS	NS
Bass	Cadmium	5.10E-02	3.70E-02	1.62E-01	NS	NS	NS
Bass	Chromium	1.25E+00	9.14E-01	NA	NS	NS	NS
Bass	Mercury	4.70E-02	6.10E-02	2.50E-02	1.10E-01	2.00E-02	3.00E-02
Bass	PCBs (total PCB congeners)	4.80E-02	2.76E-01	NA	1.40E+00 ^{1/}	4.00E-02 ^{2/}	1.80E-01 ^{2/}
Bass	DDD	NC	3.32E-02	1.96E-01	5.40E-02	NS	NS
Bass	DDE	2.68E-02	2.05E-01	7.84E-02	5.40E-02	NS	NS
Bass	DDT	NA	7.63E-03	4.27E-01	NS	NS	NS
Bass	Sum of DDD, DDE, DDT	2.68E-02	2.46E-01	7.01E-01	9.00E-02	1.00E-02	5.00E-02
Carp	Arsenic	NA	NA	NA	6.60E+00	2.70E+00	1.40E+01
Carp	Inorganic arsenic	3.03E-03	4.69E-03	NA	NS	NS	NS
Carp	Cadmium	3.80E-02	6.20E-02	2.59E+00	NS	NS	NS
Carp	Chromium	3.48E-01	5.52E-01	NA/NC	NS	NS	NS
Carp	Mercury	1.50E-01	1.00E-01	7.40E-02	1.10E-01	2.00E-02	3.00E-02
Carp	PCBs (total PCB congeners)	2.23E-01	4.16E-01	NA	1.40E+00 ^{1/}	4.00E-02 ^{2/}	1.80E-01 ^{2/}
Carp	DDD	2.44E-02	5.03E-02	4.15E-02	5.40E-02	NS	NS
Carp	DDE	3.57E-01	7.13E-01	3.46E-01	5.40E-02	NS	NS
Carp	DDT	NA	NC	1.39E-02	NS	NS	NS
Carp	Sum of DDD, DDE, DDT	3.81E-01	7.63E-01	4.01E-01	9.00E-02	1.00E-02	5.00E-02
Sturgeon	Arsenic	5.52E-01	7.77E-01	4.66E-01	6.60E+00	2.70E+00	1.40E+01
Sturgeon	Inorganic arsenic	NC	NC	NA	NS	NS	NS
Sturgeon	Cadmium	3.60E-02	NA	3.19E-01	NS	NS	NS
Sturgeon	Chromium	NC	4.12E-01	NC	NS	NS	NS
Sturgeon	Mercury	6.50E-02	3.20E-02	5.70E-02	1.10E-01	2.00E-02	3.00E-02
Sturgeon	PCBs (total PCB congeners)	1.53E-01	2.19E-01	2.02E-01	1.40E+00 ^{1/}	4.00E-02 ^{2/}	1.80E-01 ^{2/}
Sturgeon	DDD	2.48E-02	2.59E-02	2.50E-01	5.40E-02	NS	NS
Sturgeon	DDE	1.55E-01	2.13E-01	1.70E-01	5.40E-02	NS	NS
Sturgeon	DDT	8.77E-03	8.00E-03	6.84E-02	NS	NS	NS
Sturgeon	Sum of DDD, DDE, DDT	1.89E-01	2.47E-01	4.88E-01	9.00E-02	1.00E-02	5.00E-02
Sucker	Arsenic	NA	NA	NA	6.60E+00	2.70E+00	1.40E+01
Sucker	Inorganic arsenic	3.04E-03	3.28E-03	NA	NS	NS	NS
Sucker	Cadmium	4.00E-02	5.80E-02	1.11E+00	NS	NS	NS
Sucker	Chromium	2.09E-01	4.27E-01	NA	NS	NS	NS
Sucker	Mercury	1.11E-01	6.70E-02	4.00E-02	1.10E-01	2.00E-02	3.00E-02

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Sucker	PCBs (total PCB congeners)	1.84E-01	2.94E-01	NA	1.40E+00 ^{1/}	4.00E-02 ^{2/}	1.80E-01 ^{2/}
Sucker	DDD	3.61E-02	6.37E-02	1.13E-01	5.40E-02	NS	NS
Sucker	DDE	2.40E-01	3.61E-01	5.13E-01	5.40E-02	NS	NS
Sucker	DDT	NA	1.66E-02	NA	NS	NS	NS
Sucker	Sum of DDD, DDE, DDT	2.76E-01	4.41E-01	6.26E-01	9.00E-02	1.00E-02	5.00E-02
Walleye	Arsenic	NA	NA	NA	6.60E+00	2.70E+00	1.40E+01
Walleye	Inorganic arsenic	3.20E-03	3.00E-03	NA	NS	NS	NS
Walleye	Cadmium	4.70E-02	NA	5.70E-02	NS	NS	NS
Walleye	Chromium	1.75E-01	2.59E-01	NA	NS	NS	NS
Walleye	Mercury	1.02E-01	1.14E-01	5.30E-02	1.10E-01	2.00E-02	3.00E-02
Walleye	PCBs (total PCB congeners)	2.47E-02	8.59E-02	NA	1.40E+00 ^{1/}	4.00E-02 ^{2/}	1.80E-01 ^{2/}
Walleye	DDD	NC	NA	NA	5.40E-02	NS	NS
Walleye	DDE	2.30E-02	8.45E-02	NA	5.40E-02	NS	NS
Walleye	DDT	NA	NC	NA	NS	NS	NS
Walleye	Sum of DDD, DDE, DDT	2.30E-02	8.45E-02	NA	9.00E-02	1.00E-02	5.00E-02
Whitefish	Arsenic	2.97E-01	3.16E-01	2.85E-01	6.60E+00	2.70E+00	1.40E+01
Whitefish	Inorganic arsenic	NA	NA	NA	NS	NS	NS
Whitefish	Cadmium	3.80E-02	6.30E-02	2.52E+00	NS	NS	NS
Whitefish	Chromium	4.09E-01	6.26E-01	1.77E-01	NS	NS	NS
Whitefish	Mercury	5.70E-02	4.50E-02	9.20E-02	1.10E-01	2.00E-02	3.00E-02
Whitefish	PCBs (total PCB congeners)	1.15E-01	2.00E-01	NA	1.40E+00 ^{1/}	4.00E-02 ^{2/}	1.80E-01 ^{2/}
Whitefish	DDD	6.16E-02	6.40E-02	1.60E-02	5.40E-02	NS	NS
Whitefish	DDE	1.60E-01	2.46E-01	8.37E-02	5.40E-02	NS	NS
Whitefish	DDT	NA	NC	1.29E-02	NS	NS	NS
Whitefish	Sum of DDD, DDE, DDT	2.22E-01	3.10E-01	1.13E-01	9.00E-02	1.00E-02	5.00E-02

Notes: Values that exceed at least one SEF TTL are highlighted in bold; values that exceed multiple SEF TTLs are highlighted in bold and italics.

NC = not calculated.

NA = not analyzed

NS = not specified

1/ Total PCB Arochlors—mg/kg lipid

2/ Total PCB Arochlors—mg/kg wet weight

3/ SEF Target Tissue Levels for Protection of Aquatic Life.

4/ SEF Target Tissue Levels for Protection of Aquatic-Dependent Wildlife

Source: Washington Closure Hanford (2011, Appendix A); RSET Agencies (2016)

Washington Closure Hanford concluded with respect to fish tissue results that there was “no clear pattern of contaminant distribution evident for any one constituent in either fish species or subarea” and “Constituents known to biomagnify, such as mercury, PCBs, and chlorinated pesticides, were detected at higher levels in long-lived fish such as sturgeon. Analytical results for fish tissue reflect the results observed in other river media and suggest that bioaccumulation from these media is occurring” (executive summary, page 27, Washington Closure Hanford 2011,). These conclusions also appear to be valid for the Lake Wallula subarea/McNary reach. In the Lake Wallula subarea, the highest levels of contaminants were detected in sturgeon and carp. Additionally, the contaminants detected in fish tissue at levels exceeding SEF TTLs across all species sampled were mercury, PCBs, DDT, and DDT degradation products (DDD and DDE).

The SEF does not establish TTL for evaluation of risk to human health; rather the SEF directs the local review team and project proponent to work with the state water quality program to identify or develop appropriate TTLs. DOH reviewed the RI tissue data and performed a human health risk assessment to determine whether fish consumption advice is necessary for consumers of Columbia River resident fish (DOH 2017). DOH considered only fillet fish tissue data in their human health evaluation because “fillet tissue is preferentially consumed [by people], whereas carcass and organ meat are assumed to comprise only a small fraction of the total amount of fish consumed by humans” (DOH 2017, 20). DOH’s risk assessment and the screening levels derived therein are relevant to understanding the current distribution and impact of sediment contaminants to biota and residents in McNary reach of the Columbia River. DOH calculated screening levels (SLs) representing fish consumption by the general and the high consumer populations. The general population SL is based on a consumption rate of 8 meals per month (59.7 grams of fish per day), and the high consumer population SL is based on a consumption of 23 meals per month (175 grams of fish per day). These screening levels were then compared to the levels of contaminants detected in fillet tissue samples (Table 2-14).

Multiple contaminants consistently exceed the DOH human health screening level across all six fish species in Lake Wallula: PCBs, mercury, and pesticides. Exceedances of the cancer SL are similar for all species and chemicals for both the general and the high consumer populations. Total PCBs exceed DOH human health screening levels across all six species for both the general and the high consumer populations. Mercury exceeds the non-cancer screening level for all six species for the high consumer population. DOH compared the PCB results from these fish with the statewide PCB distribution in freshwater fish samples collected from 2001 to 2012. The samples from Lake Wallula are between the 85th and 97th percentile for total PCB concentration when compared with 353 other samples collected across the state (DOH 2017). The PCB concentrations in these species are nearly identical to those for all areas and species in Hanford reach collected by Washington Closure Hanford during the 2009–2010 sampling effort (DOH 2017). PCBs are apparently widespread in the Columbia River at and upstream of Lake Wallula and at concentrations high enough to cause significant problems with biomagnification.

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Table 2-14. Lake Wallula Resident Fish Exceedances of DOH Human Health Screening Levels

Species	Chemical	Mean Concentration mg/kg (ppm)	Detection Freq. %	Exceeds General Population Non-Cancer SL	Exceeds High Consumer Non-Cancer SL	Exceeds Gen. Population Cancer SL	Exceeds High Consumer Cancer SL
Bass	Mercury	0.058	100	NO	YES	NA	NA
Bass	Total DDT	0.0279	n/a	NO	NO	YES	YES
Bass	Total PCBs	0.052	n/a	YES	YES	YES	YES
Carp	Arsenic (inorganic)	0.003	60	NO	NO	YES	YES
Carp	Mercury	0.15	100	YES	YES	NA	NA
Carp	Total DDT	0.531	n/a	NO	YES	YES	YES
Carp	Total PCBs	0.254	n/a	YES	YES	YES	YES
Sturgeon	Mercury	0.066	100	NO	YES	NA	NA
Sturgeon	Methyl-mercury	0.072091	100	NO	YES	NA	NA
Sturgeon	Total DDT	0.192	n/a	NO	NO	YES	YES
Sturgeon	Total PCBs	0.137	n/a	YES	YES	YES	YES
Sucker	Arsenic (inorganic)	0.0025	60	NO	NO	YES	YES
Sucker	Mercury	0.124	100	YES	YES	NA	NA
Sucker	Total DDT	0.2	n/a	NO	YES	YES	YES
Sucker	Total PCBs	0.172	n/a	YES	YES	YES	YES
Walleye	Arsenic (inorganic)	0.003	80	NO	NO	YES	YES
Walleye	Mercury	0.185	100	YES	YES	NA	NA
Walleye	Total DDT	0.04	n/a	NO	NO	YES	YES
Walleye	Heptachlor	0.0058	0	NO	NO	YES	YES
Walleye	Total PCBs	0.035	n/a	YES	YES	YES	YES
Whitefish	Mercury	0.06	100	NO	YES	NA	NA
Whitefish	Total DDT	0.21	n/a	NO	YES	YES	YES
Whitefish	Dieldrin	0.0289	100	NO	YES	YES	YES
Whitefish	Total PCBs	0.120	n/a	YES	YES	YES	YES

Note: "YES" values indicate exceedance of DOH human health screening level.

2.5.4 Elutriate Data

There is no existing elutriate data available for the McNary reach of the lower Columbia River.

2.6 RIVER SEGMENT DEVELOPMENT AND TRENDS

Upstream of McNary reach, cleanup at the Hanford Site is expected to continue for the foreseeable future.

Pasco/Richland/Kennewick is an urban area that continues to increase in population and to transition away from agriculture and toward residential and urban land uses. These trends are likely to continue in the future.

The Yakima River Delta Enhancement Project & Yakima Delta Assessment is underway to improve conditions for fish at the Yakima River confluence (Mid-Columbia Fisheries Enhancement Group 2019). The Bateman Island causeway connects Bateman Island (an island in the Yakima River delta) with the city of Richland. The causeway blocks the flow of water, creating a backwater area with elevated water temperatures. The Mid-Columbia Fisheries Enhancement Group has proposed removing the causeway in order to restore the historical river condition in the Yakima Delta needed by native fish species. The Mid-Columbia Fisheries Enhancement Group and Washington State Department of Fish and Wildlife have applied to the Army Corps of Engineers as non-federal sponsors for this environmental restoration project. The Corps is currently working to determine whether the action is within the federal interest. Removal of the Bateman Island causeway would likely change the pattern of sediment deposition in the Yakima River delta, with perhaps less fine material accumulating in the backwater channel due to increased flow rate and perhaps a change in patterns of deposition of larger/denser sediments.

Ecological restoration of shallow water fish habitat and riparian vegetation along the shore of Clover Island is currently planned for construction in 2018–2019 (Corps 2017).

2.7 CONCEPTUAL SITE MODEL

There is a limited understanding of the conceptual site model for the McNary reach as a whole due to the lack of sitewide data.

Any potentially contaminated sediment could be distributed throughout the McNary reach through erosion and deposition processes. These mechanics are not well documented for the reach as a whole, but it could be assumed that there are sediments depositing in the McNary reach from tributaries, with exact quantities unknown. Sediment from upstream of the McNary reach could be assumed to be limited (though not absent), given the number of dams upstream of this reach that likely entrain sediment and limit transport.

Water soluble contaminants are present within the McNary reach, as indicated by the TMDL and state water quality classifications (see Section 2.2.2). Bioaccumulative contaminants in tissue are also present in aquatic receptors throughout the McNary reach.

2.7.1 Secondary Media and Release Mechanisms

Both surface water and sediment can serve as secondary media. Tissues of aquatic receptors also serve as a secondary media source for bioaccumulative contaminants. Release mechanisms include hydraulically induced erosion, as well as other physical disturbances from anthropogenic activity, such as navigation and recreational activities.

2.7.2 Exposure Routes

Primary exposure routes to human and biological receptors are through direct contact and ingestion of sediment and/or surface water, depending on the contaminant. Exposure routes to human receptors and ecological receptors (i.e., higher trophic level organisms such as osprey, sturgeon, and otters) also include fish consumption.

2.7.3 Pathway Completeness

Based on the TMDLs and Washington state water quality classifications (see Section 2.3.2), complete pathways are present for bioaccumulative contaminants in aquatic receptors based on the listings for fish tissue. Whether surface water or sediment serves as the primary or secondary source for these pathways is uncertain. However, for more hydrophobic contaminants, it can be assumed that those chemicals identified in the state water quality classifications are present to some degree in sediment.

SECTION 3 - RECOMMENDATIONS AND CONCLUSIONS

Sediment data for the McNary reach is limited, and sediment quality can only be characterized for isolated portions of the reach and for a limited suite of chemicals and parameters. This data may or may not be able to be extrapolated to the rest of the McNary reach.

3.1 RECOMMENDATIONS

Sediment data for the McNary reach is limited and does not provide an adequate sitewide characterization of sediment quality as a whole. To provide a full characterization of sediment quality in the McNary reach, further empirical data is needed for a full suite of chemicals, as well as physical parameters, including but not limited to sediment grain size and organic carbon content. Sediment data is needed in both biased sampling locations and throughout the reach to provide a sense of contaminant sources and sitewide characteristics. Sediment data is needed for both surface and subsurface. A characterization of erosional and depositional areas would also provide valuable information on the sediment dynamics for the reach.

3.1.1 Conceptual Site Model

The conceptual site model for the McNary reach is based on general assumptions related to river mechanics and limited existing data available for sediment. As such, no formal conclusions can be developed based on the summary of the conceptual site model for this reach.

3.1.2 Chemicals of Concern

Due to the limited availability of chemical data for sediment in the McNary reach, no formal conclusions can be developed based on the summary of sediment data for this reach.

3.2 CONCLUSIONS

There is limited data for this reach of the lower Columbia River, and additional information is needed to provide an accurate characterization of the existing conditions within the McNary reach. Existing data is not sufficient to fully characterize the fine-scale distribution of contaminants in sediments, nor to provide input for detailed sedimentation models to predict the transport, erosion, or deposition of sediments and sediment-associated contaminants.

Existing data is sufficient to reasonably conclude biomagnification is occurring at levels that potentially place ecological and human receptors at risk. Mercury, PCBs, arsenic, certain chlorinated pesticides (DDTs, heptachlor, and dieldrin), and dioxins are present in sufficient concentrations in various environmental media (primarily fish tissue) to prompt establishment of TMDLs (for dioxin), or DOH fish consumption advisories (for mercury, PCBs, arsenic, DDTs, heptachlor, and dieldrin) (Table 2-14). With respect to ecological receptors, mercury, PCBs, and total DDTs (sum of DDD, DDE, and DDT)

concentrations in fish tissues collected from Lake Wallula exceed multiple SEF TTLs in at least one tissue sample type in five of six species sampled (Table 2-13). Mercury, PCBs, DDE, and total DDTs concentrations exceed at least one SEF TTL in at least one tissue sample type in all six species sampled (Table 2-13). Existing data for metals suggests that while they are often detectable in sediments and tissues, the concentrations are not extremely high and are of potentially less risk than mercury, PCBs, and DDTs.

Current and probable future land use suggests that additional agricultural, urban or industrial chemicals, as well as radionuclides and metals, pose potential future risks in McNary reach. Additional and ongoing data collection would be required to assess the fine-scale distribution and transport of existing and emerging contaminants in sediments and biota in McNary reach.

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SECTION 5 - SUPPLEMENTAL TABLE

Table of Significant Potential Contamination Sources Adjacent to the McNary Reach of the Columbia River

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,I,HE,	APOLLO SHEET METAL INC	1207 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,BO,DI,	PASCO WATER TREATMENT PLANT	1307 W B ST	PASCO	WA	99301-0293	
,I,BO,U,	DOYLE BROTHERS INC	619 W RIVER ST	PASCO	WA	99301-6327	FRANKLIN
,I,BO,	TRINITY PIK A POP 3	815 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,BO,U,	BULLDOG MOTORS	1603 W LEWIS ST	PASCO	WA	99301	FRANKLIN
,I,HE,BP,	BATTELLE MEMORIAL INSTITUTE PAC NW DIV A	350 HILLS ST	RICHLAND	WA	99352	BENTON
,AF,FC,	CITY OF RICHLAND SHOPS	965 GOETHALS	RICHLAND	WA	99352	
,FC,	COLUMBIA MARINE LINES INC	1320 S 8TH ST	PASCO	WA	99301	
,I,BO,	R PATRICK MOONEY	926 W SUNSET DR	BURBANK	WA	99323	WALLA WALLA
,AF,FC,	USDOE RICHLAND OPTS OFFICE HANFORD	825 JADWIN	RICHLAND	WA	99352	
,HH,	CENTRAL PRE-MIX CONCRETE COMPANY			WA		YAKIMA
,I,H,BO,SS,	US DOE 100-DR-1	HANFORD	RICHLAND	WA	99352	BENTON
,DZ,I,HE,	FLUORHANFORD	455 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,BS,	BUTTERFIELD WATER TREATMENT PLANT	1306 W. ""B"" ST	PASCO	WA	99301	
,BS,	CITY OF RICHLAND WATER TREATMENT PLANT	110 SAINT	RICHLAND	WA	99352	
,BS,	KENNEWICK PLANT - FINLEY AREA	231610 EAST GAME FARM ROAD	KENNEWICK	WA	99336	
,BS,	TESSENDERLO KERLEY, INC. - FINLEY FACILITY	46807 S. PIERT RD	KENNEWICK	WA	99337	
,I,BO,	MR CAR	1431 W LEWIS	PASCO	WA	99301	FRANKLIN
,I,BO,	FISH HAWK	1390 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,HE,I,	CONNEL OIL CARD LOCK	817 WEST A STREET	PASCO	WA	99301	FRANKLIN
,BO,	BATTELLE INHALATION LAB	550 6TH ST	RICHLAND	WA	99354	
,HE,I,	SSI BURBANK YARD	626 GRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,BS,	INGREDION INCORPORATED RICHLAND PLANT	216 UNIVERSITY DRIVE	RICHLAND	WA	99354	
,I,HE,	1100 GOETHALS MEDICAL OFFICE	1100 GOETHALS	RICHLAND	WA	99352	BENTON
,CC,G,	AGRIUM US INC KFO	227515 E BOWLES RD	KENNEWICK	WA	99337	BENTON
,DZ,I,HE,	PASCO WATER TREATMENT PLANT	1307 W B ST	PASCO	WA	99301	FRANKLIN
,HE,I,	RICHLAND CITY NORTHGATE DR	840 NORTHGATE DR	RICHLAND	WA	99352	BENTON
,I,HE,	SANDVIK SPECIAL METALS TITANIUM DIV	1426 E 3RD AVE BAYS 1 THUR 4	KENNEWICK	WA	99336	BENTON
,I,HE,	PARSONS CONSTRUCTORS AND FABRICATORS	3005 E AINSWORTH ST	PASCO	WA	99301	FRANKLIN
,HE,I,	PIERT ROAD EXTENTION CE 1619 CRP	SR 397 & PIERT RD	FINLEY	WA	99336	BENTON
,I,HE,	ABRA AUTO BODY & GLASS KENNEWICK	110 N WASHINGTON ST	KENNEWICK	WA	99336-3735	BENTON
,DZ,	UNOCAL CHEMICAL & MINERALS DIV KENNEWICK	227515 BOWLES RD	KENNEWICK	WA	99337	BENTON
,BS,	AGRIUM KFO - KENNEWICK AREA	227515 BOWLES ROAD	KENNEWICK	WA	99337	
,I,HE,	FIBERCRAFT MFG INC	BIG PASCO IND CTR BAY 1 BLDG 5	PASCO	WA	99301	FRANKLIN
,HE,I,	MATLACK INC PASCO TANK FARM RD	HWY 395 & TANK FARM RD	PASCO	WA	99301	FRANKLIN

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,HE,I,	USWCOM TOUCHET CO	2ND & ALDER ST	TOUCHET	WA	99360	WALLA WALLA
,HH,	AMERICAN ROCK PRODUCTS, INC.			WA		FRANKLIN
,DZ,	CONNEL OIL CARD LOCK	817 W A ST	PASCO	WA	99301	FRANKLIN
,HE,I,	MID COLUMBIA WAREHOUSES INC	1810 E AINSWORTH ST	PASCO	WA	99301	FRANKLIN
,I,HE,	WSU WINE SCIENCE CENTER	359 UNIVERSITY DR	RICHLAND	WA	99354	BENTON
,Q,	CHEMTRADE SOLUTIONS LLC KENNEWICK	225608 E PERKINS RD	KENNEWICK	WA	99337	BENTON
,D,	900 E BRUNEAU	900 E BRUNEAU	KENNEWICK	WA	99336	BENTON
,D,		65 W OKANOGAN AVE	KENNEWICK	WA		BENTON
,BG,	LAKE SACAJAWEA			WA		LAKE SACAJAWEA
,CT,	7 ELEVEN #2304 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,CT,	BANGERT FORD	1775 FOWLER ST.	RICHLAND	WA	99352	BENTON
,CT,	UNOCAL #6151	1400 COLUMBIA BLVD.	RICHLAND	WA	99352	BENTON
,CT,	TIDEWATER TERMINAL	671 TANK FARM ROAD	PASCO	WA	99301	FRANKLIN
,H,K,BO,CT,SS,	BEN FRANKLIN TRANSIT CO	1000 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	
,CT,	UNOCAL #0571	817 W. A ST.	PASCO	WA	99301	FRANKLIN
,CT,	KENNEWICK SEWER TREATMENT PLANT	415 N. KINGWOOD ST.	KENNEWICK	WA	99336	BENTON
,CT,	MCCUES TEXACO (TWO REPORTS)	294 WILLIAMS ST.	RICHLAND	WA	99352	BENTON
,CT,	PASCO MAINTENANCE FACILITY	2250 E. CRANE ST.	PASCO	WA	99301	FRANKLIN
,AM,BO,	UNOCAL SERVICE STATION 6151	1400 COLUMBIA CENTER BLVD	RICHLAND	WA	99352	
,AM,BO,AX,	CENEX KENNEWICK	207 N BENTON ST	KENNEWICK	WA	99336	
,BQ,BO,	SIMPLOT AGRIBUSINESS	227120 E HEDGES RD	KENNEWICK	WA	99337	BENTON
,AM,BO,	428 N HARTFORD DRUG LAB	428 N HARTFORD	KENNEWICK	WA	99336	BENTON
,DY,BP,BO,	COLUMBIA PACIFIC TRANSPORT PASCO	2250 E CRANE ST	PASCO	WA	99301	
,DY,AM,BO,	SMITTYS CONOCO 270	5304 W CANAL DR	KENNEWICK	WA	99336	BENTON
,DY,AM,BO,AX,	METRO MART 3	520 E COLUMBIA DR	KENNEWICK	WA	99336	
,DY,BO,	SUN MART #14	600 HUMORIST RD	BURBANK	WA	99301	
,DY,H,K,BO,	CIRCLE K 2706030	5301 W CANAL DR	KENNEWICK	WA	99336	BENTON
,DY,H,BP,BO,	CIRCLE K STORES INC 2706048	1900 N STEPTOE	KENNEWICK	WA	99336	BENTON
,DY,BO,	PUMP N SAVE #1	18 S WASHINGTON	KENNEWICK	WA	99336	
,BO,L,	CLAYTON WARD RECYCLING	119 E ALBANY AVE	KENNEWICK	WA	99336	BENTON
,BO,L,	RAY POLAND & SONS CONCRETE & ASPHALT REC	215 E AINSWORTH	PASCO	WA	99301	
,BP,BO,	ECI SERVICES	1740 E DOCK	PASCO	WA	99301	
,L,	PASCO DECANT FACILITY - ROAD 108	4310 CRESCENT RD	PASCO	WA	99301	FRANKLIN
,DY,BO,	GTE NORTHWEST INC UST 12359	752 MANSFIELD ST	RICHLAND	WA	99352-3594	
,H,BO,SS,	US DOE 100-BC-5	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 300-FF-1	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 100-NR-2	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 100-KR-4	HANFORD	RICHLAND	WA	99352	
,BP,	US ARMY COE ICE HARBOR DAM	2763 MONUMENT DR	BURBANK	WA	99323	FRANKLIN
,BO,	DURATEK FEDERAL SERVICES	345 HILLS ST	RICHLAND	WA	99352	

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,BO,	CHARLIES AUTOMOTIVE	421 E COLUMBIA DR S END OF BLDG	KENNEWICK	WA	99336-3712	
,BO,	BATTELLE MEMORIAL INSTITUTE PAC NW DIV A	350 HILLS ST RM 118	RICHLAND	WA	99352	
,BO,	PASCO PORT	904 E AINSWORTH PORT OF PASCO	PASCO	WA	99301	
,BO,	ICE HARBOR IRRIGATION CO	S19 T9N R32E NE1/4	PASCO	WA	99301	
,BO,	EVANS FRUIT COMPANY	30029 HWY 2435	MATTAWA	WA	99349	
,BO,	J&D RENTS COLUMBIA PARK	1629 COLUMBIA PARK TRL	RICHLAND	WA	99352	
,BO,	J&D RENTS NEVADA AVE	1330 NEVADA AVE	RICHLAND	WA	99352	
,BO,	PORT OF PASCO GRAIN TRACK LEAD	E OF OREGON AVE	PASCO	WA	99301	
,BO,	GREEN POWER	2151 E DOCK ST	PASCO	WA	99301	
,BO,	DR KATIE STOREY	660 SWIFT BLVD	RICHLAND	WA	99352	
,BP,BO,	COLUMBIA SPECIALTY PRODUCTS LLC	900 W RIVER ST	PASCO	WA	99301	
,L,	TWIN CITY METALS	455 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,BO,	SR 240 I 182 TO COLUMBIA CENTER			WA		
,BO,	PORT OF WALLA WALLA			WA		
,BO,	DALE C ADAMS			WA		
,BO,	JOSH CARMAN	785 TUMBLEWEED LN	BURBANK	WA	99323	
,BO,	TISPORT LLC	1426 E 3RD AVE	KENNEWICK	WA	99337	
,BO,	CHARBONNEAU PARK		PASCO	WA		
,BO,	SIGNS BY SUE	1215A S 10TH AVE	PASCO	WA	99301	
,BO,	US DOE NATURAL GAS PIPELINE	COLUMBIA RIVER ROAD	PASCO	WA	99301	
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,H,BO,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 04	1332 JADWIN AVE	RICHLAND	WA	99354	BENTON
,H,BO,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 14	1388 JADWIN AVE	RICHLAND	WA	99354	BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,I,FM,HE,	TRI CITY BATTERY GOODYEAR	601 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,HE,FM,I,BO,	S & B MACHINE	208 N WASHINGTON	KENNEWICK	WA	99336	BENTON
,I,FM,HE,BO,	BEN FRANKLIN TRANSIT PASCO	1202 W LEWIS ST	PASCO	WA	99301	FRANKLIN

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,I,HE,FM,BO,	RIVERSIDE AUTOBODY	325 W DESCHUTES	KENNEWICK	WA	99336-3637	BENTON
,I,FM,HE,BO,	BOBS AUTOBODY	210 N DATE ST	KENNEWICK	WA	99336	BENTON
,FM,I,HE,	DONS AUTO BODY	421 E COLUMBIA DR N END OF BLD	KENNEWICK	WA	99336-3712	BENTON
,I,FM,HE,BO,	STATE TRANSMISSIONS INC	2600 W LEWIS ST	PASCO	WA	99301	FRANKLIN
,FL,BP,	US ARMY COE ICE HARBOR DAM	2763 MONUMENT DR	BURBANK	WA	99323	FRANKLIN
,FM,BO,	MCCALL TERMINAL EAST PASCO	TANK FARM RD TIDEWATER TERM	PASCO	WA	99301	FRANKLIN
,HE,FM,I,BO,	RESEARCH TECHNOLOGY CENTER	2955 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,RR,C,N,DH,CV,H,BO,SS,	HANFORD 300-AREA (USDOE)	300 AREA	BENTON COUNTY	WA	99352	BENTON
,FM,BO,	MATLACK INC PASCO TANK FARM RD	HWY 395 & TANK FARM RD	PASCO	WA	99301	FRANKLIN
,HE,I,FM,BP,BO,	FRANK & SONS AUTOBODY INC	1319 W AINSWORTH ST	PASCO	WA	99301-5191	FRANKLIN
,HE,FM,I,BO,	CHARLIES SEPTIC TANK PUMPING S	5918 W YELLOWSTONE	KENNEWICK	WA	99336	BENTON
,FM,I,HE,BO,	WESTERN FARM SERVICE INC KENNEWICK	625 W RAILROAD AVE	KENNEWICK	WA	99336	BENTON
,I,HE,FM,BO,DI,	SPECIALTY MINERALS INC WALLULA	31829 W HWY 12	WALLULA	WA	99363	WALLA WALLA
,I,HE,FM,BO,U,	MATHEWS AUTO BODY	614 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,HE,FM,	GOTTA STOP CHEVRON	1601 GEORGE WASHINGTON WAY	RICHLAND	WA	99352-2626	BENTON
,FM,BP,BO,	US DOC NOAA NWFSC PASCO	3305 E COMMERCE ST	PASCO	WA	99301	FRANKLIN
,FM,BO,	HWY 730 PESTICIDE SPI	HWY 730 MP 3	WALLULA	WA	99363	WALLA WALLA
,FM,HE,I,BO,	UNICRAFT PLASTICS INC	3299 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,I,HE,FM,	TOSCO BULK PLANT 300571	817 W A ST	PASCO	WA	9.93E+08	FRANKLIN
,S,	TESSENDERLO KERLEY INC	233807 E. STRAIGHTBANK ROAD	KENNEWICK	WA	99337	BENTON
,I,FM,HE,AM,BO,AX,	ECCO INC	120 RAILROAD AVE	KENNEWICK	WA	99336	BENTON
,FM,HE,BO,	PASCO CITY WWTP	1015 S GREY AVE	PASCO	WA	99301	FRANKLIN
,I,FM,HE,BP,AM,BO,DI,	J LIEB FOODS	10 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,CC,	GIER CONSTRUCTION	3264 HANEY	FINLEY	WA	99336	BENTON
,AF,	RICHLAND CY OF CY HALL	505 SWIFT BLVD	RICHLAND	WA	99352	
,HE,I,BP,BO,	WESTSIDE AUTO WORKS	6415 W COURT ST	PASCO	WA	99301	FRANKLIN
,FM,I,HE,BP,BO,	SEARS 8179	1111 W A ST	PASCO	WA	99302	FRANKLIN
,OO,	TIDEWATER SNAKE RIVER TERM CO.	671 TANK FARM RD	PASCO	WA	99301	
,AF,FC,	RICHLAND COLONIAL APARTMENTS	1327 GOETHALS DR	RICHLAND	WA	99352	
,AF,FC,	DISTINCTIVE PROPERTIES INC	503 KNIGHT ST	RICHLAND	WA	99352	
,R,	ENERGY NORTHWEST	3000 GEORGE WASHINGTON WAY	RICHLAND	WA	9.94E+08	
,I,BO,U,	WA PARKS SACAJAWEA STATE PARK	SACAJAWEA RD	PASCO	WA	99301-9824	FRANKLIN
,I,BO,	PASCO CITY WASHINGTON LIFT STATION	911 W WASHINGTON	PASCO	WA	99301	FRANKLIN

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,I,BO,	NORCO KENNEWICK	102 E COLUMBIA DR	KENNEWICK	WA	99336-3717	BENTON
,AF,FC,	KADLEC MEDICAL CENTER	888 SWIFT BLVD	RICHLAND	WA	99352	
,I,BO,	PASCO CITY MAINTENANCE	4300 RD 108	PASCO	WA	99301	FRANKLIN
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES FACILITY	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES FACILITY	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES FACILITY	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES FACILITY	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES FACILITY	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	3335 Q AVE BUILDING 3020	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES FACILITY	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,BO,U,	BARBAROSA FARMS INC	END FINLEY RD	KENNEWICK	WA	99336	
,BO,U,	COLUMBIA SCHOOL DISTRICT 400	MAPLE ST	BURBANK	WA	99323-0008	
,U,	SMITTY'S CONOCO #270	5304 W CANAL DR	KENNEWICK	WA	99336	BENTON
,U,	RECO INC	1232 COLUMBIA DR SE	RICHLAND	WA	99352	BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,BO,U,	CONCRETE CORING	613 RD 27	PASCO	WA	99301	
,BO,U,	COLUMBIA CABLE	24 N BENTON ST	KENNEWICK	WA	99336	
,U,	JIFFY LUBE	421 WILLIAMS BLVD	RICHLAND	WA		BENTON
,BO,U,	KENNEWICK FABRICATION YARD	208 GUM ST	KENNEWICK	WA	99336	
,CT,	LAYRITE PRODUCTS CO.	N. 307 DAYTON	KENNEWICK	WA	99336	BENTON
,AM,BO,CT,U,	B & B MOTORS	719 COLUMBIA DR	KENNEWICK	WA	99336	
,U,	RIVERSIDE DENTAL FACILITY	750 GEORGE WASHINGTON WY	RICHLAND	WA	99352	BENTON
,BO,U,	QUALITY SHINE COMPANY	102 W KENNEWICK AVE	KENNEWICK	WA	99336	
,BO,U,	SERVICE TRANSPORT INC	204 POPLAR AVE	BURBANK	WA	99323-9999	
,U,	RICHLAND LAUNDRY & DRY CLEANING INC	1106 HARDING ST	RICHLAND	WA	99352	BENTON
,U,	L & L EXXON	1315 LEE BLVD	RICHLAND	WA	99352	BENTON
,CT,	U-HAUL	800 W. COLUMBIA DR.	KENNEWICK	WA	99336	BENTON
,U,	SUN MART #36	18 S WASHINGTON ST	KENNEWICK	WA	99336	BENTON
,U,	CHEVRON 206625	951 COLUMBIA DR SE	RICHLAND	WA	99352	BENTON
,CT,U,	TRICITY BEVERAGE	201 N. CEDAR	KENNEWICK	WA	99336	BENTON
,CT,U,	UPTOWN SHOPPING CENTER	1300 BLOCK GEORGE WASHINGTON	RICHLAND	WA	99352	BENTON
,U,	MCCUES TEXACO	295 WILLIAMS BLVD	RICHLAND	WA	99216	BENTON
,AM,BO,U,	LAYRITE PRODUCTS COMPANY	307 N DAYTON	KENNEWICK	WA	99336	
,BO,U,	STAR RENTALS & SALES PASCO	1912 W A ST	PASCO	WA	99301	
,U,	THE BOAT SHOP MARINA INC	1776 COLUMBIA PARK TRL	RICHLAND	WA	99352	BENTON
,I,BO,	AMG - WA, KENNEWICK	204 N. FRUITLAND AVE.	KENNEWICK	WA	99336	BENTON
,HE,I,	WA DFW RINGOLD SPRINGS SALMON HATCHERY	1341 RINGOLD RIVER RD	MESA	WA	99343	FRANKLIN
,I,HE,	KENNEWICK WWTP	416 N KINGWOOD ST	KENNEWICK	WA	99336	BENTON
,I,HE,	PORT OF BENTON	3100 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,HE,I,	COLUMBIA SPECIALTY PRODUCTS LLC	900 W RIVER ST	PASCO	WA	99301	FRANKLIN
,BS,	TESSENDERLO KERLEY, INC. - FINLEY FACILITY	233807 E. STRAIGHTBANK ROAD	KENNEWICK	WA	99337	
,X,	TESSENDERLO KERLEY - FINLEY	46807 S. PIERT ROAD	KENNEWICK	WA	99337	
,OO,	MID-COLUMBIA WAREHOUSES, INC.	1810 E AINSWORTH	PASCO	WA	99301	
,OO,	TIDEWATER TERMINAL CO. - SNAKE RIVER	671 TANK FARM RD	PASCO	WA	99301	
,HE,I,	GREENBRIAR RAIL SERVICES	228919 E COCHRAN RD	KENNEWICK	WA	99337	BENTON
,I,HE,	HANFORD REACH INTERPRETIVE CENTER	1943 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	BENTON
,Q,I,HE,	KADLEC REGIONAL MEDICAL CTR	888 SWIFT BLVD	RICHLAND	WA	99352	BENTON
,Q,	PARSONS CONSTRUCTORS & FABRICATORS INC	3005 E AINSWORTH ST	PASCO	WA	99301-5861	FRANKLIN
,HE,FL,I,	RITE AID #5318	1549 GEORGE WASHINGTON WY	RICHLAND	WA	99352	BENTON
,T,Q,CC,AA,DH,HN,	US ARMY YAKIMA TRAINING CENTER BLDG T14	182 4 MI N OF CITY BLDG T14	YAKIMA	WA	98901	YAKIMA
,CC,FM,	AGRIUM US INC KFO FINLEY AREA	231610 E GAME FARM RD	KENNEWICK	WA	99337	BENTON
,I,HE,	WESTWAY FEED PRODUCT LLC PASCO	843 RIVERGRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,HE,I,	EMERALD SERVICES INC PASCO	1799 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,I,HE,	RED MOUNTAIN WINE ESTATES	1500 FT NW OF THE INTERSECTION OF	WEST RICHLAND	WA	99353	BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,I,HE,	WASHINGTON STATE DEPT OF HEALTH	309 BRADLEY BLVD, SUITE 201	RICHLAND	WA	99352	BENTON
,I,HE,	JERRY'S RADIATOR & COMPLETE AUTOMOTIVE	1107 LEE BLVD	RICHLAND	WA	99352	BENTON
,I,HE,	BIG PASCO INDUSTRIAL CENTER	904 E AINSWORTH BLDG T201	PASCO	WA	99301-5814	FRANKLIN
,DZ,HE,I,	US DOE HANFORD SITE	825 JADWIN AVE	RICHLAND	WA	99352	BENTON COUNTY
,HE,I,	PORT OF PASCO	904 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,S,	SANDVIK SPECIAL METALS LLC	235407 E SR397	KENNEWICK	WA	99337	BENTON
,IA,	VITOL/TIDEWATER TERMINAL - RFS	671 TANK FARM ROAD	PASCO	WA	99301	
,IA,	VITOL/TIDEWATER TERMINAL	671 TANK FARM ROAD	PASCO	WA	99301	
,IA,	TIDEWATER TERMINAL - SNAKE RIV	671 TANK FARM RD	PASCO	WA	99301	
,JM,C,	USDOE OFFICE OF SCIENCE PNNL SITE	3335 Q AVENUE	RICHLAND	WA	99354	
,BS,	TESSENDERLO KERLEY, INC. - FINLEY FACILITY	233807 E. STRAIGHTBANK ROAD	KENNEWICK	WA	99337	
,BS,	AGRIUM KFO - FINLEY AREA	231610 EAST GAME FARM ROAD	KENNEWICK	WA	99337	
,BS,	AGRIUM KFO - KENNEWICK AREA	227515 BOWLES ROAD	KENNEWICK	WA	99337	
,HE,I,	KENNEWICK AUTO SERVICE	1025 WEST COLUMBIA DRIVE	KENNEWICK	WA	99336	BENTON
,I,HE,	COLUMBIA PACIFIC TRANSPORT	607 E COLUMBIA DR	KENNEWICK	WA	9.93E+08	BENTON
,HE,I,	ACME WELDING WORKS AKA GIBSON	W 1603 A ST	PASCO	WA	99301	FRANKLIN
,I,HE,	MEHLENBACHER FARMS INC	T9N R31E S28 SNAKE RIVER S SHO	BURBANK	WA	99323	WALLA WALLA
,HE,I,	BOISE CASCADE TRUCKING OPERATIONS	S10 T7N R31EWM SE1/4	WALLULA	WA	99363	WALLA WALLA
,I,AM,BO,	GULL INDUSTRIES INC 1625	1300 COLUMBIA CENTER BLVD	RICHLAND	WA	99352	BENTON
,HE,I,DZ,BP,BO,	WONDRACK DISTRIBUTING CHEVRON	529 E KENNEWICK AVE	KENNEWICK	WA	99336-4070	BENTON
,I,BO,	CARGILL INC PASCO	720 W RIVER ST	PASCO	WA	99301-5778	FRANKLIN
,I,AM,BO,U,	PORT OF PASCO BIG PASCO	E AINSWORTH & A AVE	PASCO	WA	99301	FRANKLIN
,I,BO,	AGRILIANCE PASCO 1	1715 E DOCK ST	PASCO	WA	99301-5835	FRANKLIN
,H,K,EI,BO,AH,SS,	UPTOWN SHOPPING CENTER	1300 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	
,I,AM,BO,U,	WATER WORLD MARINA INC	1315 S 4TH AVE	PASCO	WA	99301-5762	FRANKLIN
,I,BO,U,	FIRE STATION 2 OF KENNEWICK	FINLEY RD	KENNEWICK	WA	99337	BENTON
,I,H,K,BO,	RECO INC	1232 COLUMBIA DR SE	RICHLAND	WA	99352-4762	BENTON
,I,HE,	BAKER PRODUCE KENNEWICK	212 W RAILROAD AVE	KENNEWICK	WA	99336	BENTON
,I,AM,BO,	COLUMBIA POINT SHORELINE LEACHING SURVEY	225 COLUMBIA POINT DR	RICHLAND	WA	99352	BENTON
,HE,I,	TOMMYS STEEL AND SALVAGE	904 S OREGON AVE	PASCO	WA	99301	FRANKLIN
,I,H,BO,SS,	BNRR PASCO RAILYARD	OREGON & E A ST	PASCO	WA	99301	FRANKLIN
,I,AM,BO,AX,	NORTHWEST PIPELINE PASCO	COURT ST & RD 76	PASCO	WA	99301	FRANKLIN
,I,AM,BO,AX,	PUMP PAK & EATERY	3 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,X,	KENNEWICK FERTILIZER OPS (KFO) - HEDGES AREA	227108 E. HEDGES RD.	KENNEWICK	WA	99336	
,X,	KENNEWICK FERTILIZER OPS. (KFO) - KENNEWICK AREA	227515 E BOWLES RD.	KENNEWICK	WA	99336	
,FM,EA,BP,AM,BO,AX,	NEW CITY CLEANERS INC	1823 GEORGE WASHINGTON WAY 422	RICHLAND	WA	99352	BENTON
,BP,AM,BO,AX,	RITE AID 5318	1549 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	
,I,BQ,BO,	BENTON PUBLIC UTILITIES DISTRICT 1	231610 GAME FARM RD	KENNEWICK	WA	99336	BENTON
,FM,BP,	WESTWAY FEED PRODUCTS LLC	843 RIVERGRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,X,	TESSENDERLO KERLEY - FINLEY	46807 S. PIERT RD.	KENNEWICK	WA	99337	
,AF,FC,	CENTURY 21 PROGRESSIVE SALES INC	601 WILLIAMS BOULEVARD	RICHLAND	WA	99352	
,AF,FC,	WASHINGTON PUBLIC POWER SUPPLY SYSTEM	3000 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,FM,HE,I,	LINEAGE-KENNEWICK	224905 E BOWLES RD	KENNEWICK	WA	99337	BENTON
,S,	AGRIUM US INC KENNEWICK FERTILIZER OPERATION	227515 BOWLES RD	KENNEWICK	WA	99337	BENTON
,I,DZ,	LAFARGE NORTH AMERICA, INC. - PASCO TERMINAL 3	610 W RIVER ST	PASCO	WA	99301	FRANKLIN
,I,BO,	AT&T WIRELESS RICHLAND	1310 KNIGHT ST	RICHLAND	WA	99352	BENTON
,I,BO,	WESTWAY TERMINAL CO INC	843 GRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,I,BO,	TRUGREEN CHEMLAWN PASCO	1220 S 10TH	PASCO	WA	99301-5110	FRANKLIN
,BP,BO,	US DOE OFFICE OF SCIENCE PNNL SITE	3335 INNOVATION BLVD	RICHLAND	WA	99354	
,FC,	RICHLAND CY OF ENERGY SVCS	505 SWIFT BLVD	RICHLAND	WA	99352	
,FC,	RICHLAND CY OF ENERGY SVCS	555 LACEY RD	RICHLAND	WA	99352	
,HE,I,BO,	CENTRAL PRE-MIX MATTAWA	31002 HWY 243	MATTAWA	WA	99349	GRANT
,I,H,BO,SS,	CBC WSU NURSE TRAINING FACILITY	1011 NORTHGATE DR	RICHLAND	WA	99352	BENTON
,HE,I,	ECI SERVICES	1740 E DOCK	PASCO	WA	99301-5835	FRANKLIN
,I,BO,	AT&T WIRELESS EAST KENNEWICK	410 E KENNEWICK AVE	KENNEWICK	WA	99336	BENTON
,X,	KENNEWICK FERTILIZER OPS (KFO) - KENNEWICK AREA	227515 E BOWLES RD.	KENNEWICK	WA	99336	
,AF,FC,	TOMMYS STEEL & SALVAGE INC	904 SOUTH OREGON	PASCO	WA	99336	
,C,	KENNEWICK PCB TRANSFORMER SPILL	455 E BRUNEAU AVENUE	KENNEWICK	WA		BENTON
,I,HE,BP,BO,	WESTERN FEED SUPPLEMENTS BURBANK	396 GRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,AF,	COLUMBIA MARINE LINES INC	1320 S 8TH ST	PASCO	WA	99301	
,AF,	RICHLAND CY OF ENERGY SVCS	505 SWIFT BLVD	RICHLAND	WA	99352	
,AF,	RICHLAND CY OF ENERGY SVCS	555 LACEY RD	RICHLAND	WA	99352	
,Q,B,	US DOE OFFICE OF SCIENCE PNNL SITE	3335 INNOVATION BLVD	RICHLAND	WA	99354	BENTON
,OO,	TIDEWATER TERM CO - SNAKE RIVER TERM	671 TANK FARM RD	PASCO	WA	99301	
,I,BO,	LUQUE GERALD J	3721 W HAVSTAD ST	PASCO	WA	99301	FRANKLIN
,H,BO,SS,	US DOE 100-HR-1	HANFORD	RICHLAND	WA	99352	
,I,BO,	UPRR RELEASE AT UPRR BRIDGE FINLEY	UNION PACIFIC BRIDGE	FINLEY	WA	99337	BENTON
,I,M,BO,DI,L,	SCHNITZER STEEL	626 GRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,I,HE,	BATTELLE MEMORIAL INSTITUTE BSEL FAC	2730 UNIVERSITY DR	RICHLAND	WA	99354	BENTON
,BS,	AGRIUM KFO - KENNEWICK AREA	227515 BOWLES ROAD	KENNEWICK	WA	99336	
,BS,	BUTTERFIELD WATER TREATMENT PLANT	1306 W. ""B"" STREET	PASCO	WA	99301	
,BS,	CITY OF KENNEWICK WASTE WATER TREATMENT PLANT	416 NORTH KINGWOOD	KENNEWICK	WA	99336	
,BS,	CITY OF KENNEWICK WATER FILTER PLANT	615 EAST COLUMBIA DRIVE	KENNEWICK	WA	99336	
,BS,	CITY OF RICHLAND WASTEWATER TREATMENT FACILITY	555 LACY	RICHLAND	WA	99352	
,BS,	COLUMBIA COLSTOR-KENNEWICK	224905 E. BOWLES RD.	KENNEWICK	WA	99337	
,BS,	KENNEWEICK FERTILIZER OPERATIONS - KENNEWICK AREA	227515 BOWLES ROAD	KENNEWICK	WA	99336	
,BS,	KENNEWICK FERTILIZER OPERATIONS - FINLEY AREA	231610 EAST GAME FARM ROAD	KENNEWICK	WA	99336	
,BS,	KENNEWICK FERTILIZER OPERATIONS - HEDGES AREA	227108 EAST HEDGES ROAD	KENNEWICK	WA	99336	
,BS,	KENNEWICK PLANT - HEDGES AREA	227108 EAST HEDGES ROAD	KENNEWICK	WA	99336	
,BS,	PRODICA, KENNEWICK PLANT - HEDGES FACILITY	227108 EAST HEDGES ROAD	KENNEWICK	WA	99336	
,BS,	SANDVIK SPECIAL METALS CORPORATION	43507 S. PIERT ROAD	KENNEWICK	WA	99337	
,BS,	TIDEWATER SNAKE RIVER TERMINAL	671 TANK FARM RD	PASCO	WA	99301	
,I,BO,	INTEGRITY RV SERVICES	1724 W LEWIS ST	PASCO	WA	99301	FRANKLIN
,I,BO,	MR JOHN DAY AUTO SHOP	205 COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,M,BO,	GENX ENERGY GROUP INC	544 GRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,I,BO,	DR DENNIS PARK	1310 N GRANT ST	KENNEWICK	WA	99336	BENTON
,I,BO,	RUTT ENTERPRISES	1531 W LEWIS ST	PASCO	WA	99301	FRANKLIN
,I,BO,	DESERT RV REPAIR	1719 W A ST	PASCO	WA	99301	FRANKLIN
,I,BO,	JESSICA ROAD 301 RESIDENCE	301 JESSICA RD	PASCO	WA	99301	FRANKLIN
,I,BO,	PASCO DECANT FACILITY ROAD 108	4310 CRESCENT RD	PASCO	WA	99301	FRANKLIN
,ZM,	WASHINGTON STATE DEPT OF HEALTH	309 BRADLEY BLVD SUITE 201	RICHLAND	WA	99352	BENTON
,I,BO,	PACIFICORP PASCO SUBSTATION	S 6TH AND WASHINGTON ST	PASCO	WA	99301	FRANKLIN
,I,BO,	CONNELL OIL INC COLUMBIA DRIVE	813 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,BO,	PACIFICORP CASCADE KRAFT SUBSTATION	W OF HWY 12 BOISE MILL PLANT PROP	WALLULA	WA	99363	WALLA WALLA
,BS,	KENNEWICK PLANT - KENNEWICK AREA	227515 BOWLES ROAD	KENNEWICK	WA	99336	
,BS,	PRODICA, KENNEWICK PLANT - KENNEWICK FACILITY	227515 BOWLES ROAD	KENNEWICK	WA	99336	
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 2		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 2		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,IM,	428 N HARTFORD DRUG LAB	428 N HARTFORD	KENNEWICK	WA		
,IM,	BNRR DAIRYGOLD	229 N FRUITLAND	KENNEWICK	WA		
,IM,	COLUMBIA PARK MARINA	1238 COLUMBIA PARK TRL	RICHLAND	WA		
,IM,	CONSOLIDATED FREIGHTWAYS KENNEWICK	900 E BRUNEAU AVE	KENNEWICK	WA		
,IM,	L & L EXXON	1315 LEE BLVD	RICHLAND	WA		
,IM,	MEDICAL ARTS FACILITY	750 SWIFT BLVD	RICHLAND	WA		
,IM,	NORTHWEST PIPELINE-PASCO	COURT STREET AND ROAD 76	PASCO	WA		
,IM,	PUMP PAK & EATERY	3 W COLUMBIA DR	KENNEWICK	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 09	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 17	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	SHOPPING SPOT 057	148 S RD 28	PASCO	WA		
,IM,	TIDEWATER TERMINAL PASCO TANK 85	671 TANK FARM RD	PASCO	WA		
,IM,	UPTOWN SHOPPING CENTER	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	WELCHS KENNEWICK	10 E BRUNEAU AVE	KENNEWICK	WA		
,IN,	CENTRAL PRE-MIX CONCRETE CO. - PASCO	11919 HARRIS RD	PASCO	WA		
,IN,	PASCO DECANT FACILITY - ROAD 108	4310 CRESCENT RD.	PASCO	WA		
,IN,	TOMMY'S AUTO WRECKING	904 S. OREGON	PASCO	WA		
,IL,	571	817 WEST A ST	PASCO	WA		
,IL,	7 ELEVEN 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	BEN FRANKLIN TRANSIT	1000 COLUMBIA DR SE	RICHLAND	WA		
,IL,	BNRR DAIRYGOLD	229 N FRUITLAND	KENNEWICK	WA		
,IL,	CONSOLIDATED FREIGHTWAYS	900 E BRUNEAU AVE	KENNEWICK	WA		
,IL,	CURLEY'S TEXACO	294 WILLIAMS ST	RICHLAND	WA		
,IL,	GOTTA STOP CHEVRON	1601 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	JET MART CONOCO	1001 N VOLLAND	KENNEWICK	WA		
,IL,	L & L	1315 LEE BLVD	RICHLAND	WA		
,IL,	LEOS LINEUP & TIRES AUTO EXPRESS	1315 LEE BLVD	RICHLAND	WA		
,IL,	LUDWIG OIL COMPANY	108 E KENNEWICK	KENNEWICK	WA		
,IL,	MEDICAL ARTS FACILITY	750 SWIFT BLVD	RICHLAND	WA		
,IL,	OVERTURF VOLKSWAGON AUDI	1016 W COLUMBIA DR	KENNEWICK	WA		
,IL,	PETROSUN 1056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		

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Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,IL,	PORT OF PASCO	919 E AINSWORTH	PASCO	WA		
,IL,	RECO INC	1232 COLUMBIA DRIVE SE	RICHLAND	WA		
,IL,	RICHLAND OPERATIONS	825 JADWIN ATTN: A RODRIGUEZ	RICHLAND	WA		
,IL,	SHOPPING SPOT 057	148 S RD 28	PASCO	WA		
,IL,	SUN MART	1401 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	TRI CITY BATTERY GOODYEAR	601 GEORGE WASHINGTON WY	RICHLAND	WA		
,IL,	U-HAUL CENTER OF KENNEWICK	800 W. COLUMBIA DR	KENNEWICK	WA		
,IL,	US GSA RICHLAND FEDERAL BLDG US	825 JADWIN AVE	RICHLAND	WA		
,IL,	WONDRACK DISTRIBUTING INC	919 E AINSWORTH	PASCO	WA		
,DA,	ETHANOL PLANT	231610 E GAME FARM RD	KENNEWICK	WA	99337	BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,BO,	BARAJAS AUTO BODY	1020 N ROAD 56	PASCO	WA	99301	
,BO,	U S ARMY CORPS OF ENGINEERS	1215 E AINSWORTH ST	PASCO	WA	99301	
,BP,BO,	WSU WINE SCIENCE CENTER	359 UNIVERSITY DR	RICHLAND	WA	99354	BENTON
,DA,	USPS BURBANK 541008002	114 2ND AVE	BURBANK	WA		WALLA WALLA
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	100 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,BO,	COLUMBIA GARDENS WINE BUSINESS PARK	COLUMBIA DR	KENNEWICK	WA	99336	
,AM,BO,	580 COLUMBIA POINT DR	580 COLUMBIA POINT DR	RICHLAND	WA	99352	
,BO,	A COMPLETE JANITORIAL	730 W A ST	PASCO	WA	99301	
,BO,	ICE HARBOR MARINA	15 LAKEVIEW DRIVE FOR AFTER SEASON	BURBANK	WA	99323	
,DI,	WASHINGTON STATE UNIVERSITY TRICITIES	2710 CRIMSON WAY	RICHLAND	WA	99354	BENTON
,BO,	RAILEX II	651 RAILEX RD	BURBANK	WA	99323	
,BO,	STORMWATER QUALITY RETROFIT PROJECTS		RICHLAND	WA	99352	
,BO,	EQUIPMENT YARD ON SACAJAWEA PARK ROAD		PASCO	WA	99301	
,BO,	HEDGES FACILITY	225608 E PERKINS RD	KENNEWICK	WA	99337	
,BO,	ISORAY FACILITY		RICHLAND	WA	99354	
,BO,	GAUNTT NW	1790 FOWLER ST	RICHLAND	WA	99352	
,BO,DI,	AJSA LLC	773 KOHLER RD	BURBANK	WA	99323	
,BO,	COLUMBIA WATER SUPPLY PROJECT	11412 W COURT ST	PASCO	WA	99301	

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,BO,	BNSF FALLBRIDGE SUBDIVISION MP 202.5	T4N R29E S2 SE 1/4 SW 1/4		WA		
,DA,	RAILEX INDUSTRIAL FACILITY	655 RAILEX RD	WALLULA	WA	99323	WALLA WALLA
,DA,	BENTON COUNTY			WA		BENTON
,DA,	BENTON COUNTY			WA		BENTON
,DA,	WALLA WALLA COUNTY DEPT OF PUBLIC WORKS - W MAPLE ST	SHEFFLER RD	WALLA WALLA	WA		WALLA WALLA
,DA,	HIGH DESERT MAINTENANCE INC.	525 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	BENTON COUNTY			WA		BENTON
,DA,	HANFORD REACH INTERPRETIVE CENTER	800 COLUMBIA PIONT S	RICHLAND	WA	99352	BENTON
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	LEWIS AND CLARK ELEMENTARY	800 DOWNING	RICHLAND	WA	99352	BENTON
,DA,	ENERGYSOLUTIONS	UNIVERSITY WAY AND GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,DA,	ENERGY NORTHWEST, BUILDING 69	345 HILLS ST	RICHLAND	WA	99352	BENTON
,BO,	RAILEX INDUSTRIAL FAC	655 RAILEX RD	WALLULA	WA	99363	
,BO,DI,	TWIN CITY FOODS KENNEWICK	1000 E 1ST AVE	KENNEWICK	WA	99336	
,BO,	CLD PACIFIC GRAIN	337 GRAIN TERMINAL RD	BURBANK	WA	99323	
,BO,	COREY CAMERON SPILL	1300 JADWIN AVE	RICHLAND	WA	99354	
,BO,	BPA BENTON SUBSTATION		RICHLAND	WA	99352	
,BO,	TWO RIVERS	PUMP STATIONS	WALLULA	WA	99363	
,EI,BO,	DONS AUTO BODY	421 E COLUMBIA DR N END OF BLDG	KENNEWICK	WA	99336-3712	
,BO,	ENERGY NORTHWEST HGP	T14N R26E S28	RICHLAND	WA	99352	
,BO,	MEHLENBACHER FARMS INC	T9N R31E S28 SNAKE RIVER S SHORE	BURBANK	WA	99323	
,BO,	COLUMBIA PARK DAM		KENNEWICK	WA	99335	
,BO,	KENNEWICK NO 2 AERATED WASTEWATER LAGOON		KENNEWICK	WA	99336	

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Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,BO,	KENNEWICK NO 1 AERATED WASTEWATER LAGOON		KENNEWICK	WA	99336	
,BO,	BIG PASCO INDUSTRIAL CENTER	904 E AINSWORTH BLDG T201	PASCO	WA	99301-5896	
,BP,BO,	PARSONS CONSTRUCTORS & FABRICATORS INC	3005 E AINSWORTH ST	PASCO	WA	99301	
,BO,	PASCO PORT PASCO	TRI CITIES AIRPORT INDUSTRIAL PARK 4	PASCO	WA	99301	
,M,BO,	PORT OF PASCO INDUSTRIAL CENTER	904 E AINSWORTH ST	PASCO	WA	99301	
,BO,DI,	MONSON RANCH CA WAREHOUSE	5020 N COMMERCIAL AVE	PASCO	WA	99301	
,BO,	RED MOUNTAIN WINE ESTATES	1500 FT NW OF THE INTERSECTION OF	WEST RICHLAND	WA	99353	
,EI,BO,DI,	RINGOLD SPRINGS HATCHERY	1341 RINGOLD RIVER RD	MESA	WA	99343-9601	FRANKLIN
,BO,	MESA STP		MESA	WA	99343-0146	
,BO,DI,	BAKER PRODUCE KENNEWICK	212 W RAILROAD AVE	KENNEWICK	WA	99336-3675	BENTON
,BO,	WATERFORD PLACE CONDOMINIUMS	1020 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,AT,BP,BO,DI,L,	TOMMYS SCRAP & SALVAGE PASCO	904 S OREGON AVE	PASCO	WA	99301-4324	FRANKLIN
,BO,	US DEPT OF ENGERGY 100 N SSS	100 N AREA	RICHLAND	WA	99352	
,BO,	SCHNITZER STEEL BURBANK	628 GRAIN TERMINAL RD	BURBANK	WA	99000	
,BO,	A N B BODY SHOP	502 S MAITLAND	PASCO	WA	99301	
,M,BO,DI,	AMERICAN ROCK PROD RICHLAND WYE	53 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,BO,	DANS GARAGE	508 E BRUNEAU AVE	KENNEWICK	WA	99336	
,BO,DI,	PORT OF BENTON	3100 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	
,BO,DI,	KENNEWICK POTW	416 N KINGWOOD AVE	KENNEWICK	WA	99336-0108	
,H,	COLD SPRINGS HWY OUTDOOR SHOOTING	PENDLETON-COLD SPRINGS HWY & CANAL		OR		
,BO,	PORT OF PASCO INTERMODAL HUB	SE RD 36 E SACAJAWEA PARK RD	PASCO	WA	99301	
,BO,	PORT OF PASCO INTERMODAL HUB 4 & 5	SE RD 36 E & SACAJAWEA PARK RD	PASCO	WA	99301	
,BO,DI,	PASCO WWTP	1015 S GREY AVE	PASCO	WA	99301-0293	FRANKLIN
,M,BO,DI,L,	RICHLAND CITY WASTEWATER LAB	555 LACY RD	RICHLAND	WA	99352	
,BO,	AINSWORTH COLLISION CENTER INC	2331 W A ST	PASCO	WA	99301	
,AM,BP,BO,AX,L,	BOISE WHITE PAPER LLC	31831 W HWY 12	WALLULA	WA	99363	
,L,	KENNEWICK WWTP	416 N KINGWOOD ST	KENNEWICK	WA	99336	BENTON
,BO,	1100 GOETHALS MEDICAL OFFICE	1100 GOETHALS	RICHLAND	WA	99352	
,BO,	LEVEE 4A			WA		
,BO,	RINGOLD SPRINGS FISH POND			WA		
,BO,	OSPREY POINTE VEGETATION MANAGEMENT		PASCO	WA	99301	
,BP,BQ,M,BO,DI,	PENFORD FOOD INGREDIENTS	216 UNIVERSITY DRIVE	RICHLAND	WA	99354	
,L,	COLUMBIA VALLEY GRANGE	COURT ST AND RD 64	PASCO	WA		FRANKLIN
,DI,	CENTRAL PRE MIX CONCRETE MATTAWA	31002 HWY 243	MATTAWA	WA	99344	GRANT

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,I,HE,	HWY 730 PESTICIDE SPI	HWY 730 MP 3	WALLULA	WA	99363	WALLA WALLA
,HE,I,	USPS PASCO	BLDG T121 PASCO IND PARK	PASCO	WA	99301	FRANKLIN
,HE,I,	PASCO MAINTENANCE FACILITY	1ST & B ST BLDG T250	PASCO	WA	99301	FRANKLIN
,I,HE,	RUST ENGINEERING CO	HWY 12	PASCO	WA	99301	FRANKLIN
,HE,I,	TWO RIVERS	PUMP STATIONS	WALLULA	WA	99363	WALLA WALLA
,I,HE,	ICE HARBOR IRRIGATION CO	S19 T9N R32E NE1/4	PASCO	WA	99301	WALLA WALLA
,HE,I,	HARBOR OIL INC PASCO	RIVER ST & 7TH LOT 10	PASCO	WA	99301	FRANKLIN
,HE,I,ER,	HANFORD 300 AREA DOE	300 AREA	RICHLAND	WA	99352	BENTON
,I,HE,	WATCO MECHANICAL SERVICES PASCO	2150 EAST CARGO STREET	PASCO	WA	99301	FRANKLIN
,I,HE,	OSPREY POINTE VEGETATION MANAGEMENT	(UNSPECIFIED)	PASCO	WA	99301	FRANKLIN
,I,HE,	WASHINGTON STATE UNIVERSITY TRICITIES	2710 CRIMSON WAY	RICHLAND	WA	99354	BENTON
,BT,	UPTOWN RICHLAND SHOPPING CENTER	1331 GEORGE WASHINGTON WAY	RICHLAND	WA	98503	
,DZ,HE,I,	TESSENDERLO KERLEY, INC.	233807 STRAIGHTBANK RD	KENNEWICK	WA	99337	BENTON
,I,HE,	LEWIS AND CLARK ELEMENTARY SCHOOL	415 JADWIN AVE	RICHLAND	WA	99352	BENTON
,DZ,HE,I,	SAFEWAY STORE 333	1803 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,X,	AGRIUM US INC KENNEWICK FERTILIZER OPERATION	227515 E BOWLES ROAD	KENNEWICK	WA	99337-8673	BENTON
,I,HE,DZ,	TESORO LOGISTICS PASCO TERMINAL	2900 SACAJAWEA PARK RD	PASCO	WA	99301	FRANKLIN COUNTY
,HE,	AMERICAN ROCK PROD RICHLAND WYE	53 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,FL,HE,I,	CIRCLE K STORES INC 2706026	1401 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,BS,	LINEAGE-KENNEWICK	224905 E. BOWLES RD.	KENNEWICK	WA	99337	
,HE,	BURBANK BUSINESS PARK PASCO SEWER IMP.	(UNSPECIFIED)	PASCO	WA	99301	FRANKLIN COUNTY
,HE,I,	COLUMBIA PACIFIC TRANSPORT	2250 E CRANE ST	PASCO	WA	99301	FRANKLIN
,Q,	PENFORD PRODUCTS LLC	216 UNIVERSITY DR	RICHLAND	WA	99354	BENTON
,JH,	APOLLO INC	1133 W COLUMBIA DRIVE	KENNEWICK	WA	99336	
,DZ,	BOISE WHITE PAPER LLC	31831 US-12	TOUCHET	WA	99360	WALLA WALLA
,I,HE,	SANDVIK SPECIAL METALS	43507 S PIERT RD	KENNEWICK	WA	99337	BENTON
,HE,I,	AGRIUM US KFO HEDGES FACILTY	227108 E HEDGES RD	KENNEWICK	WA	99337	BENTON
,HE,I,	KENNEWICK WATER FILTRATION PLANT	615 E COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,HE,	SAFETY-KLEEN SYSTEMS 118302	814 E AINSWORTH ST	PASCO	WA	99301	FRANKLIN
,HE,I,	ESTES EXPRESS LINES	900 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,HE,I,	AGRIUM KENNEWICK FERTILIZER OPERATION	227515 E BOWLES RD	KENNEWICK	WA	99337	BENTON
,HE,I,	ICE HARBOR LOCK AND DAM USACE	2763 MONUMENT DR	BURBANK	WA	99323	WALLA WALLA
,I,HE,	SAFETY-KLEEN SYSTEMS 118302	1202 SE 18 E	PASCO	WA	99301	FRANKLIN
,HE,I,	TIDEWATER TERMINAL CO INC	1320 S 8TH ST	PASCO	WA	99301	FRANKLIN
,HE,	COLEMAN OIL CO LLC KENNEWICK	529 E KENNEWICK AVE	KENNEWICK	WA	99336	BENTON

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,HE,I,	RAILEX II	651 RAILEX RD	BURBANK	WA	99323	
,HE,I,	COLUMBIA WATER SUPPLY PROJECT	11412 W COURT ST	PASCO	WA	99301	
,I,HE,	JEFFERSON ELEMENTARY SCHOOL HUNT AVE	1525 HUNT AVE	RICHLAND	WA	99352	
,Q,	SPECIALTY RESCUE AND FIRE SERVICE	228919 E COCHRAN RD	KENNEWICK	WA	99337	BENTON
,HE,	CHEMTRADE SOLUTIONS LLC KENNEWICK	225608 E PERKINS RD	KENNEWICK	WA	99337	BENTON
,HE,	SPECIALTY RESCUE AND FIRE SERVICE	228919 E COCHRAN RD	KENNEWICK	WA	99337	BENTON
,C,	COE-CIVIL ICE HARBOR DAM	2763 MONUMENT DRIVE	BURBANK	WA	99323	WALLA WALLA
,JM,	US ACE - CIVIL - ICE HARBOR DAM	2763 MONUMENT DRIVE	BURBANK	WA	99323	
,D,	3110 Port of Benton (Sigma V)	3110 Port of Benton (Sigma V)	RICHLAND	WA	99352	BENTON
,D,	3000 SACAJAWEA PARK RD	3000 SACAJAWEA PARK RD	PASCO	WA		FRANKLIN
,D,	1000 COLUMBIA PARK TRAIL	1000 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	BENTON
,D,	900 E BRUNEAU	900 E BRUNEAU	KENNEWICK	WA	99336	BENTON
,D,		1/4 MI W OF 200 EAST AREA HANF	RICHLAND	WA		BENTON
,BB,	TESORO PIPELINE TANK FARM-PASCO	3000 SACAJAWEA PARK ROAD	PASCO	WA	99301	
,BB,	TIDEWATER, SNAKE RIVER TERMINAL	P.O. BOX 806	PASCO	WA	99301	
,BG,	LAKE WALLULA			OR		LAKE WALLULA
,H,BO,SS,	WELLSIAN WAY WELL FIELD	WELLSIAN WAY	RICHLAND	WA	99352	
,H,BO,SS,BF,	PASCO BULK FUEL TERMINAL SITE	AINSWORTH & W 9TH	PASCO	WA	99301	
,AM,BO,	BONNEVILLE POWER ADMIN IHD WALLA WALLA	NW1/4 SW1/4 S24 T9N R31EWM	WALLA WALLA	WA	99362	WALLA WALLA
,AM,BO,	BONNEVILLE POWER ADMIN IHD PASCO	NW1/4 NW1/4 S24 T9N R31EWM	PASCO	WA	99301	FRANKLIN
,CT,	COLUMBIA PARK SHOP	5111 SE COLUMBIA DR.	RICHLAND	WA	99352	BENTON
,CT,	FEDERAL BUILDING - US POST OFFICE (TWO REPORTS)	825 JADWIN AVE.	RICHLAND	WA	99352	BENTON
,AM,BO,CT,	RIVERSIDE DENTAL FACILITY	750 GEORGE WASHINGTON WAY	RICHLAND	WA	99352-9999	
,DY,AM,BO,CT,	SUN MART 2	1401 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,CT,	UNION PACIFIC RAILROAD	FRUITLAND ST. AND CANAL DR.	KENNEWICK	WA	99336	BENTON
,CT,	GOODYEAR	601 GEORGE WASHINGTON	RICHLAND	WA	99352	BENTON
,CT,	TRI CITY OIL COMPANY, INC.	421 WILLIAMS	RICHLAND	WA	99352	BENTON
,AM,BO,CT,AX,	TRI CITY BATTERY GOODYEAR	601 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,BQ,	SANDVIK SPECIAL METALS CORP	PIERT RD & SR 397	KENNEWICK	WA	99337	BENTON
,CT,	L & L EXXON	1315 LEE BLVD.	RICHLAND	WA	99352	BENTON
,BQ,M,	U.S. DEPT OF ENERGY	HANFORD RESERVATION	RICHLAND	WA	99352	BENTON
,CT,	CHEVRON #2066	951 COLUMBIA DR. SE	RICHLAND	WA	99352	BENTON
,CT,	THE BOAT SHOP	1238 COLUMBIA DR. SE	RICHLAND	WA	99352	BENTON
,EC,BB,	MCNARY YACHT CLUB	34099 BEACH SHORE DR	HERMISTON	OR	97838	UMATILLA
,AM,BO,CT,AX,	GOTTA STOP CHEVRON	1601 GEORGE WASHINGTON WAY	RICHLAND	WA	99352-2626	
,CT,	D & W JET MART	1001 N. VOLLAND	KENNEWICK	WA	99336	BENTON
,CT,	DEL WILLIAMS TRUCKING	620 W. AINSWORTH	PASCO	WA	99301	FRANKLIN

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,CT,	F & F SELF-SERVICE (FORMER)	5304 W. CANAL DR.	KENNEWICK	WA	99336	BENTON
,AM,BO,CT,	MCCUES REPAIR & TOWING INC	295 WILLIAMS BLVD	RICHLAND	WA	99352-3409	
,CT,	TORREZ PROPERTY	102 W. KENNEWICK	KENNEWICK	WA	99336	BENTON
,CT,	PUMP PAK & EATERY	3 W. COLUMBIA DR.	KENNEWICK	WA	99336	BENTON
,H,K,BO,SS,	CHEVRON STATION 98944	1323 LEE BLVD	RICHLAND	WA	99352	BENTON
,H,BO,SS,	TWIN CITY METALS	455 E BRUNEAU AVE	KENNEWICK	WA	99336	
,BQ,	GREENBRIAR RAIL SERVICES	228919 E COCHRAN RD	KENNEWICK	WA	99337	
,BQ,	BOISE WHITE PAPER LLC	31831 W HWY 12	WALLULA	WA	99363	WALLA WALLA
,AM,BO,AX,	CHEVRON FACILITY 206625	951 COLUMBIA DR SE	RICHLAND	WA	99352	
,H,M,BO,DI,SS,AX,	CHEVRON PIPELINE CO PASCO	2900 SACAJAWEA PARK RD	PASCO	WA	99301	
,AM,BO,	CARPORT CARWASH	COLUMBIA CENTER BLVD & FOWLER ST	RICHLAND	WA	99352	BENTON
,AM,BO,	PHILLIPS PACIFIC CHEMICAL CO	BOWLES RD	FINLEY KENNEWICK	WA	99336	BENTON
,AM,BO,	TIDEWATER TERMINAL COMPLEX	TERMINAL RD	PASCO	WA	99301	FRANKLIN
,AM,BO,	BONNEVILLE POWER ADMIN BH	SW1/4 SW1/4 S30 T9N R31EWM	BURBANK HEIGHTS	WA	99323	WALLA WALLA
,CT,	U HAUL	800 W. COLUMBIA DR.	KENNEWICK	WA	99336	BENTON
,CT,	WONDRACK DISTRIBUTING, INC.	E. AINSWORTH & OREGON AVE.	PASCO	WA	99301	FRANKLIN
,CT,	ONE HOUR CLEANERS	1823 GEORGE WASHINGTON WAY #422	RICHLAND	WA	99352	BENTON
,BQ,	BOISE CASCADE PAPER DIVISION WALLULA	31831 W HWY 12	WALLULA	WA	99363	WALLA WALLA
,AM,BO,AX,	TRICITY BEVERAGE	201 N CEDAR ST	KENNEWICK	WA	99336	
,H,K,BO,	SOUTHLAND CORPORATION 2306 14423	4313 COURT ST	PASCO	WA	99301-2715	
,H,BO,	WA DOT SR 240 RICHLAND WYE PROJECT	916 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	BENTON
,BQ,	SANDVIK SPECIAL METALS LLC	43507 S PIERT ROAD	KENNEWICK	WA	99337	BENTON
,AM,BO,	KENNEWICK PORT HOVER INDUSTRIAL SITE	TOOTHAKER RD	KENNEWICK	WA	99336	BENTON
,M,BO,DI,	BOISE CASCADE WALLULA	31831 WEST HWY 12	WALLULA	WA	99363-0500	
,M,L,	CASCADE PALLET	3305 AINSWORTH	PASCO	WA	99302	FRANKLIN
,AM,BO,AX,	US ARMY RESERVE FACILITY	NE CORNER OF E AINSWORTH & S MAITLAND	PASCO	WA	99301	FRANKLIN
,BP,	US DOE OFFICE OF SCIENCE PNNL SITE	3335 Q AVENUE	RICHLAND	WA	99354	BENTON
,BO,DI,	RICHLAND WATER TREATMENT PLANT	110 SAINT ST	RICHLAND	WA	99352-2064	BENTON
,AM,M,	COLUMBIA PARK MARINA	1776 COLUMBIA PARK TRL	RICHLAND	WA	99352	BENTON
,H,AX,	MATHEWS PROPERTY	28999 HWY 730	UMATILLA	OR	97882	
,L,	PASCO WWTP	1015 S GRAY AVE	PASCO	WA	99301	FRANKLIN
,BP,M,EI,BO,	US ARMY COE ICE HARBOR DAM	2763 MONUMENT DR	BURBANK	WA	99323	
,H,BO,SS,	US DOE 100-DR-2	HANFORD	RICHLAND	WA	99352	BENTON
,H,BO,SS,	US DOE 100-FR-2	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 100-KR-2	HANFORD	RICHLAND	WA	99352	BENTON

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,H,BO,SS,	US DOE 100-KR-1	HANFORD	RICHLAND	WA	99352	BENTON
,H,BO,SS,	US DOE 100-BC-1	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 100-HR-2	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 300-FF-2	HANFORD	RICHLAND	WA	99352	BENTON
,H,BO,SS,	US DOE 100-FR-1	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 300-FF-5	HANFORD	RICHLAND	WA	99352	BENTON
,H,BO,SS,	US DOE 100-NR-1	HANFORD	RICHLAND	WA	99352	BENTON
,H,BO,SS,	US DOE 100-BC-2	HANFORD	RICHLAND	WA	99352	
,H,BO,SS,	US DOE 384 POWERHOUSE BUNKER	HANFORD	RICHLAND	WA	99352	BENTON
,H,BO,AX,	WALLA WALLA PORT OF BURBANK FACILITY	GRAIN TERMINAL ROAD	BURBANK	WA	99323	WALLA WALLA
,BP,BO,	BATTELLE MEMORIAL INSTITUTE BSEL FAC	2730 UNIVERSITY DR	RICHLAND	WA	99354	BENTON
,BP,BO,	PRATT & WHITNEY POWER SYSTEMS	231610 E GAME FARM RD FINLEY	KENNEWICK	WA	99337	
,M,BO,	SCS STORAGE KENNEWICK	411 W RAILROAD AVE	KENNEWICK	WA	99336	
,FM,I,HE,BO,	WELCH WAREHOUSE CCF	350 JUNIPER ST	KENNEWICK	WA	99336-3793	BENTON
,FM,HE,I,BP,AM,BO,	TRI CITY WATER FOLLIES ASSN	5111 COLUMBIA DR SE	KENNEWICK	WA	99336	BENTON
,HE,FM,I,BO,U,	CENEX HARVEST STATES PASCO	1203 W A ST	PASCO	WA	99302	FRANKLIN
,I,HE,FM,BP,BO,	WHECO	2110 E AINSWORTH ST WRHSE 8	PASCO	WA	99301	FRANKLIN
,ZQ,C,	UPPER COLUMBIA RIVER	UPPER COLUMBIA RIVER	KETTLE FALLS	WA	99141	
,HE,I,FM,EA,BP,BO,	RICHLAND LAUNDRY & DRY CLEANER	1106 HARDING ST	RICHLAND	WA	99352	BENTON
,HE,I,FM,BP,BO,	TRU DOOR INC	836 S 3RD AVE	PASCO	WA	99301	FRANKLIN
,AF,FC,	GEOSAFE CORP	2950 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	
,HE,DZ,I,	HARRISON-RAY INC	1804 W LEWIS ST	PASCO	WA	99301	FRANKLIN
,I,HE,	PUMPING PLANT 12-1	RIVER ST	PASCO	WA	99301	FRANKLIN
,I,HE,	TWIN CITY FOODS KENNEWICK	1000 E 1ST AVENUE	KENNEWICK	WA	99336-4079	BENTON
,FM,ZM,DZ,BP,BO,	GAS TRANSMISSION NW STATION 8	638 LAMB DIN RD	WALLULA	WA	99363	WALLA WALLA
,AF,FC,	AG ENGINEERING & DEVELOPMENT CO	1515 E 7TH ST	KENNEWICK	WA	99337	
,AF,FC,	TIDEWATER COLUMBIA RIVER TERMINAL	1302 S 8TH ST	PASCO	WA	99301	
,FM,HE,I,EA,H,BO,SS,AO,	UPTOWN CLEANERS	1370 JADWIN AVE	RICHLAND	WA	99352	BENTON
,HE,FM,I,BO,	EDS DISPOSAL INC	1210 S GREY EDS DISPOSAL	PASCO	WA	99301	FRANKLIN
,FM,I,HE,	EMERALD SERVICES UST PENALTY	1000 COLUMBIA PARK TRL	RICHLAND	WA	99352	BENTON
,FM,BP,M,BO,	COLUMBIA COLSTOR KENNEWICK	224905 E BOWLES RD	KENNEWICK	WA	99337-8606	BENTON
,FM,AT,BP,AM,BO,	OIL RE REFINING COMPANY INC KENNEWICK	403 N DAYTON	KENNEWICK	WA	99336	BENTON
,FM,I,HE,	DURATEK FEDERAL SERVICES	345 HILLS ST	RICHLAND	WA	99354-5507	BENTON
,HE,I,FM,BO,	RICHLAND SPECIALTY EXTRUSIONS	300 AREA HANFORD SITE BLDG 313	RICHLAND	WA	99352	BENTON
,HE,I,BP,BO,	US DOE NORTHGATE	712 NORTHGATE	RICHLAND	WA	99352	BENTON
,OO,	TESSENDERLO KERLEY, INC	46807 S PIERT RD	KENNEWICK	WA	99337	
,OO,	TIDEWATER COLUMBIA RIVER TERMINAL	1320 S 8TH ST	PASCO	WA	99301	

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,OO,	TIDEWATER SNAKE RIVER TERMINAL CO.	TANK FARM ROAD	PASCO	WA	99301	
,FM,BO,	WATCO MECHANICAL SERVICES PASCO	2150 E CARGO ST	PASCO	WA	99301	FRANKLIN
,FM,BP,BO,	SAFETY KLEEN SYSTEMS 904 E AINSWORTH	904 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,S,	TESORO LOGISTICS PASCO TERMINAL	2900 SACAJAWEA PARK RD	PASCO	WA	99301	FRANKLIN
,S,HE,I,	TIDEWATER TERMINAL CO SNAKE RIVER TERMINAL	671 TANK FARM RD	PASCO	WA	99301	FRANKLIN
,I,HE,	CITY OF RICHLAND WATER TREATMENT PLANT	110 SAINT ST	RICHLAND	WA	99354	BENTON
,AF,FC,	TAPTEAL ON THE COLUMBIA	1775 COLUMBIA PART TRAIL	RICHLAND	WA	99352	
,AF,FC,	KIRKPATRICK REAL ESTATE	1020 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,AF,FC,	HOME BUYERS CHOICE REALTY	1236 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	
,AF,FC,	CREEK SIDE APARTMENTS	1650 MOWRY SQUARE	RICHLAND	WA	99354	
,X,	UNOCAL AGRICULTURAL PROD - KENNEWICK PLANT/ HEDGES	227108 E. HEDGES RD.	KENNEWICK	WA	99336	
,X,	UNOCAL AGRICULTURAL PROD - KENNEWICK PLANT/ KENNE	227515 BOWLES RD.	KENNEWICK	WA	99336	
,AF,FC,	HARRY H MOORE REALTY INC	29 E COLUMBIA DR	KENNEWICK	WA	99336	
,S,	US DOE HANFORD SITE	825 JADWIN AVE	RICHLAND	WA	99352	BENTON
,H,K,EI,BO,	US GSA RICHLAND FEDERAL BLDG US	825 JADWIN AVE	RICHLAND	WA	99352	BENTON
,I,BO,U,	AZTECA AUTO BODY	820 S 3RD AVE	PASCO	WA	99301	FRANKLIN
,I,BO,U,	ASH GROVE CEMENT WEST INC UST 2142	416 N IVY ST	KENNEWICK	WA	99336-3796	BENTON
,AM,BO,U,	LUDWIG OIL COMPANY	108 E KENNEWICK AVE	KENNEWICK	WA	99336-3755	
,U,	ICE HARBOR MARINA	RT6 BOX 673	PASCO	WA	99301	FRANKLIN
,AM,BO,U,	RICHLAND CITY	505 SWIFT BLVD	RICHLAND	WA	99352-3510	
,U,	COLUMBIA PARK GOLF COURSE SHOP	5111 SE COLUMBIA DR	KENNEWICK	WA	99352	BENTON
,BO,CT,U,	CHAD'S AUTO SALES	1116 W. COLUMBIA DR.	KENNEWICK	WA	99336	BENTON
,BO,U,	MOTORCYCLES INC	422 E COLUMBIA DR	KENNEWICK	WA	99336	
,BO,U,	JET CLOSED	1402 JADWIN	RICHLAND	WA	99352-3406	
,BO,U,	TRI CITY OIL KENNEWICK	501 W CANAL DR	KENNEWICK	WA	99336-3815	
,BO,U,	TRI CITY OIL GENES TUNEUP UST 3673	1007 LEE BLVD	RICHLAND	WA	99352-4226	
,AM,BO,CT,U,	PETROLEUM PUMP COMPANY	23 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,AM,BO,CT,U,	MIDNITE MARINE	420 W COLUMBIA DR	KENNEWICK	WA	99336-3652	BENTON
,BO,U,	OVERTURF MOTOR CO INC	207 W COLUMBIA DR	KENNEWICK	WA	99336-3671	
,BO,U,	US FISH WILDLIFE SERVICE UST 7353	MAPLE ST	BURBANK	WA	99323-9999	
,H,K,BO,	RICHLAND CITY SHOPS	965 GOETHALS DR	RICHLAND	WA	99352	
,U,	FEDERAL BUILDING	825 JADWIN AVE	RICHLAND	WA	99352	BENTON

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,BO,U,	BRIDGE PUMPS STATION KENNEWICK	621 N GUM ST	KENNEWICK	WA	99336	
,DY,AM,BO,U,	BOISE CASCADE TRUCKING OPERATIONS	31572 HWY 12	WALLULA	WA	99363-0167	
,BO,U,	KENNEWICK SEWAGE LAGOON SYSTEM	415 N KINGWOOD	KENNEWICK	WA	99336	
,U,	CONSOLIDATED FREIGHTWAYS KENNEWICK	900 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,BO,U,	PERFECTION TIRE LEWIS	1403 W LEWIS	PASCO	WA	99301	
,BO,DI,U,	APOLLO SHEETMETAL INC	1207 W COLUMBIA DR	KENNEWICK	WA	99336-3459	
,DY,BO,U,	CLOVER ISLAND YACHT CLUB	104 CLOVER ISLAND	KENNEWICK	WA	99336-3761	
,BO,U,	SHAM NA PUM GOLF COURSE	72 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,H,K,BO,U,	BNRR DAIRYGOLD	229 N FRUITLAND	KENNEWICK	WA	99336-3615	BENTON
,DY,BO,U,	WONDRACK DISTRIBUTING CARDLOCK UST 10069	206 N GUM ST	KENNEWICK	WA	99336-3770	
,BO,U,	INDEPENDENCE SQUARE	1766 FOWLER ST	RICHLAND	WA	99352-0000	
,BO,	DAVID LLOYD	1107 W COLUMBIA DR	KENNEWICK	WA	99306-3461	
,BO,U,	JACKS SUPERIOR AUTO BODY	310 W COLUMBIA DR	KENNEWICK	WA	99336-9999	
,BO,U,	JONA D & PATRICIA J MEYER	BLDG 33 E B CIRCLE	PASCO	WA	99301-0528	
,BO,U,	LEVEE PUMP PLANT 2C	GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,H,K,BO,AX,U,	SMITTYS CONOCO 240	33 S GARFIELD	KENNEWICK	WA	99326	
,DY,AM,BO,U,	JET MART CONOCO	1001 N VOLLAND ST	KENNEWICK	WA	99336	BENTON
,DY,H,K,BO,U,	CURLEYS TEXACO	294 WILLIAMS BLVD	RICHLAND	WA	99352-4533	BENTON
,BO,U,	BURLINGTON NORTHERN RAILROAD UST 101649	W END OF LEWIS ST UNDERPASS	PASCO	WA	99301	
,DY,BP,AM,BQ,EI,BO,CT,AX,U,	KADLEC REGIONAL MEDICAL CENTER	888 SWIFT BLVD.	RICHLAND	WA	99352	
,U,	VERIZON NORTHWEST INC	752 MANSFIELD ST	RICHLAND	WA	99352	BENTON
,BO,U,	SHARPE & PRESZLER CONSTRUCTION COMPANY	605 E KENNEWICK AVE	KENNEWICK	WA	99336-4071	
,U,	NORTH PACIFIC GRAIN GROWERS INC	900 E COLUMBIA DR PO BOX 6267	KENNEWICK	WA	99336	BENTON
,U,	METRO MART 3	520 E COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,U,	CIRCLE K 6026	1401 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,U,	SHOPPING SPOT 057	148 S RD 28	PASCO	WA	99301	FRANKLIN
,BO,U,	ROY SCHARNHORST	561 E COLUMBIA DR	KENNEWICK	WA	99336-3760	
,BO,U,	FRANKLIN COUNTY FIRE DISTRICT 3	2108 RD 84	PASCO	WA	99301-1737	

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,BO,U,	FRANKLIN COUNTY PARKS	9000 CHIAWANA PARK	PASCO	WA	99301-1705	
,CT,	SECO CONSTRUCTION	110 N. WASHINGTON	KENNEWICK	WA	99336	BENTON
,DY,BO,U,	MID-COLUMBIA GROCERY	6409 W COURT ST	PASCO	WA	99301	
,I,BO,U,	BURLINGTON NORTHERN SANTA FE UST 490453	A ST	PASCO	WA	99301	FRANKLIN
,I,BO,U,	KENNETH SILLIMAN FARMERS EXCHANGE	19 N BENTON ST	KENNEWICK	WA	99336-0043	BENTON
,I,DY,AM,BO,AX,U,	CONNELL OIL	817 W A ST	PASCO	WA	99301	FRANKLIN
,I,BO,U,	IRELAND DON & LARS NELSON	832 S 3RD	PASCO	WA	99301-5704	FRANKLIN
,I,BO,	PRAXAIR INC PASCO	1830 E CRANE ST	PASCO	WA	99301-5851	FRANKLIN
,I,BO,	RICHLAND CITY COLUMBIA WELL	2131 HARRIS AVE	RICHLAND	WA	99352-2066	BENTON
,I,BP,AM,BO,U,	SECO CONST EQUIP INC UST 6123	110 N WASHINGTON ST	KENNEWICK	WA	99336-3735	BENTON
,I,H,BP,K,BO,	GRANT LAND COMPANY	1333 GILLESPIE	RICHLAND	WA	99352-4101	BENTON
,HE,I,	NEW CITY CLEANERS INC	1823 GEORGE WASHINGTON WAY 422	RICHLAND	WA	99354	BENTON
,DZ,HE,I,	TWIN CITY METALS	455 E BRUNEAU	KENNEWICK	WA	99336-3726	BENTON
,I,H,K,M,BO,SS,	L & L EXXON	1315 LEE BLVD	RICHLAND	WA	99352	BENTON
,I,BO,U,	CHEVRON CHEMICAL COMPANY OF FINLEY	END OF GAME FARM RD	FINLEY	WA	99337	BENTON
,I,BO,U,	PEPSI COLA BOTTLING COMPANY UST 4347	2525 W HOPKINS	PASCO	WA	99302-2531	FRANKLIN
,I,H,K,BO,AX,SS,U,	7 ELEVEN STORE 2304 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,I,BO,	BLEYHL FARM SERVICE INC PASCO	1126 W AINSWORTH ST	PASCO	WA	99301-5129	FRANKLIN
,I,BP,BO,	WESTWAY FEED PRODUCT CO	843 RIVERGRAIN TERMINAL RD	BURBANK	WA	99323	WALLA WALLA
,I,AM,BO,AX,	SHOPPING SPOT 057	148 S RD 28	PASCO	WA	99301-4771	FRANKLIN
,I,BQ,	TRANSTATE ASPHALT	53 GEORGE WASHINGTON WAY	RICHLAND	WA	99352-4486	BENTON
,I,BO,U,	WALLA WALLA COUNTY FIRE DIST 5	E HUMORIST RD	PASCO	WA	99301-9824	WALLA WALLA
,HE,I,DZ,	WONDRACK DISTRIBUTING INC UST 12545	919 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,I,BO,U,	DARIGOLD PASCO BRANCH	1720 W WASHINGTON ST	PASCO	WA	99301-5147	FRANKLIN
,I,BO,U,	KENNEWICK RIVER LIFT STATION	KINWOOD & E COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,BO,	LEHIGH PORTLAND CEMENT CO PASCO	610 W RIVER ST	PASCO	WA	99301-5777	FRANKLIN
,DZ,I,HE,	STOP-N-GO	221 S 10TH AVE	PASCO	WA	99301	FRANKLIN

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,I,BO,	FERRELLGAS KENNEWICK	309 N FRUITLAND ST	KENNEWICK	WA	99336-3613	BENTON
,I,H,BP,K,BO,SS,	US BANK FACILITY	701 STEVENS DR	RICHLAND	WA	99352	BENTON
,I,BO,U,	BEKINS MOVING & STORAGE UST 12480	RD 28 & W LEWIS ST	PASCO	WA	99302	FRANKLIN
,BO,	WA DFW RINGOLD SPRINGS SALMON HATCHERY	1871 RINGOLD RIVER RD	MESA	WA	99343-9601	
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	PHYSICAL SCIENCES FACILITY	670 HORN RAPIDS RD	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPT OF ENERGY HANFORD SITE 300 AREA	300 AREA 550	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	RINGOLD SPRINGS HATCHERY	1871 RINGOLD RIVER ROAD	MESA	WA	99343	FRANKLIN
,DA,	US DEPT OF ENERGY HANFORD SITE	825 JADWIN 450	RICHLAND	WA	99352	BENTON
,DA,	US DEPT OF ENERGY HANFORD SITE SEPTIC SYSTEMS	HANFORD SITE	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON

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,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	HANFORD100 DAREA, BIOSTIMULATION TREAT TEST SIT	100 D AREA BIOSTIMULATION 550	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD	MULTIPLE AREAS	HANFORD	WA	99352	BENTON
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	

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,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,AT,	BASIN DISPOSAL	COURT ST & ROAD 64	PASCO	WA	99301	
,BO,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	3335 Q AVE BLDG 3020	RICHLAND	WA	99354	
,BO,	211 E COLUMBIA DR	211 E COLUMBIA DR	KENNEWICK	WA	99336	
,K,U,	UNION PACIFIC RR - COLD SPRINGS SECTION	TOOL HOUSE	HERMISTON	OR	97838	
,BO,U,	SEVEN UP BOTTLING COMPANY OF WALLA WALLA	2106 W FRONTAGE	PASCO	WA	99301-4703	
,DY,H,K,BO,CT,AX,SS,U,	PETROSUN 1056	500 GEORGE WASHINGTON WAY	RICHLAND	WA	99352-4421	
,U,	TRI CITY BATTERY GOODYEAR	601 GEORGE WASHINGTON WY	RICHLAND	WA	99352	BENTON
,U,	USCG STATION KENNEWICK	434 CLOVER ISLAND	KENNEWICK	WA	99336	BENTON
,BO,U,	COPELAND LUMBER YARDS KENNEWICK	209 N WASHINGTON ST	KENNEWICK	WA	99336	
,DY,H,K,BO,SS,U,	WONDRACK DISTRIBUTING INC UST 12545	919 E AINSWORTH	PASCO	WA	99301	
,BO,U,	METZ MARINA INC	206 CLOVER ISLAND	KENNEWICK	WA	99336-3758	
,DY,M,BO,U,	RICHLAND YACHT CLUB	350 COLUMBIA POINT DR	RICHLAND	WA	-99352	
,BO,U,	KENNEWICK WA LINE SEG 48 PRINT 378	MP 2 3RD SUB PORTLAND DIVISION	KENNEWICK	WA	99336	
,H,K,BO,CT,SS,U,	BEAR MART AUTO SALES	1 E 1ST AVE	KENNEWICK	WA	99336	
,BO,U,	DON HIGHTOWER	600 N HARTFORD ST	KENNEWICK	WA	99336	
,AM,BO,U,	UPRR KENNEWICK SECTION TOOL HOUSE	FRUITLAND ST & CANAL DR	KENNEWICK	WA	99336	
,BO,U,	BENNETT RENTALS	607 W COLUMBIA DR	KENNEWICK	WA	99336-3548	
,BO,U,	COLUMBIA BASIN STEEL & IRON INC	S 2ND AVE	BURBANK	WA	99323-9999	
,BO,	SR124 INTERCHANGE PROJECT	SR124	BURBANK	WA	99323	
,BO,	EMERALD FIELDS	1878 EMERALD ROAD	BURBANK	WA	99323	
,DA,	OP&R - HAT ROCK STATE PARK	HWY 730 9 MI E OF UMATILLA	UMATILLA	OR		UMATILLA
,BO,DI,	RICHLAND CITY	840 NORTHGATE DR	RICHLAND	WA	99352	BENTON
,BP,BQ,M,BO,DI,	SANDVIK SPECIAL METALS LLC	235407 E. SR 397	KENNEWICK	WA	99337	
,AT,	CLAYTON WARD CO.	119 EAST ALBANY	KENNEWICK	WA	99336	
,EI,BO,DI,	KENNEWICK IRRIGATION DIST	12 W KENNEWICK AVE	KENNEWICK	WA	99336	
,BO,DI,	COLUMBIA IRRIGATION DISTRICT	10 E KENNEWICK AVE	KENNEWICK	WA	99336	BENTON
,BO,	PIERT ROAD EXTENTION CE 1619 CRP	SR 397 & PIERT RD	FINLEY	WA	99337	
,BP,BO,	EMERALD SERVICES INC PASCO	1799 E AINSWORTH	PASCO	WA	99301	
,H,BO,AX,AO,	COLUMBIA CENTER DRY CLEANER SPACE 873	1321 N COLUMBIA CENTER BLVD	KENNEWICK	WA	99336	
,H,M,BO,AO,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 17	1379 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	
,BP,BO,	SAFETY KLEEN SYSTEMS INC	1202 SE RD 18 E	PASCO	WA	99301	FRANKLIN
,BP,	CIRCLE K STORES INC 2706026	1401 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,BP,BQ,	BOISE PAPER A DIV OF PACKAGING CORP OF A	31831 W HWY 12	WALLULA	WA	99363	WALLA WALLA
,DA,	318 BUILDING, 300 AREA, US DEPARTMENT OF ENERGY HANFORD SITE	CYPRESS ST AND ARIZONA ST	RICHLAND	WA	99352	BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,FM,BP,BO,	MID COLUMBIA WAREHOUSES INC	1810 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,FM,HE,I,BO,	GREAT WESTERN CHEMICAL CO PASCO	2630 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,ZM,FM,	CHEVRON PIPELINE CO PASCO	2900 SACAJAWEA PARK RD	PASCO	WA	99301	FRANKLIN
,FM,BO,	USWCOM TOUCHET CO	2ND & ALDER ST	TOUCHET	WA	99360	WALLA WALLA
,Q,BP,	SANDVIK SPECIAL METALS LLC	235407 E SR 397	KENNEWICK	WA	99337	BENTON
,I,HE,FM,EA,H,BP,K,BO,CT,SS,AO,	NEW CITY CLEANERS	747 STEVENS DR	RICHLAND	WA	98352	BENTON
,I,HE,FM,BO,	PUREGRO CO TOUCHET	2 MI E OF TOUCHET ON HWY 12	TOUCHET	WA	99360	WALLA WALLA
,I,HE,FM,	PERFECTION TIRE LEWIS	1403 W LEWIS	PASCO	WA	99301	FRANKLIN
,AA,CC,FM,BP,M,BO,	SAFETY KLEEN SYSTEMS INC	814 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,FM,BO,	TIDEWATER TERMINAL CO INC	1320 S 8TH ST	PASCO	WA	99301	FRANKLIN
,ZM,Q,H,BP,M,BO,SS,DI,	TIDEWATER TERMINAL CO SNAKE RIVER	671 TANK FARM RD	PASCO	WA	99301	FRANKLIN
,CV,RR,N,ZQ,C,DH,H,BO,S,S,	HANFORD 100-AREA (USDOE)	100 AREA	BENTON COUNTY	WA	99352	BENTON
,HE,I,FM,BO,	MCGREGOR CO PASCO	550 W RIVER	PASCO	WA	99301	FRANKLIN
,HE,I,G,BP,BO,DI,	WA WSU TRI CITIES	2710 UNIVERSITY DR	RICHLAND	WA	99352	BENTON
,HE,I,H,BO,AX,	GENERAL CHEMICAL CORP KENNEWICK	E PERKINS RD	KENNEWICK	WA	99336	BENTON
,FM,I,HE,BO,	DALLAS UTILITY SVC	1351 E 3RD	KENNEWICK	WA	99336	BENTON
,HE,I,BP,EI,BO,DI,	AGRIUM KENNEWICK FERTILIZER OPERATIONS - FINLEY	231610 E GAME FARM RD	KENNEWICK	WA	99337	BENTON
,FM,I,HE,BO,	WIDMERS AUTO BODY PAINT INC	111 W CANAL DR	KENNEWICK	WA	99336	BENTON
,I,HE,FM,BO,	GRAND AUTO INC KENNEWICK	124 W KENNEWICK AVE	KENNEWICK	WA	99336	BENTON
,FM,I,HE,AM,BO,AX,U,	LITHIA FORD OF TRI CITIES	1775 FOWLER ST	RICHLAND	WA	99352	BENTON
,HK,Q,B,DZ,ZM,AA,V,T,HN,BP,	US DEPT OF ENERGY HANFORD FACILITY	HANFORD FACILITY	RICHLAND	WA	99352	BENTON
,I,HE,FM,BP,BO,	US CG ANT KENNEWICK	434 CLOVER ISLAND	KENNEWICK	WA	99336	BENTON
,I,FM,HE,CT,	OVERTURF MOTORS	1016 W COLUMBIA DR	KENNEWICK	WA	99336-3462	BENTON
,AM,BO,	GIER CONSTRUCTION	3264 HANEY	FINLEY KENNEWICK	WA	99336	BENTON
,FM,I,HE,BO,	AMERA COSMETICS INC	1426 E 3RD BAY 5	KENNEWICK	WA	99336	BENTON
,HE,FL,I,BP,BO,	MELS INTERCITY COLLISION	519 W ENTIAT	KENNEWICK	WA	99336	BENTON
,DZ,S,HE,ZM,BP,	BOISE WHITE PAPER LLC	31831 W HWY 12	WALLULA	WA	99363	WALLA WALLA
,FM,BO,	ACME WELDING WORKS AKA GIBSON	W 1603 A ST	PASCO	WA	99301	FRANKLIN
,HE,Q,I,BP,BO,	TEST AMERICA	2800 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON

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,Q,BP,BO,	BATTELLE PACIFIC NW NATIONAL LABS SIGMA	3110 PORT OF BENTON BLVD	RICHLAND	WA	99352	BENTON
,FM,HE,I,BO,	NORTHSIDE AUTO SERVICE INC	1900 W A ST	PASCO	WA	99301	FRANKLIN
,I,HE,FM,BO,U,	WASHINGTON PUB POWER SUPPLY SYSTM HQ	3000 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,FM,BP,BO,	COLUMBIA PACIFIC TRANSPORT	2250 E CRANE ST	KENNEWICK	WA	99336	BENTON
,I,HE,FM,EA,BO,	DELUXE CLEANERS	5203 CANAL DR	KENNEWICK	WA	99336	BENTON
,ZM,DZ,H,BP,BQ,K,M,EI,B O,DI,SS,	AGRIUM	BOWLES RD E OF FINLEY RD	KENNEWICK	WA	99337	BENTON
,FM,BP,BO,U,	TESORO LOGISTICS OPERATIONS LLC SACAJAWE	3000 SACAJAWEA PARK RD	PASCO	WA	99301	FRANKLIN
,I,HE,FM,BO,	WA DA FRANKLIN 1 WASTE PESTICID	1011 E AINSWORTH	PASCO	WA	99301	FRANKLIN
,AA,FM,BO,U,	ENERGY NORTHWEST HGP	T14N R26E S28	RICHLAND	WA	99352	BENTON
,FM,BO,	FIBERCRAFT MFG INC	BIG PASCO IND CTR BAY 1 BLDG 5	PASCO	WA	99301	FRANKLIN
,C,	USDOJ BR COLUMBIA BASIN PROJECT	2,4-D BURIAL SITE LANDFILL	RICHLAND	WA	99352	BENTON
,BQ,BO,	CHS INC. DBA CONNELL GRAIN GROWERS	900 E COLUMBIA DR	KENNEWICK	WA	99336	
,FM,BP,BO,DI,	AGRIUM US INC KFO HEDGES AREA	227108 E HEDGES RD	KENNEWICK	WA	99336	BENTON
,HE,FM,I,BP,AM,BO,U,	TIME OIL CO RD 28	620 RD 28	PASCO	WA	99301	FRANKLIN
,I,FM,HE,BO,	PAPPY & THE STRIPPER	1300 DAKOTA ST SE	RICHLAND	WA	99352	BENTON
,FM,BO,	USPS PASCO	BLDG T121 PASCO IND PARK	PASCO	WA	99301	FRANKLIN
,FM,I,HE,BP,M,BO,DI,L,U,	CENTRAL PRE MIX CONCRETE	11919 HARRIS RD	PASCO	WA	99301	FRANKLIN
,FM,I,HE,	CHARLIES AUTOMOTIVE	421 E COLUMBIA DR S END OF BLD	KENNEWICK	WA	99336-3712	BENTON
,HE,FM,I,	MCCUES REPAIR & TOWING INC	295 WILLIAMS BOULEVARD	RICHLAND	WA	99354	BENTON
,CC,HE,FM,I,AM,BO,	TRI CITY HERALD	107 N CASCADE	KENNEWICK	WA	99336	BENTON
,FM,BO,	HARBOR OIL INC PASCO	RIVER ST & 7TH LOT 10	PASCO	WA	99301	FRANKLIN
,HE,FM,I,BO,	TRI CITY AUTO COOL KENNEWICK	1119 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,FM,HE,I,BO,	COLUMBIA RIVER BODYWORKS	222 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,HE,FM,I,	STAR RENTALS & SALES PASCO	1912 W A ST	PASCO	WA	99301	FRANKLIN
,I,HE,FM,H,K,BO,SS,U,	KENNEWICK U HAUL	800-812 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,HE,I,FM,BO,	JAPANESE ENGINES & TRANSMISSIONS INC	1900 FOWLER ST STE F	RICHLAND	WA	99352-4845	BENTON
,I,FM,HE,	APEX ENVIRONMENTAL INC KENNEWICK	403 N DAYTON	KENNEWICK	WA	99336	BENTON
,FM,AM,BO,AX,	PASCO MAINTENANCE FACILITY	1ST & B ST BLDG T250	PASCO	WA	99301	FRANKLIN
,FM,CC,	BIG PASCO INDUSTRIAL PARK	AINSWORTH AV, T9N, R30E, SEC31	PASCO	WA	99301	FRANKLIN
,FM,HE,I,BO,	QUALITY COLLISION REPAIR	6620 W COURT ST	PASCO	WA	99301	FRANKLIN
,FM,I,HE,BO,	USWCOM WALLULA N RPTR BLDG	1200 S PASCO WALLA WALLA HWY	WALLULA	WA	99363	WALLA WALLA
,FM,BP,BO,	KENNEWICK AUTO SERVICE	1025 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,I,FM,HE,BO,	LAMPSON RR	1928 W A ST	PASCO	WA	99301	FRANKLIN
,FL,I,HE,BP,BO,	WESTINGHOUSE ELECTRIC CO LLC	2939 RICHARDSON RD	RICHLAND	WA	99352	BENTON
,FM,BP,BO,	US DOE JADWIN	825 JADWIN AVE FED BLDG	RICHLAND	WA	99352	BENTON
,AF,X,Q,FC,BP,BQ,M,BO,DI	TESSENDERLO KERLEY INC	233807 E STRAIGHTBANK RD	KENNEWICK	WA	99337	BENTON
,FM,B,BP,BO,	APPLIED PROCESS ENGINEERING LAB	350 HILLS ST	RICHLAND	WA	99352	BENTON
,FL,BP,BQ,BO,	GUNDERSON NW FINLEY SHOP	228919 E COCHRAN RD	FINLEY	WA	99337	BENTON

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,FM,HE,I,BO,	F2H ENTERPRISES	822 W JOHN DAY	KENNEWICK	WA	99336	BENTON
,FM,H,BP,K,BO,CT,SS,	ESTES EXPRESS LINES INC	900 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON
,HE,FM,I,AM,BO,U,	PASCO CITY	1025 S GREY ST	PASCO	WA	99301	FRANKLIN
,AF,FM,FC,	PASCO PORT	904 E AINSWORTH PORT OF PASCO	PASCO	WA	99301	FRANKLIN
,FM,HE,I,BO,	US WEST COMMUNICATIONS INC PASCO	1300 BLOCK S 9TH ST	PASCO	WA	99301	FRANKLIN
,HE,FM,I,BO,U,	U HAUL OF RICHLAND	939 COLUMBIA DR SE	RICHLAND	WA	99352	BENTON
,I,FM,HE,BO,	SCIENTIFIC ECOLOGY GROUP INC	1234 COLUMBIA DR SE	RICHLAND	WA	99352	BENTON
,BO,	BURBANK BUSINESS PARK PHASE 1 UTILITIES	VICINITY OF JANTZ BLVD AND GATEWAY RD	BURBANK	WA	99323	
,BO,	MCDONALDS RESTAURANT REDEVELOPMENT RICHLAND	1275 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,M,BO,	TWO GUYS STRIPPING	109 N WASHINGTON ST	KENNEWICK	WA	99336	
,BO,	CENTRAL PREMIX CONCRETE PRODUCTS CO PASCO	11919B HARRIS RD	PASCO	WA	99301	
,BO,	BURBANK BUSINESS PARK PASCO SEWER IMP.		PASCO	WA	99301	
,BO,	PAPE DITCH WITCH NW KENNEWICK	722 N HARTFORD ST	KENNEWICK	WA	99336	
,AT,	LIGHTRECYCLE WASHINGTON ORGANIZATION	1415 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	
,EI,BO,DI,	940 NORTHGATE DEMOLITION PROJECT	940 NORTHGATE DRIVE	RICHLAND	WA	99352	
,BO,	DENNIS L. & TERRIE A. ZEIGLER	8718 W RICHARDSON RD	PASCO	WA	99301	
,BO,	CJS SMALL ENGINE REPAIR	20008 S FINLEY RD	KENNEWICK	WA	99337	
,BP,EI,BO,	WHB4 OFFICE	3599 E AINSWORTH AVE	PASCO	WA	99301	PASCO
,BO,	TRI-CITY REEFER REPAIR	2355 HANSON LOOP	BURBANK	WA	99323	
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	ENERGYSOLUTIONS	UNIVERSITY WAY AND GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	HANFORD BPA STATION	BPA HANFORD STATION C AND O ROCKWELL HANFORD MAIL RM	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	!00 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	!00 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	!00 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	!00 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	!00 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 N BIOREMEDIATION, ADDING AIR TO SUBSURFACE	!00 N AREA BIOREMEDIATION 550	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON

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Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,BO,	COLUMBIA POINT APARTMENTS	575 COLUMBIA POINT DR	RICHLAND	WA	99352	
,BO,	SUNMART			WA	99323	
,BO,	BURBANK BUSINESS PARK UHLING AND KOHLER		BURBANK	WA	99323	
,CT,U,	GULL	1300 COLUMBIA CENTER BLVD.	RICHLAND	WA	99352	BENTON
,CT,	PIK-A-POP #3	815 W. COLUMBIA DR.	KENNEWICK	WA	99336	BENTON
,CT,	THE BOAT SHOP	1776 COLUMBIA DR. SE	RICHLAND	WA	99352	BENTON
,BO,U,	CENTRAL PRE MIX CONCRETE BRUNEAU AVE	1011 E BRUNEAU AVE	KENNEWICK	WA	99336	
,DY,AM,BO,CT,AX,	TRI CITY OIL 05	421 WILLIAMS BLVD	RICHLAND	WA	99354	
,U,	GOTTA STOP CHEVRON	1601 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,CT,	MELFRED KERR/HALF ACRE STORE	INTERSECTION OF FINLEY	KENNEWICK	WA	99337	BENTON
,AM,BO,CT,U,	STOP & GO MINI MART	830 W A ST	PASCO	WA	99301	
,AM,BO,CT,U,	SNAKE RIVER VINEYARDS	ICE HARBOR DAM 1 MI E	BURBANK	WA	99323	
,U,	UNOCAL 6151	1400 COLUMBIA CENTER BLVD	RICHLAND	WA	99352	BENTON
,U,	BOISE CASCADE CORPORATION WALLULA	PO BOX 500 HWY 395	WALLULA	WA	99363	WALLA WALLA
,BO,U,	WELCOME ABOARD TRAVEL	1375 GEORGE WASHINGTON WAY	RICHLAND	WA	99352	
,BO,U,	LOT 1 SHORT PLAT 79 31	1130 WASHINGTON ST	PASCO	WA	99301	
,BO,U,	PASCO SERVICE STATION UST 500440	1515 W LEWIS ST	PASCO	WA	99301	
,AM,M,BO,U,	OVERTURF MOTORS	1016 W COLUMBIA DR	KENNEWICK	WA	99336-3462	
,H,K,EI,BO,CT,U,	CORRADO OFFICE PARK	750 SWIFT BLVD	RICHLAND	WA	99354	BENTON CITY
,H,K,BO,CT,U,	COFFEE BEAN ESPRESSO	840 STEVENS	RICHLAND	WA	99352	BENTON
,BO,U,	RYDERS OFFICE PRODUCTS	2505 W LEWIS	PASCO	WA	99301	
,BO,U,	SKYLAND AMERICAN ROAD FUEL 45	25 COLUMBIA POINT DR	RICHLAND	WA	99352	
,DY,AM,BO,U,	PIK A POP 8	526 W COLUMBIA DR	KENNEWICK	WA	99336	
,AM,BO,U,	MELFRED KERR HALF ACRE STORE	FINLEY & BRYSON BROWN RD	KENNEWICK	WA	99337-7009	BENTON
,BO,U,	CHARLOTTE STROMME	1530 W LEWIS	PASCO	WA	99301-5032	
,BO,U,	TRI CITY OIL KENNEWICK CARDLOCK UST3670	116 N FRUITLAND	KENNEWICK	WA	99336-3836	
,U,	PASCO MAINTENANCE FACILITY	2250 E CRANE ST	PASCO	WA	99301	FRANKLIN
,BO,U,	UPPER COLUMBIA RIVER CONSTRUCTION CO	PORT OF WALLA WALLA	BURBANK	WA	99323-9999	
,U,	GENERAL CHEMICAL CORP	E PERKINS RD	KENNEWICK	WA	99336	BENTON
,U,	PUMP PAK & EATERY	3 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,DY,BO,U,	MINIT MART 1	221 S 10TH AVE	PASCO	WA	99301	
,U,	RICHLAND CITY EQUIPMENT MAINTENANCE SHOP	965 GOETHALS DR	RICHLAND	WA	99352	BENTON

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,U,	TIDEWATER SNAKE RIVER TERMINAL	671 TANK FARM RD	PASCO	WA	99301	FRANKLIN
,AM,BO,	US DOE HANFORD UST SITE	HANFORD NUCLEAR RESERVATION	RICHLAND	WA	99352	BENTON
,U,	TOTAL STOP	813 W COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,DI,U,	BEN FRANKLIN TRANSIT	1000 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	BENTON
,U,	DAVID LLOYD	1107 W COLUMBIA DR	KENNEWICK	WA	99306	BENTON
,U,	211 E COLUMBIA DR	211 E COLUMBIA DR	KENNEWICK	WA	99336	BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,BO,	PROPAK LOGISTICS, INC.	2440 E AINSWORTH ST	PASCO	WA	99301	
,EI,BO,	LEWIS & CLARK ELEMENTARY SCHOOL	415 JADWIN AVE	RICHLAND	WA	99354	BENTON CITY
,IM,	7 ELEVEN 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	7 ELEVEN STORE 2304 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	BEN FRANKLIN TRANSIT CO.	1000 COLUMBIA DRIVE S.E.	RICHLAND	WA		
,IM,	BEN FRANKLIN TRANSIT CO	1000 COLUMBIA PARK TRAIL	RICHLAND	WA		
,IM,	CBC WSU NURSE TRAINING FACILITY	1011 NORTHGATE DR	RICHLAND	WA		
,IM,	CENEX, KENNEWICK	207 N. BENTON STREET	KENNEWICK	WA		
,IM,	CHEVRON PIPE LINE COMPANY PASCO BULK TERMINAL	2900 SACAJAWEA PARK RD	PASCO	WA		
,IM,	CHEVRON PIPELINE CO PASCO BULK TERMINAL	3000 SACAJAWEA PARK RD CHEVRON	PASCO	WA		
,IM,	COLUMBIA PARK MARINA	1776 COLUMBIA DR SE	RICHLAND	WA		
,IM,	COLUMBIA POINT	225 COLUMBIA POINT DR	RICHLAND	WA		
,IM,	GOTTA STOP CHEVRON	1601 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	J LIEB FOODS INC	10 E BRUNEAU AVE	KENNEWICK	WA		
,IM,	JACKPOT 056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	JACKPOT FOOD MART 056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	KENNEWICK MAIN CTRL OFC BLDG (4320-B01	13 S BENTON ST	KENNEWICK	WA		
,IM,	LEOS LINEUP & TIRES AUTO EXPRESS	1315 LEE BLVD	RICHLAND	WA		
,IM,	LITHIA FORD OF TRI CITIES	1775 FOWLER ST	RICHLAND	WA		
,IM,	NEW CITY CLEANERS INC	1823 GEORGE WASHINGTON WAY 422	RICHLAND	WA		

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,IM,	NORTHWEST PIPELINE BURBANK HEIGHTS	2190 RAILROAD AVE	PASCO	WA		
,IM,	NORTHWEST PIPELINE PASCO	COURT ST & RD 76	PASCO	WA		
,IM,	PASCO BULK FUEL TERMINAL SITE	AINSWORTH & W 9TH	PASCO	WA		
,IM,	PETROSUN 1056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	PORT OF PASCO	AINSWORTH AND W. 9TH	PASCO	WA		
,IM,	PUMP, PAK & EATERY	227 N WASHINGTON ST.	KENNEWICK	WA		
,IM,	RECO INC	1232 COLUMBIA DR SE	RICHLAND	WA		
,IM,	RICHLAND CITY SHOPS	965 GOETHALS DR	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 04	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 06	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 10	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 11	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 12	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 14	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 16	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 21	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 22	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 26	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	RICHLAND UPTOWN SHOPPING CENTER PARCEL 29	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	SUN MART 2	1401 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	TIDEWATER FUEL LINE LEAK	2900 SACAJAWEA PARK RD	PASCO	WA		
,IM,	TIDEWATER TERMINAL PASCO BOILER	671 TANK FARM RD	PASCO	WA		
,IM,	TIME OIL CO PROPERTY 01-052	526 W COLUMBIA DR	KENNEWICK	WA		
,IM,	TRI CITY BATTERY GOODYEAR	601 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	TRI CITY BATTERY GOODYEAR	601 GEORGE WASHINGTON WY	RICHLAND	WA		
,IM,	UPTOWN SHOPPING CENTER PCE PLUME	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IM,	US GSA RICHLAND FEDERAL BLDG US	825 JADWIN AVE	RICHLAND	WA		
,IM,	WA DOT SR 240 RICHLAND WYE PROJECT	916 COLUMBIA PARK TRAIL	RICHLAND	WA		
,IM,	WELCHS KENNEWICK / J LIEB FOODS INC	10 E BRUNEAU AVE	KENNEWICK	WA		
,IM,	WONDRACK DISTRIBUTING INC PASCO	919 E AINSWORTH	PASCO	WA		
,IN,	CASCADE PALLET	3305 AINSWORTH	PASCO	WA		
,IN,	CENTRAL PRE MIX CONCRETE & ASPHALT RECYCLING	11919 HARRIS RD	PASCO	WA		
,IN,	CENTRAL PRE-MIX CONCRETE & ASPHALT RECYCLING	11919 HARRIS RD.	PASCO	WA		
,IN,	CLAYTON WARD RECYCLING	119 E ALBANY AVE	KENNEWICK	WA		
,IN,	COLUMBIA VALLEY GRANGE	COURT ST AND RD 64	PASCO	WA		
,IN,	KENNEWICK WWTP	416 N KINGWOOD ST	KENNEWICK	WA		
,IN,	PASCO WWTP	1015 S GRAY AVE	PASCO	WA		
,IN,	RAY POLAND & SONS CONCRETE & ASPHALT RECYCLING	215 E AINSWORTH	PASCO	WA		
,IN,	RAY POLAND & SONS INC.	525 W. GRAND RONDE	KENNEWICK	WA		
,IN,	SCHNITZER STEEL PASCO	626 GRAIN TERMINAL RD	BURBANK	WA		
,IN,	TRI CITIES BATTERY INC RICHLAND	601 GEORGE WASHINGTON WAY	RICHLAND	WA		

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,IN,	TWIN CITY METALS	455 E BRUNEAU AVE.	KENNEWICK	WA		
,IL,	#2 GEO. WASH. WAY - TRI CITY OIL	1401 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	571	817 WEST A STREET	PASCO	WA		
,IL,	7 ELEVEN 2304 25821/CLOSED	1824 GEORGE WASHINGTON WY	RICHLAND	WA		
,IL,	7 ELEVEN STORE 2304 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	7-11 2304-25821/CLOSED	1824 GEORGE WASHINGTON WY	RICHLAND	WA		
,IL,	7-ELEVEN 2304 25821	1824 GEORGE WASHINGTON WY	RICHLAND	WA		
,IL,	BEN FRANKLIN TRANSIT CO	1000 COLUMBIA PARK TRAIL	RICHLAND	WA		
,IL,	BENTON-FRNKLN PBLC TRNSP BNFT AREA ATHTY	1000 COLUMBIA DR SE	RICHLAND	WA		
,IL,	BENTON-FRNKLN PBLC TRNSP BNFT AREA ATHTY	1000 COLUMBIA PARK TRAIL	RICHLAND	WA		
,IL,	BENTON-FRNKLN PBLC	1000 COLUMBIA DR	RICHLAND	WA		
,IL,	COLUMBIA PARK MARINA	1238 COLUMBIA PARK TRL	RICHLAND	WA		
,IL,	COLUMBIA PARK	5111 SE COLUMBIA DRIVE	KENNEWICK	WA		
,IL,	COLUMBIA PARK	5111 SE COLUMBIA	KENNEWICK	WA		
,IL,	CONSOLIDATED FREIGHTWAYS KENNEWICK	900 E BRUNEAU AVE	KENNEWICK	WA		
,IL,	CURLEY'S TEXACO	294 WILLIAMS BLVD	RICHLAND	WA		
,IL,	CURLEY'S TEXACO	294 WILLIAMS STREET	RICHLAND	WA		
,IL,	DAIRYGOLD	229 N FRUITLAND	KENNEWICK	WA		
,IL,	FEDERAL BUILDING	825 JADWIN AVE	RICHLAND	WA		
,IL,	FOOD MART 056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	FORMER CHEVRON FACILITY #206625	951 COLUMBIA DR SE	RICHLAND	WA		
,IL,	GULL INDUSTRIES, INC. #1625	1300 COLUMBIA CENTER BLVD	RICHLAND	WA		
,IL,	JACKPOT 056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	JACKPOT FOOD MART 056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	KADLEC MEDICAL CENTER	888 SWIFT BLVD	RICHLAND	WA		
,IL,	KENNEWICK MAIN CTRL OFC BLDG (4320-B01	13 S BENTON ST	KENNEWICK	WA		
,IL,	L & L EXXON	1315 LEE BLVD	RICHLAND	WA		
,IL,	LAYRITE PRODUCTS COMPANY	N 307 DAYTON	KENNEWICK	WA		
,IL,	LEO'S LINE-UP + TIRES AUTO EXPRESS	1315 LEE BLVD	RICHLAND	WA		
,IL,	LEOS LINE-UP & TIRES AUTO EXPRESS	1315 LEE BLVD	RICHLAND	WA		
,IL,	LORNE BANGERT FORD-DODGE	1775 FOWLER	RICHLAND	WA		
,IL,	LORNE BANGERT	1775 FOWLER	RICHLAND	WA		
,IL,	LUDWIG OIL COMPANY	108 E KENNEWICK AVENUE	KENNEWICK	WA		
,IL,	MC GEE'S CHEVRON SERVICE	1601 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	MCCUES TEXACO	295 WILLIAMS BLVD	RICHLAND	WA		
,IL,	MCCUESS TEXACO	295 WILLEAMS AVE	RICHLAND	WA		
,IL,	MCGEES CHEVRON	1601 GEORGE WASHINGTON BLVD	RICHLAND	WA		
,IL,	MELFRED KERR/HALF ACRE STORE	FINLEY & BRYSON BROWN RD	KENNEWICK	WA		
,IL,	METRO MART 3	520 E COLUMBIA DR	KENNEWICK	WA		
,IL,	MIDNITE MARINE	420 W COLUMBIA DRIVE	KENNEWICK	WA		
,IL,	PASCO PUBLIC WORKS MAINT & OP FACILITY	1025 S GREY ST	PASCO	WA		
,IL,	PASCO PUBLIC WORKS MAINT & OP FACILITY	1025 SOUTH GREY STREET	PASCO	WA		
,IL,	PETROLEUM PUMP COMPANY	23 W COLUMBIA DR	KENNEWICK	WA		

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,IL,	PETROSUN #1056	500 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	PIK A POP 8	526 W COLUMBIA DR	KENNEWICK	WA		
,IL,	PIK-A-POP #8	524 W COLUMBIA DR	KENNEWICK	WA		
,IL,	PIK-A-POP #8	526 W COLUMBIA DR	KENNEWICK	WA		
,IL,	PUMP PAK & EATERY	3 W COLUMBIA DR	KENNEWICK	WA		
,IL,	RECO INC	1232 COLUMBIA DR SE	RICHLAND	WA		
,IL,	RECO INC	1232 COLUMBIA	RICHLAND	WA		
,IL,	RICHLAND CITY EQUIPMENT MAINTENANCE SHOP	965 GOETHALS DR	RICHLAND	WA		
,IL,	RICHLAND CITY SHOPS	965 GOETHALS DR	RICHLAND	WA		
,IL,	RICHLAND GULL #1625	1300 COLUMBIA CENTER BLVD	RICHLAND	WA		
,IL,	RIVERSIDE DENTAL FACILITY	750 GEORGE WASHINGTON WY	RICHLAND	WA		
,IL,	SANG MUN HAN	1001 NORTH VOLLAND	KENNEWICK	WA		
,IL,	SECO CONST EQUIP INC	110 NO WASHINGTON	KENNEWICK	WA		
,IL,	SNAKE RIVER VINEYARDS	17855 W HWY 124	BURBANK	WA		
,IL,	STOP & GO MINI MART	830 WEST A ST	PASCO	WA		
,IL,	SUN MART #2	1401 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	SUPER LUBE	421 WILLIAMS	RICHLAND	WA		
,IL,	THE BOAT SHOP MARINA INC	1776 COLUMBIA DR SE	RICHLAND	WA		
,IL,	THE BOAT SHOP MARINA, INC	1776 COLUMBIA DR SE	RICHLAND	WA		
,IL,	TIME OIL CO PROPERTY 01-052	526 W COLUMBIA DR	KENNEWICK	WA		
,IL,	TRI-CITY OIL COMPANY, INC.	421 WILLIAMS	RICHLAND	WA		
,IL,	TRICITY BEVERAGE	201 NORTH CEDAR	KENNEWICK	WA		
,IL,	U S DEPARTMENT OF ENERGY	825 JADWIN	RICHLAND	WA		
,IL,	U-HAUL CENTER OF KENNEWICK	800 W COLUMBIA DR	KENNEWICK	WA		
,IL,	U-HAUL CENTER OF	800 W. COLUMBIA DR	KENNEWICK	WA		
,IL,	UNOCAL CHEMICALS & MINERALS DIVISION	227515 EAST BOWLES RD	KENNEWICK	WA		
,IL,	UPTOWN SHOPPING CENTER PCE PLUME	1300 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	USA HOLDING, INC DBA TIREMAX	601 GEORGE WASHINGTON WAY	RICHLAND	WA		
,IL,	WATER WORLD MARINA INC.	1315 SO. 4TH AVE	PASCO	WA		
,IL,	WATER WORLD MARINA INC	1315 S 4TH AVE	PASCO	WA		
,IL,	WONDRACK DISTRIBUTING INC PASCO	919 E AINSWORTH	PASCO	WA		
,IL,	WONDRACK DISTRIBUTING INC	E AINSWORTH AND OREGON AVENUE	PASCO	WA		
,IL,	WONDRACK DISTRIBUTING, INC.	919 E AINSWORTH	PASCO	WA		
,BP,BO,	SAFEWAY STORE 333	1803 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,DA,	CITY KENNEWICK 2		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	DEPT OF ENERGY HANFORD SITE 300 AREA, 331 BLDG	300 AREA, 331 BLDG. 550	RICHLAND	WA	99354	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 100 AREA	100 AREA	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,BO,	CUSHMAN SIDING	MP 221.13 TO 222.95	FINLEY	WA	99337	
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	3335 Q AVE BUILDING 3020	RICHLAND	WA	99354	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	3335 Q AVE BUILDING 3020	RICHLAND	WA	99354	BENTON
,DA,	ENERGY NORTHWEST, BUILDING 69	345 HILLS ST	RICHLAND	WA	99352	BENTON
,DA,	BATTELLE INHALATION LABORATORY	550 6TH STREET GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,BO,	ADSG DENTAL	1363 COLUMBIA PARK TRAIL	RICHLAND	WA	99352	
,DA,	WALLA WALLA COUNTY DEPT OF PUBLIC WORKS - W MAPLE ST	SHEFFLER RD	WALLA WALLA	WA		WALLA WALLA
,BP,	WASHINGTON STATE UNIVERSITY	100 SPROUT RD	RICHLAND	WA	99352	
,BO,	HIGH DESERT MAINTENANCE INC.	525 E BRUNEAU AVE	KENNEWICK	WA	99336	

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

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,BO,	THE VINEYARDS ON CAMPUS - WSU TRI-CITIES		RICHLAND	WA	99352	
,BO,	U-PULL-IT AUTO PARTS	802 S OREGON AVE	PASCO	WA	99301	
,BO,	WA DOT US 12 SR 124 TO WALLULA MCNARY WETLAND MITIGATION SIT			WA		
,DI,	COLUMBIA WATER SUPPLY PROJECT	11412 W COURT ST	PASCO	WA	99301	FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	HANFORD 100 NR 2 OPERABLE UNIT, NEAR 100 N AREA	100 NR 2 OPERABLE UNIT NEAR 100 N AREA	HANFORD	WA	11111	FRANKLIN
,DA,	US DEPARTMENT OF ENERGY HANFORD 300 AREA	300 AREA 2	RICHLAND	WA	99352	BENTON
,BO,DI,	KONCRETE INDUSTRIES BURBANK BATCH PLANT	569 2ND AVE	BURBANK	WA	99323	WALLA WALLA
,BO,DI,	JEFFERSON ELEMENTARY SCHOOL HUNT AVE	1525 HUNT AVE	RICHLAND	WA	99352	BENTON
,BO,	RICHLAND CITY HALL PARKING LOT	715 MANSFIELD ST	RICHLAND	WA	99352	
,BO,	CHERRY CREEK SUBDIVISION	45TH AVE AND S ELY ST	KENNEWICK	WA	99336	
,BO,	SENIOR LIFE RESOURCES NW - MEALS ON WHEELS	1824 FOWLER ST	RICHLAND	WA	99352	
,DA,	BOISE PAPER, A SUBSIDIARY OF PCA	31831 W HWY 12	WALLULA	WA	99363	WALLA WALLA
,DA,	BOISE WHITE PAPER, WALLULA MILL	31831 W HIGHWAY 12	WALLULA	WA	99363	WALLA WALLA
,DA,	WALLULA BASALT CARBON DIOXIDE SEQUESTRATION PILOT STUDY	31831 W HIGHWAY 12	WALLULA	WA	99363	WALLA WALLA
,DA,	MCCURLEY INTEGRITY HONDA	1775 FOWLER STREET	RICHLAND	WA	99352	BENTON
,DA,	MCCURLEY INTEGRITY HONDA	1775 FOWLER STREET	RICHLAND	WA	99352	BENTON
,DA,	MCCURLEY INTEGRITY HONDA	1775 FOWLER STREET	RICHLAND	WA	99352	BENTON
,DA,	MCCURLEY INTEGRITY HONDA	1775 FOWLER STREET	RICHLAND	WA	99352	BENTON
,DA,	MCCURLEY INTEGRITY HONDA	1775 FOWLER STREET	RICHLAND	WA	99352	BENTON
,DA,	CHERRY CREEK SUBDIVISION	45TH AVE AND S ELY ST	KENNEWICK	WA	99336	ADAMS
,DA,	CHERRY CREEK SUBDIVISION	45TH AVE AND S ELY ST	KENNEWICK	WA	99336	ADAMS
,DA,	CHERRY CREEK SUBDIVISION	45TH AVE AND S ELY ST	KENNEWICK	WA	99336	ADAMS
,DA,	KENNEWICK ASR	W 36TH AVE AND SOUTHRIDGE BLVD	KENNEWICK	WA	99336	BENTON
,DA,	STORM WATER POND CANYON GREENS	S VOLLAND STREET AND W 34TH AVENUE	KENNEWICK	WA	99336	BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	3335 Q AVE BUILDING 3020	RICHLAND	WA	99354	BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	WILLIAM R WILEY ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	3335 Q AVE BUILDING 3020	RICHLAND	WA	99354	BENTON
,DA,	PENINSULA TRUCK LINES	900 E BRUNEAU AVE	KENNEWICK	WA	99336	BENTON

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY KENNEWICK 2		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	PASCO BULK FUEL TERMINALS	9TH AVE AND AINSWORTH ST	PASCO	WA	99301	FRANKLIN
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 2		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	CITY KENNEWICK 1		KENNEWICK	WA		BENTON
,DA,	TOYOTA OF TRI CITIES	6321 W CANAL DRIVE	KENNEWICK	WA	99336	BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	HANFORD REACH INTERPRETIVE CENTER	800 COLUMBIA PIONT S	RICHLAND	WA	99352	BENTON
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	GAUNTT NW	1790 FOWLER ST	RICHLAND	WA	99352	BENTON
,DA,	HANFORD REACH INTERPRETIVE CENTER	800 COLUMBIA PIONT S	RICHLAND	WA	99352	BENTON
,DA,	SENIOR LIFE RESOURCES NW - MEALS ON WHEELS	1824 FOWLER ST	RICHLAND	WA	99352	BENTON
,DA,	SUPPORT ADVOCACY & RESOURCE CENTER	1458 FOWLER ST	RICHLAND	WA	99352	BENTON
,DA,BO,	SUPPORT ADVOCACY & RESOURCE CENTER	1458 FOWLER ST	RICHLAND	WA	99352	BENTON
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	MCGRAIL RESIDENCE	10002A W COURT ST	PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 1			WA		FRANKLIN

MCNARY DAM, LAKE WALLULA SEDIMENT QUALITY REPORT

Database in Which the Site is Listed	Site Name	Address	City	State	ZIP	County
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	CITY OF PASCO 2		PASCO	WA	99301	FRANKLIN
,DA,	LEWIS AND CLARK ELEMENTARY	800 DOWNING	RICHLAND	WA	99352	BENTON
,DA,	LEWIS AND CLARK ELEMENTARY	800 DOWNING	RICHLAND	WA	99352	BENTON
,DA,	LEWIS AND CLARK ELEMENTARY	800 DOWNING	RICHLAND	WA	99352	BENTON
,DA,	LEWIS AND CLARK ELEMENTARY	800 DOWNING	RICHLAND	WA	99352	BENTON
,DA,	LEWIS AND CLARK ELEMENTARY	800 DOWNING	RICHLAND	WA	99352	BENTON
,DA,	WASHINGTON PLAZA SHOPPING CENTER	1717-1845 GEORGE WASHINGTON WAY GEORGE WASHINGTON WAY	RICHLAND	WA	99352	BENTON
,DA,	7 ELEVEN SORE 2304 25821	1824 GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,DA,	ENERGYSOLUTIONS	UNIVERSITY WAY AND GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON
,DA,	ENERGYSOLUTIONS	UNIVERSITY WAY AND GEORGE WASHINGTON WAY	RICHLAND	WA	99354	BENTON

Table 5-1. Database Codes

Code	Database Name/Code Meaning
AA	Corrective Action Report
AF	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
AM	Confirmed and Contaminated Sites - No Further Action
AO	Drycleaner Listing
AT	Recycling Facility List
AX	Voluntary Cleanup Program Sites
BB	Above Ground Storage Tanks
BG	Department of Defense Sites
BO	Facility/Site Identification System Listing
BP	Hazardous Waste Manifest Data
BQ	Permitted Sources & Emissions Listing
BS	Risk Management Plans
BT	A Listing of Brownfields Sites
C	Superfund Enterprise Management System
CC	Superfund Enterprise Management System Archive
CT	Independent Cleanup Reports
CV	Engineering Controls Sites List
D	Hazardous Materials Information Reporting System
DA	Underground Injection Wells Database Listing
DH	Sites with Institutional Controls
DI	Wastewater Permits Database
DZ	Integrated Compliance Information System
EI	Asbestos Notification Listing
FC	FIFRA/TSCA Tracking System Administrative Case Listing
FL	RCRA - Conditionally Exempt Small Quantity Generators

Code	Database Name/Code Meaning
FM	RCRA - Non Generators / No Longer Regulated
G	RCRA - Small Quantity Generators
H	Environmental Cleanup Site Information System
H	CECRA (Non-NPL) Priority Sites List
H	Confirmed and Suspected Contaminated Sites List
H	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
HE	Enforcement & Compliance History Information
HH	Mines Master Index File
HN	2020 Corrective Action Program List
I	Facility Index System/Facility Registry System
IA	EPA Fuels Program Registered Listing
IL	Recovered Government Archive Leaking Underground Storage Tank
IM	Recovered Government Archive State Hazardous Waste Facilities List
IN	Recovered Government Archive Solid Waste Facilities List
JH	Abandoned Mines
JM	Hazardous Waste Compliance Docket Listing
K	Leaking Underground Storage Tanks Site List
L	Solid Waste Facility Database
N	National Priority List
OO	Section 7 Tracking Systems
Q	RCRA - Large Quantity Generators
R	Material Licensing Tracking System
RR	Records Of Decision
S	Toxic Chemical Release Inventory System
SS	Hazardous Sites List
T	RCRA - Treatment, Storage and Disposal
U	Underground Storage Tank Database
V	RCRA Administrative Action Tracking System
X	Toxic Substances Control Act
ZM	Aerometric Information Retrieval System Facility Subsystem (AFS)
ZQ	Potentially Responsible Parties