SECTION B - FACILITY DESCRIPTION

B-1 GENERAL DESCRIPTION

Heritage Environmental Services, LLC ("Heritage") is a commercial hazardous waste management facility. Hazardous waste management capabilities of the facility include:

- Storage of hazardous and non-hazardous waste in containers
- Consolidation of hazardous and non-hazardous wastes into containers including bulk and nonbulk containers, roll off boxes, and dump trucks for transportation
- Bulking of hazardous and non-hazardous waste into containers such as drums, tote tanks, containers, tanker trucks, and railroad tank cars for transportation
- Treatment of hazardous and non-hazardous waste. Hazardous waste treatment consists of phase separation (e.g., liquids separated from solids that remain in bottom of containers during bulking activities)
- Blending solids (filter cakes) in preparation for off-site metals recovery
- Bulking of organic liquids in preparation for shipment to cement kilns (e.g., supplemental fuels)
- Shipping of hazardous and non-hazardous wastes in various vehicles including but not limited to vans, roll-off boxes, dump trucks, tanker trucks, and on the rail by boxcars, flat cars, and tankers

Related activities that are performed at the facility include:

- Brokering of wastes to third party treatment, storage, and disposal facilities
- Depacking and repackaging of laboratory chemicals

Heritage serves various types of industries and commercial enterprises that generate hazardous and non-hazardous waste.

ENVIRONMENTAL SETTING

Basin and Site Geology

The Heritage facility near Coolidge, Arizona is located in the Basin and Range physiographic province of the United States (Hall, 1991)^{*}. The Basin and Range province is characterized by sediment filled valleys or basins separating mountain ranges that rise abruptly from the valley floors. The mountain ranges and intervening basins formed in the Tertiary Period as a result of block faulting associated with the Basin and Range tectonic disturbance (Hammett, 1992). As the basin blocks descended relative to the mountain blocks, sediments eroded from the mountains accumulated in the basins. A valley can contain several thousands of feet of sediments derived from the adjacent mountain blocks (Jackson, 1990).

The following details on geology of the Coolidge area are taken from Hammett, 1992. The basin fill is generally coarse grained adjacent to the mountain blocks and fines toward the interior of the basin. The sediments in the basins have been divided into units consisting of Lower Basin Fill and Upper Basin Fill.

The unit immediately above the bedrock floor of the basin is described as the Lower Basin Fill. The Lower Basin Fill is a complex, heterogeneous unit that includes conglomerate and two center-basin fine-grained facies. The very fine-grained facies consists of greater than eighty percent silt and clay sized particles. Thick evaporite beds and gypsiferous mudstones are characteristic of this facies. The wory fine-grained facies contains between 55 and 80% silt and clay sized fractions. The very fine-grained facies underlies the moderately fine-grained facies. Interbedded within both fine-grained facies are sand and gravel units that coarsen toward

the valley margins. Deposition of the Lower Basin Fill sediments occurred during the early stages of the tectonic activity. The fine-grained facies deposits are characteristic of periods when external drainage was blocked.

The Upper Basin Fill consists of moderately consolidated to unconsolidated gravel, sand, silt and clay with the finer sediments increasing toward the center of the basin. The Upper Basin Fill sediments were deposited during the later part of the Basin and Range tectonism when the basins were infilled and through-flowing drainage systems existed the majority of the time. The Upper Basin Fill grades into surficial deposits and soils that range from Pleistocene to Recent alluvium along floodplains and channels of rivers, streams, and washes (Reynolds, 1988).

The southwest corner of the Heritage property consists of relict basin floor of La Palma soil (Hall, 1991). The La Palma soil is a moderately deep, fine sandy loam textured soil derived from loamy eolian and stream alluvium of mixed source areas. The surface layer is approximately three inches thick and pale brown. The underlying layer is a pink tinted, alkaline loam to clay loam. The top two layers are underlain by a lime-cemented hardpan at depths between twenty and forty inches. The La Palma soil is the oldest soil on the relict basin floor landform and is interpreted to be of Early Pleistocene age (Hall, 1991).

The Coolidge sandy loam soil on the northwest quarter of the site and the Laveen loam on the eastern half of the site are deep soils formed on low fan terraces. The upper horizons are pale brown sandy loam or loam. Both soils grade to pink tinted sandy loam with depth. The Laveen loam is then underlain to a minimum depth of five feet by pink tinted, gravelly, limey, fine, sandy loam. The Coolidge soil is underlain at depth by light brown sandy clay loam with soft masses of lime. The low fan terrace landform onlaps the relict basin floor landform and are Late Pleistocene to Early Holocene in age (Hall, 1991).

The lithology logs for wells in the vicinity of the site obtained from the Arizona Department of Water Resources, Records Division indicate thick units of clay and sandy clay from the surface to depths between 125 and 130 feet below grade (well registration numbers 55-527486 and 55-522759). Below the above depths, beds of sand and gravel, sand, and fine sand between five and twenty feet in thickness are interbedded with clay and sandy clay to completion depths between 340 and 495 feet below grade. In well 55-527486, water was encountered in a sand and gravel between 130 and 135 feet below grade. This interval was apparently cased off and the well was completed in a sand and gravel between 330 and 335 feet below grade. The depth to water in the completed well was reported as 225 feet below ground level. Well 55-522759 was screened across several permeable units between 180 and 480 feet below grade. The final water level in this well was 180 feet below grade.

Surface Water

The nearest surface water body is the Hohokam Main Canal, which runs east-west and is located one half mile due south of the Heritage facility. Three north-south trending canals are located east of the Heritage facility. The nearest, the Florence Canal, is located approximately two and one half miles due east of the site. The Florence-Casa Grande Canal is three miles and the Salt-Gila Canal three and three quarter miles due east of the site. The Picacho Reservoir is located approximately three miles southeast of the Heritage site. The Santa Cruz River, which flows from southeast to northwest across the southwestern part of Pinal County, is located approximately twelve miles southwest of the site at its nearest approach to the Heritage facility. The Gila River, which flows roughly east to west across the northern part of the county, is approximately nine miles due north of the Heritage facility at its point of nearest approach.

100-Year Flood

Floodplain data were obtained from the Pinal County Public Works Department. Based on a Flood Insurance Rate Map developed by the Federal Emergency Management Agency (FEMA), the Heritage facility is within a Flood Zone C area, which is an area of minimal flooding.

Hydrogeology

The following hydrogeologic data are from an Arizona Department of Water Resources report by Hammett (1992): The Heritage facility is located in the Eloy Sub-basin of the Pinal Active Management Area. There are three main water bearing zones in the Eloy Sub-basin in the vicinity of the Heritage facility: the Lower Main water zone, the Upper Main water zone, and the Picacho Reservoir local water zone.

The Lower Main water zone generally corresponds with permeable zones in the Lower Basin Fill unit except near the bedrock margins of the sub-basin where the Lower and Upper water zones likely merge together. There are no wells completed in the Lower Main water zone that are indicated on the study map within two and one-half miles of the Heritage facility. The projected water elevation in the Lower Main water zone at the Heritage facility (based on 1989 measurements) is approximately 1,250 feet above Mean Sea Level (MSL), or 200 feet below the ground surface. The depth of the water producing zones is not indicated. A well near the Coolidge-Florence Airport screened in the Lower Main water zone has a completion depth of 600 feet below grade. Another well near Eloy is completed in the Lower Main water zone at a depth of 828 feet below grade.

The Upper Main water zone generally corresponds with the permeable zones of the Upper Basin Fill unit. The elevation of 1989 water levels in the Upper Main water zone in wells near the Heritage facility range between 1,298 and 1,339 feet MSL (between 125 and 152 feet below the ground surface) within a distance of one mile. A well near Randolph completed in the Upper Main water zone has a depth of 600 feet below grade.

The Picacho Reservoir local water zone is believed to be partially perched on fine-grained basin fill sediments. Recharge is generally induced from canals, excess irrigation, and the reservoir. The discharge is to deeper water zones. Water levels measured in 1989 in the Picacho local water zone in wells near the Heritage facility ranged from sixty feet below the ground surface one mile north of the site to ninety-four feet one and one-half miles south of the site.

Ground Water Flow

Data presented depicting the hydrologic characteristics of water producing zones in the vicinity of the Heritage facility are from the report by Hammett (1992).

Two large ground water depressions in the Lower Main water zone are located north and south of the Casa Grande Mountains in the Eloy Sub-basin due to long-term, high-volume pumping in those areas. The Heritage facility appears to be on a west-southwesterly flowline toward the ground water depression south of the Casa Grande Mountains. Water levels measured through time indicate some recharge to the Lower Main zone has occurred north and northeast of the

Heritage facility, while large ground water elevation decreases have occurred to the west, southwest, and south.

Data on the Upper Main water zone indicates that the Heritage facility lies near the eastern end of the axis of a ground water ridge that is roughly parallel to the Casa Grande Canal. Ground water flow in the Upper Main zone beneath the Heritage facility appears to be nearly due west toward a ground water depression between the Sacaton and Casa Grande Mountains. Water elevations in the Upper Main water zone have increased more than fifty feet in the vicinity of the Heritage facility.

Water elevations in the Picacho Reservoir local water zone have increased sixty feet or more adjacent to the western and northern ends of the Picacho Reservoir, but there is no data from the vicinity of the Heritage facility.

Ground Water Quality

Groundwater is a highly regulated and valuable resource in Arizona. The Coolidge facility lies within the Pinal Active Management Area (AMA) established by the Arizona Department of Water Resources (ADWR). Groundwater quantity is largely regulated by ADWR and groundwater quality is mainly regulated under authority of the Arizona Department of Environmental Quality (ADEQ).

A study conducted by the ADEQ "Groundwater Quality in Arizona: A 20-Year Overview of the Ambient Groundwater Quality Monitoring Program 1995 to 2015 (ADEQ, Open File Report 16-02, Towne & Jones)" was a recent and broad study that involved groundwater sampling and analysis. The ADEQ 20-Year Overview noted that of 1,766 sites sampled, 641 sites (35%) exceeded at least one inorganic and/or radionuclide drinking water quality standard. Four constituents commonly exceeded water quality standards: arsenic, fluoride, nitrate, and gross alpha. Most sites (86%) with Primary Maximum Contaminant Level (MCL) exceedances also had Secondary MCL or aesthetics-based exceedances. The ADEQ noted that this exceedance frequency was similar to the 35% Primary MCL exceedance found in a recent groundwater quality study of the Southwest (USGS Circular 1358).

The ADEQ's study revealed that groundwater in the Pinal AMA displayed the following Primary MCL exceedances: arsenic 28%, fluoride 8%, nitrate 27%, and gross alpha 20%. Likewise, Secondary MCLs exceeded in the Pinal AMA in the ADEQ study indicated that overall 60-79% of the groundwater samples exceeded an inorganic SMCL parameter, which included: Total Dissolved Solids (TDS), sulfate, chloride, iron, manganese, and fluoride.

Historical general water quality parameter measurements taken from the local, upper, and lower main water zones in the Eloy Sub-basin between 1984 and 1986 are summarized on Sheet 2 of the report by Hammett (1992). Specific conductance measurements and fluoride concentrations are reported for all the wells utilized in the study. Major cation and anion concentrations were determined for selected wells. In general, water quality appears to vary substantially between and within the three water zones described in the Eloy Sub-basin.

Three wells from the Picacho Reservoir local water zone with water quality measurements are located within two miles of the Heritage site. Specific conductance measurements were between 4,700 microsiemens per centimeter (uS/cm) one half mile due east of the Heritage facility and

1,940 uS/cm one mile south-southeast of the site. The fluoride concentrations range from 1.3 milligrams per liter (mg/l) in the well due east of the site to 1.5 mg/l in a well north-northeast of the site.

Three wells completed in the Upper Main water zone are located within one mile of the Heritage facility. The specific conductance and fluoride results in a well approximately one mile southwest of the facility are 1,860 uS/cm and 0.8 mg/1, respectively. A well within 0.5 mile northwest of the site had a specific conductance measurement of 6,650 uS/cm, and a fluoride concentration of 1.0 mg/l. Another well one mile northeast of the site had a specific conductance of 2,025 uS/cm and a fluoride concentration of 1.3 mg/l. The nearest well in the general up-gradient direction of the site is approximately two miles to the east-southeast. The specific conductance result was 850 uS/cm and the fluoride concentration was 1.2 mg/l. The nearest well with chemical quality data is approximately 1.5 miles west-southwest of the Heritage facility. The specific conductance was 2,080 uS/cm and the fluoride concentration was 0.3 mg/1. The approximate major ion concentrations in milliequivalents per liter (meg/1) were: 6 meg/1 sodium, 12 meg/1 calcium, 4 meg/1 magnesium, 10 meg/1 chloride, 3 meg/1 alkalinity, and 9 meg/1 sulfate. A well four miles northwest of the Heritage facility had a specific conductance value of 4,550 uS/cm and a fluoride concentration of 0.6 mg/l. The approximate major ion concentrations in this well (1986 measurements) were: 17.5 meq/l sodium, 22.75 meq/l calcium, 7.5 meq/l magnesium, 27.5 meq/1 chloride, 5 meq/1 alkalinity and 17.5 meq/1 sulfate.

Two wells in the Lower Main water zone reported in the Hammett study (1992) are located approximately three miles east of the Heritage facility along the canals. Specific conductivities are 880 and 1,660 uS/cm, and the fluoride concentrations are 6.7 and 3.0 mg/1, respectively. The specific conductance and fluoride concentration in a well approximately one mile west of the site are 1,540 uS/cm and 0.9mg/1, respectively.

<u>Climate</u>

The climate for the region is semiarid with hot summers and mild winters. Annual rainfall in the region averages 9.2 inches (<u>www.usclimatedata.com</u>). The average daily maximum temperature in July, the hottest month, is 106 °F. The average daily maximum temperature in January, the coolest month, is 67 °F. The average daily minimum temperature in July is 76 °F. The average daily minimum temperature in July is 76 °F.

*References

Towne, Douglas C. and Jason D. Jones, A 20-Year Overview of the ADEQ Ambient Groundwater Monitoring Program 1995-2015, Arizona Department of Environmental Quality Open Fie Report 16-02.

Hall, J.F., 1991, Soil Survey of Pinal County, Arizona, Western Part: United States Department of Agriculture, Soil Conservation Service, 154 pages.

Hammett, B.A., 1992, Maps Showing Ground Water Conditions in the Eloy and Maricopa – Stanfield Sub-basin of the Pinal Activity Management Area, Pinal, Pima and Maricopa Counties, Arizona –1989: State of Arizona Department of Water Resources, Hydrologic Map Services Report Number 23, Phoenix, 3 sheets. Jackson, G., 1990, Surficial Geologic Maps of the Picacho Basin: Arizona Geological Survey, Open File Report 90-2, 9 pages.

Reynolds, S.J., 1988, Geologic Map of Arizona: Arizona Geologic Survey Map 26.

www.usclimatedata.com; Coolidge, AZ.

B-2 FACILTY MAPS

The following is a brief description of each map required for Section B-2. Copies of the maps are attached for reference.

Topographic Map

A topographic map is entitled "Heritage Environmental Services, LLC, Topographic Drawing" (Drawing number AZC1301C0020). The scale of the map shown is 1 inch equals 200 feet with a half-foot contour interval. The horizontal datum is the Universal Tranverse Mercator geographic coordinate system in feet. The vertical datum for the topographic map is the National Geodetic Vertical Datum in feet above mean sea level. The Heritage facility occupies the southeastern quarter of the property adjacent to the railroad.

<u>Floodplain</u>

The "Heritage Environmental Services, LLC 100-Year Flood Plain" (Drawing No. S0881327) provided by Pinal County, identifies areas prone to flooding in the vicinity of the Heritage facility. Active management areas of the facility are not located in the 100-year floodplain, as described in Section B-3b. The entire floodplain map for the area from FEMA is also provided (Map No. 04021C1225E).

Surface Waters/Surrounding Land Use/Legal Boundaries

The drawing entitled "Heritage Environmental Services, LLC, Coolidge, Arizona, Surface Waters and Surrounding Land Use" (Drawing No. AZC1301C0030) and a Zoning Map (Drawing No. S1081327) are provided which show surface waters (creeks and reservoirs) and surrounding land uses (industrial, commercial, undeveloped, and residential) based on USGS topographic maps and the Pinal County Zoning Maps of the facility and surrounding area. The legal boundaries of the property are also provided on the Zoning Map. The active portion of the facility is surrounded by a stormwater berm. The non-facility portion of the property is unimproved and covered by desert scrub vegetation.

Buildings and Structures, Loading and Unloading, and Facility Security

The drawings entitled "Heritage Environmental Services, LLC, Coolidge, Arizona, Topographic Drawing" and "Heritage Environmental Services, LLC, Coolidge, Arizona, Facility Drawing" show the location of existing major buildings and structures at the facility including loading and unloading facilities. These drawings also designate the hazardous waste management units at the facility. Security is discussed further in the Procedures to Prevent Hazards (Section F).

Fire Controls, Sewers, Potable Water, and Natural Gas

The drawing entitled "Heritage Environmental Services, LLC, Coolidge, Arizona, Topographic Drawing" shows the location of water mains and the fire control system (excluding the portable fire extinguishers identified in the Contingency Plan), storm sewers, and the potable water service

facilities in the vicinity of the Heritage facility. There are no sanitary sewers or natural gas lines at the facility. Sanitary wastes are managed in an on-site septic system. Upon facility closure, Heritage will abandon the septic system following a workplan that includes sampling of the conduits exiting the building and in the septic tank and leach fields in accordance with ADEQ–Aquifer Protection Division/Septic Program policy.

Solid Waste Management Units, Monitor Wells, and Boreholes

The Drawing entitled "Heritage Environmental Services, LLC, Coolidge, Arizona, Topographic Drawing," shows the location of solid waste management units at the facility. Boreholes were installed in May 2003 at SWMU #1 and SWMU #2. Additional information is provided in the "Detection Sampling Report" dated August 1, 2003 and in Section J of the permit application.

Injection and Withdrawal Wells

Water well locations are shown on the drawing entitled "Heritage Environmental Services, LLC, Water Well Locations" (Drawing No. S2081327).

Wind Rose

A wind rose is provided on the drawing entitled "Heritage Environmental Services, LLC, Coolidge, Arizona, Topographic Drawing." The wind rose provided is for the years 1973 through 2004.

B-2b ADDITIONAL MAP REQUIREMENTS FOR LAND DISPOSAL FACILITIES

This section is not applicable because there are no land disposal facilities at the Heritage facility in Coolidge, Arizona.

B-3 SEISMIC AND FLOODPLAIN STANDARDS

B-3a Seismic Standard

The Heritage facility is not located in a political jurisdiction identified as seismically active per 40 CFR Part 264, Appendix VI for the state of Arizona.

B-3b Floodplain Standard

The flood map provided by Pinal County indicates that no active waste management areas of the Heritage facility are located within the 100- or 500-year flood boundaries.

B-4 TRAFFIC INFORMATION

Heritage provides commercial waste management services. Heritage Transportation, LLC and third party vehicles enter and leave the facility each day from public thoroughfares. In accordance with ADEQ Policy 1103.0, Heritage and third-party drivers minimize transportation of hazardous materials near learning sites.

Vehicular traffic hauling waste to and from the facility consists of box trucks, tankers, drum trailers, and similar over-the-road commercial hauling equipment. The estimated number of waste-hauling vehicles entering and leaving the facility is approximately twenty per day.

Internal roads at the facility are covered with asphalt pavement with an aggregate subgrade or concrete pavement, which are adequate for the imposed loads of the vehicles present at the facility. A Traffic Pattern Map (Drawing No. AZC1301C0010) is provided.

Heritage admits trucks from Storey Road as soon as they identify themselves. The construction of Storey Road is adequate for the imposed loads of the vehicles. Trucks are not allowed to idle on Storey Road. There is adequate space inside the fenced portion of the facility to receive multiple trucks simultaneously.

FACILITY DRAWINGS AND MAPS

SECTION B LIST OF FACILITY DRAWINGS AND MAPS

Heritage Environmental Services, LLC Coolidge, Arizona

Drawing Source	Title	Drawing Number	Revision Date
Heritage Environmental Services, LLC	Site Process Codes and Locations	AZC1301C0040	June 4, 2015
Heritage Environmental Services, LLC	USGS Site Location Map	USGS_COOL_SITE	January 5, 2012
Heritage Environmental Services, LLC	Topographic Drawing	AZC1301C0020	May 4, 2015
Heritage Environmental Services, LLC	Facility Drawing	AZC1301C0050	May 4, 2015
Heritage Environmental Services, LLC	Flood Plain Map	S0881327	September 10, 1999
FIRM Flood Insurance Rate Map	Pinal County, AZ Panel 1225 of 2575	Map Number 04021C1225E	December 4, 2007
Heritage Environmental Services, LLC	Surface Waters and Surrounding Land Use	S1381327	September 16, 1999
Heritage Environmental Services, LLC	Zoning Map	S1081327	September 11, 1999
Heritage Environmental Services, LLC	Water Well Locations	S2081327	September 16, 1999
Heritage Environmental Services, LLC	Traffic Patterns	AZC1301C0010	May 4, 2015
Heritage Environmental Services, LLC	Wind Rose	See Topographic Drawing AZC1301C0020	February 2013
Pinal County Assessor	SEC. 15 S2 TN.06S RG.08E	Map 401-21_4	January 18, 2006











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