RECORD OF DECISION
February 2005

Former Okmulgee Refinery
Okmulgee, Oklahoma

Prepared by:

Oklahoma Department of Environmental Quality
707 North Robinson
Oklahoma City, Oklahoma 73101

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Responsiveness Summary

DECLARATION

RECORD OF DECISION
FORMER OKMULGEE REFINERY
February 2005

1.1 Site Name and Location

Former Okmulgee Refinery
Okmulgee, Okmulgee County, Oklahoma

1.2 Statement of Basis and Purpose

This decision document presents the selected remedial action for soils, sediments, wastes, and surface water at the Former Okmulgee Refinery, in Okmulgee, Oklahoma (Site). The remedial action for groundwater will be addressed as a separate operable unit.

1.3 Description of the Selected Remedy

The Oklahoma Department of Environmental Quality believes the selected remedial action appropriately addresses the principal current and potential risks to human health and the environment. The Site has contaminated soils and wastes that will be excavated and placed in an appropriately designed on-site disposal cell. The principal threats from these soils and wastes associated with historical refining activities include semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs). The selected remedy described in this document addresses the principal threat at the Site by reducing or eliminating exposure to elevated levels of SVOCs and VOCs. A secondary threat is posed by the presence of the metal lead in one surface impoundment. The selected remedy also addresses this secondary threat.

The major components of the selected remedy are as follows:

- Removal and treatment of contaminated soil and wastes from impacted areas
- Disposal of contaminated soils and wastes in a properly designed landfill
- Regrading or backfilling excavated areas as necessary to comply with applicable storm water regulations
- Establishment of institutional controls consisting of maintaining Site fencing at specified locations and recording appropriate deed restrictions
- Post-closure groundwater monitoring performed in the area surrounding the disposal cell

- Requirement for surface water with the elevated lead level to be utilized in the treatment of waste or otherwise properly managed

1.4 Statutory Determinations

The selected remedy is protective of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective. This remedy utilizes permanent solutions and alternative treatment technologies to the extent practicable for this site.

Steven A. Thompson, Executive Director
Oklahoma Department of Environmental Quality

4-14-05
Date

DECISION SUMMARY

2.1 Site Name, Location, and Description

The Former Okmulgee Refinery (Site) is located west of U.S. Highway 75 on the north side of the City of Okmulgee, Oklahoma. The Site location and topographic features are shown in Figure 1. The Site occupies approximately 209 acres in portions of Section 31, Township 14 North, Range 13 East, and Section 6, Township 13 North, Range 13 East in Okmulgee County, Oklahoma.

The Site, under various owners, operated as a petroleum refinery and storage facility from 1906 to 1982. The Site produced gasoline, lube oils, and asphalt. A mixture of residential, commercial/industrial, and recreational areas currently bound the Site.

This Record of Decision (ROD) addresses the contaminated soils, sediment, wastes, and surface water at the Site. ConocoPhillips Company is a former owner of the Site and will be conducting the remedial action. The Okmulgee Area Development Corporation (OADC) is the owner of the Site and will be managing the institutional controls for the Site after the remedial action is complete.

2.2 Site History and Enforcement Activities

OADC owns the Site property. Petroleum storage and refining activities began at the Site in approximately 1906, producing gasoline, lube oils, and asphalt. Various owners operated the Site from 1906 to 1930. Phillips Petroleum Company (ConocoPhillips) acquired the Site in 1930 and operated the refinery until 1966, at which time the refinery was sold to OKC Refining Company**.** In 1980, OKC Refining Company sold the refinery to Basin Refining Company who then operated the refinery through May 1981. Basin Refining Company filed for bankruptcy in June of 1981.

In 1981 and 1982, ownership of the Site was held by CKB & Associates, Inc., which leased the Site to OK Corporation of Dallas, Texas. The refinery was operated intermittently from June of 1981 to June of 1982 at which time it was permanently shut down. In June of 1997, Basin Refining Company issued a quitclaim deed for the property to the OADC. The OADC intends to develop the Site for future use as an industrial/commercial park. ConocoPhillips, in 1997, entered into a voluntary agreement entitled "Environmental Investigation, Remediation, and Settlement Agreement" with the Oklahoma Department of Environmental Quality (DEQ) and the OADC to investigate and remediate the environmental condition of the Site.

When Site remediation began in early 1998, the Site offered numerous challenges. In order to address these challenges, the following tasks were undertaken by ConocoPhillips Company, with work being completed in 2001.

- Clearing of the Site perimeter and construction of a fence around the Site
- Characterization/disposal of containerized chemicals

- Abatement and off-site disposal of over 8,000 cubic yards of asbestos
- Characterization and disposal of over 5,000 cubic yards of non-hazardous tank bottoms
- Off-site disposal of hazardous waste streams such as leaded gasoline tank bottoms, crude tank bottoms, mercury, PCBs, neutralized hydrofluoric acid, chromium, etc.
- On-site neutralization and subsequent off-site disposal of 300 gallons of 99%, anhydrous hydrofluoric acid
- Demolition of a 260 feet tall cat cracker and a 160 feet tall boiler house stack using explosives
- Demolition of over 100 on-site tanks, vessels, and buildings
- Removal of the majority of underground piping

An assessment of the environmental conditions at the Site began with the submittal of a Work Plan on August 2, 2000, to the DEQ. The Phase I Site Characterization field activities were conducted from August 9, 2000, through June 19, 2002, and addressed stream water, stream sediment, on-site surface water, impoundment waste/sediment, non-impoundment waste/soil, and groundwater. The initial Phase II Site Characterization field activities were conducted from March 31, 2003, through September 29, 2003. The objectives of the characterization were to more fully characterize the affected media and to delineate and quantify the volumes of waste, sediment and soil materials that are to be considered for remedial action. The reports indicate elevated concentrations of VOCs and SVOCs are present in the soils, sediments, and waste, and elevated concentrations of lead are present in one on-site surface impoundment (Pond 6).

2.3 Community Participation

The involvement of local citizens in this project has been a major goal of DEQ, ConocoPhillips, and OADC. A number of public meetings have been held since the beginning of this investigation and remediation project in 1997. Radio interviews and newspaper articles have also kept the general public informed of project progress.

The Proposed Plan was released to the public for review and comment at a public meeting held on November 9, 2004. A public notice was published in the local newspaper. The public comment period for the Proposed Plan was open from November 9 to December 8, 2004. At the time of the public meeting, the Proposed Plan was presented and public comment requested. All significant information has been released through the public meeting process to allow concerned citizens to participate in the remedy selection. A transcript of the public meeting and the responses to comments received are included as part of this ROD in the Responsiveness Summary. The administrative record is available for review at Okmulgee Chamber of Commerce, 112 North Morton, Okmulgee, Oklahoma or Department of Environmental Quality, 707 N. Robinson, Oklahoma City, Oklahoma

2.4 Scope and Role of Operable Units

As with many sites of this nature, the problems at the Site are complex. As a result, there will be two operable units at this site.

- Operable Unit 1 (OU 1): Contamination of the on-site soils, waste, sediment, and surface water will be addressed.
- Operable Unit 2 (OU 2): Groundwater contamination will be addressed.

This decision document covers OU 1. OU 2 will be addressed in separate documents.

2.5 Site Characteristics

The physical characteristics of the Site include numerous impoundments and a considerable amount of waste on the ground surface around the Site. Figure 2 shows the impoundment and waste locations. Building foundations are also present in the former process area of the Site. The underground piping has been removed to the extent practicable. The perimeter of the Site is surrounded with a security fence. Limiting access to the Site will prevent general contact with contamination. Okmulgee Creek bisects the Site entering from the northeast and continues around the southwest of the Site and exiting along the south property boundary.

Site investigations began by reviewing historical process knowledge, historical maps, and aerial photographs. The investigations included non-intrusive screening methodologies such as electromagnetic terrain conductivity survey (EM) and rapid optical screening tool (ROST), followed by intrusive sampling methodologies to assess surface water, creek sediment, impoundment sediment, soils and wastes. The primary chemicals of concern (COCs) in Site media include SVOCs and VOCs. A secondary COC is the metal lead that is present in the surface water found only in Pond 6. As a result of the Site Characterization the locations and volumes of media containing COCs at levels greater than cleanup levels were defined and are presented on Figure 3. Surface water and sediments in impoundments were sampled using a boat and a floating platform. Waste volumes were determined based upon physical determinations and analytical sample results.

2.6 Current and Potential Future Land Use and Resource Uses

Currently the land use for the Site is industrial. The future use for the property north of Okmulgee Creek will be primarily industrial/commercial. The OADC has plans to create an industrial/commercial park on the Site north of Okmulgee Creek. However, an area known as the south end of Pond 1 will be restricted from future development. This are will be fenced to restrict access and institutional controls to prevent development will be put into place.

Portions of the property south of Okmulgee Creek may be appropriate for industrial use. However, the on-site disposal cell will occupy a large portion of the south side of the property. Once the disposal cell is built, the cell and surrounding maintenance area, including ancillary structures, will be restricted from future industrial/commercial use. A permanent notice noting these areas will be placed on the deed that will travel with the title of the property. Figure 3 shows these restricted areas.

2.7 Summary of Site Risks

Human Health Risk

Exposure pathways and COCs were determined during the Phase 1 (The Benham Companies, 08/2002) and Phase 2 (The Benham Companies, 02/2004) Site Characterization reports. The investigations revealed that SVOCs, VOCs, and one metal, lead were the principal contaminants. COC clean-up levels were determined based on frequency of detection, comparison with background levels, and screening benchmarks. Table 1 shows the clean-up levels for the principal COCs for Okmulgee Creek and on-site soils and sediments. All soil, sediment, and wastes above these clean-up levels will be remediated and placed in the on-site landfill.

Ecological Risk

Sediment screening values came from EPA Ecotox Thresholds, Oak Ridge National Lab, Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota, and National Oceanic Atmospheric Administration Screening Quick Reference Tables. The investigation showed that there were exceedences of some screening levels. Table 1 shows the clean-up levels for the creek sediments that will be protective of human health. The sediments exceeding these clean-up levels will be remediated and placed in the on-site landfill.

Exposure Assessment

The purpose of the exposure pathway assessment was to estimate the nature and the magnitude of potential exposures associated with the Site and to identify exposure pathways that are complete. Potential exposure pathways that were evaluated include construction workers, industrial/commercial workers, trespassers, and off-site fence-line residents.

- Stream surface waters: No COCs were found; therefore, there is not a completed direct exposure pathway for current or future use.
- Surface waters within on-site impoundments: Construction workers could come into contact either by incidental ingestion or dermal exposure. Trespassers and industrial/commercial workers could have incidental dermal and ingestion contact.
- Non-impoundment soil, sediment, and wastes: Construction workers are anticipated to come into contact. Industrial/commercial workers at the Site could have incidental contact with soil via ingestion and dermal contact. No significant inhalation pathway was considered complete. Ingestion via plant uptake does not constitute a significant pathway; therefore, it was not considered.
- Stream sediments: Construction workers could have direct contact during construction activities. The COCs in the sediments are SVOCs; therefore, a direct inhalation pathway is not complete. Potentially trespassers could have incidental contact via ingestion and dermal contact. Both adults and children could have contact with stream sediments in the downstream off-site area; therefore, the pathway is complete.
- Impoundment sediments: Construction workers could come into contact during construction activities; therefore, the pathway is considered complete.

The Site is fenced with a 6-feet high security fence. Limiting access to the Site will prevent general contact with contamination.

It is DEQ's current judgment that the selected alternative identified in this ROD is necessary to protect human health and the environment from actual or threatened releases of hazardous substances into the environment.

Table 1: Human Health Clean-up levels for principal COCs

Medium	Primary Chemical of Concern	Clean-Up Levels*	
		Level [c]	Units
Okmulgee Creek, Sediment [a]	Benzo(b)fluoranthene	15.6	mg/kg
	Benzo(a)anthracene	15.6	mg/kg
	Benzo(k)fluoranthene	146	mg/kg
	Benzo(a)pyrene	1.56	mg/kg
	Dibenz(a,h)anthracene	1.56	mg/kg
	Indeno(1,2,3-cd)pyrene	14.6	mg/kg
On-Site Soils/Waste/Sediment [b]	Benzene	7.33	mg/kg
	Benzo(a)anthracene	3.38	mg/kg
	Benzo(b)fluoranthene	3.38	mg/kg
	Benzo(a)pyrene	0.338	mg/kg
	Benzo(k)fluroanthene	33.8	mg/kg
	Chrysene	338	mg/kg
	Dibenz(a,h)anthracene	0.338	mg/kg
	Indeno(1,2,3-cd)pyrene	3.38	mg/kg

Notes:

* = Clean-up levels (RAOs) correspond to Risk-Based Remedial Goal Levels (RBRGLs) in project documents.

[a] = Clean-up levels (RAOs) are protective for individuals in contact with sediment while using Okmulgee Creek for recreational purposes.

[b] = Clean-up levels (RAOs) are protective of on-site industrial/commercial workers in contact with on-site soils.

[c] = Clean-up levels (RAOs) are based on the potential for direct contact with sediment or soil on the skin and contact by ingestion of soil or sediment.

mg/kg: Denotes milligram per kilogram

2.8 Remedial Action Objectives

Human Health RAOs

Remedial Action Objectives (RAOs) are clean-up levels that are achieved by reducing or eliminating contamination or exposure routes. RAOs are media-specific and are provided in Table 1. The RAOs must also comply with other state and federal regulations called applicable or relevant and appropriate requirements (ARARs). RAOs and preliminary remediation goals are used during the evaluation of the remedial action alternatives. The soil and sediment RAOs specify the prevention of human health and ecological risks associated with the exposure to soils and sediments containing VOCs and SVOCs. Relocating, consolidating, and disposing contaminated media in an on-site landfill will meet these RAOs. The contaminated media will be rendered inaccessible by humans; thus, the RAOs will be satisfied.

The sediment RAOs reduce the exposure pathways related to SVOC impacted sediment. The excavation and disposal of sediments exceeding the risk or background levels will remove the threat to human health receptors.

Ecological RAOs

Ecological RAOs have not yet been established for this site. All sampled transects of the creek reveal exceedences of the ecological screening levels; however, screening levels are not clean-up levels. The current plan includes remediation of the sections of the creek that exceed human health RAOs with the creek being reevaluated for ecological risk after the current work effort is complete.

2.9 Description of Alternatives

Eight potential remedies were considered in the Remediation Plan (The Benham Companies, Inc., August 2004). The DEQ's preferred remedy is the following: all soils, sediments, and wastes that exceed clean-up levels will be treated and/or excavated and placed in an on-site disposal cell. Surface water with the elevated lead level will be utilized in the treatment of wastes or otherwise properly managed. The disposal cell will be constructed to appropriate engineering standards. Institutional controls will consist of maintaining Site fencing at specified locations and establishing appropriate deed restrictions. The DEQ is required to file a deed notice of risk-based closures. Post-closure groundwater monitoring will be performed in the area surrounding the disposal cell. The Site has been divided into 12 distinct Work Areas (Figure 2). Table 2 depicts the COC by area with the preferred alternative.

Table 2. Summary of Preferred Alternative

Area of Concern	Chemicals of Concern	Remedies
Area 1	None	N/A
Area 2	None	Excavate surficial waste and place in on-site disposal cell on an as-needed basis
Area 3	Benzene impacted soil	Area will be addressed in separate groundwater plan.
Area 4	None	N/A
Area 5	None	Grade area
Area 6	VOC's, SVOC's & Asbestos	Excavate and place in on-site disposal cell. South end of Pond 1 will be left in place and restricted from use.
Area 7	VOC's, SVOC's, Lead	Excavate and place in on-site disposal cell. Pond 6 surface water has an elevated lead level. This water will be disposed of properly.
Area 8	VOC's, SVOC's	Excavate and place in on-site disposal cell
Area 9	VOC's, SVOC's	Excavate and place in on-site disposal cell
Area 10	VOC's in groundwater	No Current Action – Separate operable unit
Area 11	SVOC's impacted sediment	Excavate and place in on-site disposal cell
Area 12	VOC's, SVOC's	Excavate and place in on-site disposal cell

VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

The preferred remedial action alternative was selected after consideration and evaluation of various alternative remedies, including but not limited to the following:

- Off-site disposal
- Treatment in bio-cells
- Landfarming
- Thermal desorption
- Beneficial reuse / recycling
- No action (i.e., leaving waste material in place)
- Institutional controls
- Placement in on-site repository

The alternatives selected for consideration were analyzed based on their feasibility for the existing Site conditions and overall cost. An explanation of the analysis for each alternative follows.

Alternative 1 - Off-Site Disposal
Wastes that exceed clean-up levels and require removal in order to protect public health and the environment must be disposed in a protective manner. One option considered for disposal was off-site disposal in a permitted landfill. This alternative was dismissed as impracticable due to the large volume of waste that will require disposal and the excessive cost and potential hazards of transportation to an off-site facility.

Alternative 2 - Treatment in Bio-Cells
Bio-cells use biodegradation to remove contaminants. A large portion of the waste that will require removal is acidic sludge, which is not readily amenable to treatment in bio-cells. Other

hydrocarbon contaminated waste is contaminated with constituents that would potentially require many years of treatment, such as benzo(a)pyrene. For these reasons, bio-cell treatment was not considered further due to its difficulty in implementation in a reasonable timeframe.

Alternative 3 - Landfarming
Landfarming is very similar to treatment in bio-cells because it uses bioremediation as its primary means of contaminant degradation; however, it is generally carried out by placing wastes directly on the land as opposed to placing them in a controlled treatment cell. Landfarming was dismissed for the same reasons as treatment in bio-cells and was considered even less desirable due to the lack of controls, potential impact to groundwater, and potential impact to the atmosphere due to benzene air emissions during tilling.

Alternative 4 - Thermal Desorption
Thermal desorption uses heat to remove organic contaminants from environmental media. The heavy hydrocarbon and acidic materials at the Site are not amenable to thermal desorption because these materials would coat the internal components of the equipment and cause it to become inoperable. Accordingly, this alternative was dismissed.

Alternative 5 - Beneficial Reuse/Recycling
Several old refineries in Oklahoma have previously evaluated the possibility of recycling or reusing acid sludge and asphaltic materials. Currently, no market has been identified for these materials. Therefore, this alternative was dismissed.

Alternative 6 - No Action
The No Action alternative would leave all the waste materials in place. Because certain materials on-site exceed levels that would be protective of human health, the no action alternative is not a viable alternative and was dismissed.

Alternative 7 - Institutional Controls
Institutional controls would restrict access to the Site but would not remediate wastes that exceed clean-up levels. Since the future use of the Site is industrial/commercial, restricting access for the entire Site is not feasible. Portions of the Site where institutional controls may be feasible include areas of impacted groundwater, a portion of the Pond 1 area, and Work Area 12. Therefore, institutional controls are carried forward in the preferred alternative.

Alternative 8 - On-Site Repository with Institutional Controls
The use of an on-site repository for the consolidation and disposal of waste that exceeds clean-up levels offers the same protection as disposal in an off-site repository, but without the cost of, and potential hazards associated with, off-site transportation. Therefore, an on-site repository was carried forward in the preferred alternative. This alternative involves excavating impacted soils for placement in an on-site disposal cell. The disposal cell would be located on the south end of the Site, formerly the process area. The disposal cell would include a composite liner, or approved equivalent, and an appropriate cap. Institutional controls would include maintaining Site fencing at specified locations and obtaining deed restrictions on land use. Post-closure monitoring would be performed.

2.10 Summary of Comparative Analysis of Alternatives

The Site-wide action alternatives were compared with eight evaluation criteria: Overall protection of human health and the environment; compliance with ARARs; implementability; long term effectiveness and permanence; reduction of toxicity mobility and volume through treatment; short term effectiveness; cost; and community acceptance. These criteria are defined below in Table 3.

Table 3
EVALUATION CRITERIA

Threshold Criteria

1. Overall Protection of Human Health and the Environment - How well does the alternative protect human health and the environment both during and after construction?
2. Compliance with Federal and State Environmental Standards - Does the alternative meet all applicable or relevant and appropriate state and federal standards and laws?

Balancing Criteria

3. Implementability - Is the alternative both technically and administratively feasible? Has the technology been used successfully on other similar sites?

4. Long Term Effectiveness and Permanence - How well does the alternative protect human health and the environment after completion of cleanup? What, if any, risks remain at the Site?

5. Reduction of Toxicity, Mobility, or Volume through Treatment - Does the alternative effectively treat the contamination to significantly reduce the toxicity, mobility, or volume of the hazardous substances?

6. Short Term Effectiveness - Are there potential adverse effects to either human health or the environment during construction or implementation of the alternative? How fast does the alternative reach the cleanup goals?

7. Cost - What are the estimated costs of the alternative?

Modifying Criteria

8. Community Acceptance - What are the community's comments or concerns about the preferred alternative? Does the community generally support or oppose the preferred alternative?

Note: These eight criteria are used to evaluate the remedial action alternatives. With the exception of the no action alternative, all alternatives must meet the first two "threshold" criteria. The next five criteria are used as "balancing" criteria for comparing alternatives and selecting a preferred alternative. After public comment, DEQ may alter its preference on the basis of the last "modifying" criteria.

2.11 Compliance with ARARs

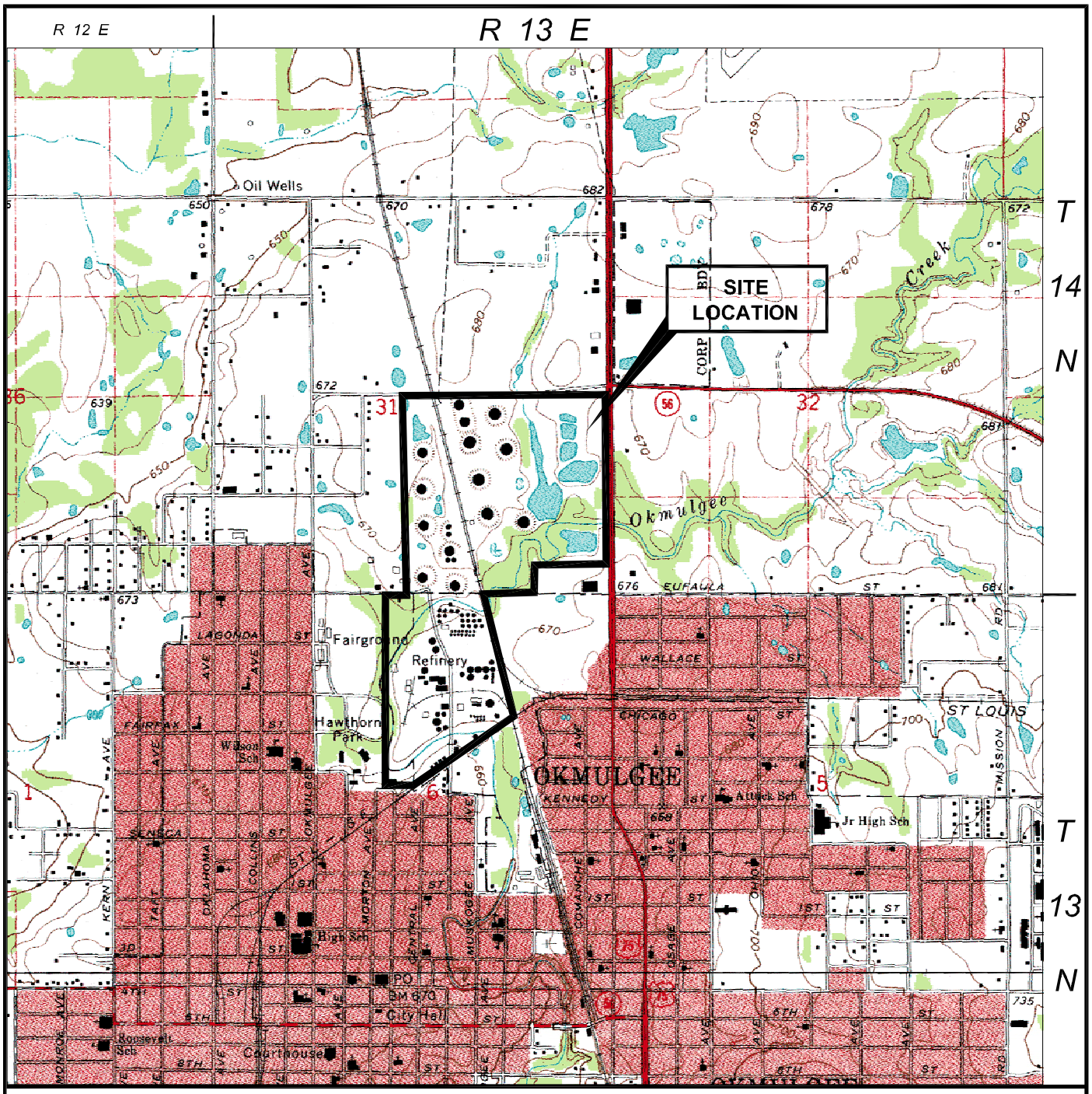
In general, selected remedies are expected to comply with ARARs unless waivers are granted. The selected remedy is expected to meet all chemical-specific, action-specific, and location-specific ARARs and does not include any waivers. A list of ARARs is provided in Table 4 below.

Chemical-specific ARARs provide health or risk based concentration limits for contaminants in various environmental media such as soil, sediment, and surface water. Location-specific ARARs establish restrictions on permissible concentrations of contaminants or establish criteria for conducting actions in sensitive locations such as flood plains, wetlands, streams, and areas of critical habitat. The action-specific ARARs are based on activities and technologies to be implemented. Examples include design, construction, and performance requirements related to conducting the response action.

Table 4: Applicable or Relevant and Appropriate Requirements

Standard, Requirement, Criteria or Limitation	**Citation**	**Application**
Standards applicable to Transporters of Hazardous Waste	40 CFR Part 263	Applicable to transport of hazardous waste.
Safe Drinking Water Act National Primary Drinking Water Regulations including Maximum Contaminant Levels	40 CFR Part 141	Relevant and appropriate. Off-site groundwater is contaminated above MCLs
Safe Drinking Water Act National Secondary Drinking Water Regulations	40 CFR Part 143	Relevant and appropriate as above. Off-site groundwater is contaminated.
Clean Air Act, National Ambient Air Quality Standards	40 CFR Part 50	Relevant and appropriate especially during construction activities.
Occupational Safety and Health (OSHA) Regulations	29 CFR 1910	Applicable. It is the responsibility of employers to conform with the requirements of OSHA.
State Rules and Regulations		
Oklahoma Environmental Quality Code	27A Oklahoma Statutes, Section 2-1-101 et seq.	Applicable. Soil contamination is a public nuisance.
Oklahoma Hazardous Waste Management Regulations	OAC 252:200	Applicable.

Oklahoma Air Pollution Control Regulations	OAC 252:100	Applicable if air concentrations are above the maximum allowable levels due to remedial action.
Oklahoma Hazardous Waste Management Regulations	OAC 252:205	See criteria for 40 CFR Parts 261, 264, and 265.
Oklahoma Water Quality Standards	OAC 785:45	Portions would be applicable and other portions would likely be relevant and appropriate requirements.
Oklahoma General Water Quality Rules	OAC 252:611	See general provisions and numerous non-numerical requirements.
Oklahoma Discharges-OPDES (NPDES)	OAC 252:606	Applicable to point source discharges.
Oklahoma Municipal Solid Waste Landfills and Waste Management Regulations	OAC 252:515	Certain requirements such as portions of the landfill design are incorporated. Relevant and appropriate to on-site disposal options.
Oklahoma Industrial Wastewater Systems	OAC 252:616	May be applicable or relevant and appropriate depending on whether water will be treated as part of the remedy.



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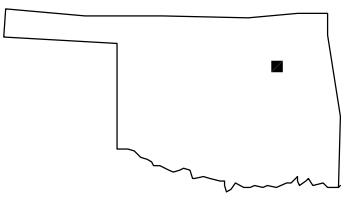

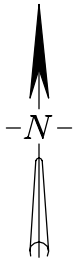

SCALE

0 1/2 1 MILE

BENHAM
Infrastructure & environment

The Benham Companies, LLC
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Tulsa, Oklahoma 74103
(918) 492-1600

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FIGURE TITLE
SITE LOCATION AND TOPOGRAPHIC FEATURES

DOCUMENT TITLE
RECORD OF DECISION

CLIENT
CONOCOPHILLIPS COMPANY

LOCATION
FORMER OKMULGEE REFINERY
OKMULGEE, OKLAHOMA

DATE	3/8/05
SCALE	AS SHOWN
DESIGNED BY	KDH
APPROVED BY	KDH
DRAWN BY	SKG
PROJECT NUMBER	
41005009415 P2	
FIGURE NUMBER	
1	

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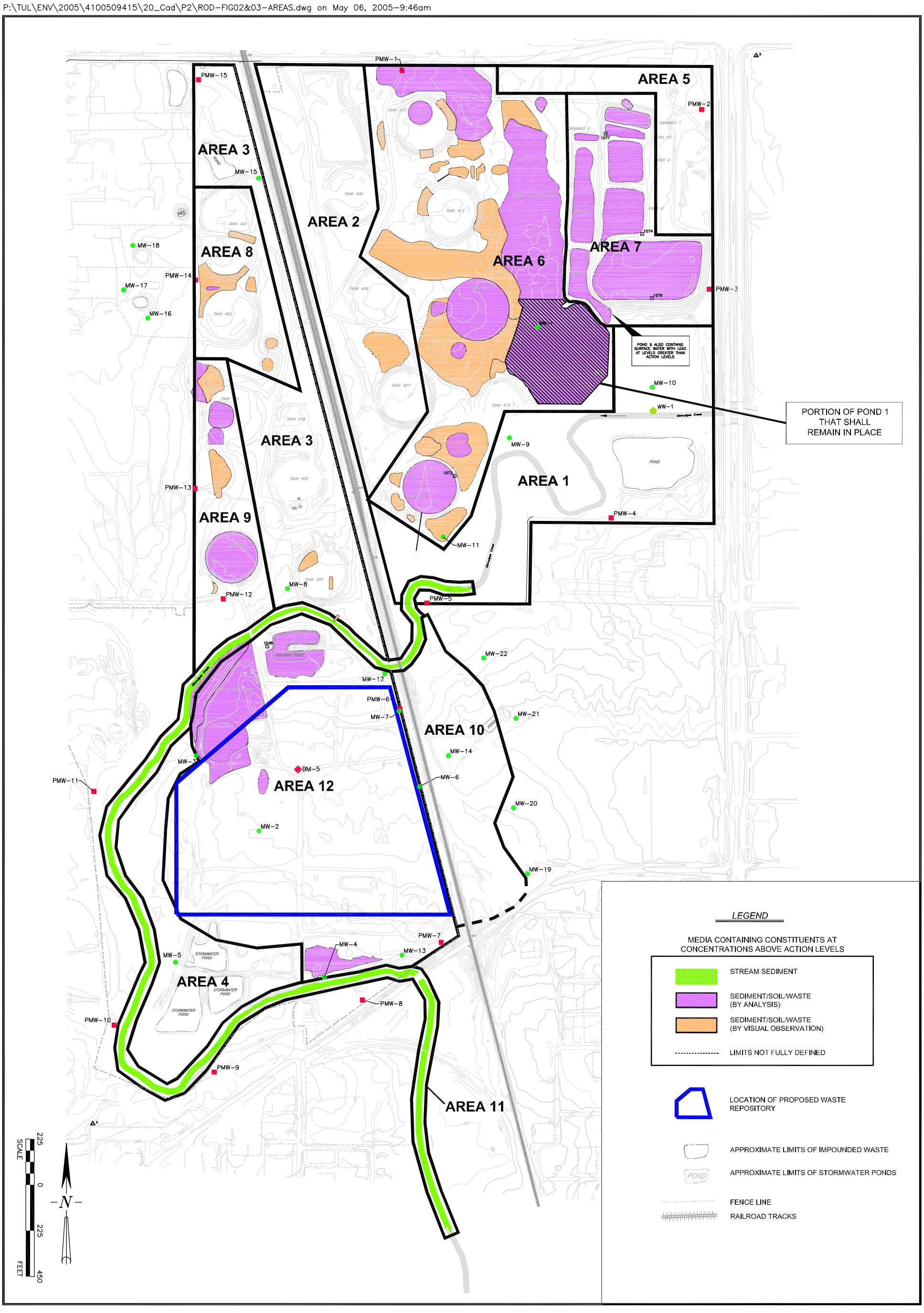

PROJECT NUMBER	4100509415 P2
FIGURE NUMBER	2

DATE	3/8/05
SCALE	1"=450'
DESIGNED BY	KDH
APPROVED BY	KDH
DRAWN BY	SKG

FIGURE TITLE	***CONTAMINATION LOCATION MAP***
DOCUMENT TITLE	RECORD OF DECISION
CLIENT	CONOCOPHILLIPS COMPANY
LOCATION	FORMER OKMULGEE REFINERY OKMULGEE, OKLAHOMA

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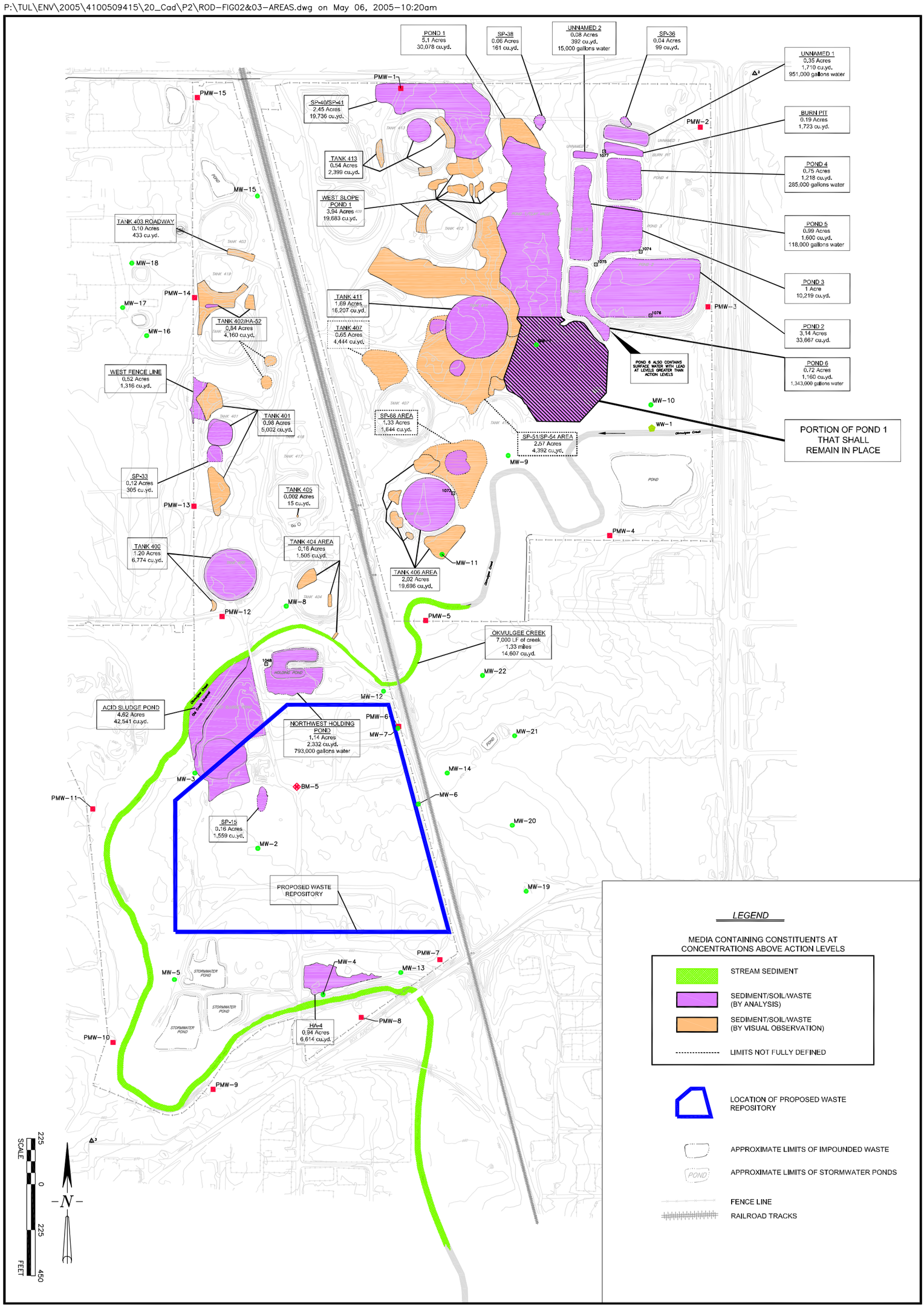

PROJECT NUMBER	4100509415 P2
FIGURE NUMBER	3
DATE	3/8/05
SCALE	1"=450'
DESIGNED BY	KDH
APPROVED BY	KDH
DRAWN BY	SKG

FIGURE TITLE	***WASTE VOLUME MAP***
DOCUMENT TITLE	RECORD OF DECISION
CLIENT	CONOCOPHILLIPS COMPANY
LOCATION	FORMER OKMULGEE REFINERY OKMULGEE, OKLAHOMA

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APPENDIX

Responsiveness Summary

Responsiveness Summary
for the Former Okmulgee Refinery Site
Record of Decision
January 2005

The responsiveness summary consists of the following two components: an overview of the public process and responses to verbal questions received at the public meeting. No letters or verbal comments were received after the public meeting during the public comment period. This document is provided to accompany the Record of Decision and reflects input resulting from the Proposed Plan and public comment processes.

Overview

The Proposed Plan and supporting documents were made available for public review and comment from October 24, 2004 to December 8, 2004. A public meeting was held in Okmulgee, Oklahoma, on November 9, 2004, with 12 people present plus representatives of Oklahoma Department of Environmental Quality (DEQ), The Benham Company, ConocoPhillips, and the Okmulgee Area Development Corporation. The transcript from the public meeting has been added to the project files.

Responses to Verbal Comments

Several verbal questions and comments were asked at the public meeting following the formal presentation component of the meeting.

Comment from DEQ representative concerning odors from the site. He wants to ensure that the community is informed of odor issues during the remediation. Many people do not read the local newspaper and may not know what is going on to cause the odors. These people may have concerns about whether the odors have health concerns and we should do our best to inform them that the smells are not a health issue and that air monitoring is occurring to ensure that nothing harmful leaves the site. Suggestions include communicating with the Indian Health Service and the local Indian community, which makes up a large portion of the local community. Also, the possibility of going door to door with flyers that explain the situation and gives contact names and phone numbers.

Comment from citizen concerning future planning of the industrial park. Representative from OADC discussed the planning that was on-going for the site. He mentioned that the OADC was working with The Benham Company to update their master plan for the site. Also mentioned was the City was planning on putting waterlines through the site to allow future growth for the north side of Okmulgee. The City is working with Benham to plan the location of those lines and future utility corridors.

Comment on the size and location of on-site disposal cell. Benham explained that the initial estimate is approximately 20 acres and 20 feet high. The location will be on the south side of the site.

Questions from local citizen.

- The citizens have concerns about the groundwater. It was explained that the groundwater would be addressed at a later date in a separate plan. It was also explained that the groundwater contamination off-site had not been fully delineated due to access problems.

- The citizens were interested in what work will occur in Okmulgee Creek. It was explained that the creek will be dredged and the waste deposited in the on-site disposal cell. The citizen wanted to know if any ecological testing had been conducted in the creek. It was explained that there had not been ecological testing because the analytical sampling had shown that there was contamination in the creek and that it would have to be remediated. It was also stated that the contamination extends south off-site by about 1200 creek feet.

- Question about Pond 6 lead level. It was explained that Pond 6 was the only surface water body that exceeded drinking water standards