September 8, 2010

Mr. Mark Dearman
General Manager
Rubicon LLC
Post Office Box 517
Geismar, LA 70734

Re: Ready for Reuse Determination
North and South Ponds
Rubicon LLC Geismar Facility
Geismar, LA 70734 (Ascension Parish)
LDEQ AI Number 1468
EPA ID Number LAD008213191

Dear Mr. Dearman:

The Louisiana Department of Environmental Quality (LDEQ) and the United States Environmental Protection Agency (EPA) Region 6, together have determined that a portion of the Rubicon LLC Geismar Facility at Geismar, Louisiana (the "Property") is Ready for Reuse. A Ready for Reuse Determination is an acknowledgment that environmental conditions on the property are protective of human health and the environment based on its current and anticipated future use.

The Rubicon LLC Geismar Facility is a chemical manufacturing plant located along the east bank of the Mississippi River, north of the Illinois Central Gulf Railroad, on Louisiana Highway 73 in Geismar (Ascension Parish), Louisiana. The Property encompassed by this Ready for Reuse Determination consists of the North and South Ponds. These former surface impoundments, with a closed area of approximately 2.75 acres, were used by Rubicon until 1988 as retention ponds for the storage of process wastewaters prior to deepwell injection. Both impoundments have achieved closure and are currently under post-closure monitoring in accordance with Rubicon's Hazardous Waste Post-Closure Permit (LAD008213191-PC-1).

With this Ready for Reuse Determination, LDEQ and EPA Region 6 agree that Rubicon LLC has successfully completed closure activities, and the environmental conditions at the Property are protective of human health and the environment based on its current and anticipated future use as commercial and/or industrial property. The Ready for Reuse Basis of Decision is provided as Enclosure 1 to this correspondence. Information concerning closure of the Property, the current environmental conditions at the site, and risk management activities to ensure protectiveness is summarized in Enclosure 2. Copies of relevant documents may be obtained

from LDEQ at the addresses provided in Enclosure 3 to this correspondence. Figures showing the site location are provided as Enclosure 4.

If conditions on the Property change (e.g., land use is altered or new site receptors are identified) or additional impacted media are discovered, the current owner/operator will notify LDEQ and it may become necessary to perform additional investigation and/or remediation to ensure continuing protectiveness. The undersigned expressly reserve all rights and authorities to require further action by owners or operators if new or additional information is discovered that impacts this Ready for Reuse Determination, whether such information is known as of this date, or becomes available in the future.

Congratulations on this most noteworthy achievement!

Sincerely yours,

Peggy M. Hatch
Secretary
Louisiana Department of
Environmental Quality

Carl E. Edlund, P.E.
Director
Multimedia Planning
and Permitting Division
U.S. EPA, Region 6

Enclosures

1. Ready for Reuse Basis of Decision
2. Environmental Conditions Table
3. Agency Contacts
4. Site Location Maps

ENCLOSURE 1
READY FOR REUSE BASIS OF DECISION

NORTH AND SOUTH PONDS
RUBICON LLC, GEISMAR FACILITY
LDEQ Area of Interest No. 1468; EPA ID No. LAD008213191

INTRODUCTION

The Louisiana Department of Environmental Quality (LDEQ) – Remediation Services Division (RSD) has determined that the closed North and South Ponds at the Rubicon LLC, Geismar Facility, are Ready for Reuse. These units meet the criteria for a Ready for Reuse Determination because their current environmental conditions are protective of human health and the environment based upon their current and/or planned land use. Background information, closure activities, post-closure requirements, and the planned future use of the pond areas are summarized in the following sections.

PROPERTY DESCRIPTION

The Rubicon LLC, Geismar Facility (Rubicon), is a chemical manufacturing plant located along the east bank of the Mississippi River, north of the Illinois Central Gulf Railroad on Louisiana Highway 73, in Geismar (Ascension Parish), Louisiana. The plant site encompasses approximately 71 acres, and is located within Townships T9S and T10S, Range R2E, Section 11. Rubicon is part of the Geismar Industrial Complex, and is bordered to the north by Hexion Specialty Chemicals, to the south by BASF Chemical Corporation, to the east by Dynamic Fuels and Lion Copolymer, and to the west by Praxair. The Rubicon facility has five main production areas: the New Aniline Complex (Aniline 2 and 3 and Nitrobenzene 1 and 2); Reductions (DPA-1, DPA-2, and Aniline 1); MDI (MDI 1, MDI 2, MDI 3, and Variants); Maleic Anhydride; and Polyols. The plant normally operates continuously, 24 hours per day, 7 days per week.

Process wastewater and contaminated run-off from process areas at Rubicon are collected either in process sumps and pumped or hard-piped to neutralizers for pH adjustment in the permitted Class I Underground Injection Control (UIC) wastewater pre-treatment system. Non-process area storm water, sanitary wastewater, cooling tower blowdown, HCl rail car loading area wastewater, and miscellaneous wastewaters (e.g., fire systems test water, eye wash stations, etc.) are collected and pumped to the Weak Pond (i.e. Outfall 001). Outfalls 002, 003, and 004 consist of the discharge of low contamination potential storm water runoff and miscellaneous wastewaters.

The specific properties included in this Ready for Reuse Determination are two closed surface impoundments, the North and South Ponds. These impoundments were historically used as retention ponds for the storage of process wastewaters prior to deepwell injection. The wastewaters were generated from production of aniline, diphenylamine (DPA), methylene diisocyanate (MDI), nitric acid, and toluene diamine (TDA). Three 100,000-gallon aboveground storage tanks were constructed to replace these ponds in November 1988.

BACKGROUND INFORMATION

The North Pond was constructed in 1971 and used for the retention of process wastewater during the period 1971-1974. Following the construction of the South Pond in 1974, the North Pond was used for the storage of waste materials removed from various portions of the facility. By 1980, the materials in the North Pond had accumulated and solidified to a state capable of supporting a shell cover, which was installed over the eastern portion of the pond. This shelled portion was used until late 1987 as an area for temporary storage of drummed wastes. Access to this area was provided by a ramp located at the northeastern corner of the pond. The western portion of the North Pond was used to collect runoff from the shelled area, which in turn was transferred to the South Pond prior to deepwell injection.

The South Pond was constructed in 1974 and served as a retention basin for process wastewater until late 1988. The southwestern portion of the South Pond was used for storage of solid and semi-solid materials. As in the case of the North Pond, the materials in the South Pond solidified to a state capable of supporting a shell/concrete cover. This area was then used to decant free liquids from waste containers into the pond. Two ramps located in the southwestern portion of the facility provided access to the South Pond.

CLOSURE OF THE NORTH AND SOUTH PONDS

Rubicon conducted the closure of the ponds in accordance with a Closure Plan dated May 1988 and revised August 18, 1988. The revised plan was approved by LDEQ on September 26, 1988 with a requirement for a 30-day comment period prior to continuing closure. A public hearing was held November 1, 1988, responses to comments received were issued by LDEQ on January 3, 1989, and a Closure Permit (LAD008213191-CP3) was issued by LDEQ on February 28, 1989.

At the time of closure, the North and South Ponds contained approximately 11,200 cubic yards and 17,200 cubic yards of waste respectively. The closure process required dewatering of the ponds, excavation of sludges and impacted bottom soils to the water table, verification sampling, mixing and stabilizing sludge with fly ash and sawdust, on-site incineration of solids and liquids, offsite disposal of incinerator wastes, management of storm water, and installation of a groundwater collection system (including a recovery drain). The total volumes of solids and liquids incinerated were approximately 70,977.63 tons and 6,946.29 tons respectively. Approximately 51,020.71 tons of solids were disposed of off-site, and approximately 16,000,000 gallons of accumulated surface waste and wastewater were deepwell injected.

The ponds were backfilled and capped in accordance with a separate closure cap work plan dated February 1994 and approved by LDEQ on December 27, 1994. The alternate cap was designed to provide long-term minimization of liquid migration through the capped areas, function with minimum maintenance, promote drainage and minimize erosion or abrasion of cover, accommodate settling and subsidence so that the cover's integrity is maintained, and have a permeability less than or equal to 1×10^{-7} centimeters per second after compaction. The alternative cap was installed over a two-foot compacted clay Soil Barrier Layer, and was constructed of synthetic materials in the

following order: 60-mil HDPE membrane; first layer of 8-ounce nonwoven geotextile; 700-mil drainage net; second layer of 8-ounce non-woven geotextile; and two layers of woven (structural grade) geotextile. The cap was completed by placement of 610 grade limestone in a layer eight inches thick across each pond and six inches thick along the perimeter of the closed ponds.

Rubicon submitted a Closure Certification Report for the ponds on March 11, 1996. On May 8, 1996, LDEQ concurred that the North and South Ponds had been closed in accordance with the approved closure plan. The closed areas of the North and South Ponds are 0.919 acres and 1.838 acres respectively.

A groundwater assessment program was conducted in this area from October 1984 through September 1986 after groundwater contamination was discovered. As a result, 19 wells were added to the existing monitoring program and a pilot remediation program with recovery wells was started. In 1987, five additional wells were installed to comply with existing regulations. Operation of the recovery drain installed as part of the 1995 closure of the North and South Ponds was initiated in April 1996. One additional monitoring well was added as a requirement of the 1998 Post Closure Permit.

The current compliance monitoring system associated with the Post-Closure Permit and LAC 33:3321 includes a total of 28 wells monitoring four permeable zones: 15 in the A-Silt, eight in the B-Silt, four in the C-Silt, and one in the Norco drinking water aquifer. The wells are sampled quarterly with semi-annual reporting. The corrective action program associated with the Post-Closure Permit and LAC 33:3321 includes a recovery trench positioned near the base of the A-Silt, and A-Silt vertical recovery well (IR-1), and a B-Silt vertical recovery well (IR-2). The recovery wells are a pilot project only and are designed to pump continuously at an estimate rate of 0.25 to 0.5 gallons per minute. They appear to have localized control on the groundwater flow. Potentiometric maps show an inward flow gradient. Operation of the recovery trench began in the second quarter of 1996. The system is level controlled and pumps approximately nine gallons per minute during each pumping cycle. The recovery wells and trench continue to remove organics from the A-Silt and B-Silt. The volume of water recovered, contaminant concentrations, and quantities of organics removed through recovery operations are measured quarterly and reported semi-annually.

Rubicon has completed a facility-wide RCRA Facility Investigation (RFI)/Site-Wide Assessment that addressed 11 Solid Waste Management Units. However, the North and South Impoundments are not considered Solid Waste Management Units (SWMUs), and are not part of Rubicon's RCRA Facility Investigation process.

POST-CLOSURE MONITORING PROGRAM

The North and South Ponds are currently regulated under a Hazardous Waste Post-Closure Permit (LAD008213191-PC-1) that was issued January 14, 1998 (effective January 23, 1998) with Class 2 Permit Modifications approved June 22, 1998 and August 4, 1998. The Post-Closure Permit requires that the closed post-closure units comply with all applicable requirements of LAC 33:V.Chapter 33, and establish both a compliance monitoring program per LAC 33:V.3319 and a corrective action program per LAC 33:V.3321 for the 30-year post closure period. A Post-Closure

Permit renewal application was submitted in 2007, and the permit renewal is currently in preparation by LDEQ.

CURRENT ENVIRONMENTAL CONDITIONS

Information regarding current environmental conditions including a list of the constituents monitored in groundwater in accordance with Rubicon's Post Closure Permit may be found in Enclosure 2 to the Ready For Reuse Determination letter (Environmental Conditions Table). Contact information for questions regarding the North and South Ponds is provided in Enclosure 3 to the Ready For Reuse Determination letter.

INTENDED FUTURE USE

Rubicon proposes to reuse the areas of the North and South Ponds for construction projects, including a warehouse, two package boilers, and three storage tanks. On the closed North Pond, Rubicon proposes to build a metal warehouse for pipe fitting, carpentry, insulation, and pipe welding activities. The warehouse will measure approximately 100 feet by 150 feet. On the closed South Pond, Rubicon plans to install two package boilers and three storage tanks. The package boilers will be low NOx watertube boiler systems for steam production. Each boiler would have a nameplate capacity of 125,000 ponds per hour with dimensions of 47 feet long by 12 feet, 5 inches wide by 16 feet, 5 inches high. The two boilers plus burner management controls and water treatment tanks and pumps would take up approximately 50 feet by 75 feet. The tanks would be three new Methylene Diisocyanate (MDI) storage tanks, each with a diameter of 52 feet and a height of 32 feet, and designed with a secondary containment. The foundations for all three tanks would cover approximately 8,464 square feet and would not have pilings or footings.

Each of these projects would be installed on an aboveground mat foundation to spread the applied loading over the closed pond areas, thus maintaining the integrity of the closure caps. Pilings, drilled-shafts and bellbottoms would not be used. Considerations would be included in the design process for the short-term and long-term settlement that can potentially occur.

The above-mentioned equipment would be designed, constructed, and maintained with appropriate operating guidelines and Best Management Practices to prevent spills and leaks. Any slab joints, concrete surfaces, tanks, and pipe systems constructed over the closed ponds which would be inspected quarterly for signs of deterioration, corrosion, erosion or material failures. Joints in any concrete would be designed with double water-stops and chemical resistant sealants. Routine observations and surveys would be done to monitor settlement. New readings and observations would be documented for any 'area of influence' that can augment the pore pressures of the sub-grade and change the flow pattern of the current groundwater. Any impacts to systems would be corrected and changes would be documented.

REFERENCES

Documents related to site closure and post-closure permit requirements at the North and South Ponds are public records, and are available through LDEQ's Electronic Document Management

System (EDMS). Contact information for obtaining access to these records is provided in Enclosure 3 to the Ready For Reuse Determination letter. A list of documents supporting this Ready for Reuse Determination Basis of Decision is provided below:

1988 *Closure Plan: Notification of Intent to Closure North/South Pond* (Rubicon LLC; May 4, 1988) [EDMS Document No 6563928, pp. 3-4]

Closure Plan, North/South Ponds (GDC Engineering Inc. for Rubicon LLC; May 4, 1988) [EDMS Nos. 6563928, 6564035, 6564182]

Revised *Closure Work Plan, North/South Ponds* (Rubicon LLC; August 18, 1988)

LDEQ Approval of *Closure Work Plan, North and South Surface Impoundments, Pending Public Notice* (LDEQ; September 26, 1988) [EDMS Document No. 8211185]

Report of Public Hearing Held November 1, 1988 for the Closure Plan (LDEQ; November 1, 1988) [EDMS Document No. 8211118]

Responses to Comments Given At the November 1, 1988 Public Hearing (LDEQ; January 3, 1988) [EDMS Document No. 8211400]

Closure Permit (LAD008213191-CP3), Rubicon, North and South Ponds (LDEQ: February 28, 1989 [EDMS Document No. 8209925]

1993 *North Pond Surveying and Sampling Report, Rubicon, Inc.* (GDC Engineering, Inc.; August 20, 1993) [EDMS Document No. 46912499, pp. 642-655]

1994 *Closure Work Plan, North and South Ponds* (Cap Design) (Rubicon LLC; February, 1994) [EDMS Document No.6592806]

Conceptual Groundwater Recovery System, North and South Ponds (Geraghty and Miller, Inc. for Rubicon, LLC; August, 1994) [EDMS Document No. 6601137]

LDEQ Approval of *Closure Work Plan: Final Cap Design* (LDEQ; December 27, 1994) [EDMS Document No. 46912499, p. 639]

1995 South Pond Surveying and Sampling Report, Rubicon, Inc. (GDC Engineering, Inc.; June 5, 1995) [EDMS Document No. 46912499, pp. 656-677]

1996 *Quality Control Documentation Report, North/South Pond Closure* (Soil Testing Engineers, Inc.; February 5, 1996) [EDMS Document No. 46912499, pp. 811-853; 46913549, pp. 1-182]

Final Closure Certification Report, North and South Ponds (Rubicon LLC; March 11, 1996) [EDMS Document Nos. 6615615, 6615784, and 6615911]

LDEQ Approval of *Closure Certification Report* (LDEQ; May 8, 1996) [EDMS Document No. 8205940]

1998 *Hazardous Post Closure Permit* (LDEQ; January 23, 1998) (modifications: June 22, 1998; August 4, 1998) [EDMS Document No. 5395178]

2008 *2007 Annual Groundwater Monitor Report* (Rubicon LLC; March 1, 2008) [EDMS Document No. 36656504]

2009 *2008 Annual Groundwater Monitor Report* (Rubicon LLC; March 1, 2009) [EDMS Document No. 40360175]

2010 *2009 Annual Groundwater Monitor Report* (Rubicon LLC; March 1, 2010) [EDMS Document No. 46150953]

Ready for Reuse Request, Closed North and South Ponds (Rubicon LLC; April 9, 2010) [EDMS Document Nos. 46912499 and 46913549]

LDEQ Approval of *Ready for Reuse Request, Closed North and South Ponds* (Rubicon LDEQ; May 24, 2010) [EDMS Document No. 47790071]

ENCLOSURE 2
ENVIRONMENTAL CONDITIONS TABLE

NORTH AND SOUTH PONDS
RUBICON LLC, GEISMAR FACILITY

Closure Action Taken	Clean-up Status	Institutional Controls	Post Closure Permit Constituent List for Groundwater Monitoring	
Excavation and incineration of sludge and contaminated soil in ponds with offsite disposal of resulting waste; backfilling and capping of ponds. Recovery well system and recovery trench for contaminated groundwater. Continued groundwater monitoring.	Currently under Post-Closure care (groundwater monitoring; groundwater recovery); future change of status will require revision or termination of the Post-Closure Permit	LDEQ Hazardous Waste Post-Closure Permit (LAD008213191-PC-1)	Volatile Organic Compounds (EPA Method SW-846 8260)	Semi-Volatile Organic Compounds (EPA Method SW-846 8270)
			Benzene	Aniline
			Chlorobenzene	2-Chlorophenol
			1,1-Dichloroethene	1,2-Dichlorobenzene
			1,2-Dichloropropane	1,3-Dichlorobenzene
			Ethylbenzene	1,4-Dichlorobenzene
			Toluene	2,4-Dimethylphenol
				2,4-Dinitrotoluene
				2,6-Dinitrotoluene
				Diphenylamine
				Nitrobenzene
				Phenol
				o-Toluidine
				m-Dinitrobenzene
				m-Nitroaniline
				p-Nitroaniline
				4-Amino-biphenyl
				p-Chloroaniline
				5-Nitro-o-toluidine
				n-Nitrosodiphenylamine
				1,2,4-Trichlorobenzene

ENCLOSURE 3
READY FOR REUSE AGENCY CONTACTS

NORTH AND SOUTH PONDS
RUBICON LLC, GEISMAR FACILITY

For a copy of the administrative record providing detailed information regarding environmental conditions at the Rubicon LLC Geismar Facility, please contact:

Louisiana Department of Environmental Quality
Public Records Center
Galvez Building, Room 127
602 North Fifth Street
Baton Rouge, LA 70802
(225) 219-3168

For questions regarding the environmental conditions described in the Ready for Reuse Basis of Decision for the Rubicon LLC Geismar Facility, please contact:

Mr. Alan Magro
Geologist 3
Remediation Services Division
Office of Environmental Services
Louisiana Department of Environmental Quality
Post Office Box 4313
Baton Rouge, LA 70821-4313
Telephone: (225) 219-3533
E-mail: alan.magro@la.gov

or

Anthony J. Nelson, REM
Environmental Engineer
Rubicon LLC
Post Office Box 517
Geismar, LA 70734
Telephone: (225) 242-5190
E-mail: anthony_j_nelson@huntsman.com

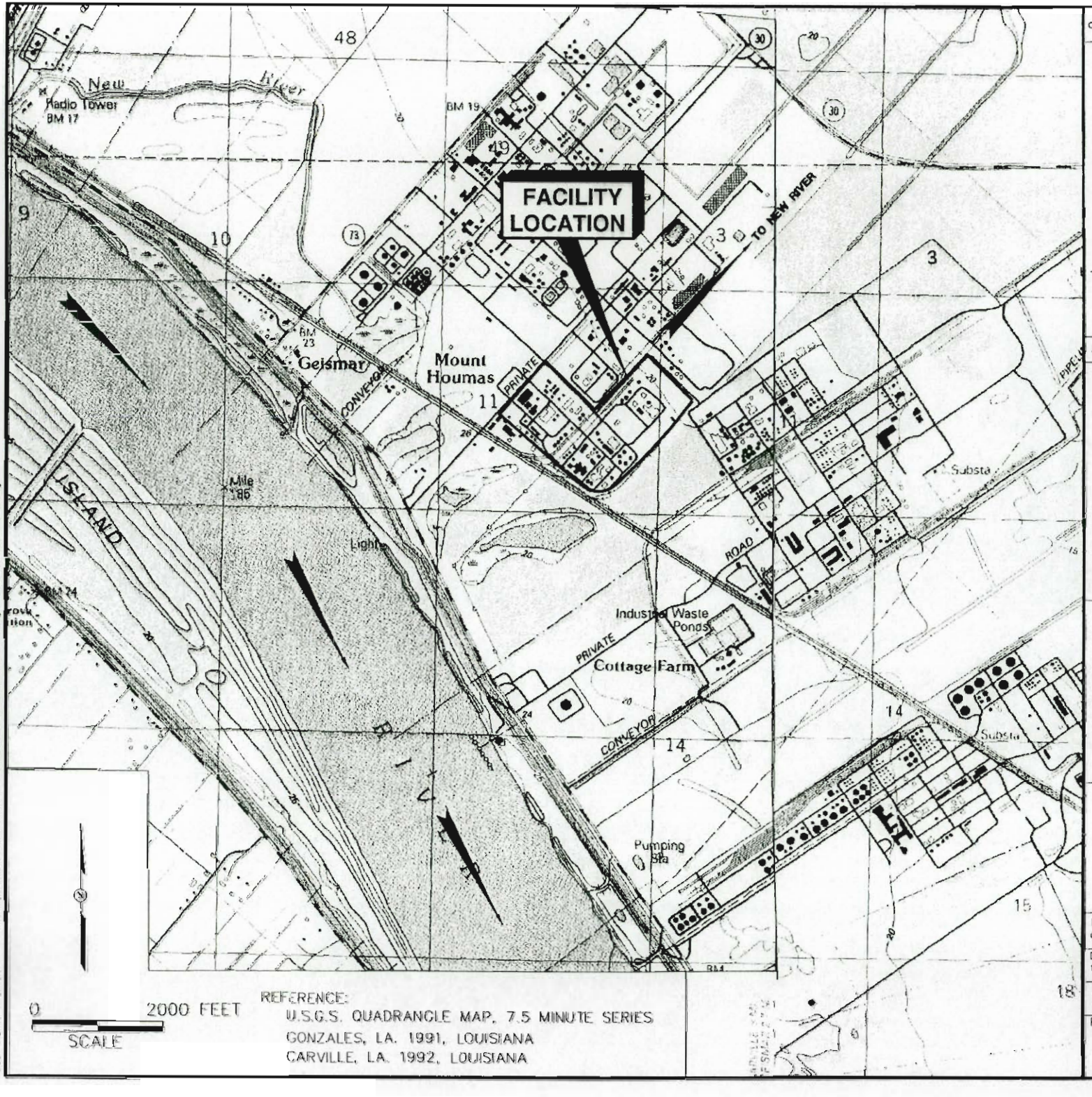
ENCLOSURE 4

FIGURES

NORTH AND SOUTH PONDS
RUBICON LLC, GEISMAR FACILITY

Figure 1. Facility Location Map

Figure 2. Site Location Map



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NO.	DATE	REVISION DESCRIPTION	BY / CKD

Facility Location Map

RUBICON LLC.
Geismar, Louisiana

ARCADIS
10352 PLAZA AMERICANA DRIVE
BATON ROUGE, LA 70816
TEL: 225-292-1004
FAX: 225-218-9677
WWW.ARCADIS-US.COM

PROJECT MANAGER	CHECKED BY:
GHC	JE
DRAWING FILE:	CAD FILE:
1340	1340
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SMEN	6-22-10
PROJECT NUMBER	DRAWING NUMBER
LA001340.2010	1

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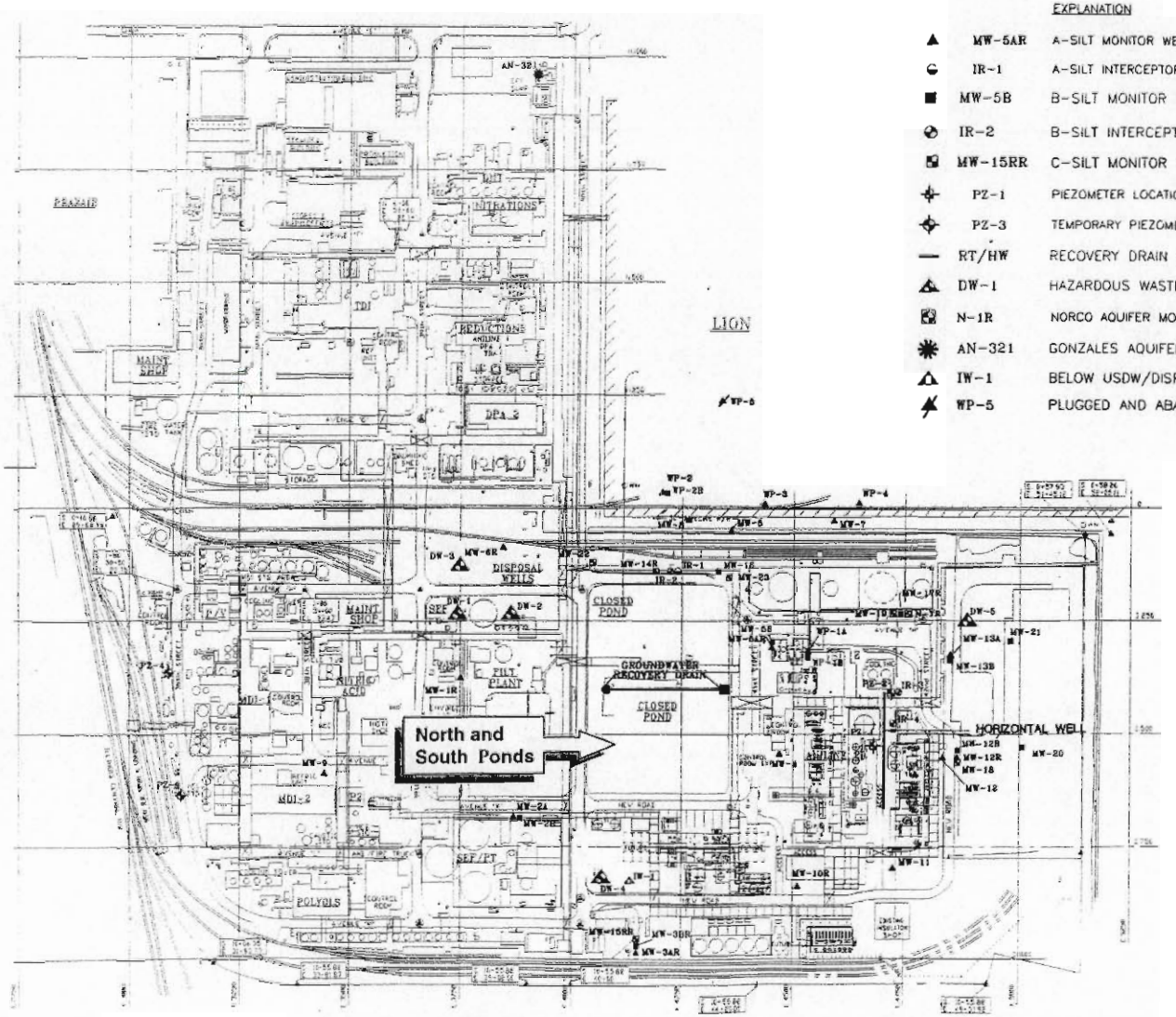

EXPLANATION

▲	MW-5AR	A-SILT MONITOR WELL LOCATION AND DESIGNATION
◐	IR-1	A-SILT INTERCEPTOR/RECOVERY WELL LOCATION AND DESIGNATION
■	MW-5B	B-SILT MONITOR WELL LOCATION AND DESIGNATION
◓	IR-2	B-SILT INTERCEPTOR/RECOVERY WELL LOCATION AND DESIGNATION
▣	MW-15RR	C-SILT MONITOR WELL LOCATION AND DESIGNATION
⊕	PZ-1	PIEZOMETER LOCATION AND DESIGNATION
⊕	PZ-3	TEMPORARY PIEZOMETER LOCATION AND DESIGNATION
—	RT/HW	RECOVERY DRAIN AND HORIZONTAL WELL LOCATION AND DESIGNATION
⛢	DW-1	HAZARDOUS WASTE DISPOSAL WELL LOCATION AND DESIGNATION
▣	N-1R	NORCO AQUIFER MONITOR WELL LOCATION AND DESIGNATION
✱	AN-321	GONZALES AQUIFER POTABLE PRODUCTION WELL LOCATION AND DESIGNATION
△	IW-1	BELOW USDW/DISPOSAL WELL MONITORING WELL LOCATION AND DESIGNATION
✗	WP-5	PLUGGED AND ABANDONED MONITOR WELL LOCATION AND DESIGNATION

N

NOTES:

1. THIS BASE DRAWING WAS PROVIDED BY RUBICON LLC

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NO	DATE	REVISION DESCRIPTION	BY / CKD

Site Location Map

DRAWN SMEN	DATE 2010	PROJECT MANAGER RJE	CHECKED BY RJE
RUBICON LLC Geismar, Louisiana Agency Interest No. 1468		DRAWING NAME	CAD-FILE
		PROJECT NUMBER LA001340.2010	DRAWING NUMBER 2

On this Day, September 8, 2010,

Louisiana Department of Environmental Quality
U.S. Environmental Protection Agency, Region 6

Present to

Rubicon LLC
Geismar Facility

Ready for Reuse Determination

In recognition of Rubicon LLC Geismar Facility's efforts to close and remediate the North and South Impoundments, the Louisiana Department of Environmental Quality and the United States Environmental Protection Agency, Region 6 have together determined that this property is Ready for Reuse. As documented in the Ready for Reuse Determination Letter of September 8, 2010, a Ready for Reuse Determination is an acknowledgement that environmental conditions at these units are protective of human health and the environment based on their current and anticipated future industrial use.

Peggy M. Hatch
Secretary
Louisiana Department of
Environmental Quality

Mark Dearman
General Manager
Rubicon LLC
Geismar Facility

Carl E. Edlund, P. E.
Director
Multimedia Planning and Permitting
Division, U.S. EPA, Region 6