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From: James Noggle
To: Rosenmann, Larry
Date: 03/09/2007 10:46:20 AM
Subject: GW contours

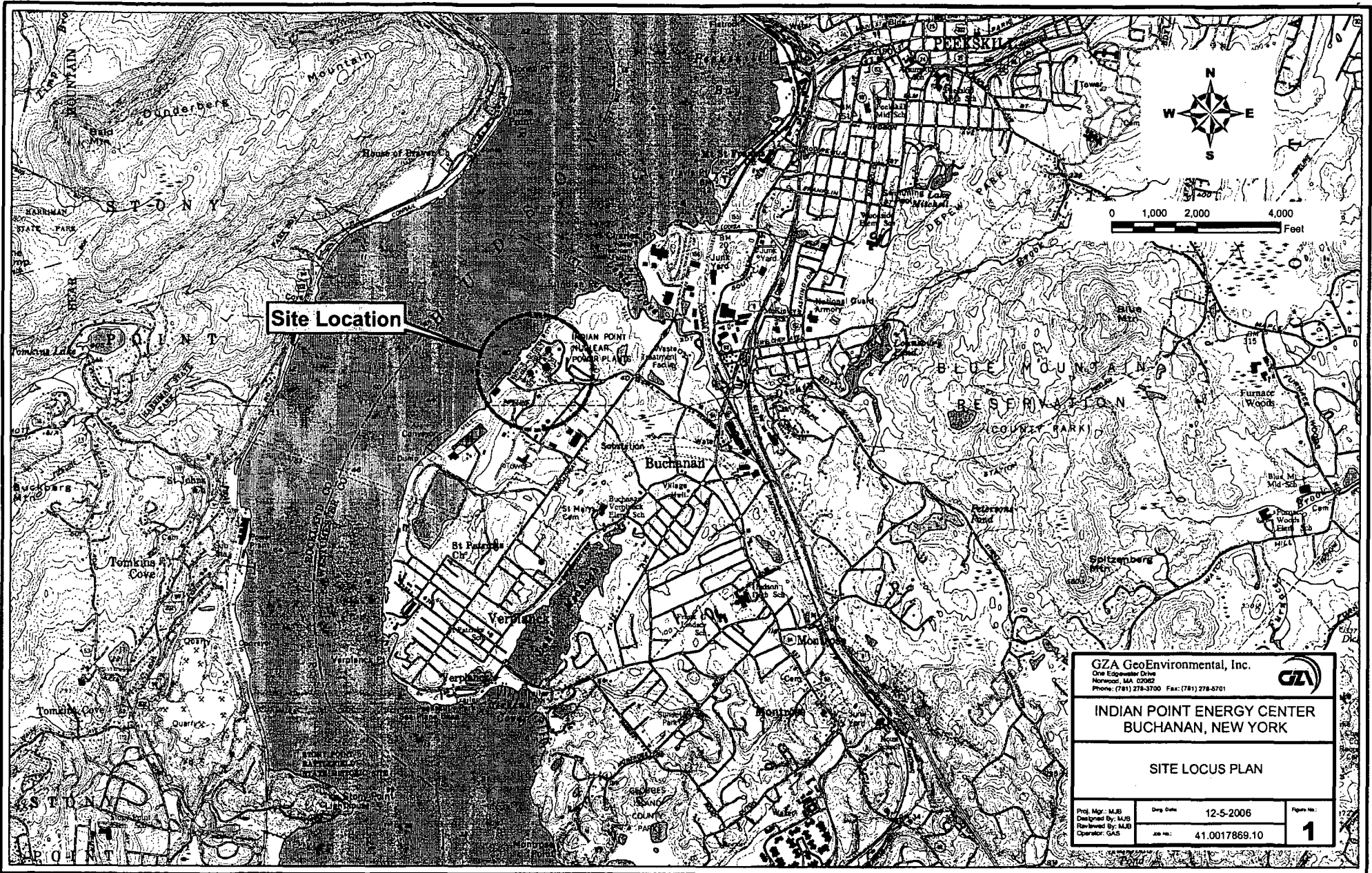
Regards,

Jim

~~Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions
FOIA- 2006-0166~~

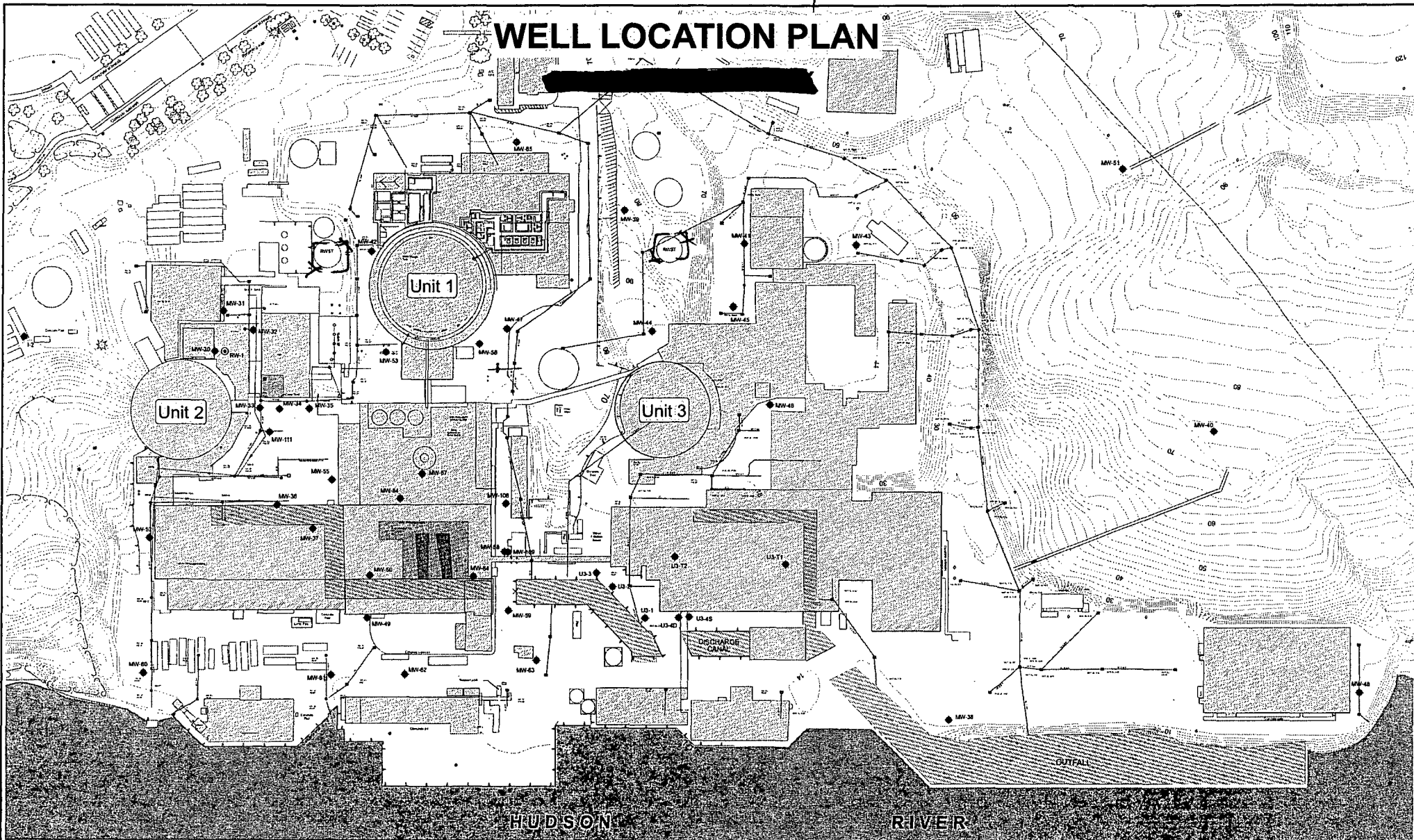
D/3





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WELL LOCATION PLAN



Legend

Existing or Proposed Monitoring Well Locations

- MW-65 ● Well with Designation
- RW-1 ○ Extraction Well

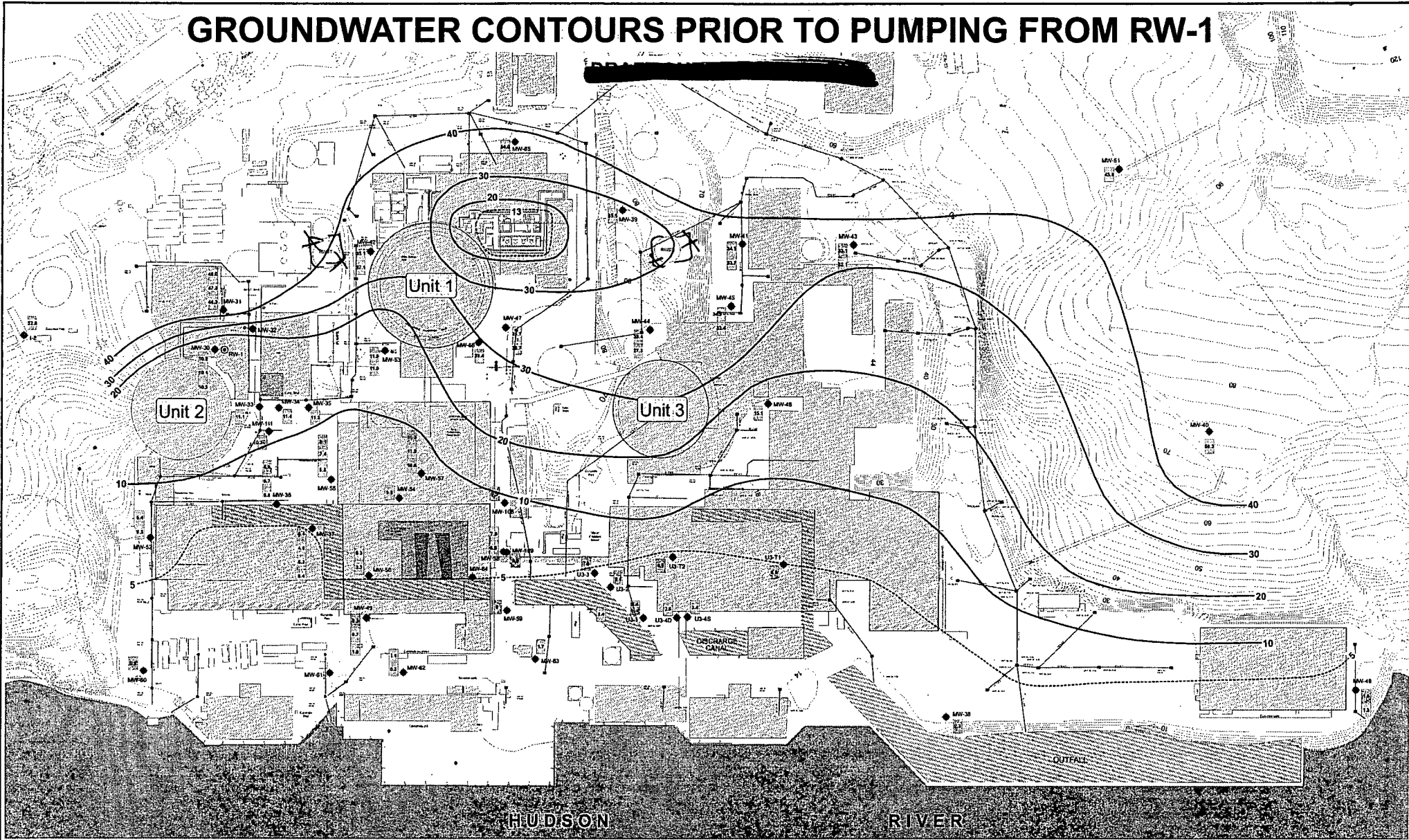


Base map was developed from an unfiled electronic file provided by
 Bodey & Watson Surveying and Engineering, P.C.,
 Dated 2/3/06; CAD file name: GZA.dwg.

GZA GeoEnvironmental, Inc. <small>One Edgewater Drive Haverhill, MA 02302 Phone: (781) 278-3700 Fax: (781) 278-6701</small>		
INDIAN POINT ENERGY CENTER BUCHANAN, NEW YORK		
WELL LOCATION PLAN		
Proj. Mgr.: MJB Designed by: MJP Reviewed by: MJB Operator: DKS	Orig. Date: 12-5-2006 Job No.: 41,0017869.10	Figure No.: 2

LEWIS

GROUNDWATER CONTOURS PRIOR TO PUMPING FROM RW-1



Legend

Existing or Proposed Monitoring Well Locations

MW-65 ● Well with Designation

RW-1 ⊙ Extraction Well

Shallow Groundwater Elevation Contours

10' — 10' Interval Contours

5' - - - Irregular Contour Interval



Multiple Screened Intervals

Groundwater Elevations at Each Screened Interval Prior to RW-1 Pumping Test (10/31/06).



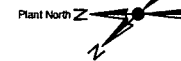
Screened in Soil



Screened in Bedrock

NOTES:

- Contours developed from limited data available on 10/31/2006. Actual elevations may vary from conditions shown and the actual distribution of piezometric heads is likely more complex than indicated.
- Base map was developed from an unfiled electronic file provided by Badley & Watson Surveying and Engineering, P.C., Dated 2/3/06; CAD file name: GZA.dwg.



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INDIAN POINT ENERGY CENTER
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GROUNDWATER CONTOURS
 PRIOR TO PUMPING FROM RW-1

Proj. Mgr: MAB
 Designed By: MAB
 Reviewed By: MAB
 Operator: GAB

Draw Date 12-5-2006

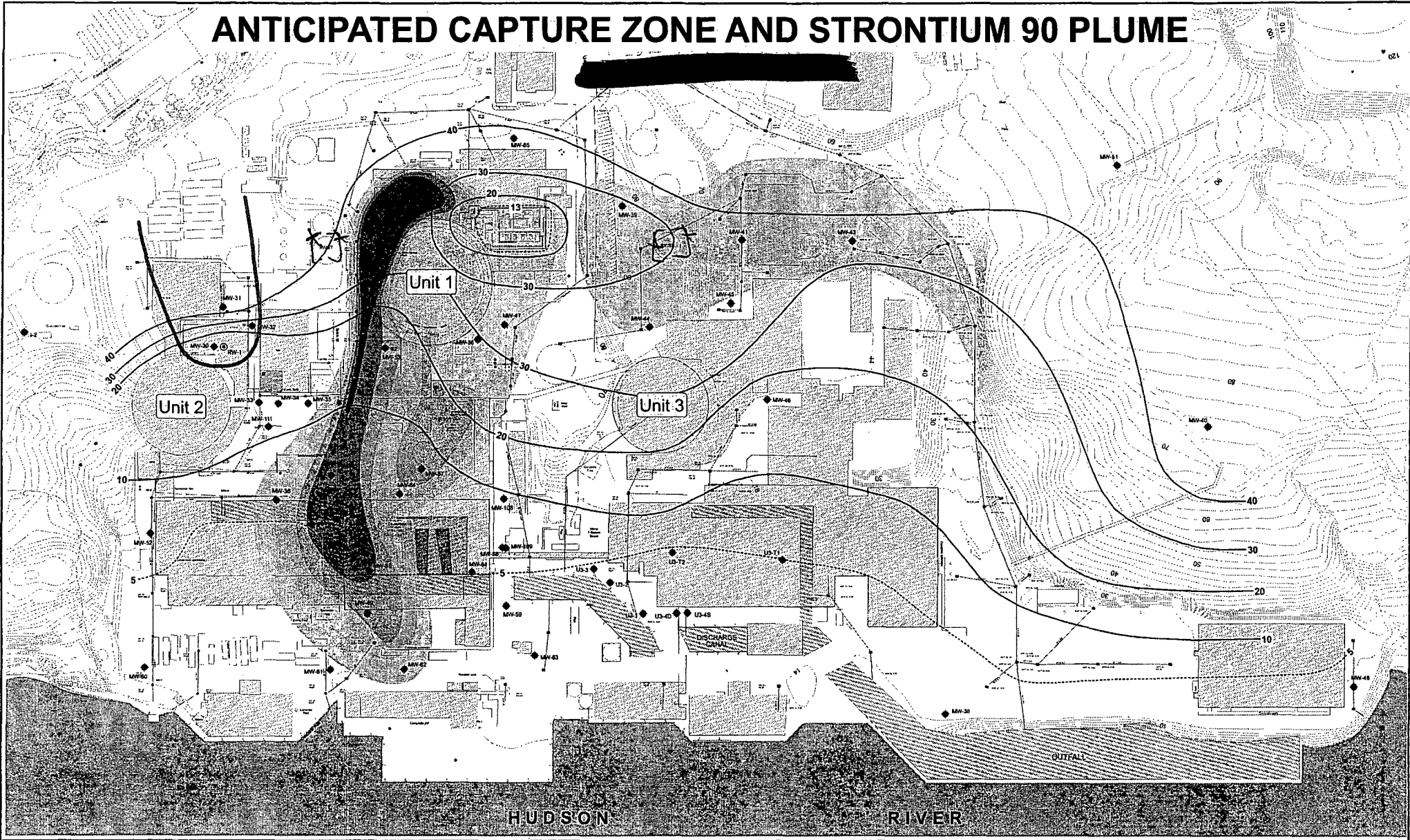
Job No. 41.0017869.10

Page No.:

3

MAN

ANTICIPATED CAPTURE ZONE AND STRONTIUM 90 PLUME



Legend

Existing or Proposed Monitoring Well Locations

MW-65 ♦ Well with Designation

RW-1 ⊙ Extraction Well

Pre-Pumping Groundwater Elevation Contours

10' Interval Contours

Irregular Contour Interval

Anticipated Capture Zone

Strontium 90 Contours, pCi/L

2 - 4

4 - 8

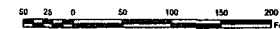
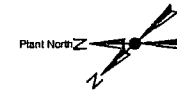
8 - 25

25 - 75

> 75

NOTES:

1. Max Sr90 plume depiction represents upper bound concentrations measured over both depth and time. As such, the plume is an overstatement of contaminant levels actually existing on-site at any time.
2. Anticipated capture zone based on an initial estimate of aquifer properties; a RW-1 extraction rate of 4.0 GPM; and an analytical steady state solution. (see text in report)
3. See Figure 3 for groundwater elevations and additional notes.



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INDIAN POINT ENERGY CENTER
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ANTICIPATED CAPTURE ZONE
 AND STRONTIUM 90 PLUME

Proj. Mgr.: MJB
 Designed By: MAP
 Reviewed By: MJO
 Operator: GAB

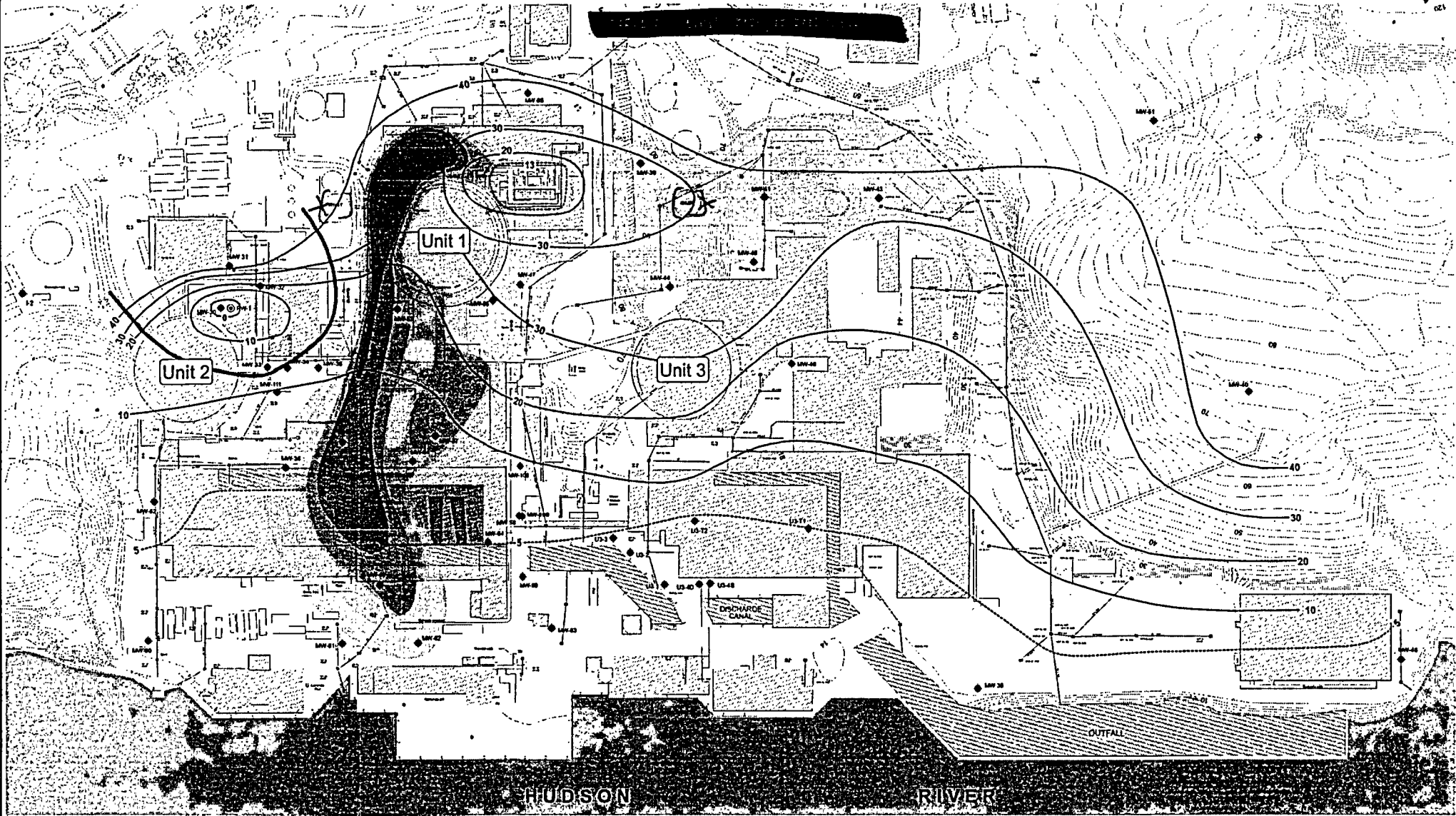
Dep. Date: 12-5-2006

Job No.: 41.0017869.10

Figure No.:

4

GROUNDWATER ELEVATIONS AND OBSERVED CAPTURE ZONE DURING PUMP TEST



Legend

Existing or Proposed Monitoring Well Locations

MW-65 Well with Designation

RW-1 Extraction Well

Groundwater Elevation Contours During Test

10' Contour Interval

Irregular Contour Interval

Observed Capture Zone

Strontium 90 Contours, pCi/L¹

2 - 4

4 - 8

8 - 25

25 - 75

> 75

NOTES:

1. Max S-90 plume depiction represents upper bound concentrations measured over both depth and time. As such, the plume is an overstatement of contaminant levels actually existing on-site at any time.
2. Observed capture zone based on groundwater contours constructed from pumping test elevation data.
3. See Figure 3 for additional notes.

Plant North



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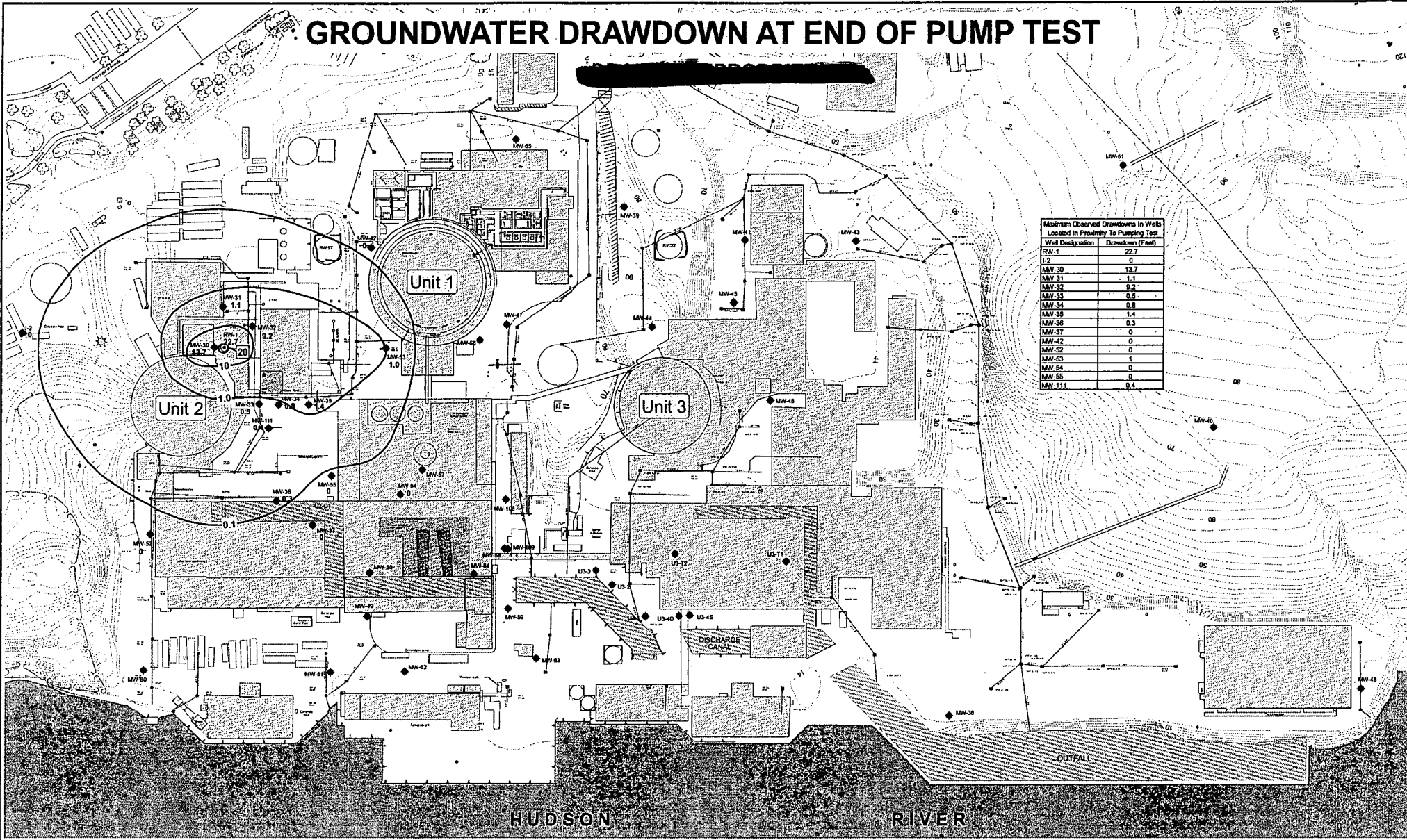
GROUNDWATER ELEVATIONS AND
OBSERVED CAPTURE ZONE
DURING PUMP TEST

Proj. Mgr. M.B.
Designed by: MGP
Operator: GAB

Drawn: 12-5-2006
Job No.: 41.0017869.10

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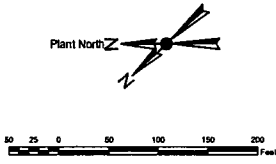
GROUNDWATER DRAWDOWN AT END OF PUMP TEST



Well Designation	Drawdown (Feet)
RW-1	22.7
I-2	0
MW-30	13.7
MW-31	1.1
MW-32	0.2
MW-33	0.5
MW-34	0.8
MW-35	1.4
MW-36	0.3
MW-37	0
MW-42	0
MW-52	0
MW-53	1
MW-54	0
MW-55	0
MW-111	0.4

Legend
 Existing or Proposed Monitoring Well Locations
 MW-65 ♦ Well with Designation
 RW-1 ⊙ Extraction Well
 0.4 ——— Observed Drawdown In Feet
 1.0 ——— Estimated Limit of Indicated Drawdown In Feet

NOTES:
 1. Drawdowns observed at end of constant rate pumping test 11/3/06. Drawdowns are likely more complex than indicated.
 2. See Figure 3 for additional notes.



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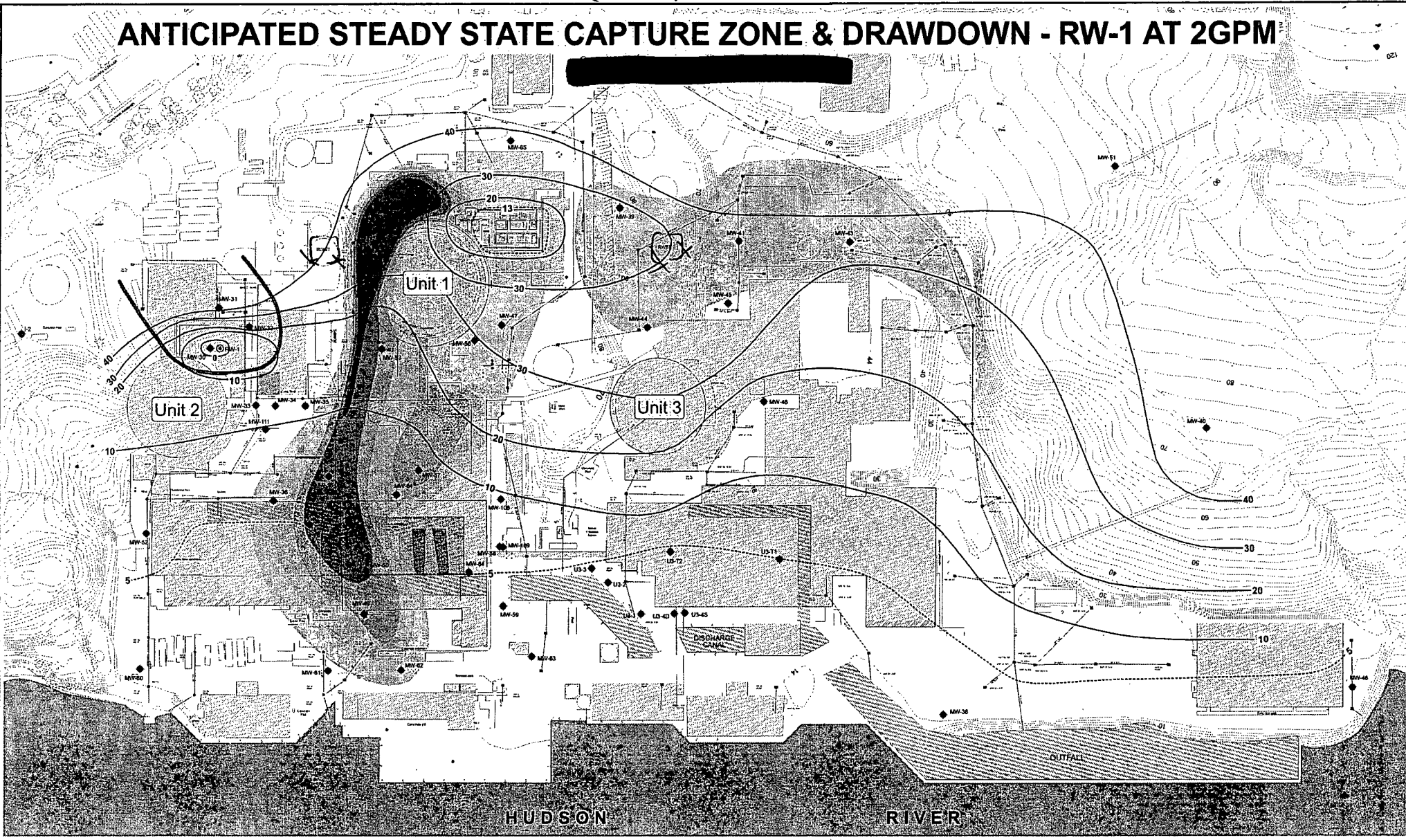
**INDIAN POINT ENERGY CENTER
 BUCHANAN, NEW YORK**

**GROUNDWATER DRAWDOWN
 AT END OF PUMP TEST**

Proj. No.: 41.0017889.10
 Des. Date: 12-5-2006
 Designed By: MJP
 Reviewed By: MJS
 Operator: GAS

Figure No.: **6**

ANTICIPATED STEADY STATE CAPTURE ZONE & DRAWDOWN - RW-1 AT 2GPM

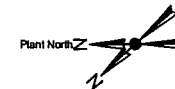


Legend

Existing or Proposed Monitoring Well Locations	Strontium 90 Contours, pCi/L¹
MW-65 ◆ Well with Designation	2 - 4
RW-1 ⊙ Extraction Well	4 - 8
Steady State Groundwater Elevation Contours	8 - 25
— 10' Contour Interval	25 - 75
--- Irregular Contour Interval	> 75
Anticipated Steady State Capture Zone	

NOTES:

1. Max Sr90 plume depiction represents upper bound concentrations measured over both depth and time. As such, the plume is an overstatement of contaminant levels actually existing on-site at any time.
2. Anticipated steady-state capture for continuous pumping of well RW-1 at 2 GPM. It is based on: pumping test drawdowns, observed groundwater contours, theoretical considerations, and judgement.
3. See Figure 3 for additional notes.



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ANTICIPATED STEADY STATE CAPTURE
ZONE AND DRAWDOWN -
RW-1 AT 2 GPM

Proj. Mgr.: MJB Designer: J. MAP Reviewed By: MJD Operator: GAB	Draw Date: 12-5-2006	Page No.: 7
	Job No.: 41.0017869.10	