DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE INDIANA 47522-5001

IN REPLY REFER TO:
5090/S4.7.1
Ser 095/3265

28 JUL 2003

U.S. Environmental Protection Agency, Region V
Waste, Pesticides, & Toxics Division
Waste Management Branch
Illinois, Indiana, and Michigan Section
ATTN: Mr. Peter Ramanauskas (DW-8J)
77 West Jackson Blvd.
Chicago, IL 60604

Dear Mr. Ramanauskas:

Crane Division, Naval Surface Warfare Center (NSWC Crane) submits information regarding the current status and findings of the RCRA Facility Investigation (RFI) for Solid Waste Management Units (SWMUs) 13/14 and 16/16. Two copies of this report are found as enclosure (1). As a result of these findings, NSWC Crane is proposing more investigations to further define hydrogeology, and rate and extent of contamination. This is likewise explained in enclosure (1). A conference call will be requested in the near future to discuss this information. The permit required Certification Statement is provided as enclosure (2).

NSWC Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

James M. Hunsicker

JAMES M. HUNSICKER
Director, Environmental
Protection Department
By direction of the Commander

Encl:
(1) Current Status and Findings of SWMUs 13/14 and 16/16 RFI
(2) Certification Statement

Copy to:
ADMINISTRATIVE RECORD
SOUTHNAVFACENGCOM (Code ES32) (w/o encl)
IDEM (Doug Griffin)
TTNUS (Ralph Basinski) (w/o encl)

Enclosure (1)

Attachment 1 - Round 2 Monitoring at SWMU 13
Mine Fill B
NSWC Crane

Attachment 2 - Round 2 Monitoring at SWMU 16
Cast High Explosive Fill/B-146 Incinerator
NSWC Crane

ATTACHMENT 1

ROUND 2 MONITORING AT SWMU 13 MINE FILL B
NSWC CRANE

STRATEGY
BASED ON
ROUND 1 SWMU 13 (MINE FILL B) GROUNDWATER RDX RESULTS
TO
DELINEATE EXTENT OF RDX CONTAMINATION
NAVY / TTNUS JULY 17, 2003 TELECONFERENCE
NSWC CRANE

SWMU 13 – Groundwater

- RDX contamination in excess of risk-based threshold (5.0 E-3)
- Unbounded contamination (vertical and horizontal)
- Three plumes identified
- Need for additional monitoring wells to delineate plumes (vertical & horizontal)
- Consideration of natural attenuation
- Implication for SWMU 12
- Preparation for CMS

Background

- U.S. EPA requires delineation of plumes (EIs, RFIs, MNA, & TI)
- Recent comments indicate RFI data gathering should consider remedies to be evaluated in CMS
- MNA obvious alternative for consideration as corrective measure

Round 2

Objective:
- Determine horizontal and vertical extent of RDX, HMX, degradation products, and metals contamination in groundwater
- Evaluate MNA viability

New wells drilled: (Total of 22 new wells)

For delineation
- 10 shallow
- 4 deep

Evaluate Plume Areas
- TO9 plume, 2 shallow
- T11 plume, 1 shallow
- T21 plume, 4 shallow, 1 deeper

Analysis:
- Selected (24)wells MNA geochem & explosives breakdown
- All (48) wells metals & explosives
- 22 SW/SED samples – explosives, breakdown, metals

Round 3

Objective:
- Fill remaining data gaps re vertical/horizontal plume extent of RDX
- Initiate focused MNA evaluation

New wells drilled: (Total of 14 new wells)

- Delineation – 5 shallow, 3 deeper
- Further evaluate plume areas
    1. TO9 plume, 2 shallow
    1. T11 plume, 1 shallow
    3. T21 plume, 3 shallow

Analysis:
- 11 SW samples (explosives, metals)
- 24 wells MNA,
- 48l Wells metals & explosives

Round 4, 5 & 6

Objectives:
- MNA evaluation per Region 5 guidance

Analysis:
- Rounds 4, 5, & 6 - 24 wells MNA parameters
- Rounds 4 & 5 - 24 Wells (metals & explosives)
- Round 6 - All wells (metals & explosives)

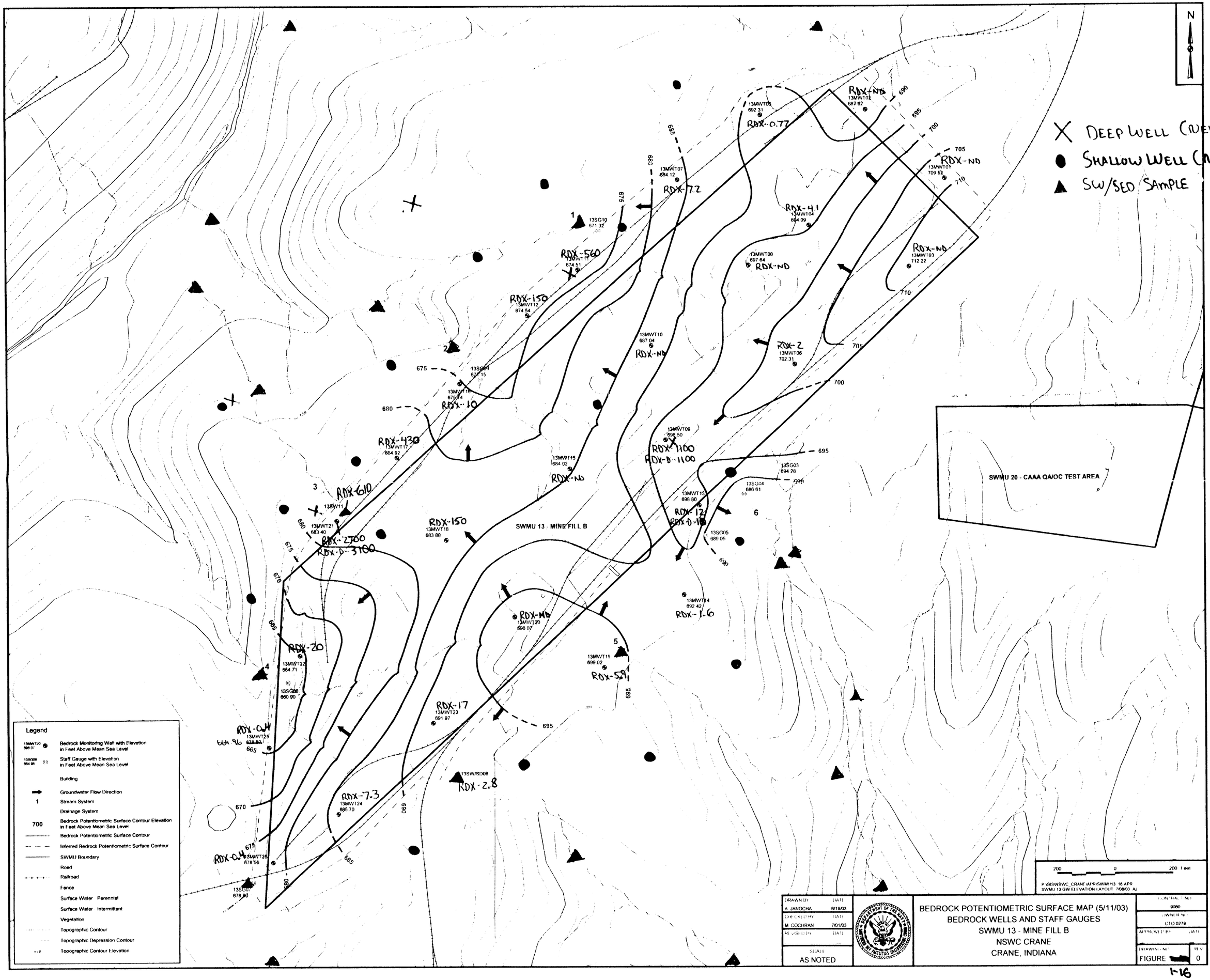
PLANNING DOCUMENT

- Addendum to Approved SWMU 12/13/16/19 QAPP
- New well / SD/SW sample location figure(s) and table(s)
- Add info for explosives degradation products (Updated from approved RCRA GWM QAPP for ABG, ORR and DR)
- Add field NA parameters SOP (Need to update)
- Look like SWMU 17 PCB QAPP
- Fast track development / EPA approval

PROCESS

- Visit by geologist to SWMU 13 to select with Navy and EPA locations of new round 2 wells (address access issues).
- Develop QAPP modification
- Obtain EPA concurrence on Round 2
- Implement Round 2
- Use Round 2 results to select wells for round 3 to complete delineation
- Implement Round 3
- Use results of Round 2 and 3 to complete N&E section of RFI Report
- Complete Rounds 4, 5, and 6 for use in CMS

NSWC CRANE, SWMU 13, PROPOSED ROUND 2 SAMPLE LOCATIONS



1-16

ATTACHMENT 2

ROUND 2 MONITORING SWMU 16
CAST HIGH EXPLOSIVE FILL/B-146 INCINERATOR
NSWC CRANE

STRATEGY
BASED ON
ROUND 1 SWMU 16 (CAST HIGH EXPLOSIVE FILL/B-146 INCINERATOR GROUNDWATER TCE & RDX RESULTS
TO
DELINEATE EXTENT OF TCE & RDX CONTAMINATION
NAVY / TTNUS JULY 24, 2003 TELECONFERENCE
NSWC CRANE

SWMU 16 – Groundwater

- RDX contamination in excess of risk-based threshold (1.3 E-4)
- TCE contamination in excess of risk-based threshold (greater than 6.3 E-2)
- Other VOCs (DCE, VC) in excess of risk-based thresholds?
- Unbounded groundwater contamination (vertical and horizontal)
- Need for additional monitoring wells to delineate plumes (vertical and horizontal)
- Consideration of natural attenuation (RDX and TCE)
- Preparation for CMS

Background

- U.S. EPA requires delineation of plumes (EIs, RFIs, MNA, & TI)
- Recent EPA comments indicate RFI data gathering should consider remedies to be evaluated in CMS
- MNA obvious alternative for consideration as corrective measure for both TCE and RDX

Round 2

Objective:

- Determine horizontal and vertical extent of volatiles (TCE and degradation products) in groundwater and SW/SD
- Determine horizontal and vertical extent of explosives (RDX and degradation products) in groundwater and SW/SD
- Evaluate GW MNA viability for volatiles and explosives

New Wells Drilled: (Total of 12 new wells)
Delineation
- 8 shallow
- 4 deep

Analysis:
- All (221) wells VOCs and degradation products
- All (221) wells explosives (including RDX and degradation products)
- All (221) wells metals
- 10 SW/SED samples – explosives and degradation products
- 10 SW/SED samples - metals

Round 3

Objective:
- Fill remaining data gaps re vertical/horizontal groundwater plume extent of TCE & RDX contamination
- Initiate focused MNA evaluation

New Wells Drilled:
- TBD

Analysis:
- TBD

Round 4, 5 & 6

Objectives:
- MNA evaluation per Region 5 guidance

Analysis:
- TBD

PLANNING DOCUMENT

- Addendum to approved SWMU 12/13/16/19 QAPP
- New Well / SD/SW sample location figure(s) and table(s)
- SWMU 16 strategy addressed incremental information for explosives degradation products
- SWMU 16 addressed incremental information for field NA parameters SOP (need to update)

PROCESS

- Visit by geologist to SWMU 16 to select locations of new Round 2 Wells (Address Access Issues) in consultation with Navy and EPA
- Develop QAPP modification
- Modify HASP
- Obtain EPA concurrence on Round 2
- Implement Round 2
- Use Round 2 results to select wells for Round 3 to complete delineation (If Needed)
- Implement Round 3
- Use results of Round 2 and 3 to complete N&E Section of RFI Report
- Complete Rounds 4, 5, and for use in CMS

× Upgradient Surface Water and Sed Sample

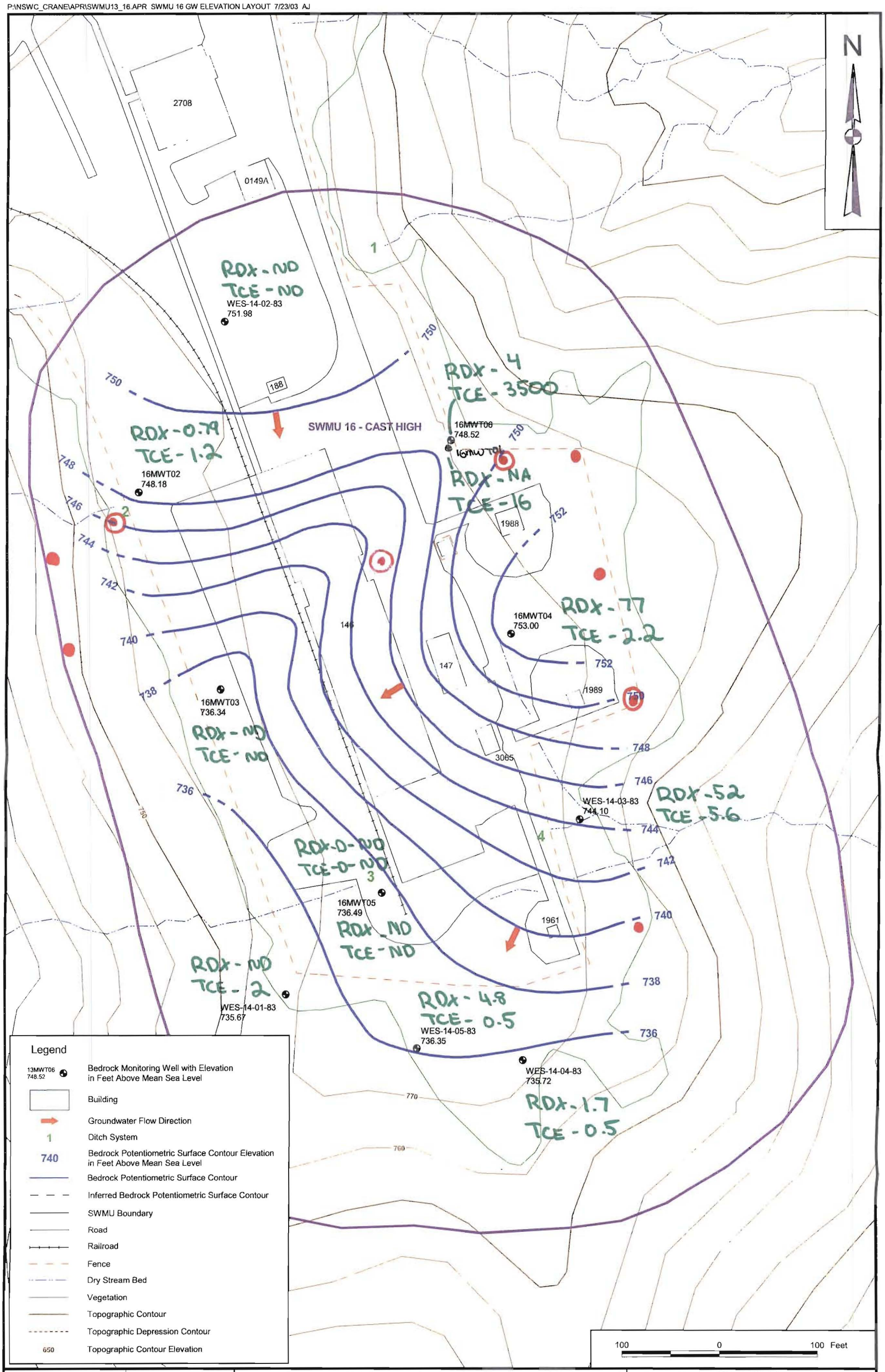
300 0 300 Feet

SWMU

TURKEY CREEK

● - SHALLOW WELL ONLY
◎ - DEEP + SHALLOW WELL

P:\NSWC_CRANE\APR\SWMU13_16.APR SWMU 16 GW ELEVATION LAYOUT 7/23/03 AJ



DRAWN BY: A. JANOCHA	DATE: 6/19/03	BEDROCK POTENTIOMETRIC SURFACE MAP (5/30/03) BEDROCK WELLS SWMU 16 - CAST HIGH FILL NSWC CRANE CRANE, INDIANA	CONTRACT NUMBER: 9060
CHECKED BY: B. BALKOVEC	DATE: 7/23/03		APPROVED BY: — DATE: —
COST/SCHEDULE-AREA			APPROVED BY: — DATE: —
SCALE: AS NOTED			DRAWING NO.: FIGURE 1 - 20 REV: 0

SWMU 16