

DEPARTMENT OF THE ARMY  
Omaha District, Corps of Engineers  
106 South 15th Street  
Omaha, Nebraska 68102-1618

:NOTICE: Failure to acknowledge : Solicitation No. DACA45 02 B 0002  
:all amendments may cause rejec- :  
:tion of the bid. See FAR : Date of Issue: 27 NOV 2001  
:52.214-3 of Section 00100 : Date of Opening: 29 JAN 2002

Amendment No. 0001  
11 January 2002

SUBJECT: Amendment No. 0002 to Specifications and Drawings for Construction of  
REPLACE WATER LINES - LINE 3A, PN 5333-23-0002, IOWA AAP, IOWA .  
Solicitation No. DACA45 02 B 0002.

TO: Prospective Bidders and Others Concerned

1. The specifications and drawings for subject project are hereby modified as follows (revise all specification indices, attachment lists, and drawing indices accordingly).

a. Specifications. (Descriptive Changes.)

(1) Page 00010-1, delete date and time of bid opening shown and substitute "29 JAN 2002" at "2:00 p.m.".

(2) General Wage Decision No. IA010001, delete general wage decision in its entirety and substitute attached General Wage Decision No. IA010001 dated 12/21/2001.

(3) Section 01450, Page 7, Paragraph 1.4.4.1, Table 2, under "# Samples" column, make the following revisions:

- (a) For Figure G1.02, delete "7" and substitute "8".
- (b) For Figure G1.03, delete "8" and substitute "11".
- (c) For Figure G1.04, delete "7" and substitute "6".
- (d) For Total Samples, delete "53" and substitute "56".

(4) Section 01450, Page 10, to the end of paragraph 1.5, add:

"To check if a particular testing lab performing chemical analyses is USACE certified for a specific analysis, the following e-mail or phone number is provided.

[Laboratory.Validation@usace.army.mil](mailto:Laboratory.Validation@usace.army.mil) (e-mail)

402-697-2574 (phone)."

(5) Section 01451A, Page 5, paragraph 3.4.4, line 8, delete "(608) 388-4780" and substitute "(319) 753-1386".

(6) Section 01511, Page 4, paragraph 1.7, following subparagraph B., add:

"C. Work around and within Bldgs. 3A-01, 3A-02, 3A-03 & 3A-04 is unrestricted as far as safety and security considerations are concerned. However, coordination with production operations shall be required.

D. Work around and within Bldgs. 3A-05-1, 3A-50-1, & 3A-20-1 will not be permitted whenever there are any production operations in progress. This includes all of the area south of these buildings, bounded on the east by a line extending southward from bldg. 3A-05-1E, on the west by a parallel line approx. 150 feet west of Bldg. 3A-20-1; with each one extending to the southern perimeter fence line. An illustrated map is attached at the end of this section. Refer to para. G. for planned production information.

E. Buildings 3A-100, 3A-05-2, & 3A-12 will be restricted to not permitting any construction activity within 50 feet of the structure whenever production work is in progress.

F. The remaining buildings are storage or support facilities that shouldn't have any significant impact or restrictions on construction activity, but the Contractor shall coordinate with production to assure there are no extra-ordinary considerations.

G. In general, there will be no production activity on Saturdays or Sundays, and restricted buildings will be available on those days. It April 2002, it is planned that production operations will shift back to two (2)10 hour shifts on Monday through Thursday, and Fridays will return to a non-scheduled workday. The Government will notify the Contractor of any changes to production activity that will affect the Contractor's work schedule. This may not necessarily involve all of the buildings designated as fully restricted for production purposes."

(7) Section 01511, to the end of the section, insert the attached Restrict Area Map.

(8) Section 02316, Page 8, Paragraph 3.1.2, line 5 from top of page, sentence reading "Drill Cuttings ... disposal facility.", after "Drill Cuttings", insert: "and Drilling Muds".

(9) Section 02453, Page 5.

(a) Paragraph 1.3.1, line 1, after "Concrete Reinforced or Steel", insert: "Casing Pipe as shown on Sheet U4.02."

(b) Paragraph 1.4.1, lines 5 and 6, delete "Contractor shall submit main supervisor Qualifications with proposal." and substitute "Contractor shall submit main supervisor Qualifications 30 days after Award."

(10) Section 02453, Page 7, Paragraph 1.6.3, to the end of the paragraph, add subparagraph e.

"e. Additional Groundwater Information for the Fall of 2000 and Spring

of 2001 at Iowa Ammunition Plant (IAAP) is provided by URS under contract to the US Army Corps of Engineer in Appendix A.3.

Figure 5-4 is obtained from the FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING RESULTS SUMMARY, for IAAP Dated August 2001:

FIGURE 5-4  
CHEMICAL EXCEEDING PRGs LINE 3a, LINE 3A POND, AND LINE 3A STP

Table 3-1, Figure 3-4a and Table 4-4 is obtained from the Draft FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING REPORT, Dated September 2001:

TABLE 3-1  
WATER LEVEL MEASUREMENTS  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING EVENTS

FIGURE 3-4a  
GROUNDWATER ELEVATION - FALL 2000  
SHALLOW TILL WELLS LINE 3A, LINE 3A POND, AND LINE 3A STP

TABLE 4-4 (JAW-15, JAW-16, JAW-17)  
SUMMARY OF CHEMICALS DETED AT LINE 3A, LINE 3A POND, AND LINE 3A STP  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITROING EVENTS

TABLE 4-4 (JAW-18, JAW-19, JAW-20)  
SUMMARY OF CHEMICALS DETECTED AT LINE 3A, LINE 3A POND, AND LINE 3A STP  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITROING EVENTS

TABLE 4-4 (JAW-21, JAW-22)  
SUMMARY OF CHEMICALS DETED AT LINE 3A, LINE 3A POND, AND LINE 3A STP  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITROING EVENTS".

(11) Section 02453, Attachment pages 02453AT-1 and 02453AT-2, delete page numbers and substitute "A.1-1 and A.1-2" and attachment page 02453AT-3, delete page number and substitute "A.2".

(12) Section 02453, to the end of the section, insert attached Appendix A.3.

(13) Section 02540, Page 6, Paragraph 1.6.1, line 2, delete "100,000 feet" and substitute "10,000 meters"; Also, lines 5 and 6, delete sentence reading "Contractor shall submit with proposal."

(14) Section 02540, Pages 8 and 9, paragraph 1.10.1, delete subparagraphs b. and c. in their entirety and substitute

"b. See Groundwater information in paragraph 1.6.3 in Section 02453 JACKING AND BORING."

b. Drawings (Not Reissued). The following sheets of drawing code F 842-10-02 are revised as indicated below with latest revision date of 11 January 2002. These drawings are not reissued with this amendment.

(1) Sheet G1.05.

(a) GENERAL NOTES, delete note 1 in its entirety and substitute:

"1. SEE BORE AND JACK ALIGNMENT NUMBER 1 ON G1.01."

(b) PLAN - AREA E, near drawing coordinate B-6, note reading "BORE AND JACK NUMBER 7", delete "7" and substitute "1"; Also, delete water service line size reading "100mm" and substitute "150mm".

(2) Sheet G1.08, PLAN - AREA F, to end of note reading "REMOVE EXISTING FIRE HYDRANT (TYP.) SEE GENERAL NOTES.", add: "SEE SHEET U1.10".

(3) Sheet U1.03, PLAN - AREA A, add the following note at Stations 2+97.9 and 3+24.6:

"SEE NOTE 3 ON SHEET G1.01."

(4) Sheet U1.05, GENERAL NOTES, to the end of note 7, add:

"CONTRACTOR OPTION TO USE HORIZONTAL DRILLING OR BORE AND JACK ALIGNMENT AT BLDG 3A-04."

(5) Sheet U1.06.

(a) GENERAL NOTES, note 7, line 4, after "RELOCATE", insert: "AND REUSE".

(b) PLAN - AREA D, delete arrow to new Fire Hydrant at Sta. 13+00 from label "REMOVE EXIST. FIRE HYDRANT (TYP.)".

(6) Sheet U1.07, PLAN - AREA E, delete water service line size reading "100mm" and substitute "150mm"; Also, add the following note at Stations 2+97.9 and 3+24.6:

"SEE NOTE 3 ON SHEET G1.01."

(7) Sheet U3.00.

(a) PROFILE A, From Sta.0-23 to Sta. 0+32, add label "New 65mm water service line"; Also, from Sta. 0+32 to Sta. 2+16 add label "New 150 mm water supply line".

(b) Plan View, delete water line size reading "75mm" and substitute "65mm".

(8) Sheets U3.01, PLAN, delete water service line size reading "100mm" and substitute "150mm".

(9) Sheet U3.04, PROFILE C.

(a) At Sta. 556.0, delete "NEW 38-MM WATER LINE" and substitute "NEW 40-MM WATER LINE".

(b) At Station 642.50, note reading "100mm PIV", delete "PIV" and substitute "FPIV".

(10) Sheet U3.06.

(a) PROFILE C.

1). Delete note label on the profile reading "NEW 150

MM WATER SUPPLY LINE" and substitute "NEW 200-MM WATER SUPPLY LINE."

2). Station 1253.50, delete "Sta. 1253.50, TEE CONNECTION, 63.5-MM WATER SERVICE LINE & PIV".

(b) Plan View, change Profile "E" label to Profile "D" and Change Profile "F" label to Profile "E".

(11) Sheet U3.07.

(a) Plan View of profile C, the references to Note 1 and Note 2 are switched. Delete notes reading "SEE NOTE 1" and "SEE NOTE 2" and substitute "SEE NOTE 2" and "SEE NOTE 1", respectively.

(b) NOTES, note 1, line 4, after "RELOCATE", insert: "AND REUSE".

(12) Sheet U3.08, PROFILE D, at Sta 0+00, add "200mm PIV".

(13) Sheet U3.09, PROFILE D, At Sta. 390.00, delete "PIV" and substitute "FPIV"; Also, at Sta. 482.00, delete "150mm FPIV" and substitute "100mm PIV".

(14) Sheet U4.02, NOTES, following note 7, add:

"8. Contractor has the option to use PVC casing spacers and end seals in the cased bores in lieu of the wooden spacers."

2. This amendment is a part of the bidding papers and its receipt shall be acknowledged on the Standard Form 1442. All other conditions and requirements of the specifications remain unchanged. If the bids have been mailed prior to receiving this amendment, you will notify the office where bids are opened, in the specified manner, immediately of its receipt and of any changes in your bid occasioned thereby.

a. Hand-Carried Bids shall be delivered to the U.S. Army Corps of Engineers, Omaha District, Contracting Division (Room 301), 106 South 15th Street, Omaha, Nebraska 68102-1618.

b. Mailed Bids shall be addressed as noted in Item 8 on Page 00010-1 of Standard Form 1442.

3. Bids will be received until 2:00 p.m., local time at place of bid opening, 29 JAN 2002.

Attachments:

General Wage Decision No. IA010001 dated 12/21/2001  
Restricted Area Map (Section 01511)  
Appendix A.3 (Section 02540 Attachment)

U.S. Army Engineer District, Omaha  
Corps of Engineers  
106 South 15th Street  
Omaha, Nebraska 68102-1618

11 January 2002  
DRL/4547

GENERAL DECISION IA010001 12/21/01 IA1  
General Decision Number IA010001

Superseded General Decision No. IA000001

State: Iowa

Construction Type:  
HEAVY  
HIGHWAY

County(ies):  
STATEWIDE

STATEWIDE EXCEPT SCOTT COUNTY

HEAVY CONSTRUCTION PROJECTS (Does not include work on or  
pertaining to the Mississippi or Missouri Rivers or on Water and  
Sewage Treatment Plants), AND HIGHWAY PROJECTS (does not include  
building structures in rest areas)

Modification Number	Publication Date
0	03/02/2001
1	03/16/2001
2	12/21/2001

COUNTY(ies):  
STATEWIDE

\* SUIA2006A 12/15/2001

	Rates	Fringes
CARPENTERS AND PILEDRIVERMEN:		
ZONE 1	19.75	4.95
ZONE 2	18.75	4.06
ZONE 3	17.76	4.95
ZONE 4	16.40	4.45
ZONE 5	15.85	3.40
CONCRETE FINISHERS:		
ZONE 1	17.62	4.55
ZONE 2	17.62	4.55
ZONE 3	17.62	4.55
ZONE 4	16.20	3.50
ZONE 5	13.95	3.50
ELECTRICIANS (STREET AND HIGHWAY LIGHTING AND TRAFFIC SIGNALS):		
ZONES 1, 2, & 3	16.90	3.15
ZONE 4	15.60	3.15
ZONE 5	13.35	3.15
IRONWORKERS (SETTING OF STRUCTURAL STEEL):		
ZONE 1	21.00	6.00
ZONE 2 AND 3	21.00	6.00
ZONE 4	17.99	3.41
LABORERS:		
ZONES 1 AND 2		
GROUP A	16.63	4.55
GROUP B	14.93	4.55
GROUP C	12.00	4.25
ZONE 3		
GROUP A	16.63	4.55
GROUP B	14.93	4.55
GROUP C	12.00	4.25
ZONE 4		
GROUP A	14.45	4.25
GROUP B	13.13	4.25
GROUP C	10.95	3.20
ZONE 5		
GROUP A	14.05	3.20
GROUP B	10.75	3.20
GROUP C	10.20	3.20
POWER EQUIPMENT OPERATORS:		
ZONE 1		
GROUP A	21.50	8.50

GROUP B	19.90	8.50
GROUP C	17.40	8.50
GROUP D	17.40	8.50

ZONE 2

GROUP A	21.20	8.50
GROUP B	19.60	8.50
GROUP C	17.10	8.50
GROUP D	17.10	8.50

ZONE 3

GROUP A	22.60	7.45
GROUP B	20.80	7.45
GROUP C	19.80	7.45
GROUP D	19.80	7.45

ZONE 4

GROUP A	20.95	4.30
GROUP B	19.81	4.30
GROUP C	17.73	4.07
GROUP D	17.73	4.07

ZONE 5

GROUP A	17.72	3.30
GROUP B	16.68	3.30
GROUP C	15.35	3.30
GROUP D	14.35	3.30

TRUCK DRIVERS AND PAVEMENT MARKING DRIVER/SWITCHPERSON:

ZONE 1	16.65	5.25
ZONE 2	16.65	5.25
ZONE 3	16.38	5.25
ZONE 4	15.76	3.50
ZONE 5	13.75	3.50

ZONE DEFINITIONS

ZONE 1 - The Counties of Polk, Warren and Dallas for all Crafts, and Linn County Carpenters Only.

ZONE 2 - The Counties of Dubuque for all crafts and Linn County for all Crafts except Carpenters.

ZONE 3 - The Cities of Burlington, Clinton, Fort Madison Keokuk, and Muscatine (and abutting municipalities of any such cities).

ZONE 4 - Story, Black Hawk, Cedar, Jasper, Jones, Jackson, Madison and Marion Counties; Clinton County (except the City of Clinton), Johnson County, Muscatine County (except the City of Muscatine), the City of Council

Bluffs, Lee County and Des Moines County.

ZONE 5 - All areas of the state not listed above.

LABORER CLASSIFICATIONS - ALL ZONES

GROUP A - Carpenter tender on bridges and box culverts; curb machine (without a seat); deck hand; diamond and core drills; drill operator on air tracs, wagon drills and similar drills; form setter/stringman on paving work; gunnite nozzleman; joint sealer kettleman; laser operator; pipelayer (sewer water and conduits); powderman tender; powerman/blaster; saw operator; tunnel laborer.

GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on demolition; drill tender; dumpmen; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chains; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except stripers); paving breaker; planting trees, shrubs and flowers; power broom (not self/propelled); power buggyman; rakers; rodman (tying reinforcing steel); sandblaster; seeding and mulching; sewer utility topman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint stripers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor, water carrier

#### POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - Asphalt laydown machine; asphalt plant; bulldozer finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper; directional drill (60,000(lbs) pullback and above); dragline and power shovel; dredge engineer; excavator (over 1/2 cu. yd.) front end loader (4 cy and over); horizontal boring machine; master mechanic; milling machine (over 350 hp); motor grader (finish); push cat; rubber tired backhoe (over 1/2 cu. yd.) scraper (12 cu. yd. and over or finish); sidebroom tractor; slipform portland concrete paver; tow or push boat; trenching machine (Cleveland 80 or similar).

GROUP B - Articulated off road hauler, asphalt breakdown roller (vibratory), asphalt heater/planer; asphalt material transfer vehicle; asphalt screed; belt loader or

similar loader; bulldozer (rough); churn or rotarydrill; concrete curb machine, crawler tractor pulling ripper, disk or roller; deck hand/oiler directional drill (less than 60,000(lbs) pullback); distributor; excavator 1/2 cu. yd. and under); form riding concrete paver; front end loader (2 to less than 4 cu. yd.); group equipment greaser; mechanic; milling machine (350hp. and less); paving breaker; portland concrete dry batch plant; rubber tired backhoe 1/2 cu. yd. and under); paving breaker; scraper (under 12 cy), screening, washing and crushing plant (mobile, portable or stationary); shoulder machine; skid loader (1 cu. yd and over); subgrader or trimmer; trenching machine; water wagon on compaction.

GROUP C - Asphalt roller, boom & winch truck, concrete spreader/belt placer, deep wells for dewatering; farm type tractor (over 75 hp.) pulling disc or roller; forklift; front end loader (under 2 cu. yd.); motor grader (rough); pile hammer power unit; pump (greater than three inch diameter); pumps on well points; safty boat; self-propelled roller (other than asphalt); self-propelled sand blaster or shot blaster, water blaster or striping grinder/remover;; skid loader (under 1 cu. yd.); truck mounted post driver.

GROUP D - Boiler, compressor, cure and texture machine; dow box; farm type or utility tractor (under 75 hp.) pulling disk, roller or other attachments; group greaser tender; light plants; mechanic tender; mechanical broom; mechanical heaters; oiler; pumps (under tree inch diameter); tree chipping machine; truck cranedriver/oiler.

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.  
=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(v)).

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In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations

indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

\* an existing published wage determination

- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

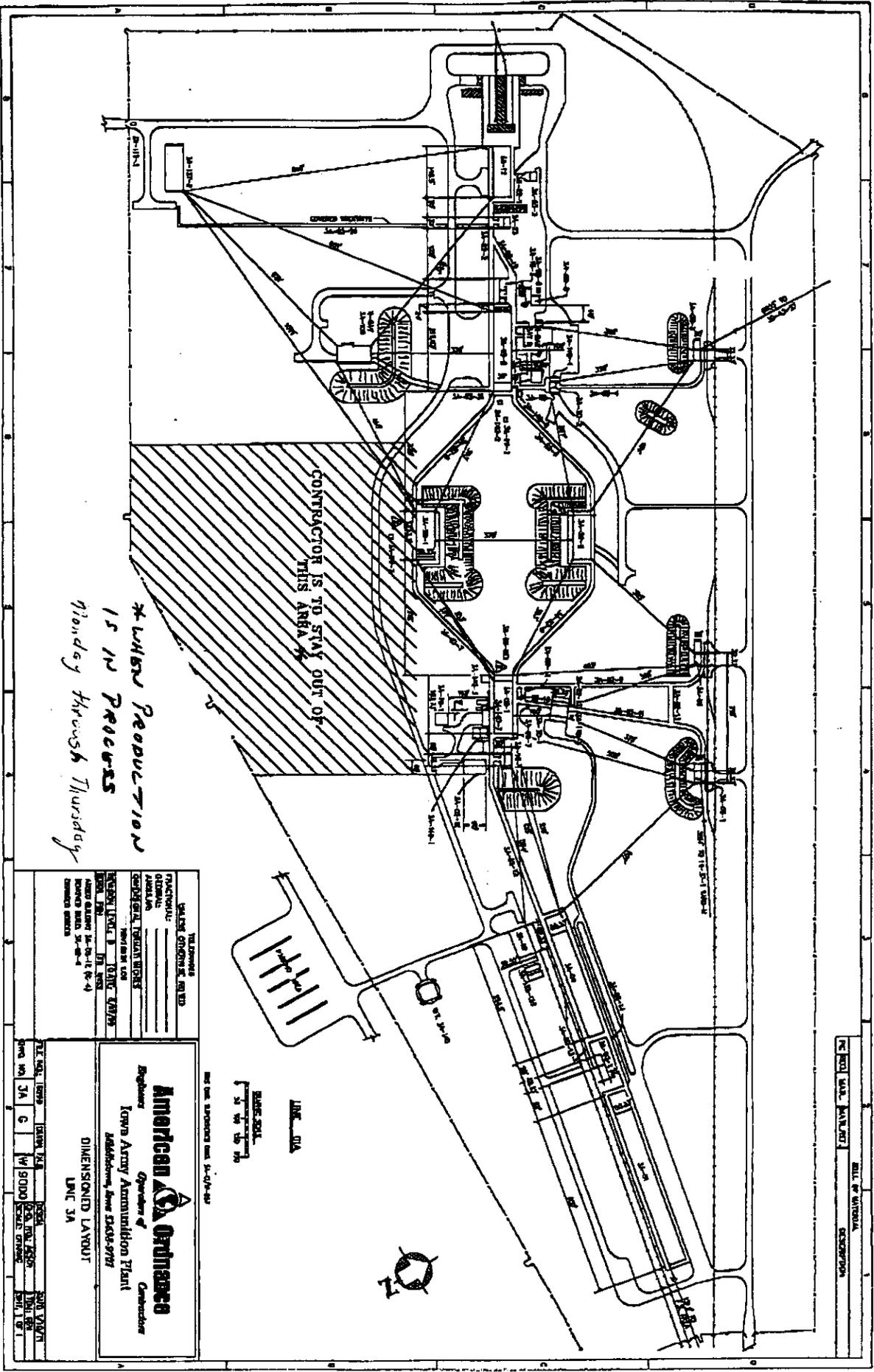
3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.  
END OF GENERAL DECISION



Post-It Fax Note	7671	Date	# of pages
To <b>AL RUFF</b>		From <b>DAVE R</b>	1
Co/Dept:		Co:	
Phone #		Phone #	
FAX # <b>402-221-4828</b>		FAX #	



TELEPHONE  
 VAILING CONDITIONS: 500 000  
 FRANCHISE: \_\_\_\_\_  
 OFFICE: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 GENERAL TRADING: \_\_\_\_\_  
 SPECIALTY: \_\_\_\_\_  
 SERVICE: \_\_\_\_\_  
 HOURS: \_\_\_\_\_  
 CONTACT: \_\_\_\_\_

**American Ordnance**  
 Division of  
 Ordnance Administration Plant  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_

**DIMENSIONED LAYOUT**  
 UNIT 3A

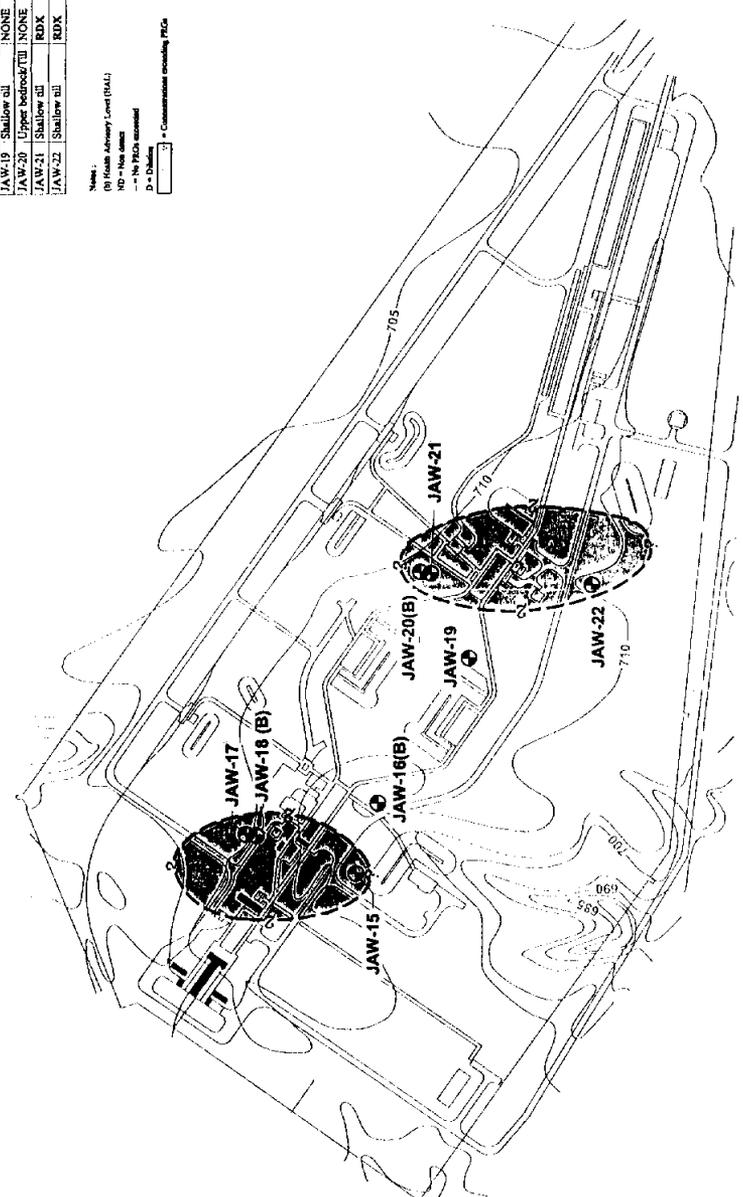
DATE OF ORIGINAL  
 OCCURRENCE

## APPENDIX A.3

Am #0002

Well ID	Geologic Unit	Chemical of Concern (µg/l)	Concentrations							
			PRG	Spring 1996	Fall 1997	Fall 1997	Spring 2000	Fall 2000	Spring 2001	Fall 2001
JAW-15	Shallow till	RDX	3 (0)	ND	34	32	31	31	31	14
JAW-16	Upper bedrock/till	NONE								
JAW-17	Shallow till	RDX	2 (0)	10	10	9.6	8.1	13	9.5	
JAW-18	Upper bedrock/till	NONE								
JAW-19	Shallow till	NONE								
JAW-20	Upper bedrock/till	NONE								
JAW-21	Shallow till	RDX	2 (0)	21	19	14	5.8	8.8	10	
JAW-22	Shallow till	RDX	2 (0)	1.4	48	248	46	1880	5.1	

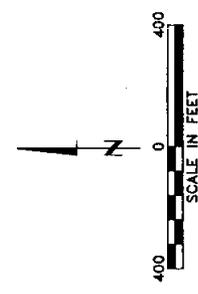
Notes:  
 (B) Mean Artery Level (PAL)  
 ND = Not done  
 - = No PCBs detected  
 D = Dishes  
 \* = Concentration exceeds PAL



- LEGEND:
- ⊕ MONITORING WELLS
  - (B) BEDROCK WELL
  - SPRING 2001 MONITORING WELL
  - SAMPLING LOCATIONS

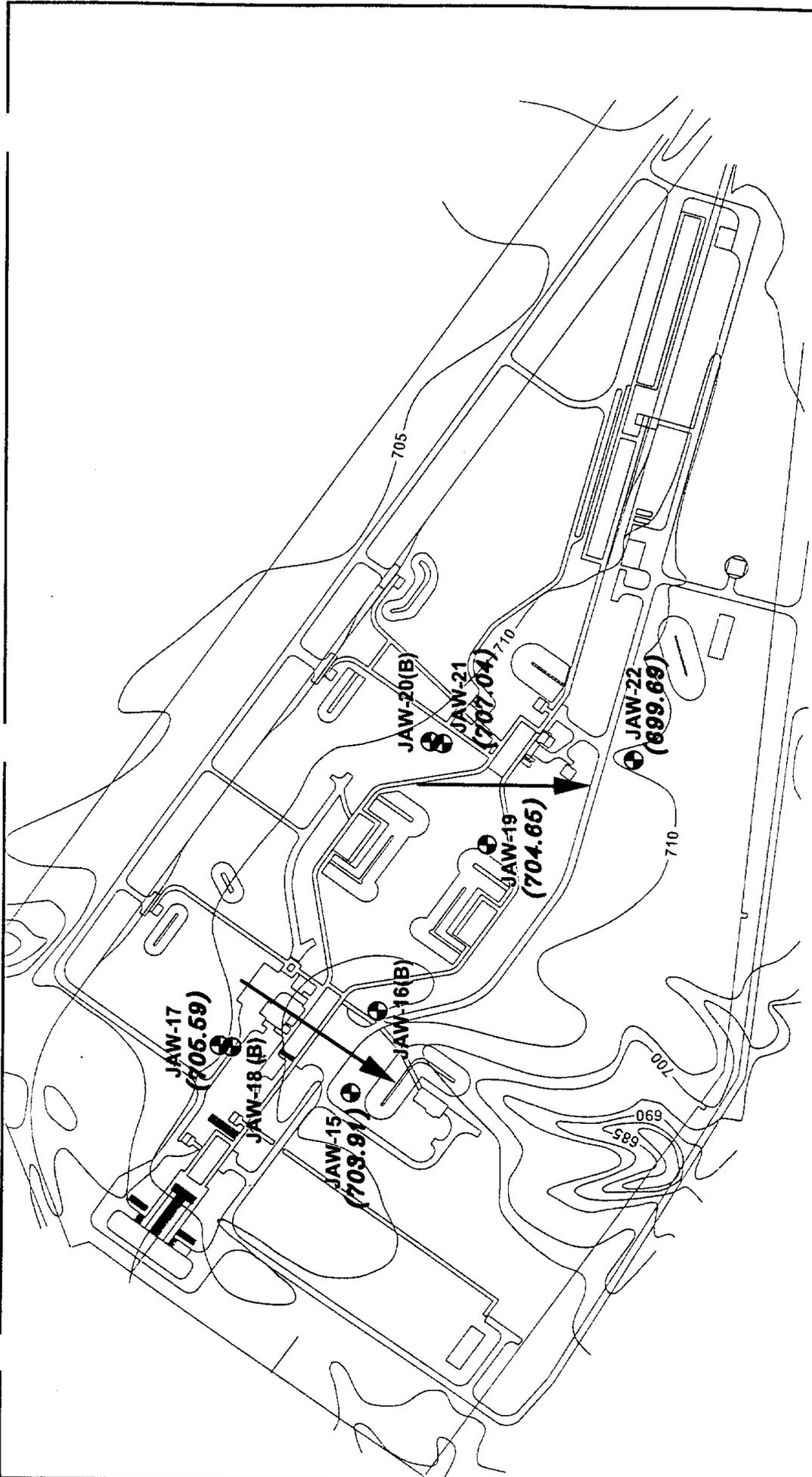
HORIZONTAL EXTENT OF RDX > 2 µg/l IN SHALLOW TILL WELLS - SPRING 2001

August 06, 2001 2:44:03 p.m.  
 Drawing: h:\loop\45-fm9602ww.00\0202\08-01\5-4.dwg (doc)  
 Xref: lms355.dwg



CHEMICALS EXCEEDING PRGs  
 LINE 3A, LINE 3A POND, AND LINE 3A STP

DRW. BY: DAC	DATE: 08/06/01	PROJECT NO:	PRG. NO:
CHKD. BY:	DATE:	45FM9602WW00	5-4

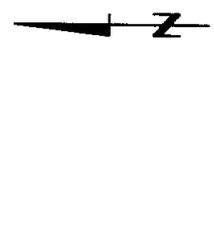


**LEGEND:**

- ⊕ MONITORING WELLS
- (B) BEDROCK WELL

**(708.16)**  
GROUNDWATER ELEVATION  
(FT. ABOVE MEAN SEA LEVEL)

↙ INTERPRETED GROUNDWATER FLOW  
DIRECTION



GROUNDWATER ELEVATIONS - FALL 2000  
SHALLOW TILL WELLS  
LINE 3A, LINE 3A POND, AND LINE 3A STP

DRN. BY: DAP	DATE: 01/09/01	PROJECT NO.	FIG. NO.
CHK'D. BY:	DATE:	45FM9602WW.00	3-4a

September 12, 2001 1:21:47 p.m.  
Drawing: I:\aacap\45-fm9602ww.00\100305\3-4a.dwg (dac)  
Xrefs: line3a3b.dwg

**TABLE 3-1  
WATER LEVEL MEASUREMENTS  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING EVENTS**

Site Name (IAAP Site Designation)/ Well Number	Date Measured Fall 00	Date Measured Spring 01	Well TOC Elevation' (ft. MSL)	Ground Elevation' (ft. MSL)	Well Depth (TOC)	Depth to Water Fall 00 (TOC)	Depth to Water Spring 01 (TOC)	Change in Water Level (Fall 00 to Spring 01)	Water Level Elevation Fall 00 (ft. MSL)	Water Level Elevation Spring 01 (ft. MSL)	Screened Depth (BGS)	Screened Interval	Screened Interval Lithology (USCS)	Well Dia. (in)
<b>Line 3, (IAAP-3), cont.</b>														
JAW-55	10/19/00	05/15/01	698.69	696.4	27.3	5.07	4.25	0.82	693.62	694.44	10-25	Shallow till	ML-SM	2
JAW-56	10/19/00	05/15/01	701.21	703.9	22.3	5.44	2.74	2.70	695.77	698.47	10-20	Shallow till	CL-w/SC seams	2
JAW-57	10/19/00	05/15/01	705.97	709.9	27.1	10.59	4.14	6.45	695.38	701.83	15-25	Shallow till	CH	2
JAW-77	10/19/00	05/15/01	702.76	700.6	22.2	8.67	4.32	4.35	694.09	698.44	10-20	Shallow till	CL-SC	2
<b>Line 3A, (IAAP-4) / Line 3A Pond, (IAAP-41) / Line 3A STP, (IAAP-29)</b>														
JAW-15	10/22/00	05/15/01	712.88	710.7	22.2	8.97	3.75	5.22	703.91	709.13	5-20	Shallow till	CL-w/CH	2
JAW-16 (B)	10/22/00	05/15/01	713.07	711.0	60.1	18.77	16.38	2.39	694.30	696.69	43-58	Up. bed./Glac. outwash	SC & Weath. Shale	2
JAW-17	10/22/00	05/15/01	711.83	709.2	17.5	6.24	3.85	2.39	705.59	707.98	5-15	Shallow till	CH/w/trace SC	2
JAW-18 (B)	10/22/00	05/15/01	711.74	709.2	53.5	49.53	45.10	4.43	662.21	666.64	36-51	Up. bed./Glac. outwash	CHw/SP & Limestone	2
JAW-19	10/22/00	05/15/01	715.77	713.2	17.9	11.12	4.29	6.83	704.65	711.48	5-15	Shallow till	CL-CH	2
JAW-20 (B)	10/22/00	05/15/01	713.82	711.9	60.0	28.23	25.04	3.19	685.59	688.78	43-58	Up. bed./Glac. outwash	SC & Weath. Shale	4
JAW-21	10/22/00	05/15/01	714.66	711.9	22.8	7.62	3.84	3.78	707.04	710.82	5-20	Shallow till	ML-SM/w/SC	2
JAW-22	10/22/00	05/15/01	713.57	711.4	22.2	13.88	6.86	7.02	699.69	706.71	5-20	Shallow till	CHw/SC	2
<b>Line 4A and 4B, (IAAP-5)</b>														
JAW-604	10/22/00	05/15/01	721.81	719.4	20.2	5.62	2.81	2.81	716.19	719.00	4.8-14.8	Shallow till	CH	2
JAW-605	10/22/00	05/16/01	719.99	717.8	19.2	7.89	3.48	4.41	712.10	716.51	7-17	Shallow till	CL	2
GZ3-1	10/22/00	05/16/01	727.01	724.3	21.8	11.64	5.53	6.11	715.37	721.48	9-19	Shallow till	NA	4
GZ3-2	DRY	05/16/01	727.39	724.7	10.7	DRY	DRY	NA	DRY	718.86	3-8	Shallow till	NA	4
GZ3-4	DRY	05/16/01	725.91	721.7	32.2	13.55	NM	NA	712.36	NM	18-28	Shallow till	NA	4
GZ3-5	10/22/00	05/16/01	726.52	722.9	22.1	14.26	6.17	8.09	712.26	720.35	8.5-18.5	Shallow till	NA	4
<b>Line 5A and 5B, (IAAP-6)</b>														
5A-MW1	10/18/00	05/15/01	726.14	723.8	20.0	7.14	3.37	3.77	719.00	722.77	7.5-17	Shallow till	CL-CH	2
5A-MW2	10/18/00	05/15/01	726.83	724.7	20.1	8.18	3.84	4.34	718.65	722.99	7.5-17	Shallow till	CHw/SC	2
5B-MW1	10/18/00	05/15/01	729.65	727.1	20.5	10.47	5.40	5.07	719.18	724.25	7.5-17	Shallow till	CL-CH	2
5B-MW2	10/18/00	05/15/01	729.02	726.7	22.9	9.92	3.89	6.33	719.10	725.43	10-19.5	Shallow till	CL-CHw/SC	2
JAW-606	10/18/00	05/15/01	722.29	720.3	17.0	6.42	3.54	3.58	715.87	719.45	5-15	Shallow till	CL-CH	2
JAW-607	10/18/00	05/15/01	730.11	727.8	17.9	11.46	3.03	8.43	718.65	727.08	6.5-15.5	Shallow till	CL	2
JAW-608	10/18/00	05/15/01	729.84	727.7	21.1	9.36	5.11	4.25	720.48	724.73	9-19	Shallow till	CL-w/SC	2
JAW-609 (B)	10/18/00	05/15/01	722.19	720.1	114.1	52.61	50.28	2.33	669.58	671.91	102-112	Upper bedrock	Weathered Limestone	4
<b>Line 6, (IAAP-7)</b>														
GZ2-1	10/18/00	05/15/01	725.51	722.2	38.0	19.14	12.95	6.19	706.37	712.56	44-54	Intermediate till	NA	4
T-10	10/18/00	05/15/01	725.02	722.8	27.9	13.72	3.95	9.77	711.30	721.07	14-24.5	Shallow till	NA	4
T-11	10/18/00	05/15/01	724.46	722.6	76.3	43.77	41.65	2.12	680.69	682.81	60-70	Intermediate till	NA	4
T-12 (B)	10/18/00	05/15/01	725.12	723.1	123.1	54.45	53.56	0.89	670.67	671.56	111-121	Upper bedrock	NA	4
T-16	10/18/00	05/15/01	717.81	715.7	22.5	8.27	2.60	5.67	709.54	715.21	10-20	Shallow till	NA	4
T-17	10/18/00	05/15/01	717.84	715.9	75.6	24.50	22.37	2.13	693.34	695.47	60-70	Intermediate till	NA	4
T-18 (B)	10/18/00	05/15/01	717.54	715.6	117.0	39.57	38.63	0.94	677.97	678.91	100-115	Upper bedrock	NA	4
T-19	10/18/00	NM	717.21	714.8	22.9	10.00	NM	NA	707.21	NM	10-20	Shallow till	NA	2
T-28	10/18/00	05/13/01	715.77	713.7	23.0	8.42	4.77	3.65	711.00	711.00	10-20	Shallow till	NA	4
T-29	10/18/00	05/15/01	715.79	713.7	77.0	24.72	23.10	1.62	692.69	692.69	60-70	Intermediate till	NA	4
T-30 (B)	10/18/00	05/15/01	716.14	713.9	151.2	57.91	57.43	0.48	658.23	658.71	139-149	Upper bedrock	NA	4
T-34	10/18/00	05/15/01	715.05	712.8	23.1	7.77	5.70	2.07	707.28	709.35	10-20	Shallow till	NA	2
T-35	10/18/00	05/15/01	716.01	712.6	77.6	24.61	23.19	1.42	691.40	692.82	60-70	Intermediate till	NA	4
T-36 (B)	10/18/00	05/15/01	714.95	712.5	161.9	64.29	63.75	0.54	650.66	651.20	149.5-159.5	Upper bedrock	NA	2
<b>Line 7, (IAAP-8) There are no wells at this site.</b>														
<b>Line 8, (IAAP-9) There are no wells at this site.</b>														

**TABLE 4-4**  
**SUMMARY OF CHEMICALS DETECTED AT LINE 3A, LINE 3A POND, AND LINE 3A STP**  
**FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING EVENTS**

FIELD ID	DATE COLLECTED	PRG	JAW-15			JAW-16			JAW-17							
			November 15, 2000	May 21, 2001	November 17, 2000	May 22, 2001	November 15, 2000	May 21, 2001								
			Result	RL	Qual	Result	RL	Qual	Result	RL	Qual					
EXPLOSIVES (µg/L)	2-Amino-4,6-dinitrotoluene	NA	<	1.2	U	<	0.39	U	<	1.2	U	<	0.47	U		
	4-Amino-2,6-dinitrotoluene	NA	<	1.2	U	<	0.39	U	<	1.2	U	<	0.47	U		
	400 (b)	400 (b)	3	1.2	P	<	0.39	U	<	1.2	U	6.1	1.2	4.8	0.47	
	MX	NA	0.87	1.2	J	<	0.39	U	<	1.5	U	1.4	1.2	1.1	0.58	
	RD	2 (b)	1.1	1.1	J	<	0.37	U	<	1.2	U	1.1	1.1	0.47	P	
METALS (µg/L)	Barium	2000 (a)	109	200	J	385	200	J	423	200	110	200	J	111	200	
	Cadmium	5 (a)	0.4	5	J	<	5	U	<	5	U	0.3	5	J	<	5
	Chromium	100 (a)	1.9	10	J	0.7	10	J	<	10	U	0.7	10	J	<	10
	Lead	15 (a)	2.5	10	J	<	10	U	<	10	U	1.6	10	J	1.8	10
	Selenium	50 (a)	2.1	10	J	1.4	10	J	<	10	U	<	10	U	<	10
NA PARAMETERS (mg/L)	Alkalinity	NE	230	4	U	380	4	U	400	8	260	4	U	220	8	
	Ammonia	NE	<	0.01	U	0.03	0.01	U	<	0.01	<	0.01	U	<	0.01	
	Carbon Dioxide	NE	62	1	U	65	1	U	160	1	45	1	U	40	1	
	Chloride	NE	11	10	U	4	1	U	<	1	7.7	1	U	18	10	
	Nitrate + Nitrite as N	NE	0.11	0.01	U	<	0.03	U	0.03	0.01	0.17	0.01	U	1.1	0.01	
	Ortho-Phosphate	NE	<	1	U	<	1	U	<	1	<	1	U	<	1	
	Sulfate	NE	98	10	U	5.6	1	U	5	1	78	10	U	80	10	
	Sulfide	NE	1.4	1	U	<	1	U	<	1	<	1	U	<	1	
	Total Kjeldahl Nitrogen	NE	<	0.3	U	<	0.3	U	<	0.3	<	0.3	U	<	0.3	
	Total Organic Carbon	NE	<	1	U	<	1	U	<	1	<	1	U	<	1	
	(METALS)	Calcium	NE	64500	5000	U	99100	5000	U	101000	5000	72600	5000	U	71200	5000
		Magnesium	NE	25000	5000	U	25300	5000	U	25800	5000	36200	5000	U	37300	5000
		Sodium	NE	18300	5000	U	18700	5000	U	19300	5000	10900	5000	U	13000	5000

Notes:  
 ND = Not Detected  
 RL = Reporting Limit  
 Qual = Qualifier  
 J = Estimated  
 D = Dilution  
 R = Rejected  
 E = Value exceeds linear range  
 F = Presence of interference  
 P = Percent Difference greater than 25%

UJ = Estimated Nondetect  
 U = Nondetect  
 Z - Co-elution  
 µg/L = microgram per liter  
 pCi/L = picoCuries per liter

(PRG): Preliminary Remediation Goal ;  
 (a) Maximum Contaminant Level (MCL)  
 (b) Health Advisory Level (HAL)  
 (c) Region IX PRG's  
 (d) 10<sup>-4</sup> Risk Level  
 NA - Not available  
 NE - Not evaluated  
 [REDACTED] - Above PRG

The calculation of detection frequency does not include results from reanalyzed samples.

**TABLE 4-4  
SUMMARY OF CHEMICALS DETECTED AT LINE 3A, LINE 3A POND, AND LINE 3A STP  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING EVENTS**

FIELD ID DATE COLLECTED	PRG	JAW-18			JAW-19			JAW-20								
		May 21, 2001			November 16, 2000			May 21, 2001			November 19, 2000			May 24, 2001		
		Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
<b>EXPLOSIVES (µg/L)</b>																
2-Amino-4,6-dinitrotoluene	NA	<	0.7	U	<	0.96	U	<	0.69	U	<	0.6	U	<	0.95	U
4-Amino-2,6-dinitrotoluene	NA	<	0.7	U	<	0.96	U	<	0.69	U	<	0.6	U	<	0.95	U
HMX	400 (b)	1.6	0.7	U	<	0.96	U	<	0.69	U	<	0.6	U	<	0.95	U
MX	NA	<	0.87	U	<	0.96	U	<	0.86	U	<	0.6	U	<	1.2	U
RDX	2 (b)	1.1	0.7	U	<	0.9	U	<	0.69	U	0.9	0.56		0.76	0.95	J
<b>METALS (µg/L)</b>																
Barium	2000 (a)	307	200	U	119	200	J	127	200	J	323	200		344	200	
Cadmium	5 (a)	<	5	U	0.4	5	J	<	5	U	1.1	5	J	<	5	U
Chromium	100 (a)	<	10	U	0.9	10	J	0.3	10	J	<	10	U	0.8	10	J
Lead	15 (a)	1.2	10	J	<	10	U	<	10	U	1.7	10	J	<	10	U
Selenium	50 (a)	3.4	10	J	3.1	10	J	7	10	J	<	10	U	2.4	10	J
<b>NA PARAMETERS (mg/L)</b>																
Alkalinity	NE	330	8	U	320	4	U	300	8	U	360	4	U	360	8	U
Ammonia	NE	0.01	0.01	U	<	0.01	U	<	0.01	U	0.02	0.01	U	<	0.01	U
Carbon Dioxide	NE	55	1	U	82	1	U	620	1	U	88	1	U	68	1	U
Chloride	NE	7	1	U	4.2	1	U	2	1	U	2.1	1	U	2	1	U
Nitrate + Nitrite as N	NE	1.1	0.01	U	0.52	0.01	U	0.27	0.01	U	1.8	0.01	U	2.2	0.05	U
Ortho-Phosphate	NE	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
Sulfate	NE	44	5	U	35	10	U	46	5	U	14	1	U	14	1	U
Sulfide	NE	<	1	U	1	1	U	<	1	U	<	1	U	<	1	U
Total Kjeldahl Nitrogen	NE	0.4	0.3	U	<	0.3	U	0.6	0.3	U	<	0.3	U	<	0.1	U
Total Organic Carbon	NE	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
<b>NA PARAMETERS (METALS)</b>																
Calcium	NE	92000	5000	U	73800	5000	U	80200	5000	U	94900	5000	U	86600	5000	U
Magnesium	NE	39200	5000	U	32700	5000	U	36300	5000	U	33300	5000	U	32800	5000	U
Sodium	NE	13200	5000	U	13800	5000	U	16300	5000	U	13100	5000	F	13400	5000	U

Notes:  
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 D-Dilution  
 R = Rejected  
 E = Value exceeds linear range  
 F=Presence of Interference  
 P=Percent Difference greater than 25%

UJ = Estimated Nondetect  
 U = Nondetect  
 Z- Co-elution  
 mg/L = milligram per liter  
 µg/L = microgram per liter  
 pCi/L = picoCuries per liter

(PRG): Preliminary Remediation Goal ;  
 (a) Maximum Contaminant Level (MCL)  
 (b) Health Advisory Level (HAL)  
 (c) Region 1X PRG's  
 (d) 10<sup>-6</sup> Risk Level  
 NA - Not available  
 NE - Not evaluated  
 Above PRG

The calculation of detection frequency does not include results from reanalyzed samples.

**TABLE 4-4  
SUMMARY OF CHEMICALS DETECTED AT LINE 3A, LINE 3A POND, AND LINE 3A STP  
FALL 2000 AND SPRING 2001 GROUNDWATER MONITORING EVENTS**

FIELD ID DATE COLLECTED	PRG	JAW-21				JAW-22														
		November 18, 2000		May 24, 2001		November 17, 2000		May 21, 2001												
		Result	RL	Qual	RL	Qual	Result	RL	Qual	Result	RL	Qual								
<b>EXPLOSIVES (µg/L)</b>																				
2-Amino-4,6-dinitrotoluene	NA	<	0.81	U	<	1.1	U	2.4	0.35	<	0.61	U	<	0.61	U					
4-Amino-2,6-dinitrotoluene	NA	<	0.81	U	<	1.1	U	3.9	0.35	<	0.61	U	<	0.61	U					
HMX	400 (b)	1	0.81	J	0.95	1.1	J	17	0.35	0.48	0.61	J	0.48	0.61	J					
MNX	NA	<	0.81	U	0.7	1.3	J	9.9	0.35	P	0.38	J	0.38	0.76	J					
RDX	2 (b)	0.38	0.76	J	1.1	1.1	J	180	3.3	D	0.61	J	0.61	0.61	J					
<b>METALS (µg/L)</b>																				
Barium	2000 (a)	82.1	200	J	75.7	200	J	206	200	861	200	J	861	200	J					
Cadmium	5 (a)	0.6	5	J	<	5	U	<	5	<	5	U	<	5	U					
Chromium	100 (a)	<	10	U	0.6	10	J	1.5	10	0.8	10	J	0.8	10	J					
Lead	15 (a)	1.8	10	J	<	10	U	<	10	<	10	U	<	10	U					
Selenium	50 (a)	<	10	U	6.1	10	J	1.9	10	6.2	10	J	6.2	10	J					
<b>NA PARAMETERS (mg/L)</b>																				
Alkalinity	NE	190	4	U	170	8	U	390	4	350	8	U	350	8	U					
Ammonia	NE	0.03	0.01	U	<	0.01	U	<	0.01	<	0.01	U	<	0.01	U					
Carbon Dioxide	NE	65	1	U	45	1	U	75	1	1100	1	U	1100	1	U					
Chloride	NE	<	1	U	<	1	U	11	5	6	1	U	6	1	U					
Nitrate + Nitrite as N	NE	0.92	0.01	U	1.1	0.01	U	0.25	0.01	0.25	0.01	U	0.25	0.01	U					
Ortho-Phosphate	NE	<	1	UJ	<	1	U	<	1	<	1	U	<	1	U					
Sulfate	NE	32	10	U	36	10	U	62	10	150	100	U	150	100	U					
Sulfide	NE	<	1	UJ	<	1	U	<	1	<	1	U	<	1	U					
Total Kjeldahl Nitrogen	NE	<	0.3	U	<	0.3	U	0.3	0.3	0.7	0.3	U	0.7	0.3	U					
Total Organic Carbon	NE	<	1	U	<	1	U	1.2	1	1.1	1	U	1.1	1	U					
<b>NA PARAMETERS (µg/L)</b>																				
Calcium	NE	49200	5000	F	43800	5000	F	112000	5000	116000	5000	F	116000	5000	F					
Magnesium	NE	21600	5000	F	20900	5000	F	45300	5000	49900	5000	F	49900	5000	F					
Sodium	NE	9710	5000	F	9500	5000	F	9900	5000	13800	5000	F	13800	5000	F					

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 F = Presence of Interference  
 P = Percent Difference greater than 25%

UI = Estimated Nondetect  
 U = Nondetect  
 Z = Co-elution  
 mg/L = milligram per liter  
 µg/L = microgram per liter  
 pCi/L = picocuries per liter

(PRG): Preliminary Remediation Goal;  
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 (b) Health Advisory Level (HAL)  
 (c) Region IX PRGs  
 (d) 10<sup>-4</sup> Risk Level  
 NA - Not available  
 NE - Not evaluated  
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The calculation of detection frequency does not include results from reanalyzed samples.