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Well Fitness Evaluation for the Idaho National Engineering Laboratory

Volume 2

Idaho National Engineering Laboratory

U.S. Department of Energy • Idaho Operations Office

DOE/ID-10392

Well Fitness Evaluation for the Idaho National Engineering Laboratory

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CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-03

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Plugged and Abandoned
(X) INEL Well Catalog (field survey by K. Beard)
Field photo shows well filled with concrete.
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
(X) Well was located by field inspection.
( ) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
(X) Grouted
This former injection well was filled with concrete and capped in 1989.
( ) Other
( ) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented in CWS files.

C. Well Casing

1) Does the well contain surface or other well casing:
Yes X No _ Not Documented _
Explanation: The well contains steel and possibly PVC casings.

2) Was the annular space between the casing and borehole grouted:
Yes _ No _ Uncertain X Not Documented _ N/A _

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-03

1) Total depth of well 598 ft. Top of basalt 40 ft.

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes X No _ Not Documented _ Not Certain _
Explanation: The casings were perforated and filled to the ground surface with grout. Representatives from the State of Idaho witnessed the abandonment procedures.

3) Are additional abandonment procedures necessary:
Yes _ No X Not Certain _

GEOLOGIC LOG

Well Name CPP-03

Source: USGS Generalized Lithology Log, Construction Diagram (CWS Source #5)

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Interval (feet below surface)

Begin	End	Description
0	35	Gravel and Sand
35	40	Silt and Clay
40	140	Basalt
140	170	Silt and Sand
170	275	Basalt
275	320	No Sample
320	390	Basalt
390	396	Silt
396	416	Basalt
416	419	Silt
419	598	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date December 29, 1992

WellName: CPP--03

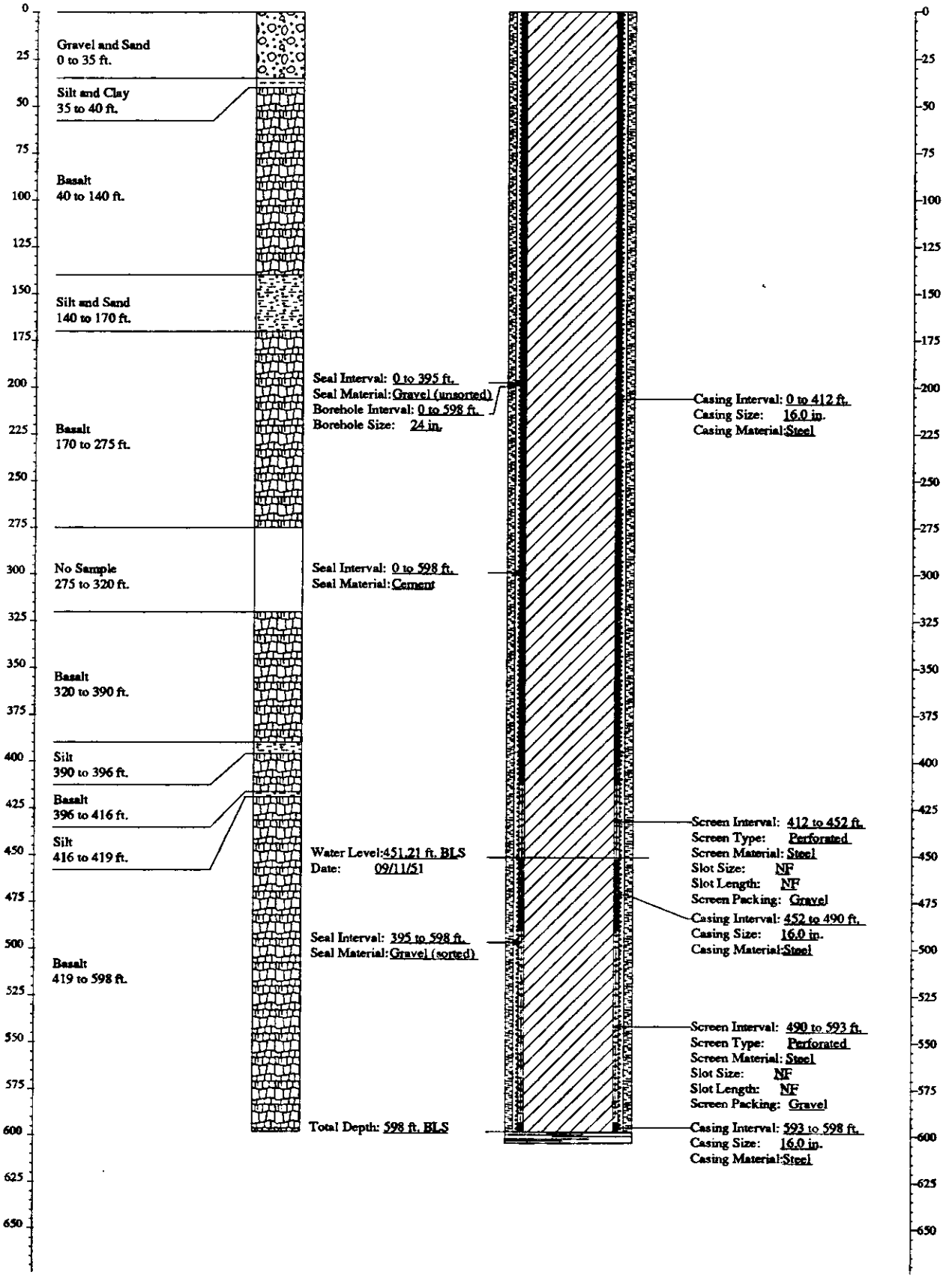
09/01/1993

Facility: ICPP
Well Type: NA
Well Status: Abandoned
Year Drilled: 1950
Total Depth: 598

Easting: 296569.20
Northing: 694812.70
Longitude: 1125603.30
Latitude: 433414.42
Completion Depth: 598

Driller: Strasser
Geologist: H. G. Sisco
Drilling Method: Cable tooled
Drilling Fluid: NF
Land Surface: 4914.1

Water Level: 451.21
Water Level Date: 09/11/51
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST POTABLE WATER/PRODUCTION WELL

LOCATION: ICPP Well Name/No. CPP-04

A. WELL USE

1) Year well was drilled: 1983

2) Current use for well:
(X) Potable water production well
( ) Raw water production well

3) Well is: (X) Active ( ) Inactive

4) Program Plan: ICPP Comprehensive Drinking Water Monitoring Plan

5) Responsible Organization/Contact Person: WINCO, Leon Pruitt

6) Has a sanitary survey been performed on the drinking water system by the Idaho Department of Health and Welfare: (Yes X No _ Insufficient Data NA _) Date performed 12/6/90 Deficiencies reported relevant to scope of Fitness for Use Checklist / Corrective actions taken: At the time the sanitary survey was conducted the following items were found to not be in compliance with Idaho State regulations. The well was located in a pit, it was not properly drained, the casing was not vented, there was no access for taking a water level, and there was no flow meter or pressure gauge installed on the discharge line. However, flow and pressure were measured at the pump control panel. The items in non-compliance are being addressed with the consideration of installing a new potable production well.

The following evaluation pertains to well construction and does not address the design of the distribution system outside of well house or water quality issues.

B. WELL MUST COMPLY WITH IDAHO DEPARTMENT OF HEALTH AND WELFARE RULES AND REGULATIONS, TITLE 1, CHAPTER 8, "IDAHO REGULATIONS FOR PUBLIC DRINKING WATER SYSTEMS", SPECIFICALLY SUBSECTION 01.08550 "STANDARDS FOR PUBLIC DRINKING WATER SYSTEMS." WELL MUST ALSO COMPLY WITH IDAHO DEPARTMENT OF WATER RESOURCES "RULES AND REGULATIONS WELL CONSTRUCTION STANDARDS" (JANUARY 1989). THESE CRITERIA WILL BE EVALUATED IN SECTION C.

In addition, the Department of Health and Welfare has adopted "Recommended Standards for Water Works" (Albany, New York, 1992). The criteria from this report not included in "State Regulations for Well Construction" will be discussed in Section D.

1) Well shall not be located in a pit. Is this criterion met: (Yes _ No X Insufficient Data _ N/A _)

2) Is a well house provided for this well: (Yes _ No X Insufficient Data _ N/A _) (If no, proceed to section 3)

   a) Well house shall be provided with a locking door. Is this criterion met: (Yes X No _ Insufficient Data _ N/A _) Explanation: There is not a well house provided for this well, however the entrance to the pit is locked.

   b) Well house shall be protected from flooding and adequately drained. Are these criteria met: (Yes _ No X Insufficient Data _ N/A _) Explanation: The floor of the pit slopes toward the well casing and all water flows down the annular space between the 16 inch and 20 inch casing. This provides a pathway for contamination to enter the well.

   c) Floor drains shall not be connected to sewers, storm drains, or any other source of contamination. Is this criterion met: (Yes _ No X Insufficient Data _ N/A _) Explanation: See B,2,b

   d) Sumps for well house floor drains shall not be within 30 feet of the well. Is this criterion met: (Yes _ No X Insufficient Data _ N/A _) Explanation: See B,2,b

   e) Well house shall not be used to store toxic or hazardous materials. Is this criterion met: (Yes X No _ Insufficient Data _ N/A _) Explanation: N.R.

3) Is the well constructed with a pitless adapter or pitless unit: (Yes _ No X Insufficient Data _ N/A _) (If no, proceed to Section 4)

   a) The unit shall be the type approved by the National Sanitation Division or Pitless Adaptor Division of the Water Systems Council. Is this criteria met: (Yes _ No _ Insufficient Data _ N/A _) Explanation: _

   b) The unit shall be designed to be watertight including the well cap and casing extension. Is this criterion met: (Yes _ No _ Insufficient Data _ N/A _) Explanation: _

   c) The unit shall be tested for leaks prior to being put into service. Is this criterion met: (Yes _ No _ Insufficient Data _ N/A _) Explanation: _

4) Well must not be located within 50 or 100 feet of any potential source of contamination and no closer to specific sources of contamination than set forth below.

   a) The well must not be within 50 feet of sewer lines. Is this criterion met: (Yes X No _ Insufficient Data _ N/A _) Explanation: N.R.

   b) The well must not be within 50 feet of canals, streams, ditches, lakes, ponds and tanks used to store non-potable substances. Is this criterion met: (Yes X No _ Insufficient Data _ N/A _) Explanation: N.R.

   c) The well must not be within 100 feet of a drainfield or a drainfield replacement area. Is this criterion met:
   (Yes X No _ Insufficient Data _ N/A _) Explanation: N.R.

   d) Is the well within 50 feet of contaminated perched water bodies:
   (Yes _ No X Insufficient Data _ N/A _) Explanation: The well may be located within an intermittent perched water zone associated with the Big Lost River during periods when it is flowing.

5) Well casing shall extend a minimum of 12 inches above the ground surface and 6 inches above the well house floor. Are these criteria met: (Yes _ No X Insufficient Data _ N/A _) Explanation: CPP 04 is located in a pit, consequently, the well casing does not extend 12 inches above the ground surface.

6) Well shall be vented with the open end screened and terminated downward at least 18 inches above the well house floor or ground surface. Are these criteria met: (Yes _ No X Insufficient Data _ N/A _) Explanation: The well is not equipped with a casing vent.

7) Well shall be equipped with the necessary valves and appurtenances to allow the well to be pumped to waste. Is this criterion met: (Yes _ No X Insufficient Data _ N/A _) Explanation: N.R.

8) A flow meter and sample tap shall be installed on discharge line. Are these criteria met: (Yes _ No X Insufficient Data _ N/A _) Explanation: The well's discharge line is equipped with a sample tap but no flow meter, flow is measured at the pump control panel.

9) A pressure gauge shall be provided at all installations. Is this criterion met: (Yes _ No X Insufficient Data _ N/A _) Explanation: The well's discharge line is not equipped with a pressure gauge but pressure is measured at the pump control panel.

10) Well shall be cased and sealed in such a manner that surface water can not enter the well and a watertight seal shall be provided at the top of the casing. Are these criteria met: (Yes X No _ Insufficient Data _ N/A _) Explanation: N.R.

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "RULES AND REGULATIONS WELL CONSTRUCTION STANDARDS" (1989)

1) Surface Completion

State of Idaho Reg. 3.2.1. The top of the casing shall be completely covered with a 1/4-inch thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3.11. The well shall be equipped with an access port which has a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes _ No X Insufficient Data _)

2) Casing

State of Idaho Reg. 3.3.4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

a) If the well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes X No _ Insufficient Data _ N/A _) Explanation: The alluvial/basalt interface is at approximately 40 ft. bls., the 24-inch surface casing runs from 7 to 50 ft. bls.

b) If the well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size inches 30 Casing size inches 24)

c) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-coupled joints which shall be watertight or be approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480 which is a combination of Idaho State regulations for casing less than 6 inches in diameter and "Recommended Standards for Water Works" (1992) for casings greater than 26 inches in diameter.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 I.D.	6.625	.280
8	8.628	.322
10 I.D.	0.750	.365
12	12.750	.375
14	14.000	.375
16	16.000	.375
18	18.000	.375
20	20.000	.375
22	22.000	.500
24	24.000	.500
26	26.000	.500
28	28.000	.500
30	30.000	.500
32	32.000	.500
34	34.000	.500

Casing Type	Casing Diameter (inches)	Casing Interval (feet bls)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/State Regs. on Casing Thickness
Steel	24	7 - 50	N.F.	N/A	0.250	No
Steel	20	7 - 130	N.F.	N/A	0.250	No
Steel	16	7 - 450	N.F.	N/A	0.250	No
Steel (1)	12	7 - 700	N.F.	N/A	0.250	No

(1) Casing perforated from 450 to 700 feet bls.

3) Seal

State of Idaho Reg. 3.3.1. and 3.3.2.1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters.

Annular Fill Material	Interval (feet bls)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement	~120 - 130	N.F.	Yes
Cement	~240 - ~245	N.F.	Yes
Bentonite	~425 - 450	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to the top of bedrock: (Yes _ No X Insufficient Data _ N/A _)
Explanation: The 24 inch casing surface seal does not start at ground surface but in the pit approximately 7 ft. bls.

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): (Yes _ No _ Insufficient Data X N/A _) Explanation: The available information is incomplete and does not identify the method used to emplace the seal.

State of Idaho Reg. 3.3.1. The casing seal is to prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No _Insufficient Data _ N/A _)
Explanation: _

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient Data _ N/A _) Explanation (Qualify data/specify perched intervals if applicable): The geophysical logs indicate that there may have been a saturated interval in the lithologic profile from approximately 250 to 350 ft. bls. at the time the logs were taken (10/13/83). The source of recharge for the perched water body would have been infiltration from the Big Lost River which is approximately 500 ft. to the north of the well. For comparison, the perched water body associated with the ICPP percolation pond extends well over 800 ft. from the source.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X Insufficient Data _ N/A _) Explanation: Most of the annular space between the well pit and the water table at approximately 450 ft. bls. is not sealed.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No X Insufficient Data N/A _) Explanation: The available information indicates that neither a gravel pack or gravel pack seal were installed.

D. WELL MUST COMPLY WITH "RECOMMENDED STANDARDS FOR WATER WORKS" (1992), A REPORT OF THE COMMITTEE OF THE GREAT LAKES-UPPER MISSISSIPPI RIVER BOARD OF STATE SANITARY ENGINEERS.

1) Does the well contain a packer that is in contact with the groundwater supply interval: (Yes _ No X Insufficient Data _ N/A _). If yes, is the packer comprised of materials that are toxic, will impair taste or odor, or facilitate bacterial contamination of the well water: (Yes _ No _ Packer Type _ N/A X)

2) Screen

a) Does the well contain perforated casing or a screen: (Yes X No Insufficient Data _ N/A _) If yes, the perforated screen or casing must be installed so that the pumping water level remains above it under operating conditions. The following determination was made from the available production water level data which will vary with changes in the static water levels (water table elevation); therefore, the following determination may not be valid under all conditions. Is the criterion met: (Yes _ No X Insufficient Data _ N/A _) Explanation: A November 15, 1983 pumping test showed the drawdown at 300 gpm was 36 ft. The static water level (water table) is at approximately 440 ft. bls. and the perforated casing is installed starting at 450 ft. bls. Production pumping is maintained at an estimated 400 gpm which would result in the water level dropping below the top of the perforated section of casing.

b) Is the perforated casing or screen constructed of material resistant to damage by chemical action from the groundwater or cleaning operations: Material Type Steel Explanation: Steel is an acceptable well construction material for casing or screen in a non-acidic environment such as the Snake River Plain aquifer, as is demonstrated in EG&G report EGG-ER-8496.

3) If the casing is constructed of nonferrous material, it must be resistant to the corrosiveness of the water. Is this criterion met:
(Yes _ No _ Insufficient Data _ N/A X)

4) Was the well adequately developed to remove native silts and clays, drilling mud or the finer fraction of the gravel pack: (Yes X No _ Insufficient Data N/A _) Explanation: During the construction of the CPP 04 well two aquifer pumping tests were conducted. The first on October 25, 1983, and the second on November 15 through November 16, 1983 which should have adequately developed the well.

E. **THE PRIMARY SOURCE FOR THE WELL EVALUATION IS THE IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY. OTHER SOURCES:** Westinghouse Idaho Nuclear Company Inc. Draft Final, Groundwater Monitoring Plan for the Idaho Chemical Processing Plant, 1992. Robertson, J.B., R. Sehoen, J.T. Barraclough, The Influence of Liquid Waste Disposal on the Geochemistry of Water at the National Reactor Testing Station, Idaho: 1952 - 1970, U.S. Geological Survey Open-File Report 73-238 (IDO-22053), 1974. Idaho Department of Health and Welfare, Division of Environmental Quality, Drinking Water Supply Report, CPP, 12/6/90. WINCO Letter, RJM-106-91 from R.J. Marcinko to M.B. Hinman, "Response to State of Idaho's Sanitary Survey December 3, 1990", 3/19/91

N.F. Not Found
N/A Not Applicable
N.R. Not Required

F. WELL FITNESS DETERMINATION

Intended use: PRODUCTION/POTABLE WELL

( ) Well is acceptable for intended use.
( ) Well is acceptable for intended use if a variance is granted.
( ) Maintenance required to continue intended use.
(X) Remediation required to continue intended use.
( ) Decommission, well is unneeded or cannot be remediated.

DEFICIENCIES: Primary deficiencies are as follows: The well is located in a pit and does not fall under exemption requirements of State regulation IDPA 01.08550,02. The drainage system for the well injects water into the gravel pack between the surface casing and the primary casing. The casing is not equipped with a vent. Minor deficiencies include the absence of a flow meter and pressure gauge on the discharge line, flow and pressure are monitored on the pump control panel. Additionally, the type of casing joint and casing thickness are not documented in the available information.

REMEDIATION: To address the problem associated with this well a Task Identification Fact Sheet has been written to include the following A.) Drill a new well to meet current standards B.) Evaluate the possibility of upgrading the well to meet current standards (elevate the well to above land surface). If the well is elevated to above ground surface a well house will have to be constructed and include the associated appurtenances to comply with Idaho State regulations. At which time a casing seal should be installed between 130 ft. bls. and the water table to inhibited perched water associated with the Big Lost River from entering the well's annular space.

GEOLOGIC LOG

Well Name CPP-04

Source: No Log Found

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Interval (feet below surface)

Begin	End	Description

COMPILED BY/ORGANIZATION: T. Norton / GAI Date 2/10/93

WellName: CPP–04 Corrections: WELL IS LOCATED IN A WELL PIT

08/27/1993

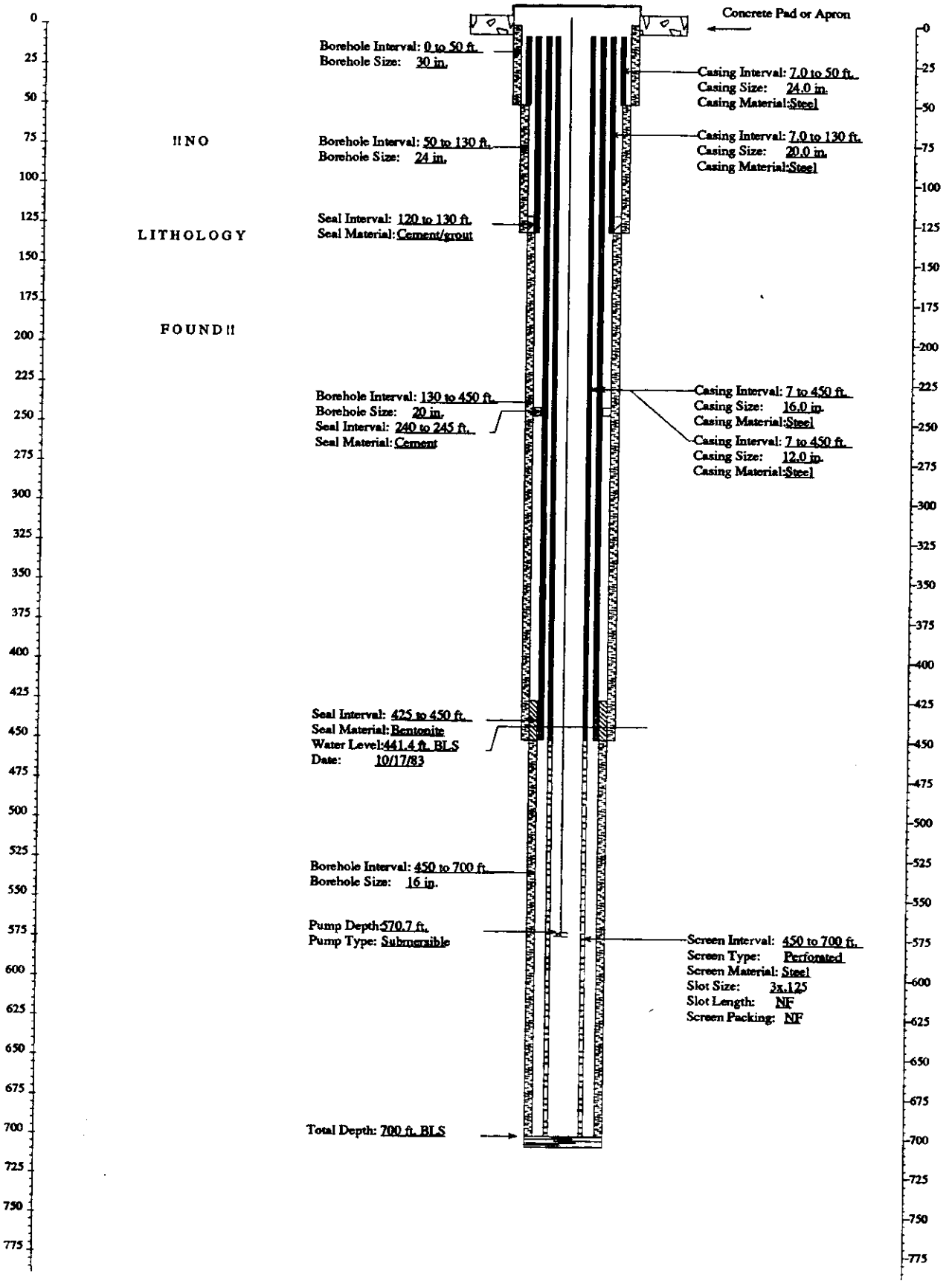
Facility: ICPP
Well Type: Potable Water Well
Well Status: Active
Year Drilled: 1983
Total Depth: 700

Easting: 297947.58
Northing: 697486.67
Longitude: 1125544.93
Latitude: 433440.95
Completion Depth: 700

Driller: NF
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: 4907.4

Water Level: 441.4
Water Level Date: 10/17/83
Water Level Access: NF

!! NO LITHOLOGY FOUND !!



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. CPP-33-1

A. WELL USE

1) Year well was drilled: 1990

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring ( )USGS Observation
( )CERCLA Characterization ( )No Documented Use
(X)Other: Proposed for DOE 5400.1 use by WINCO

3) Constituents monitored currently: None - the well is currently dry.

4) Water level monitored: (Yes _ No X Insufficient data _)

5) Is the well used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring: (Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant, 1991

7) Responsible organization/Contact person: WINCO / Ken Taylor

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:
(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock:(Yes X No _ Borehole size 10.5 inch Casing size 2 inch I.D.)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 3	None	38	N.F.	N/A
Stainless Steel (304)	2 I.D.	0 - 89	Flush-threaded	26	N.F.	N.F.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Bentonite / Cement Grout	0 - 74	Type I-II Portland Cement Grout (approximately 600 gallons) with 3-5% Sodium Bentonite	Yes
Bentonite Pellets	74 - 85 (seal above screen)	14 gallons Volclay	Yes
Bentonite Pellets	100 - 110.6 (seal below screen)	24 gallons Volclay	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented _ Explanation for seal emplacement The seals were installed with a tremie pipe.

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located near the ICPP Tank Farm. Small quantities of seeping or perched water have been encountered during drilling near the ICPP Tank Farm (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well, which is currently dry, was designed to monitor perched groundwater at about 90 feet bls. Saturated conditions were not encountered above this during drilling.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is sealed adequately to prevent groundwater movement within the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation Bentonite seals were installed above and below the sand pack.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes X No _ No documentation _) Explanation The equipment was steam cleaned prior to its mobilization onto the tank farm site.

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Stainless Steel
Screen	Stainless Steel
Pump	None
Discharge Pipe	None

Explanation Stainless steel is acceptable for compliance/detection monitoring.

4) Is the screen factory fabricated: (Yes X No _ No screen _) Type 2-inch wire-wrapped screen, type 304 with 0.02-inch slots and end cap

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes _ No _ N/A X) Explanation The well is currently dry.

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No X) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval The well monitors a discrete zone of 15 feet; however, it is currently dry.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes X No _ Uncertain _ N/A _) Does it extend more than 2 feet above screen: (Yes X No _ N/A _) Filter pack type 10/20 Colorado Silica Sand Filter pack interval 85 to 100 feet bls

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented X) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented X) Well development type and duration _)

9) Is the pump intake location documented: (Yes _ No X) Depth N/A - No pump installed

10 Does the pump type collect representative groundwater samples: (Yes _ No _ Not Documented X) Type N/A Explanation The well is currently dry.

E. **THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES:** "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991); Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant; USGS Report 91-4166

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located near the ICPP Tank Farm. Although it is currently dry, it was designed to monitor perched water in the basalt at about 90 feet bls. The well is adequately sealed and complies with state regulations except that no documentation was found for the casing thickness. This is a minor deficiency.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/RCRA Guidelines

(X) Well complies with applicable regulations and intended use.
( ) Well complies with applicable regulations and intended use except for minor details.
( ) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with RCRA guidelines, although the well is currently dry.

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-1

Source: Generalized Geology Log

****

Interval (feet below surface)

Begin	End	Description
0	1	No Sample
1	2	Dense Gravel and some Sand
2	38	Sand and Gravel
38	42.5	Silty Sand with trace Gravel
42.5	48.2	Fine Sand
48.2	54.5	Basalt
54.5	57.4	Vesicular Basalt
57.4	65.5	Slightly Vesicular Basalt
65.5	94	Vesicular Basalt
94	94.9	Soft to Firm Silty Clay
94.9	101.8	Vesicular Basalt
101.8	103.4	Massive Basalt
103.4	110.3	Vesicular Basalt
110.3	113.6	Silty Clay to Clay

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 8, 1992

WellName: CPP-33-1

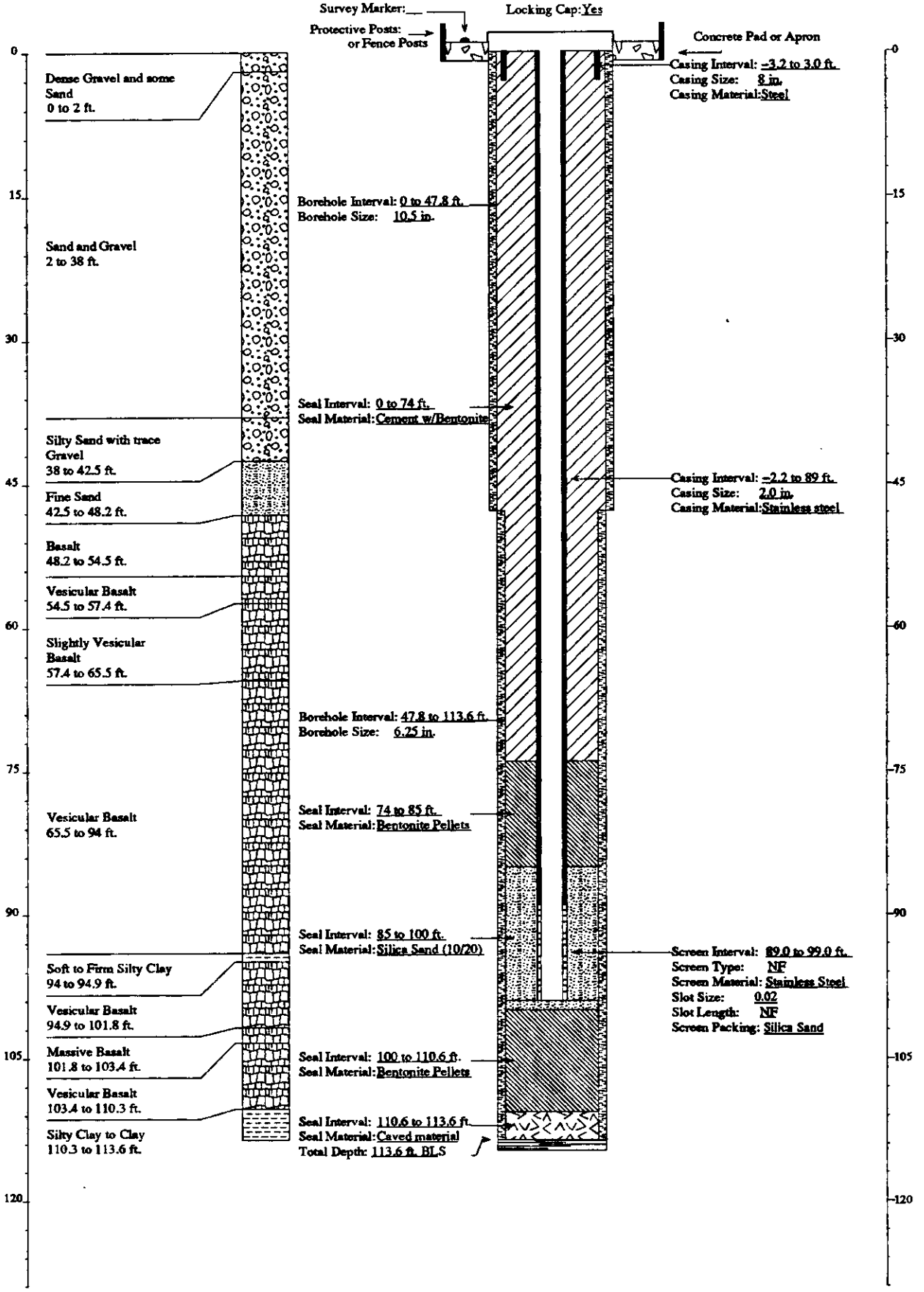
08/24/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1991
Total Depth: 113.6

Easting: 296938.30
Northing: 695388.74
Longitude: 1125558.363
Latitude: 433420.136
Completion Depth: 100

Driller: Hawley Bros.
Geologist: Brandenberger,Norton
Drilling Method: HSA and Core
Drilling Fluid: Air
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-33-1L

A. WELL/BORING USE

1) Year drilled: 1991

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: Proposed for DOE 5400.1 use by WINCO

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  (X) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
( ) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
(X) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 29.5 ft. Top of basalt = >29.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes _ No X) Explanation Protective posts are not needed since the boring is flush-mounted; however, a survey marker should be installed.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No X N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 6.25-inch Casing size 1.5-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _) Drilling Method _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 1	None	0	N.F.	N/A
PVC (1)	1.5	0.5 - 26.3	Flush-threaded	0	N.F.	N.F.
Lysimeter and centralizer	1.5	26.3 - 28.4	Flush-threaded	N/A	N.F.	N.F.

(1) Two 0.25 inch Teflon tubes are located inside the PVC

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Fill Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement grout	0 - 25.2	Cement grout with 3-5% bentonite	Yes
Silica flour	25.2 - 29	N.F.	N/A
Bentonite pellets	29 - 29.5	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No _ N/A _ Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A _ Uncertain/Not documented _) Explanation The seal was installed using a tremie pipe.

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _ N/A _) Explanation The boring is located on the south side of the ICPP Tank Farm. Small quantities of seeping water have been encountered at shallow depths during drilling at the ICPP Tank Farm (Golder Associates, 1991). The water may be derived from such sources as leaking pipes or the sewage treatment plant.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ N/A _) Explanation (Qualify data/specify perched intervals if applicable) The 10 to 18-foot interval was wet when the boring was drilled according to the generalized geology log.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes X No _ N/A _) Explanation The annular space is sealed 0 - 25.2 feet with cement grout.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No _ N/A X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

Although the lysimeter is proposed for DOE 5400.1 monitoring, it is not evaluated to RCRA guidelines because it is not a well.

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991); Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- (X) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The lysimeter is located on the south side of the ICPP Tank Farm and is completed in the alluvium. The annular space above the lysimeter is sealed with cement grout. The tubing from the sampler to the ground surface is protected inside a 1.5-inch PVC casing, which is filled with cement grout.

Deficiencies: The lysimeter was not located during the wellhead field inspection and therefore was not upgraded.

Remediation: A survey marker should be installed.

GEOLOGIC LOG

Well Name CPP-33-1L

Source: Generalized Borehole Log

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Interval (feet below surface)

Begin	End	Description
0	2	Dense Gravel
2	29.5	Sand and Gravel

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date February 16, 1993

WellName: CPP-33-1L **Correction: The surface completion is flush-mounted.**

08/02/1993

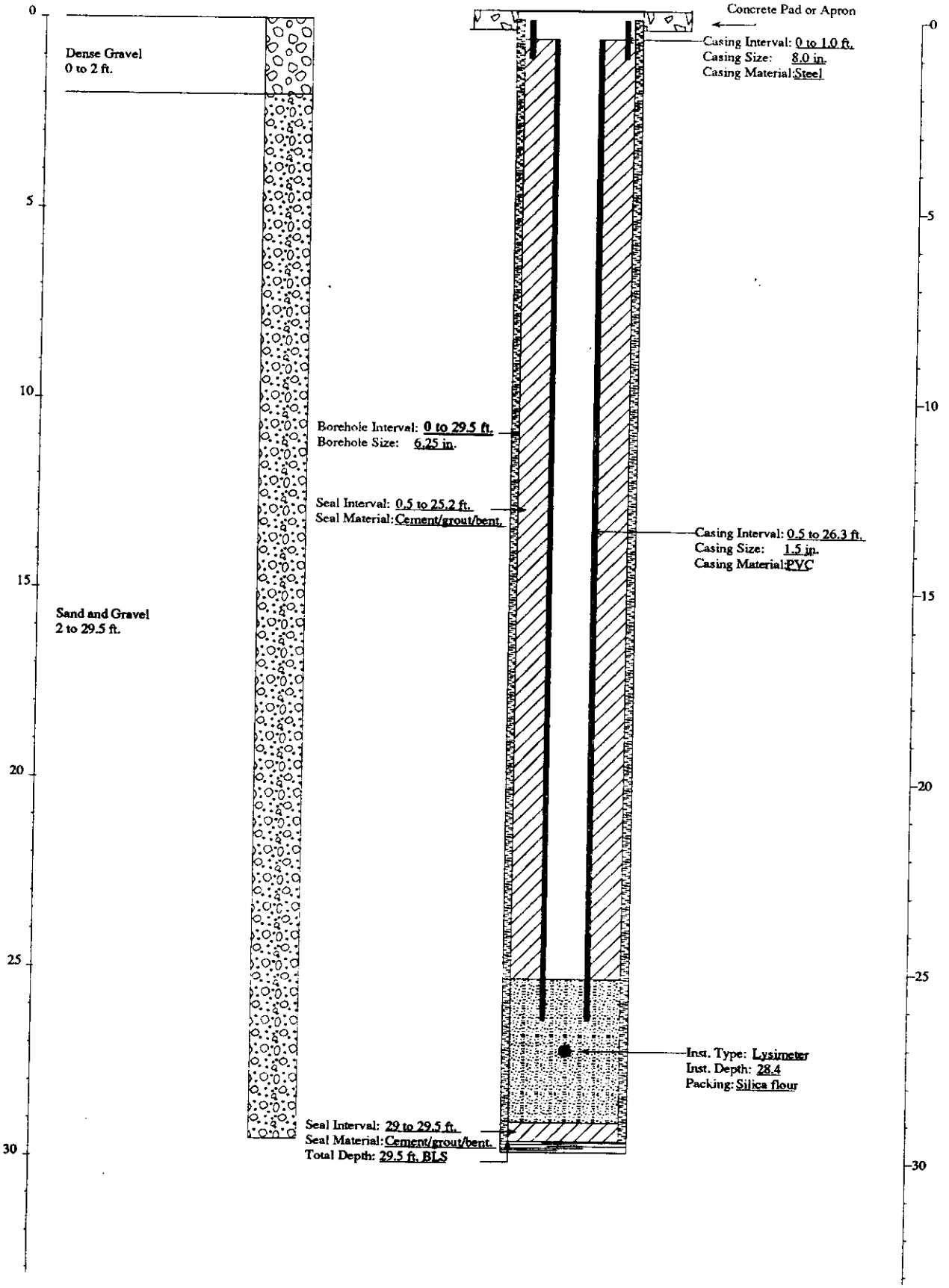
Facility: ICPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: 1991
Total Depth: 29.5

Easting: 296951.03
Northing: 695394.65
Longitude: 1125558.191
Latitude: 433420.195
Completion Depth: 29

Driller: Hawley
Geologist: S.B./T.G.
Drilling Method: Hollow stem auger
Drilling Fluid: NF
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF

Locking Cap: Yes



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP PAGE 1 of 8 **Well Name/No. CPP-33-2**

A. WELL USE

1) Year well was drilled: 1990

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring ( )USGS Observation
( )CERCLA Characterization ( )No Documented Use
(X)Other: Proposed for DOE 5400.1 use

3) Constituents monitored currently: None
Constituents previously monitored for CERCLA: pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, Se, Hg, F, NO_3, Endrine, Lindane, Methoxychlor, Toxaphene, Herbicides, Gross Alpha, Gross Beta, Fe, Mn, Na, phenols, Cl, SO_4, Ca, Mg, K, Zr, Carbonate, Bicarbonate, Nitrate, Total Alkalinity, Sb^{125}, Ce^{137}, Co^{60}, I^{129}, Sr^{90}, Tritium.

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: DOE 5400.1 - Sitewide Groundwater Monitoring Plan and Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 - EG&G (IRTS) / Jerry Sehlke and WINCO / Ken Taylor

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock:(Yes X No _ Borehole size 10.5 inch Casing size 2 inch I.D.)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 3	None	26	N.F.	N/A
Stainless Steel	2 I.D.	0 - 85.8	Flush-threaded	24	N.F.	N.F.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Bentonite / Cement Grout	0 - 78.8	Type I/II Portland Cement with 3-5% Bentonite (375 gallons grout)	Yes
Bentonite Pellets	78.8 - 81.8 (seal above screen)	6 gallons	Yes
Bentonite Pellets	107.1 - 114.5 (seal below screen)	9 gallons	Yes
Caved Material	114.5 - 114.8	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented _ Explanation for seal emplacement The seals were installed with a tremie pipe.

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation Small quantities of seeping or perched water have been encountered during drilling near the ICPP Tank Farm (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) Perched groundwater was encountered during drilling at 64.6 feet bls. The well is designed to monitor perched groundwater at approximately 93 feet bls.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is sealed from the surface to the top of the gravel pack.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation Bentonite pellets are installed above and below the sand pack.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes X No _ No documentation _) Explanation The equipment was steam cleaned prior to its use.

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Stainless Steel
Screen	Stainless Steel
Pump	Stainless Steel
Discharge Pipe	Stainless Steel

Explanation Stainless Steel is acceptable for compliance/detection monitoring.

4) Is the screen factory fabricated: (Yes X No _ No screen _) Type 2-inch wire wrapped screen, type 304 with 0.02-inch slots and end cap

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes X No _) Explanation The well may monitor both dissolved constituents and "floaters" since the last perched water level occurred within the monitoring interval.

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No X) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval(s) The well monitors a discrete interval of about 15 feet from approximately 92 feet to 107 feet bls.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes X No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A_) Filter pack type 10/20 Colorado Silica Sand Filter pack interval 81.8-107.1 feet bls The screen extends 4 feet above the filter pack.

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes X No _ Not Documented _) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes X Not _ Uncertain/Not Documented _ Well development type and duration A total of 220 gallons was pumped from the well. Turbidity stabilized at 4 NTU's.

9) Is the pump intake location documented: (Yes X No _) Depth 103.0 feet

10) Does the pump type collect representative groundwater samples: (Yes X No _ Not Documented _) Type HydroStar piston pump Explanation EGG-WM-9787 documents that gas piston pumps, submersible pumps and bailers produced nearly equal results for selected volatile organics at TAN. However, State Report OPTR 91-01 documents that the HydorStar pump may contribute chromium to the groundwater samples.

E. **THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES:** "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991), EGG-WM-9787, State Report OPTR 91-01

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located near the ICPP Tank Farm and monitors perched water in the basalt at about 90 feet. The well is adequately sealed and complies with state well construction regulations except that no documentation was found for the casing thickness. This is a minor deficiency.

Remediation: None

FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. CPP-33-2

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/RCRA Guidelines

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with RCRA guidelines except that the HydroStar pump may contribute chromium to the groundwater samples, which is a minor deficiency.

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-2

Source: Generalized Geological Log

****

Interval (feet below surface)

Begin	End	Description
0	5	No Sample
5	41.3	Sand and Gravel
41.3	44.1	Clay
44.1	109.6	Vesicular to Slightly Vesicular Basalt
109.6	114.8	Massive Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date August 20, 1992

WellName: CPP-33-2

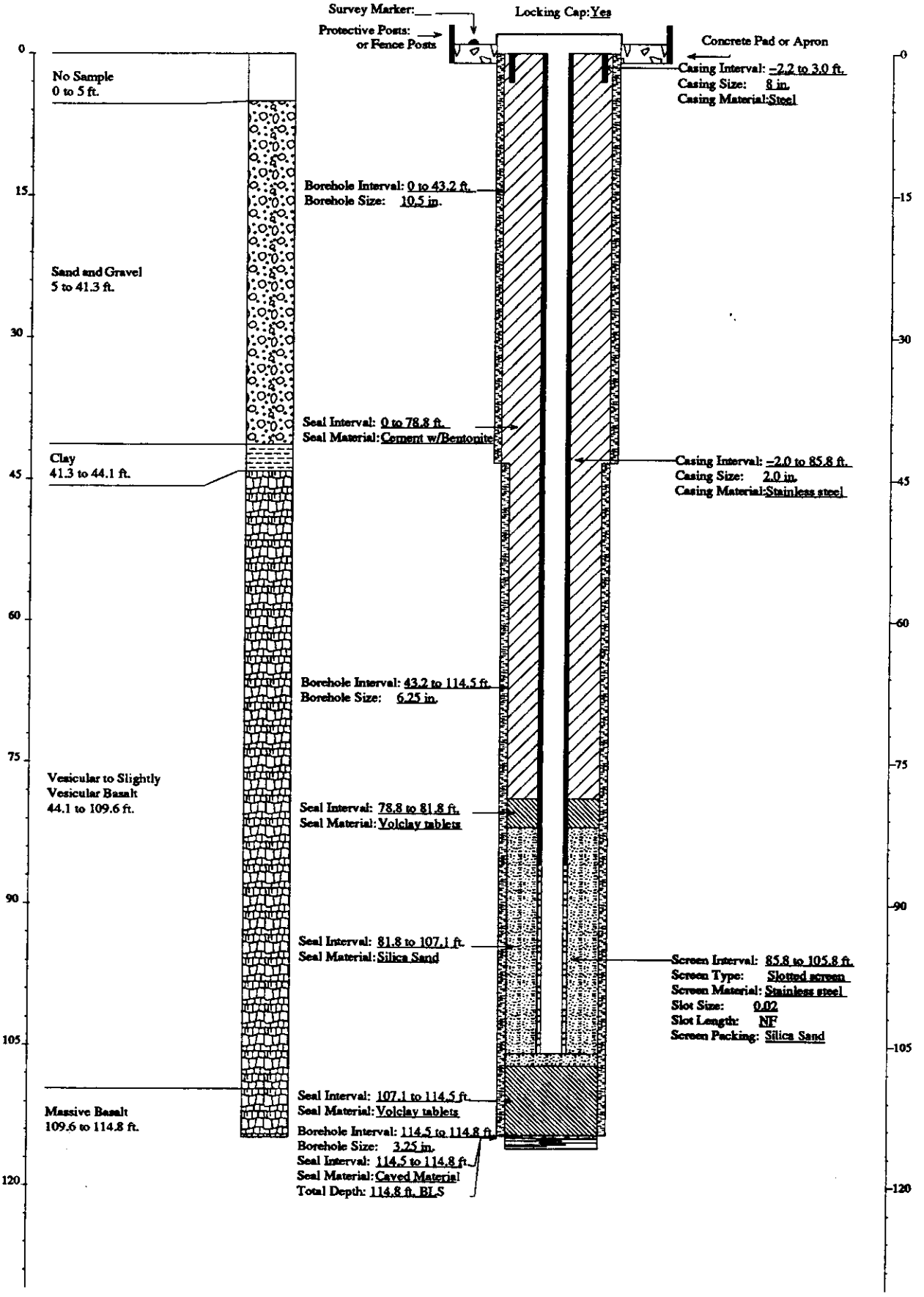
08/19/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1990
Total Depth: 114.8

Easting: 296638.34
Northing: 695385.47
Longitude: 1125602.437
Latitude: 433420.076
Completion Depth: 107.1

Driller: Hawley Bros.
Geologist: B Smith
Drilling Method: HSA and Core
Drilling Fluid: Air
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-33-2L

A. WELL/BORING USE

1) Year drilled: 1990

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: Proposed for DOE 5400.1 use by WINCO

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant, 1991

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  (X) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
( ) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
(X) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 44 ft. Top of basalt = 43.2 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation Protective posts are not necessary since the lysimeter is flush mounted.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 1.5-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (Inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 1	None	0	N.F.	N/A
PVC (1)	1.5	0.5 - 38.8	Flush-threaded	0	N.F.	N.F.

(1) PVC casing contains two 0.25-inch Teflon tubes.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Fill Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement grout	0.5 - 23.4	Cement grout with 3-5% bentonite	Yes
Bentonite pellets	23.4 - 30	N.F.	Yes
Caved material and bentonite pellets	30 - 33.8	N/A	N/A
Bentonite pellets	33.8 - 35.9	N.F.	Yes
Silica Flour	35.9 - 42	N.F.	N/A
Powdered Bentonite	42 - 43.6	N.F.	Yes
Caved material	43.6 - 44	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No _ N/A _ Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A _ Uncertain/Not documented _) Explanation The seal was installed using a tremie pipe.

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _ N/A _) Explanation The boring is located about 75 feet west of the ICPP Tank Farm. Small quantities of seeping water have been encountered at shallow depths during drilling at the ICPP Tank Farm (Golder Associates, 1991). The water may be derived from such sources as leaking pipes or the sewage treatment plant.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify

data/specify perched intervals if applicable) No indication was found of saturated formations above the sampling interval from the generalized borehole log.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes X No _ N/A _) Explanation The annular space above the sampling interval is sealed with bentonite and cement grout.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No _ N/A X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

Although the lysimeter is proposed for DOE 5400.1 monitoring, it is not evaluated to RCRA guidelines because it is not a well.

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991); Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- (X) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The lysimeter is located 75 feet from the ICPP Tank Farm and is completed at the base of the alluvium. The annular space above the lysimeter is sealed with bentonite and cement grout. The tubing from the sampler to the ground surface is protected inside a 1.5-inch PVC casing.

Deficiencies: None

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-2L

Source: Generalized Borehole Log

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Interval (feet below surface)

Begin	End	Description
0	41.2	Alluvium
41.2	43.2	Clayey Silt
43.2	44	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date February 16, 1993

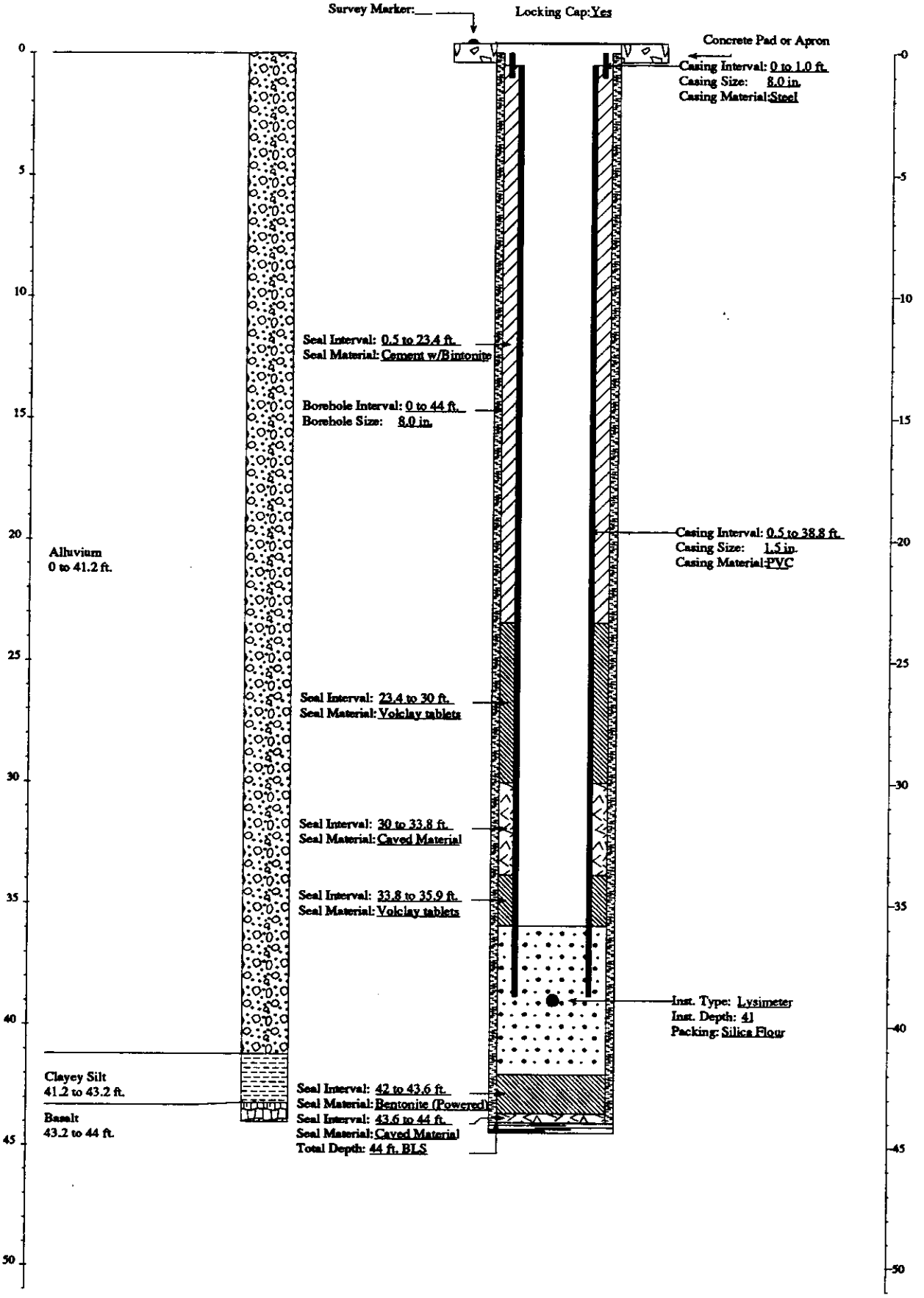
WellName: CPP-33-2L Corrections: The surface completion is flush mounted. 08/19/1993

Facility: ICPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: 1990
Total Depth: 44

Easting: 296634.84
Northing: 695368.47
Longitude: 1125602.482
Latitude: 433419.908
Completion Depth: 42

Driller: Hawley Bros.
Geologist: P.Innes
Drilling Method: Hollow stem auger
Drilling Fluid: NF
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP **Well Name/No.** CPP-33-3

A. WELL USE

1) Year well was drilled: 1990

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring ( )USGS Observation
( )CERCLA Characterization ( )No Documented Use
(X)Other: Proposed for DOE 5400.1 use

3) Constituents monitored currently: None
Constituents previously monitored for CERCLA: pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, Se, Hg, F, NO_3, Endrine, Lindane, Methoxychlor, Toxaphene, Herbicides, Gross Alpha, Gross Beta, Fe, Mn, Na, phenols, Cl, SO_4, Ca, Mg, K, Zr, Carbonate, Bicarbonate, Nitrate, Total Alkalinity, ^{125}Sb, ^{137}Ce, ^{60}Co, ^{129}I, ^{90}Sr, Tritium.

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: DOE 5400.1 - Sitewide Groundwater Monitoring Plan and Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 - EG&G (IRTS) / Jerry Sehlke and WINCO / Ken Taylor

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock:(Yes X No _ Borehole size 10.5 inch Casing size 2 inch I.D.)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 3	None	38	N.F.	N/A
Stainless Steel	2 I.D.	0 - 111.8	Flush-threaded	36	N.F.	N.F.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Bentonite / Cement Grout	0 - 97	Type I/II Portland Cement Grout with 3-5% Sodium Bentonite (450 gallons grout)	Yes
Bentonite Pellets (Volclay)	97 - 107 (seal above screen)	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented _ Explanation for seal emplacement The seals were installed with a tremie pipe.

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located within the ICPP facility near the Tank Farm. Small quantities of seeping or perched water have been encountered during drilling near the ICPP Tank Farm (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well was designed to monitor perched groundwater at approximately 110 feet bls. Perched groundwater also was observed at 74.5 feet and 99.2 feet bls during drilling.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is sealed adequately to prevent groundwater movement in the annular space.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation Bentonite seals were placed above and below the sand pack.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes X No _ No documentation _) Explanation The equipment was steam cleaned prior to its use.

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Stainless Steel
Screen	Stainless Steel
Pump	Stainless Steel
Discharge Pipe	Stainless Steel

Explanation Stainless Steel is acceptable for compliance/detection monitoring.

4) Is the screen factory fabricated: (Yes X No _ No screen _) Type 2-inch wire-wrapped screen, type 304, with 0.02-inch slots and end cap

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes X No _) Explanation The well may monitor both "floaters" and dissolved constituents since the last measured perched water level occurred within the monitoring interval.

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No typeX) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval(s) Approximately 110 feet to 125.2 feet bls. The well monitors a discrete zone of about 15 feet.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes X No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes X No _ N/A_) Filter pack type 10/20 Colorado Silica Sand Filter pack interval 107.0 to 125.2 feet bls

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes X No _ Not Documented _) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes X No _ Uncertain/Not Documented _) Well development type and duration The well was developed with a pump for 100 minutes with a maximum discharge of 2 gallons per minute. Turbidity stabilized at 3 NTU's.

9) Is the pump intake location documented: (Yes X No _) Depth 122.0 feet

10) Does the pump type collect representative ground-water samples: (Yes X No _ Not Documented _) Type HydroStar piston pump Explanation EGG-WM-9787 documents that gas piston pumps, submersible pumps and bailers produced nearly equal results for selected volatile organics at TAN. However, State Report OPTR 91-01 documents that the HydroStar pump may contribute chromium to the groundwater samples.

E. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991), USGS Report 91-4166, EGG-WM-9787, State Report OPTR 91-01

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located near the ICPP Tank Farm and monitors perched water in the basalt at about 110 feet bls. The well is adequately sealed and complies with state well construction regulations except that no documentation was found for the casing thickness. This is a minor deficiency.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/RCRA Guidelines

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with RCRA guidelines except that the HydroStar pump may contribute chromium to the groundwater samples, which is a minor deficiency.

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-3

Source: Generalized Geology Log

****

Interval (feet below surface)

Begin	End	Description
0	45.8	Sand and Gravel
45.8	121.8	Vesicular Basalt
121.8	126.4	Massive Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 20, 1992

WellName: CPP-33-3

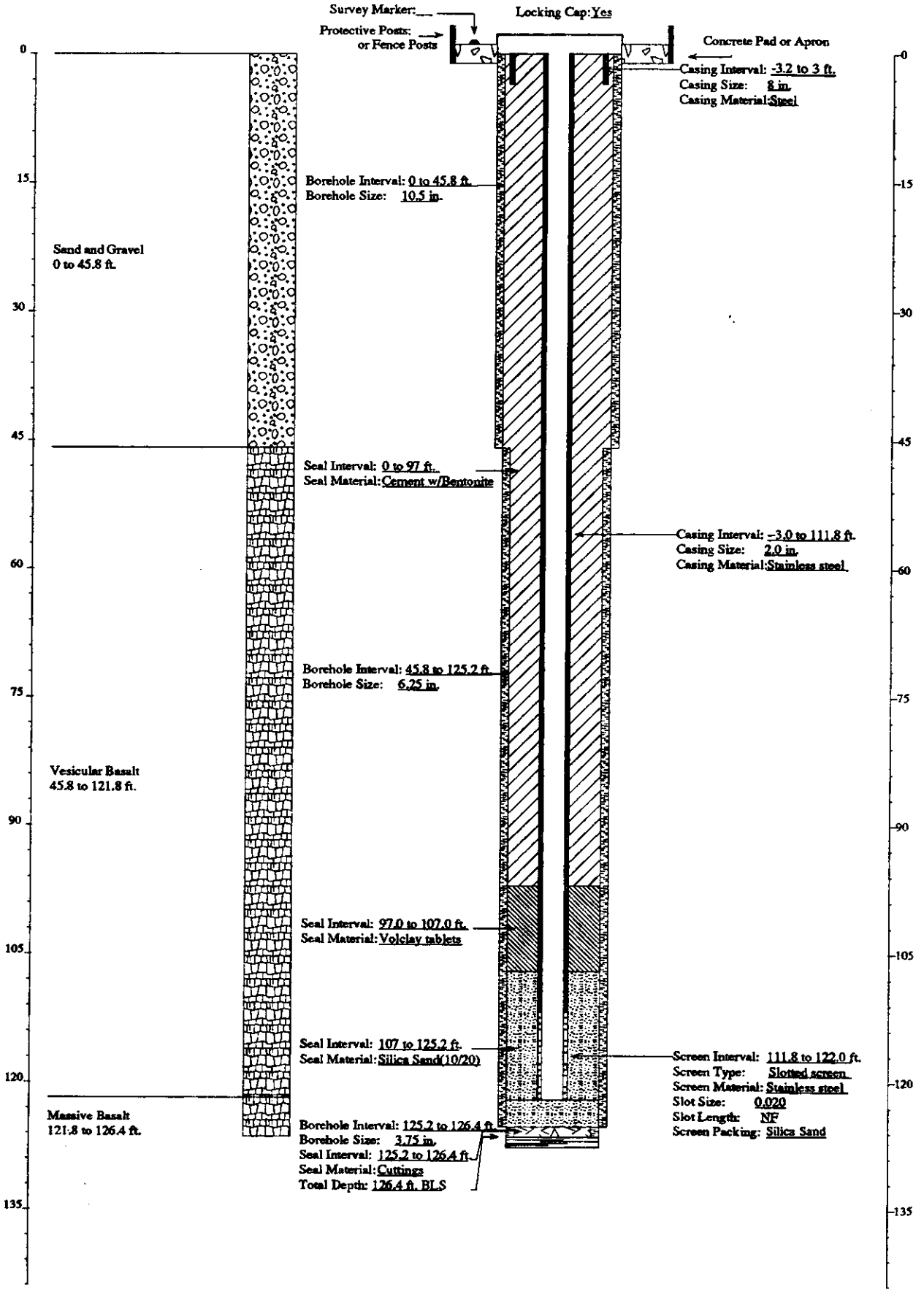
08/24/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1990
Total Depth: 126.4

Easting: 296659.06
Northing: 695806.27
Longitude: 1125602.208
Latitude: 433424.234
Completion Depth: 125.2

Driller: Hawley Bros.
Geologist: B. Smith
Drilling Method: HSA and Core
Drilling Fluid: Air
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-33-3L

A. WELL/BORING USE

1) Year drilled: 1990

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: Proposed for DOE 5400.1 use by WINCO

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant, 1991

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  (X) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
( ) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
(X) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 45.7 ft. Top of basalt = 44.6 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes _ No X)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes _ No X) Explanation A survey marker should be installed. Protective posts are unnecessary since the lysimeter is flush-mounted.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 1.5-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _) Drilling Method _

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 1	None	0	N.F.	N/A
PVC (1)	1.5	0.5 - 40.5	Flush-threaded	0	N.F.	N.F.

(1) PVC casing contains two 0.25-inch Teflon tubes and is filled with cement grout.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement grout	0.5 - 34.5	Cement grout with 3-5% bentonite	Yes
Caved material and bentonite pellets	34.5 - 35.3	N/A	N/A
Bentonite pellets	35.3 - 39.6	N.F.	Yes
Silica Flour	39.6 - 43.6	N.F.	N/A
Powdered bentonite	43.6 - 44.6	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No _ N/A _ Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A _ Uncertain/Not documented _) Explanation The seal was installed using a tremie pipe.

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _ N/A _) Explanation The boring is located about 75 feet west of the ICPP Tank Farm. Small quantities of seeping water have been encountered at shallow depths during drilling at the Tank Farm (Golder Associates, 1991). The water may be derived from such sources as leaking pipes or the sewage treatment plant.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) No indication was found of saturated formations above the sampling interval from the generalized borehole log.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes X No _ N/A _) Explanation The PVC casing is sealed on the inside and outside with cement grout.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No _ N/A X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

Although the lysimeter is proposed for DOE 5400.1 monitoring, it is not evaluated to RCRA guidelines because it is not a well.

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991); Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- (X) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The lysimeter is located 75 feet west of the ICPP Tank Farm and is completed at the base of the alluvium. The annular space above the lysimeter is sealed with bentonite and cement grout. The tubing from the sampler to the ground surface is protected inside a 1.5-inch PVC casing, which is filled with cement grout.

Deficiencies: The lysimeter was not located during the wellhead field inspection and therefore was not upgraded.

Remediation: A survey marker should be installed.

GEOLOGIC LOG

Well Name CPP-33-3L

Source: Generalized Borehole Log

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Interval (feet below surface)

Begin	End	Description
0	44.6	Alluvium
44.6	45.7	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date February 16, 1993

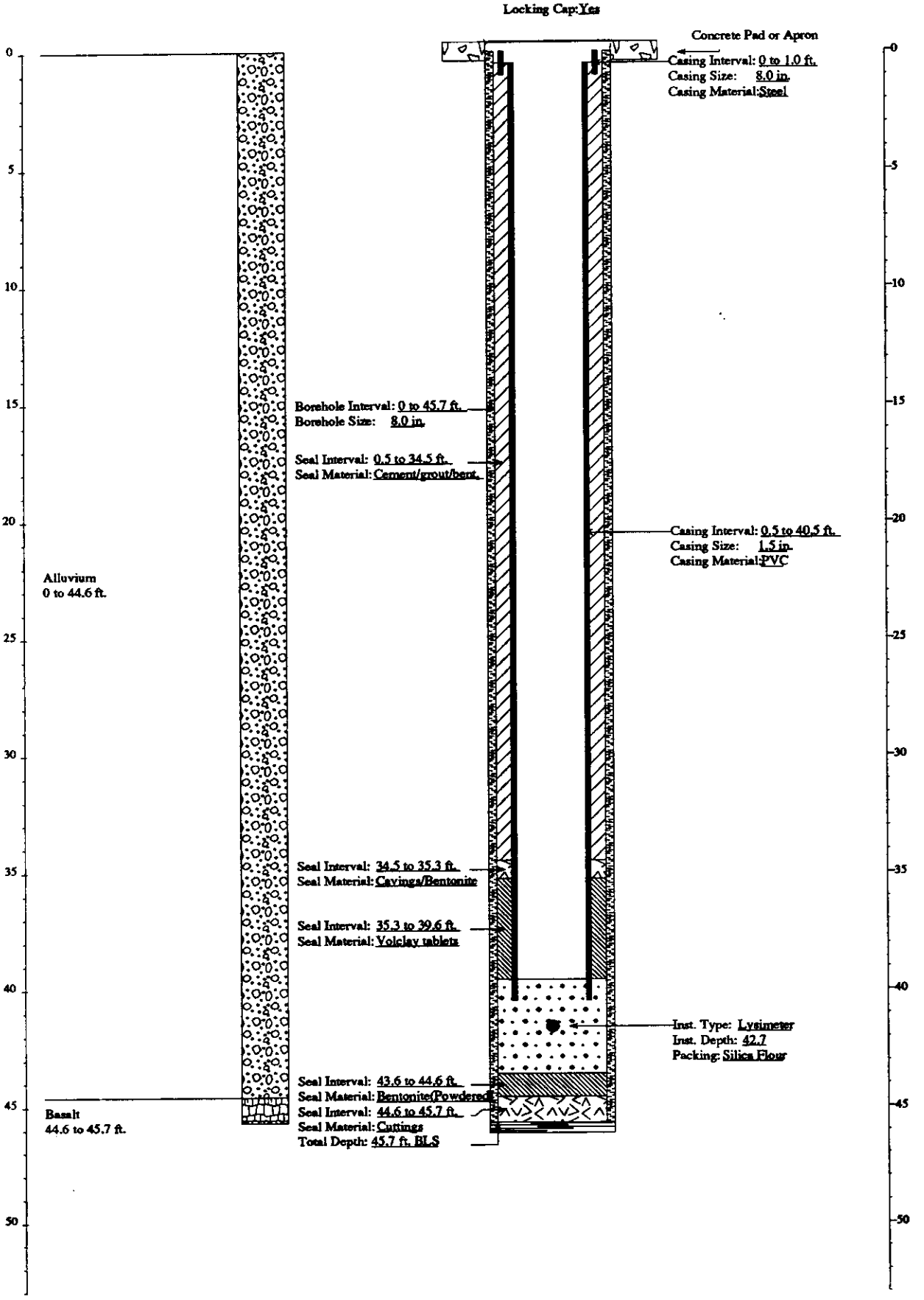
WellName: CPP–33–3L Corrections: The surface completion is flush mounted. 08/19/1993

Facility: ICPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: 1990
Total Depth: 45.7

Easting: 296667.30
Northing: 695805.06
Longitude: 1125602.096
Latitude: 433424.223
Completion Depth: 43.6

Driller: Hawley Bros.
Geologist: B.Harrison
Drilling Method: Hollow stem auger
Drilling Fluid: NF
Land Surface: NF

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. CPP-33-4-1

A. WELL USE

1) Year well was drilled: 1990

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring ( )USGS Observation
( )CERCLA Characterization ( )No Documented Use
(X)Other: Proposed for DOE 5400.1 use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring: (Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant, 1991

7) Responsible organization/Contact person: WINCO / Ken Taylor

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:
(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 9 inch Casing size 2 inch I.D.)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 3	None	26	N.F.	N/A
Stainless Steel	2 I.D.	0 - 98.2	Flush-threaded	24	N.F.	N.F.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 50.5 and 52 - 87.7	Type I/II Portland Cement Grout with 3-5% Sodium Bentonite (500 gallons grout)	Yes
Bentonite	50.5 - 52	N.F.	Yes
Bentonite Pellets	87.7 - 94.8 (seal above screen)	N.F.	Yes
Bentonite Pellets	120.6 - 124 (seal below screen)	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented _ Explanation for seal emplacement The seals were installed with a tremie pipe.

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located near the ICPP Tank Farm where small quantities of seeping or perched water have been encountered during drilling (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well was designed to monitor perched groundwater at 104.6 feet bls. No evidence was found for perched water above this.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is sealed adequately to prevent groundwater movement in the annular space.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation Bentonite pellets were installed above and below the sand pack.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes X No _ No documentation _) Explanation The equipment was steam cleaned prior to its use.

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Stainless steel
Screen	Stainless steel
Pump	Stainless steel
Discharge Pipe	Stainless steel
Water Level Measuring Pipe	3/4-inch Stainless steel

Explanation Stainless steel is acceptable for compliance/detection monitoring.

4) Is the screen factory fabricated: (Yes X No _ No screen _) Type 2-in. stainless steel screen, type 304, with 0.020-inch slots and end cap

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes X No _) Explanation Since the perched water occurs within the monitoring interval, the well is constructed to monitor both dissolved constituents and "floaters".

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No X) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval(s) About 105 feet to 120.6 feet bls. The well monitors a discrete zone of about 15 feet. The basalt includes several rubble zones and a silty sand bed which are about 0.5-foot thick.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes X No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A _) Filter pack type 10 / 20 Colorado Silica Sand Filter pack interval 94.8 - 120.6 feet bls. The filter pack extends 3.4 feet above the screen.

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes X No _ Not Documented _) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes X No _ Uncertain/Not Documented _) Well development type and duration The well was pumped at 1 to 3.5 gallons per minute for approximately 2.4 hours. Turbidity stabilized at 3 NTU's.

9) Is the pump intake location documented: (Yes X No _) Depth 118.1 feet

10) Does the pump type collect representative groundwater samples: (Yes _ No _ Not Documented _) Type HydroStar piston pump Explanation EGG-WM-9787 documents that gas piston pumps, submersible pumps and bailers produced nearly equal results for selected volatile organics at TAN. However, State Report OPTR 91-01 documents that the HydroStar pump may contribute chromium to the groundwater samples.

E. **THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES:** "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991), USGS Report 91-4166, EGG-WM-9787, State Report OPTR 91-01

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located near the ICPP Tank Farm and monitors perched water in the basalt at about 105 feet bls. The well is adequately sealed and complies with state well construction regulations except that no documentation was found for the casing thickness. This is a minor deficiency.

Remediation: None

FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. CPP-33-4-1

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/RCRA Guidelines

( ) Well complies with applicable regulations and intended use.
(X) Well complies with applicable regulations and intended use except for minor details.
( ) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with RCRA guidelines except that the HydroStar pump may contribute chromium to the groundwater samples which is a minor deficiency.

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-4-1

Source: Generalized Geology Log

****

Interval (feet below surface)

Begin	End	Description
0	33.5	Sand and Gravel
33.5	50.4	Vesicular Basalt
50.4	57.6	Massive Basalt
57.6	110.5	Vesicular Basalt
110.5	110.7	Rubble Zone
110.7	115.7	Massive Basalt
115.7	116.3	Silty Sand
116.3	116.7	Rubble Zone
116.7	117.9	Vesicular Basalt
117.9	118.4	Rubble Zone
118.4	122.0	Vesicular Basalt
122.0	124.0	Massive Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 20, 1992

WellName: CPP-33-4-1

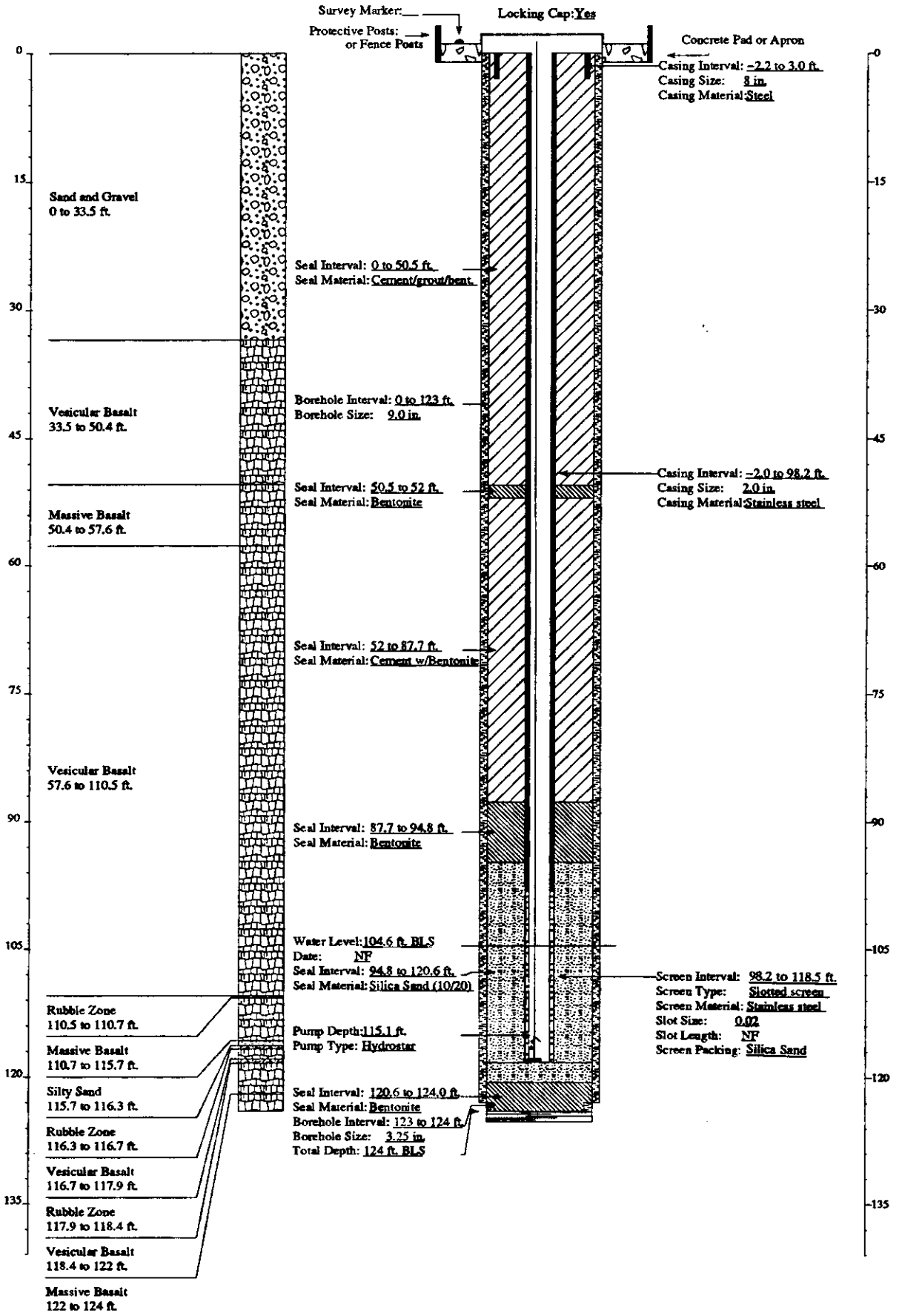
08/24/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1990
Total Depth: 124

Easting: 297010.85
Northing: 696045.96
Longitude: 1125557.460
Latitude: 433426.633
Completion Depth: 120.6

Driller: Hawley Bros.
Geologist: Smith, Norton
Drilling Method: Hollow Stem Augers
Drilling Fluid: NF
Land Surface: NF

Water Level: 104.6
Water Level Date: NF
Water Level Access: NF



E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes X No _ N/A X
Borehole size 9-inch Casing size 2-inch I.D.)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:
(Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 - 2	None	14	N.F.	N/A
Stainless Steel	2 I.D.	0 - 20.5	Flush-Threaded	12	N.F.	N.F.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Bentonite /Cement Grout	0 - 13.5	Type I/II Portland Cement Grout with 3-5% Bentonite (85 gallons grout)	Yes
Bentonite Pellets	13.5 - 16.5 (seal above screen)	1/2 in. Volclay	Yes
Cavings and Bentonite Pellets	16.5 - 17.5	N.F.	No
Bentonite Pellets	31.2 to 34.3 (seal below screen)	1/2 in. Volclay (2 gallons)	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented _ Explanation for seal emplacement The seals were installed with a tremie pipe.

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located near the ICPP Tank Farm. Small quantities of seeping or perched water have been encountered during drilling near the ICPP Tank Farm (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X Insufficient data _)

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: The casing is adequately sealed to prevent the downward migration of groundwater in the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation Bentonite pellets are installed above and below the sand pack.

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes X No _ No documentation _) Explanation The equipment was steam cleaned prior to its use.

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Stainless steel
Screen	Stainless steel
Pump	None
Discharge Pipe	None

Explanation Stainless steel is acceptable for compliance/detection monitoring.

4) Is the screen factory fabricated: (Yes X No _ No screen _) Type 2-inch stainless steel screen, type 304, with 0.020-inch slots and end cap

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes _ No _ N/A X) Explanation The well is currently dry.

6) Is the monitoring interval greater than 30 feet in length: (Yes X No _) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval(s) 17.5 - 31.2 feet bls. The well monitors a discrete zone of 13.7 feet consisting of sandy gravel to gravelly sand. However, the well is currently dry.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes X No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A_) Filter pack type 10 / 20 Silica Sand Filter pack interval 17.5 - 31.2 feet bls

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ N/A X) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ N/A X) Well development type and duration The well is dry.

9) Is the pump location documented: (Yes _ No X Depth N/A - no pump was installed.

10) Does the pump type collect representative groundwater samples: (Yes _ No _ Not Documented X) Type N/A Explanation _

G. **THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES:** "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991); Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located near the ICPP Tank Farm. Although the well is currently dry, it is designed to monitor perched water at the base of the alluvium. The well is adequately sealed and complies with state regulations except that no documentation was found for the casing thickness. This is a minor deficiency.

Remediation: None

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-33-4-2

I. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/RCRA Guidelines

(X) Well complies with applicable regulations and intended use.
( ) Well complies with applicable regulations and intended use except for minor details.
( ) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with RCRA guidelines; however, the well is currently dry.

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-4-2

Source: Generalized Geology Log

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Interval (feet below surface)

Begin	End	Description
0	4.3	Sand with < 15% Gravel
4.3	29.6	Sandy Gravel
29.6	33.5	Gravelly Sand
33.5	34.3	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 20, 1992

WellName: CPP-33-4-2

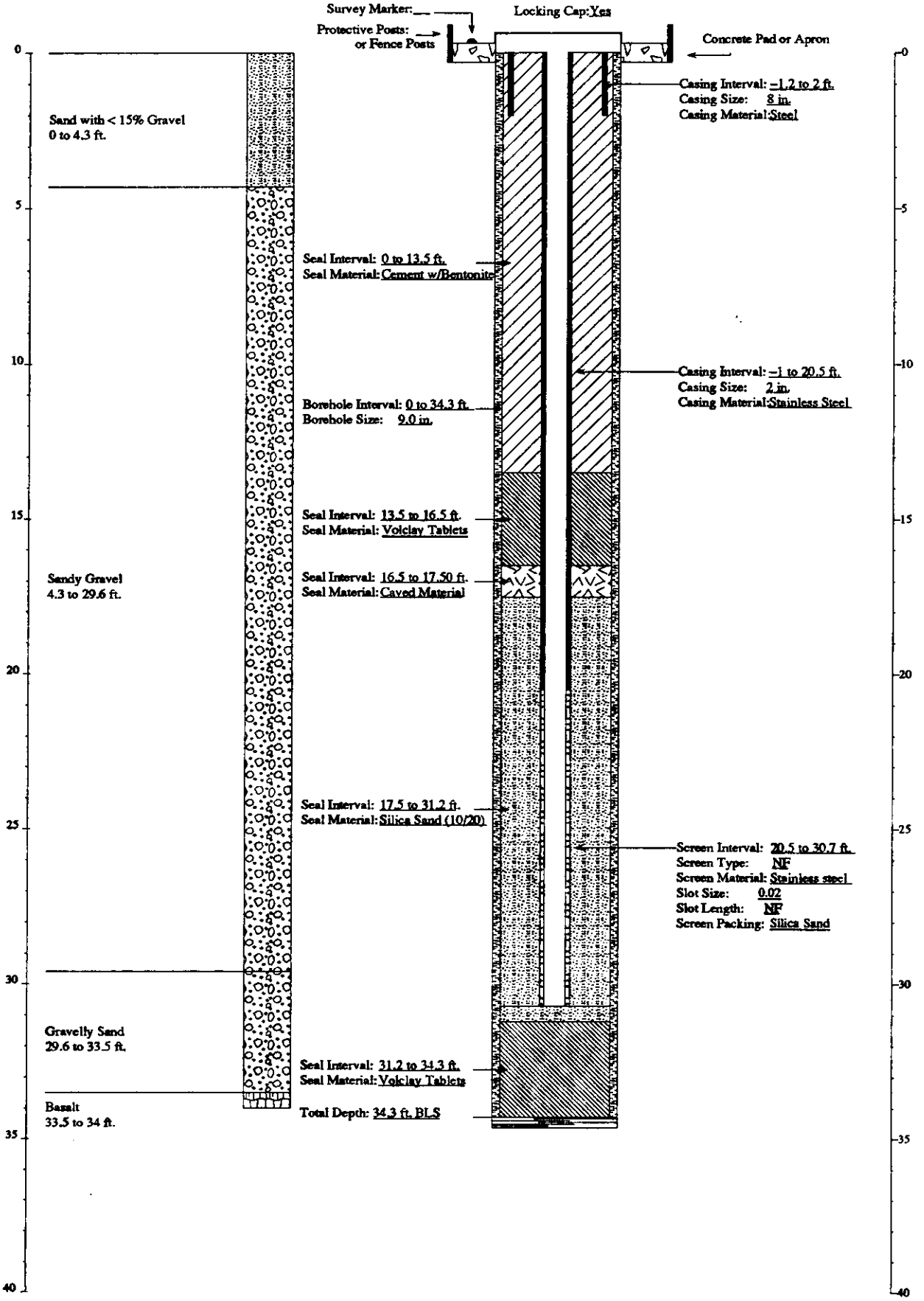
08/24/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1990
Total Depth: 34.3

Easting: 297000.80
Northing: 696045.68
Longitude: 1125557.596
Latitude: 433426.629
Completion Depth: 31.2

Driller: Hawley Bros.
Geologist: NF
Drilling Method: Hollow Stem Augers
Drilling Fluid: NF
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-33-5L

A. WELL/BORING USE

1) Year drilled: 1990

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: Proposed for DOE 5400.1 use by WINCO

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant, 1991

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  (X) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
( ) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
(X) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 131.5 ft. Top of basalt = 35.2 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation Protective posts are not necessary since the well is flush-mounted.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No X N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No _ N/A X Borehole size _ Casing size _ Drilling Method _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No X N/A _ Borehole size 10.5-inch Casing size 1.5-inch) Drilling Method Hollow stem augers (in alluvium), Wireline core with air (in basalt).

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (Protective Cover)	8	0 -1	None	0	N.F.	N/A
PVC	1.5 I.D.	0.5 - 28.6	Connected with stainless screws	0	N.F.	N.F.
Lysimeters	31.7 - 33.7 and 110.5 - 112.5	N/A	N/A	N/A	N/A	N/A

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement with Bentonite	0.5 - 24	Cement grout with 3-5% bentonite	Yes
Bentonite pellets	24 - 28.6	N.F.	Yes
Silica flour slurry	28.6 - 34	N.F.	N/A
Bentonite pellets	34 - 42	N.F.	Yes
Cement with Bentonite	42 - 99	Cement grout with 3-5% bentonite	Yes
Bentonite pellets	99 - 108.6	N.F.	Yes
Silica flour slurry	108.6 - 113.1	N.F.	N/A
Bentonite pellets	113.1 - 131.5	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No _ N/A _ Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A _ Uncertain/Not documented _) Explanation The seals were placed using a tremie pipe.

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _ N/A _) Explanation The well is located near the northeast corner of the ICPP Tank Farm fence. Small quantities of seeping or perched water have been encountered during drilling at the ICPP Tank Farm (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ N/A _) Explanation (Qualify

data/specify perched intervals if applicable) A wet zone was encountered during drilling at 64 - 66 feet bls.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes X No _ N/A _) Explanation _

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No _ N/A X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

Although the lysimeter is proposed for DOE 5400.1 monitoring, it is not evaluated to RCRA guidelines because it is not a well.

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991); Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- (X) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The boring is located on the northeastern corner of the ICPP Tank Farm. It is equipped with two lysimeters, one located at the base of the alluvium and one in the basalt. Except for the sampling intervals, the borehole is sealed with bentonite pellets or cement grout.

Deficiencies: None

Remediation: None

GEOLOGIC LOG

Well Name CPP-33-5L

Source: Generalized Borehole Log

****

Interval (feet below surface)

Begin	End	Description
0	29.7	Sand and Gravel
29.7	31	Clayey Sand
31	35.2	Sand and Gravel
35.2	53.8	Vesicular Gray Basalt
53.8	55	No Sample
55	81	Gray Basalt
81	81.2	Silt
81.2	82.6	No Sample
82.6	92.2	Basalt
92.2	93.2	Void
93.2	105	Gray Basalt
105	107	Silty Clay
107	116.3	Interbed (No Recovery)
116.3	131.5	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date February 16, 1993

WellName: CPP-33-5L Corrections: The surface completion is flused mounted.

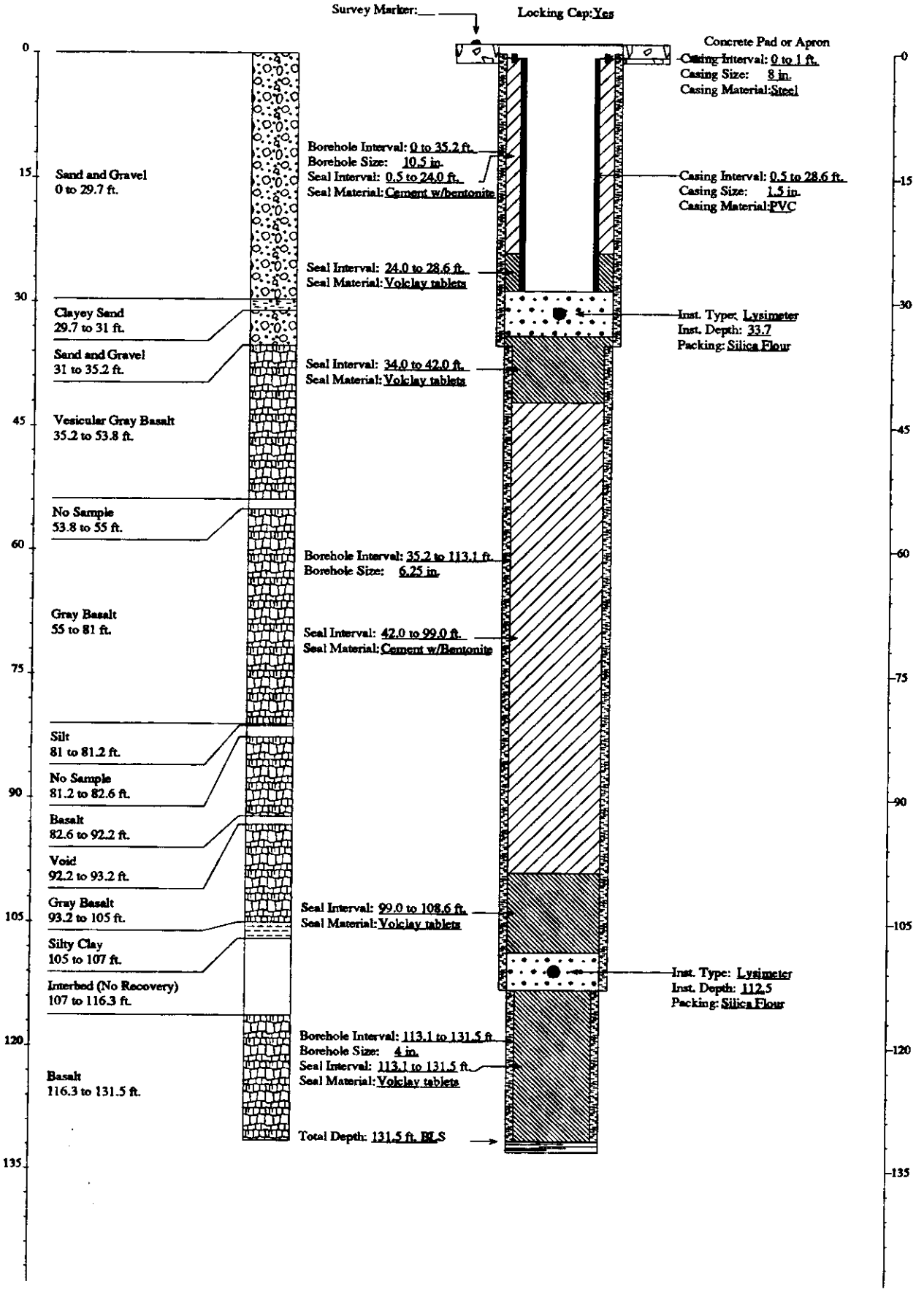
08/22/1993

Facility: ICPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: 1990
Total Depth: 131.5

Easting: 297277.12
Northing: 695733.94
Longitude: 1125553.804
Latitude: 433423.576
Completion Depth: 112.5

Driller: Hawley Bros.
Geologist: B. Harrison
Drilling Method: HSA and core
Drilling Fluid: Air
Land Surface: NF

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. CPP-55-06

A. WELL USE

1) Year well was drilled: 1990

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring ( )USGS Observation
( )CERCLA Characterization ( )No Documented Use
(X)Other: Proposed for DOE 5400.1 use

3) Constituents monitored currently: None
Constituents previously monitored for CERCLA: pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, Se, F, Nitrate, Endrine, Methoxychlor, Toxaphene, Herbicides (2.4-D, 2.4.5-TP [Silvex]). Gross Alpha, Gross Beta, Fe, Mn, Na

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: DOE 5400.1 - Sitewide Groundwater Monitoring Plan and Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 - EG&G (IRTS) / Jerry Sehlke and WINCO / Ken Taylor

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). he elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)

3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:
(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 8-inch Casing size 2-inch I.D.)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or, by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Schedule 40 Carbon Steel	8 inch (I.D. or O.D.?)	0 - 4.5	None	22.8	>0.28	Yes
Stainless Steel	2 inch I.D.	0 - 93.1	Threaded	25.2	N.F.	N.F.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Fill Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Grout	4.5 - 83.2	Cement Grout with 3 to 5% bentonite	Yes
Cement Grout	-1.2 - 4.5	Cement Grout (no bentonite)	Yes
Bentonite Pellets	83.2 - 90	1/4-inch Volclay Pellets	Yes
10/20 Colorado Silica Sand	90 - 114.6	N.F.	N/A
Bentonite Pellets	114.6 - 122.9	1/4-inch Volclay Pellets	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented _ Explanation The construction materials were installed with a tremie pipe.

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well monitors perched water at about 104 feet bls. Small quantities of seeping or perched water have been encountered during drilling near the ICPP Tank Farm (Golder Associates, 1991). The source of the water has not been determined.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The drilling log indicates that a wet to moist zone was encountered at 40 to 44 feet bls.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is adequately sealed.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _ N/A _) Explanation Bentonite seals the annulus above and below the screened interval.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes X No _ No documentation _) Explanation The equipment was steam cleaned prior to its use.

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Stainless steel
Screen	Stainless steel
Pump	HydroStar piston pump
Discharge Pipe	Stainless steel

Explanation Stainless steel is acceptable for compliance/detection monitoring.

4) Is the screen factory fabricated: (Yes X No _ No screen _) Type 2-inch wire-wrapped screen, type 304 with 0.02-inch slots, endcap and centralizer.

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes X No _) Explanation The perched water level occurs within the gravel pack; therefore, the well monitors both "floaters" and dissolved constituents.

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No X) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval About 104.5 feet bls (water level) to 114.6 feet bls. The well monitors a discrete zone of about 10 feet.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes X No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No _ N/A_) Filter pack type 10/20 Colorado Silica Sand Filter pack interval 90.0 to 114.6 feet bls.

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented X) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented X) Well development type and duration _

9) Is the pump intake location documented: (Yes X No _) Depth 112.4 feet

10) Does the pump type collect representative groundwater samples: (Yes X No _ Not Documented _) Type HydroStar piston pump Explanation Report EGG-WM-9787 indicates that gas piston pumps, submersible pumps and bailers produced nearly equal results for selected volatile organics at TAN. However, State Report OPTR 91-01 indicates that the use of the Hydrostar pump may contribute chromium to groundwater samples.

E. **THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES:** "Report of the Idaho Chemical Processing Plant Drilling and Sampling Program at the HLLW Tank Farm and LDU CPP-33" by Golder Associates (Dec. 1991), EGG-WM-9787, State Report OPTR 91-01, USGS Report 91-4166

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located near the ICPP Tank Farm and monitors perched water below a depth of about 104 feet bls. The well is adequately sealed and complies with state regulations except that the thickness of the stainless steel casing was not documented. This is a minor deficiency.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: Proposed for DOE 5400.1/ RCRA Guidelines

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with RCRA Guidelines except for the following minor deficiencies: the use of the HydroStar pump may contribute chromium to the groundwater samples and the well development was not documented.

Remediation: None

GEOLOGIC LOG

Well Name CPP-55-06

Source: Drilling Log

****

Interval (feet below surface)

Begin	End	Description
0	40	Sand and Gravel
40	44	Silt to Clayey Silt
44	69	Basalt
69	74	Vesicular Basalt
74	75.5	Rubble Zone
75.5	84	Vesicular Basalt
84	118	Basalt
118	119.5	Fine Sand with Silt and Clay
119.5	122.9	Clayey Silt to Silty Clay

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 28, 1992

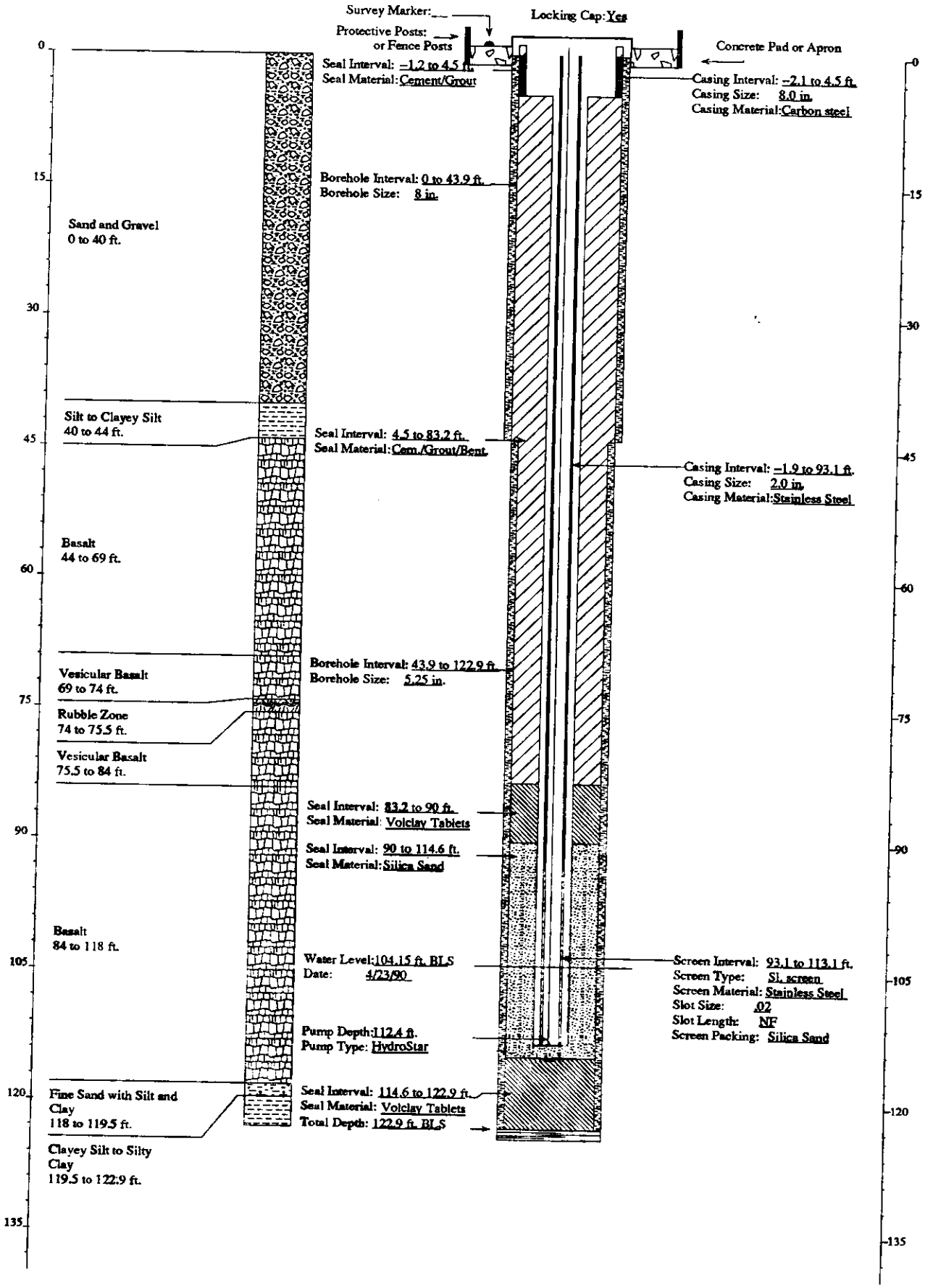
WellName: CPP-55-06

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1990
Total Depth: 122.9

Easting: 297561.17
Northing: 695055.06
Longitude: 1125549.861
Latitude: 433416.897
Completion Depth: 114.6

Driller: Hawley
Geologist: SJB
Drilling Method: Core
Drilling Fluid: NF
Land Surface: 4912.5

09/11/1993
Water Level: 104.15
Water Level Date: 4/23/90
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A01

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
(X) Personal communication Rodger Jensen, USGS
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 37.8 ft. Top of basalt 37.8 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A01

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A01

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	37.8	Alluvium
37.8		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP–A01

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

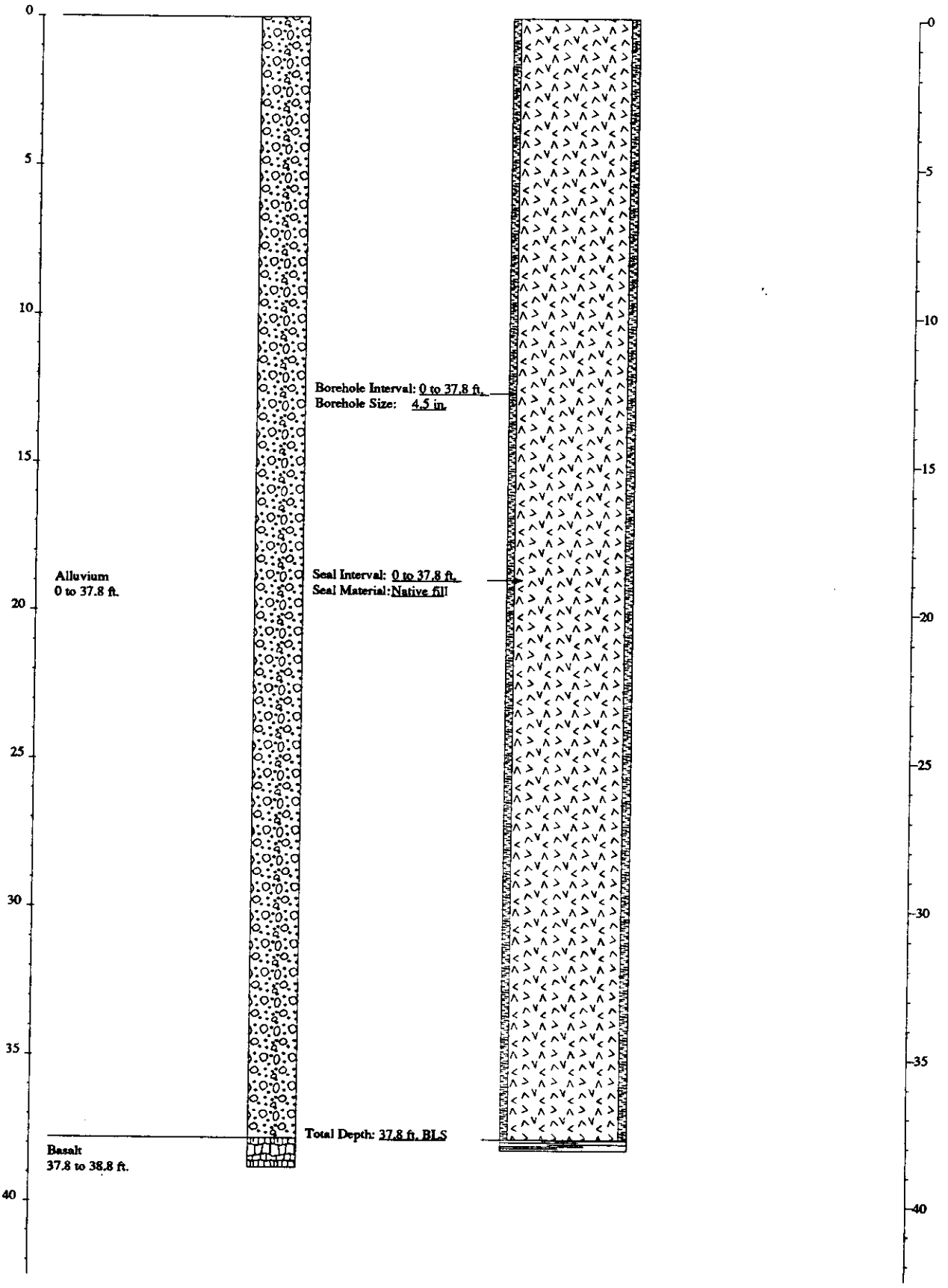
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 37.8

Easting: 296968.58
Northing: 695777.35
Longitude: 1125558.000
Latitude: 433423.976
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4912.70

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A02

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
(X) Personal communication Rodger Jensen, USGS
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 38.5 ft. Top of basalt 38.5 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A02

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A02

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	38.5	Alluvium
38.5		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date January 21, 1993

WellName: CPP-A02

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

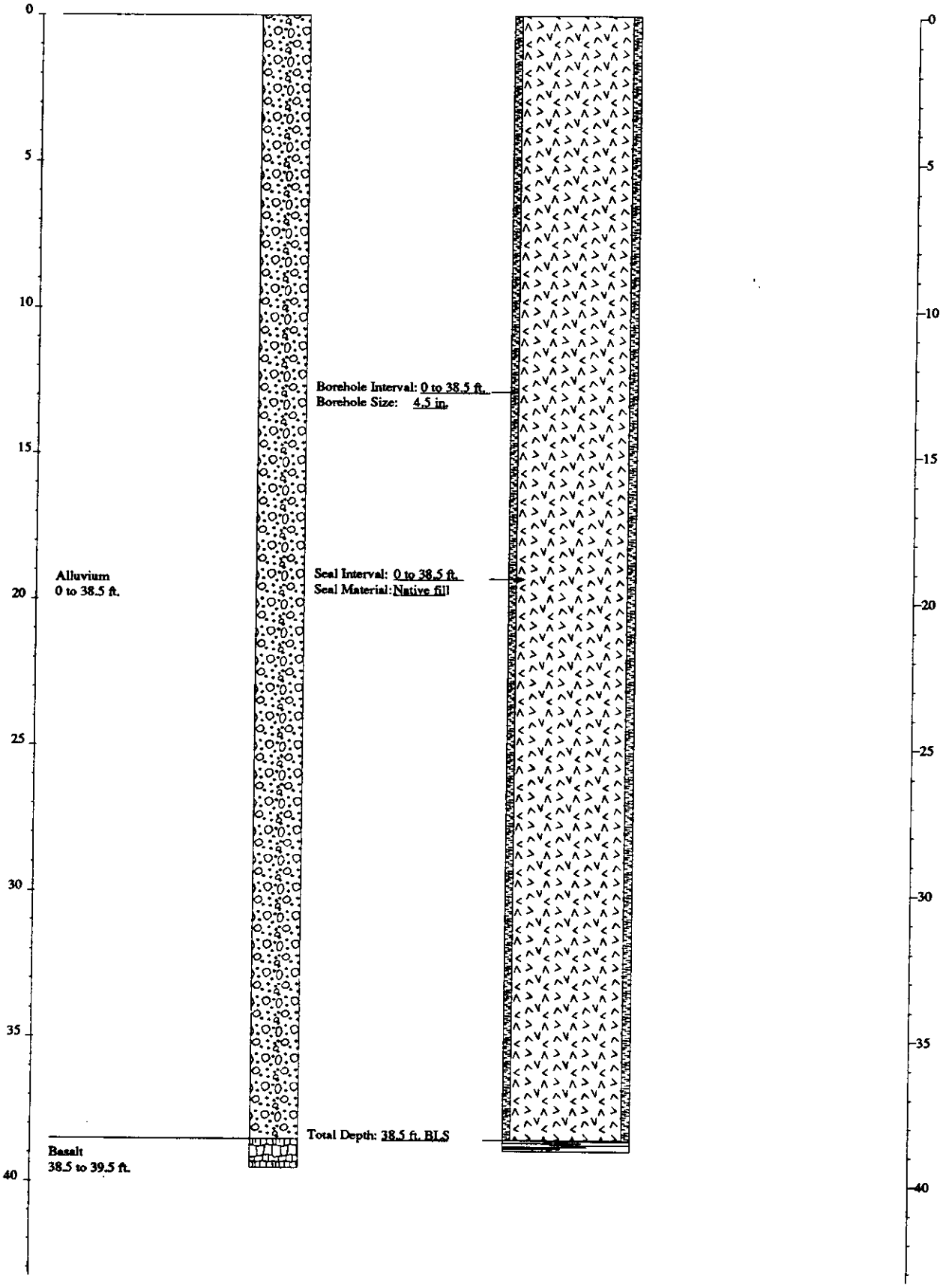
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 38.5

Easting: 297208.33
Northing: 695719.75
Longitude: 1125554.737
Latitude: 433423.429
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4912.33

Water Level: NF
Water Level Date: NF
Water Level Access: NF



INEL COMPREHENSIVE WELL SURVEY

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A03

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
(X) Personal communication Rodger Jensen, USGS
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

-2

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 38.5 ft. Top of basalt 38.5 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A03

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A03

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	38.5	Alluvium
38.5		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date January 21, 1993

WellName: CPP--A03

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

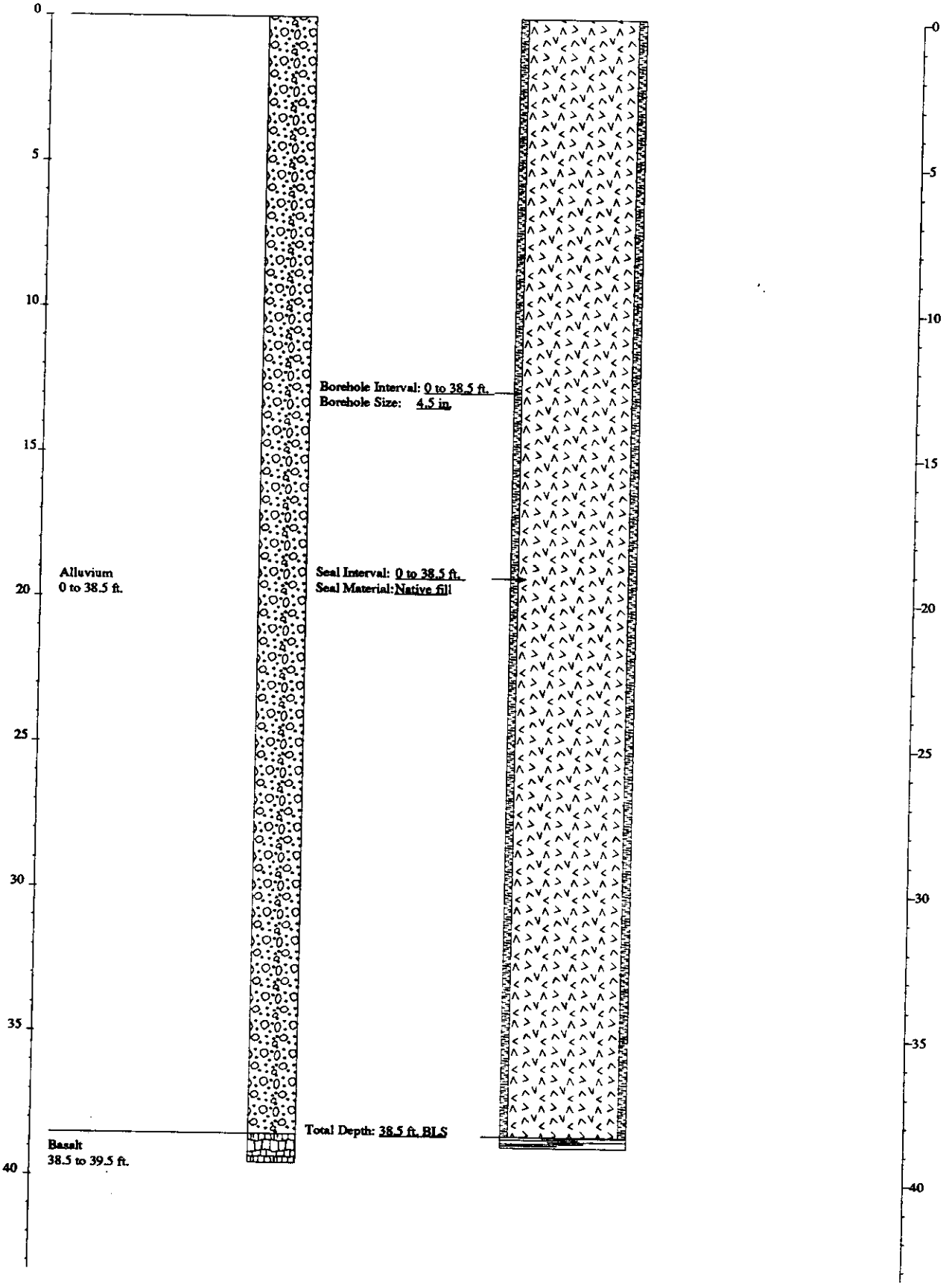
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 38.5

Easting: 297204.98
Northing: 695520.45
Longitude: 1125554.757
Latitude: 433421.461
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4912.43

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A04

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
(X) Personal communication Rodger Jensen, USGS
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3,12,1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 24.3 ft. Top of basalt 24.3 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A04

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was destroyed in 1972 and was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A04

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	24.3	Alluvium
24.3		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date January 21, 1993

WellName: CPP–A04 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

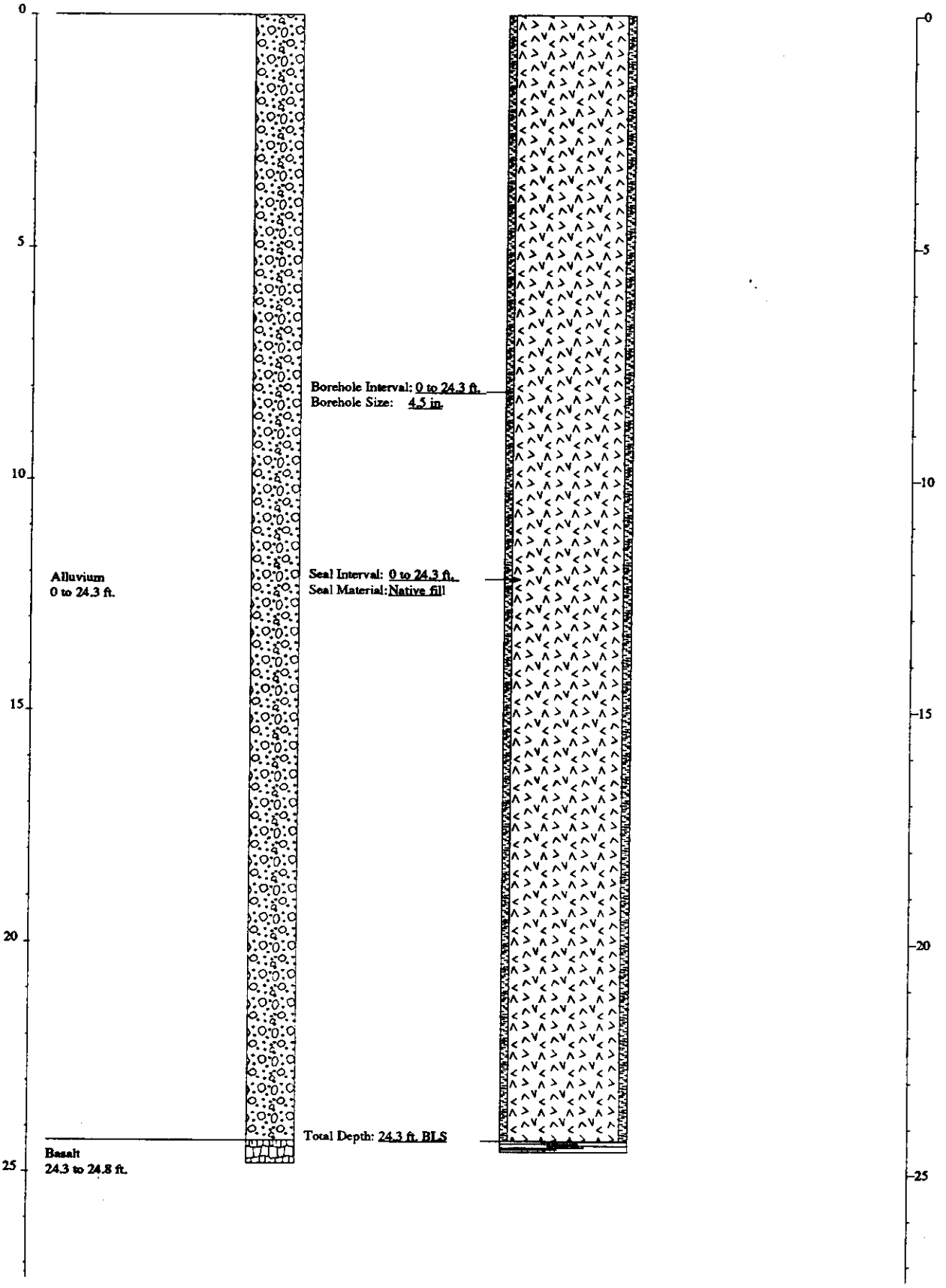
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 24.3

Easting: 296346.18
Northing: 693058.87
Longitude: 1125606.113
Latitude: 433357.072
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.4

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A05

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
(X) Personal communication Rodger Jensen, USGS
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 22.3 ft. Top of basalt 22.3 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A05

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was destroyed in 1972 and was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A05

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	22.3	Alluvium
22.3		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date January 21, 1993

WellName: CPP–A05 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

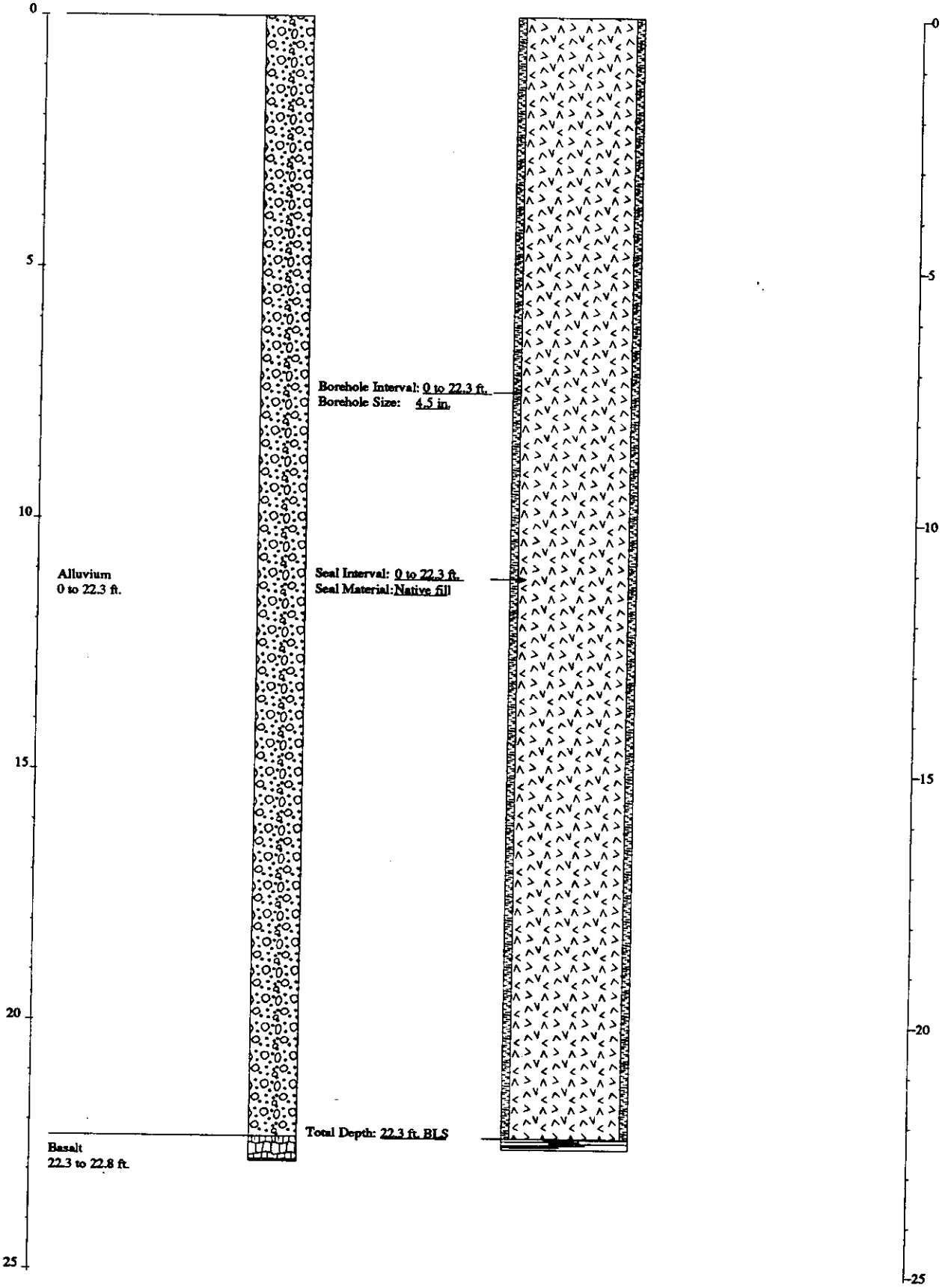
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 22.3

Easting: 296346.79
Northing: 693087.05
Longitude: 1125606.108
Latitude: 433357.350
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.6

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP A06

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

G. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 24.1 ft. Top of basalt 24.1 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP A06

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP A06

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	24.1	Alluvium
24.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP–A06 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

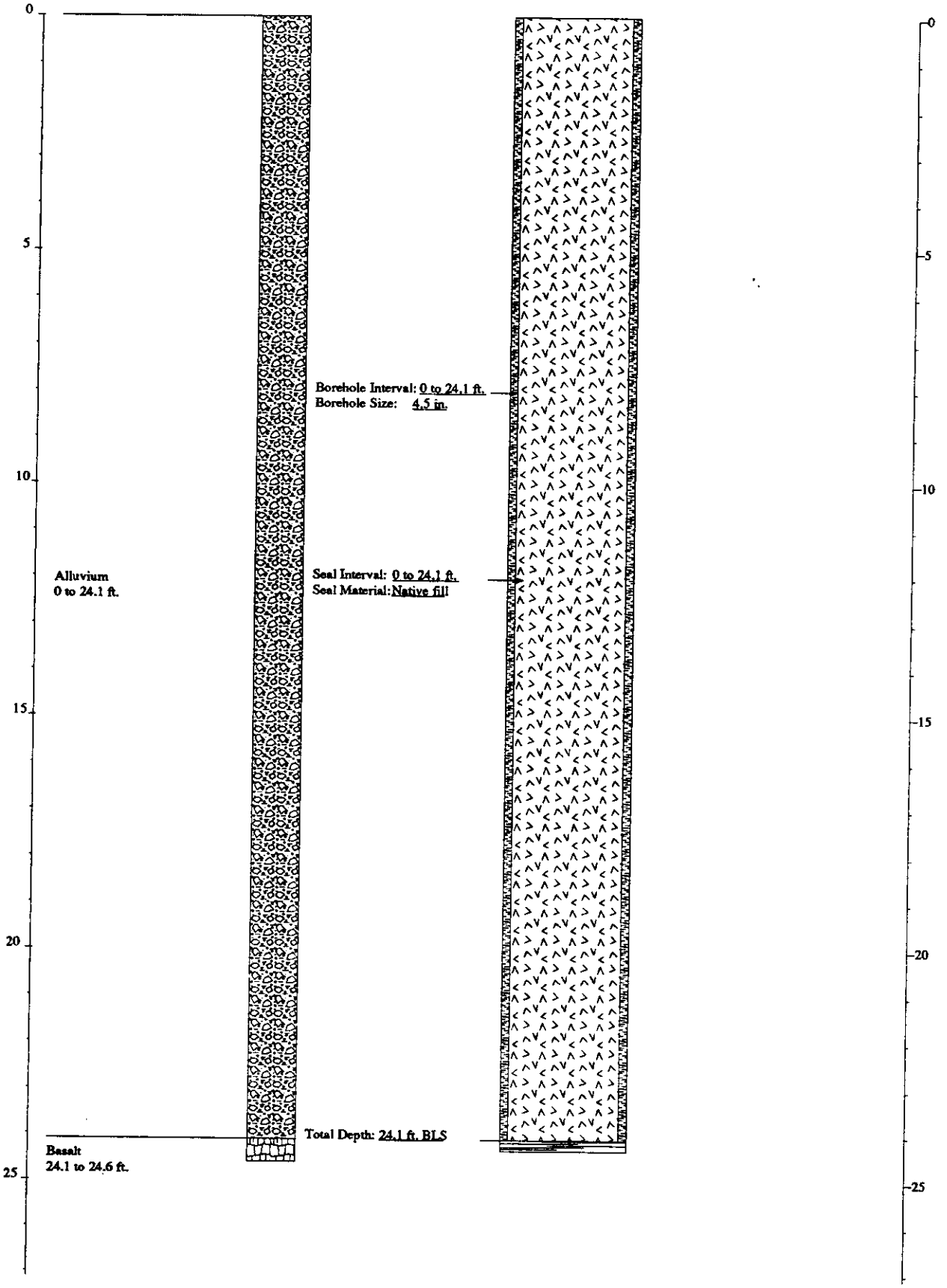
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 24.1

Easting: 296333.43
Northing: 693071.54
Longitude: 1125606.288
Latitude: 433357.196
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.5

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A07

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3,12,1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32.8 ft. Top of basalt 32.8 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A07

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A07

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	32.8	Alluvium
32.8		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP-A07

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

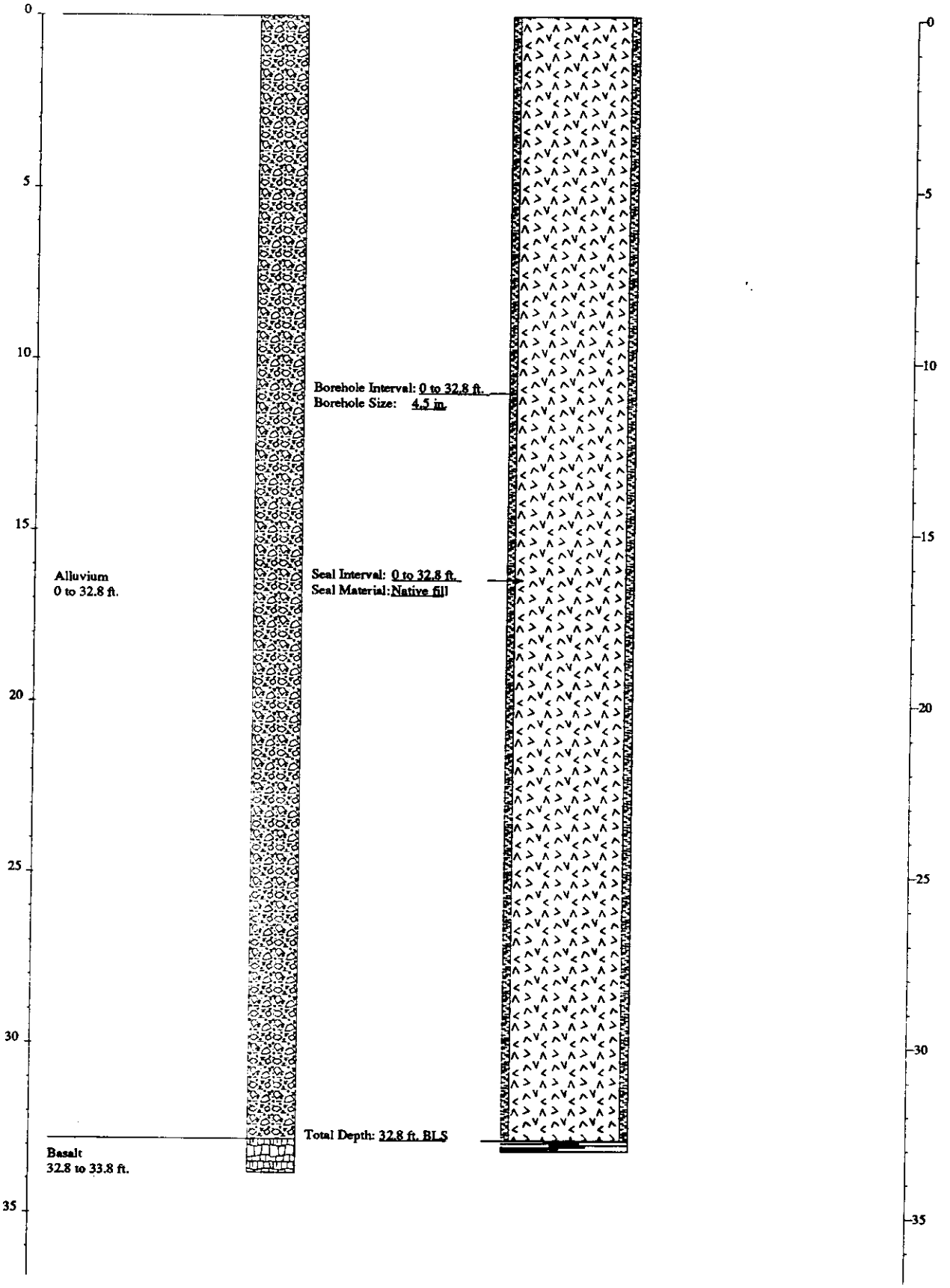
07/27/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 32.8

Easting: 296290.13
Northing: 693073.20
Longitude: 1125606.88
Latitude: 433357.21
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.5

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A08

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32.1 ft. Top of basalt 32.1 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A08

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A08

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	32.1	Alluvium
32.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP-A08 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

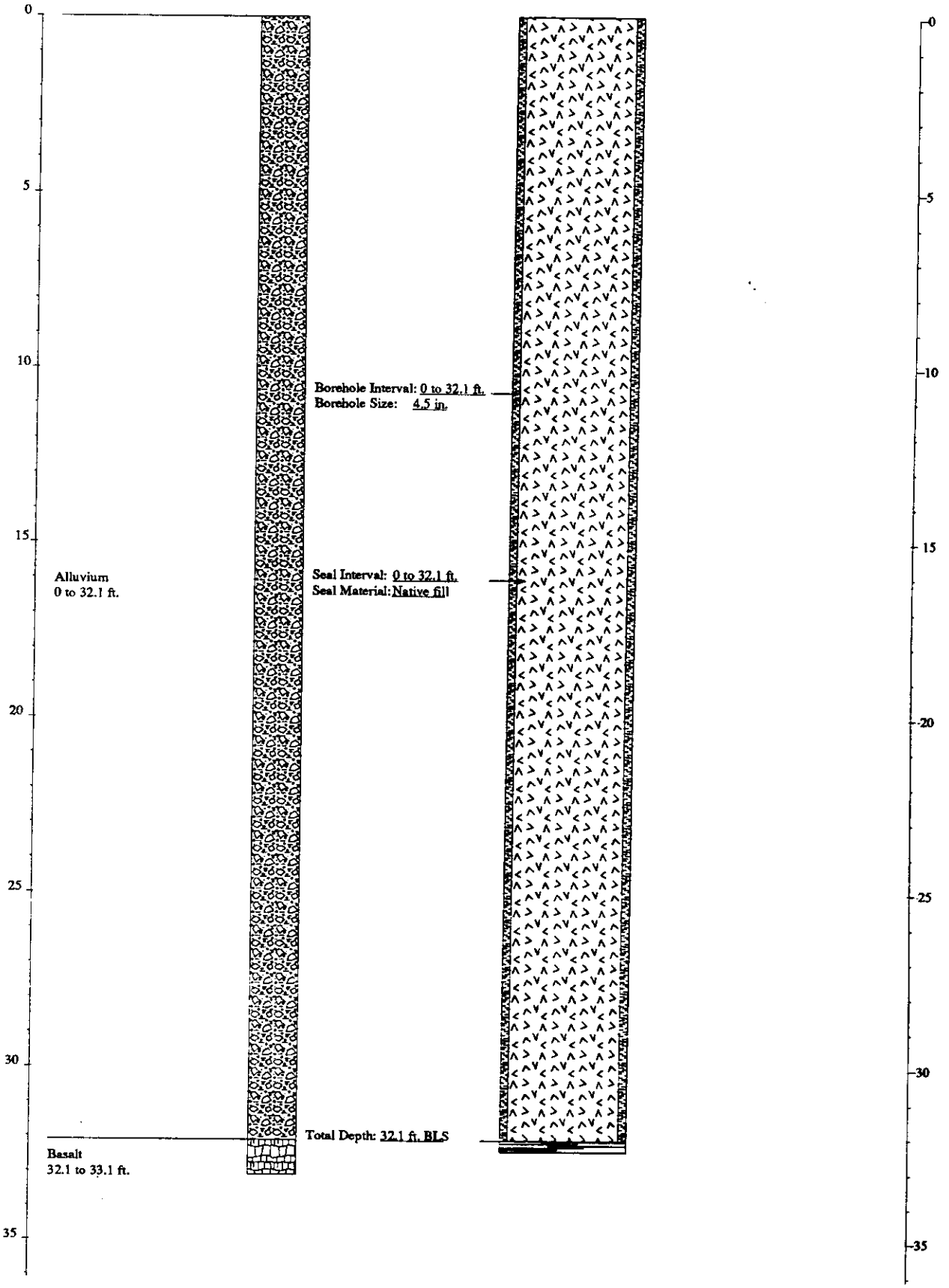
07/27/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 32.1

Easting: 296643.91
Northing: 693145.15
Longitude: 1125602.08
Latitude: 433357.95
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.5

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A09

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32.1 ft. Top of basalt 32.1 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A09

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A09

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	32.1	Alluvium
32.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP-A09 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

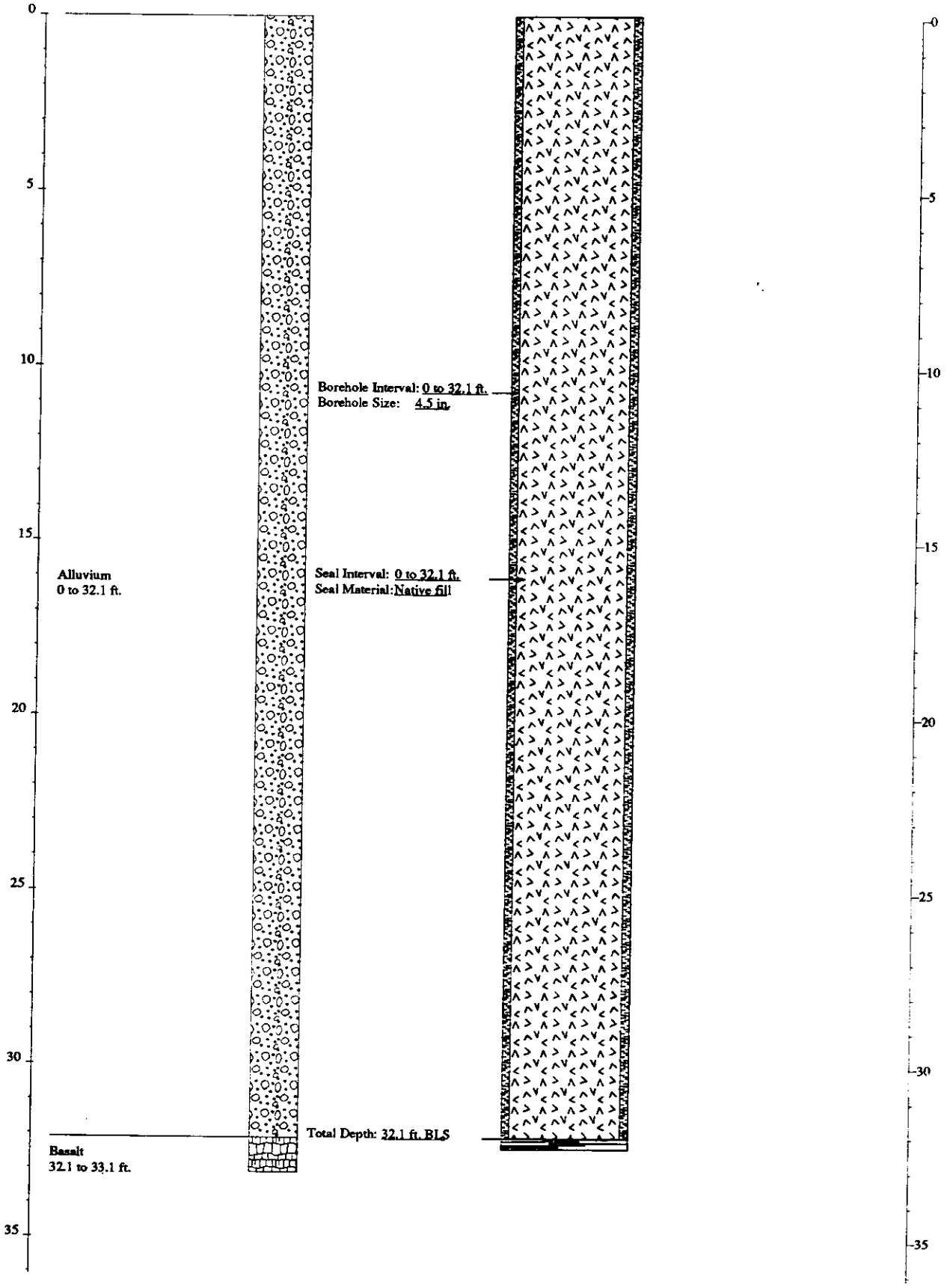
07/27/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 32.1

Easting: 296645.07
Northing: 693193.78
Longitude: 1125602.07
Latitude: 433358.43
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.6

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A10

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32.6 ft. Top of basalt 32.6 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A10

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A10

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	32.6	Alluvium
32.6		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP–A10 Correction: Borehole may contain 2-inch diameter PVC casing and screen.

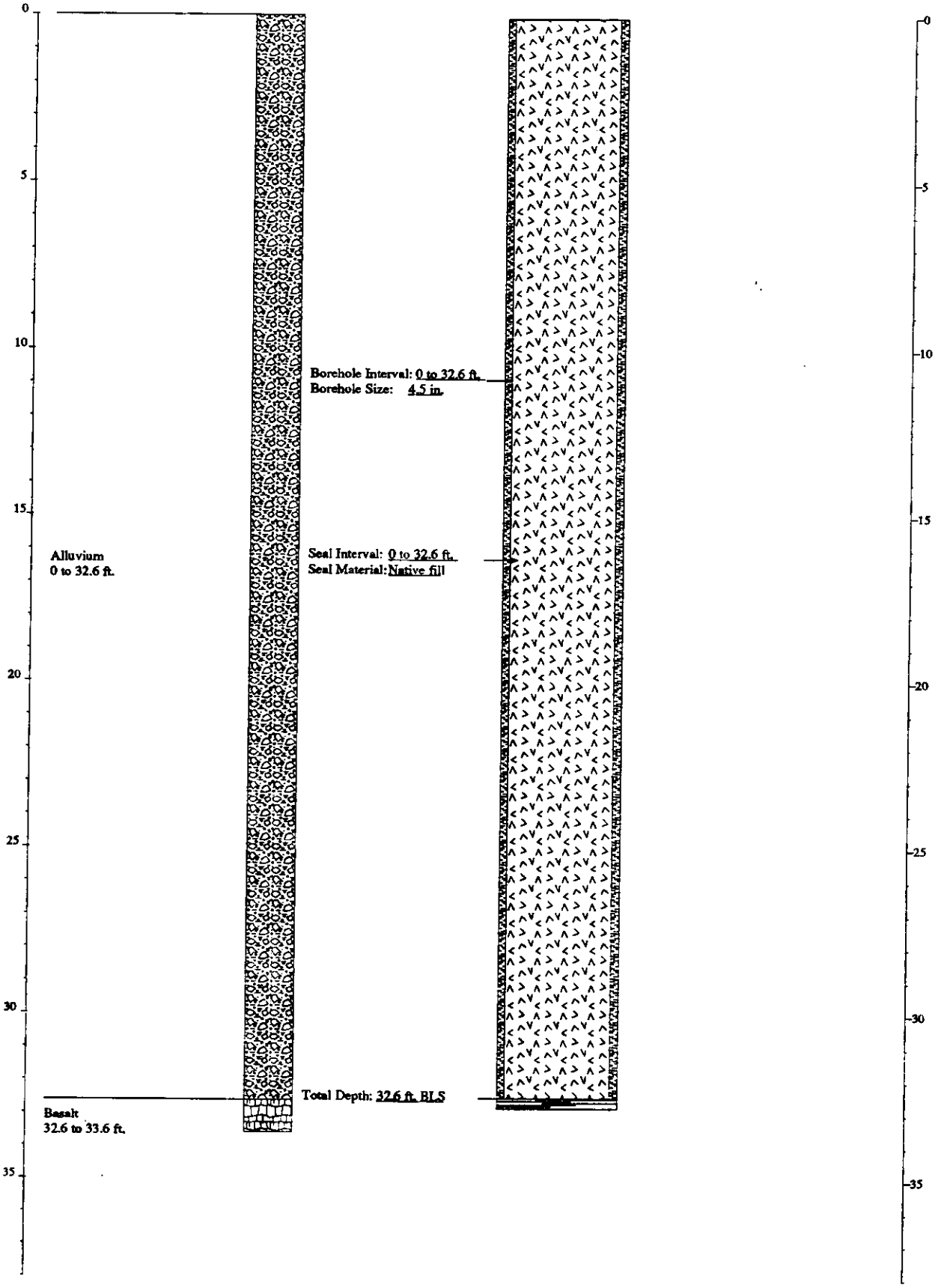
09/11/1993

Facility: ICPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 32.6

Easting: 296613.70
Northing: 693146.47
Longitude: 1125602.491
Latitude: 433357.962
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.0

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A11

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

G. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A11

1) Total depth of well 32.1 ft. Top of basalt 32.1 ft.

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A11

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	32.1	Alluvium
32.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP-A11

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

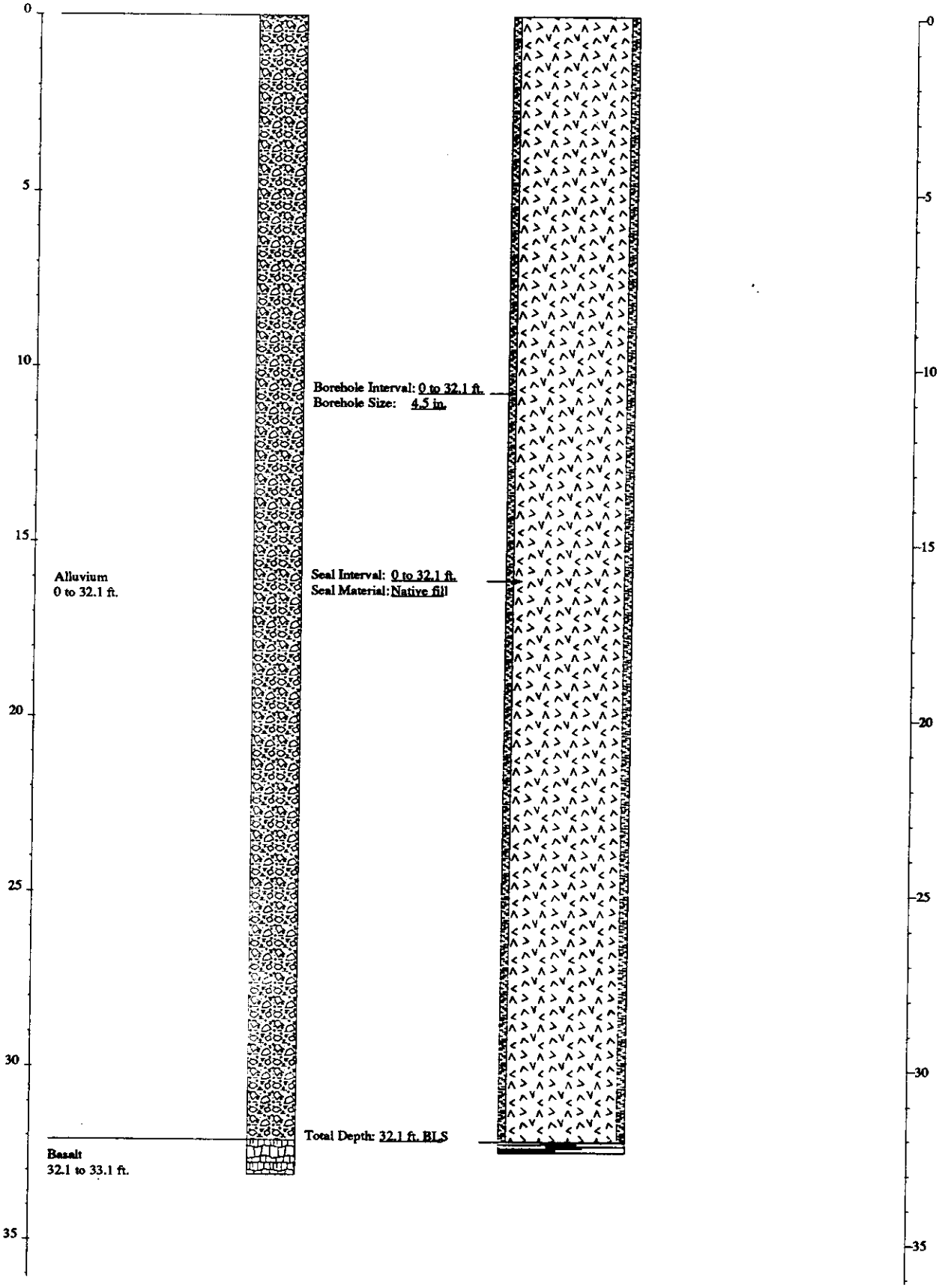
08/02/1993

Facility: ICCP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 32.1

Easting: 296605.97
Northing: 693080.13
Longitude: 1125602.587
Latitude: 433357.306
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.4

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A12

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32.8 ft. Top of basalt 32.8 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A12

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A12

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	32.8	Alluvium
32.8		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP-A12

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

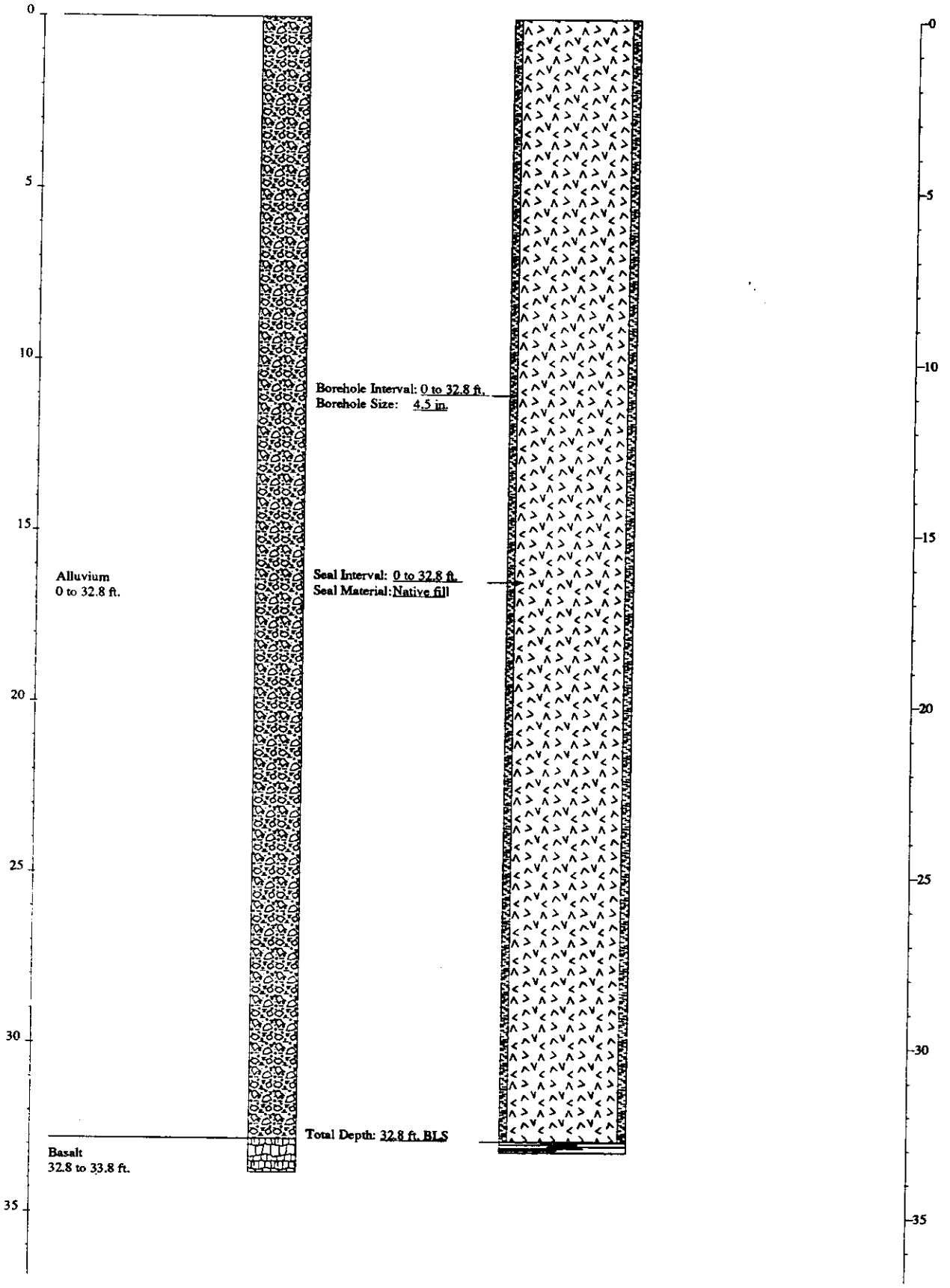
07/27/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 32.8

Easting: 296348.33
Northing: 693172.41
Longitude: 1125606.10
Latitude: 433358.19
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.6

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A13

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3,12,1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 43.3 ft. Top of basalt 43.3 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A13

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A13

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	43.3	Alluvium
43.3		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP-A13

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

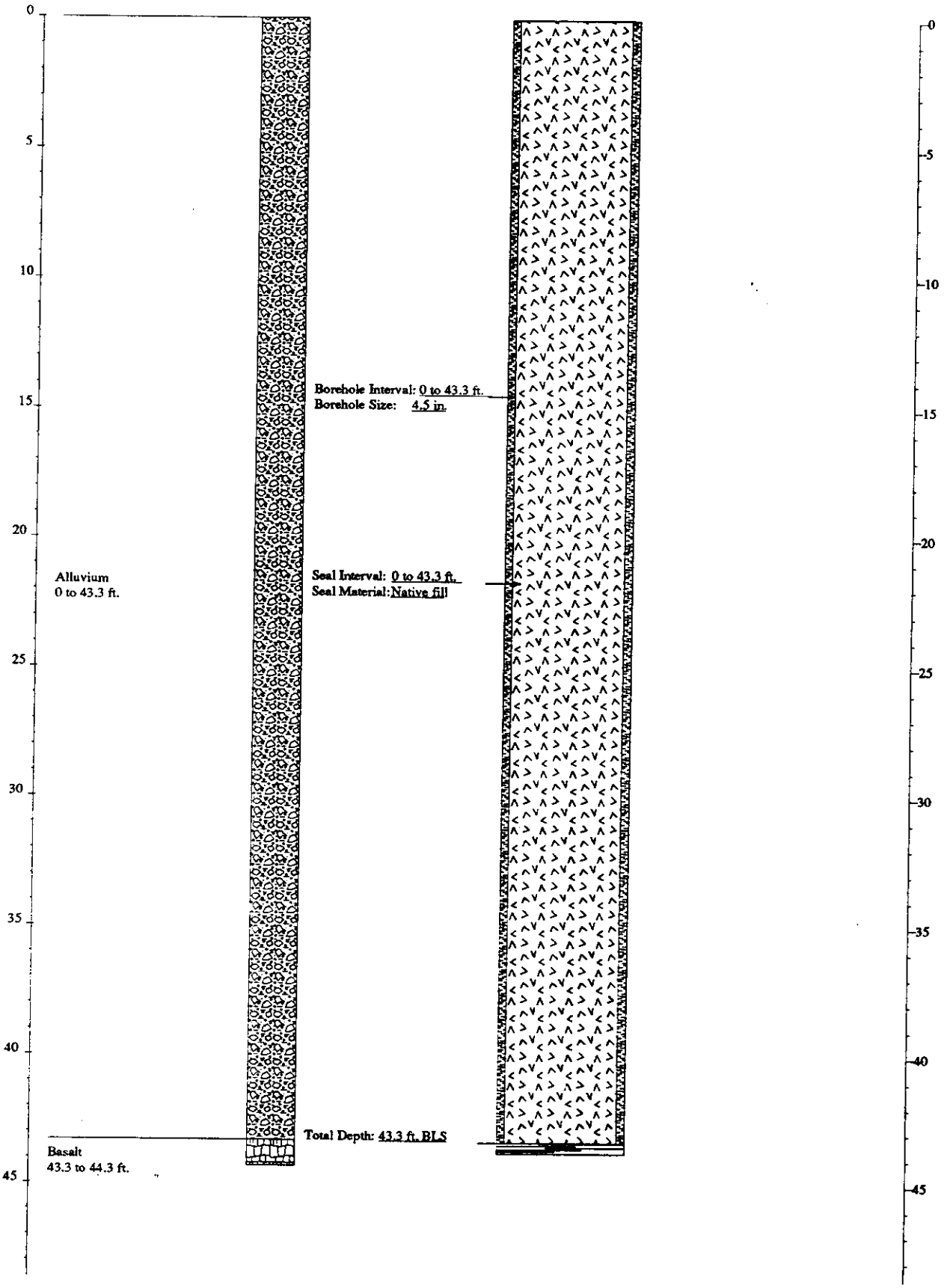
08/02/1993

Facility: ICCP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 43.3

Easting: 296725.63
Northing: 695771.80
Longitude: 1125601.300
Latitude: 433423.899
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.4

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A14

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 41 ft. Top of basalt 41 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A14

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A14

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	41	Alluvium
41		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP–A14 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

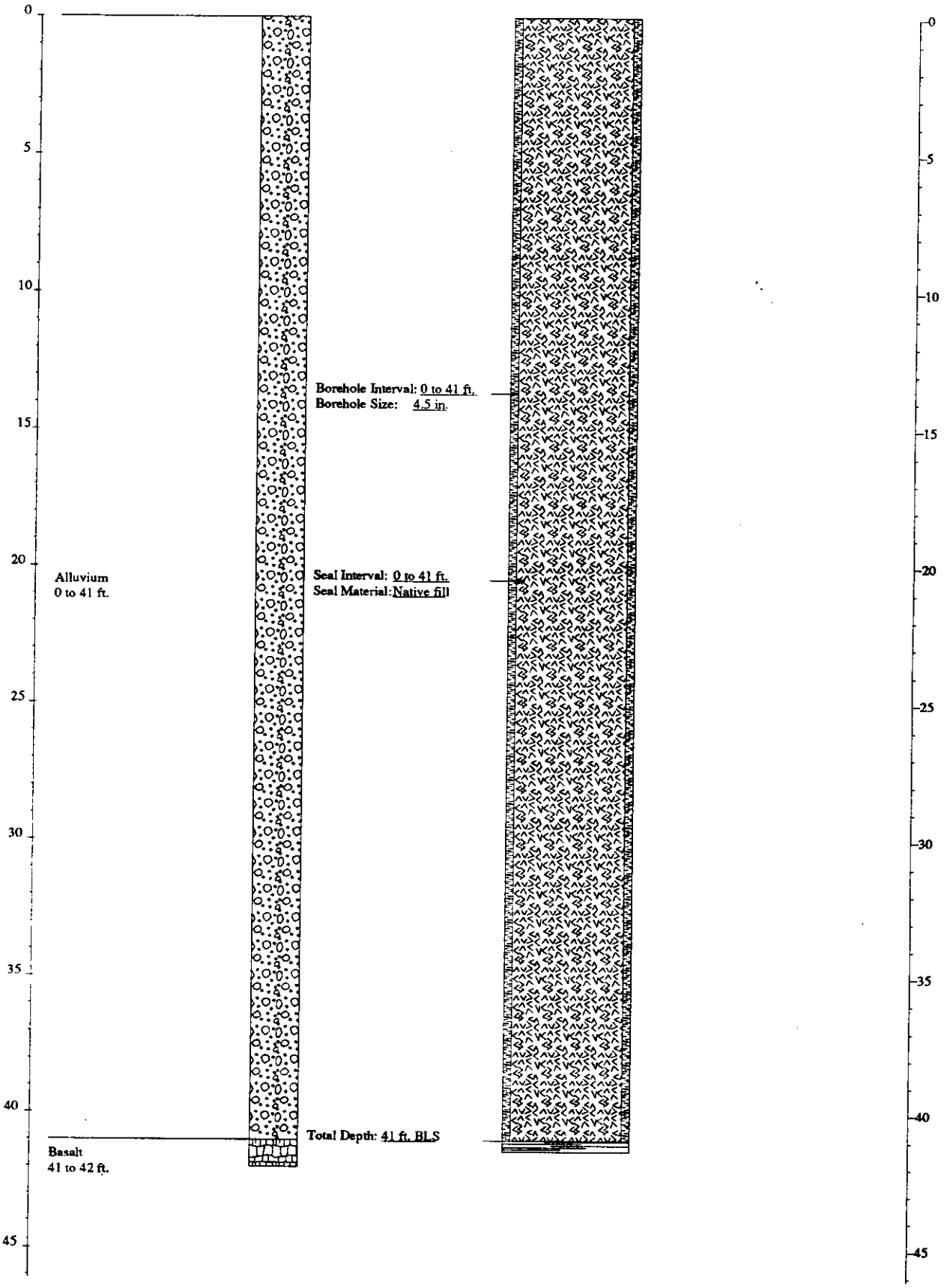
08/02/1993

Facility: ICCP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 41

Easting: 296742.28
Northing: 695597.30
Longitude: 1125601.052
Latitude: 433422.178
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.8

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A15

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 47.2 ft. Top of basalt 47.2 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A15

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A15

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	47.2	Alluvium
47.2		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP–A15

Correction: Borehole may contain 2-inch diameter PVC casing and screen.

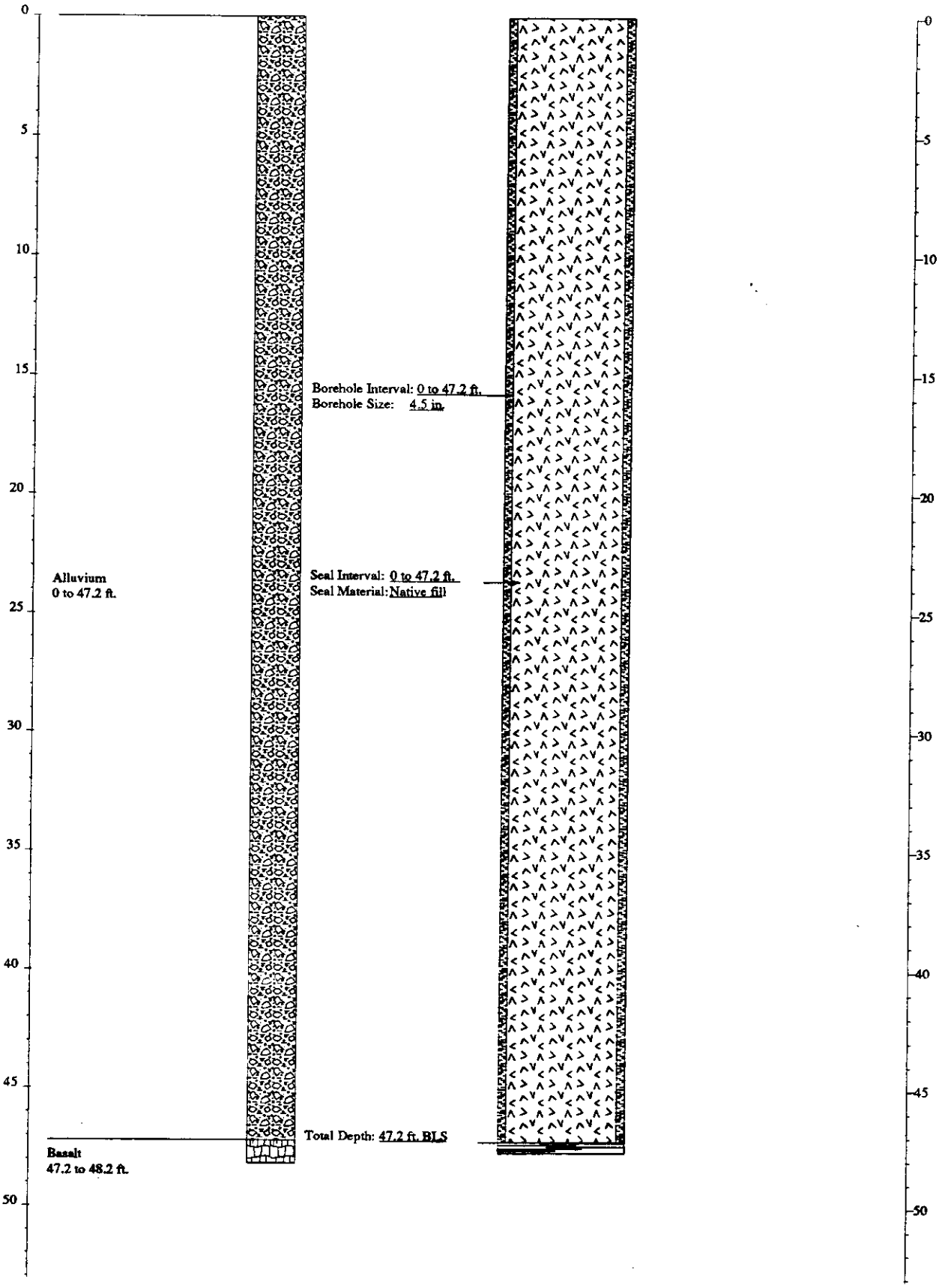
08/02/1993

Facility: ICCP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 47.2

Easting: 296970.83
Northing: 695384.24
Longitude: 1125557.921
Latitude: 433420.094
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.6

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A16

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch PVC pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 38.3 ft. Top of basalt 38.3 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A16

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the PVC pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A16

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	38.3	Alluvium
38.3		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 15, 1992

WellName: CPP–A16 **Correction: Borehole may contain 2-inch diameter PVC casing and screen.**

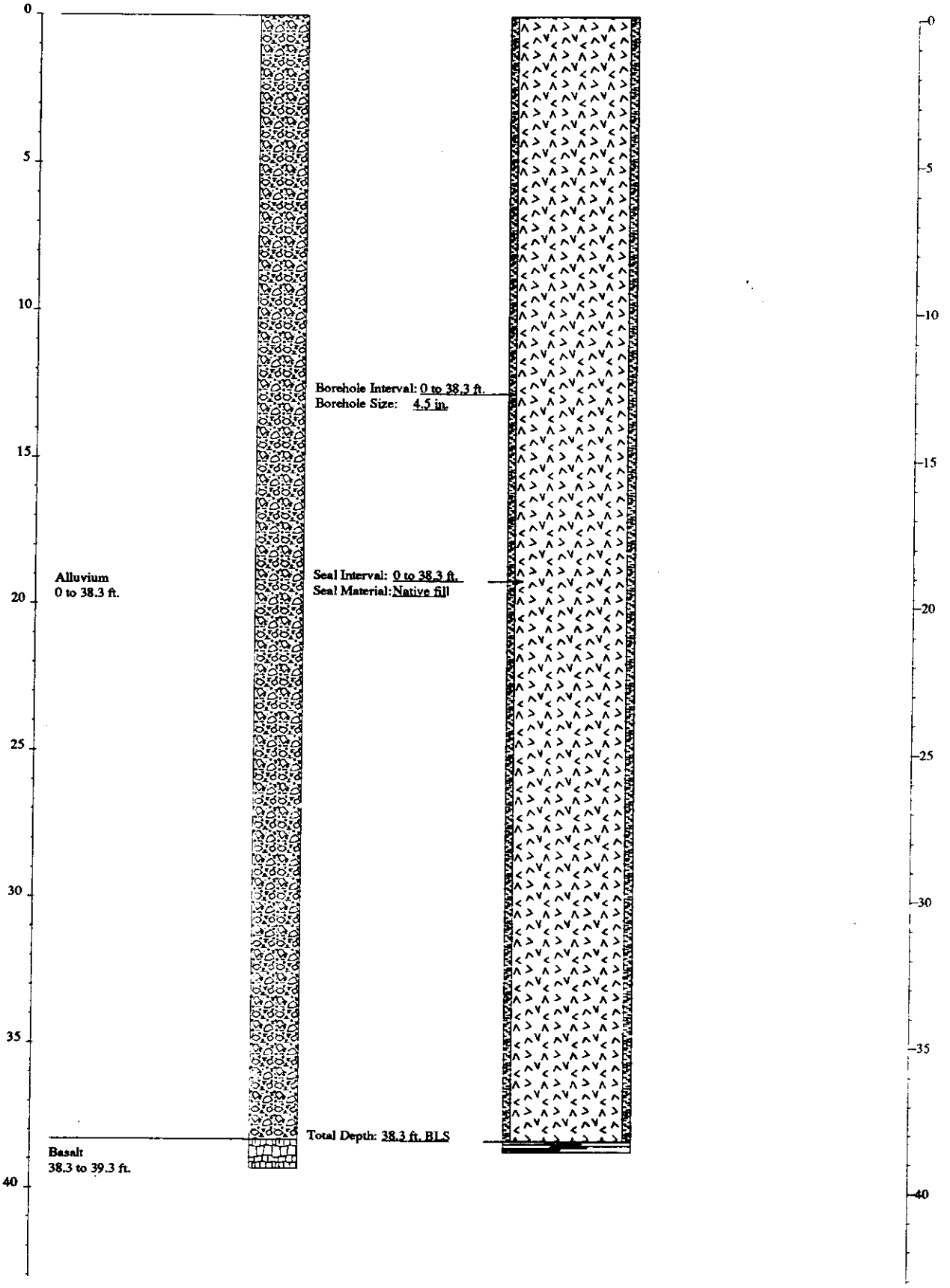
07/27/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: NF
Total Depth: 38.3

Easting: 296741.08
Northing: 695360.81
Longitude: 1125601.038
Latitude: 433419.842
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.2

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A40

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 44 ft. Top of basalt 43 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A40

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the aluminum pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A40

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	10	Sandy Gravel
10	15	Large Sandy Gravel
15	30	Dirty Gravel
30	43	Gravel (less fines)
43	44	Weathered Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: CPP–A40

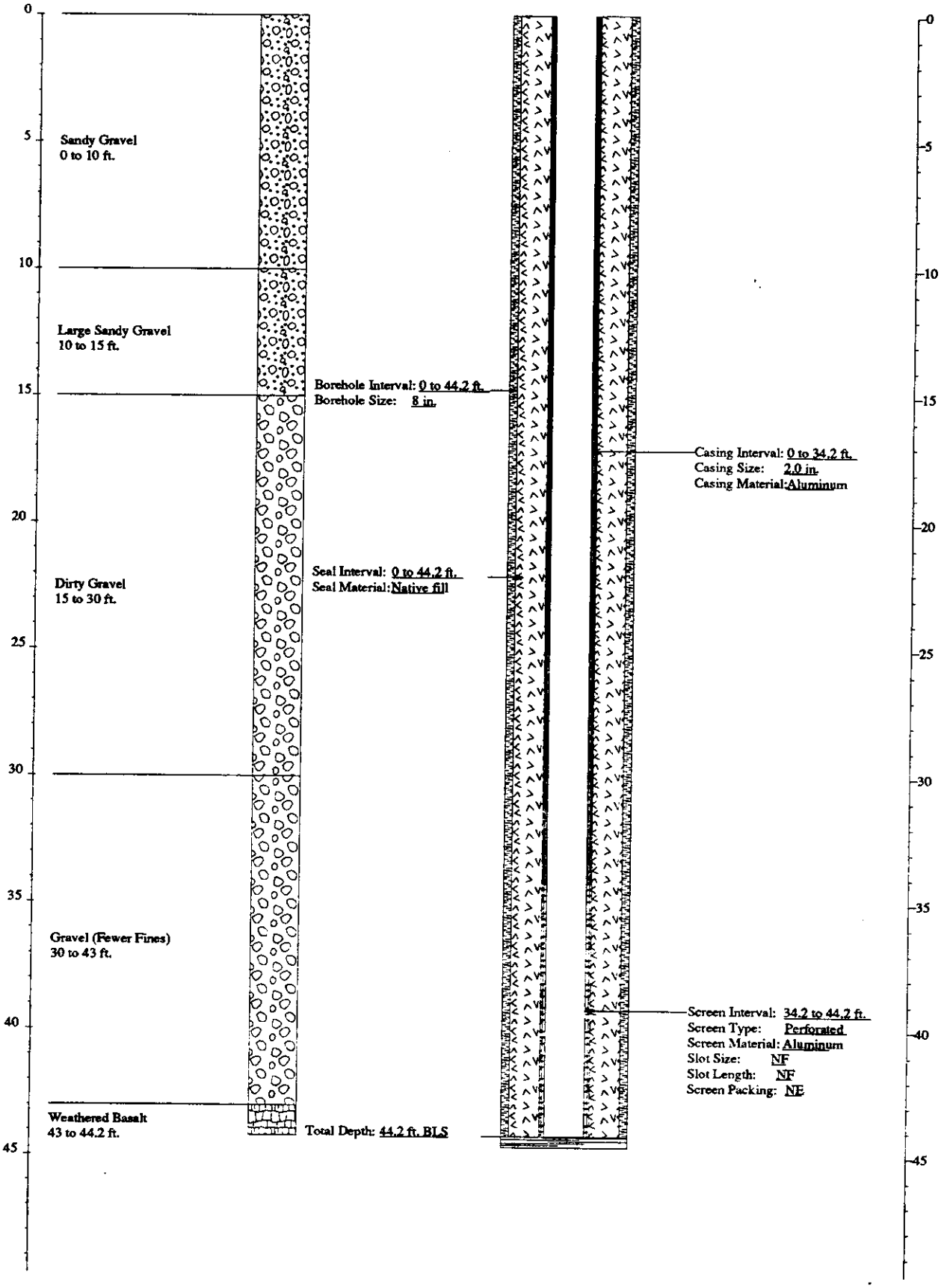
06/28/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1973
Total Depth: 44.2

Easting: NF
Northing: NF
Longitude: NF
Latitude: NF
Completion Depth: 44.2

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: NF

Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A41

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 47 ft. Top of basalt 45 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A41

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the aluminum pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A41

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	45	Sandy Gravel
45	47	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: CPP-A41

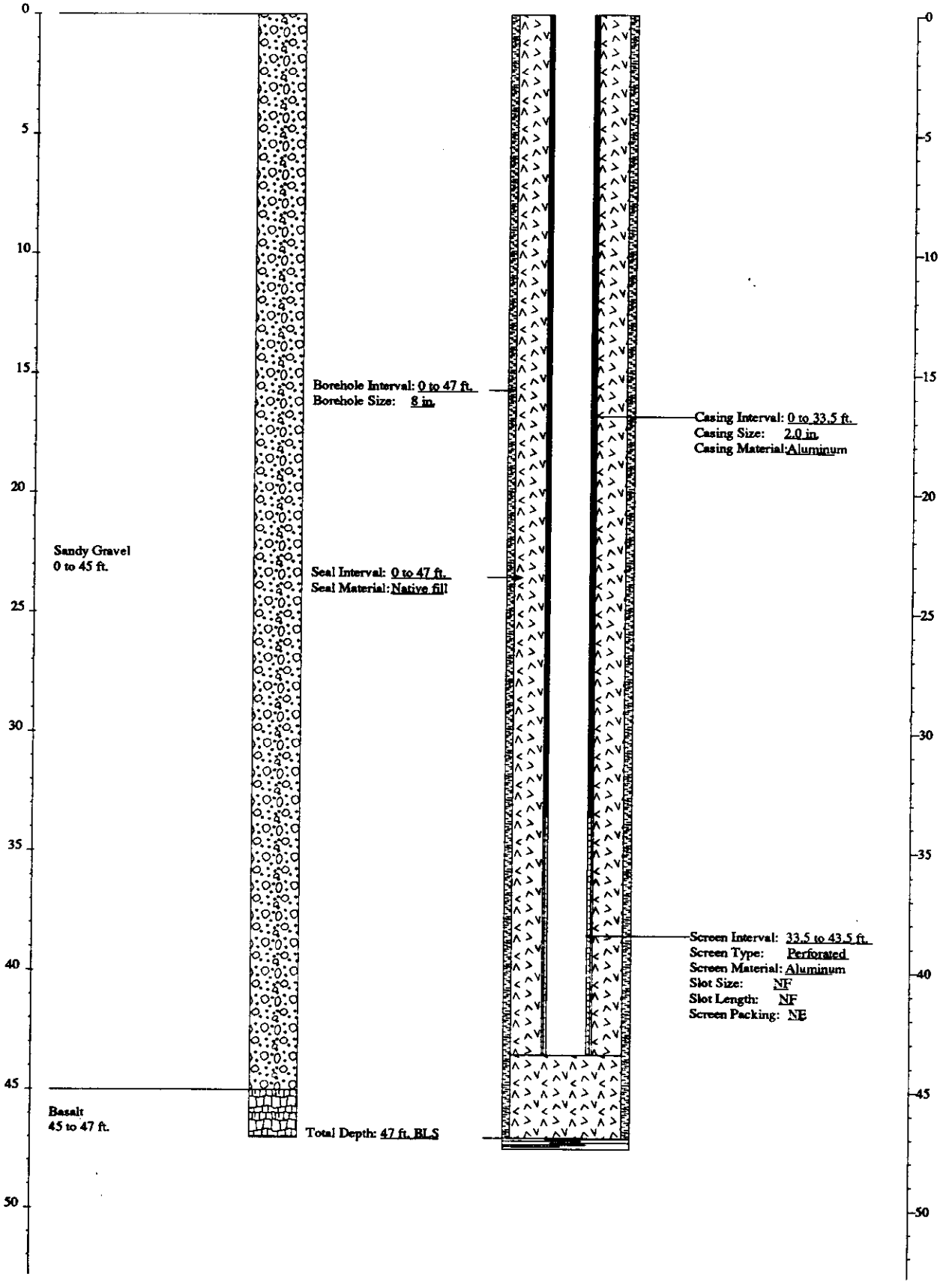
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1973
Total Depth: 47

Easting: NF
Northing: NF
Longitude: NF
Latitude: NF
Completion Depth: 43.5

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: NF

Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A42

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 38 ft. Top of basalt 36 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A42

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the aluminum pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A42

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	36	Sandy Gravel
36	38	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: CPP-A42

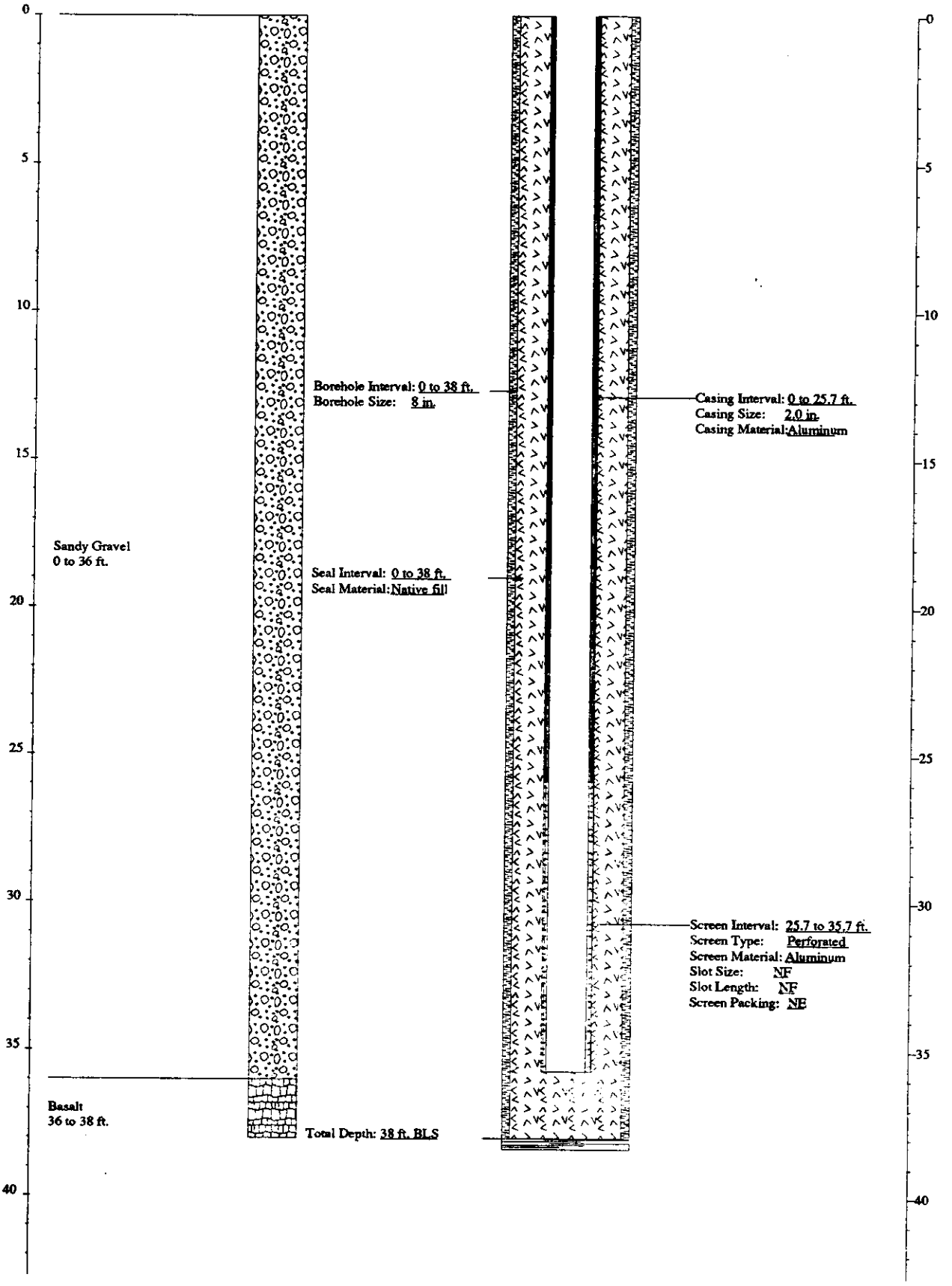
06/28/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1973
Total Depth: 38

Easting: NF
Northing: NF
Longitude: NF
Latitude: NF
Completion Depth: 35.7

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: NF

Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A43

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 41 ft. Top of basalt 40 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A43

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the aluminum pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A43

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	5	Sandy Gravel
5	22	Gravel (Pea-size)
22	40	Large Sandy Gravel
40	41	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: CPP–A43

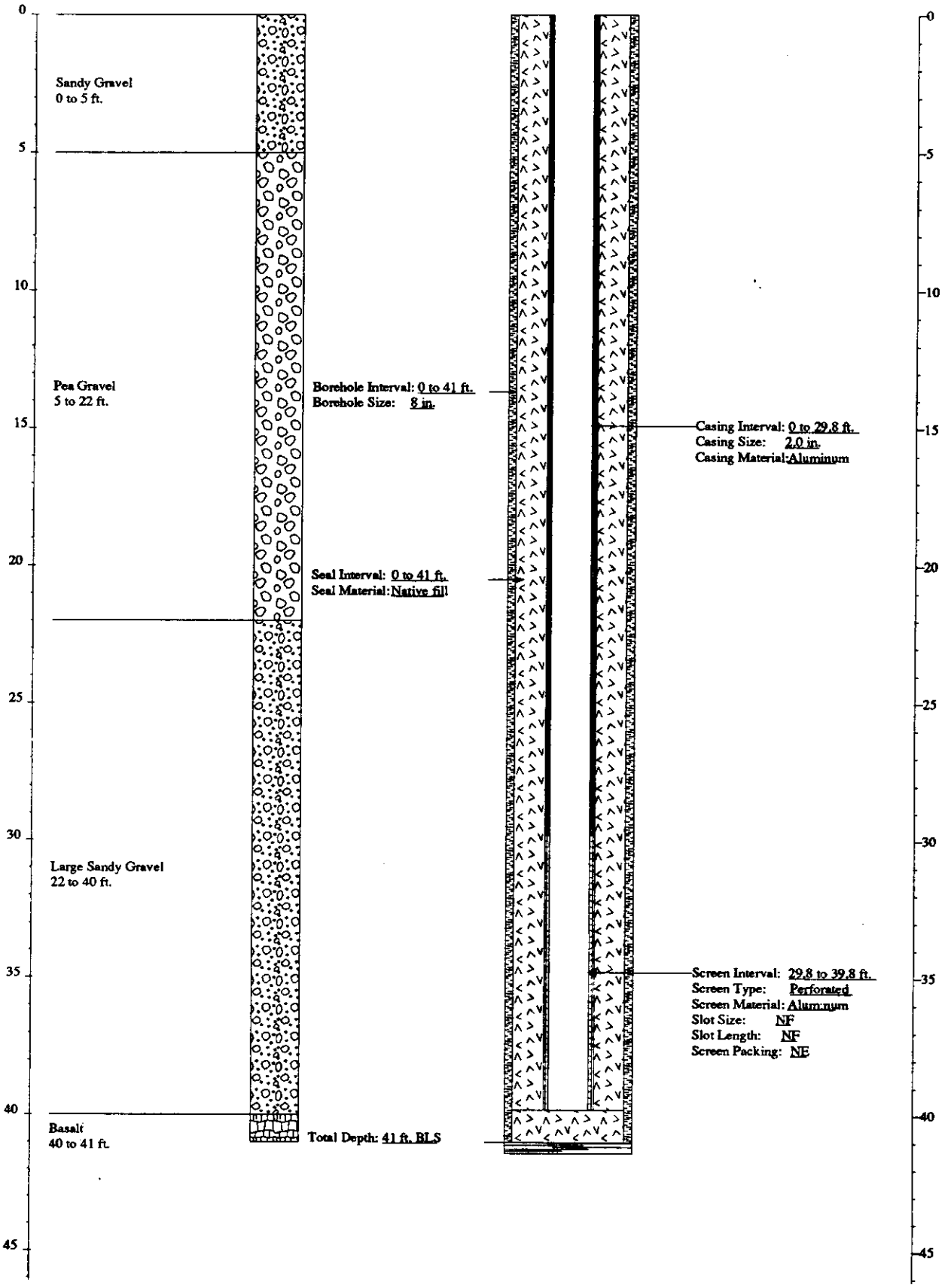
06/14/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1973
Total Depth: 41

Easting: NF
Northing: NF
Longitude: NF
Latitude: NF
Completion Depth: 39.8

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: NF

Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A44

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 40 ft. Top of basalt = 38 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The well is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The well is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum [1]	2	0 - 39.6	Threaded	5	.156	Yes

[1] The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 39.6	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A44

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the fenced area of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface completion of the well was not upgraded because the well is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A44

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	38	Sandy Gravel / Moist
38	40	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

WellName: CPP--A44

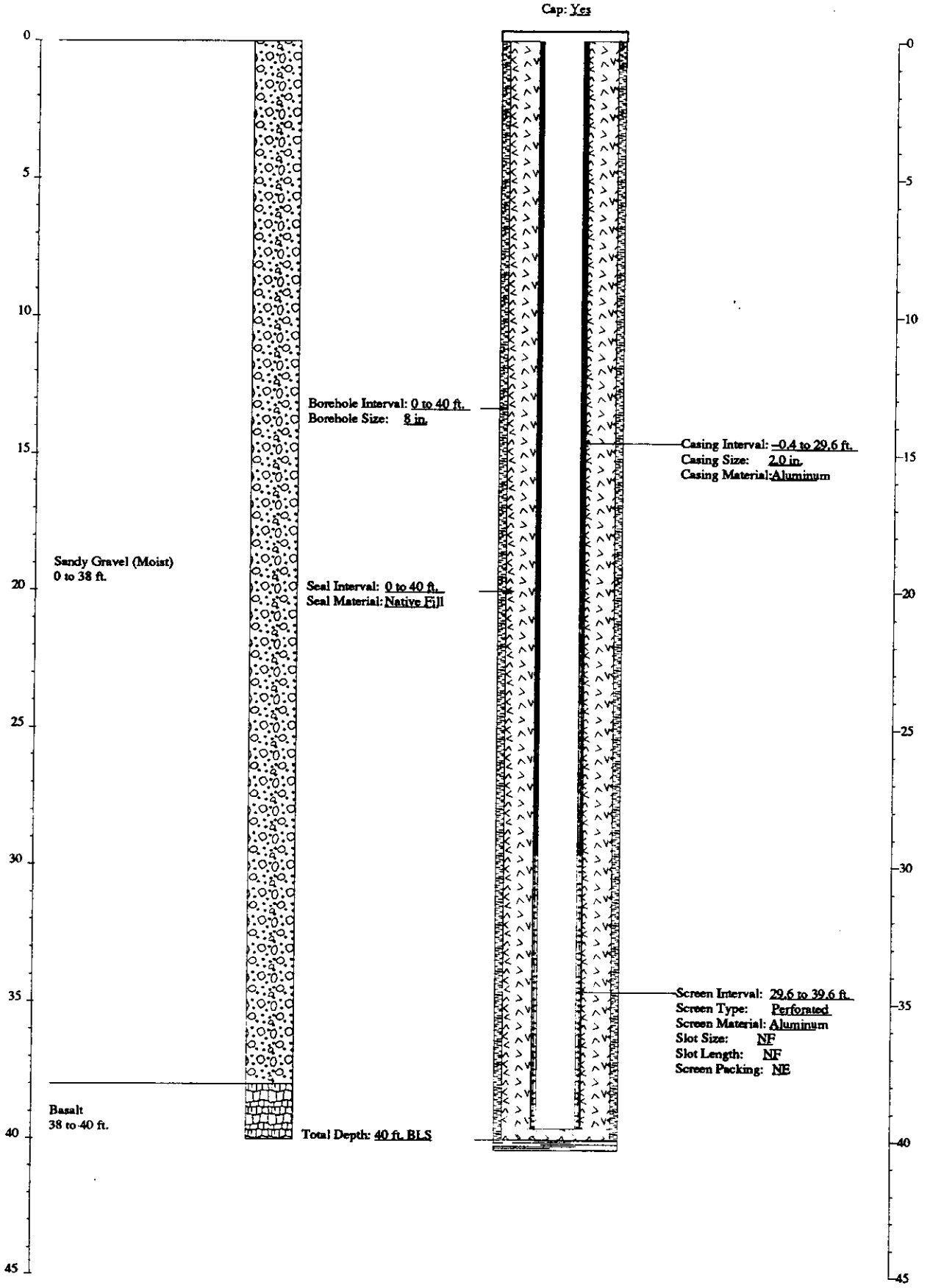
07/06/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 40

Easting: 296983.1
Northing: 695698.9
Longitude: 1125557.793
Latitude: 433423.203
Completion Depth: 39.6

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4915.8

Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A45

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 39 ft. Top of basalt = 38 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The well is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The well is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 35.4	Threaded	29	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 39	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A45

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the fenced area of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface completion of the well was not upgraded because the well is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A45

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	12	Sand / Coarse Gravel
12	16	Gravel
16	38	Coarse Gravel / Sand
38	39	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

WellName: CPP–A45

07/06/1993

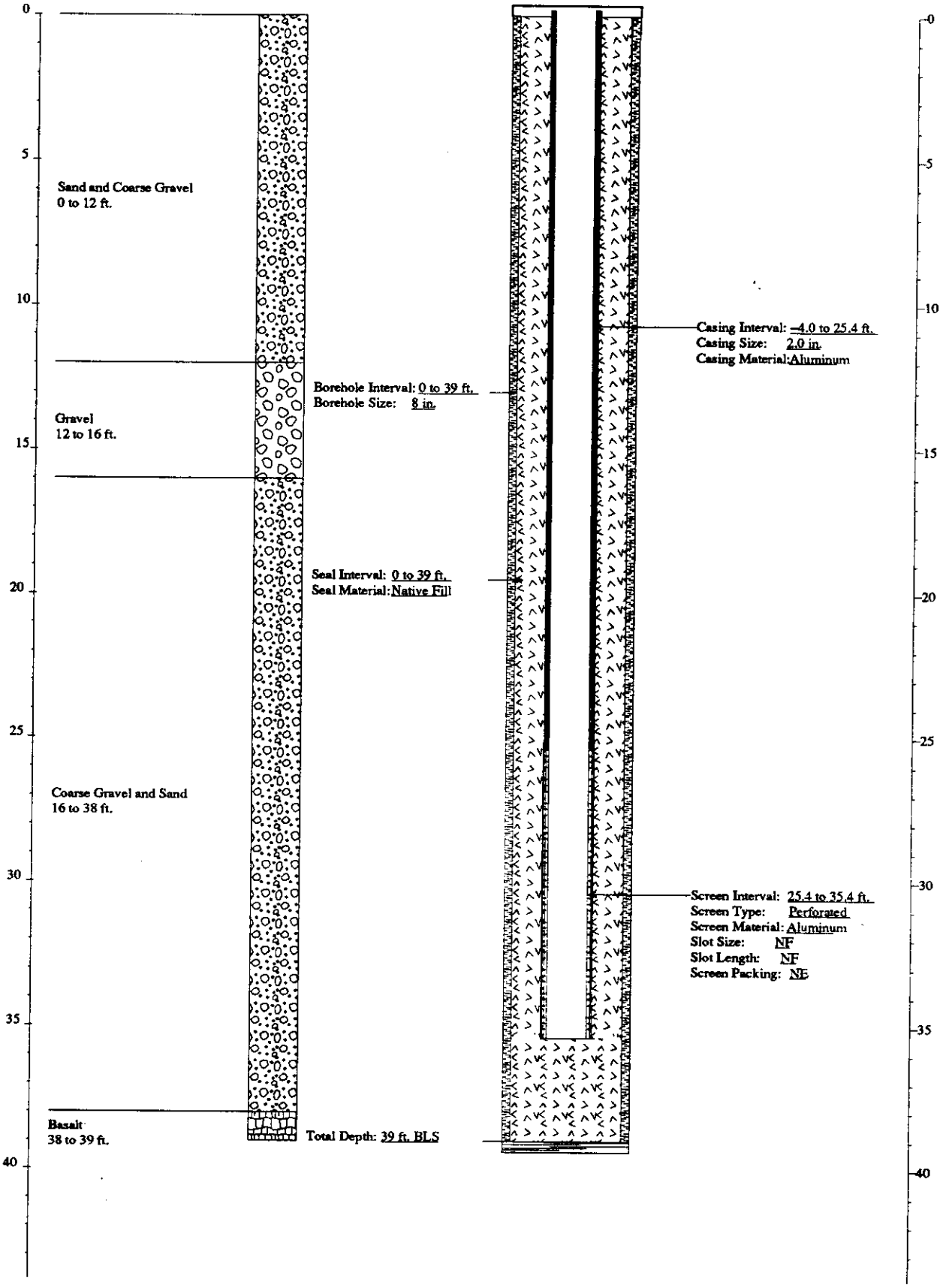
Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 39

Easting: 296856.4
Northing: 695779.6
Longitude: 1125559.524
Latitude: 433423.988
Completion Depth: 35.4

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4915.3

Water Level: NF
Water Level Date: NF
Water Level Access: NF

Cap: Yes



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A46

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 42 ft. Top of basalt = 41 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The well is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The well is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3.2.1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3.2.2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum [1]	2	0 - 41.6	Threaded	38	.156	Yes

[1] The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3.3.1 and 3.3.2.1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 42	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A46

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the fenced area of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface completion of the well was not upgraded because the well is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A46

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	41	Sand and Gravel
41	42	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

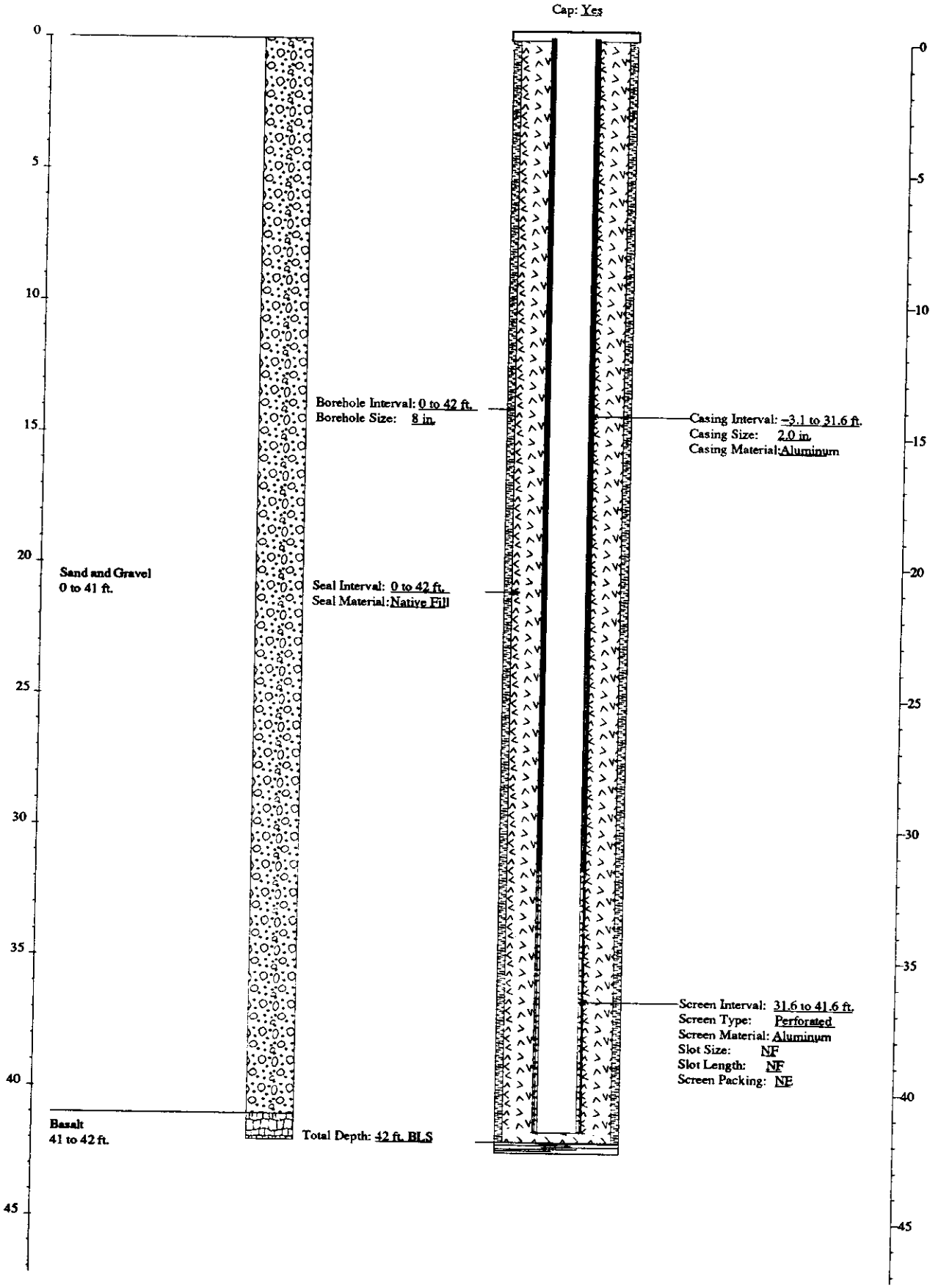
WellName: CPP–A46

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 42

Easting: 297128.6
Northing: 695612.0
Longitude: 1125555.806
Latitude: 433422.358
Completion Depth: 41.6

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4919.5

07/06/1993
Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A47

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Not documented

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum pipe.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled with native material.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 41.6 ft. Top of basalt 41 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. CPP-A47

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No _ Not Documented X

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The well is located in the alluvium. It was backfilled with native material when it was installed, which should prevent the preferential movement of fluids near the casing. Although the aluminum pipe should be filled with grout if it was not pulled, this may not be possible since the well was not located during the field inspection.

GEOLOGIC LOG

Well Name CPP-A47

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	41	Sand and Gravel
41	41.6	Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: CPP–A47

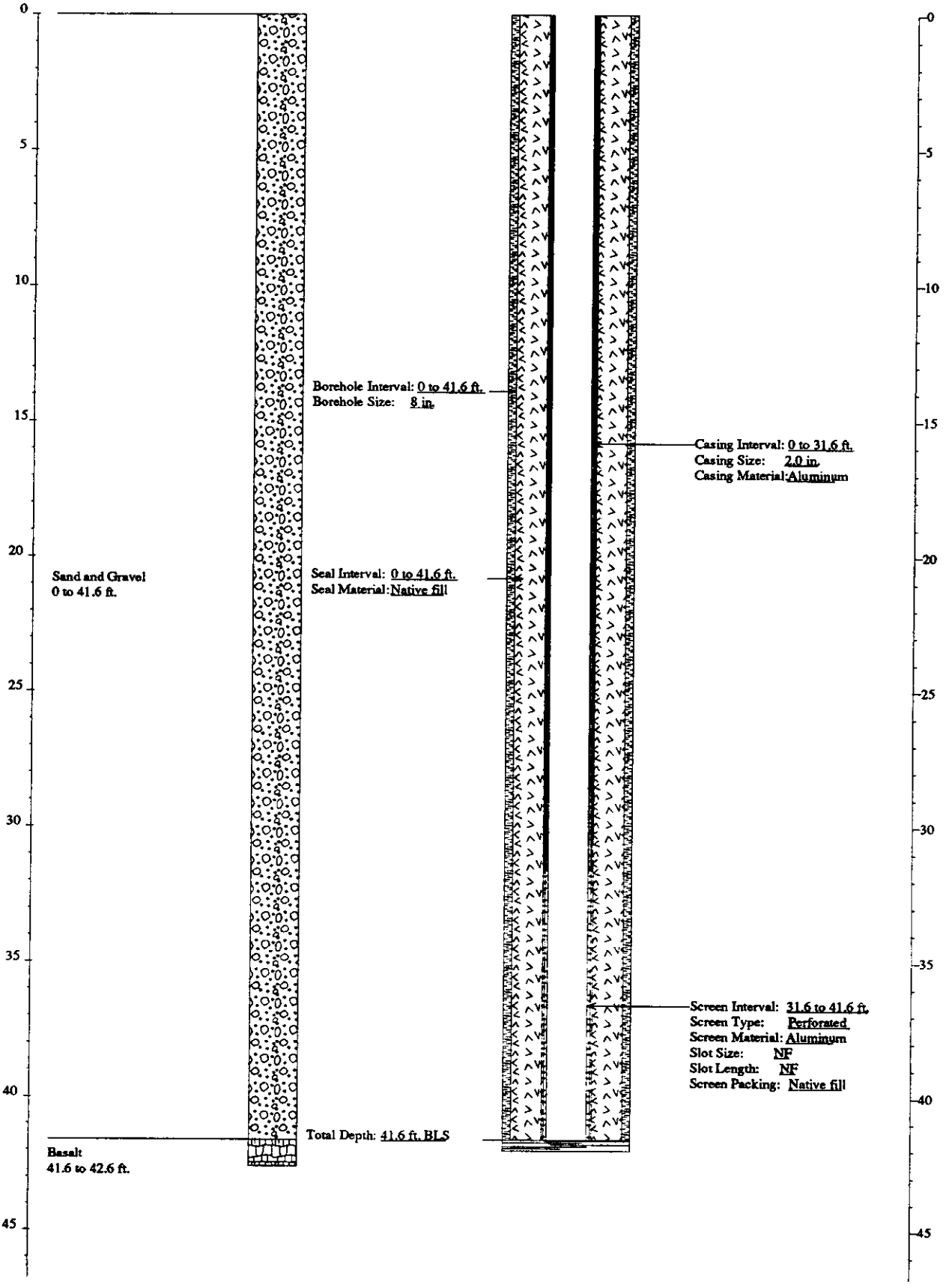
06/24/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1973
Total Depth: 41.6

Easting: NF
Northing: NF
Longitude: NF
Latitude: NF
Completion Depth: 44.2

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: NF

Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A48

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 43 ft. Top of basalt = 42 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The well is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The well is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3.2.1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3.2.2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 43	Threaded	36	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3.3.1 and 3.3.2.1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 43	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A48

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the fenced area of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface completion of the well was not upgraded because the well is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A48

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	15	Sandy Gravel
15	42	Sand and Coarse Gravel
42	43	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

WellName: CPP–A48

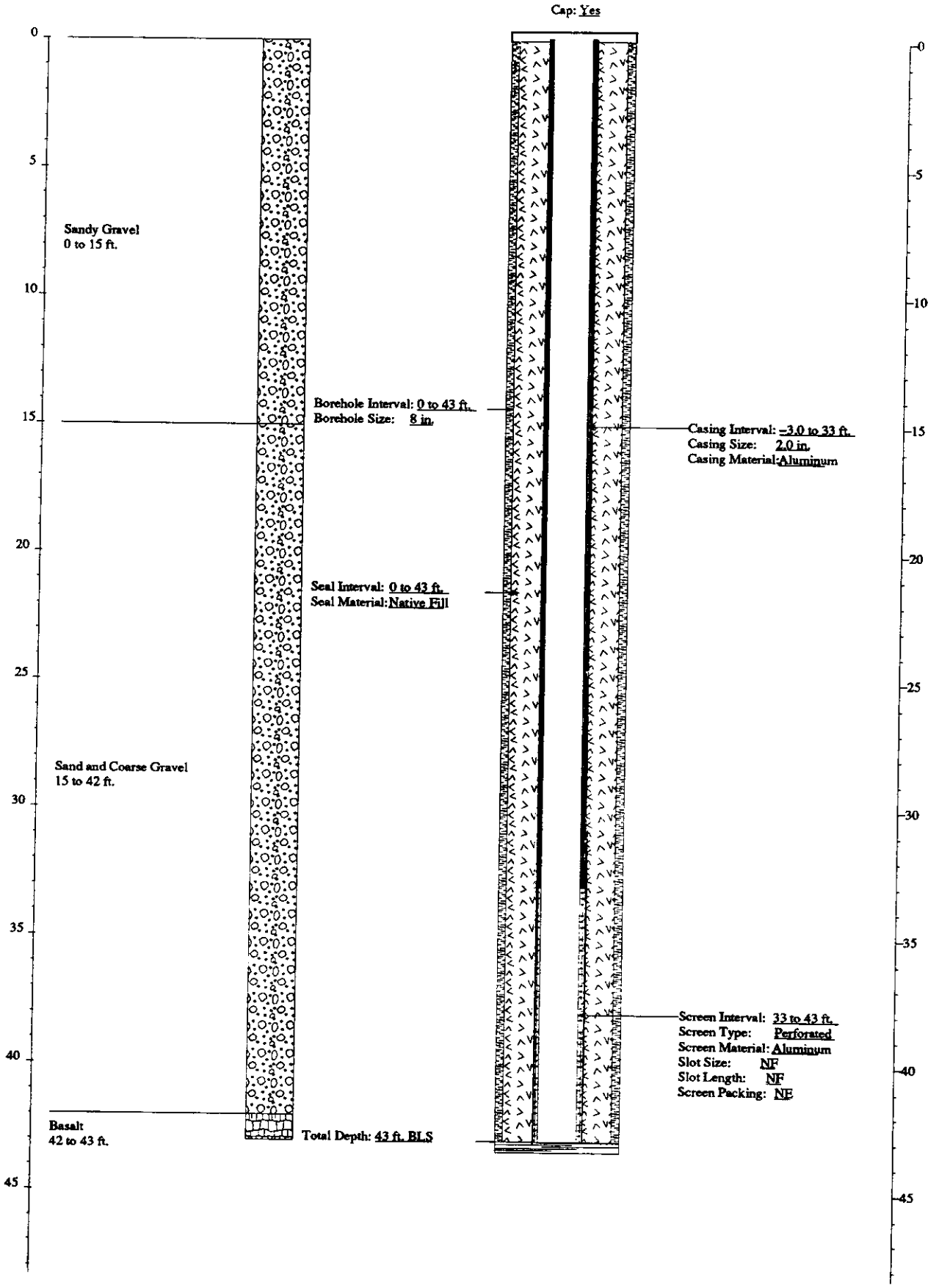
Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 43

Easting: 296784.1
Northing: 695800.8
Longitude: 1125600.509
Latitude: 433424.191
Completion Depth: 43

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4916.2

07/06/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A49

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 44 ft. Top of basalt = 43 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The well is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The well is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 43.2	Threaded	19	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 44	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the fenced area of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface completion of the well was not upgraded because the well is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A49

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	35	Sand and Coarse Gravel
35	43	Sandy Gravel
43	44	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

WellName: CPP-A49

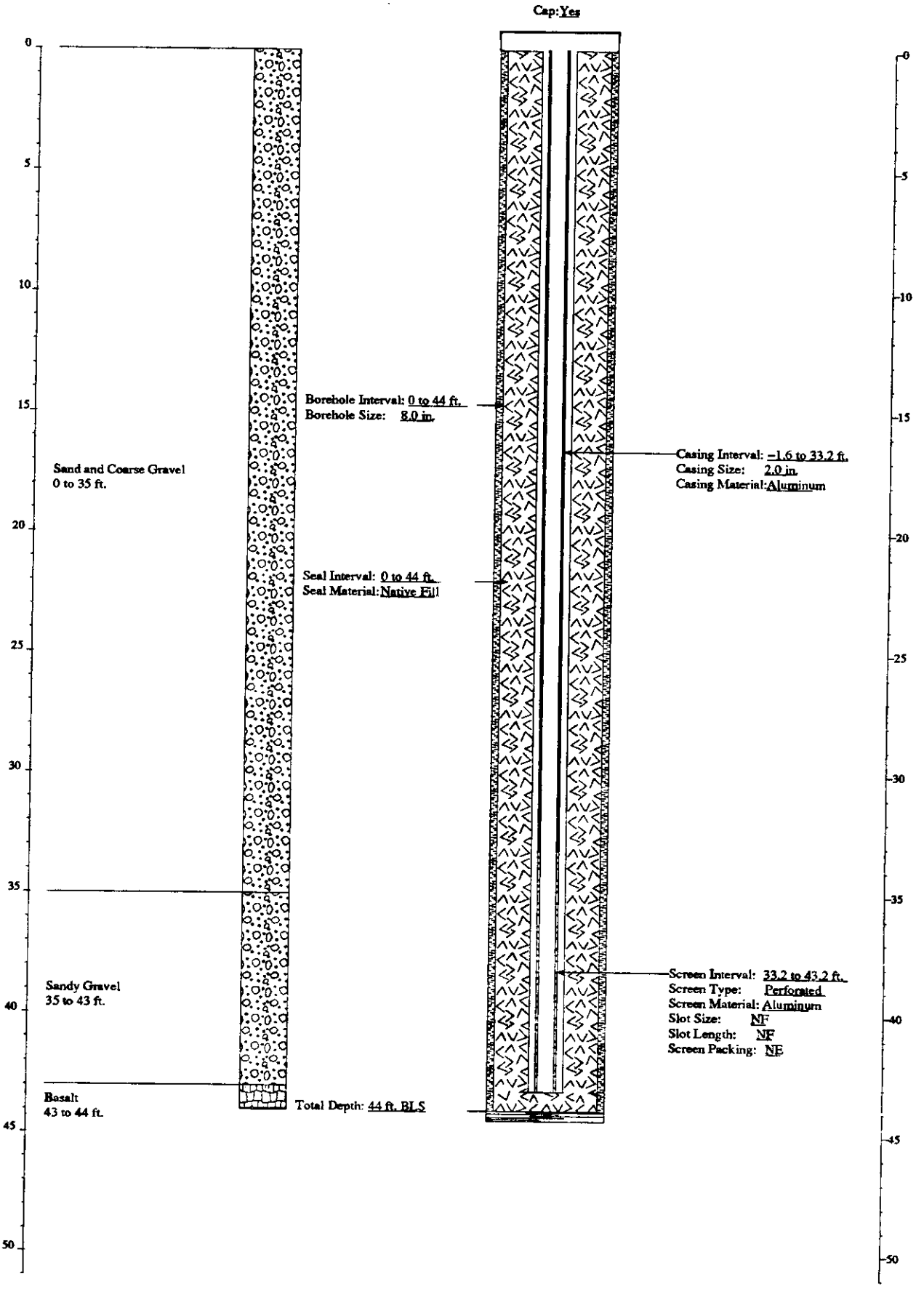
Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 44

Easting: 296784.6
Northing: 695769.0
Longitude: 1125600.498
Latitude: 433423.877
Completion Depth: 43.2

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4914.8

09/11/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. CPP-A50

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth 33 ft. Top of basalt = 32 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation _

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 30.5	Threaded	29	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 33	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located on the east of building CPP 603 and is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A50

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located on the east side of building CPP 603. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A50

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	32	Sand and Gravel
32	33	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

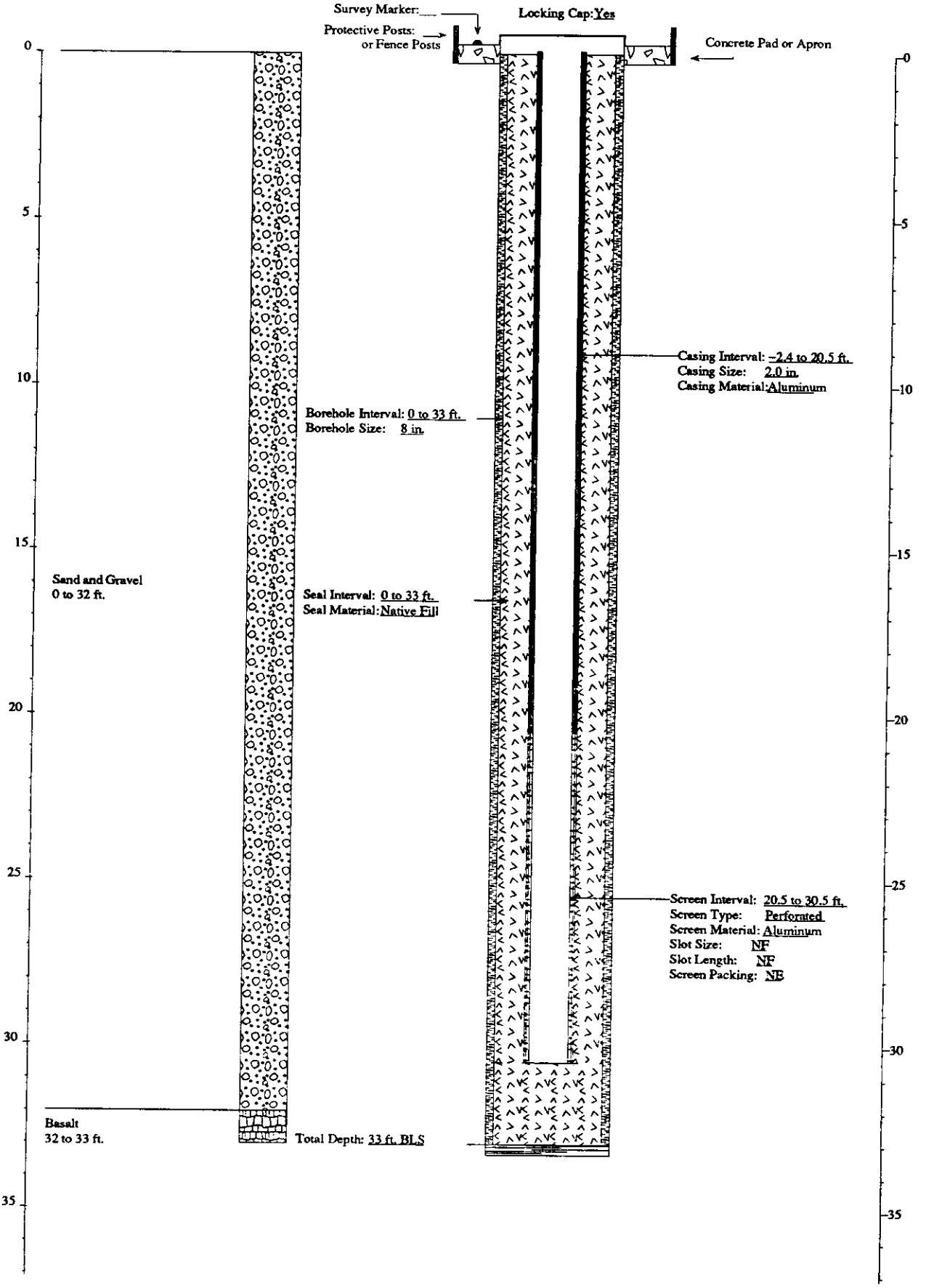
WellName: CPP-A50

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 33

Easting: 296767.1
Northing: 695682.3
Longitude: 1125600.725
Latitude: 433423.019
Completion Depth: 30.5

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4919.5

06/29/1993
Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. CPP-A51

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access Port
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 33 ft. Top of basalt = 32 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes X No _ N/A _)
   Explanation Upgrade planned for apron, fence posts and survey marker.
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3.2.1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3.2.2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 32.7	Threaded	24	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3.3.1 and 3.3.2.1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 33	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A51

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the ICPP facility. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface upgrade was not installed in 1992.

Remediation: The surface upgrade should be installed. This is presently planned for the summer of 1993.

GEOLOGIC LOG

Well Name CPP-A51

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	30	Sandy Gravel
30	32	Coarse Gravel / Little Sand
32	33	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

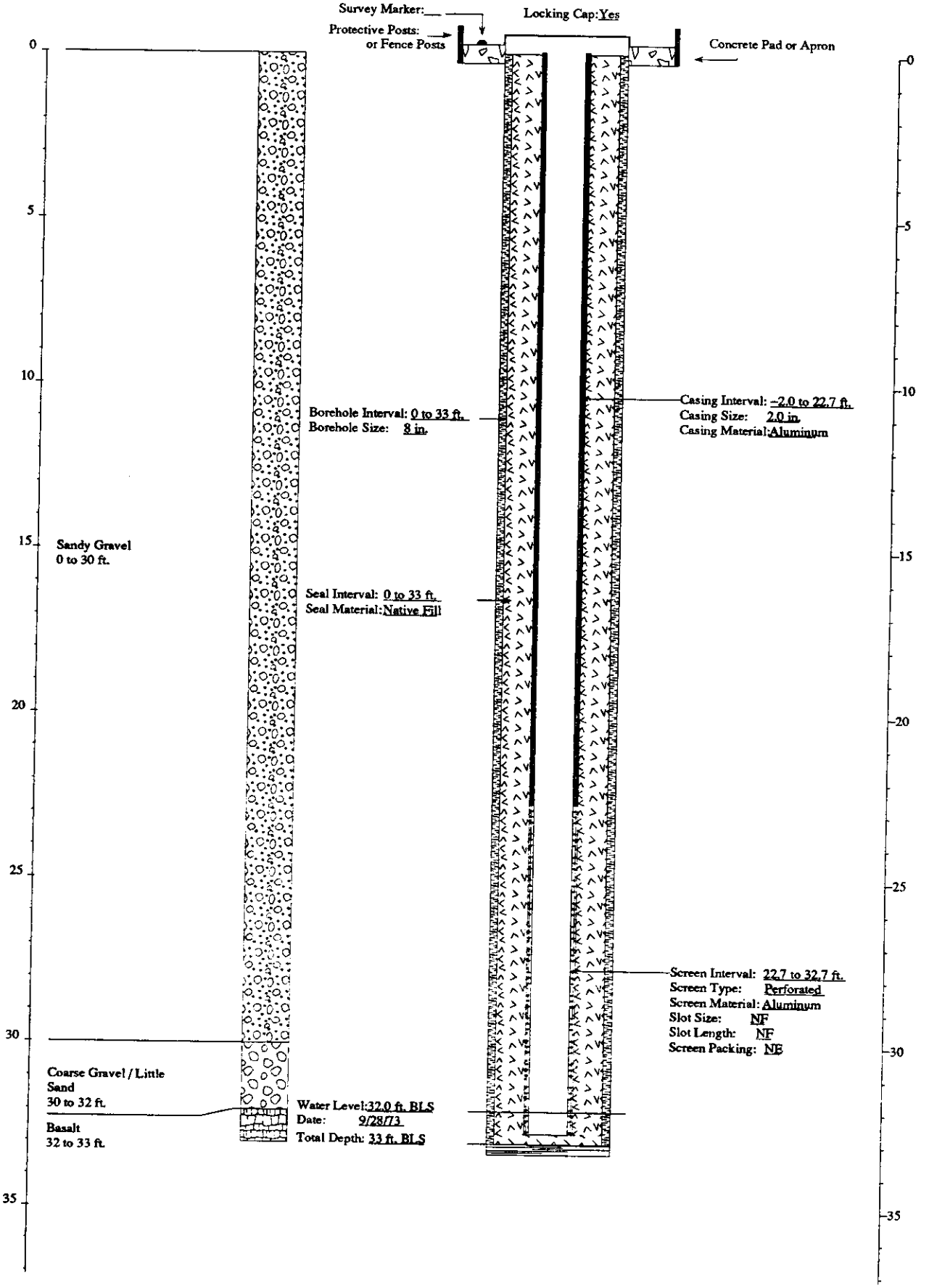
WellName: CPP–A51

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 33

Easting: 296546.15
Northing: 693261.81
Longitude: 1125603.423
Latitude: 433359.095
Completion Depth: 32.7

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: NF

06/29/1993
Water Level: 32.0
Water Level Date: 9/28/73
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A52

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth 33 ft. Top of basalt = 31 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation _

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 32.4	Threaded	25.2	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 33	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located on the west of building CPP 603 and is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A52

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located on the west side of building CPP 603. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A52

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	31	Sand and Gravel
31	33	Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

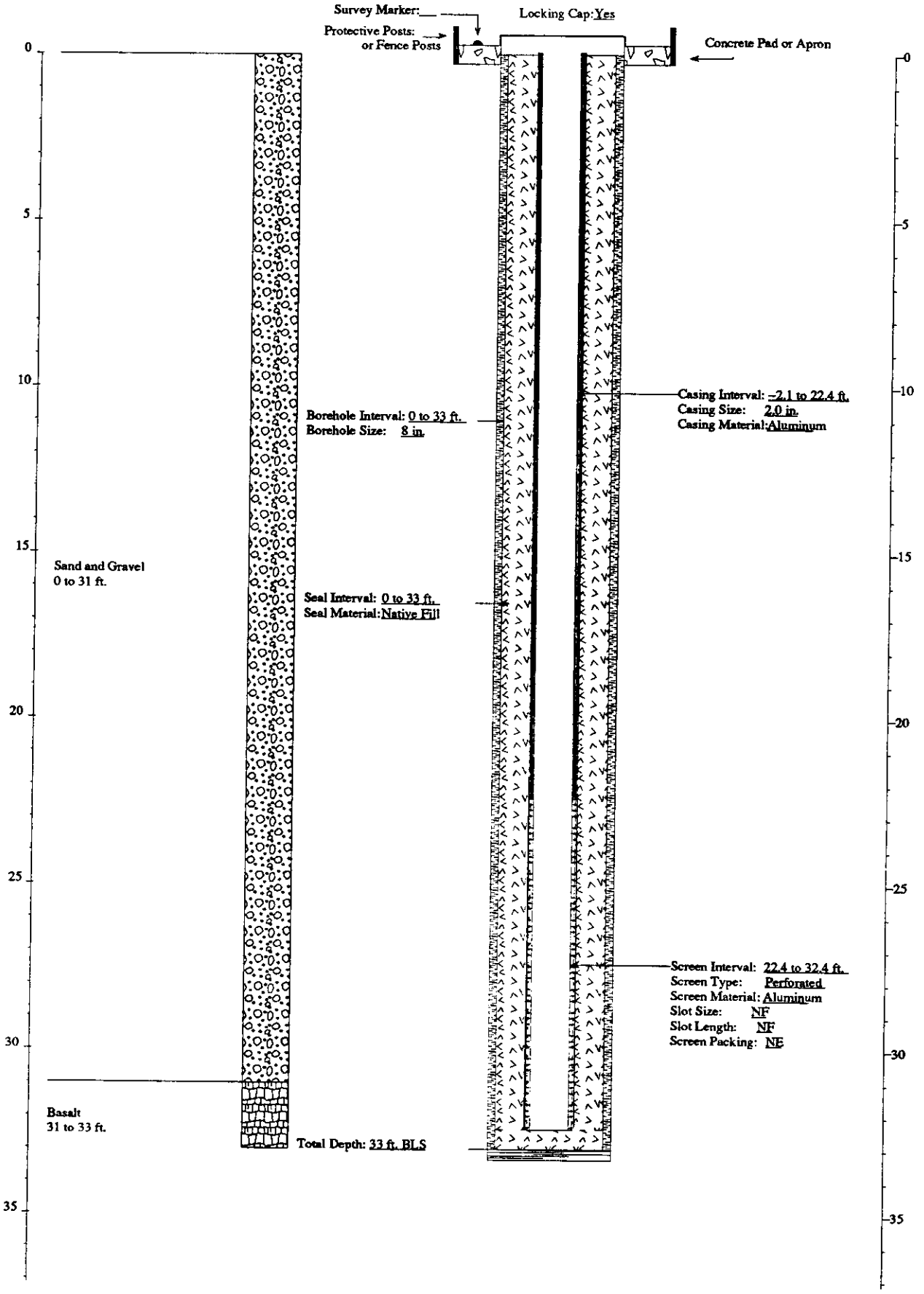
WellName: CPP-A52

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1973
Total Depth: 33

Easting: 296781.1
Northing: 695513.0
Longitude: 1125600.514
Latitude: 433421.349
Completion Depth: 32.4

Driller: USGS
Geologist: NF
Drilling Method: H.S. Augers
Drilling Fluid: NF
Land Surface: 4917.6

07/06/1993
Water Level: DRY
Water Level Date: 9/28/73
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. CPP-A53-07

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other :WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: Radioactivity in the alluvium

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  (X) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20 ft. Top of basalt = N.F. ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The monitoring port is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The monitoring port is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No X N/A Borehole size 2-inch Casing size 2-inch)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Stainless steel (1)	2 I.D or O.D.?	0 - 20	N.F.	14	N.F.	N.F.

(1) The pipe has no perforations and is capped at the top and bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
None	N/A	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The monitoring port is completed in the alluvium. The base of the alluvium is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) See Section c above.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the monitoring port is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Ken Taylor, WINCO (Oct. 1992 and Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: EG&G Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- (X) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The monitoring port is constructed of 2-inch unperforated stainless steel pipe capped at the bottom and top. It was installed in a borehole that was about the same diameter as the casing. The port is used for monitoring radioactivity in the alluvium at the ICPP tank farm and should not be considered a well as defined by the State of Idaho.

Deficiencies: None. The surface completion of the monitoring port was not upgraded because it is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A53-07

Source: Construction Data

****

Interval (feet below surface)

Begin	End	Description
0	20	Alluvium

COMPILED BY/ORGANIZATION: T.J. Clement / GAI Date August 18, 1992

WellName: CPP–A53–07

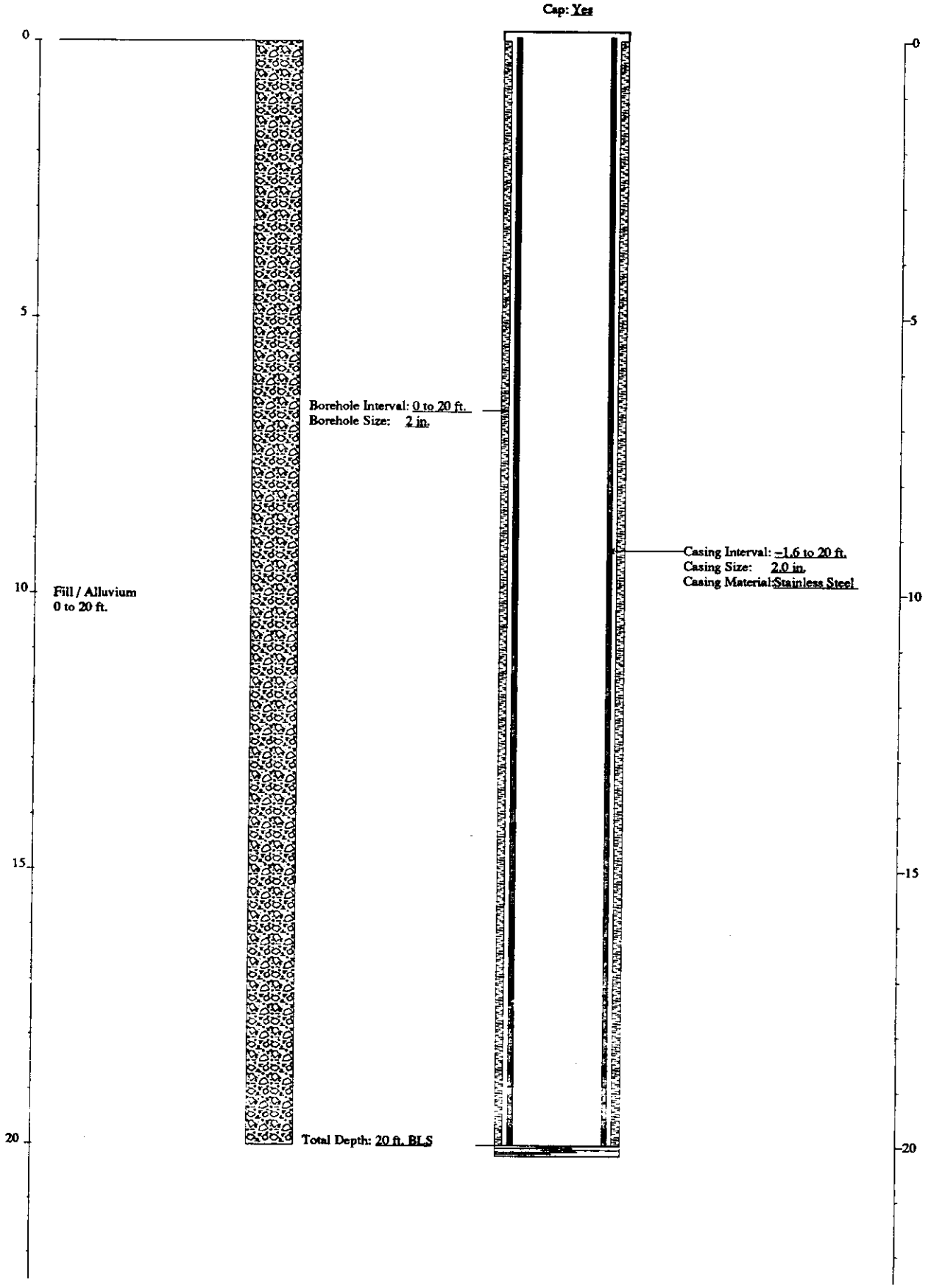
06/13/1993

Facility: CPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: NF
Total Depth: 20

Easting: 296864.6
Northing: 695593.8
Longitude: 1125559.390
Latitude: 433422.154
Completion Depth: NA

Driller: NF
Geologist: NF
Drilling Method: Percussion Hammer
Drilling Fluid: NF
Land Surface: 4918.1

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. CPP-A53-11

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other :WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: Radioactivity in the alluvium

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  (X) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20 ft. Top of basalt = N.F. ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The monitoring port is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The monitoring port is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No X N/A Borehole size 2-inch Casing size 2-inch)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Stainless steel [1]	2 I.D or O.D.?	0 - 20	N.F.	10	N.F.	N.F.

[1] The pipe has no perforations and is capped at the top and bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
None	N/A	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The monitoring port is completed in the alluvium. The base of the alluvium is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) See Section c above.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the monitoring port is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A53-11

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Ken Taylor, WINCO (Oct. 1992 and Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: EG&G Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- (X) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The monitoring port is constructed of 2-inch unperforated stainless steel pipe capped at the bottom and top. It was installed in a borehole that was about the same diameter as the casing. The port is used for monitoring radioactivity in the alluvium at the ICPP tank farm and should not be considered a well as defined by the State of Idaho.

Deficiencies: None. The surface completion of the monitoring port was not upgraded because it is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A53-11

Source: Construction Data

****

Interval (feet below surface)

Begin	End	Description
0	20	Alluvium

COMPILED BY/ORGANIZATION: T.J. Clement / GAI Date August 18, 1992

WellName: CPP-A53-11

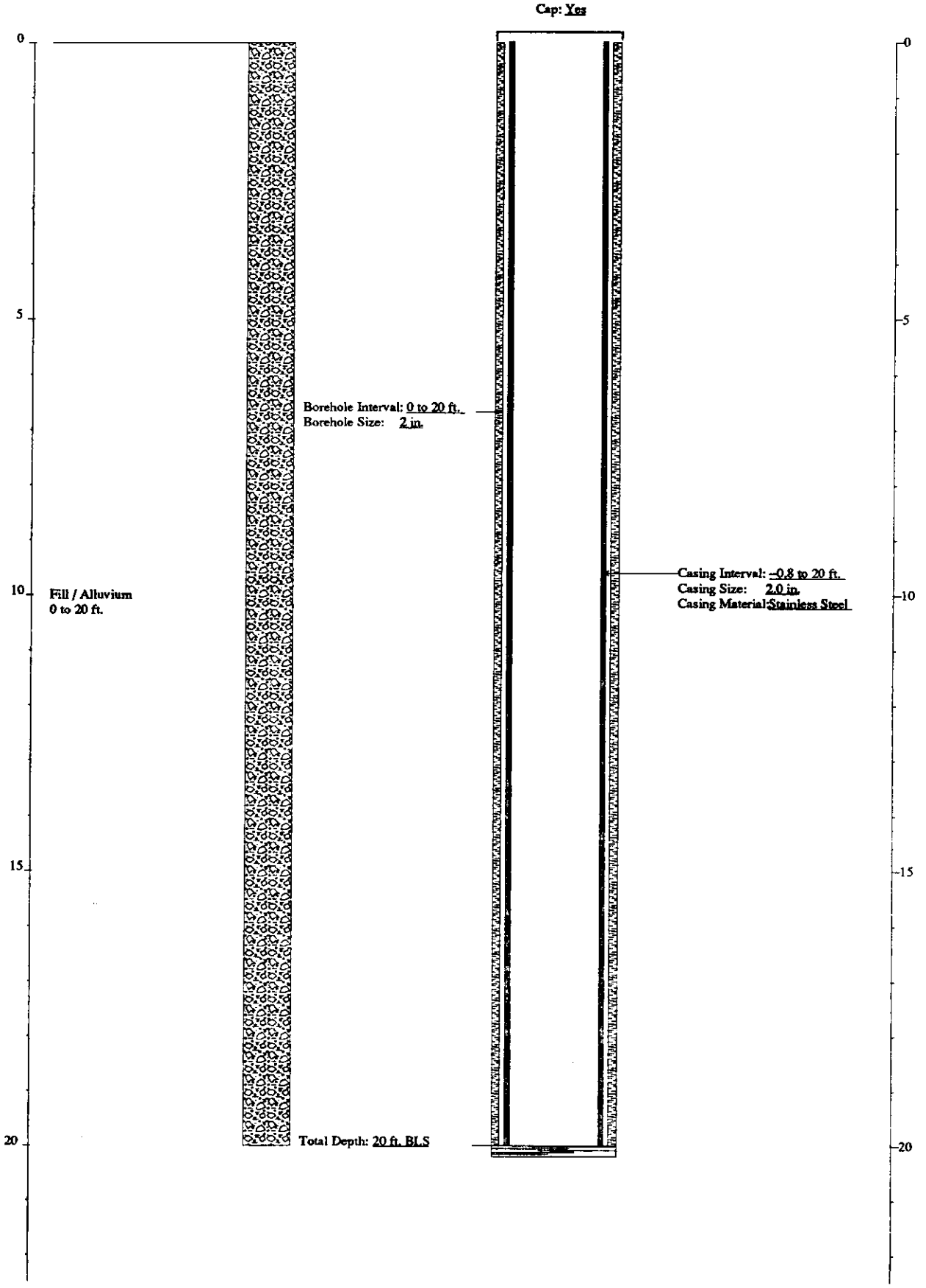
06/13/1993

Facility: CPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: NF
Total Depth: 20

Easting: 296913.2
Northing: 695593.8
Longitude: 1125558.730
Latitude: 433422.159
Completion Depth: NA

Driller: NF
Geologist: NF
Drilling Method: Percussion Hammer
Drilling Fluid: NF
Land Surface: 4918.0

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A53-19

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other :WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: Radioactivity in the alluvium

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  (X) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 24 ft. Top of basalt = N.F. ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The monitoring port is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The monitoring port is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No X N/A Borehole size 2-inch Casing size 2-inch)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Stainless steel (1)	2 I.D or O.D.?	0 - 24	N.F.	17	N.F.	N.F.

(1) The pipe has no perforations and is capped at the top and bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
None	N/A	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The monitoring port is completed in the alluvium. The base of the alluvium is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) See Section c above.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the monitoring port is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Ken Taylor, WINCO (Oct. 1992 and Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: EG&G Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- (X) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The monitoring port is constructed of 2-inch unperforated stainless steel pipe capped at the bottom and top. It was installed in a borehole that was about the same diameter as the casing. The port is used for monitoring radioactivity in the alluvium at the ICPP tank farm and should not be considered a well as defined by the State of Idaho.

Deficiencies: None. The surface completion of the monitoring port was not upgraded because it is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A53-19

Source: Construction Data

****

Interval (feet below surface)

Begin	End	Description
0	24	Alluvium

COMPILED BY/ORGANIZATION: T.J. Clement / GAI Date August 18, 1992

WellName: CPP-A53-19

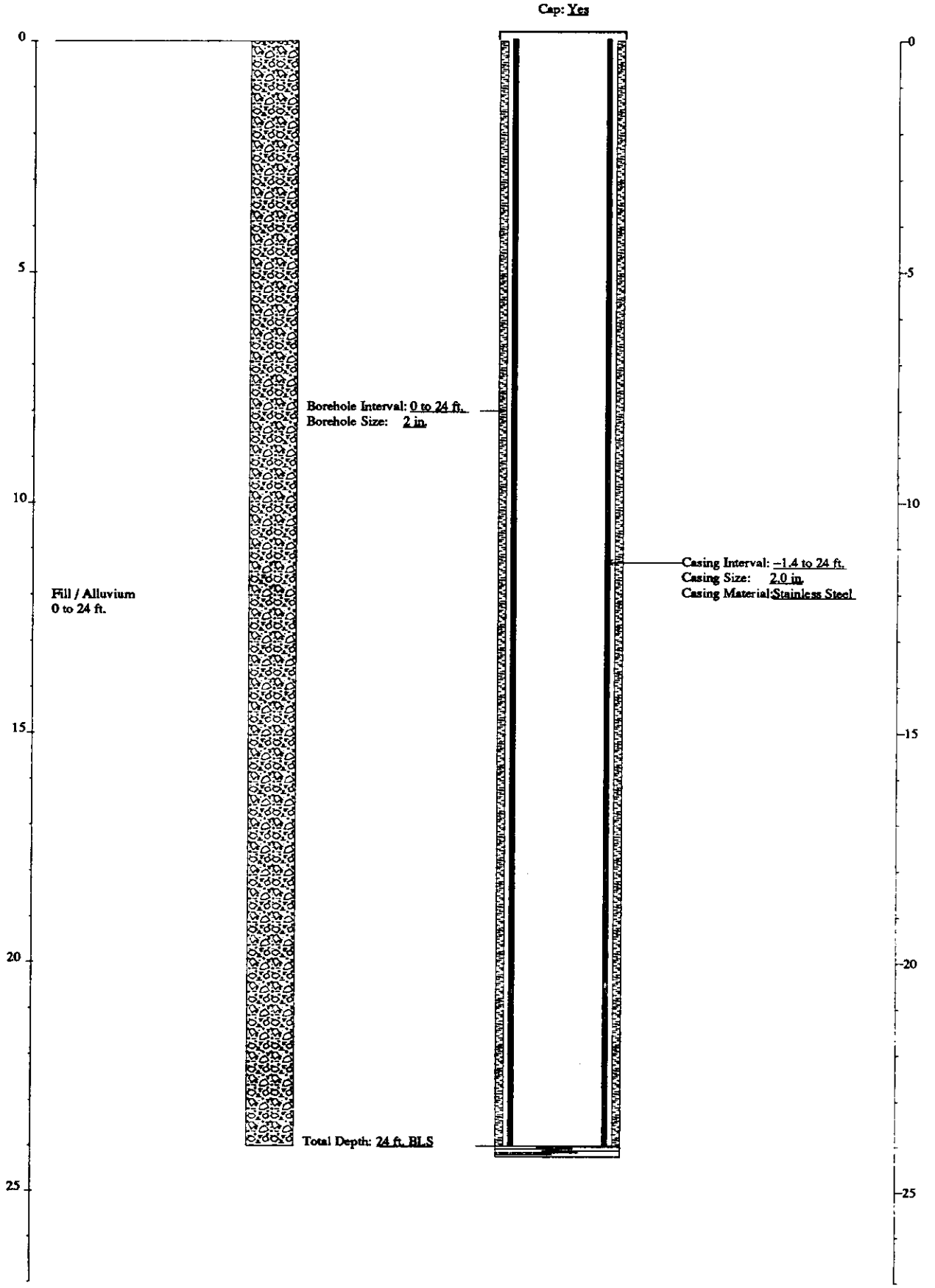
06/13/1993

Facility: CPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: NF
Total Depth: 24

Easting: 296940.7
Northing: 695609.1
Longitude: 1125558.358
Latitude: 433422.312
Completion Depth: NA

Driller: NF
Geologist: NF
Drilling Method: Percussion Hammer
Drilling Fluid: NF
Land Surface: 4918.6

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A53-20

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other :WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: Radioactivity in the alluvium

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  (X) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20 ft. Top of basalt = N.F. ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The monitoring port is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The monitoring port is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No X N/A Borehole size 2-inch Casing size 2-inch)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Stainless steel [1]	2 I.D or O.D.?	0 - 20	N.F.	8	N.F.	N.F.

[1] The pipe has no perforations and is capped at the top and bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
None	N/A	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The monitoring port is completed in the alluvium. The base of the alluvium is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) See Section c above.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the monitoring port is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Ken Taylor, WINCO (Oct. 1992 and Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: EG&G Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- (X) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The monitoring port is constructed of 2-inch unperforated stainless steel pipe capped at the bottom and top. It was installed in a borehole that was about the same diameter as the casing. The port is used for monitoring radioactivity in the alluvium at the ICPP tank farm and should not be considered a well as defined by the State of Idaho.

Deficiencies: None. The surface completion of the monitoring port was not upgraded because it is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A53-20

Source: Construction Data

****

Interval (feet below surface)

Begin	End	Description
0	20	Alluvium

COMPILED BY/ORGANIZATION: T.J. Clement / GAI Date August 18, 1992

WellName: CPP–A53–20

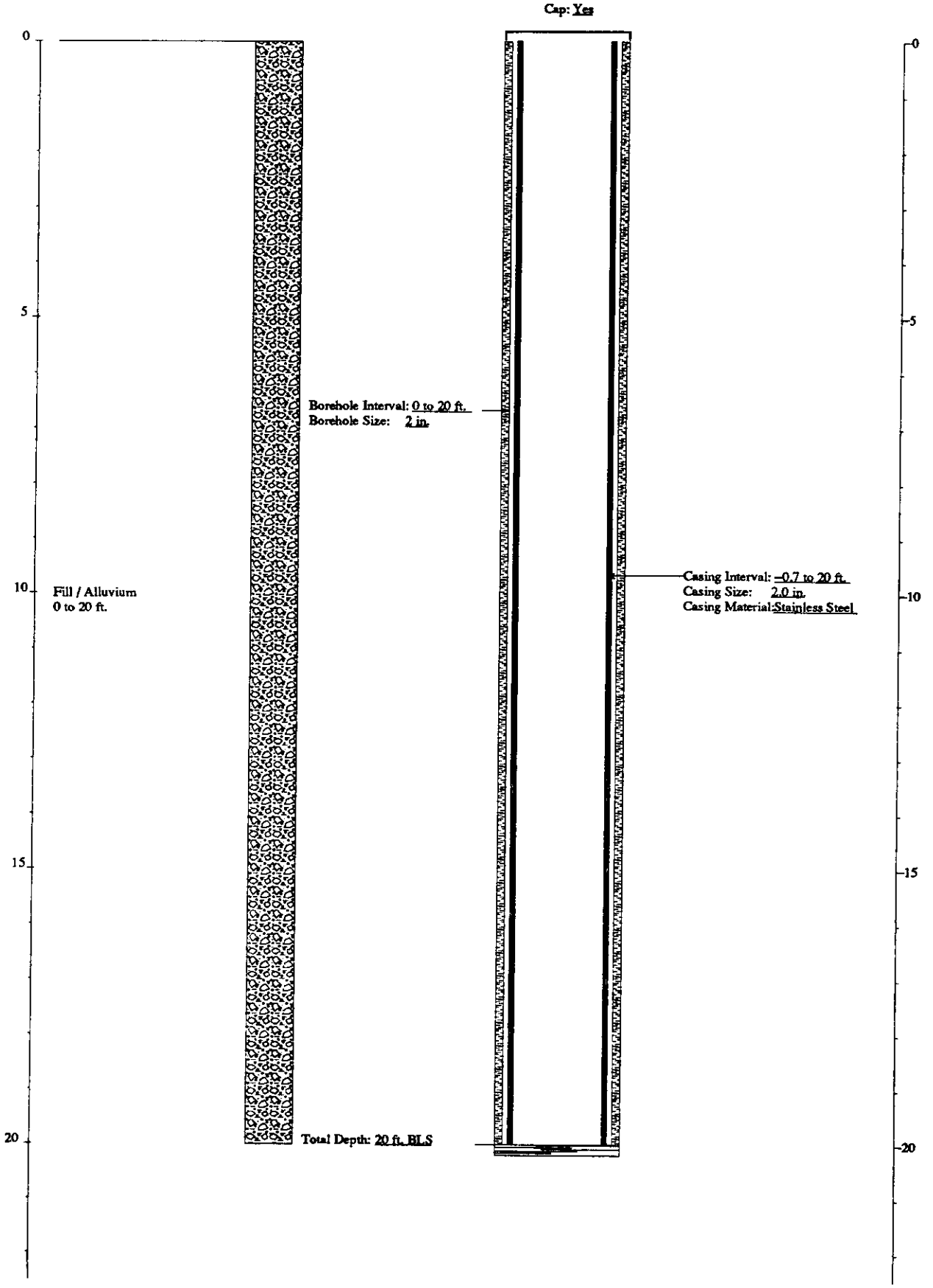
06/13/1993

Facility: CPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: NF
Total Depth: 20

Easting: 296839.1
Northing: 695620.7
Longitude: 1125559.739
Latitude: 433422.417
Completion Depth: NA

Driller: NF
Geologist: NF
Drilling Method: Percussion Hammer
Drilling Fluid: NF
Land Surface: 4917.8

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A56

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) USGS Observation
( ) RCRA Monitoring
( ) No Documented Use
( ) CERCLA Characterization
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Lysimeter
( ) Vapor Sampler
( ) Psychrometer
( ) Gypsum Block
( ) Salinity Probe
( ) Heat Dissipation Sensor
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 40 ft. Top of basalt = 40 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The well is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The well is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 40	Threaded	34	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 40	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A56

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located within the fenced area of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. The surface completion of the well was not upgraded because the well is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-A56

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	40	Surficial Sediments
40		Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

WellName: CPP--A56

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: NF
Total Depth: 40

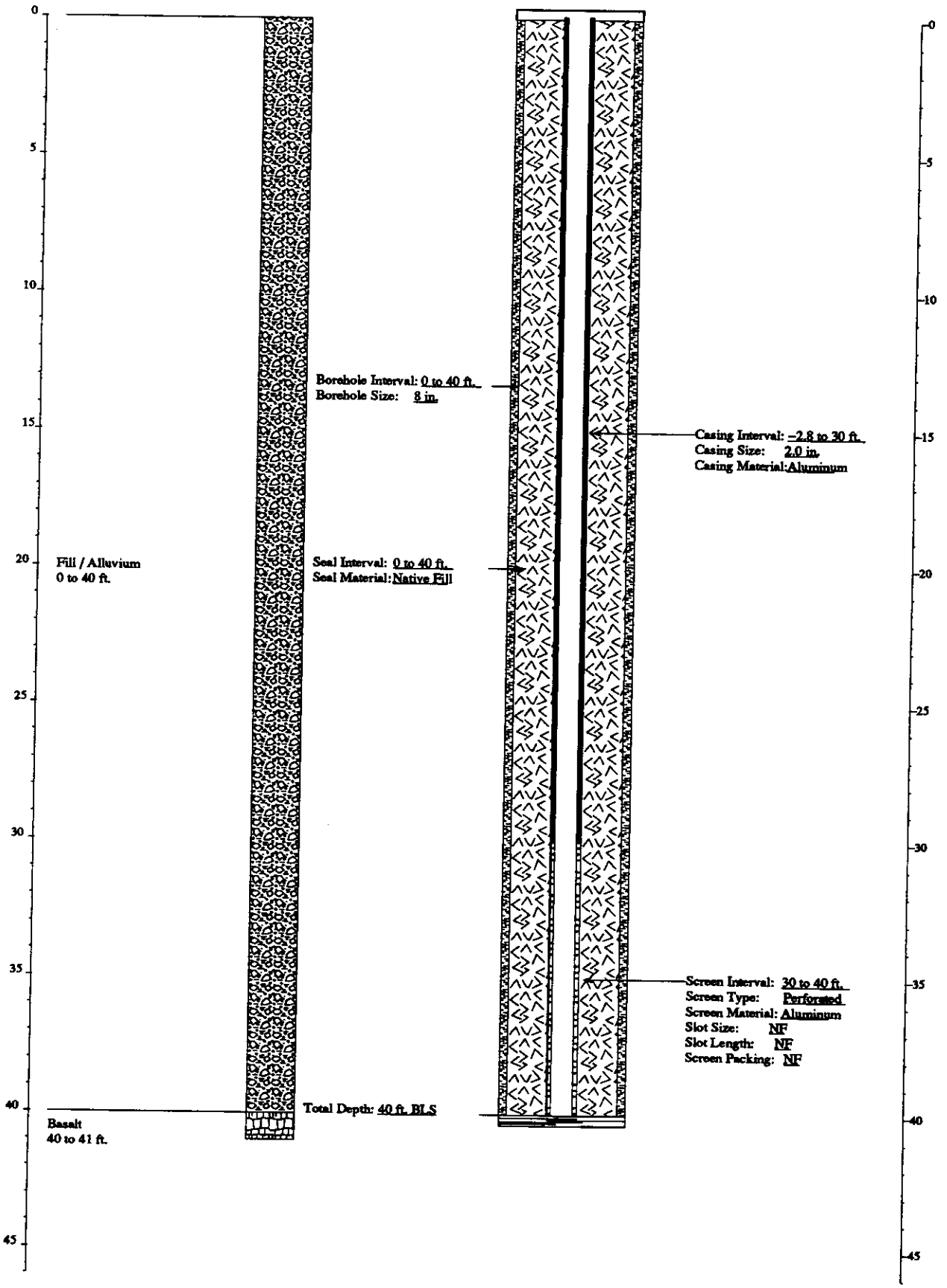
Easting: 296911.4
Northing: 695517.2
Longitude: 1125558.744
Latitude: 433421.402
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: 4919.0

08/15/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF

Locking Cap: Yes



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A59

A. WELL/BORING USE

1) Year drilled: 1973

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other: WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: N.F.

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 40 ft. Top of basalt = 40 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation A concrete pad was not installed because the well is located next to an underground concrete vault.

6) Based on location of well, is existing or planned surface completion adequate: (Yes _ No X) Explanation The well casing is covered by a threaded cap but should be protected with a locking cap.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ Uncertain _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch) Drilling Method Hollow stem augers

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum (1)	2	0 - 40	Threaded	21	.156	Yes

(1) The casing includes a 10-foot perforated section at the bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native Backfill	0 - 40	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located south of the ICPP Tank Farm and is completed at the base of the alluvium, which is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) _

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the well is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-A59

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: No Documented Use/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is located south of the ICPP Tank Farm. It is completed in the alluvium and is designed to monitor perched water on the top of basalt. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well is not sealed, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. A concrete pad was not installed because the well is located next to an underground concrete vault.

Remediation: The well casing is covered by a threaded cap but should be protected with a locking cap.

GEOLOGIC LOG

Well Name CPP-A59

Source: Field Log

****

Interval (feet below surface)

Begin	End	Description
0	40	Surficial Sediments
40		Basalt

COMPILED BY/ORGANIZATION: J.M. Sabel / GAI Date 28 Aug. 1992

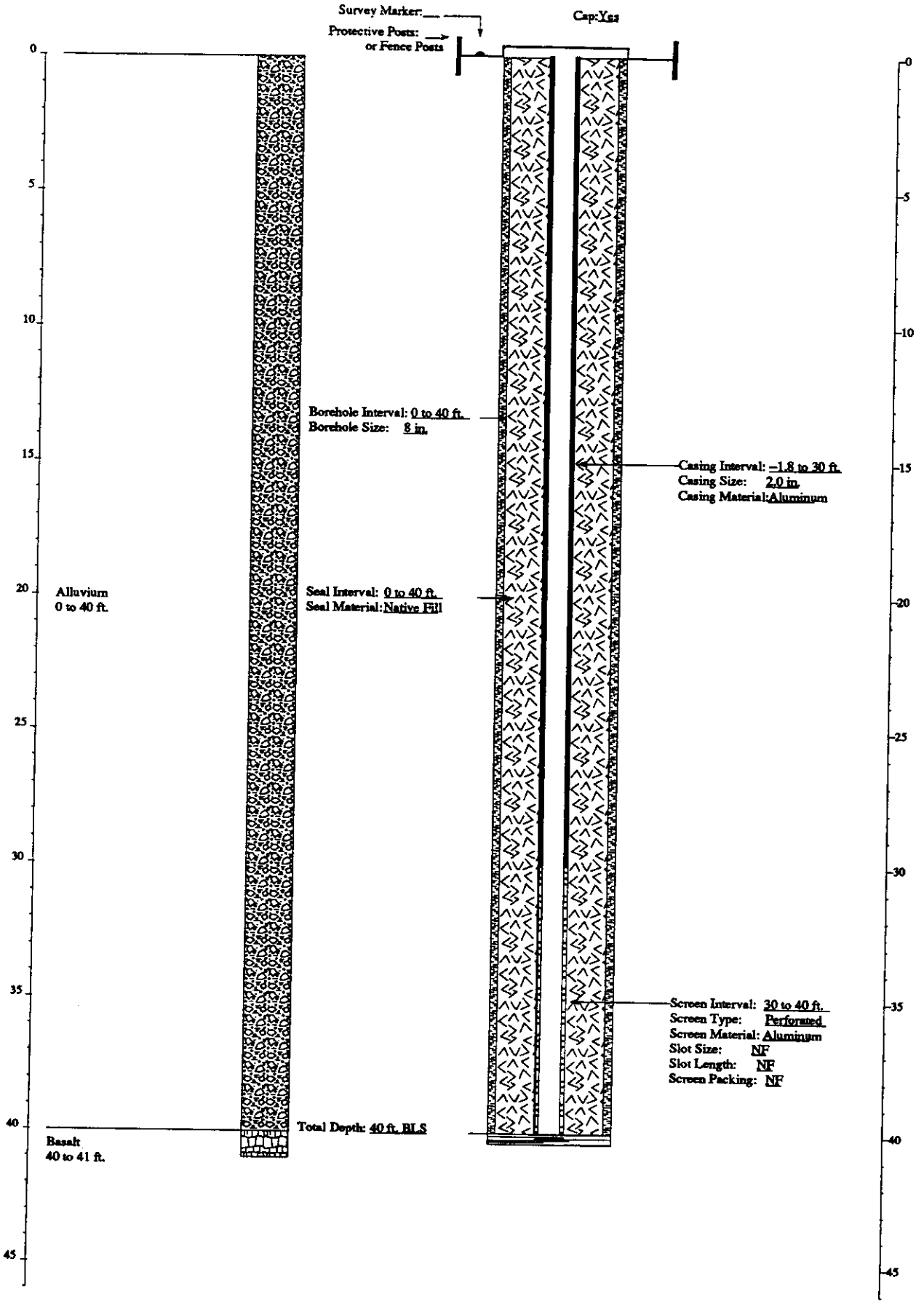
WellName: CPP-A59

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: NF
Total Depth: 40

Easting: 297016.5
Northing: 695364.0
Longitude: 1125557.298
Latitude: 433419.898
Completion Depth: NF

Driller: USGS
Geologist: NF
Drilling Method: NF
Drilling Fluid: NF
Land Surface: 4915.8

08/15/1993
Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-B2

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other :WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: Radioactivity in the alluvium

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
(X) Scientific Instrumentation
  (X) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 13 ft. Top of basalt = N.F. ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
(X) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The monitoring port is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The monitoring port is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ Uncertain X)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No X N/A Borehole size 2-inch Casing size 2-inch)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Stainless steel (1)	2 I.D or O.D.?	0 - 13	N.F.	17	N.F.	N.F.

(1) The pipe has no perforations and is capped at the top and bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
None	N/A	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The monitoring port is completed in the alluvium. The base of the alluvium is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) See Section c above.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the monitoring port is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Ken Taylor, WINCO (Oct. 1992 and Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: EG&G Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- (X) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The monitoring port is constructed of 2-inch unperforated stainless steel pipe capped at the bottom and top. It was installed in a borehole that was about the same diameter as the casing. The port is used for monitoring radioactivity in the alluvium at the ICPP tank farm and should not be considered a well as defined by the State of Idaho.

Deficiencies: Although, the surface completion of the monitoring port was not upgraded, it is located in a contaminated soil area and the installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-B2

Source: Construction Data

****

Interval (feet below surface)

Begin	End	Description
0	13	Alluvium

COMPILED BY/ORGANIZATION: T.J. Clement / GAI Date August 18, 1992

WellName: CPP--B2

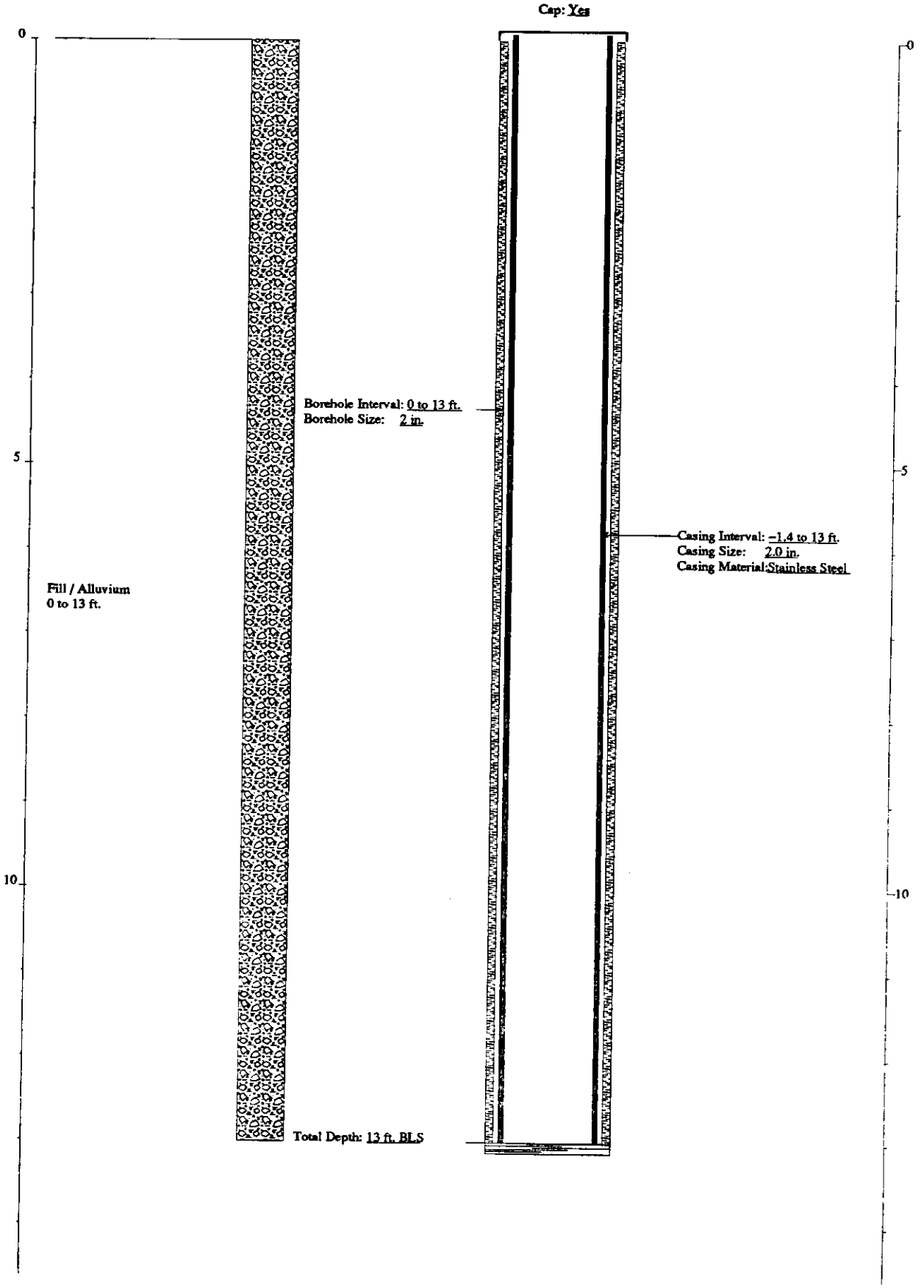
06/13/1993

Facility: CPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: NF
Total Depth: 13

Easting: 297061.8
Northing: 695604.4
Longitude: 1125556.712
Latitude: 433422.277
Completion Depth: NA

Driller: NF
Geologist: NF
Drilling Method: Percussion Hammer
Drilling Fluid: NF
Land Surface: 4918.1

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. CPP-B7

A. WELL/BORING USE

1) Year drilled: N.F.

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) USGS Observation
( ) No Documented Use
(X) Other :WINCO plans to use after their program plan is updated.

3) Constituents monitored currently: Radioactivity in the alluvium

4) Water level monitored: (Yes _ No _ N/A X)

5) Is the well/boring used for USGS observation: (Yes _ No X)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: WINCO / Ken Taylor

B. WELL/BORING INFORMATION

1) Construction Category
( ) Surface Percolation Well
( ) Gas Port
( ) Neutron Access Port
(X) Scientific Instrumentation
  (X) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 19 ft. Top of basalt = N.F. ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
(X) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
   Explanation The monitoring port is located within the ICPP tank farm, which is a contaminated soil area. Also, the installation of the surface upgrade might puncture the tank farm liner which is located about 1-foot below ground.

6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation The monitoring port is located in a secured area that is fenced and locked.

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes _ No _ N/A X)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes _ No X N/A Borehole size 2-inch Casing size 2-inch)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Stainless steel (1)	2 I.D or O.D.?	0 - 19	N.F.	38	N.F.	N.F.

(1) The pipe has no perforations and is capped at the top and bottom.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
None	N/A	N/A	N/A

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The monitoring port is completed in the alluvium. The base of the alluvium is commonly the first perched interval.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) See Section c above.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No _ N/A X) Explanation Since the monitoring port is completed in permeable alluvium, it should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal communication, Ken Taylor, WINCO (Oct. 1992 and Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: EG&G Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- (X) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The monitoring port is constructed of 2-inch unperforated stainless steel pipe capped at the bottom and top. It was installed in a borehole that was about the same diameter as the casing. The port is used for monitoring radioactivity in the alluvium at the ICPP tank farm and should not be considered a well as defined by the State of Idaho.

Deficiencies: None. The surface completion of the monitoring port was not upgraded because it is located in a contaminated soil area. Also, installation of the upgrade might puncture the tank farm liner which is located about 1-foot below ground.

Remediation: None

GEOLOGIC LOG

Well Name CPP-B7

Source: Construction Data

****

Interval (feet below surface)

Begin	End	Description
0	19	Alluvium

COMPILED BY/ORGANIZATION: T.J. Clement / GAI Date August 18, 1992

WellName: CPP-B 7

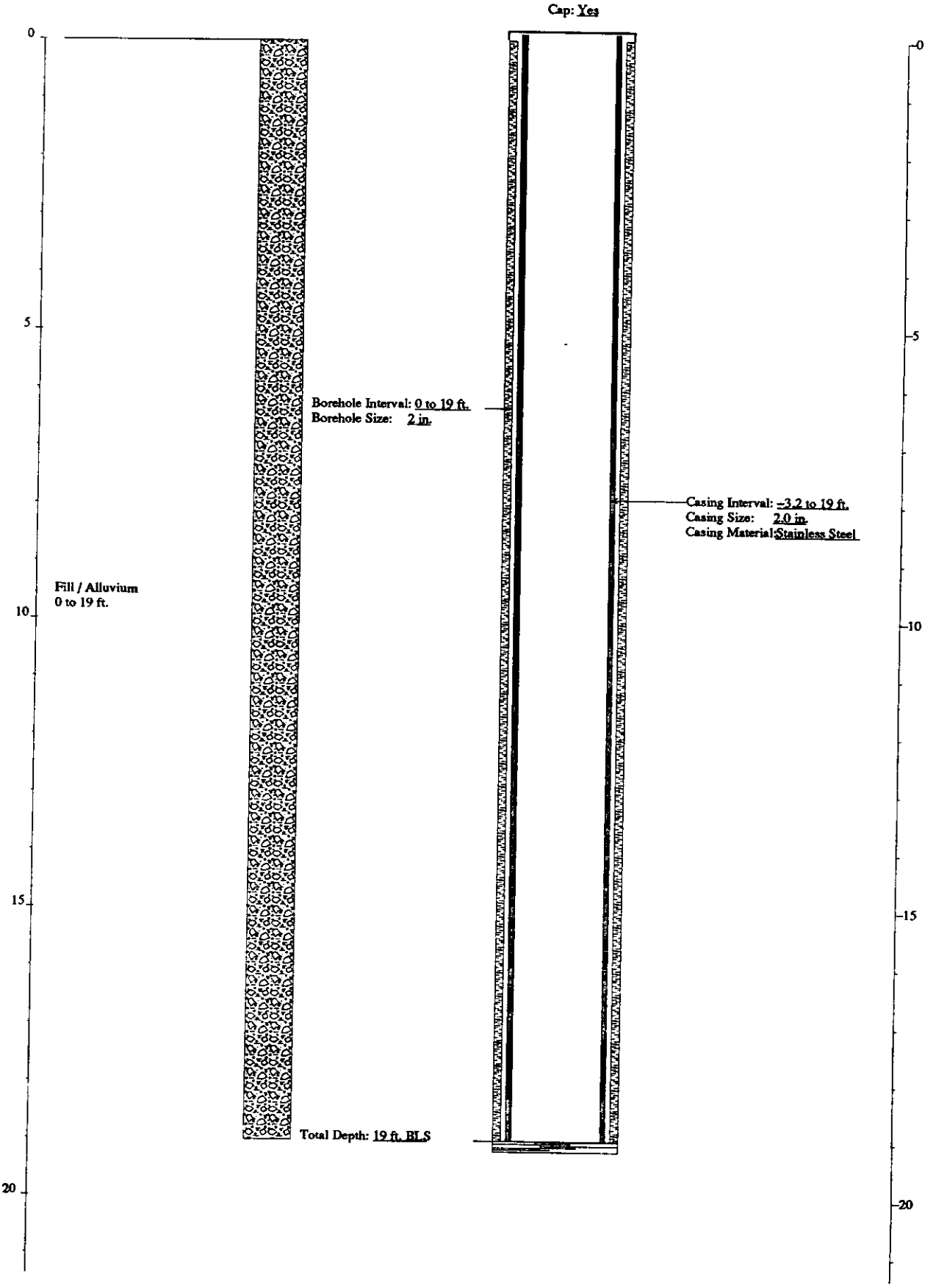
06/13/1993

Facility: CPP
Well Type: Scientific Instrumentation
Well Status: Active
Year Drilled: NF
Total Depth: 19

Easting: 297109.7
Northing: 695730.4
Longitude: 1125556.078
Latitude: 433423.525
Completion Depth: NA

Driller: NF
Geologist: NF
Drilling Method: Percussion Hammer
Drilling Fluid: NF
Land Surface: 4916.3

Water Level: NA
Water Level Date: NA
Water Level Access: NA



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. PW-1

A. WELL USES

1) Year well was drilled: 1986

2) Current use for well:
(X)DOE 5400.1 Monitoring
( )RCRA Monitoring (X)USGS Observation
(X)CERCLA Characterization ( )No Documented Use
( )Other: _

3) Constituents monitored currently: USGS Observation - ^{3}H, ^{90}Sr, Cl, Gamma Spec., Na; DOE 5400.1 and CERCLA - pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, Se, F, Nitrate, Endrine, Methoxychlor, Toxaphene, Herbicides, Gross Alpha, Gross Beta, Fe, Mn, Na, phenols, Cl, Sulfate

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 and CERCLA - EG&G (WAG 3) / Dee Williamson and WINCO / Ken Taylor; USGS Observation - USGS / Larry Mann

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)

2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No X N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _) Explanation Protective posts are unnecessary since the well is located in an aluminum wellhouse.

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 12 inch Casing size 10 inch I.D.) Explanation: Since the recorded borehole size is usually the auger or bit size, the actual borehole is larger than the size specified in most cases.

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Carbon Steel (surface casing)	10 inch I.D.	0 to 32 feet	Welded	N.F.	.25 inch	Yes
Carbon Steel (1)	6 inch I.D.	0 to 100	Welded	17	.25 inch	Yes

(1) Casing perforated from 100 to 120 feet bls.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 32 (Surface Seal)	N.F.	Yes
Cement	0 - about 88 (well casing seal)	N.F.	Yes
Bentonite Pellets	about 88 - 90	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented X

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located about 125 feet west of the ICPP percolation ponds. It monitors perched waters at about 70 feet bls.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well drilling report indicates that water was encountered at 31 feet bls at the base of the alluvium.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is adequately sealed to prevent groundwater movement within the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation The annular space above the gravel pack is sealed with bentonite pellets and cement grout.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes _ No _ No documentation X)

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

	Material
Casing	Carbon Steel
Screen	Perforated Carbon Steel Casing (100 - 120 feet bls)
Pump	Portable Stainless Steel
Discharge Pipe	Tygon

Explanation Tygon and stainless steel are acceptable for compliance/detection monitoring. EGG-ER-8496 documents that no significant difference (95% level) existed between the metal concentrations in the groundwater from wells constructed of stainless steel and carbon steel at the RWMC.

4) Is the screen factory fabricated: (Yes _ No X No screen _) Type Perforated carbon steel casing

5) Is the monitoring interval adequate to detect the contaminants of concern,,.e. "floaters", "sinkers" or dissolved constituents (Yes X No _) Explanation Since the perched water level occurs above the perforations, the well monitors only dissolved constituents.

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No X) or does the well monitor more than one type of lithology: (Yes X No _) Monitoring interval 90 to 120 feet bls. Although, the well monitors a 30-foot interval, it crosses a 5-foot silt and clay interbed and therefore may not monitor a discrete zone.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes _ No _ Uncertain X N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A_) Filter pack type 0.25 to 0.5-inch gravel Filter pack interval 90 to 120 feet bls (extends 10 feet above the perforated casing)

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented X) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Uncertain/Not Documented X) Well development type and duration The well was developed with a pump for 1 hour according to the USGS site schedule.

9) Is the pump intake location documented: (Yes X No _) Depth 105 feet

10) Does the pump type collect representative ground-water samples: (Yes _ No _ Not Documented _) Type Portable Redi-Flow-2 Submersible Explanation EGG-WM-9787 documents that submersible pumps, gas piston pumps and bailers produced nearly equal results for selected volatile organics at RWMC.

E. **THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES:** USGS 91-4166 and USGS 91-4010, EGG-WM-9787, EGG-ER-8496, Personal Communication - Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation, DOE 5400.1 and CERCLA/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The is located about 125 feet west of the ICPP percolation ponds and monitors perched water at about 70 feet bls. The well is adequately sealed and complies with state regulations except that the 10-inch casing stick-up was not documented, which is a minor deficiency.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: DOE 5400.1 and CERCLA/RCRA Guidelines

( ) Well complies with applicable regulations and intended use.
( ) Well complies with applicable regulations and intended use except for minor details.
(X) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with state regulations to the extent indicated in Section F. The well may not comply with RCRA guidelines because it may monitor several zones with different groundwater chemistries. The monitoring interval includes a 5-foot thick silt and clay interbed and several clay stringers. This may result in the mixture, absorption, or dilution of contaminants. Since the well is adequately constructed and monitors only a 30-foot interval, a variance should be requested before the well is used for RCRA purposes. Also, the decontamination procedures and well development were not documented, which are minor deficiencies.

Remediation: None

GEOLOGIC LOG

Well Name PW-1

Source: USGS Generalized Lithologic Log

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Interval (feet below surface)

Begin	End	Description
0	32	Gravel and Sand
31	105	Basalt
105	110	Silt and Clay
110	120	Basalt with Clay Stringers

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 20, 1992

WellName: PW-1

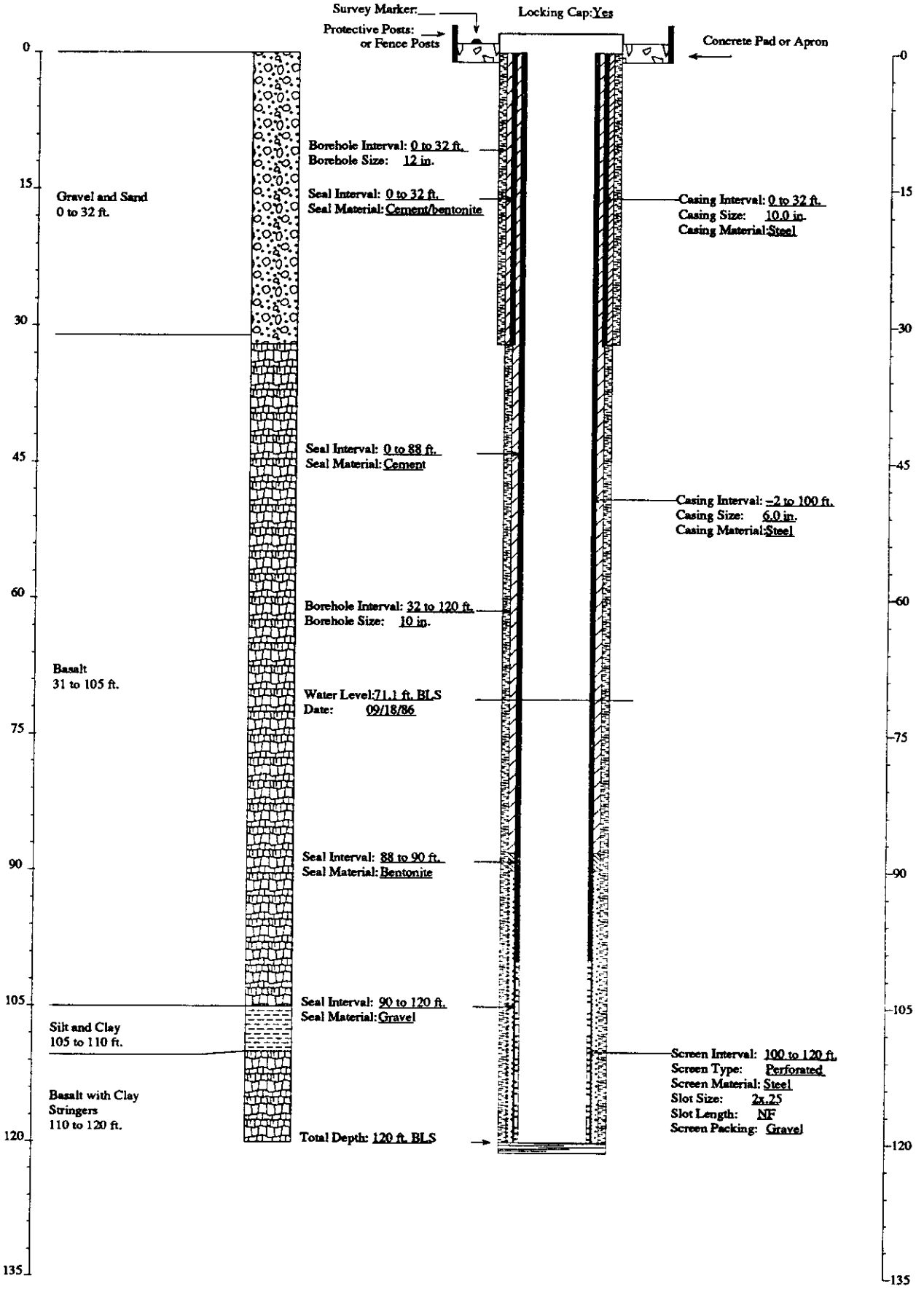
06/30/1993

Facility: CPP
Well Type: Monitoring Well
Well Status: Active
Year Drilled: 1986
Total Depth: 120

Easting: 497556.65
Northing: 816073.43
Longitude: 1124606.540
Latitude: 435415.519
Completion Depth: 120

Driller: Denning
Geologist: NF
Drilling Method: Air rotary
Drilling Fluid: NF
Land Surface: 4900.67

Water Level: 71.1
Water Level Date: 09/18/86
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. PW-2

A. WELL USES

1) Year well was drilled: 1987

2) Current use for well:
(X)DOE 5400.1 Monitoring
( )RCRA Monitoring
(X)CERCLA Characterization
( )Other: _
(X)USGS Observation
( )No Documented Use

3) Constituents monitored currently: USGS Observation - ^{3}H, ^{90}Sr, Cl, Gamma Spec., Na; DOE 5400.1 and CERCLA - pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, F, Nitrate, Endrine, Methoxychlor, Toxaphene, Herbicides, Gross Alpha, Gross Beta, Fe, Mn, Na, phenols, Cl, Sulfate

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 and CERCLA - EG&G (WAG 3) / Dee Williamson and WINCO / Ken Taylor; USGS Observation - USGS / Larry Mann

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)

4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 12 inch Casing size 10 inch I.D.)

Explanation: Since the recorded borehole size is usually the auger or bit size, the actual borehole is larger than the size specified in most cases.

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (surface casing)	10 inch I.D.	0 - 21	N.F.	0	0.25 inch	Yes
Carbon Steel [1]	6 inch I.D.	0 - 131	Welded	18	0.25 inch	Yes
[1] Casing perforated from 111 to 131 feet bls						

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 21 (Surface Casing seal)	N.F.	Yes
Cement Grout	0 - about 97 (Well Casing Seal)	N.F.	Yes
Bentonite Pellets	About 97 - 101	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented X

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located south of the ICPP percolation ponds and monitors perched water at about 96 feet bls.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well driller's report indicates that water was encountered between 30 and 105 feet below ground surface. Additionally, perched water was encountered at the top of bedrock in well PW-1 located approximately 900 feet to the northwest.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is sealed adequately to prevent the movement of groundwater within the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation The annulus above the gravel pack is sealed with bentonite pellets and cement grout.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes _ No _ No documentation X)

2) Were drilling additives us (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

Material

Casing Carbon Steel Casing
Screen Perforated Carbon Steel Casing (111 - 131 feet bls)
Pump Stainless Steel
Discharge Pipe 0.5-inch Stainless Steel
Explanation Stainless steel is acceptable for compliance/detection monitoring. EGG-ER-8496 documents that no significant difference (95% level) existed between metal concentrations in the groundwater from wells constructed of carbon steel and stainless steel at RWMC.

4) Is the screen factory fabricated: (Yes _ No X No screen _) Type Steel casing with 0.25 X 2-inch perforations

5) Is the monitoring interval adequate to detect the contaminants of concern,,.e. "floaters", "sinkers" or dissolved constituents (Yes X No _) Explanation Since the perched water level occurs above the perforated casing, the well monitors only dissolved constituents.

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No X) or does the well monitor more than one type of lithology: (Yes X No _) Monitoring interval 101 to 131 feet bls. Although the well monitors a 30-foot interval, it crosses a 15-foot thick clay and silt interbed and therefore may not monitor a discrete zone.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes _ No _ Uncertain X N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A_) Filter pack type 0.25 to 0.5-inch diameter gravel Filter pack interval 101 to 131 feet bls (extends 10 feet above perforations)

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented X) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented X) Well development type and duration The well was pumped for 1 hour.

9) Is the pump intake location documented: (Yes X No _) Depth 115 feet

10) Does the pump type collect representative groundwater samples: (Yes X No _ Not Documented _) Type Redi-Flow-2 Submersible Explanation EGG-WM-9787 documents that gas piston pumps, submersible pumps and bailers produced nearly equal results for selected volatile organics at TAN.

E. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: EGG-ER-8496, EGG-WM-9787, Personal Communication - Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation, Proposed for DOE 5400.1 and CERCLA/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located south of the ICPP percolation ponds and monitors perched water at about 96 feet bls. It is adequately sealed and complies with state regulations except that the 10-inch casing joint type was not documented, which is a minor deficiency. Although the 10-inch casing has no stick-up, the well is adequately sealed against surface contamination.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: DOE 5400.1 and CERCLA/RCRA Guidelines

( ) Well complies with applicable regulations and intended use.
( ) Well complies with applicable regulations and intended use except for minor details.
(X) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well does not comply with state regulations to the extent indicated in Section F. The well may not comply with RCRA guidelines because it may monitor several zones with different groundwater chemistries. The monitoring interval includes a 15-foot thick clay and silt interbed which may result in the mixture, dilution, or absorption of contaminants. Since the well is otherwise adequately constructed and monitors only a 30-foot interval, a variance should be requested before the well is used for RCRA purposes. Also, the decontamination procedures and the well development were not documented, which are minor deficiencies.

Remediation: None

GEOLOGIC LOG

Well Name PW-2

Source: USGS Generalized Lithologic Log

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Interval (feet below surface)

Begin	End	Description
0	21	Gravel and Sand
21	85	Basalt
85	90	Dense Basalt
90	105	Basalt
105	120	Clay and Silt
120	131	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 21, 1992

WellName: PW-2

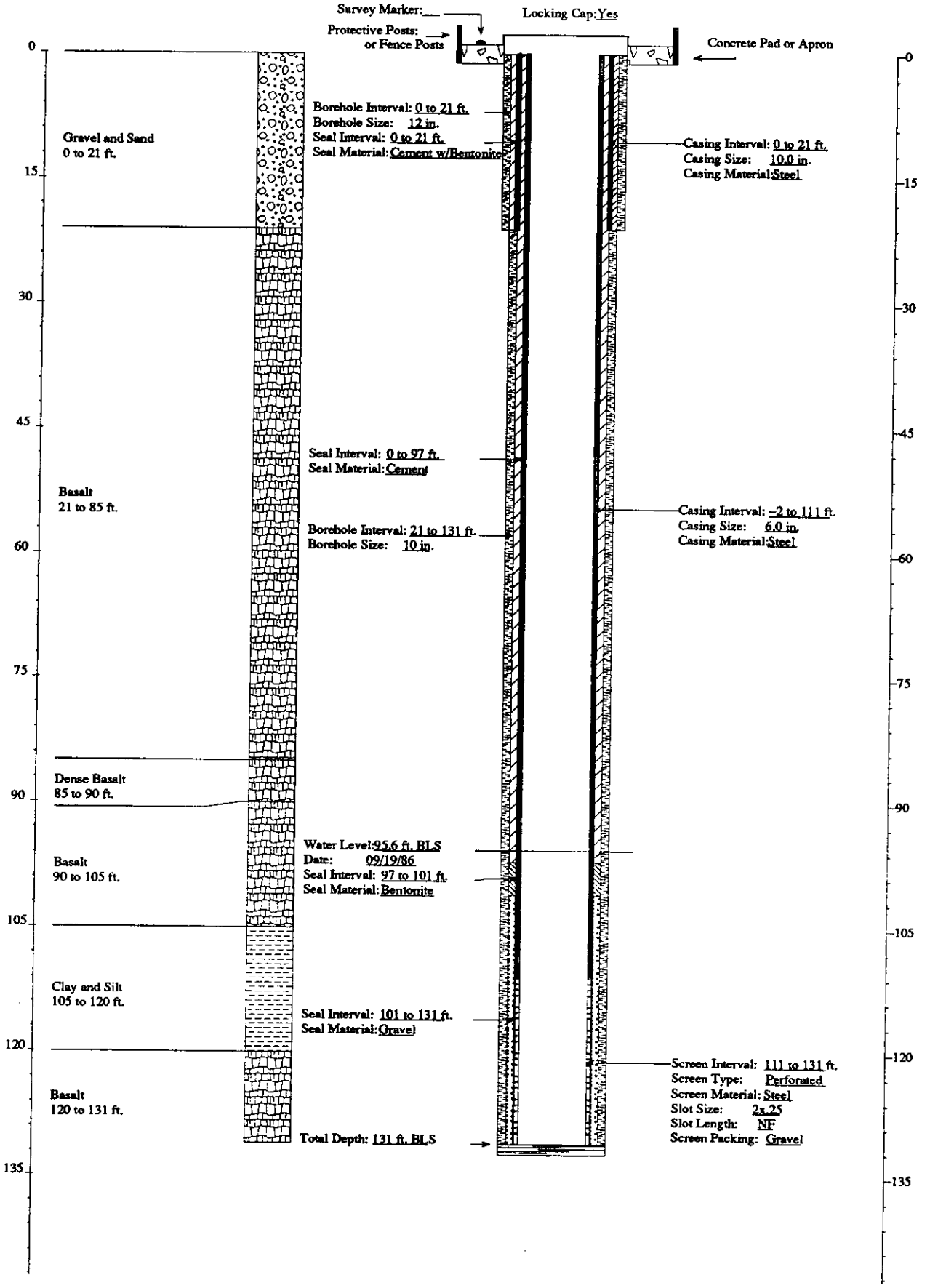
07/01/1993

Facility: CPP
Well Type: Monitoring Well
Well Status: Active
Year Drilled: 1987
Total Depth: 131

Easting: 499956.91
Northing: 816374.80
Longitude: 1124533.785
Latitude: 435418.667
Completion Depth: 131

Driller: Denning
Geologist: NF
Drilling Method: Air rotary
Drilling Fluid: NF
Land Surface: 4896.29

Water Level: 95.6
Water Level Date: 09/19/86
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. PW-3

A. WELL USE

1) Year well was drilled: 1986

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring (X)USGS Observation
( )CERCLA Characterization ( )No Documented Use
( )Other: _

3) Constituents monitored currently: USGS Observation - ^{3}H, ^{90}Sr, Cl, Gamma Spec., Na

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/Contact person: USGS / Larry Mann

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:
(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 12 inch Casing size 10 inch I.D.)
Explanation: Since the recorded borehole size is usually the auger or bit size, the actual borehole is larger than the size specified in most cases.

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (surface casing)	10 inch I.D.	0 - 29	Welded	0	0.25	Yes
Steel [1]	6 inch I.D.	0 - 123	Welded	18	0.25	Yes

[1] Casing perforated from 103 to 123 feet bls.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 29 (Surface casing seal)	N.F.	Yes
Cement Grout	0 - about 90 (well casing seal)	N.F.	Yes
Bentonite Pellets	About 90 - 93 feet	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented X

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located about 70 feet north of an ICPP percolation pond and monitors perched groundwater at a depth of about 120 feet bls.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well driller's report indicates that perched water was encountered from 120 to 125 feet bls. However, perched water was encountered at the top of bedrock in well PW-1, which is about 750 feet west.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing is adequately sealed to prevent groundwater movement within the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation The annulus above the gravel pack is sealed by bentonite pellets and cement grout.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes _ No _ No documentation _) Explanation _

2) Were drilling additives used: (Yes _ No _ Uncertain/No documentation _) Drilling Method _ Additive(s)/Quantity _

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes _ No _)

Material

Casing _____

Screen _____

Pump _____

Discharge Pipe _____

Explanation _____

4) Is the screen factory fabricated: (Yes _ No _ No screen _) Type _

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes _ No _) Explanation _

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No _) or does the well monitor more than one type of lithology: (Yes _ No _) Monitoring interval _

7) Is a filter pack present: (Yes _ No _) If yes, is the filter pack comprised of chemically inert material: (Yes _ No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No _ N/A_) Filter pack type _ Filter pack interval _

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented _) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented _) Well development type and duration _

9) Is the pump intake location documented: (Yes _ No _) Depth _

10) Does the pump type collect representative groundwater samples: (Yes _ No _ Not Documented _) Type _ Explanation _

E. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal Communication - Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. PW-3

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located about 70 feet north of an ICPP percolation pond and monitors perched water at about 120 feet bls. The well is adequately sealed and complies with state regulations except that the 10-inch casing has no stick-up, which is a minor deficiency.

Remediation: None

GEOLOGIC LOG

Well PW-3

Source: USGS Generalized Lithologic Log

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Interval (feet below surface)

Begin	End	Description
0	29	Gravel
29	50	Basalt
50	55	Dense Basalt
55	95	Basalt
95	100	Dense Basalt
100	105	Basalt
105	110	Sand
110	120	Silt and Clay
120	125	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 20, 1992

WellName: PW-3

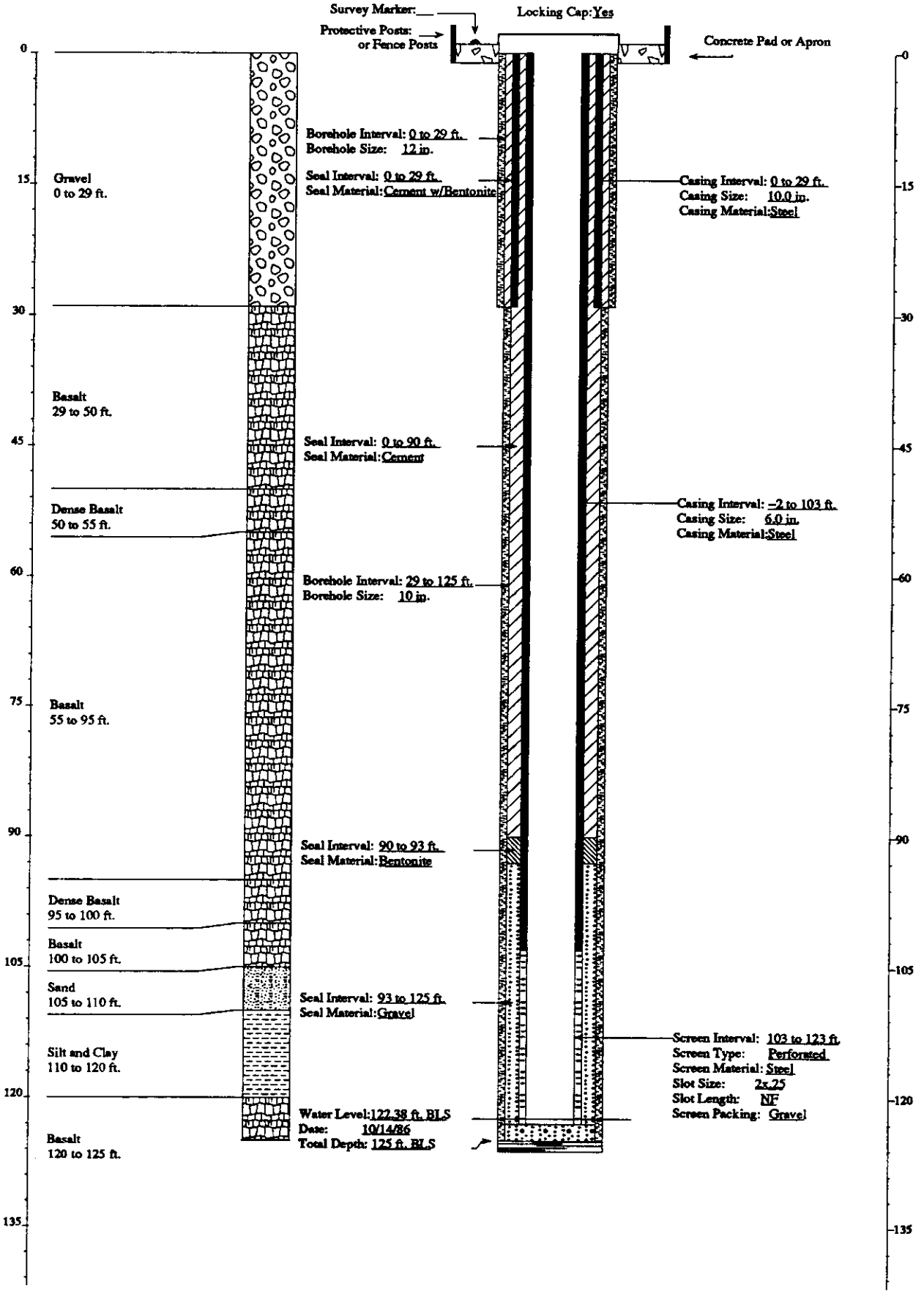
09/12/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1986
Total Depth: 125

Easting: 506755.32
Northing: 818774.88
Longitude: 1124401.150
Latitude: 435442.840
Completion Depth: 125

Driller: Deming
Geologist: NF
Drilling Method: Air rotary
Drilling Fluid: NF
Land Surface: 4890.91

Water Level: 122.38
Water Level Date: 10/14/86
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP **Well Name/No. PW-4**

A. WELL USES

1) Year well was drilled: 1986

2) Current use for well:
(X)DOE 5400.1 Monitoring
( )RCRA Monitoring (X)USGS Observation
(X)CERCLA Characterization ( )No Documented Use
( )Other: _

3) Constituents monitored currently: USGS Observation - ^{3}H, ^{90}Sr, Cl, Gamma Spec., Na; DOE 5400.1/CERCLA - pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, Se, F, Nitrate, Endrine, Methoxychlor, Toxaphene, Herbicides, Gross Alpha, Gross Beta, Fe, Mn, Na, phenols, Cl, Sulfate

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 and CERCLA - EG&G (WAG 3) / Dee Williamson and WINCO/ Ken Taylor; USGS Observation - USGS/ Larry Mann

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)

4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 12 inch Casing size 10 inch I.D.)

Explanation: Since the recorded borehole size is usually the auger or bit size, the actual borehole is larger than the size specified in most cases.

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Steel (surface casing)	10 inch I.D.	0 - 33	Welded	0	0.25	Yes
Steel [1]	6 inch I.D.	0 - 150	Welded	24	0.25	Yes

[1] Casing perforated from 110 to 150 feet bls.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 33 (Surface casing seal)	N.F.	Yes
Cement	0 - about 97 (well casing seal)	N.F.	Yes
Bentonite Pellets	about 97 - 100	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented X

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well is located about 95 feet east of the ICPP percolation ponds and monitors perched water at about 82 feet bls.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes X No _ Insufficient data _) Explanation (Qualify data/specify perched intervals if applicable) The well driller's report indicates that water was encountered during drilling between 32 and 103 feet bls. Additionally, the 1986 neutron log shows an increase in the moisture content of the sand and gravel at about 20 feet bls.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing seal is adequate to prevent groundwater movement within the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation The annulus above the gravel pack is sealed with bentonite pellets and cement grout.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes _ No _ No documentation X) Explanation _

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

Material

Casing Carbon Steel
Screen Perforated Carbon Steel Casing (110 - 150 feet bls)
Pump Stainless Steel Redi-Flo-2 Submersible
Discharge Pipe 0.5-inch Stainless Steel
Water Level Measuring Pipe Steel
Explanation Stainless steel is acceptable for compliance/detection monitoring. EGG-ER-8496 documents that no significant difference (95% level) was found between metal concentrations of the groundwater from wells constructed of carbon steel and stainless steel at the RWMC. Although steel may corrode in acidic environments, the groundwater at the INEL is not acidic.

4) Is the screen factory fabricated: (Yes _ No X No screen _) Type Perforated steel casing

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes _ No X) Explanation Since the perched water level occurs above the perforated casing, the well monitors only dissolved constituents.

6) Is the monitoring interval greater than 30 feet in length: (Yes X No _) or does the well monitor more than one type of lithology: (Yes _ No X) Monitoring interval 100 to 150 feet bls. The well monitors an interval of 50 feet which is excessive and includes several lithologies.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes _ No X Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A_) Filter pack type 0.25 to 0.5-inch diameter gravel Filter pack interval 100 to 150 feet bls (extends 10 feet above perforations)

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented X) and to the restore natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented X) Well development type and duration The USGS site schedule indicates that the well was pumped for 1 hour.

9) Is the pump intake location documented: (Yes X No _) Depth 105 feet bls

10) Does the pump type collect representative ground-water samples: (Yes _ No _ Not Documented _) Type Redi-Flo-2 submersible Explanation EGG-WM-9787 documents that bailers, gas piston pumps and submersible pumps produced nearly equal results for selected volatile organics at TAN.

E. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: EGG-ER-8496, EGG-WM-9787, Personal Communication - Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation, DOE 5400.1 and CERCLA/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located about 95 feet east of the ICPP percolation ponds and monitors perched water at about 82 feet bls. It is adequately sealed and complies with state well construction regulations except that the 10-inch casing has no stick-up, which is a minor deficiency.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: DOE 5400.1 and CERCLA/RCRA Guidelines

( ) Well complies with applicable regulations and intended use.
( ) Well complies with applicable regulations and intended use except for minor details.
(X) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with state regulations to the extent indicated above. The well may not comply with RCRA guidelines because the 50-foot monitoring interval includes a 17-foot thick silt and sand interbed and a 15-foot thick silt and clay interbed. This would normally result in the mixture, absorption or dilution of contaminants. The well is otherwise adequately constructed and is one of the few wells currently available for monitoring in this zone. Therefore, a variance should be requested before the well is used for RCRA purposes. Also, the decontamination procedures and the well development were not documented, which are minor deficiencies.

Remediation: None

GEOLOGIC LOG

Well Name PW-4

Source: USGS Well Data Memorandum dated 8/27/90

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Interval (feet below surface)

Begin	End	Description
0	32	Gravel and Sand
32	80	Basalt
80	100	Dense Basalt
100	106	Fractured Basalt and Cinders
106	123	Silt and Sand
123	132	Basalt
132	147	Silt and Clay
147	150	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 21, 1992

WellName: PW-4

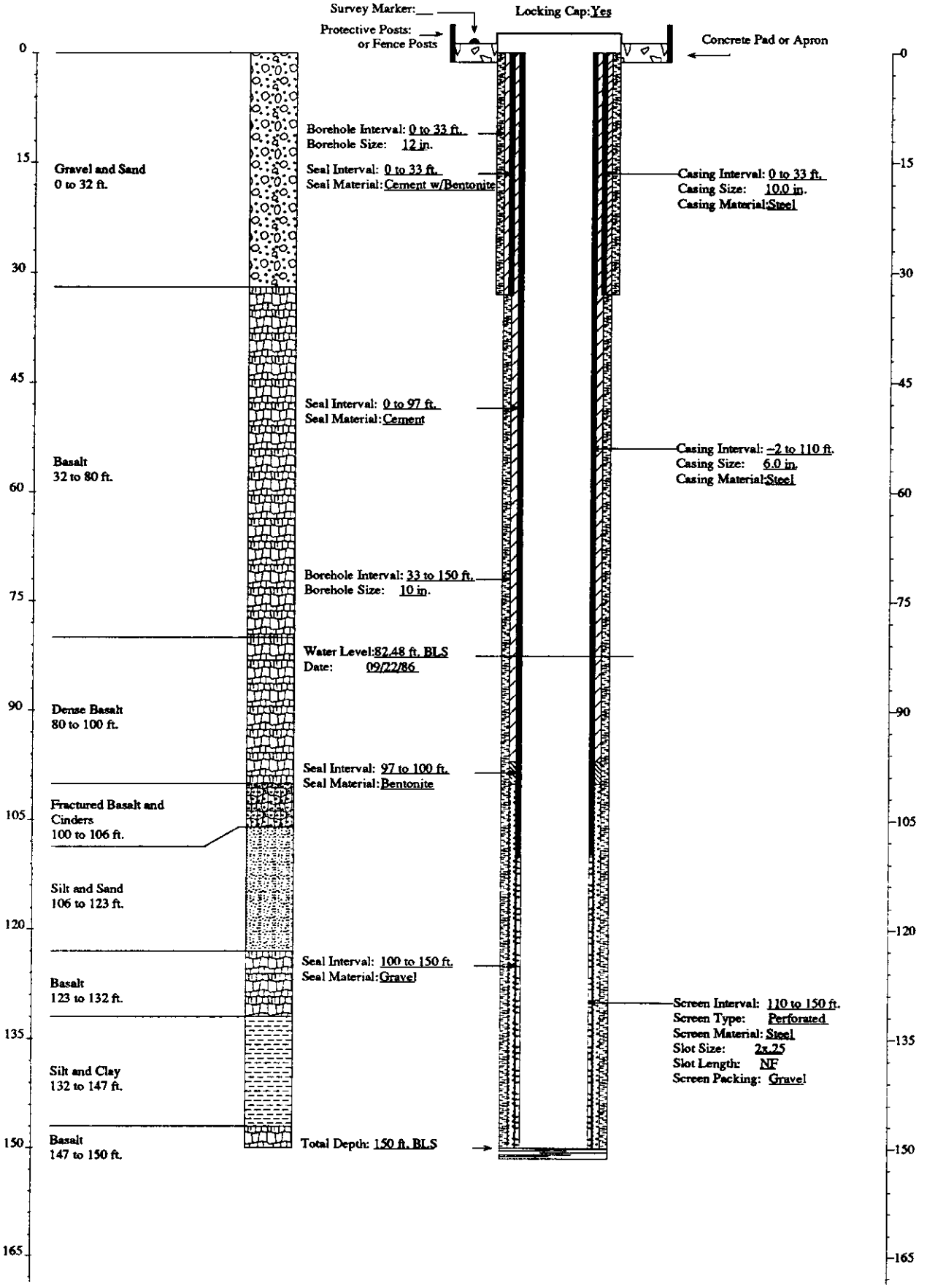
07/01/1993

Facility: CPP
Well Type: Monitoring Well
Well Status: Active
Year Drilled: 1986
Total Depth: 150

Easting: 297567.90
Northing: 692195.84
Longitude: 1125549.41
Latitude: 433348.65
Completion Depth: 150

Driller: Denning
Geologist: NF
Drilling Method: Air rotary
Drilling Fluid: NF
Land Surface: 4915.8

Water Level: 82.48
Water Level Date: 09/22/86
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP Well Name/No. PW-5

A. WELL USES

1) Year well was drilled: 1986

2) Current use for well:
(X)DOE 5400.1 Monitoring
( )RCRA Monitoring (X)USGS Observation
(X)CERCLA Characterization ( )No Documented Use
( )Other: _

3) Constituents monitored currently: USGS Observation - ^{3}H, ^{90}Sr, Cl, Gamma Spec., Na; DOE 5400.1/CERCLA - pH, specific conductance, TOC, TOX, Ba, Cd, Cr, Ag, As, Pb, Se, F, Nitrate, Endrine, Methoxychlor, Toxaphene, Herbicides, Gross Alpha, Gross Beta, Fe, Mn, Na, phenols, Cl, Sulfate.

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes X No _) If yes, specify regulating program plan: Draft Final Groundwater Monitoring Plan for the Idaho Chemical Processing Plant

7) Responsible organization/Contact person: DOE 5400.1 / CERCLA - EG&G(WAG 3) / Dee Williamson and WINCO / Ken Taylor; USGS Observation - USGS / Larry Mann

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)

4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 12 inch Casing size 10 inch I.D.)

Explanation: Since the recorded borehole size is usually the auger or bit size, the actual borehole is larger than the size specified in most cases.

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Carbon Steel (surface casing)	10 inch I.D.	0 - 30	Welded	0	0.25 inch	Yes
Carbon Steel [1]	6 inch I.D.	0 - 129	Welded	20	0.25 inch	Yes
[1] Casing perforated from 109 to 129 feet bls.						

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 30 (surface casing seal)	N.F.	Yes
Cement	0 - about 96 (well casing seal)	N.F.	Yes
Bentonite	about 96 - 99	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented X Explanation for seal emplacement _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes X No _) Explanation The well was designed to monitor perched groundwater created by the ICPP percolation ponds at a depth of approximately 66 feet bls.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No _ Insufficient data X) Explanation (Qualify data/specify perched intervals if applicable) No indication was found from the driller's report that water was encountered above the monitoring interval. However, the 1986 neutron log shows an increase in the moisture content of the sand and gravel above the basalt.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing seal is adequate to prevent groundwater movement within the annulus.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation The annular space above the gravel pack is sealed with bentonite or cement grout.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes X No _). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes _ No _ No documentation X)

2) Were drilling additives used: (Yes _ No X Uncertain/No documentation _) Drilling Method Air Rotary

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes X No _)

Material

Casing Carbon Steel
Screen Perforated Carbon Steel Casing
Pump Portable Grundfos Submersible - Stainless steel
Discharge Pipe Tygon Tubing
Explanation Tygon and stainless steel are adequate for compliance detection monitoring. EGG-ER-8496 documents that no significant difference (95% level) existed between the metal concentrations in the groundwater from wells constructed of carbon steel and stainless steel at the RWMC.

4) Is the screen factory fabricated: (Yes _ No X No screen _) Type perforated steel casing.

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes X No _) Explanation Since the perched water occurs above the monitoring interval, the well is constructed to monitor only dissolved constituents.

6) Is the monitoring interval greater than 30 feet in length: (Yes X No _) or does the well monitor more than one type of lithology: (Yes X No _) Monitoring interval 99 to 131 feet bls. The well monitors a 32-foot interval; however, it includes 2 clay layers which are 2 and 3 feet thick.

7) Is a filter pack present: (Yes X No _) If yes, is the filter pack comprised of chemically inert material: (Yes _ No _ Uncertain X N/A _) Does it extend no more than 2 feet above screen: (Yes _ No X N/A_) Filter pack type 0.25 to 0.5-inch gravel Filter pack interval 99 to 129 feet bls (extends 10 feet above perforations)

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented X) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented X) Well development type and duration The USGS site schedule notes that the well was developed with a pump for 1 hour.

9) Is the pump intake location documented: (Yes X No _) Depth feet 115 feet

10) Does the pump type collect representative groundwater samples: (Yes X No _ Not Documented _) Type Portable Grundfos Submersible Explanation EGG-WM-9787 documents that submersible pumps, gas piston pumps and bailers produced nearly equal results for selected volatile organics at TAN.

E. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: EGG-ER-8496, EGG-WM-9787, Personal Communication - Rodger Jensen, USGS (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation, 5400.1 and CERCLA/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located between the ICPP percolation ponds and monitors perched water at about 66 feet bls. It is adequately sealed and complies with state well construction regulations except that the 10-inch casing has no stick-up, which is a minor deficiency.

Remediation: None

G. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: DOE 5400.1 and CERCLA/RCRA Guidelines

( ) Well complies with applicable regulations and intended use.
( ) Well complies with applicable regulations and intended use except for minor details.
(X) Well does not meet applicable regulations, a variance must be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for intended use.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well complies with state regulations to the extent indicated above. The well may not comply with RCRA guidelines because the 32-foot monitoring interval includes two clay interbeds which are 2 and 3 feet thick. This may result in the mixture, absorption or dilution of contaminants. Since the well is otherwise adequately constructed, a variance should be requested before the well is used for RCRA purposes. Although the decontamination procedures and the well development were not documented, these are minor deficiencies.

Remediation: None

GEOLOGIC LOG

Well Name PW-5

Source: USGS Generalized Lithologic Log

****

Interval (feet below surface)

Begin	End	Description
0	30	Gravel and Sand
30	33	Clay
33	70	Basalt
70	87	Dense Basalt
87	106	Basalt
106	109	Silt and Clay
109	122	Basalt
122	124	Clay
124	131	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 21,1992

WellName: PW-5

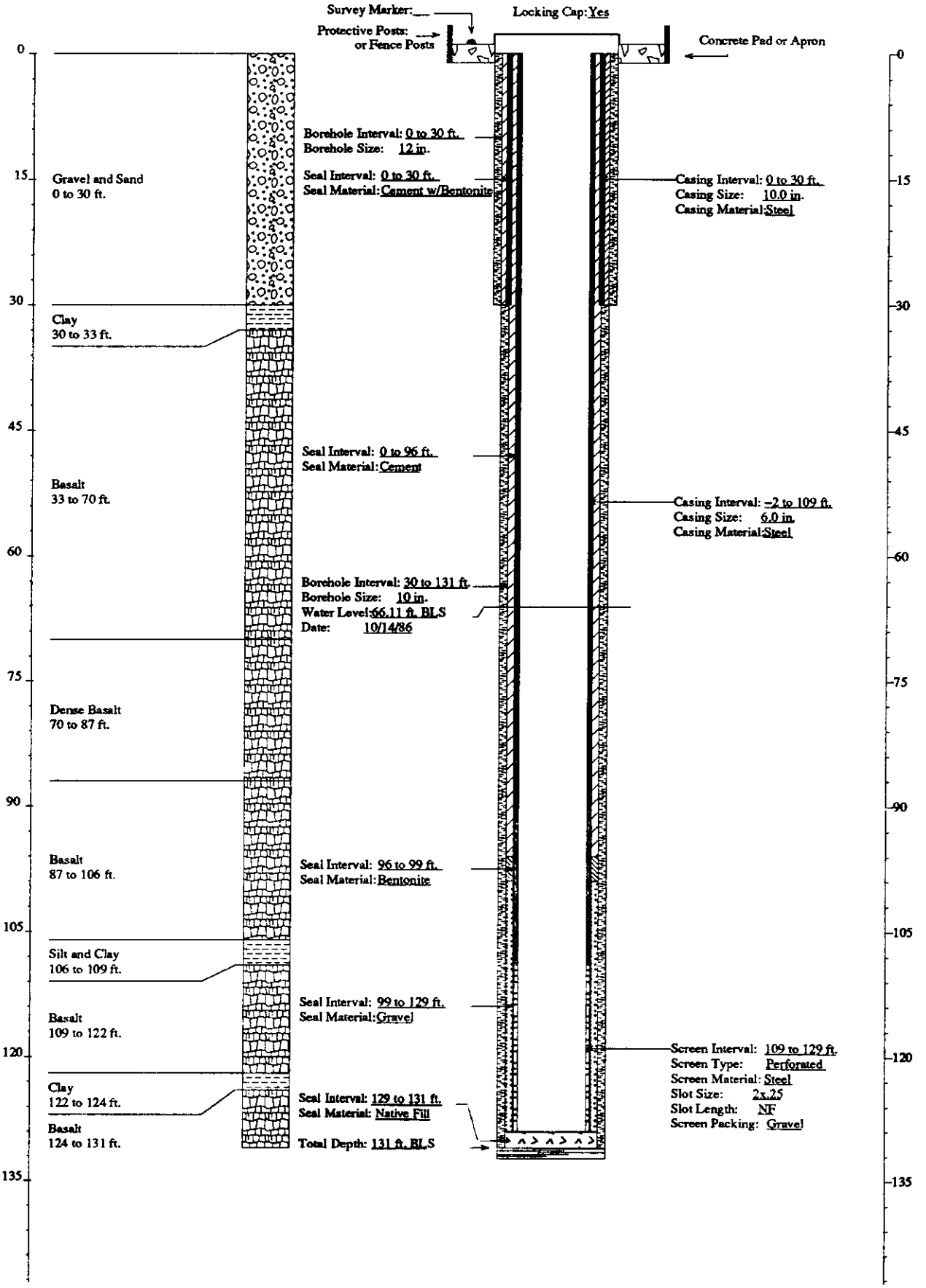
07/01/1993

Facility: CPP
Well Type: Monitoring Well
Well Status: Active
Year Drilled: 1986
Total Depth: 131

Easting: 296973.56
Northing: 692195.86
Longitude: 1125557.48
Latitude: 433348.60
Completion Depth: 129

Driller: Denning
Geologist: NF
Drilling Method: Air rotary
Drilling Fluid: NF
Land Surface: 4917.5

Water Level: 66.11
Water Level Date: 10/14/86
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR AQUIFER AND PERCHED GROUNDWATER MONITORING/OBSERVATION WELLS

LOCATION: ICPP **Well Name/No.** PW-6

A. WELL USE

1) Year well was drilled: 1986

2) Current use for well:
( )DOE 5400.1 Monitoring
( )RCRA Monitoring (X)USGS Observation
( )CERCLA Characterization ( )No Documented Use
( )Other: _

3) Constituents monitored currently: USGS Observation - ^{3}H, ^{90}Sr, Cl, Gamma Spec., Na

4) Water level monitored: (Yes X No _ Insufficient data _)

5) Is the well used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well used or proposed for compliance/detection monitoring:
(Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/Contact person: USGS / Larry Mann

B. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells are being resurveyed as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890). The project started in the summer of 1992.

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes X No _) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate:
(Yes X No _)

C. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ Insufficient Data _)
b) Access to measure water levels: (Yes X No _ Insufficient Data _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No _ N/A X)

b) If well is completed in alluvium, is borehole size at least 2 inches greater than the O.D. of casing: (Yes _ No _ N/A X
Borehole size _ Casing size _)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater:
(Yes X No _ N/A _)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to top of bedrock: (Yes X No _ Borehole size 12 inch Casing size 10 inch I.D.)
Explanation: Since the recorded borehole size is usually the auger or bit size, the actual borehole is larger than the size specified in most cases.

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Carbon Steel (surface casing)	10 inch I.D.	0 - 38	Welded	0	0.25 inch	Yes
Carbon Steel (1)	6 inch I.D	0 - 125	Welded	21	0.25 inch	Yes

(1) Casing perforated from 105 to 125 feet bls.

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Cement Bentonite Grout	0 - 38 (surface casing seal)	N.F.	Yes
Cement Grout	0 - about 92 (6-inch casing seal)	N.F.	Yes
Bentonite Pellets	about 92 - 95	N.F.	Yes

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in the alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes X No Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced (provide intervals if there was more than one grouting event): N/A _ Uncertain/not documented X

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams and spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X) Explanation The well is located about 1280 feet northwest of the ICPP percolation ponds and monitors perched water at 123 feet bls.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No _ Insufficient data X) Explanation (Qualify data/specify perched intervals if applicable) The 1986 neutron log shows an increase in the moisture content of the sand and gravel above the basalt.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: Yes, the casing seal is adequate to prevent groundwater movement within the annular space.

4) Gravel Pack. Does the well contain a gravel pack: (Yes X No _) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes X No _) Explanation The annulus above the gravel pack is sealed with bentonite pellets and cement grout.

D. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X). (If no, proceed to section E)

The State of Idaho Well Construction Regulations and INEL Best Management Practices that overlap with RCRA guidelines and regulations will not be duplicated in this section.

1) Were the drill rig, equipment, casing and screen steam cleaned before drilling and installation: (Yes _ No _ No documentation _) Explanation _

2) Were drilling additives used: (Yes _ No _ Uncertain/No documentation _) Drilling Method _ Additive(s)/Quantity _

3) Are the casing (that portion which is within the sampling interval), the screen, the pump and the pump discharge pipe constructed of nonreactive material which does not affect/interfere with chemical, physical, biological or radiological constituents of interests: (Yes _ No _)

Material

Casing _____

Screen _____

Pump _____

Discharge Pipe _____

Explanation _____

4) Is the screen factory fabricated: (Yes _ No _ No screen _) Type _

5) Is the monitoring interval adequate to detect the contaminants of concern, i.e. "floaters", "sinkers" or dissolved constituents: (Yes _ No _) Explanation _

6) Is the monitoring interval greater than 30 feet in length: (Yes _ No _) or does the well monitor more than one type of lithology: (Yes _ No _) Monitoring interval _

7) Is a filter pack present: (Yes _ No _) If yes, is the filter pack comprised of chemically inert material: (Yes _ No _ Uncertain _ N/A _) Does it extend no more than 2 feet above screen: (Yes _ No _ N/A_) Filter pack type _ Filter pack interval _

8) Has the well been developed to ensure turbid free groundwater samples, i.e. <5 NTUs: (Yes _ No _ Not Documented _) and to restore the natural hydraulic conductivity of the formation, i.e. stabilization of parameters: (Yes _ No _ Not Documented _) Well development type and duration _

9) Is the pump intake location documented: (Yes _ No _) Depth _

10) Does the pump type collect representative groundwater samples: (Yes _ No _ Not Documented _) Type _ Explanation _

E. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: Personal Communication - Rodger Jensen (Feb. 1993)

N.F. - Not Found/No Documentation
N/A - Not Applicable

F. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Well complies with applicable regulations and is acceptable for intended use.
(X) Well complies with applicable regulations except for minor construction details and is acceptable for intended use.
( ) Well does not meet applicable regulations, a variance should be obtained. If variance not obtained, remediation is required to comply with the regulations.
( ) Well does not meet applicable regulations and intended use, remediation is required.
( ) Well does not meet applicable regulations and should not be used for this purpose.
( ) Insufficient/uncertain data is available to evaluate compliance to the regulations.
( ) Abandonment, well is unneeded or cannot be remediated.

Deficiencies: The well is located about 1280 feet northwest of the ICPP percolation ponds and monitors perched water at about 123 feet bls. It is adequately sealed and complies with state regulations except that the 10-inch casing has no stick-up, which is a minor deficiency.

Remediation: None

GEOLOGIC LOG

Well Name PW-6

Source: USGS Generalized Lithologic Log

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Interval (feet below surface)

Begin	End	Description
0	34	Sand and Gravel
34	36	Clay
36	80	Basalt
80	85	Dense Basalt
85	113	Basalt
113	115	Clay and Silt
115	118	Basalt
118	124	Clay and Silt
124	130	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 21, 1992

WellName: PW-6

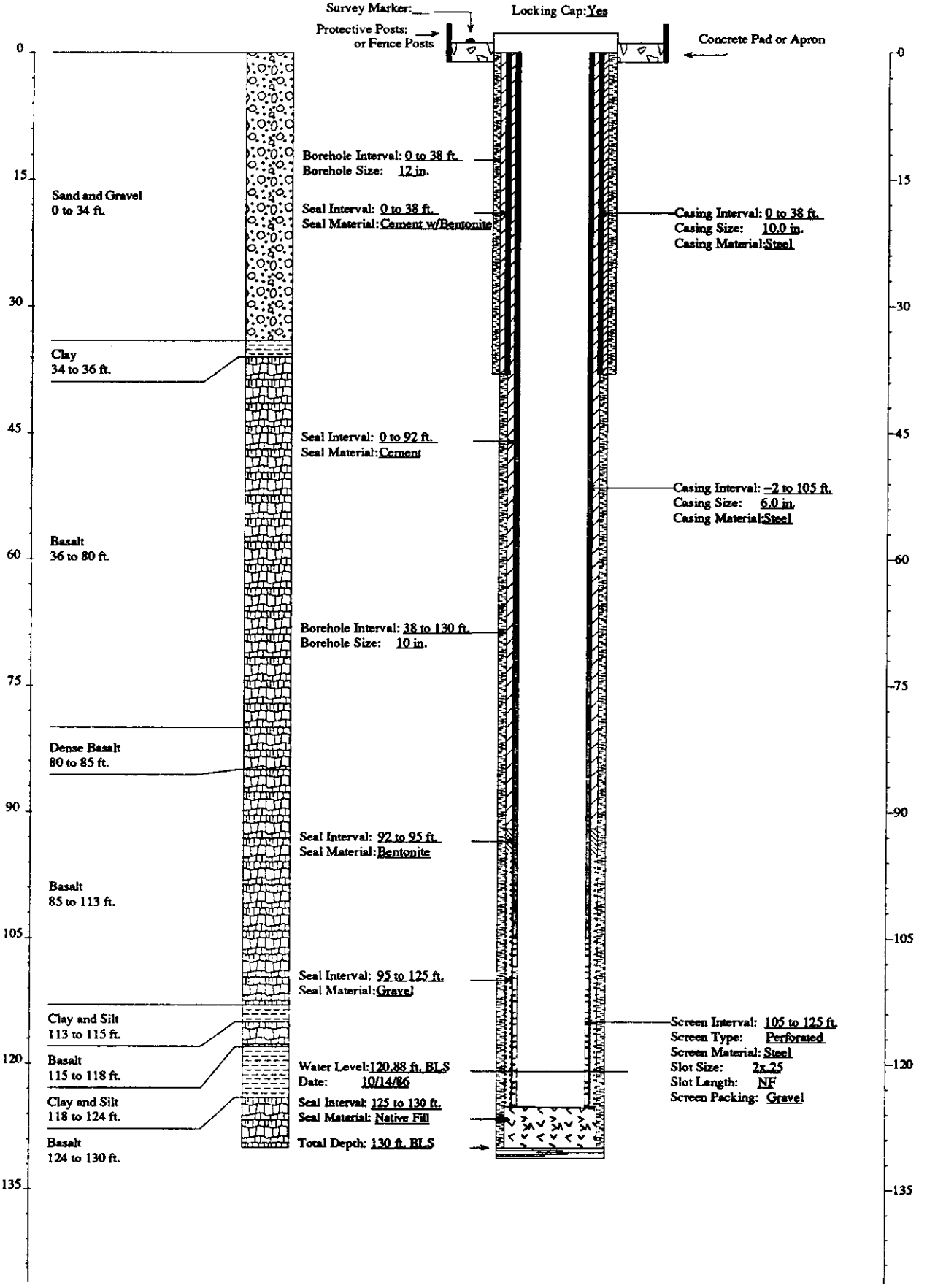
07/01/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1986
Total Depth: 130

Easting: 295145.71
Northing: 692695.46
Longitude: 1125622.37
Latitude: 433353.37
Completion Depth: 125

Driller: Denning
Geologist: NF
Drilling Method: Air rotary
Drilling Fluid: NF
Land Surface: 4921.4

Water Level: 120.88
Water Level Date: 10/14/86
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-01

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 31 ft. Top of basalt = 30.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18	Threaded	63	.156	Yes
Perforated Aluminum	2	18 - 31	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentomite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 31	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 310 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-01

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	30.5	Gravel / Sand / Silt / Clay
30.5	31	Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-01

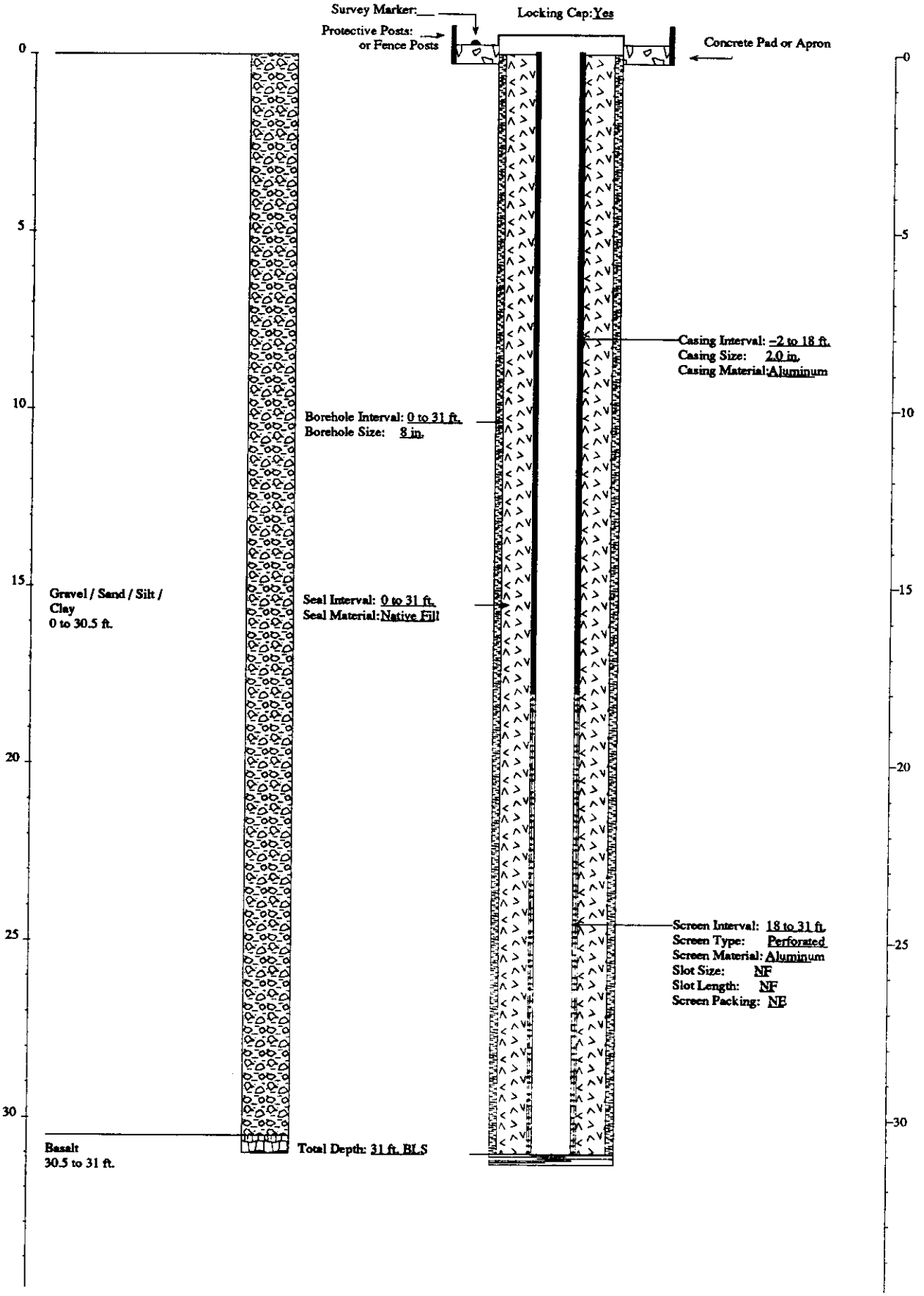
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 31

Easting: 296717.68
Northing: 692711.37
Longitude: 1125601.02
Latitude: 433353.67
Completion Depth: 31

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.16

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-01A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 30.2 ft. Top of basalt = 30.2 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 20.2	Threaded	24	.156	Yes
Perforated Aluminum	2	20.2 - 30.2	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 30.2	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 300 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-01A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	30.2	Surficial Sediments
30.2		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP--01A

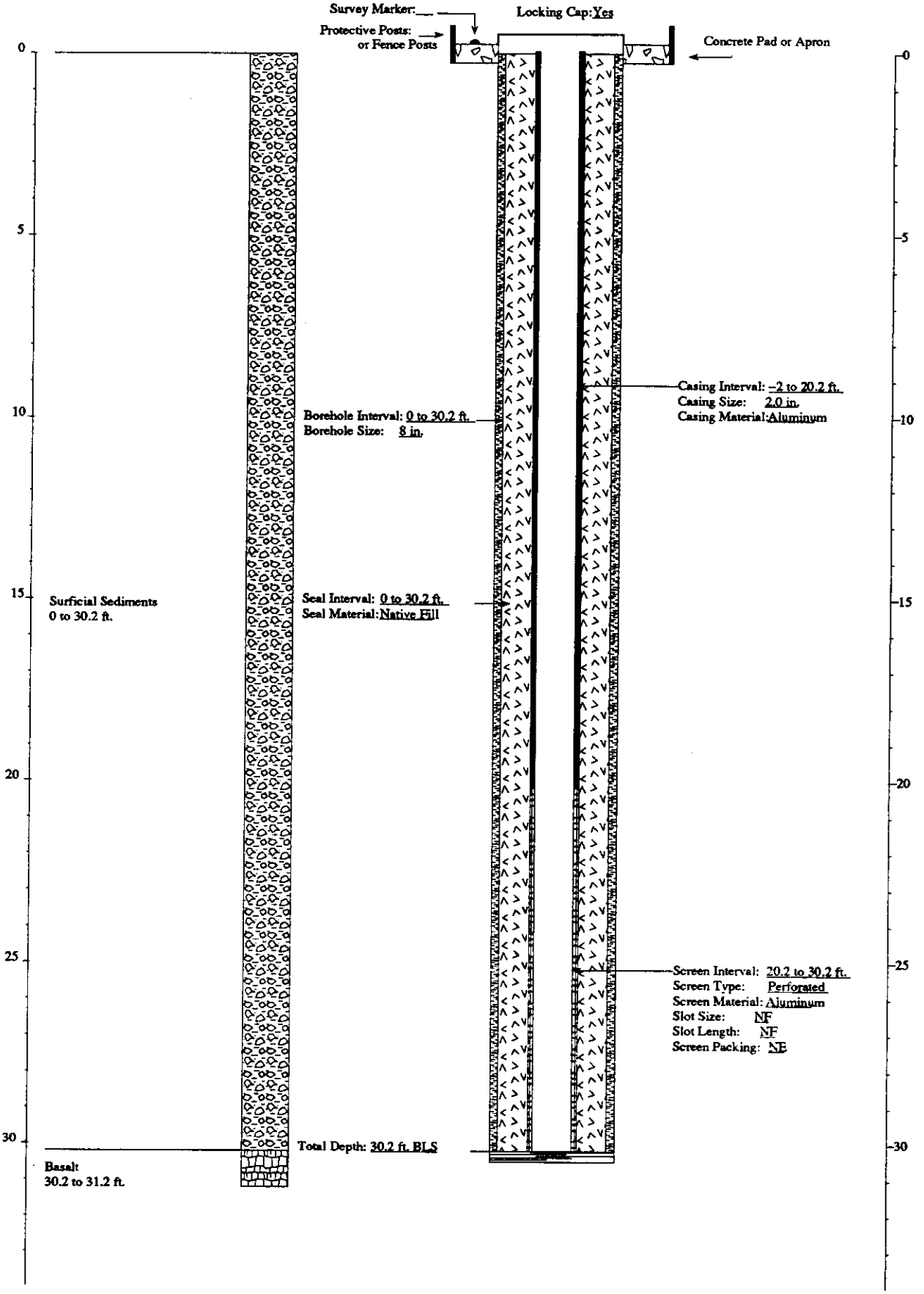
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 30.2

Easting: 296560.15
Northing: 692698.32
Longitude: 1125603.16
Latitude: 433353.53
Completion Depth: 30.2

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.79

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-02

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 35.5 ft. Top of basalt = 35.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18.5	Threaded	23	.156	Yes
Perforated Aluminum	2	18.5 - 35.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 35.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 310 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-02

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	2	Silt with Gravel
2	9	Silt and Gravel
9	15	Gravel / Minor Silty Sand
15	24	Gravel and Silty Sand
24	27	Gravel / Minor Silty Sand
27	35.5	Gravel with Sand
35.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-02

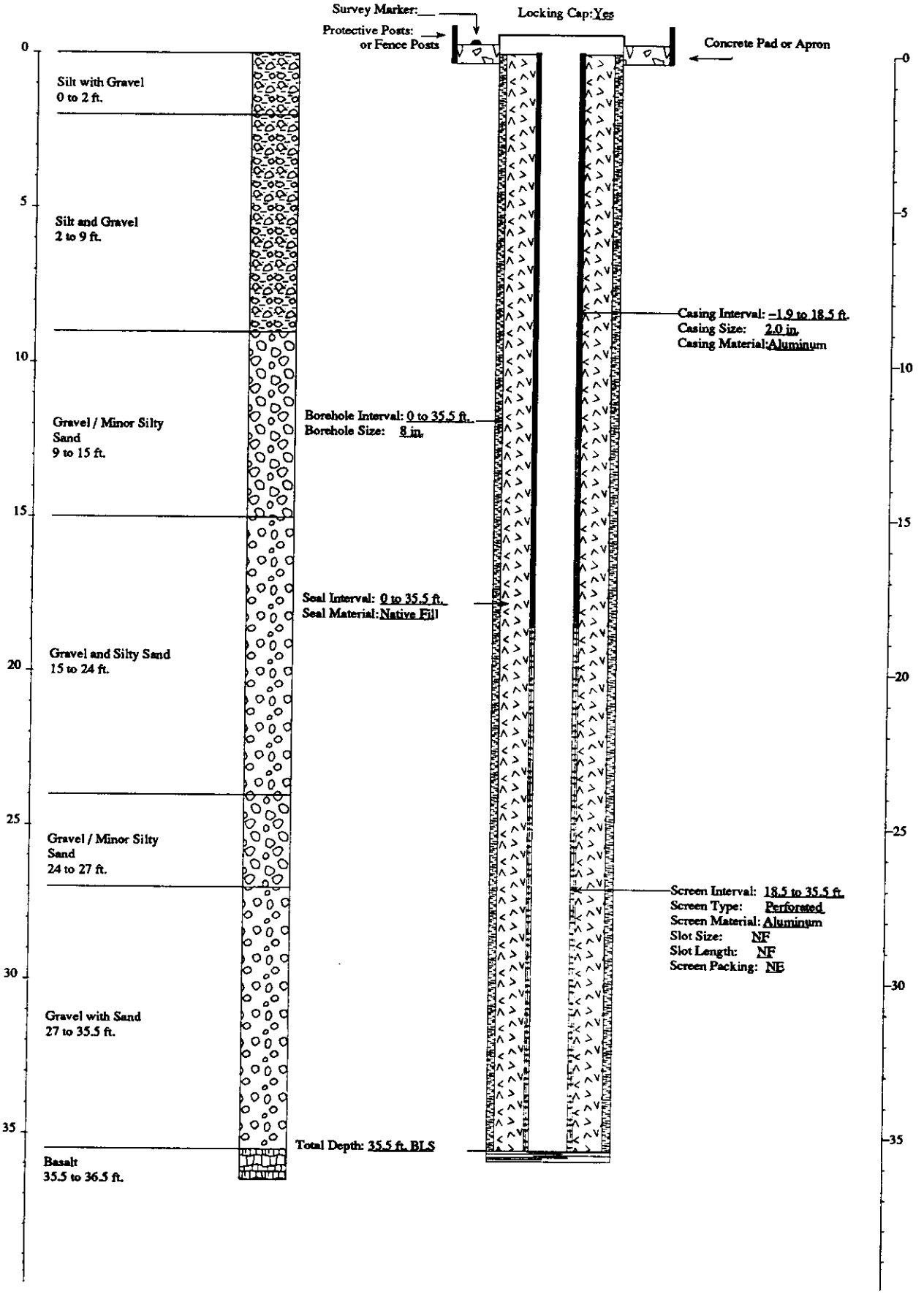
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 35.5

Easting: 297103.19
Northing: 692696.83
Longitude: 1125555.79
Latitude: 433353.57
Completion Depth: 35.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4915.52

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-02A

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg 3,12,1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 31.2 ft. Top of basalt 31.2 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-02A

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-02A

Source: Table of SWPP Wells

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Interval (feet below surface)

Begin	End	Description
0	31.2	Alluvium
31.2		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-02A

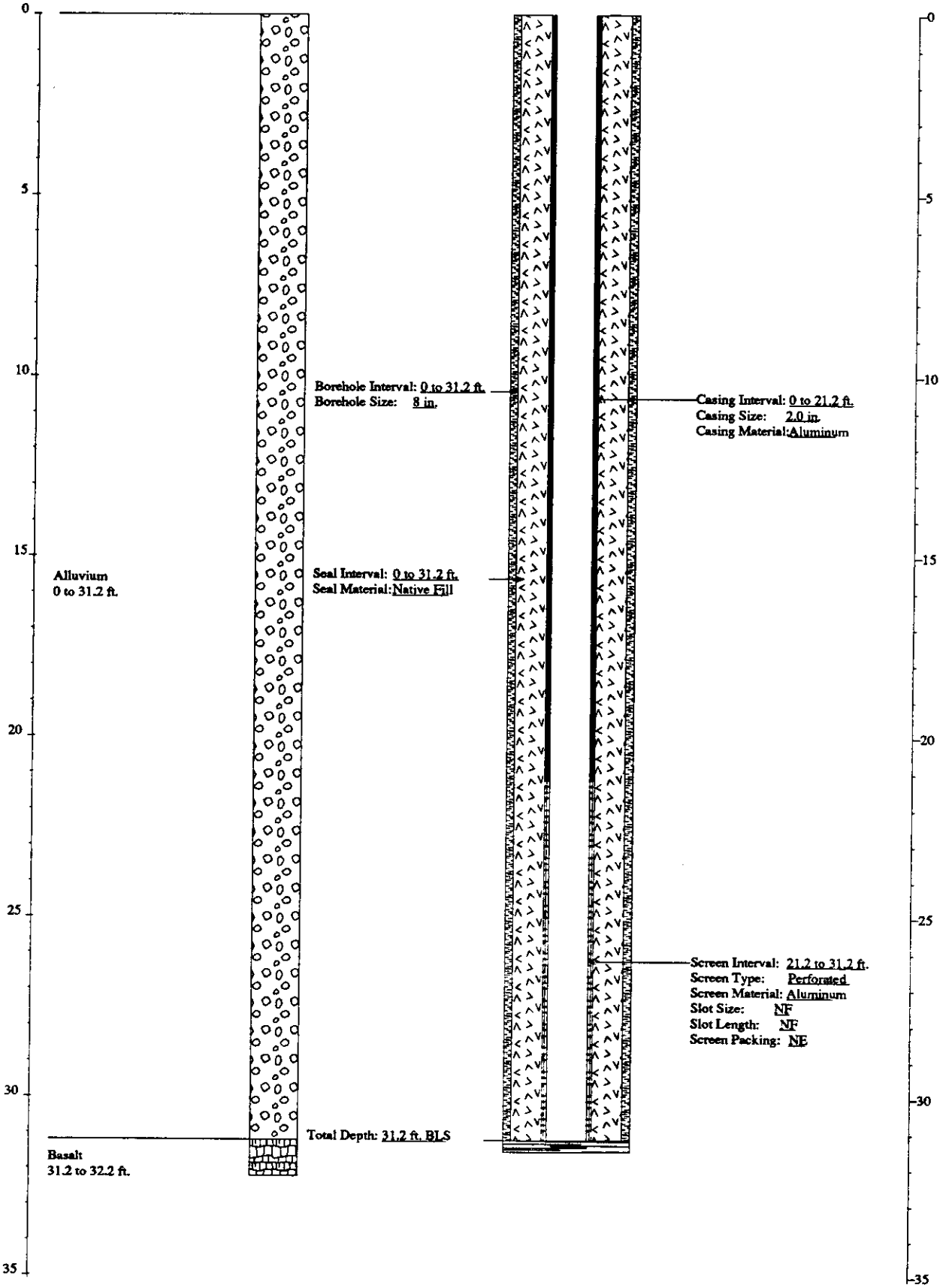
06/16/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1984
Total Depth: 31.2

Easting: 296926.09
Northing: 692419.29
Longitude: 1125558.16
Latitude: 433350.81
Completion Depth: 31.2

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4920.47

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-03

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 26.5 ft. Top of basalt = 26.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2.1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 16.5	Threaded	42	.156	Yes
Perforated Aluminum	2	16.5 - 26.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 26.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 325 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-03

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	10	Gravel / Sand / Silt / Clay
10	20	Gravel / Minor Sand
20	26.5	Gravel with Basalt Pieces
26.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP--03

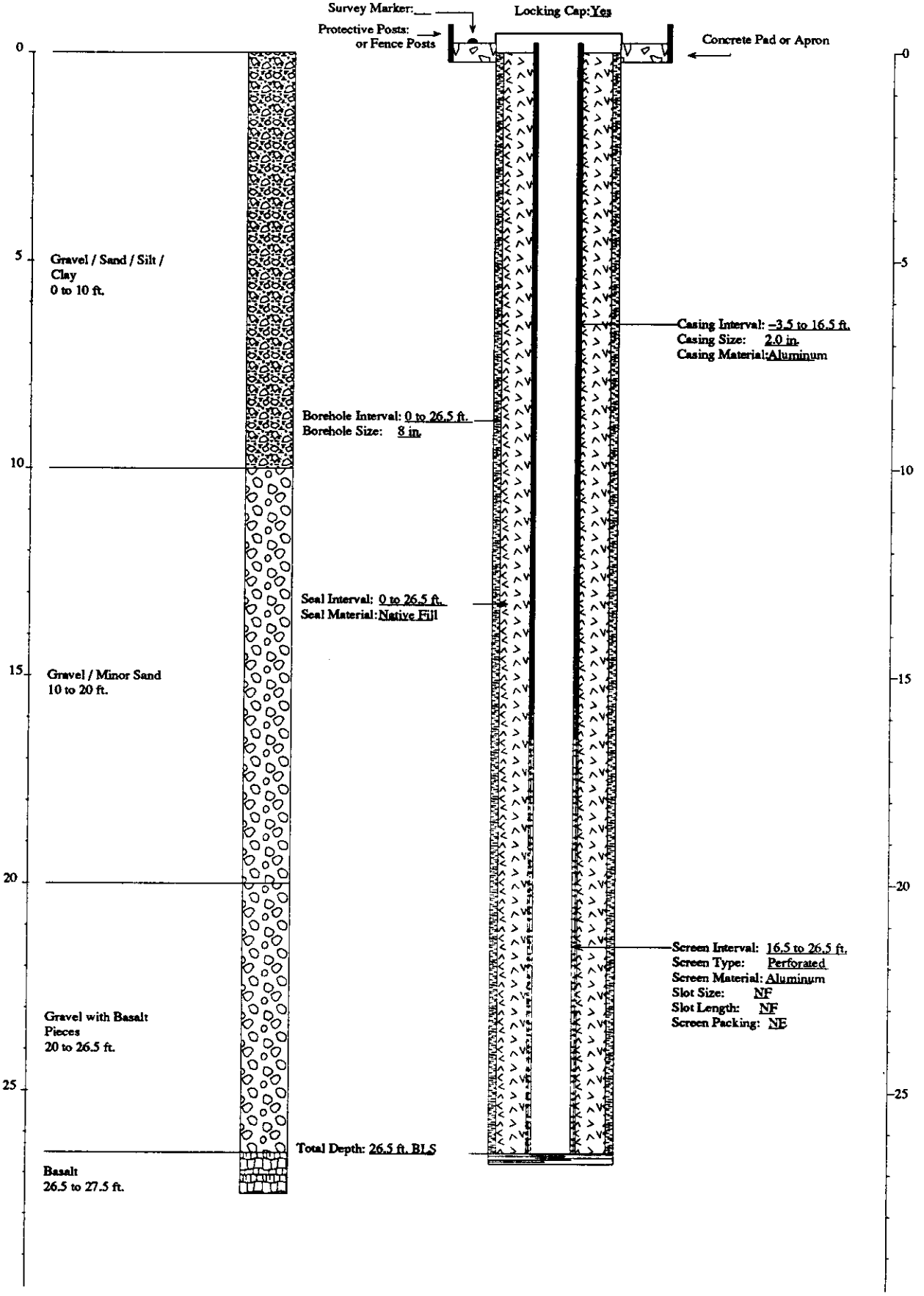
06/28/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 26.5

Easting: 297416.64
Northing: 692711.51
Longitude: 1125551.53
Latitude: 433353.74
Completion Depth: 26.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.97

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-03A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 33.2 ft. Top of basalt = 33.2 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 23.2	Threaded	39	.156	Yes
Perforated Aluminum	2	23.2 - 33.2	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 33.2	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 290 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

 Well Name SWPP-03A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	33.2	Surficial Sediments
33.2		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-03A

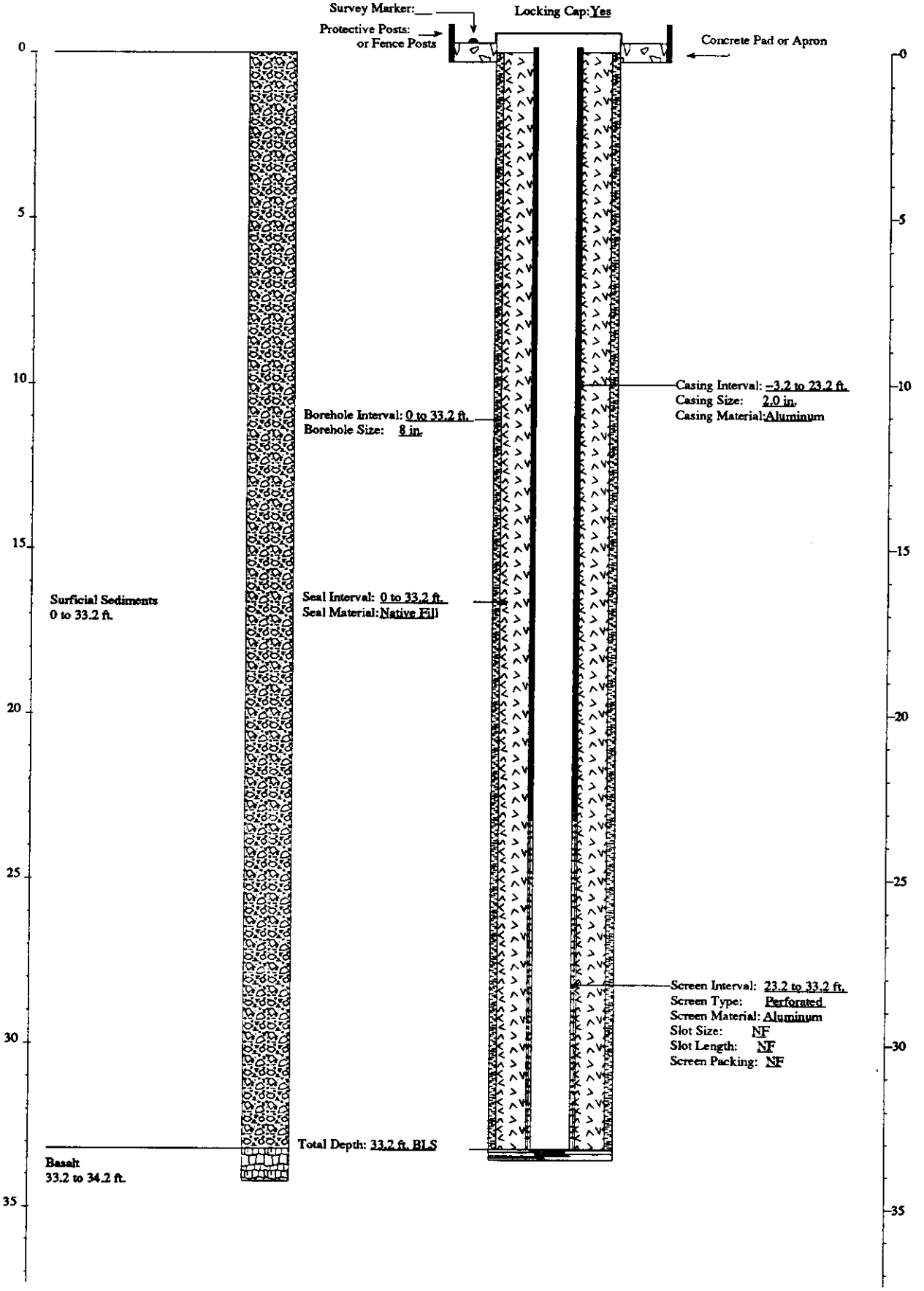
06/28/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 33.2

Easting: 296896.97
Northing: 692693.83
Longitude: 1125558.59
Latitude: 433353.52
Completion Depth: 33.2

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.46

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-04

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 18.5 ft. Top of basalt = 18.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 8.5	Threaded	27	.156	Yes
Perforated Aluminum	2	8.5 - 18.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 18.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 800 feet northeast of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-04

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	2	Clay with Sand
2	5	Gravel / Sand / Silt / Clay
5	15	Gravel with Sand / Some Clay
15	18.5	No Sample
18.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-04

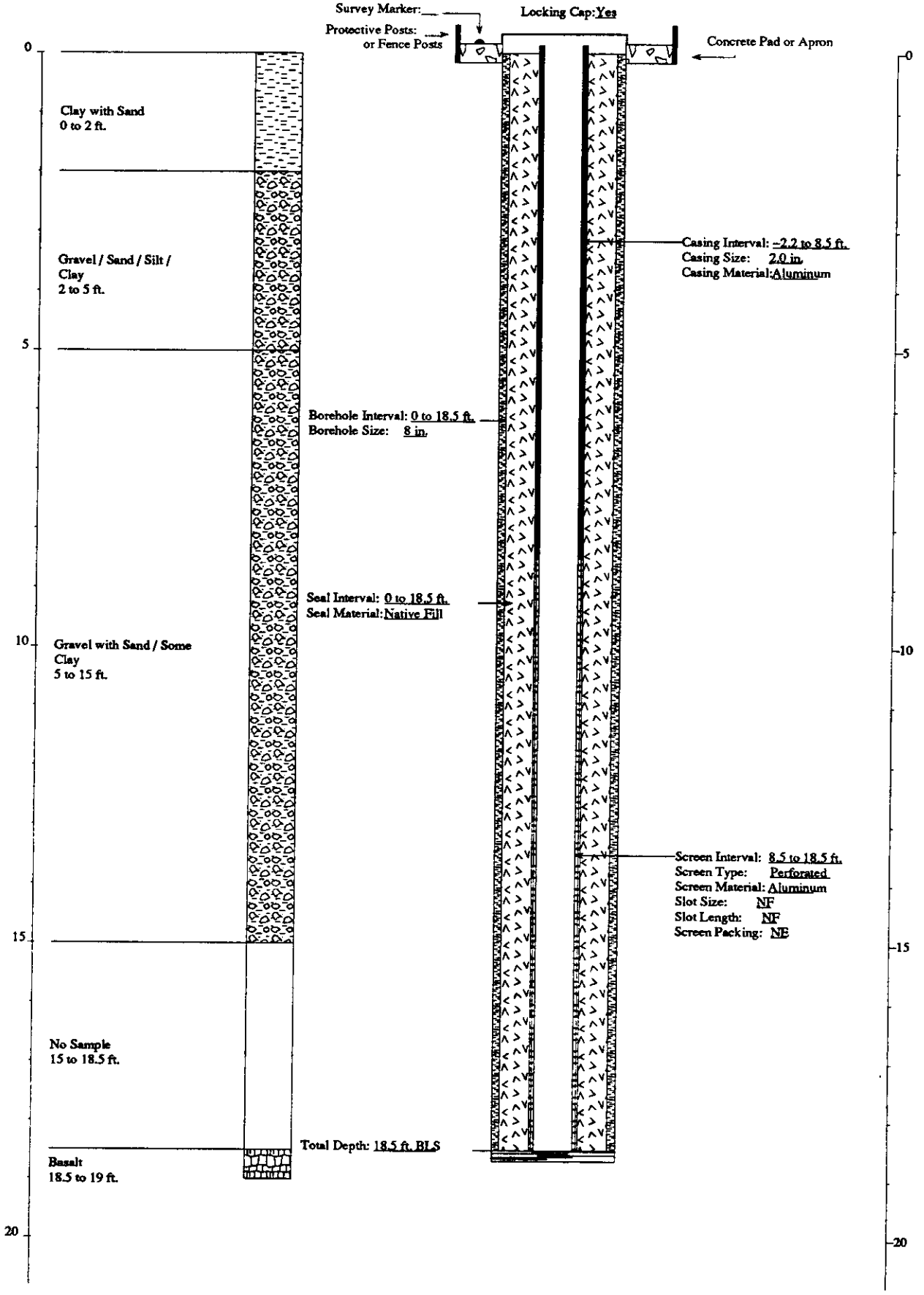
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 18.5

Easting: 298214.20
Northing: 692715.32
Longitude: 1125540.70
Latitude: 433353.85
Completion Depth: 18.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.37

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-04A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 31.4 ft. Top of basalt = 31.4 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 21.4	Threaded	33	.156	Yes
Perforated Aluminum	2	21.4 - 31.4	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 31.4	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 555 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-04A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	31.4	Surficial Sediments
31.4		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP–04A

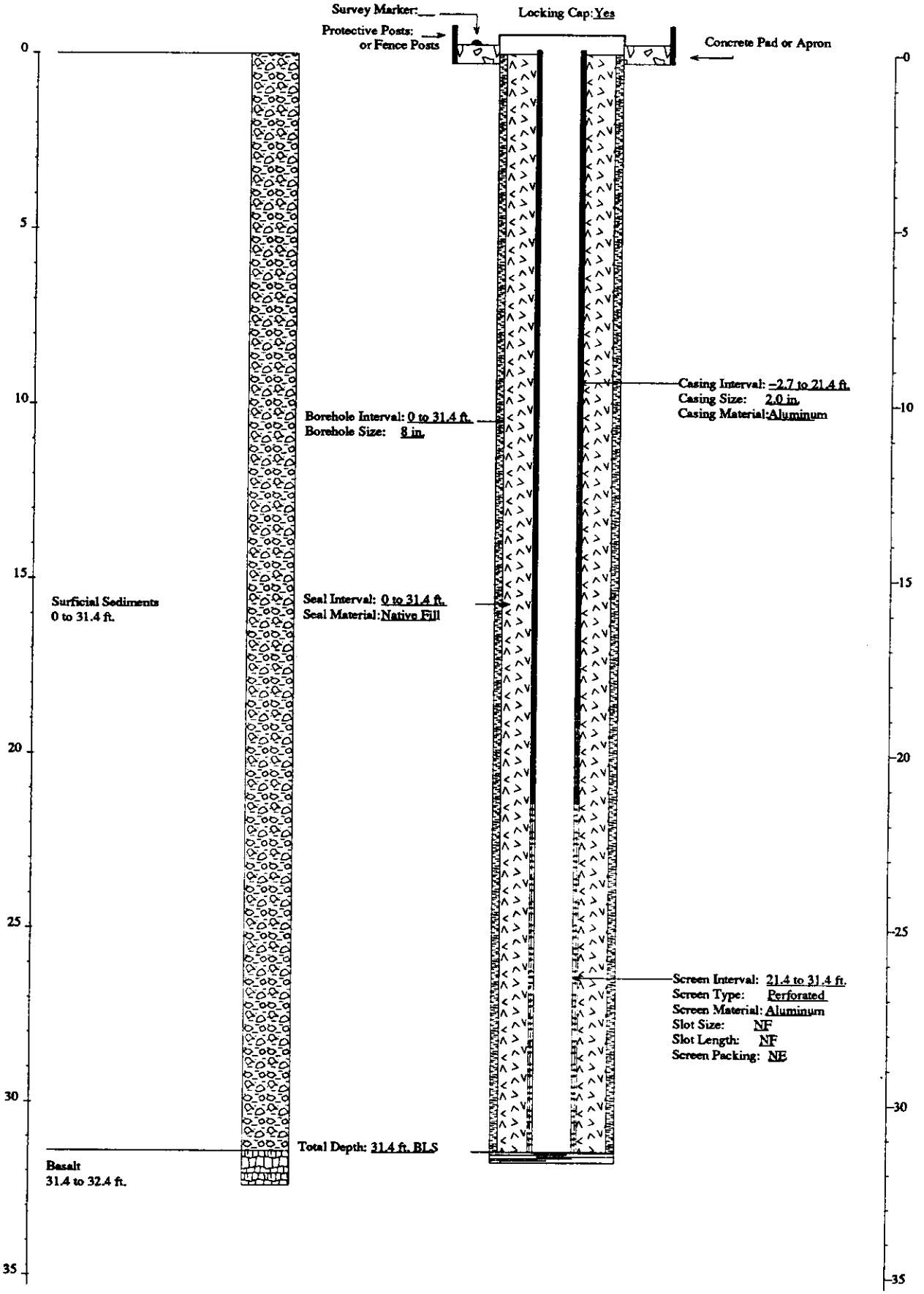
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 31.4

Easting: 297435.66
Northing: 692946.10
Longitude: 1125551.30
Latitude: 433356.06
Completion Depth: 31.4

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.4

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-05

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 28 ft. Top of basalt = 28 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18	Threaded	37	.156	Yes
Perforated Aluminum	2	18 - 28	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 28	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 1015 feet northeast of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-05

Source: USGS Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	15	No Description
15	20	Gravel / Some Sand / Silt / Clay
20	22	Gravel / Some Sand
22	28	Clay
28		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-05

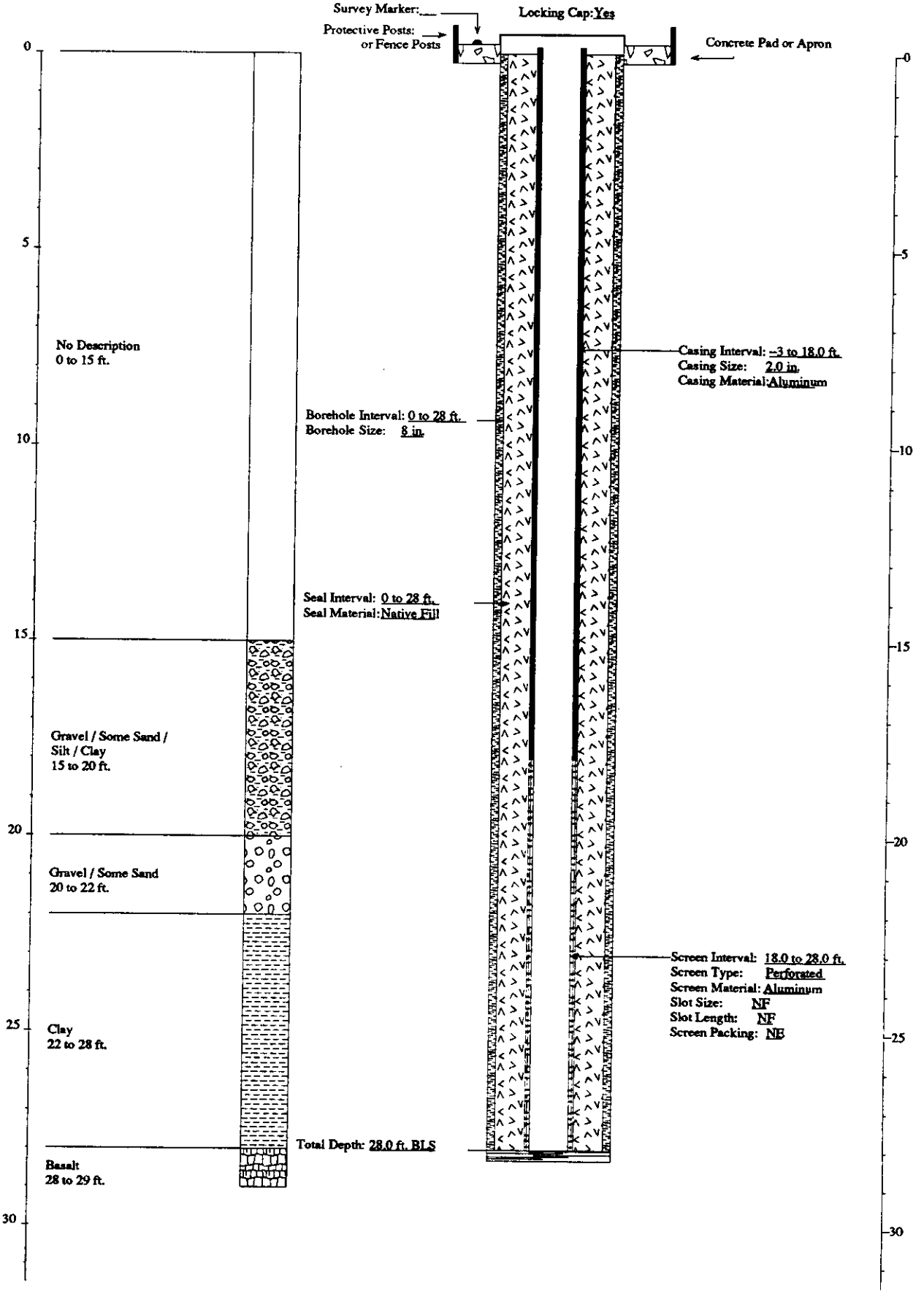
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 28.0

Easting: 298458.01
Northing: 692698.21
Longitude: 1125537.39
Latitude: 433353.70
Completion Depth: 28.0

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4912.23

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-05A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20.2 ft. Top of basalt = 20.2 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 10.2	Threaded	45	.156	Yes
Perforated Aluminum	2	10.2 - 20.2	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 20.2	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 385 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-05A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	20.2	Surficial Sediments
20.2		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP–05A

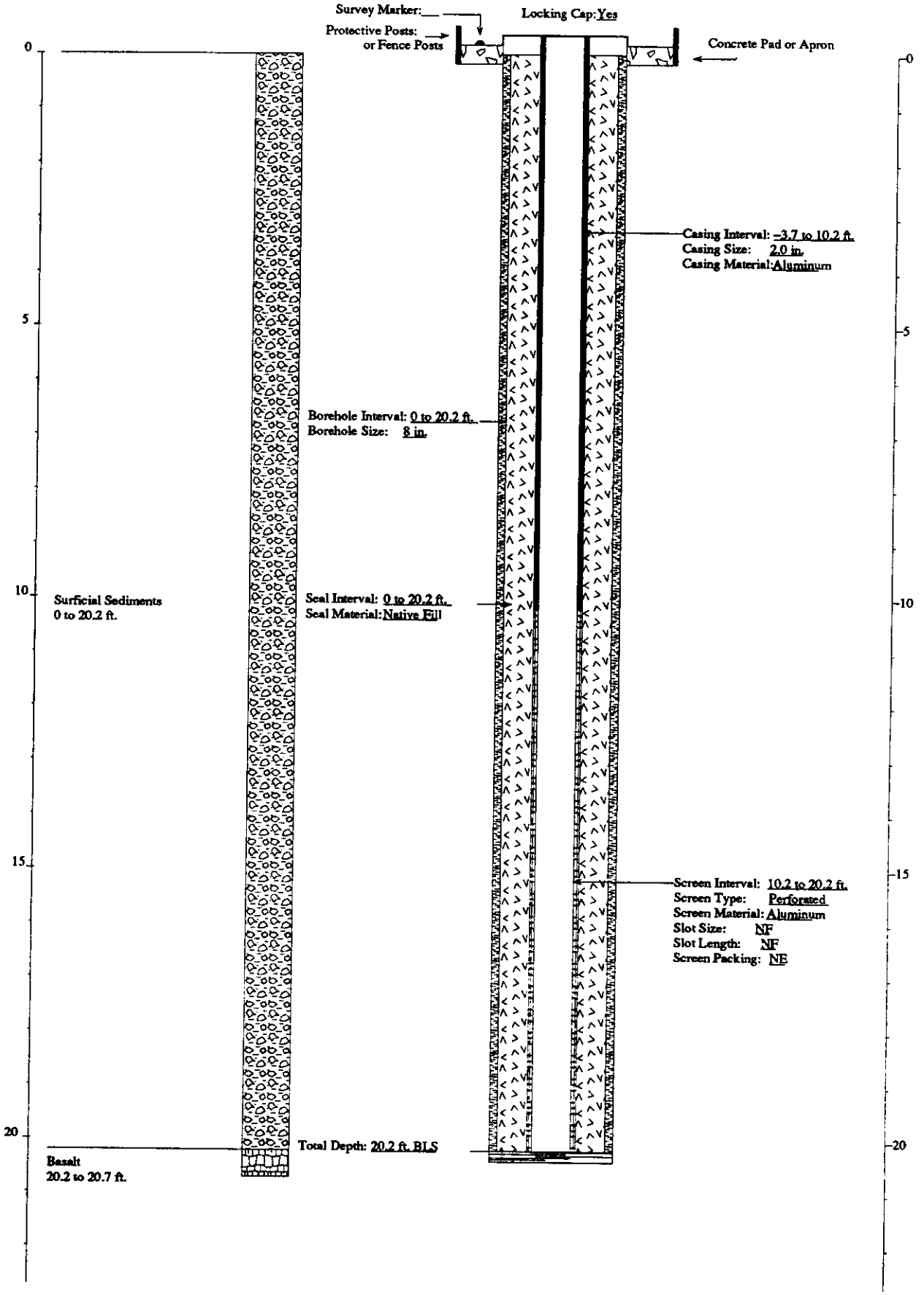
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 20.2

Easting: 297657.32
Northing: 692723.58
Longitude: 1125548.26
Latitude: 433353.88
Completion Depth: 20.2

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.58

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-06

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 18 ft. Top of basalt = 18 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 7.6	Threaded	31	.156	Yes
Perforated Aluminum	2	7.6 - 17.6	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 18	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 955 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-06

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	1	Silt and Clay / Some Gravel
1	5	Gravel and Silty Sand
5	18	Gravel and Coarse Sand
18		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-06

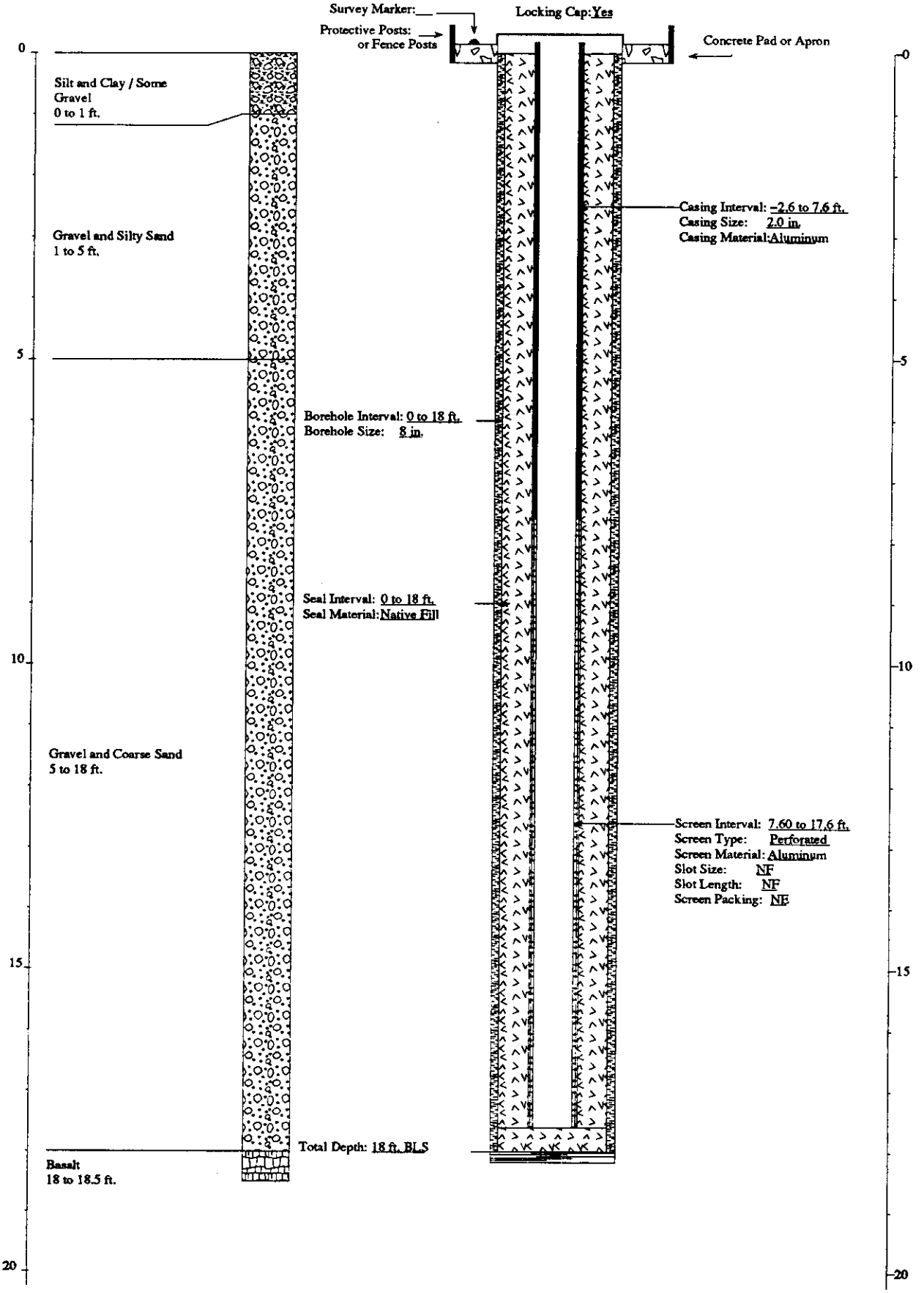
06/25/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 18

Easting: 298456.79
Northing: 692447.53
Longitude: 1125537.37
Latitude: 433351.23
Completion Depth: 17.33

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.47

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-06A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20.1 ft. Top of basalt = 20.1 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 10.1	Threaded	21	.156	Yes
Perforated Aluminum	2	10.1 - 20.1	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 20.1	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 260 feet northeast of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-06A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	20.1	Surficial Sediments
20.1		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-06A

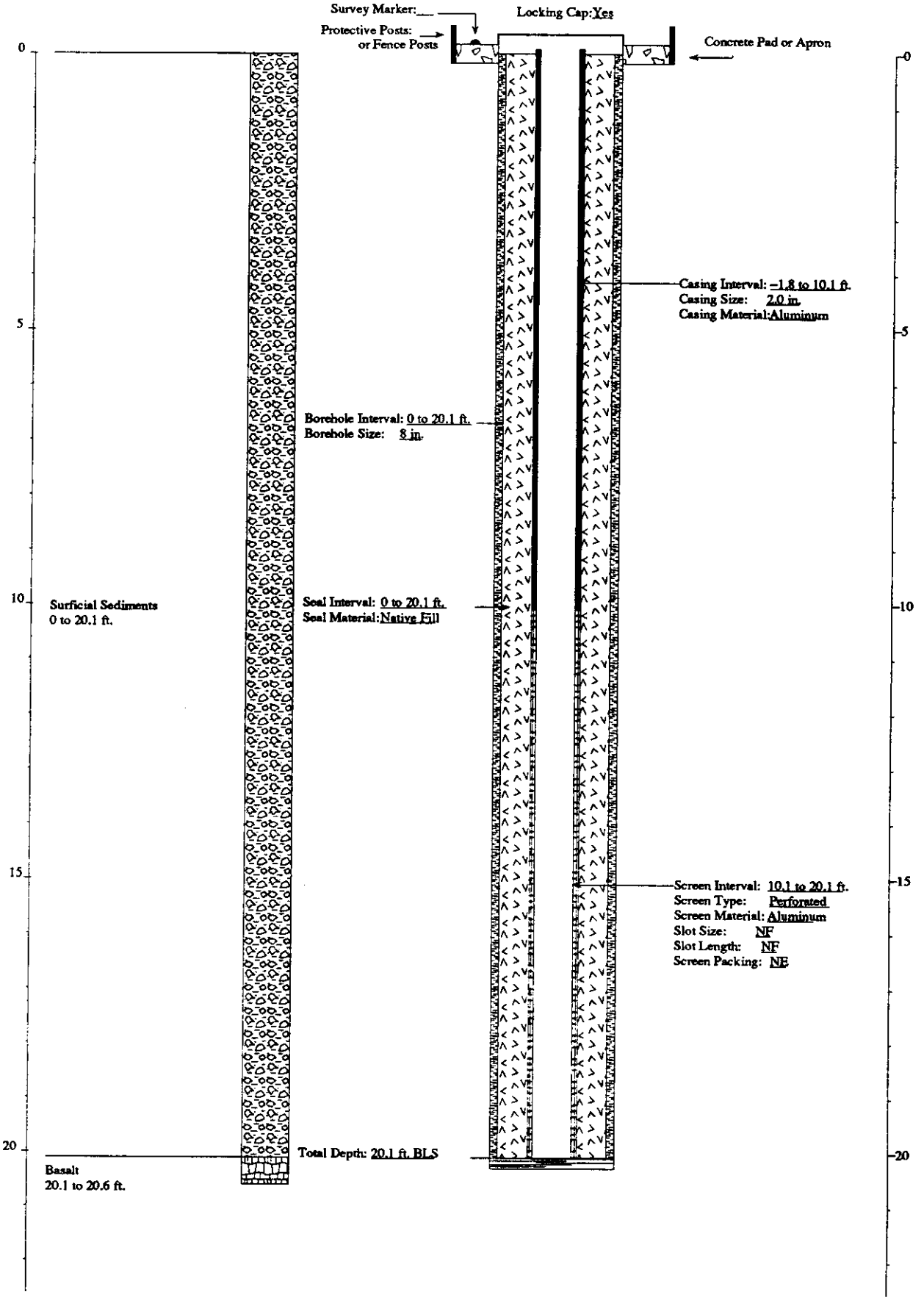
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 20.1

Easting: 297744.89
Northing: 692455.63
Longitude: 1125547.04
Latitude: 433351.24
Completion Depth: 20.1

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.43

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-07

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 29 ft. Top of basalt 29 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-07

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-07

Source: Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	5	Gravel with Sand and Silt
5	10	Gravel (Few Fines)
10	20	Gravel / Some Sand
20	29	Gravel
29		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-07

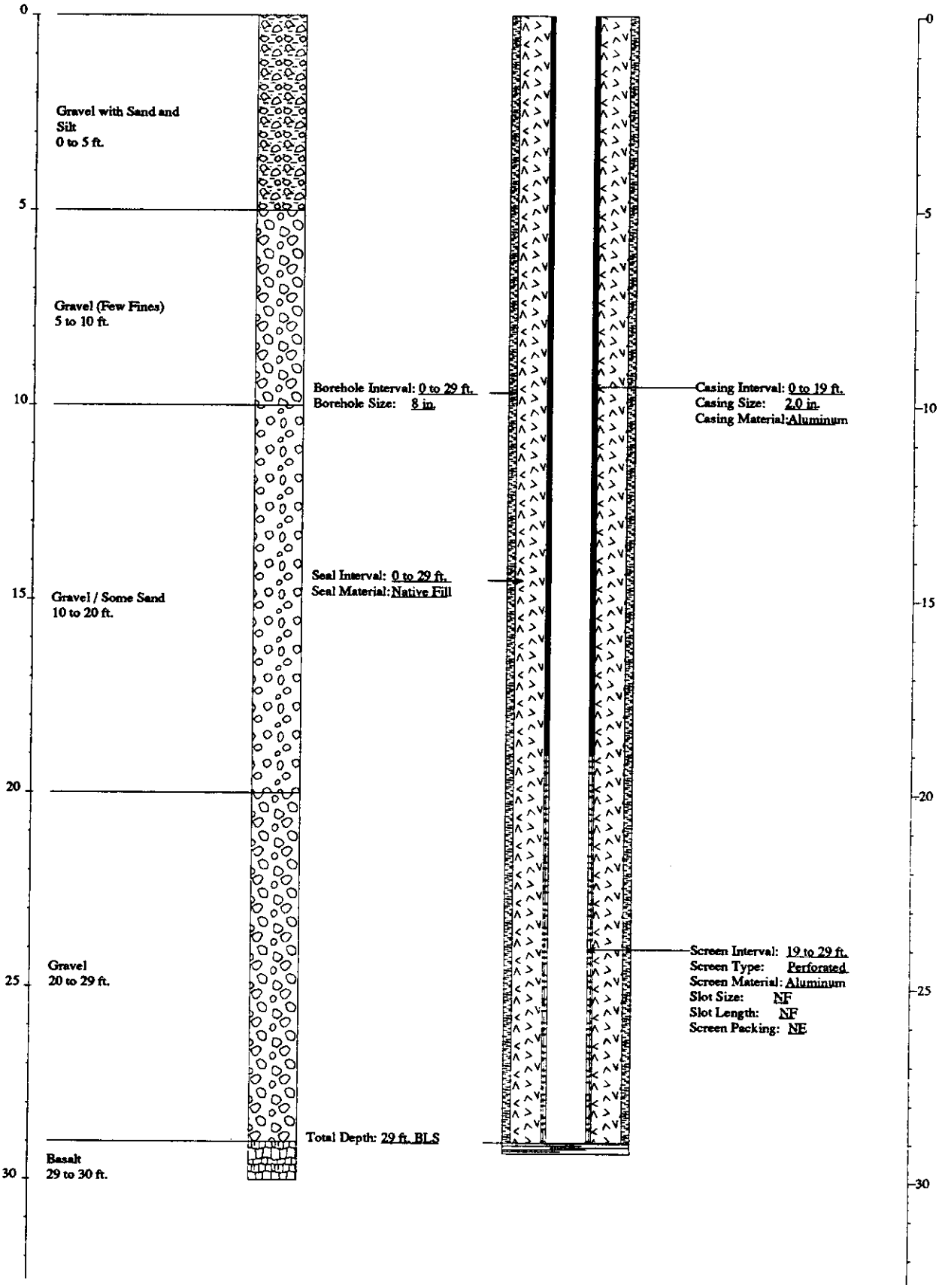
06/16/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1983
Total Depth: 29

Easting: 296927.46
Northing: 692445.08
Longitude: 1125558.14
Latitude: 433351.06
Completion Depth: 29

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.63

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-07A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 25.1 ft. Top of basalt = 25.1 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 15.1	Threaded	48	.156	Yes
Perforated Aluminum	2	15.1 - 25.1	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 25.1	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 90 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-07A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	25.1	Surficial Sediments
25.1		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-07A

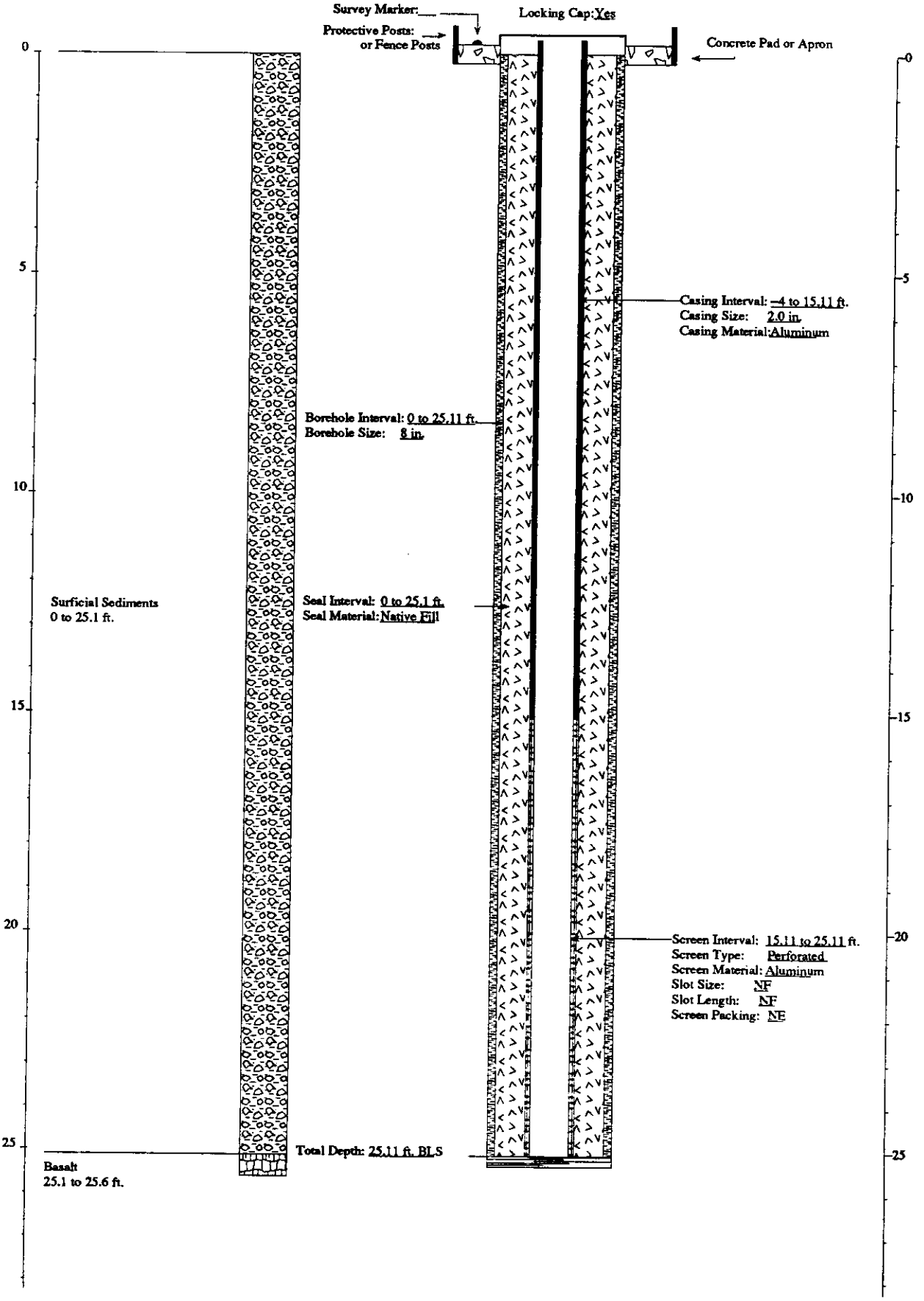
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 25.11

Easting: 297576.53
Northing: 691807.66
Longitude: 1125549.25
Latitude: 433344.83
Completion Depth: 25.11

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4915.73

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-08

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 32.5 ft. Top of basalt = 32.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 25.5	Threaded	39	.156	Yes
Perforated Aluminum	2	25.5 - 32.5	Threaded	N/A	.156	Yes
The bottom of the well may be at 27 feet due to a bit left in the borehole.						

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 32.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 45 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-08

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Sand / Clay
5	15	Gravel (Few Fines)
15	20	Gravel / Sand / Silt
20	25	Gravel / 15% Sand / Silt
25	30	Gravel (Fairly Clean)
30	32.5	Coarse Sand and Gravel (With Basalt Pieces)
32.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-08

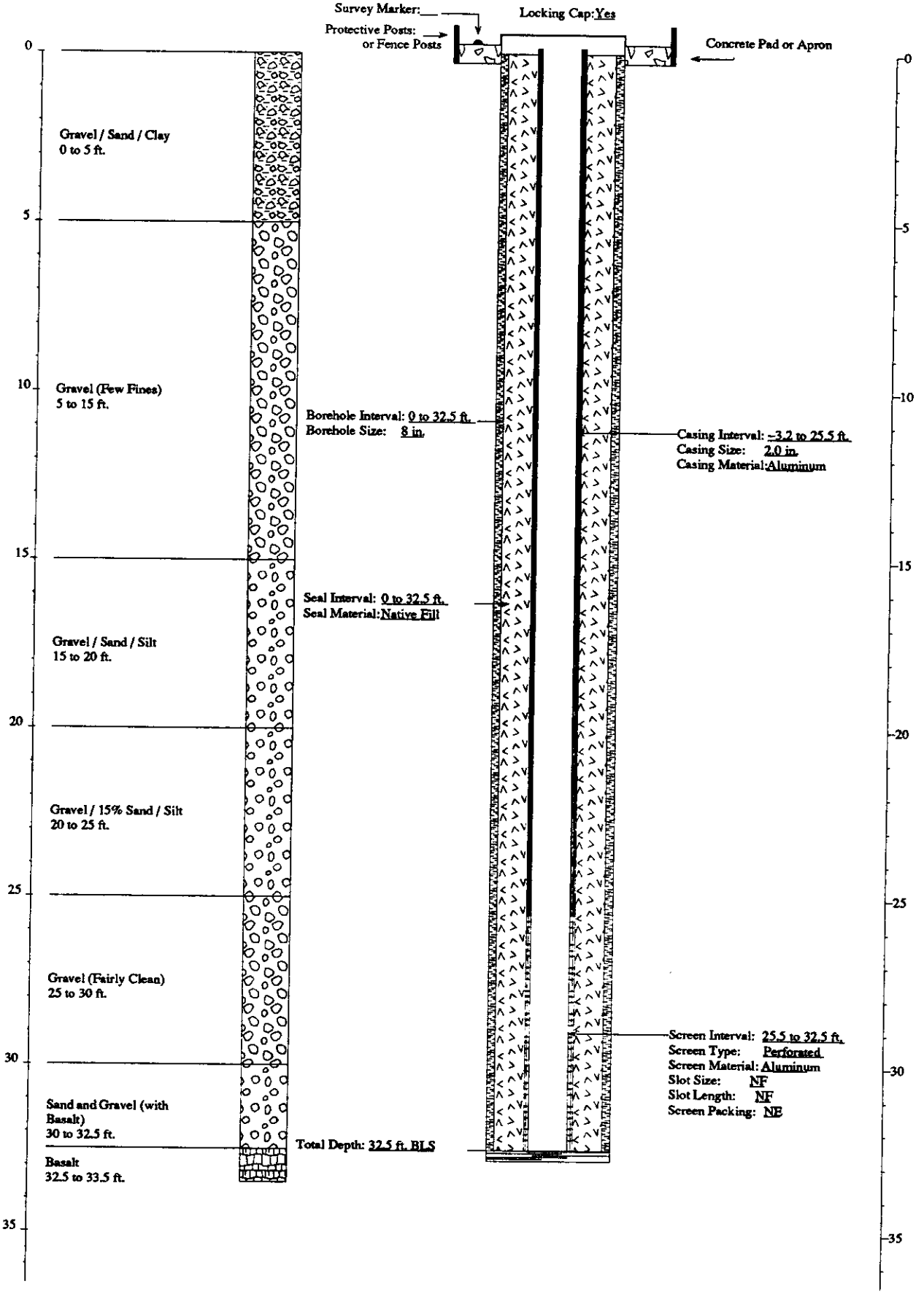
Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 32.5

Easting: 297201.66
Northing: 692440.35
Longitude: 1125554.42
Latitude: 433351.04
Completion Depth: 32.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.61

06/16/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-08A

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 30.6 ft. Top of basalt 30.6 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-08A

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-08A

Source: Table of SWPP Wells

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Interval (feet below surface)

Begin	End	Description
0	30.6	Alluvium
30.6		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-08A

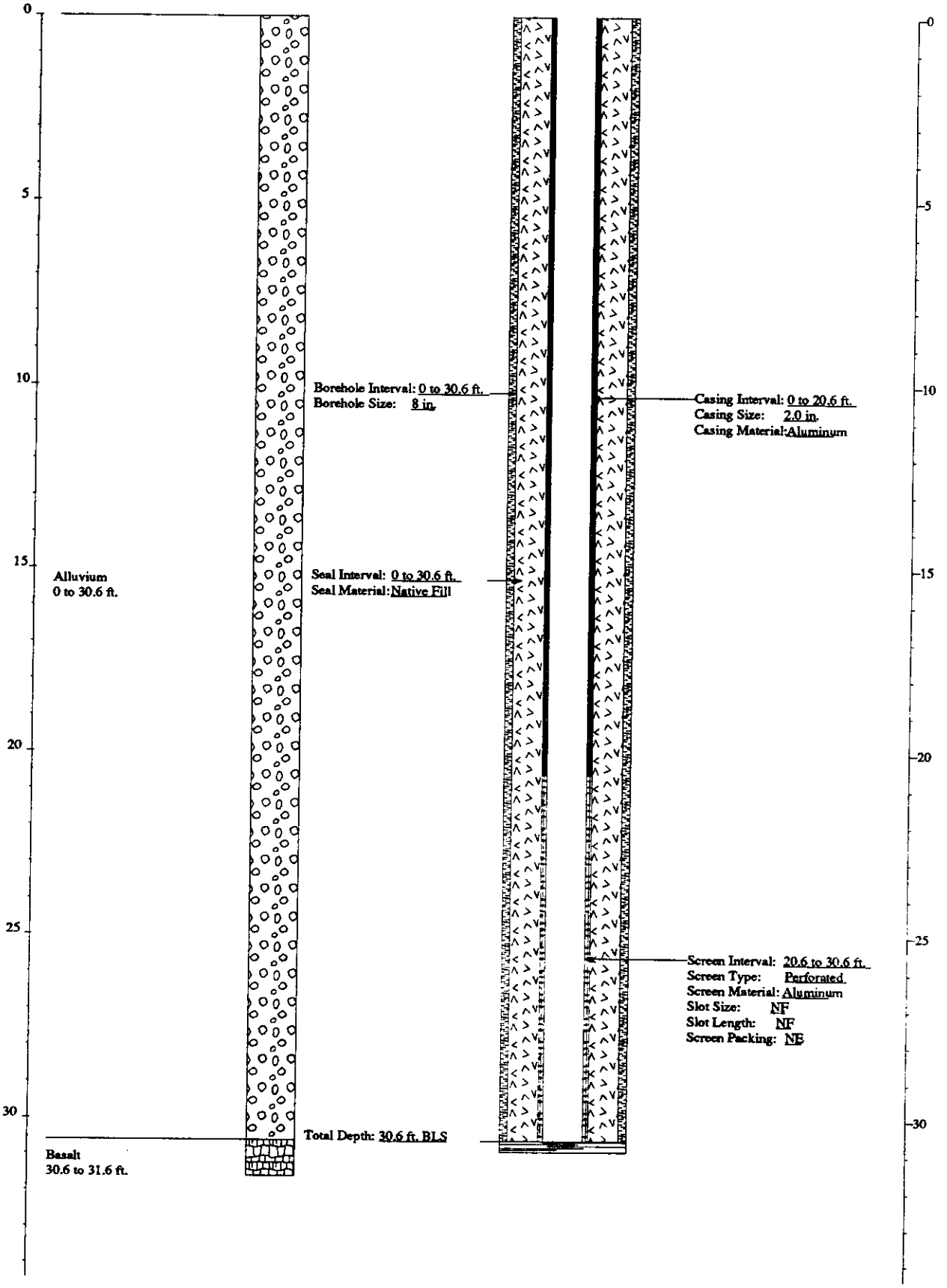
06/16/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1984
Total Depth: 30.6

Easting: 296716.41
Northing: 692440.97
Longitude: 1125601.01
Latitude: 433351.00
Completion Depth: 30.6

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.44

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-09

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 37.5 ft. Top of basalt = 37.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 27.5	Threaded	32	.156	Yes
Perforated Aluminum	2	27.5 - 37.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 37.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 45 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-09

Source: USGS Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Sand / Silt / Clay
5	10	Gravel (Few Fines)
10	30	Gravel and Sand
30	37.5	Gravel / Some Sand / Basalt Pieces at Bottom
37.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-09

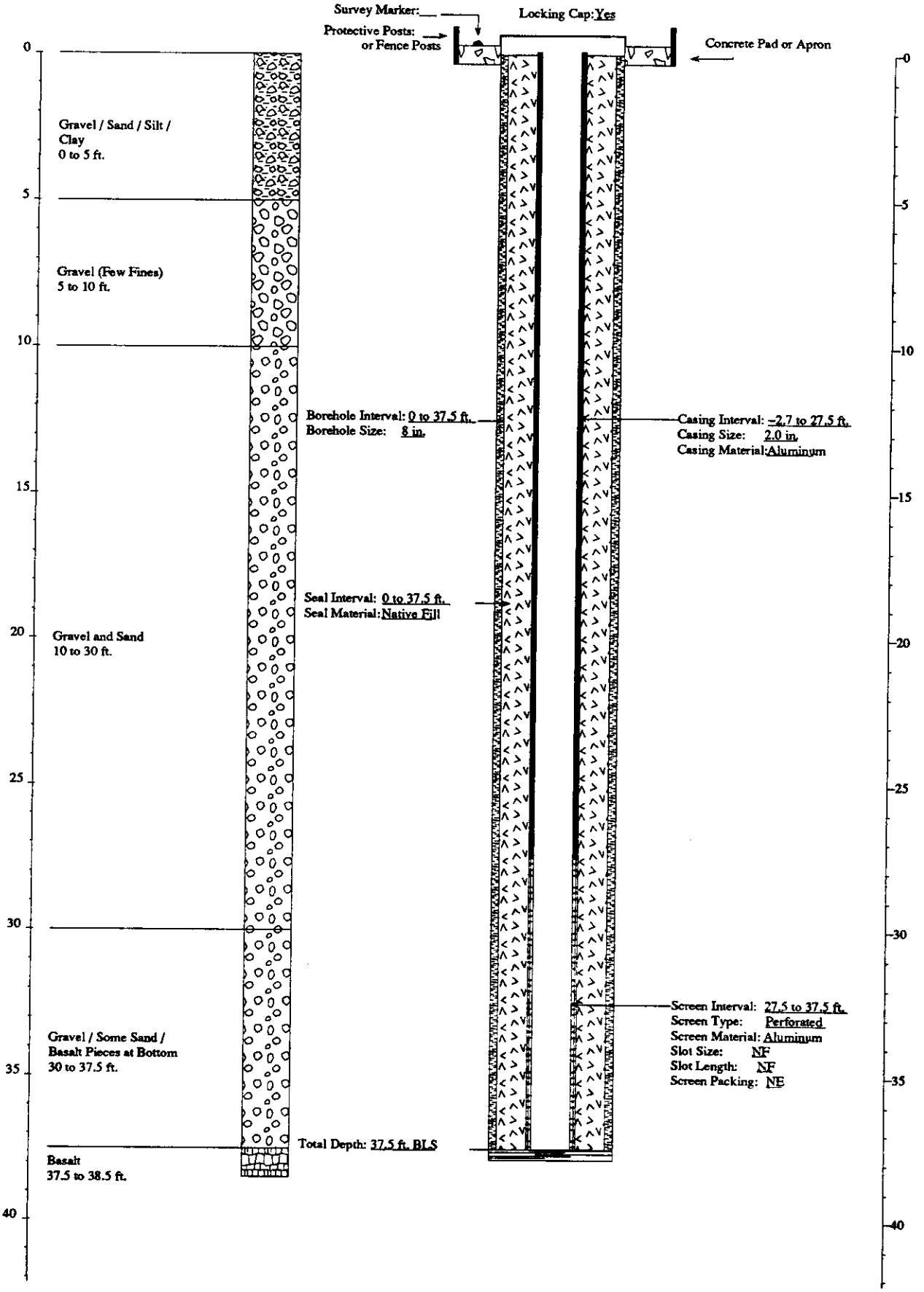
Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 37.5

Easting: 297391.41
Northing: 692438.38
Longitude: 1125551.84
Latitude: 433351.04
Completion Depth: 37.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.10

06/16/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-09A

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 33.9 ft. Top of basalt 33.9 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-09A

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-09A

Source: Table of SWPP Wells

****

Interval (feet below surface)

Begin	End	Description
0	33.9	Alluvium
33.9		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-09A

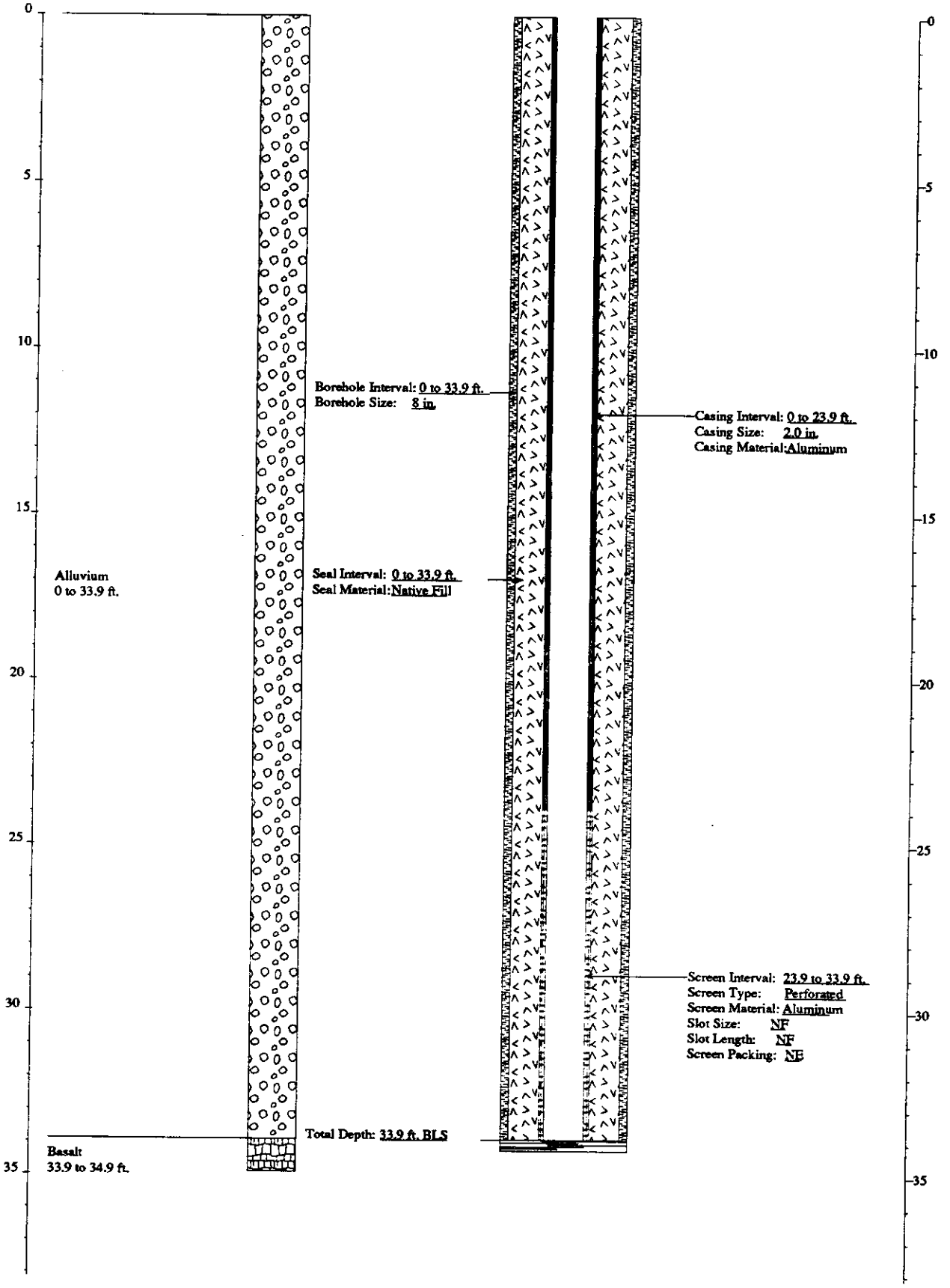
06/16/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1984
Total Depth: 33.9

Easting: 296826.10
Northing: 691806.66
Longitude: 1125559.44
Latitude: 433344.75
Completion Depth: 33.9

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.83

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. SWPP-10

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 32 ft. Top of basalt = 32 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18	Threaded	24	.156	Yes
Perforated Aluminum	2	18 - 32	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 32	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 125 feet west of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-10

Source: USGS Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Sand / Silt / Clay
5	8	Gravel and Silty Sand
8	15	Sand with Gravel
15	20	Gravel / Sand / Some Silt
20	25	Gravel
25	32	Gravel with Few Fines
32		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

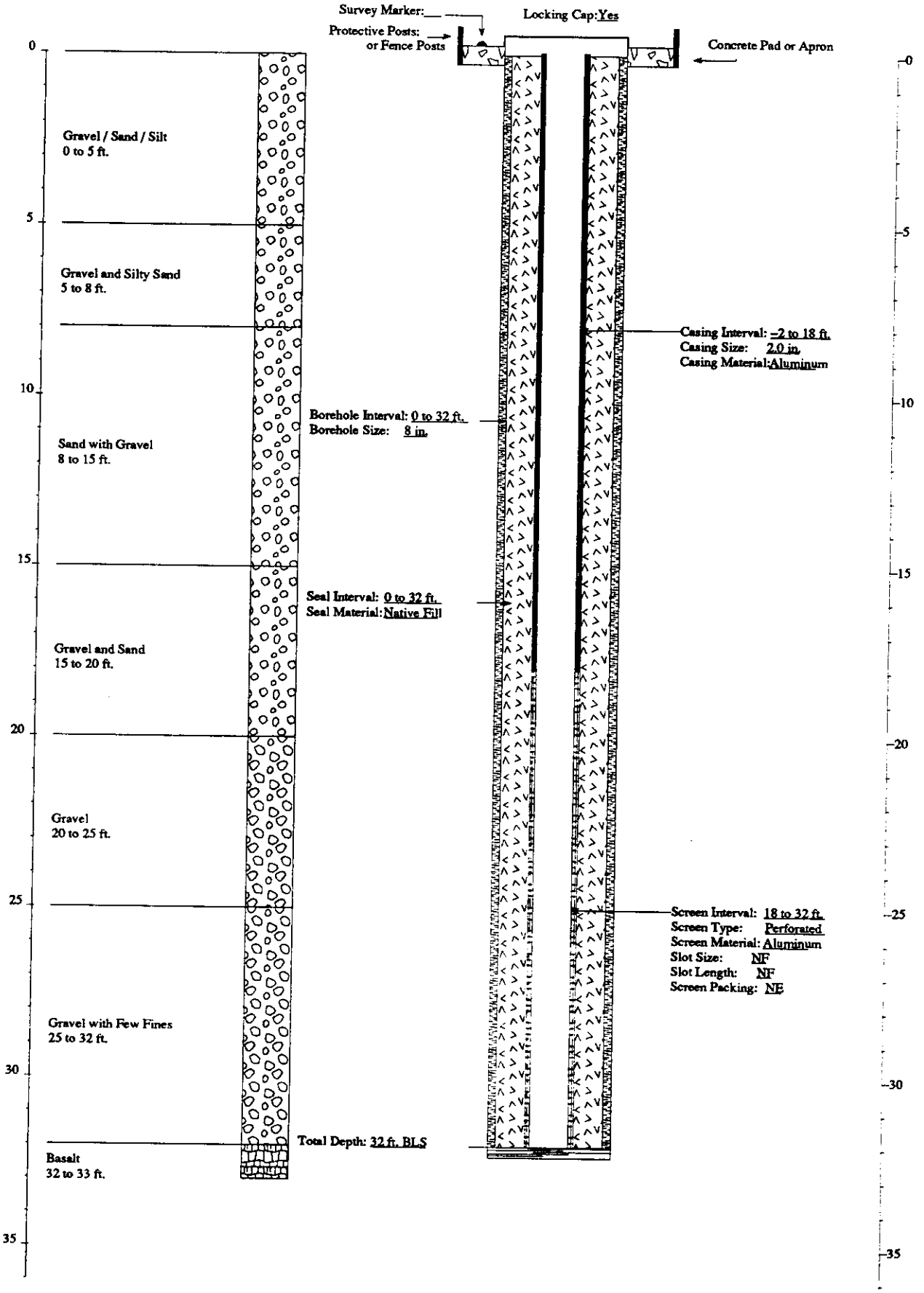
WellName: SWPP-10

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 32

Easting: 296203.73
Northing: 692207.19
Longitude: 1125607.94
Latitude: 433348.65
Completion Depth: 32

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.88

06/16/1993
Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-10A

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 18.1 ft. Top of basalt 18.1 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-10A

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-10A

Source: Table of SWPP Wells

****

Interval (feet below surface)

Begin	End	Description
0	18.1	Alluvium
18.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-10A

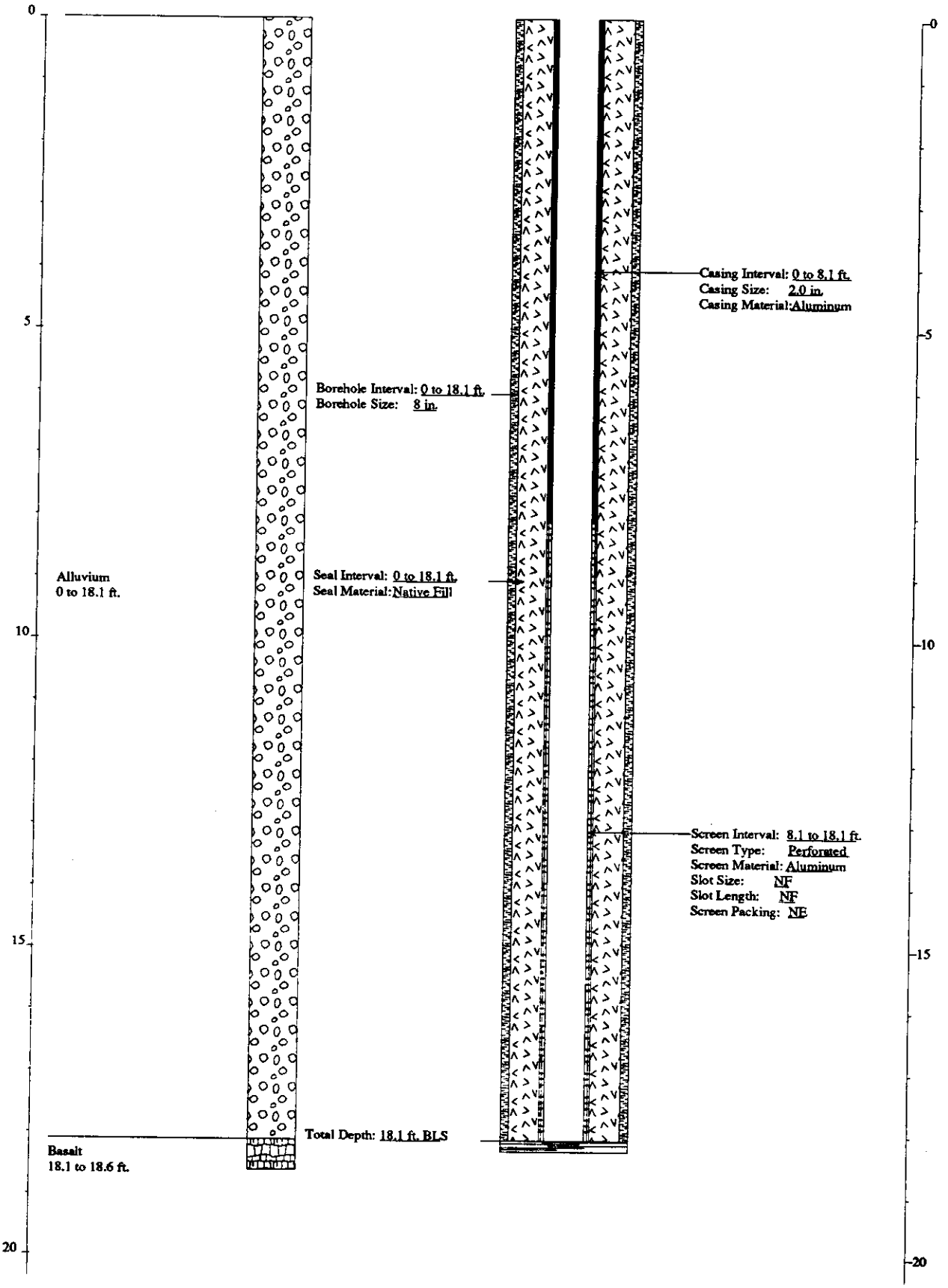
Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1984
Total Depth: 18.1

Easting: 296870.61
Northing: 691976.18
Longitude: 1125558.86
Latitude: 433346.43
Completion Depth: 18.1

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.47

06/16/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-11

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32 ft. Top of basalt 32 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-11

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-11

Source: Field Logbook and Table of SWPP Wells

****

Interval (feet below surface)

Begin	End	Description
0	1.5	Gravel and Silt
1.5	20	Gravel / Silt / Sand
20	22	Gravel (Minor Fines)
22	30	Gravel / Silt / Sand
30	32	Gravel (Minor Fines)
32		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

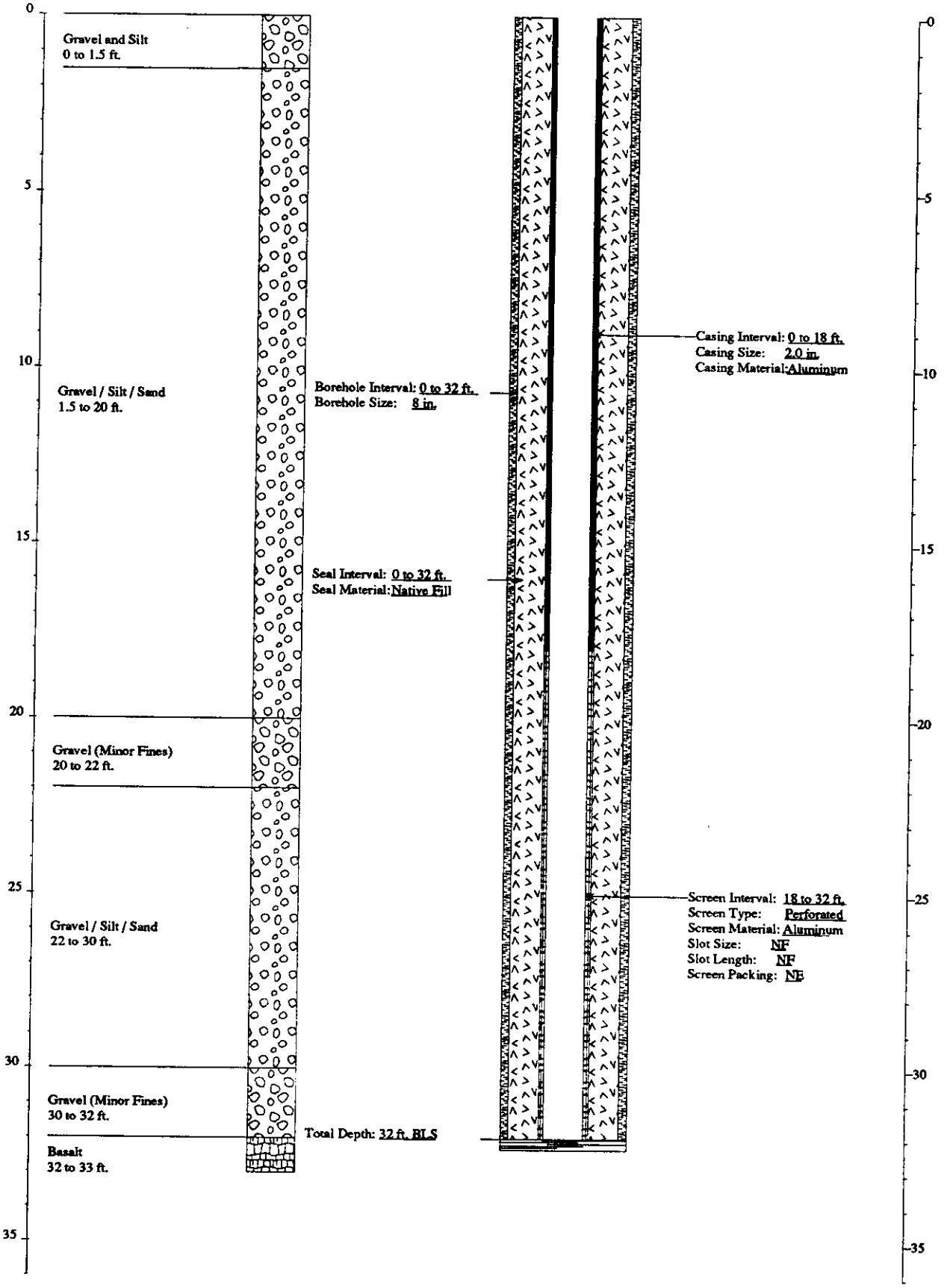
WellName: SWPP-11

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1983
Total Depth: 32

Easting: 296459.59
Northing: 692220.21
Longitude: 1125604.47
Latitude: 433348.80
Completion Depth: 32

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.61

06/16/1993
Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-11A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20.5 ft. Top of basalt = 20.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3.2.1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3.2.2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 10.5	Threaded	36	.156	Yes
Perforated Aluminum	2	10.5 - 20.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3.3.1 and 3.3.2.1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 20.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 155 feet south of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-11A

Source: No geologic log found in CWS file

****

Interval (feet below surface)

Begin	End	Description
0	20.5	Surficial Sediments
20.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-11A

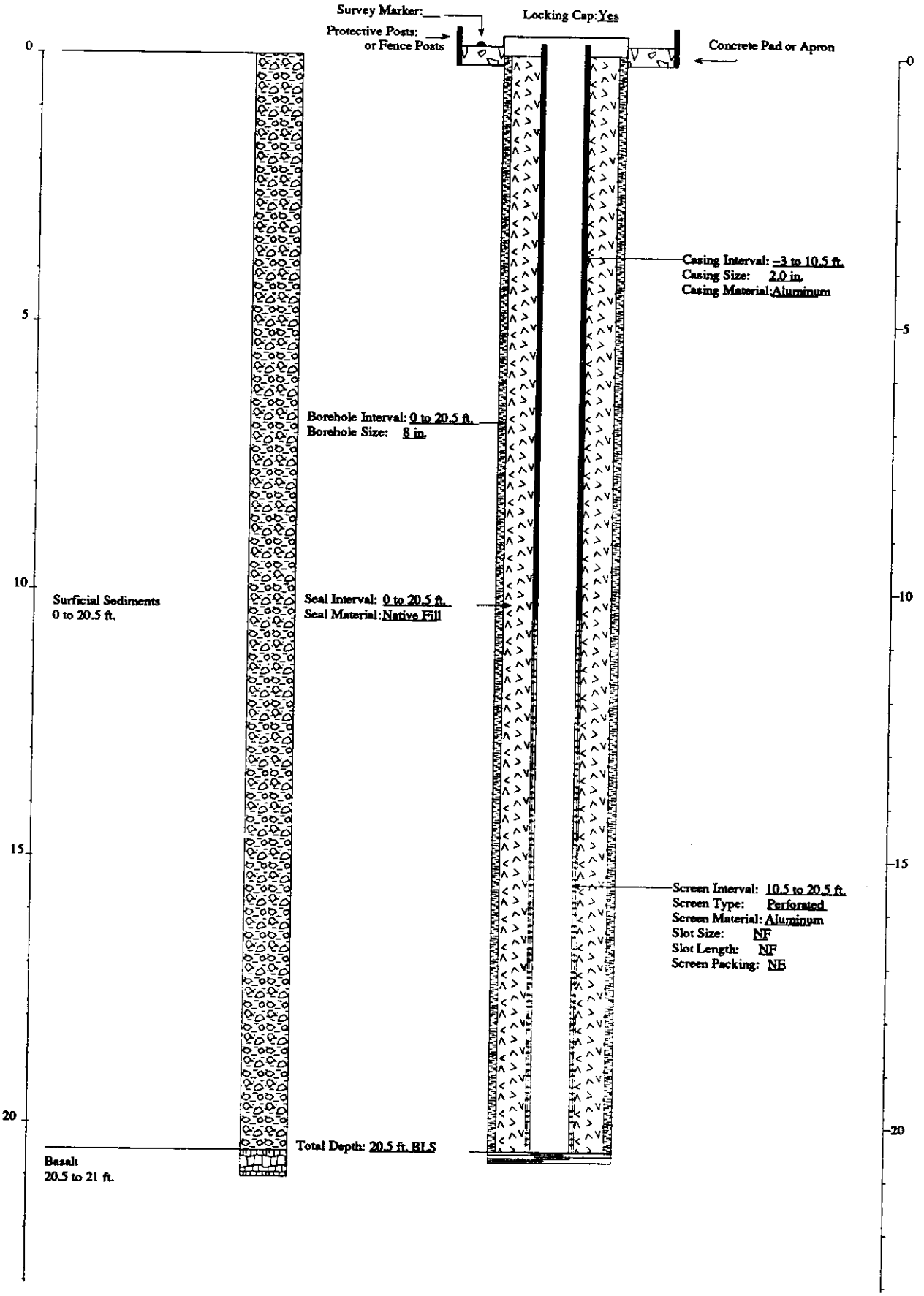
Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 20.5

Easting: 297005.46
Northing: 691780.21
Longitude: 1125557.00
Latitude: 433344.50
Completion Depth: 20.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.48

06/16/1993

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-12

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under excavation.

2) List procedure and amounts of material used to abandon the well:
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32.5 ft. Top of basalt 32.5 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-12

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-12

Source: Field Logbook and Table of SWPP Wells

****

Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Sand / Silt / Clay
5	13	Pea-sized Gravel / Sand / Silt
13	25	Gravel / Sand / Silt
25	27.5	Probably Sand (No Returns)
27.5	32.5	Large Gravel (Minor Fines)
32.5		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

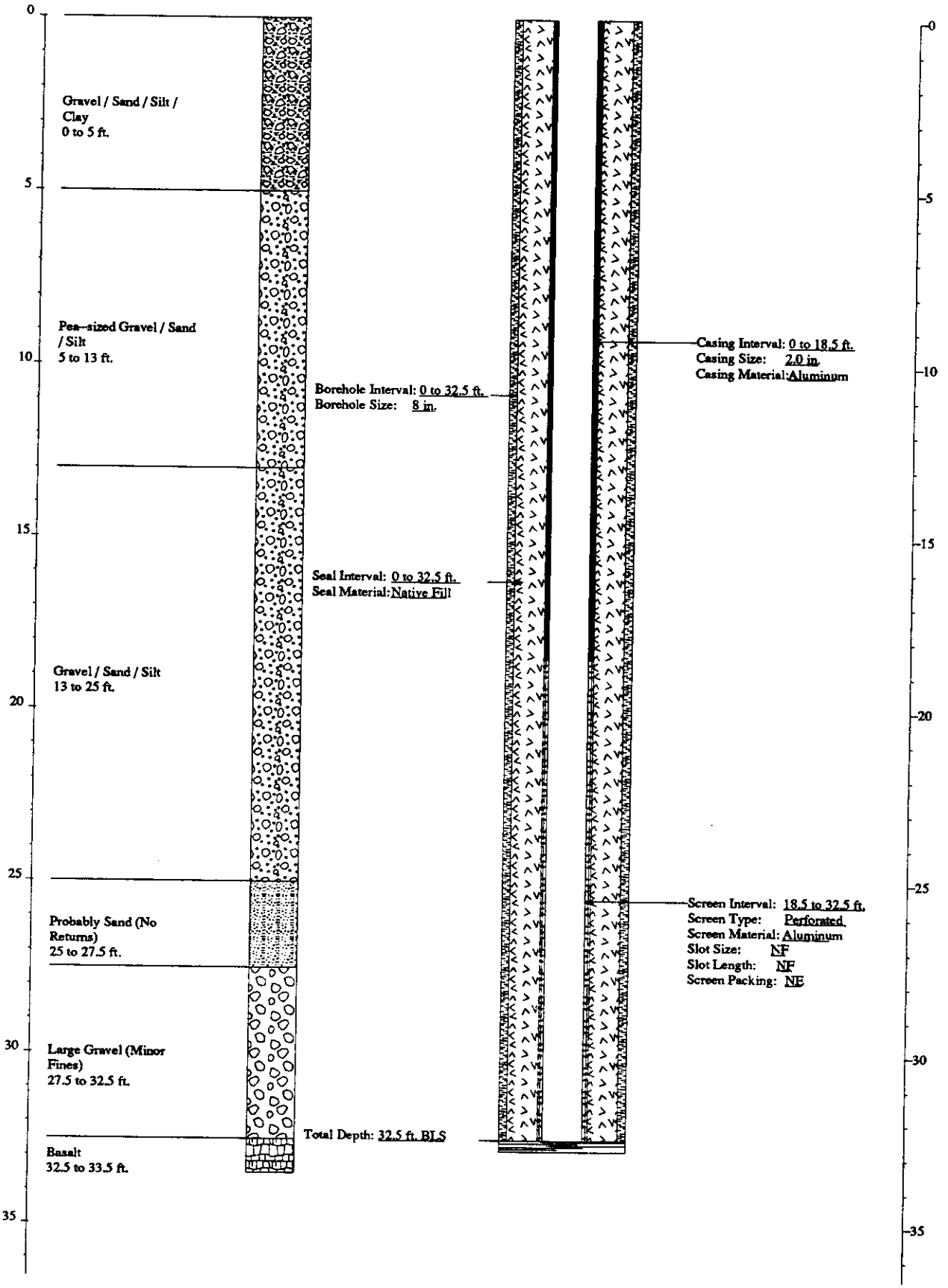
WellName: SWPP-12

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1983
Total Depth: 32.5

Easting: 296708.69
Northing: 692233.10
Longitude: 1125601.09
Latitude: 433348.95
Completion Depth: 32.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.71

07/01/1993
Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-12A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 23.3 ft. Top of basalt = 23.3 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3.2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 13.3	Threaded	34	.156	Yes
Perforated Aluminum	2	13.3 - 23.3	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 23.3	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 475 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-12A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	23.3	Surficial Sediments
23.3		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-12A

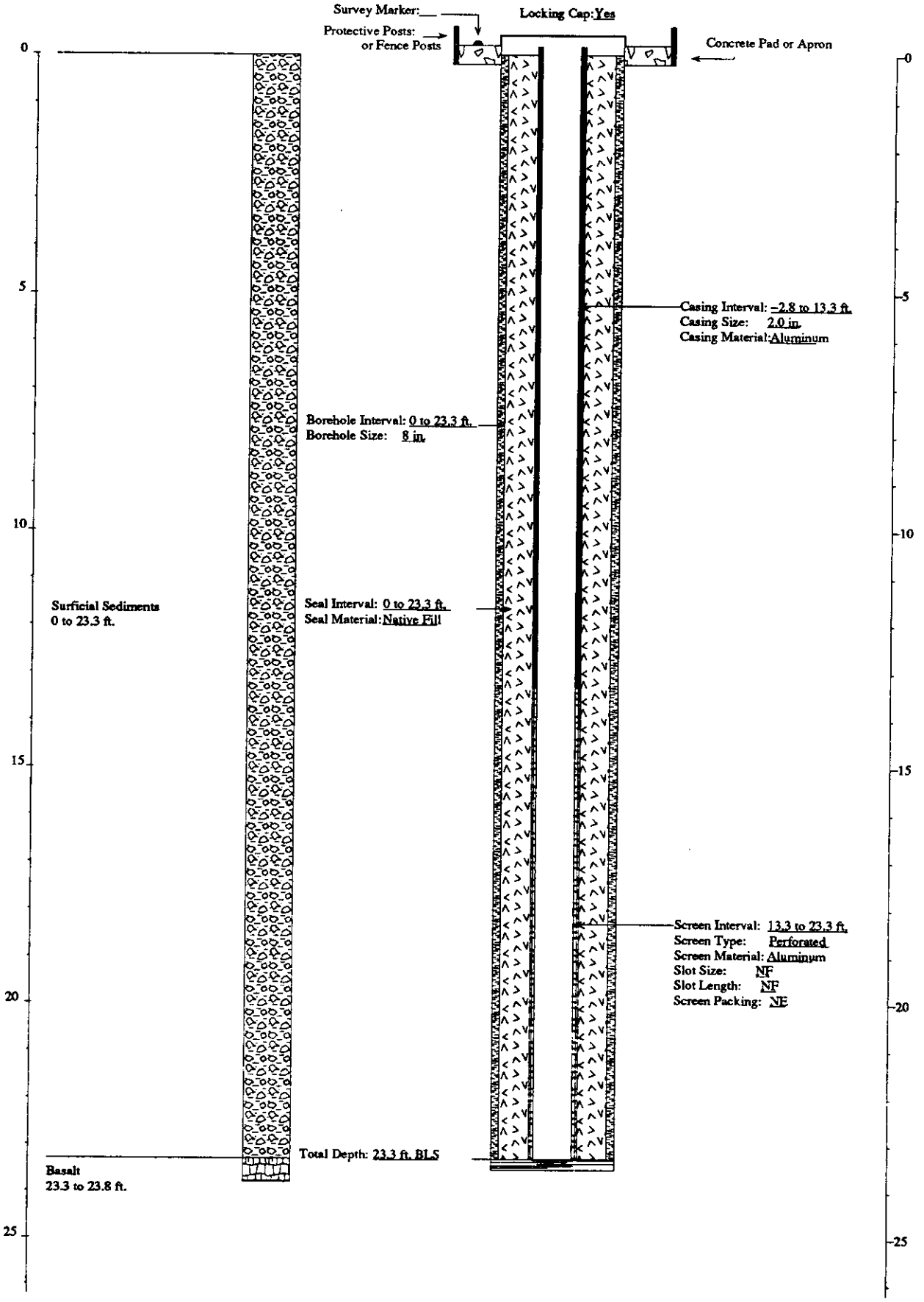
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 23.3

Easting: 297132.53
Northing: 692866.89
Longitude: 1125555.41
Latitude: 433355.25
Completion Depth: 23.3

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4915.67

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-13

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 32.5 ft. Top of basalt = 32.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes X No _ N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 17.5	Threaded	22	.156	Yes
Perforated Aluminum	2	17.5 - 32.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 32.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located near the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. Also, the surface upgrade was not completed because the well is located within the fenced area around the ICPP percolation ponds.

Remediation: The surface upgrade should be installed. This is presently planned for the summer of 1993.

GEOLOGIC LOG

Well Name SWPP-13

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	15	Gravel / Sand / Silt / Some Clay
15	32.5	Gravel and Sand
32.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-13

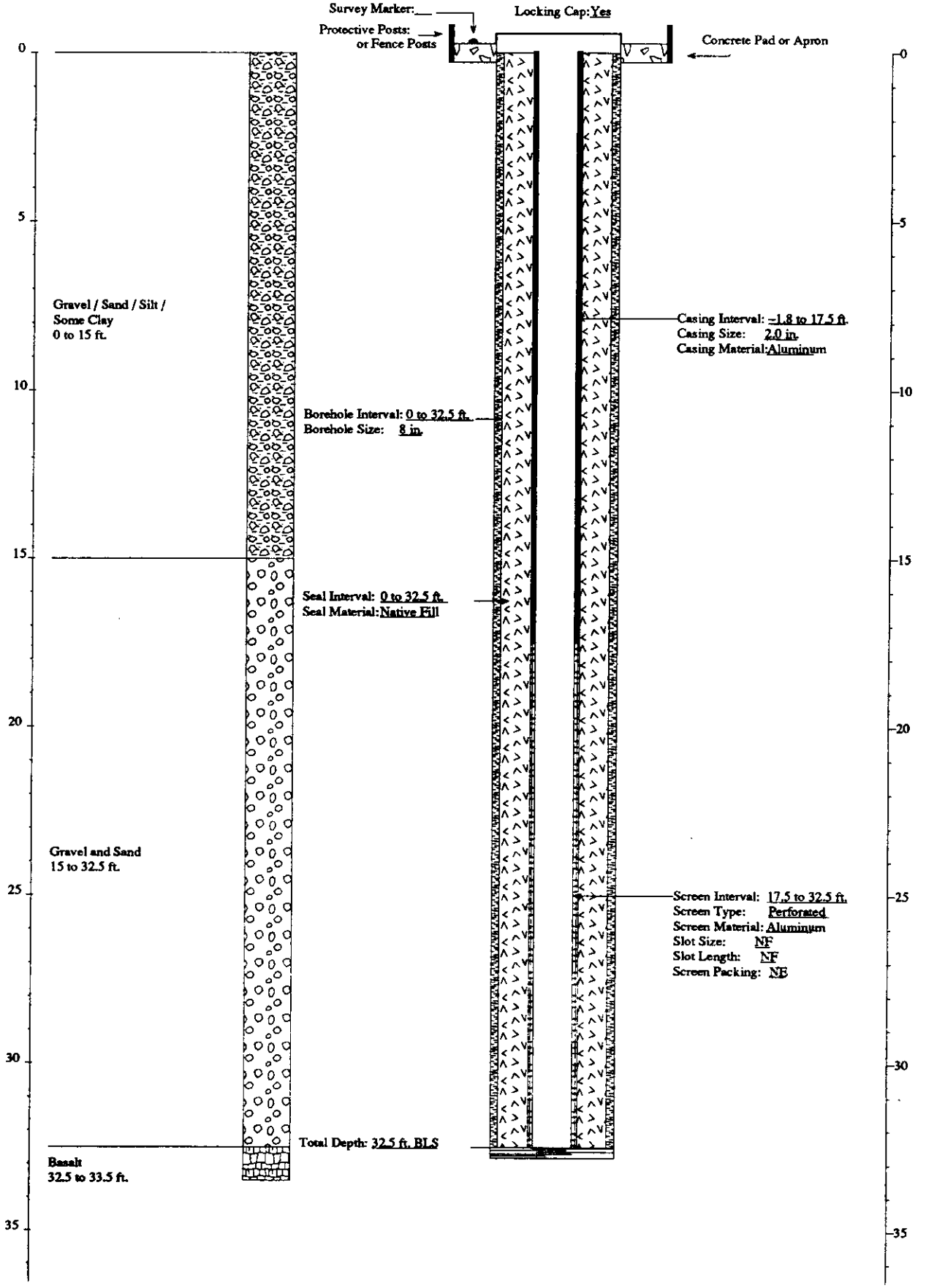
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 32.5

Easting: 297004.01
Northing: 692229.52
Longitude: 1125557.08
Latitude: 433348.94
Completion Depth: 32.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.23

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-13A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 29.9 ft. Top of basalt = 29.9 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 19.9	Threaded	29	.156	Yes
Perforated Aluminum	2	19.9 - 29.9	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 29.9	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 460 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-13A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	29.9	Surficial Sediments
29.9		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-13A

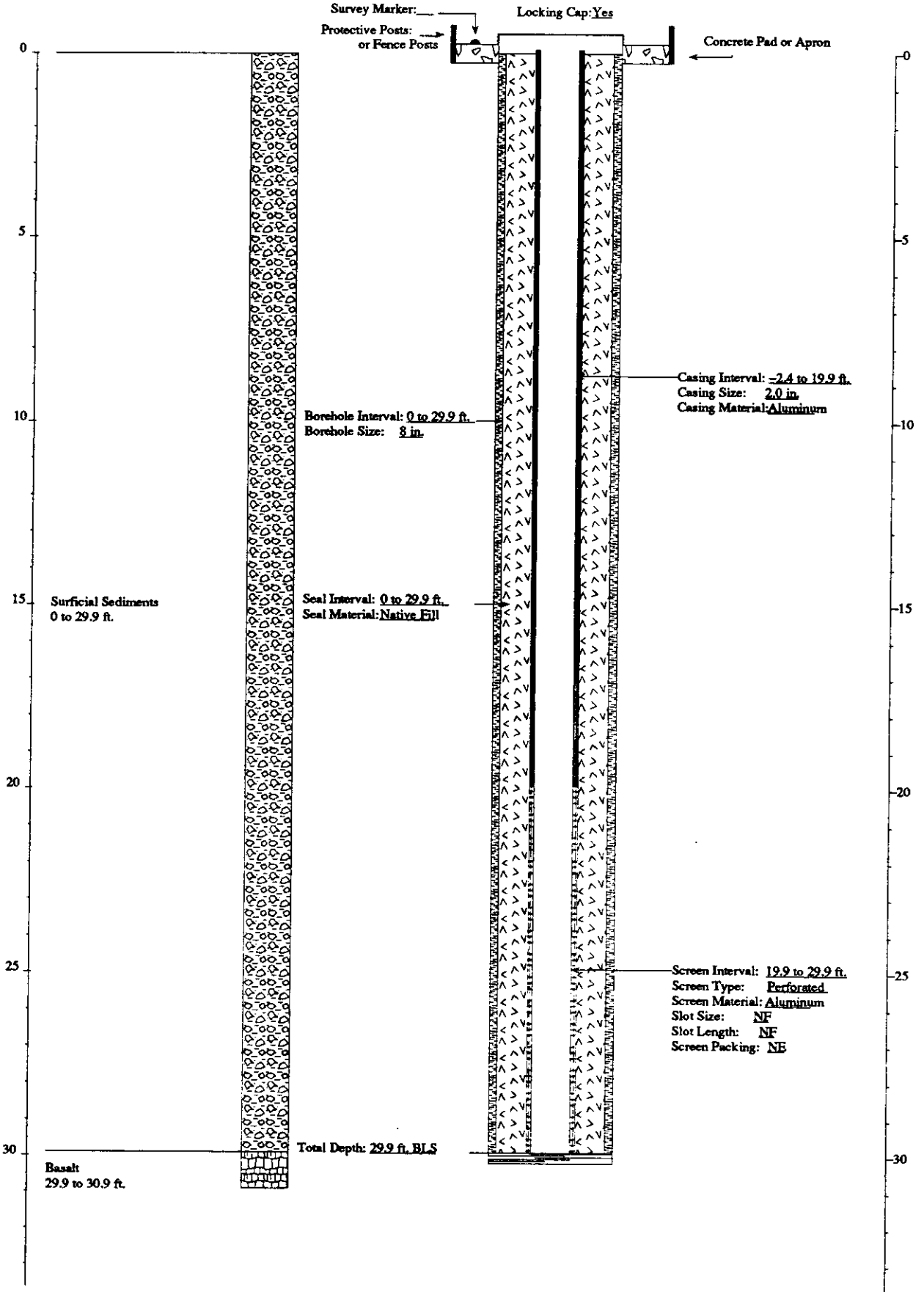
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 29.9

Easting: 296906.69
Northing: 692859.55
Longitude: 1125558.48
Latitude: 433355.16
Completion Depth: 29.9

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.66

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-14

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 36 ft. Top of basalt = 33 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes X No _ N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18	Threaded	28.5	.156	Yes
Perforated Aluminum	2	18 - 33	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 33	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located near the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. Also, the surface upgrade was not completed because the well is located within the fenced area around the ICPP percolation ponds.

Remediation: The surface upgrade should be installed. This is presently planned for the summer of 1993.

GEOLOGIC LOG

Well Name SWPP-14

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	5	Gravel with Sand
5	10	Gravel (Few Fines)
10	33	Gravel with Sand
33	36	Basalt with Void

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-14

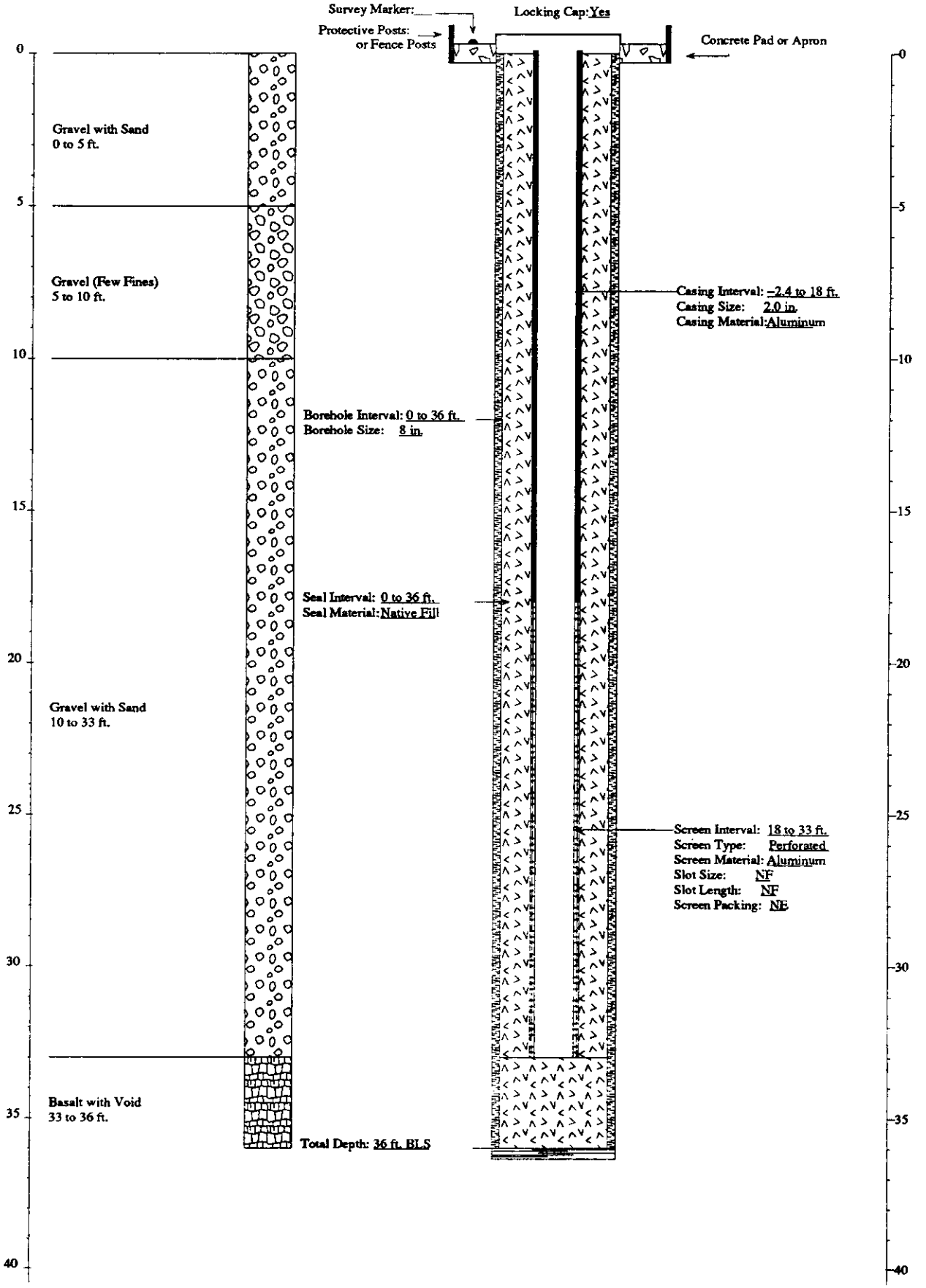
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 36

Easting: 297532.92
Northing: 692220.86
Longitude: 1125549.89
Latitude: 433348.90
Completion Depth: 36

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4915.68

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-14A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 29 ft. Top of basalt = 29 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 19	Threaded	12	.156	Yes
Perforated Aluminum	2	19 - 29	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 29	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 460 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-14A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	29	Surficial Sediments
29		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-14A

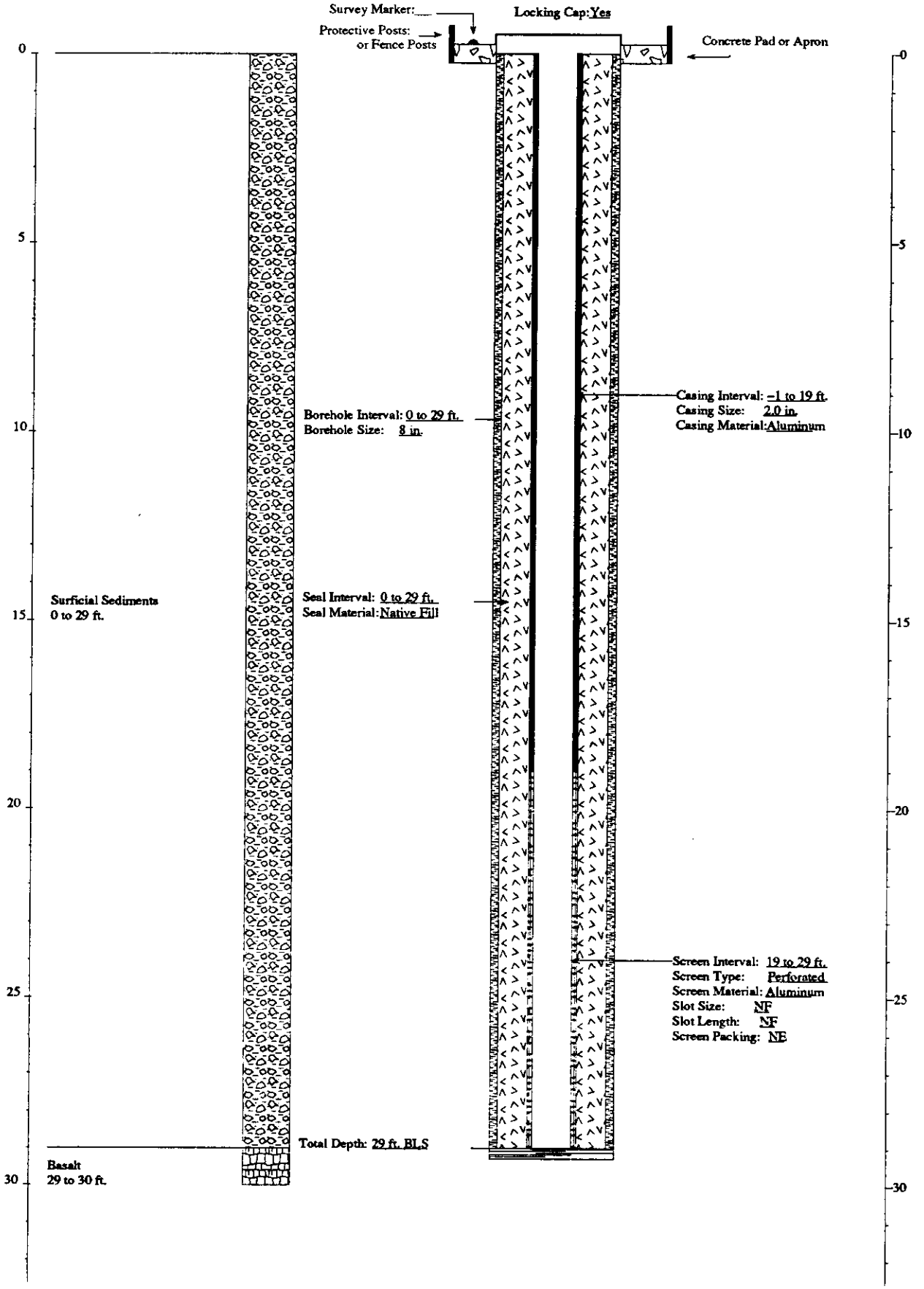
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 29

Easting: 296727.28
Northing: 692862.20
Longitude: 1125600.91
Latitude: 433355.17
Completion Depth: 29

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4915.06

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-15

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 33.5 ft. Top of basalt = 33.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18.5	Threaded	36	.156	Yes
Perforated Aluminum	2	18.5 - 33.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 33.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 200 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-15

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	0.5	Silt and Clay with Gravel
0.5	5	Gravel and Sandy Silt
5	16	Gravel and Silty Sand
16	25	Coarse Sand with Gravel
25	32.5	Gravel / Some Sand
32.5	33.5	Plastic Clay
33.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-15

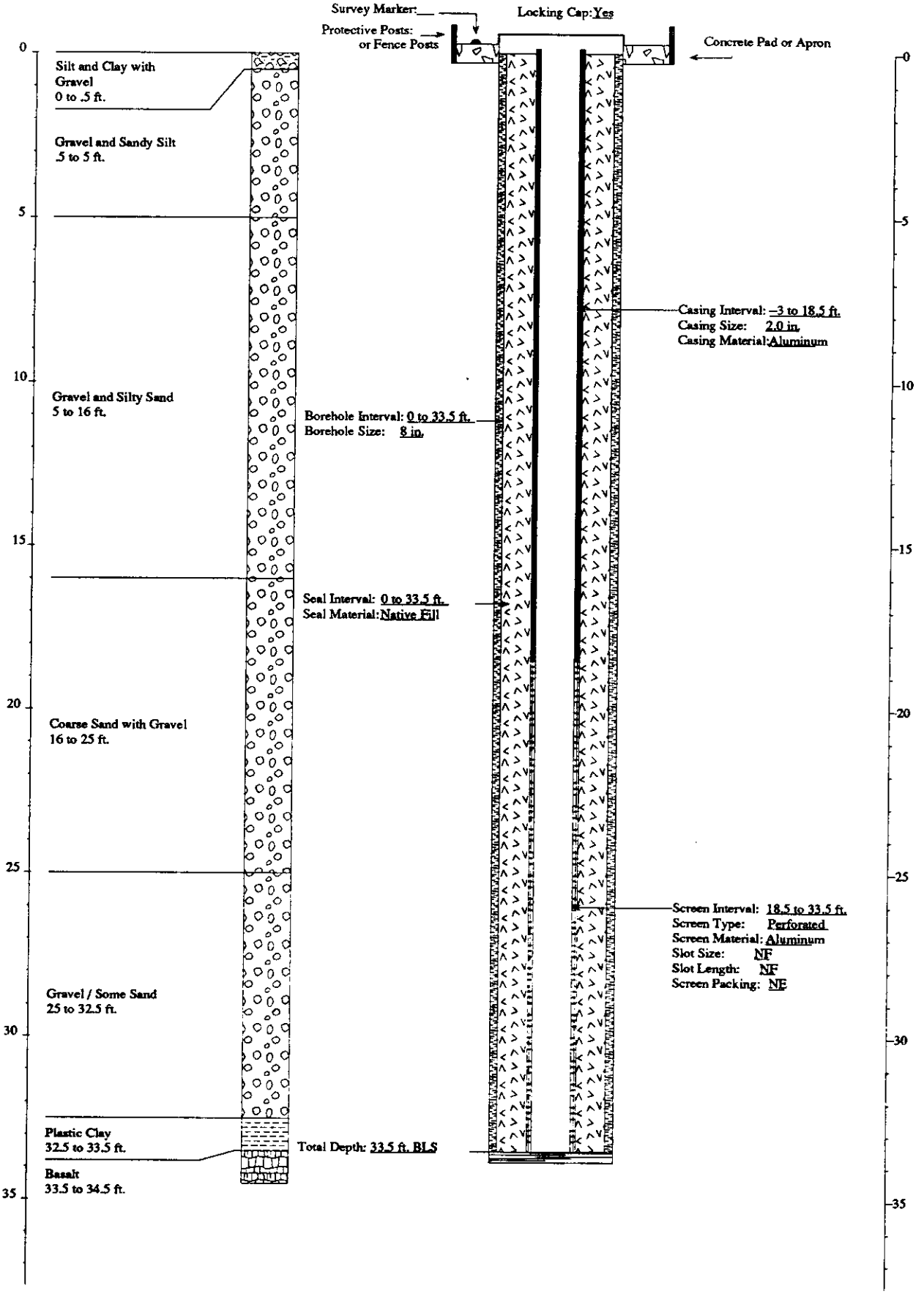
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 33.5

Easting: 297707.56
Northing: 692215.13
Longitude: 1125547.52
Latitude: 433348.86
Completion Depth: 33.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4915.35

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. SWPP-15A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 30.2 ft. Top of basalt = 30.2 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 20.2	Threaded	59	.156	Yes
Perforated Aluminum	2	20.2 - 30.2	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 30.2	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 675 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-15A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	30.2	Surficial Sediments
30.2		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-15A

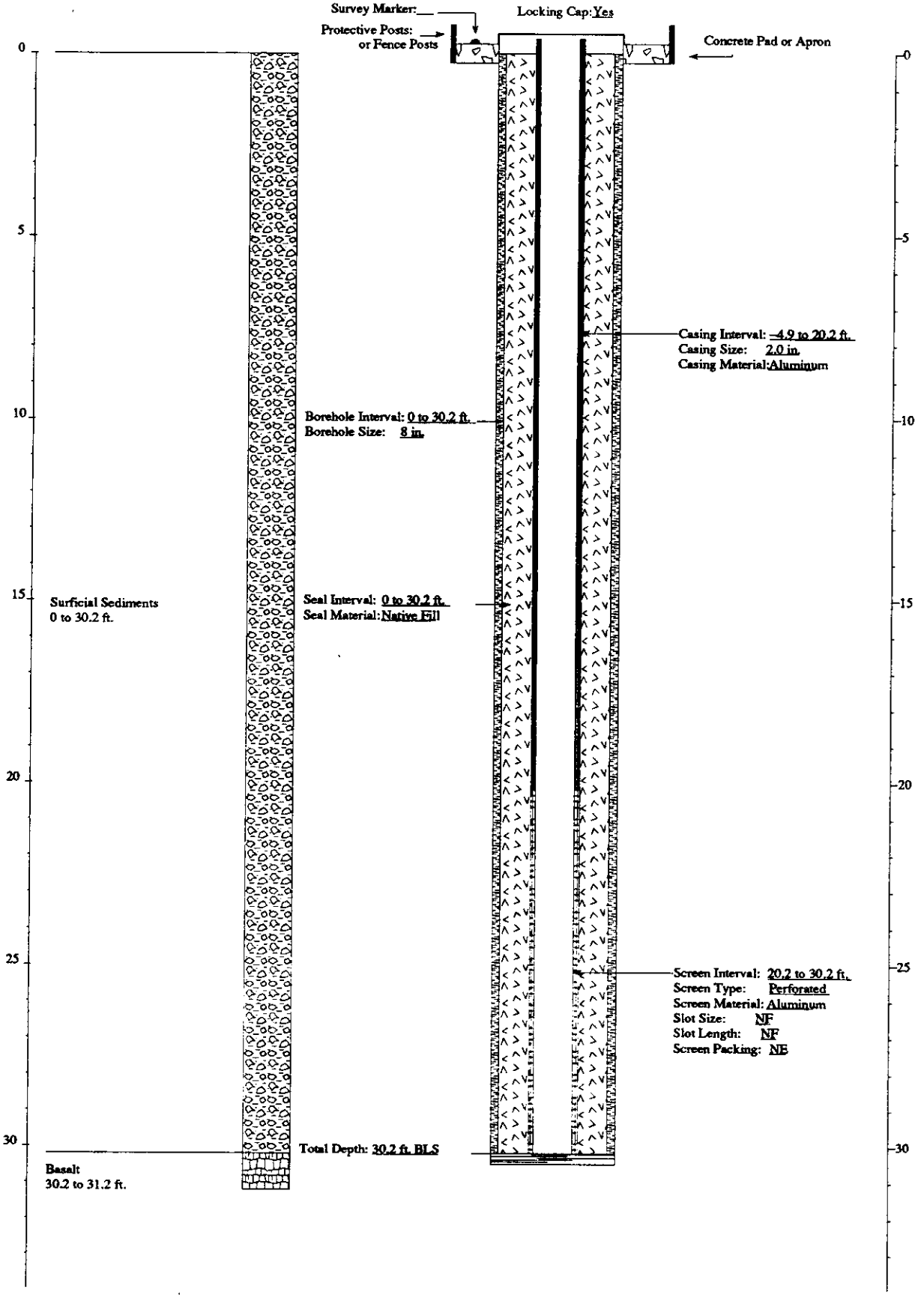
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 30.2

Easting: 297133.13
Northing: 693079.42
Longitude: 1125555.43
Latitude: 433357.35
Completion Depth: 30.2

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.22

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-16

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 29 ft. Top of basalt = 29 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 19	Threaded	30	.156	Yes
Perforated Aluminum	2	19 - 29	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 29	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 460 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-16

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	0.5	Silt / Some Clay and Gravel
0.5	5	Gravel with Clayey Silty Sand
5	13	Gravel / Minor Coarse Sand
13	19	Gravel / Some Coarse Sand and Silt
19	23	Coarse Sand / Some Gravel
23	28	Gravel with Coarse Sand
28	29	Clay
29		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-16

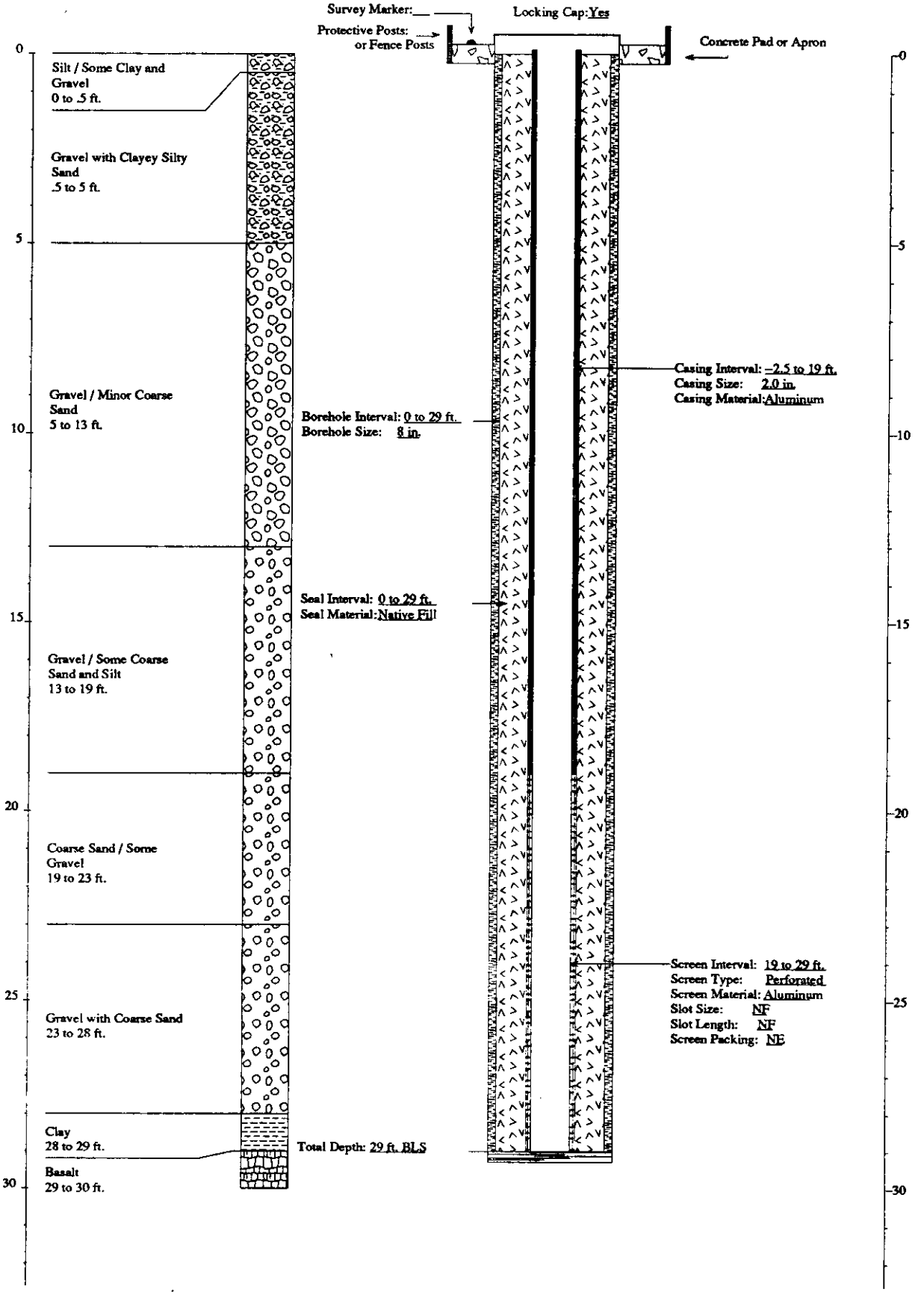
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 29

Easting: 297958.62
Northing: 692208.92
Longitude: 1125544.11
Latitude: 433348.83
Completion Depth: 29

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.32

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-16A

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 30.1 ft. Top of basalt 30.1 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-16A

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-16A

Source: Table of SWPP Wells

****

Interval (feet below surface)

Begin	End	Description
0	30.1	Alluvium
30.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-16A

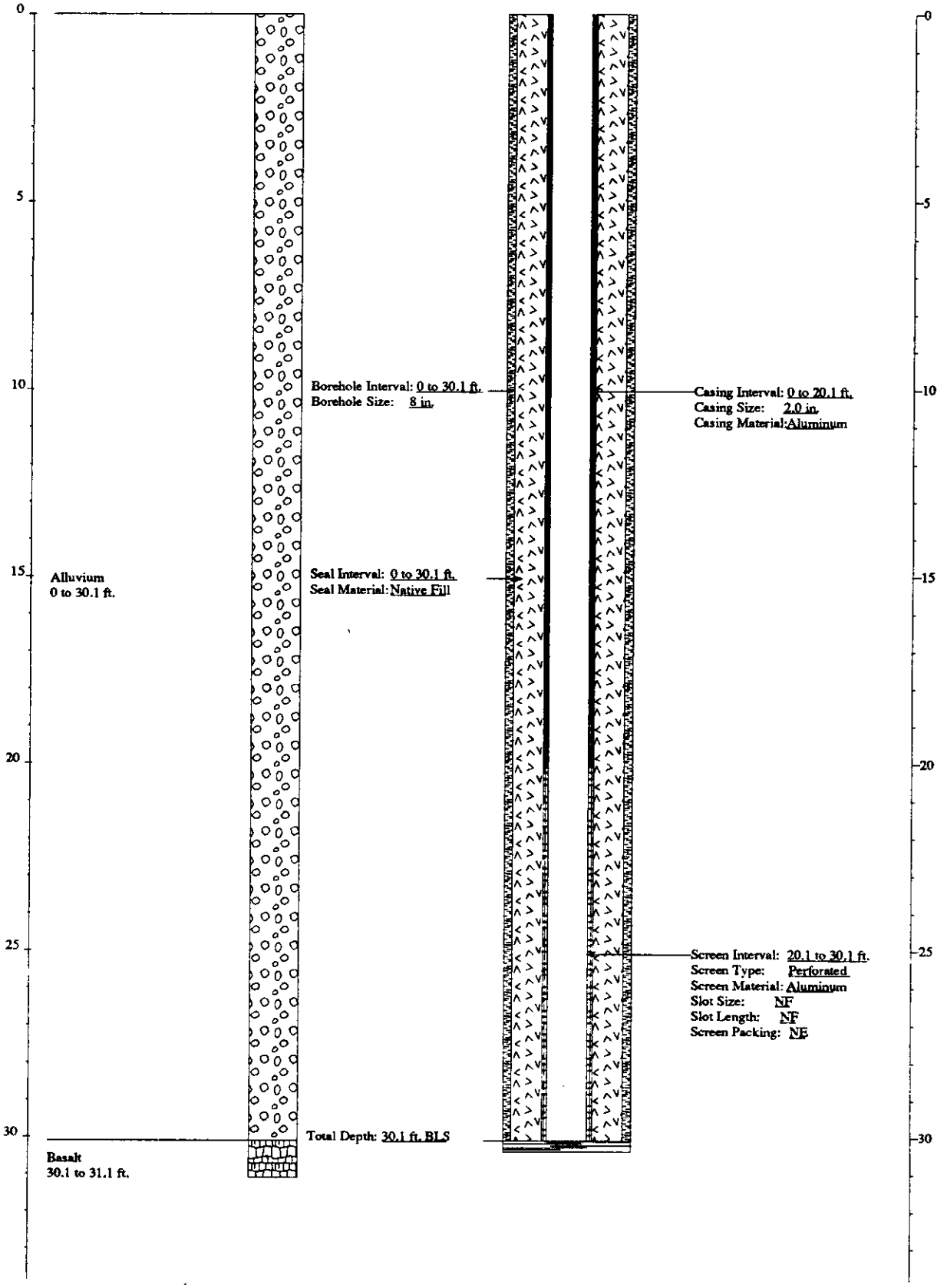
06/16/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1984
Total Depth: 30.1

Easting: 296441.17
Northing: 692330.38
Longitude: 1125604.73
Latitude: 433349.89
Completion Depth: 30.1

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4917.42

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-17

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20 ft. Top of basalt = 20 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 7	Threaded	41	.156	Yes
Perforated Aluminum	2	7 - 20	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 20	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 710 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-17

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	10	Gravel and Silty Sand
10	20	Gravel / Sand / Silt to Clay
20		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-17

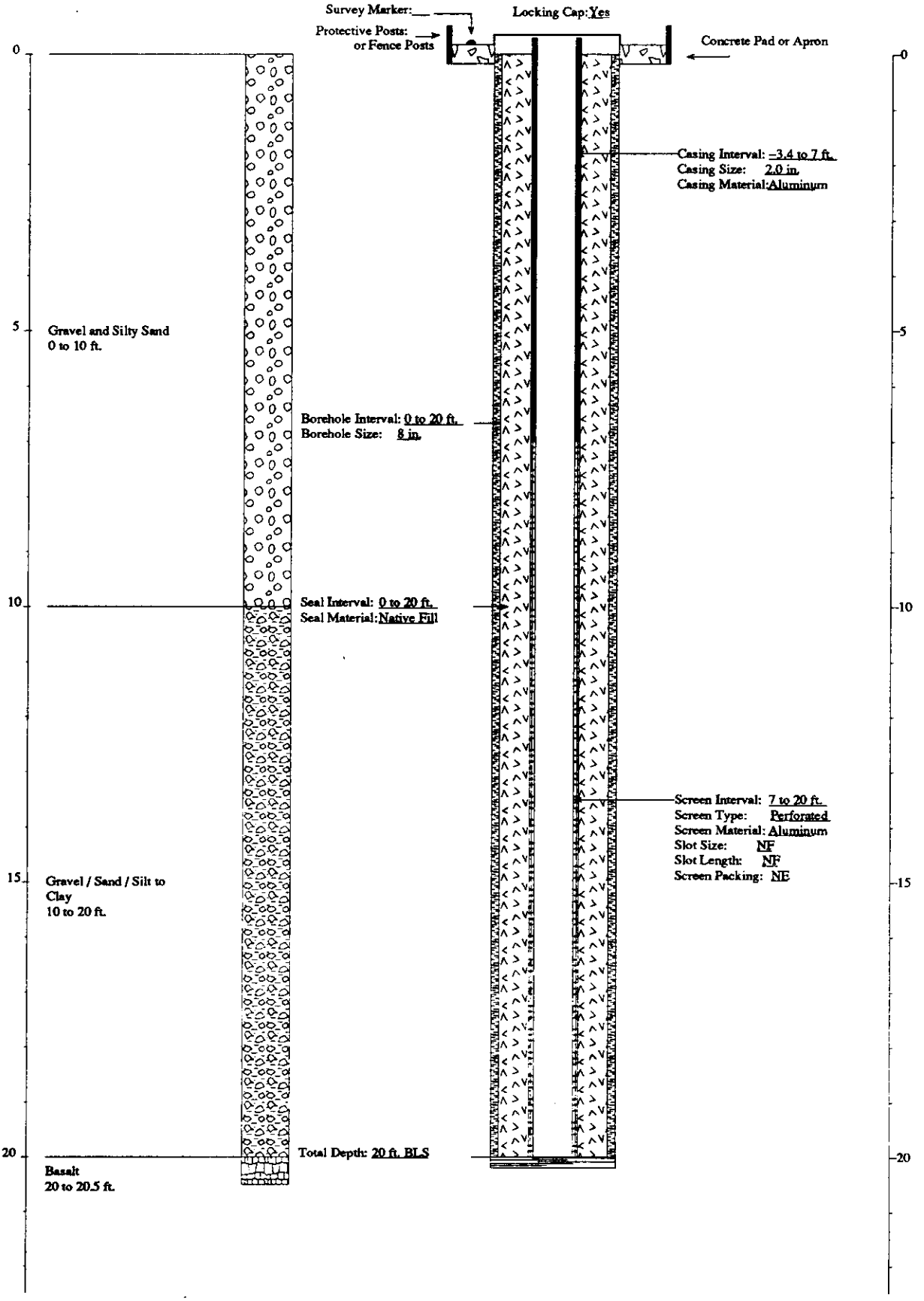
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 20

Easting: 298207.43
Northing: 692205.38
Longitude: 1125540.73
Latitude: 433348.81
Completion Depth: 20

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.18

Water Level: NF
Water Level Date: NF
Water Level Access: NF



INEL COMPREHENSIVE WELL SURVEY

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-17A

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
( ) Backfilled
( ) Buried
( ) Grouted
(X) Other Bulldozed under during excavation.

2) List procedure and amounts of material used to abandon the well:_
Not documented

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No _ Not Certain X
Explanation: The well may contain a 2-inch aluminum casing.

2) Was the annular space between the casing and borehole grouted:
Yes _ No X Not Documented _ N/A _
Explanation: The well was backfilled or contains no seal.

D. Compliance with State Regulations

State of Idaho Reg.3,12,1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 33.1 ft. Top of basalt 33.1 ft.

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-17A

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

3) Are additional abandonment procedures necessary:
Yes _ No _ Not Certain X
Explanation: The casing should be grouted if it was not pulled. However, since the well was bulldozed under during percolation pond construction, this may not be possible.

GEOLOGIC LOG

Well Name SWPP-17A

Source: Table of SWPP Wells

****

Interval (feet below surface)

Begin	End	Description
0	33.1	Alluvium
33.1		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP–17A

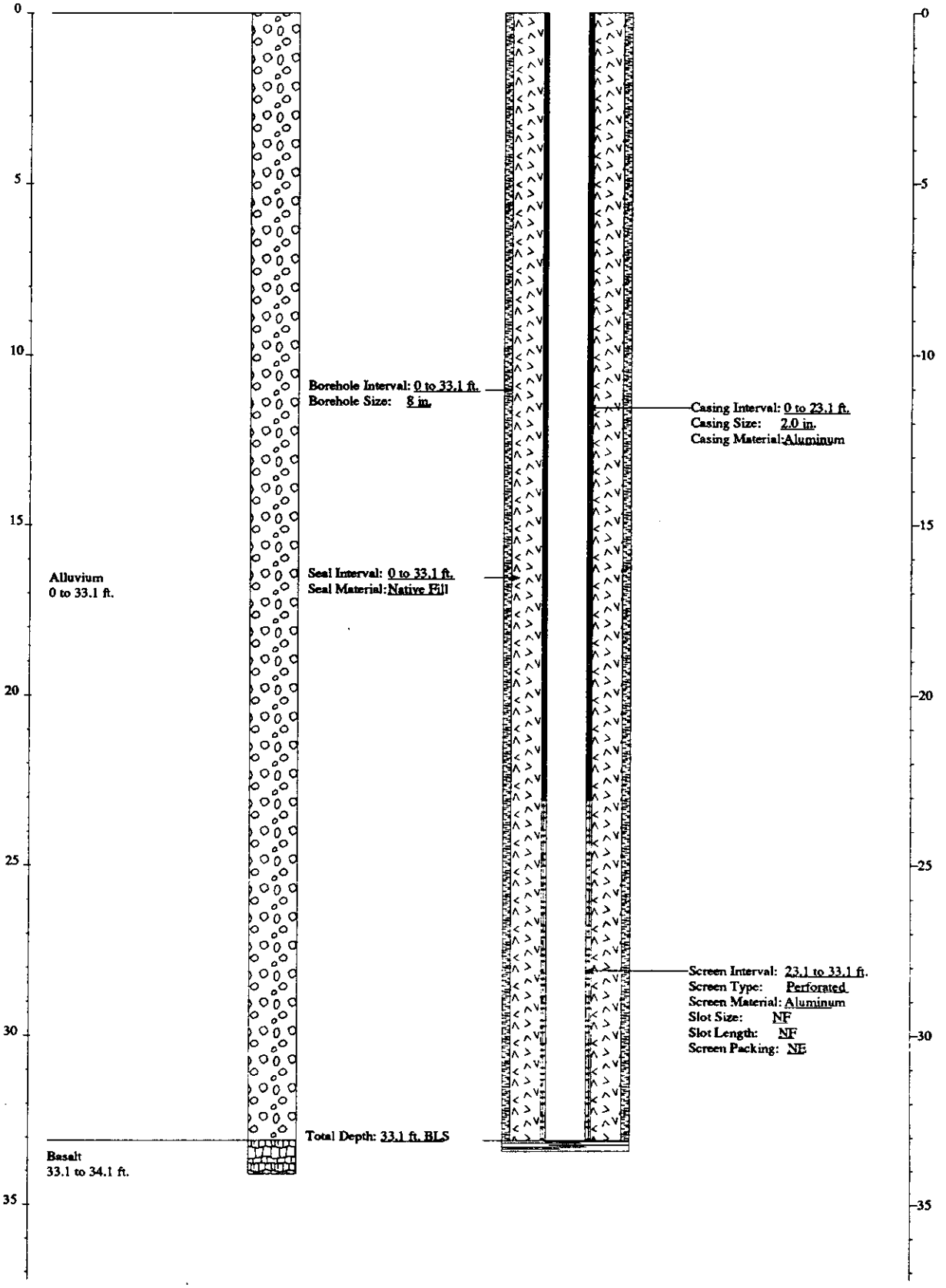
06/16/1993

Facility: CPP
Well Type: NA
Well Status: Destroyed
Year Drilled: 1984
Total Depth: 33.1

Easting: 296456.36
Northing: 691833.41
Longitude: 1125604.46
Latitude: 433344.98
Completion Depth: 33.1

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.67

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-18

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 18.5 ft. Top of basalt = 18.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 8.5	Threaded	23	.156	Yes
Perforated Aluminum	2	8.5 - 18.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 18.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 955 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-18

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	1	Silt and Clay
1	5	Gravel / Sand / Silt / Clay
5	10	Gravel / Silt / Sand / Some Clay
10	15	Gravel / Coarse Sand with Silt
15	18.5	Gravel and Coarse Sand
18.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP–18

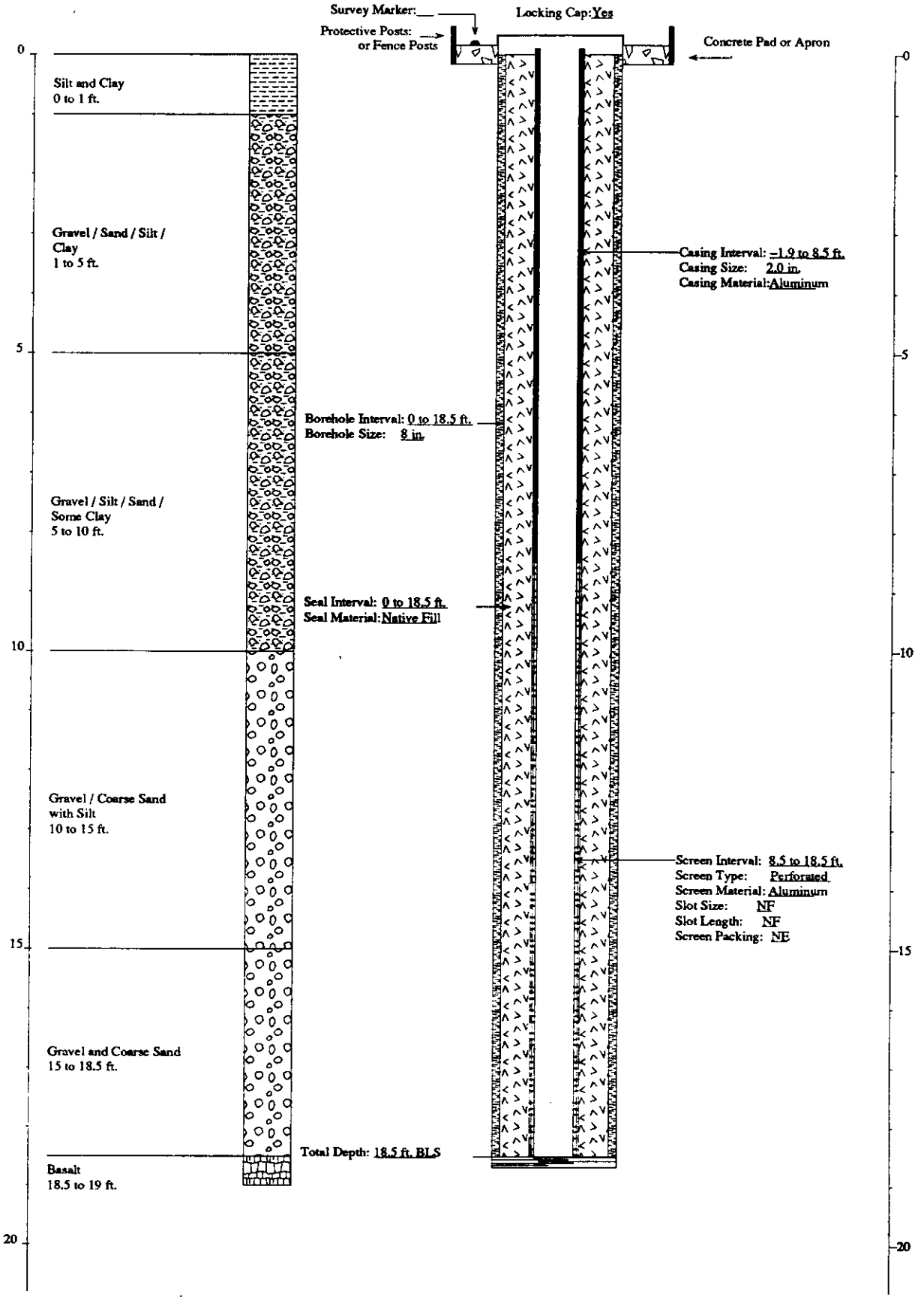
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 18.5

Easting: 298459.05
Northing: 692198.28
Longitude: 1125537.31
Latitude: 433348.77
Completion Depth: 18.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.83

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-18A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 20.7 ft. Top of basalt = 20.7 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 10.7	Threaded	31	.156	Yes
Perforated Aluminum	2	10.7 - 20.7	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 20.7	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3.3.1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 310 feet south of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-18A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	20.7	Surficial Sediments
20.7		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-18A

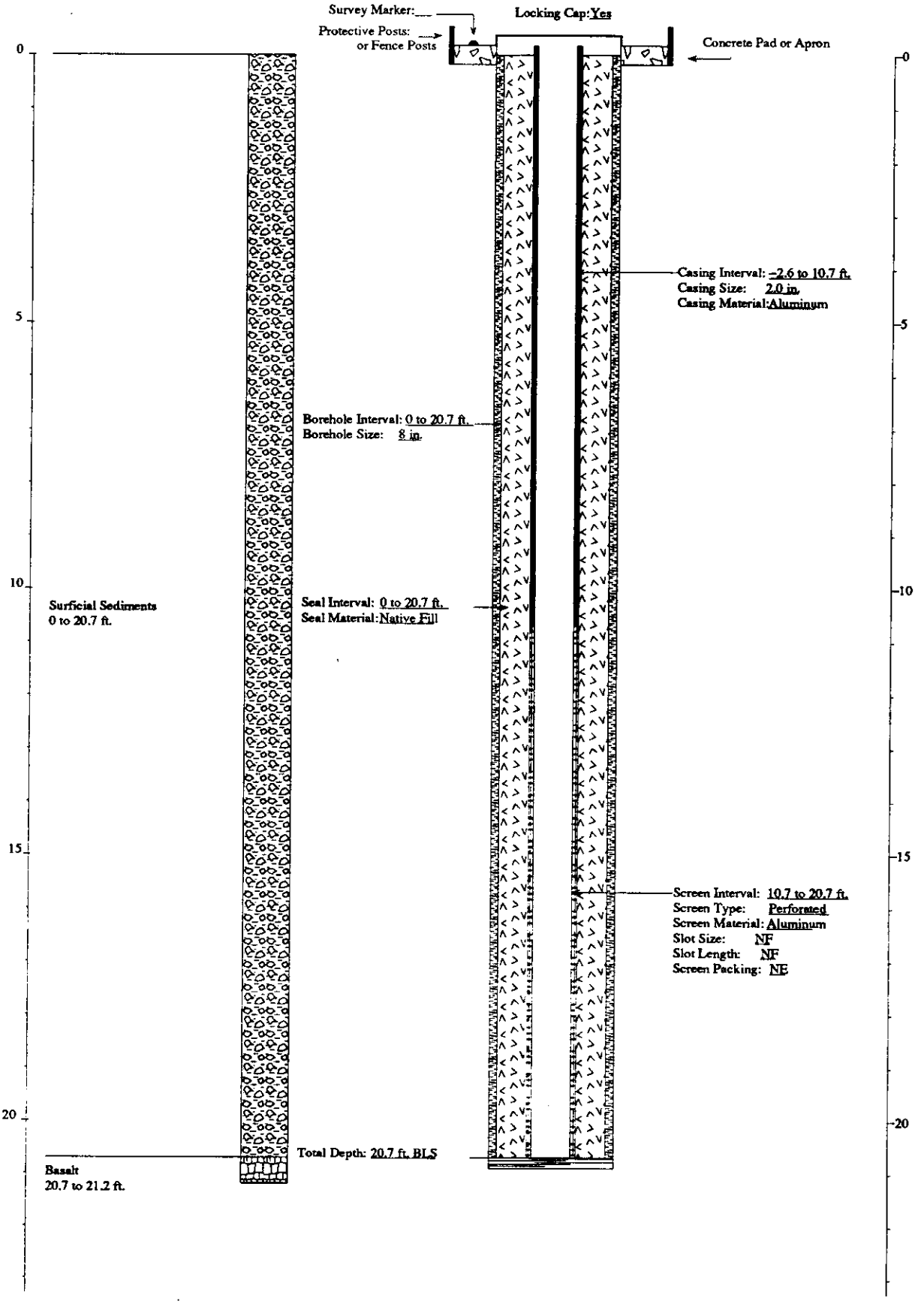
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 20.7

Easting: 296993.03
Northing: 691577.21
Longitude: 1125557.14
Latitude: 433342.50
Completion Depth: 20.7

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.98

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-19

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 34 ft. Top of basalt = 34 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 18	Threaded	27	.156	Yes
Perforated Aluminum	2	18 - 34	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 34	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 140 feet west of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-19

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Sand / Silt / Clay
5	10	Gravel / Sand / Silt
10	20	Gravel and Coarse Sand
20	34	Gravel (No Fines)
34		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-19

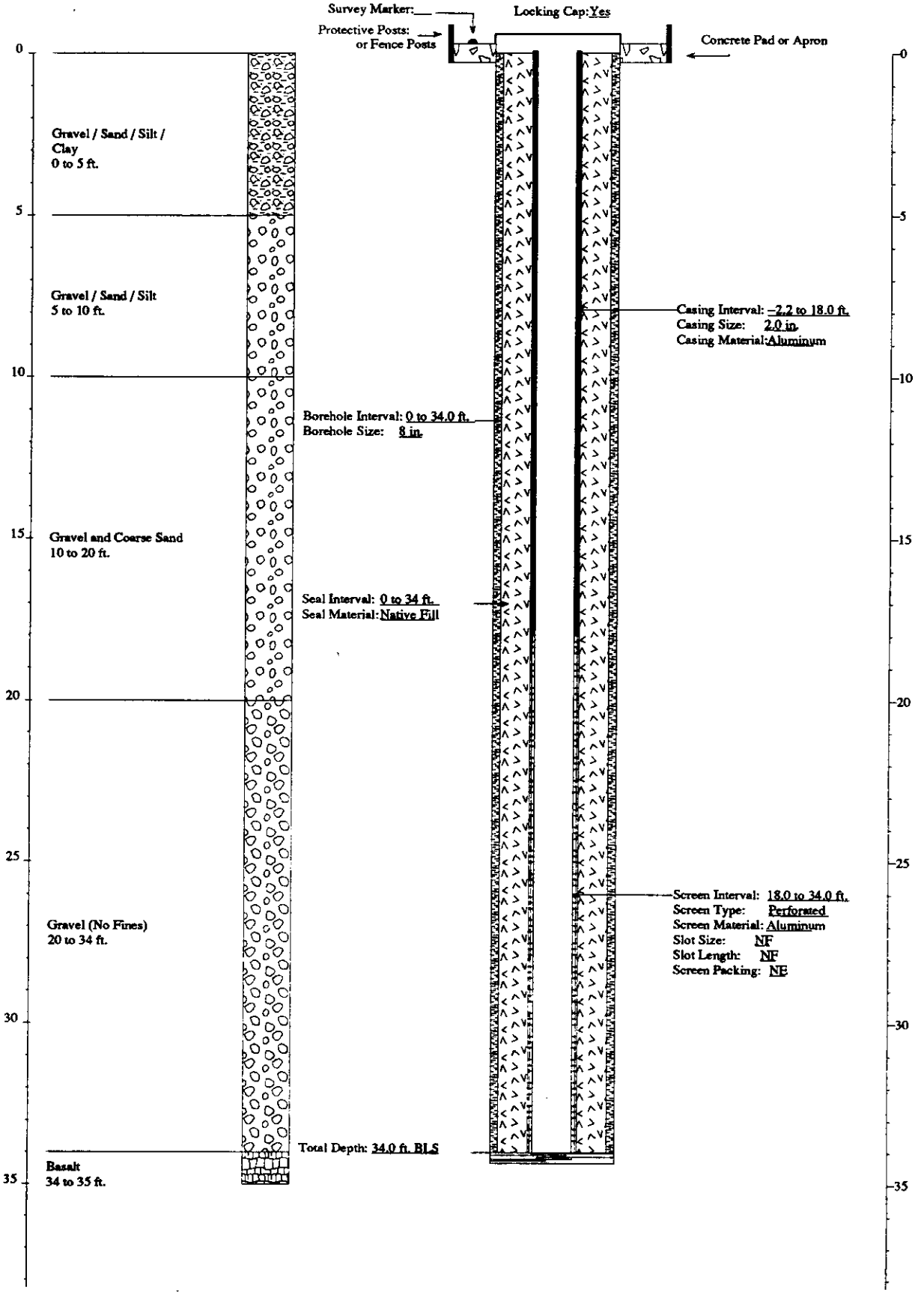
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 34.0

Easting: 296194.74
Northing: 691979.21
Longitude: 1125608.03
Latitude: 433346.40
Completion Depth: 34.0

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4920.06

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-19A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 23.7 ft. Top of basalt = 23.7 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 13.7	Threaded	36	.156	Yes
Perforated Aluminum	2	13.7 - 23.7	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 23.7	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 725 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-19A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	23.7	Surficial Sediments
23.7		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-19A

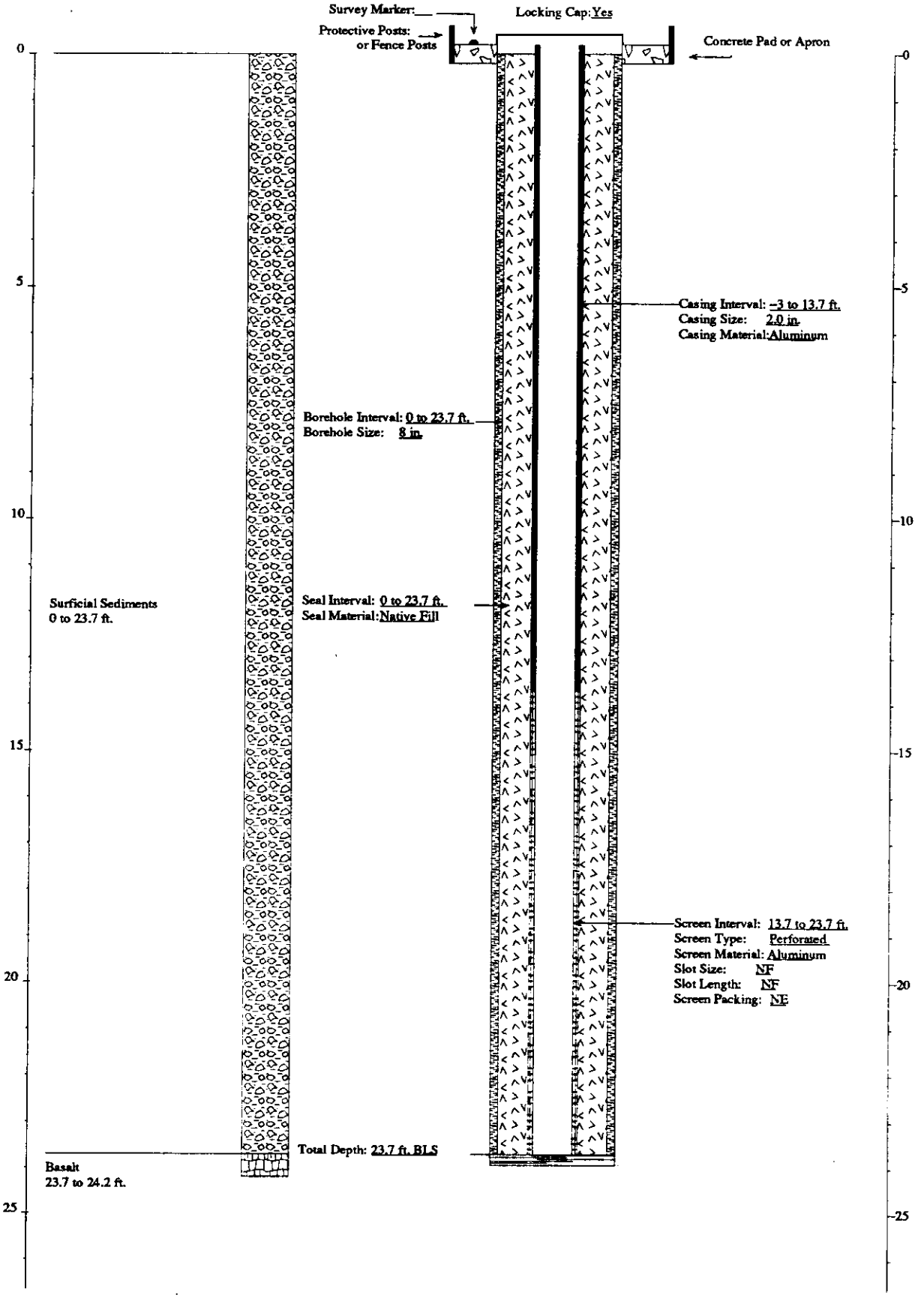
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 23.7

Easting: 298203.06
Northing: 692464.63
Longitude: 1125540.82
Latitude: 433351.37
Completion Depth: 23.7

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4912.96

Water Level: NF
Water Level Date: NF
Water Level Access: NF



INEL COMPREHENSIVE WELL SURVEY

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-20

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
(X) Backfilled
( ) Buried
( ) Grouted
( ) Other

2) List procedure and amounts of material used to abandon the well:
The boreholes backfilled with native material.

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No X Not Certain _

2) Was the annular space between the casing and borehole grouted:
Yes _ No _ Not Documented _ N/A X

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 32 ft. Top of basalt 32 ft.

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-20

3) Are additional abandonment procedures necessary:
Yes _ No X Not Certain _
Explanation: The borehole was located in the alluvium and was backfilled with native material, which should prevent the preferential movement of fluids in the borehole.

GEOLOGIC LOG

Well Name SWPP-20

Source: Field Logbook and Table of SWPP Wells

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Interval (feet below surface)

Begin	End	Description
0	2	Clay with Silt
2	15	Gravel / Sand / Silt / Clay
15	20	Gravel / Less Sand
20	32	Gravel / Some Sand
32		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP–20

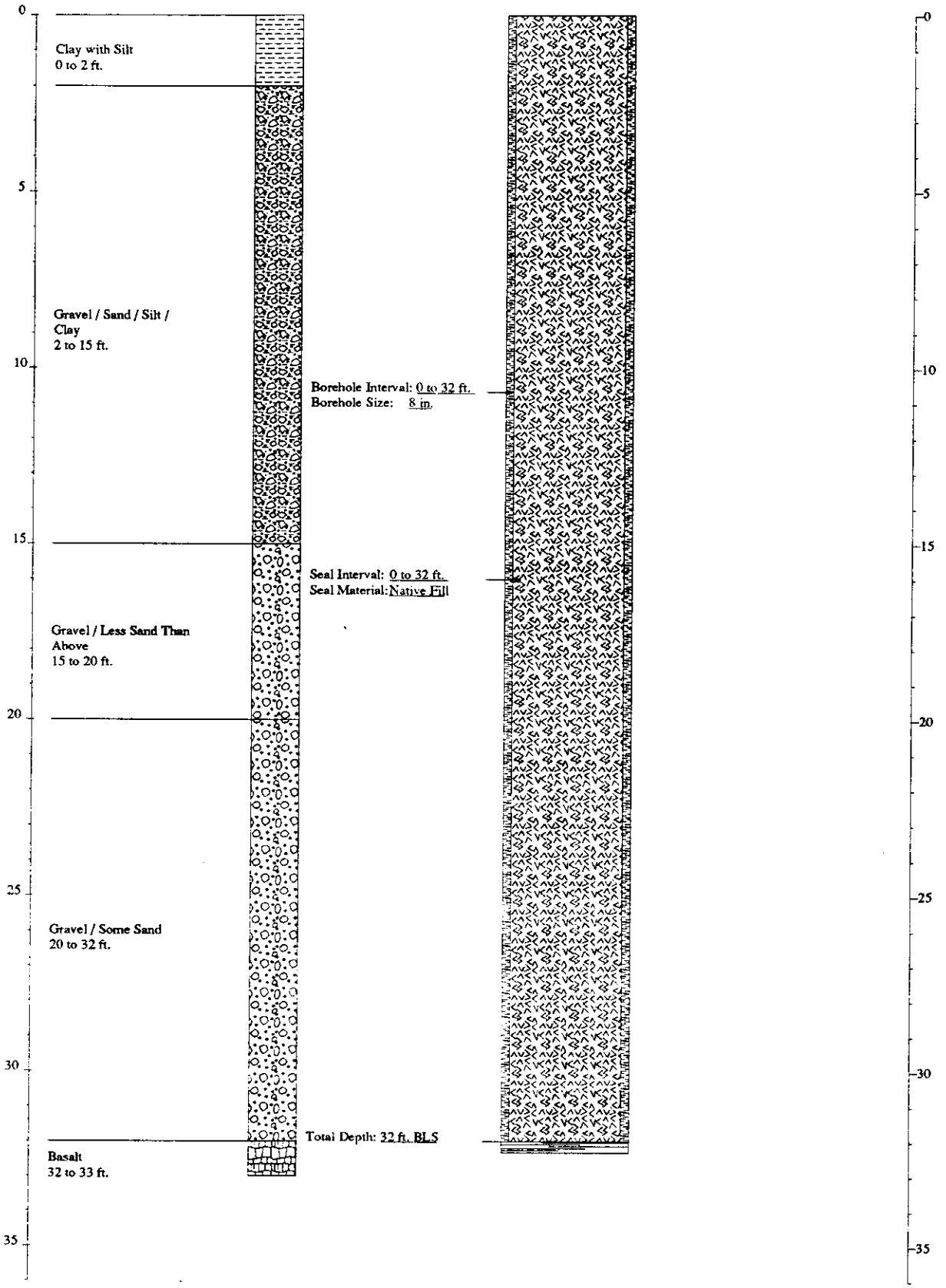
07/29/1993

Facility: CPP
Well Type: NA
Well Status: Backfilled
Year Drilled: 1983
Total Depth: 32

Easting: 296461.44
Northing: 691985.06
Longitude: 1125604.41
Latitude: 433346.48
Completion Depth: 32

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.93

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-20A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 30.7 ft. Top of basalt = 30.7 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 20.7	Threaded	47	.156	Yes
Perforated Aluminum	2	20.7 - 30.7	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 30.7	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 615 feet northeast of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-20A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	30.7	Surficial Sediments
30.7		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-20A

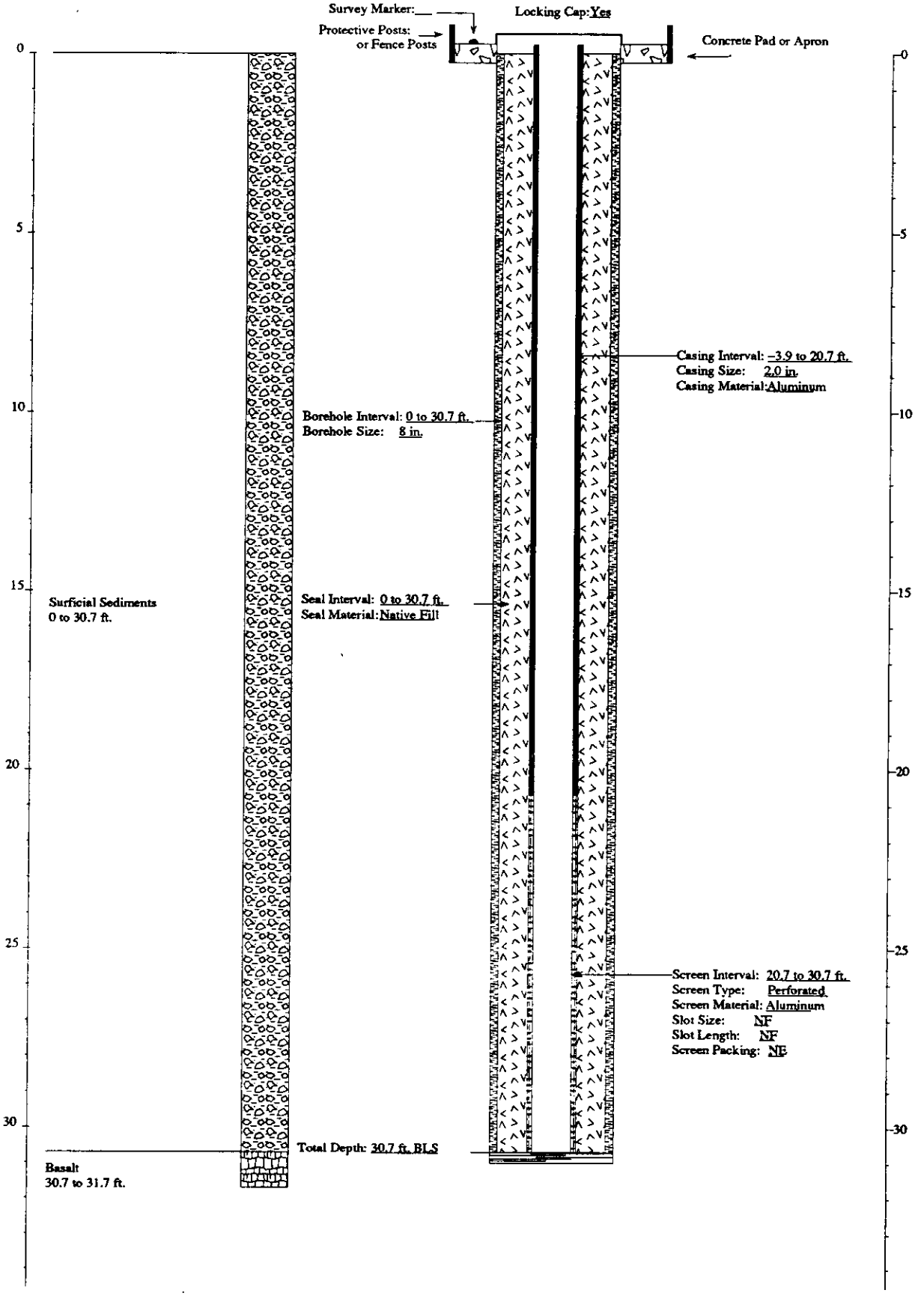
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 30.7

Easting: 297744.19
Northing: 692932.91
Longitude: 1125547.11
Latitude: 433356.35
Completion Depth: 30.7

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4913.04

Water Level: NF
Water Level Date: NF
Water Level Access: NF



CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-21

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
(X) Backfilled
( ) Buried
( ) Grouted
( ) Other

2) List procedure and amounts of material used to abandon the well:
The borehole backfilled with native material.

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No X Not Certain _

2) Was the annular space between the casing and borehole grouted:
Yes _ No _ Not Documented _ N/A X

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 26 ft. Top of basalt 26 ft.

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-21

3) Are additional abandonment procedures necessary:
Yes _ No X Not Certain _
Explanation: The borehole was located in the alluvium and was backfilled with native material, which should prevent the preferential movement of fluids in the borehole.

GEOLOGIC LOG

Well Name SWPP-21

Source: Field Logbook

****

Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Some Sand / Silt / 10% Clay
5	15	Sand with Some Gravel
15	26	Gravel with Some Sand
26		Basalt

COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP–21

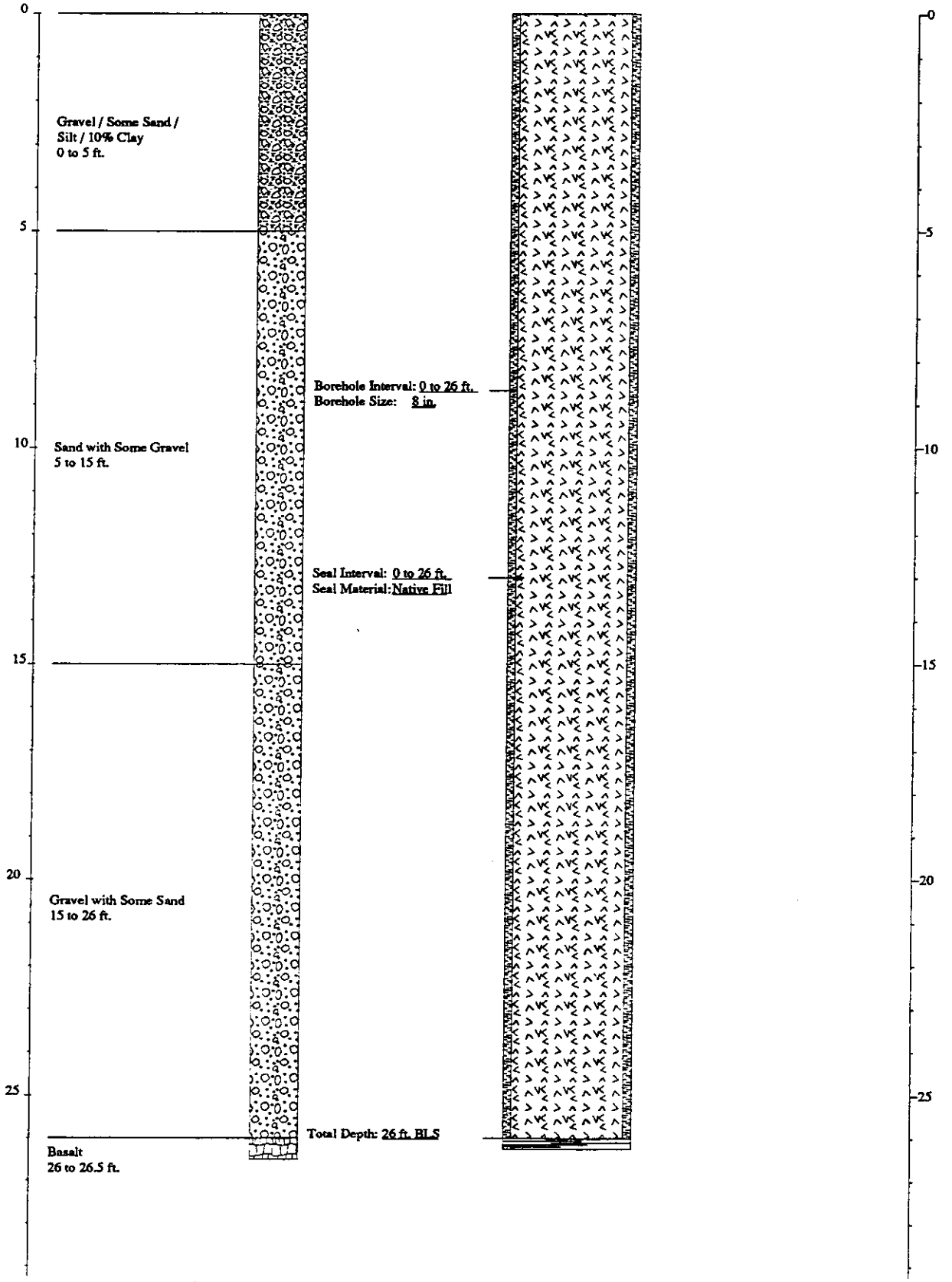
07/01/1993

Facility: CPP
Well Type: NA
Well Status: Backfilled
Year Drilled: 1983
Total Depth: 26

Easting: 296709.36
Northing: 691992.77
Longitude: 1125601.05
Latitude: 433346.58
Completion Depth: 26

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.49

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-21A

A. WELL/BORING USE

1) Year drilled: 1984

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 29.5 ft. Top of basalt = 29.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 19.5	Threaded	32	.156	Yes
Perforated Aluminum	2	19.5 - 29.5	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 29.5	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 310 feet north of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-21A

Source: No geologic log found in CWS file

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Interval (feet below surface)

Begin	End	Description
0	29.5	Surficial Sediments
29.5		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-21A

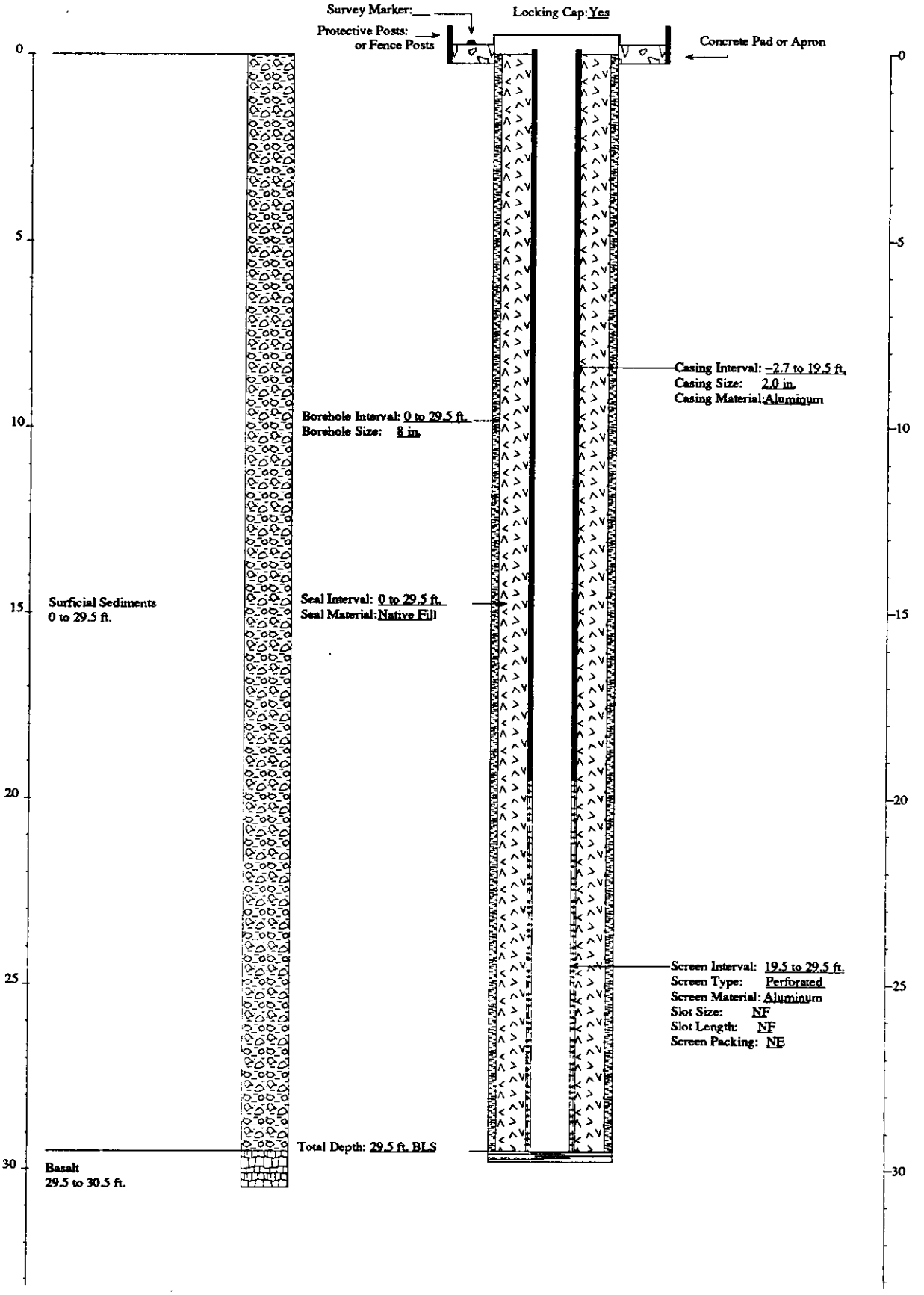
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1984
Total Depth: 29.5

Easting: 296716.40
Northing: 692702.80
Longitude: 1125601.04
Latitude: 433353.59
Completion Depth: 29.5

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.13

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-22

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 18 ft. Top of basalt = 16.5 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes X No _ N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 8	Threaded	38	.156	Yes
Perforated Aluminum	2	8 - 18	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 18	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located near the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166 the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. Also, the surface upgrade was not completed because the well is located within the fenced area around the ICPP percolation ponds.

Remediation: The surface upgrade should be installed. This is presently planned for the summer of 1993.

GEOLOGIC LOG

Well Name SWPP-22

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	5	Sand / Silt / Clay / Some Gravel
5	16.5	Gravel / Minor Sand and Silty Clay
16.5	18	Basalt (Wet)

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-22

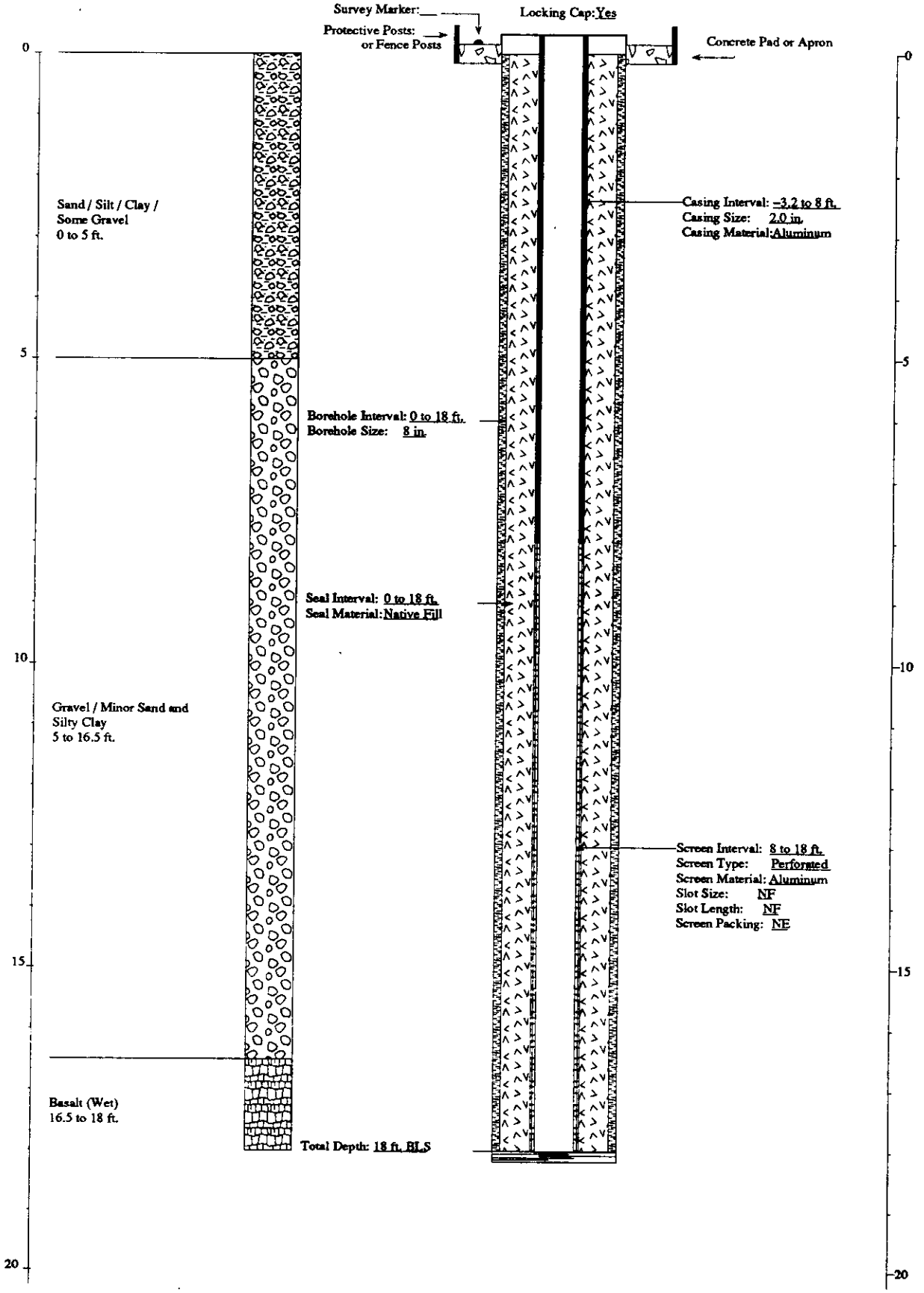
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 18

Easting: 297144.83
Northing: 691967.57
Longitude: 1125555.13
Latitude: 433346.37
Completion Depth: 18

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4918.93

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-23

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 36 ft. Top of basalt = 36 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes _ No X)
3) Concrete pad/apron present: (Yes _ No X)
4) Does the well contain a survey marker: (Yes _ No X)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes X No _ N/A _)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes X No _ N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 28	Threaded	22	.156	Yes
Perforated Aluminum	2	28 - 36	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 36	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located near the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166 the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration. Also, the surface upgrade was not completed because the well is located within the fenced area around the ICPP percolation ponds.

Remediation: The surface upgrade should be installed. This is presently planned for the summer of 1993.

GEOLOGIC LOG

Well Name SWPP-23

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	21	Berm (Clayey Sand / Some Gravel)
21	30	Gravel / Some Clayey Sand
30	36	Gravel / Some Sand
36		Basalt (?)

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-23

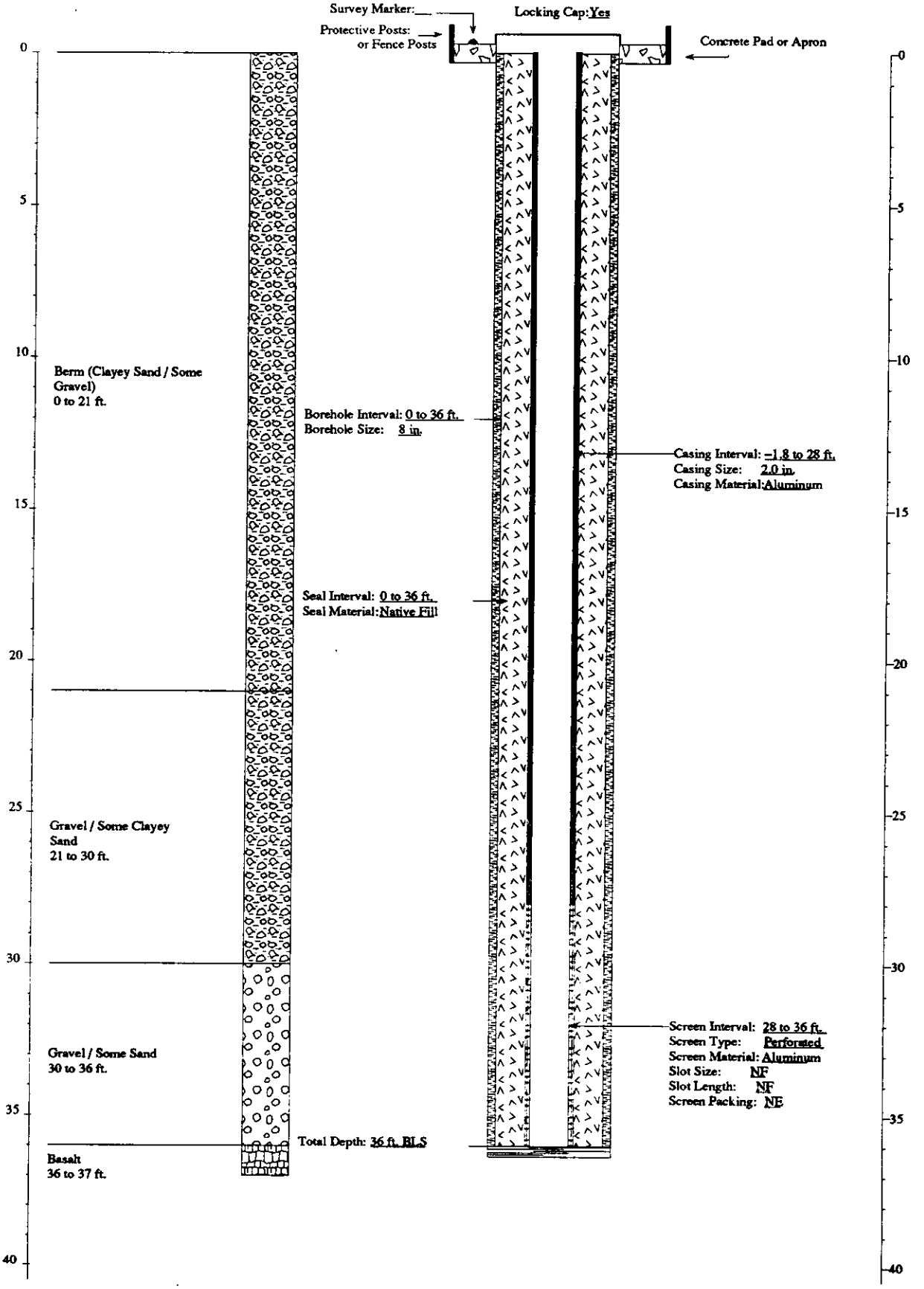
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 36

Easting: 297337.82
Northing: 691931.89
Longitude: 1125552.51
Latitude: 433346.03
Completion Depth: 36

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4934.49

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-24

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 19 ft. Top of basalt = 19 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

(X) Yes, the boring is a well as defined by the State of Idaho.
( ) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 8	Threaded	29	.156	Yes
Perforated Aluminum	2	8 - 18	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 19	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The well is located 955 feet east of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The well monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the well was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

( ) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- ( ) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

(X) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- (X) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The well is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings.

Deficiencies: The well does not comply with state regulations because it was constructed with an aluminum casing (a material not approved in the state regulations) and does not have a surface seal. A variance should be requested for the following reasons: The casing material is adequate for the well's intended use. Although the well does not have a surface seal, it is completed in permeable sediments above the basalt and should not promote vertical fluid migration.

Remediation: None

GEOLOGIC LOG

Well Name SWPP-24

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	1	Silt and Clay
1	5	Gravel / Sandy Silt and Clay
5	10	Gravel / Coarse Sand / Some Silt
10	15	Coarse Sand with Gravel
15	19	Gravel and Coarse Sand
19		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 26, 1992

WellName: SWPP-24

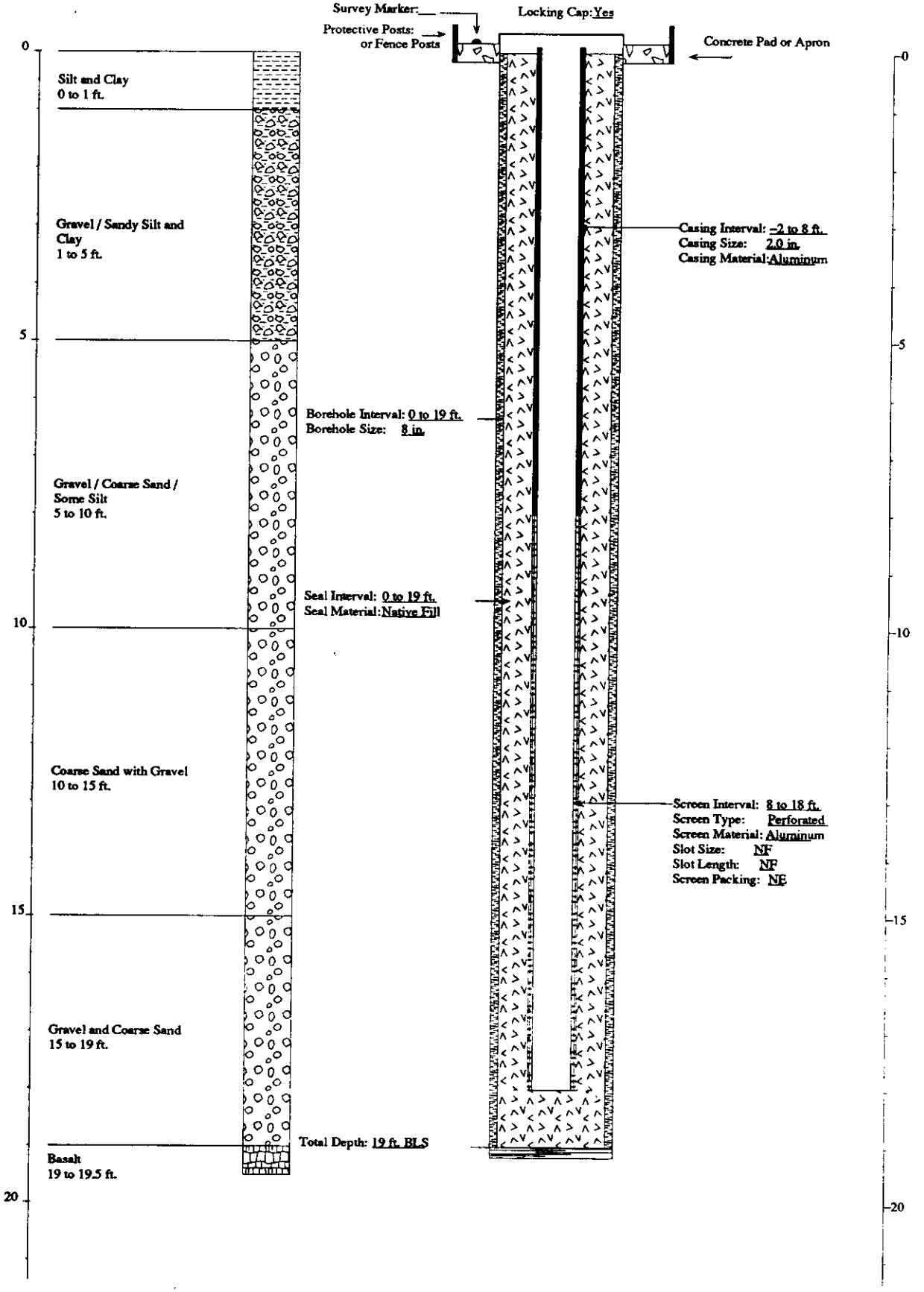
06/16/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 19

Easting: 298457.79
Northing: 691930.51
Longitude: 1125537.30
Latitude: 433346.12
Completion Depth: 19

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4914.07

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP | PAGE 1 of 7 | Well Name/No. SWPP-25

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 15 ft. Top of basalt = 15 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
(X) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	N.F.	Threaded	39	.156	Yes
Perforated Aluminum	2	N.F. - 15	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 15	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The boring is located 155 feet south of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The boring monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the boring was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The boring is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings. The boring is less than 18 feet deep and therefore is not a well as defined by the State of Idaho.

Deficiencies: None

Remediation: None

GEOLOGIC LOG

Well Name SWPP-25

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	5	Gravel / Silt / Some Clay
5	15	Gravel and Silty Sand
15		Basalt

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-25

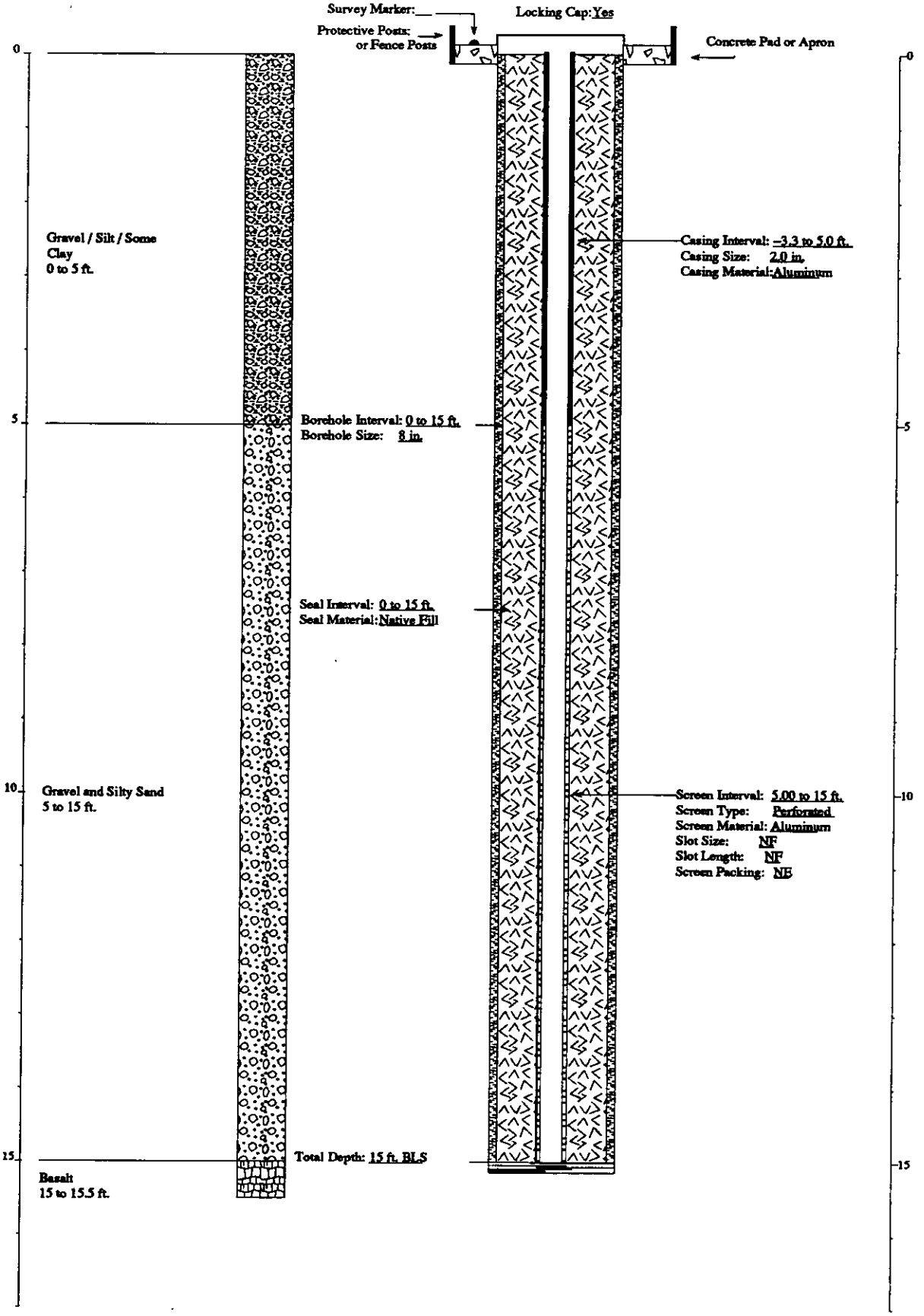
08/15/1993

Facility: ICPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 15

Easting: 297249.25
Northing: 691806.04
Longitude: 1125553.69
Latitude: 433344.78
Completion Depth: 15

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.97

Water Level: NF
Water Level Date: NF
Water Level Access: NF



FITNESS-FOR-USE CHECKLIST FOR MISCELLANEOUS WELLS/BORINGS

LOCATION: ICPP Well Name/No. SWPP-26

A. WELL/BORING USE

1) Year drilled: 1983

2) Current use for well/boring:
( ) DOE 5400.1 Monitoring
( ) RCRA Monitoring
( ) CERCLA Characterization
( ) Other: _
(X) USGS Observation
( ) No Documented Use

3) Constituents monitored currently: None

4) Water level monitored: (Yes X No _ N/A _)

5) Is the well/boring used for USGS observation: (Yes X No _)
(The sampling protocols for the USGS are "Techniques of Water Resources Investigation" and "National Handbook of Recommended Methods for Water-Data Acquisition".)

6) Is the well/boring used or proposed for compliance/detection monitoring: (Yes _ No X) If yes, specify regulating program plan: _

7) Responsible organization/contact person: USGS / Larry Mann

B. WELL/BORING INFORMATION

1) Construction Category
(X) Surface Percolation Well
( ) Gas Port
( ) Neutron Access
( ) Scientific Instrumentation
  ( ) Radioactivity Monitoring
  ( ) Soil Moisture/Vapor Port
( ) Other :_

2) Instrumentation in borehole
(X) None
( ) Vapor Sampler
( ) Gypsum Block
( ) Heat Dissipation Sensor
( ) Lysimeter
( ) Psychrometer
( ) Salinity Probe
( ) Tensiometer

3) Is well/boring completed in the alluvium: (Yes X No _)
Total depth = 17 ft. Top of basalt = 17 ft.

C. IDAHO STATE WELL DEFINITION

Idaho Department of Water Resources Definition of a Well - A well means any test well, monitoring well, cathodic protection well, or observation well 18 feet or deeper in vertical depth below land surface that is constructed to evaluate the groundwater resource or to evaluate contamination of the resource.

Does borehole meet Idaho Department of Water Resources definition of a well:

( ) Yes, the boring is a well as defined by the State of Idaho.
(X) No, the boring is less than 18 feet deep.
( ) No, the boring was installed to detect surface releases or for scientific investigation and its construction is not readily comparable to Idaho State regulations.

If the boring is a well as defined above, it will be evaluated to INEL Best Management Practices and to the Idaho State well construction regulations. If the boring is not a well, section E will be filled out to the extent possible in order to verify the above conclusions and to determine whether or not the borehole provides a preferential pathway for fluid migration.

D. WELL SHOULD COMPLY WITH INEL BEST MANAGEMENT PRACTICES (BMP) REGARDING SURFACE COMPLETION

Surface completion data is documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380). The elevation and coordinates of the measuring point and brass marker for appropriate INEL wells will be resurveyed starting in the summer of 1992 as described in "INEL Well Inspection and Surveying Project" (EGG-WM-9890).

1) Well located by field inspection: (Yes X No _)
2) Protective posts: (Yes _ No X) or Fence posts: (Yes X No _)
3) Concrete pad/apron present: (Yes X No _)
4) Does the well contain a survey marker: (Yes X No _)
5) If no to 2, 3 or 4, is the well planned for upgrade: (Yes _ No _ N/A X)
6) Based on location of well, is existing or planned surface completion adequate: (Yes X No _)

E. WELL IS EVALUATED TO IDAHO DEPARTMENT OF WATER RESOURCES "WELL CONSTRUCTION STANDARDS-RULES and REGULATIONS" (1989)

1) Surface Completion

State of Idaho Reg. 3,2,1. The top of the casing shall be completely covered with a 1/4-inch, thick, solid, new or like-new steel plate welded in place, a threaded cap, or a watertight sanitary seal cover cap. State of Idaho Reg. 3,11. The well shall be equipped with an access port with a plug that will allow measurement of the depth to water.

a) Well capped and protected: (Yes X No _ N/A _)
b) Access to measure water levels: (Yes X No _ N/A _)

2) Casing

State of Idaho Reg. 3,3,2,1. Steel surface casing shall be installed to a minimum depth of 18 feet below land surface with a borehole size 2 inches greater than the O.D. of the casing.

a) If well is completed in surficial sediments, does the casing extend to a minimum depth of 18 feet: (Yes _ No X N/A _)

b) If well is completed in surficial sediments, is the borehole size at least 2 inches greater than the O.D. of the casing: (Yes X No _ N/A Borehole size 8-inch Casing size 2-inch Drilling Method Hollow stem augers)

State of Idaho Reg. 3,3,4. Steel surface casing shall be installed into bedrock or to a depth of 18 feet, whichever is greater, with a borehole size 2 inches greater than the O.D. of the casing.

c) If well is completed in bedrock, does the casing extend to a minimum depth of 18 feet or bedrock, whichever is greater: (Yes _ No _ N/A X)

d) If well is completed in bedrock, is the borehole at least 2 inches greater than the largest diameter casing from ground surface to the top of bedrock: (Yes _ No _ N/A X Borehole size _ Casing size _)

e) What is/are the type of casing(s), diameter(s), interval(s), joint type(s) and casing thickness(es):

State of Idaho Reg. 3,2,1. Casing shall extend at least 12 inches above land surface. Casing joints shall be welded or screw-couple joints which shall be water tight or by other means approved by the Director of Idaho Department of Water Resources. All permanent steel casing required to be installed in a well shall meet the minimum specifications listed below. State of Idaho Reg. 3,2,2. The specifications of any plastic casing to be used shall meet or exceed ASTM Standard F-480.

Permanent Steel Casing Minimum Specifications

Nominal Size (inches)	Outside Diameter (inches)	Nominal Wall Thickness (inches)
1 1/2	1.900	.145
2	2.375	.154
2 1/2	2.875	.203
3	3.500	.216
3 1/2	4.000	.226
4	4.500	.237
5	5.500	.244
6 or greater		.250

Casing Type	Casing Diameter (inches)	Casing Interval (feet)	Type of Casing Joints	Stick-up of Casing Above Ground (inches)	Casing Thickness (inches)	Compliance W/ State Regs. on Casing Thickness
Aluminum	2	0 - 7	Threaded	35	.156	Yes
Perforated Aluminum	2	7 - 17	Threaded	N/A	.156	Yes

3) Seal

State of Idaho Reg. 3,3,1 and 3,3,2,1. The annular space between surface casing and borehole shall be filled with cement grout, puddling clay or bentonite grout from ground surface to 18 feet or top of bedrock, whichever is greater, to prevent the possible downward movement of contaminated surface waters. If the well is completed in alluvium and greater than 18 feet in total depth, a seal to 18 feet is required.

Annular Seal Material	Interval (feet)	Mixture/Volumes	Material Approved by State of Idaho Regs.
Native backfill	0 - 17	N/A	No

a) Does the surface seal extend at a minimum from ground surface to 18 feet below land surface (if the well is completed in alluvium) or to the top of bedrock (if the well is completed in bedrock): (Yes _ No _ N/A X Uncertain/Not documented _)

b) If the seal is documented, how was it emplaced: (N/A X Uncertain/Not documented _) Explanation _

State of Idaho Reg. 3,3,1. The casing seal shall prevent the downward movement of groundwater from zones that have been cased out of the well due to quality or other reasons.

c) Is the well located in proximity to surface water bodies such as percolation ponds, influent streams, spreading areas or other sources that may contribute to perched groundwater above the sampling interval near the well: (Yes _ No X N/A _) Explanation The boring is located 370 feet south of the ICPP percolation ponds and was designed to monitor perched water on the top of basalt. Based on USGS report 91-4166, the well is beyond the estimated lateral extent of perched water created by the ponds in October 1988.

d) Is there evidence of saturated formations above the sampling interval from drilling logs, geophysical logs (USGS Open-File Report 90-366) or other indicators: (Yes _ No X N/A _) Explanation (Qualify data/specify perched intervals if applicable) The boring monitors the base of the alluvium which is commonly the first perched interval.

e) Is the casing sealed adequately to prevent groundwater movement within the annular space: (Yes _ No X N/A _) Explanation However, the boring was completed in the alluvium and backfilled with native material. It should not promote vertical fluid migration.

4) Gravel Pack. Does the well contain a gravel pack: (Yes _ No X) If yes, is there a packer or adequate seal to prevent the migration of surface water or perched groundwater into the gravel pack: (Yes _ No _ N/A X)

F. IS THE WELL USED FOR RCRA MONITORING (Yes _ No X) OR IS THE WELL TO BE EVALUATED TO RCRA GUIDANCE AS A BEST MANAGEMENT PRACTICE (Yes _ No X).

G. THE PRIMARY SOURCE OF INFORMATION FOR THIS CHECKLIST IS IDAHO NATIONAL ENGINEERING LABORATORY COMPREHENSIVE WELL SURVEY OR AS REFERENCED. OTHER SOURCES: USGS Report 91-4166 (for extent of perched water)

N.F. - Not Found/No Documentation
N/A - Not Applicable

H. WELL FITNESS DETERMINATION

Intended Use/Applicable Regulations: USGS Observation/State Regulations and INEL Best Management Practices

(X) Boring is not a well as defined by the State of Idaho.
- ( ) Boring is adequately sealed and its surface completion complies with INEL Best Management Practices.
- (X) Boring is not sealed, but remediation is unnecessary.
- ( ) The boring's surface completion does not comply with INEL Best Management Practices, but remediation is unnecessary.
- ( ) Boring should be remediated.

( ) Boring is a well as defined by the State of Idaho.
- ( ) Well complies with state regulations and is acceptable for intended use.
- ( ) Well complies with state regulations except for minor construction details and is acceptable for intended use.
- ( ) Well does not meet state regulations, a variance should be obtained. If variance is not obtained, remediation is required to comply with regulations.
- ( ) Well does not meet regulations and intended use, it should be remediated.
- ( ) Abandonment should be considered. Well is unneeded or cannot be remediated.

Well Description: The boring is completed in the alluvium and is designed to monitor perched water on the top of basalt as created by the ICPP percolation ponds. It was constructed with a 2-inch aluminum casing and the annular space around the casing was backfilled with cuttings. The boring is less than 18 feet deep and therefore is not a well as defined by the State of Idaho.

Deficiencies: None

Remediation: None

GEOLOGIC LOG

Well Name SWPP-26

Source: USGS Field Logbook

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Interval (feet below surface)

Begin	End	Description
0	10	Gravel / Some Sand
10	17	Gravel / Silt / Sand
17		Basalt (?)

COMPILED BY/ORGANIZATION: F.S. Mocker / GAI Date August 25, 1992

WellName: SWPP-26

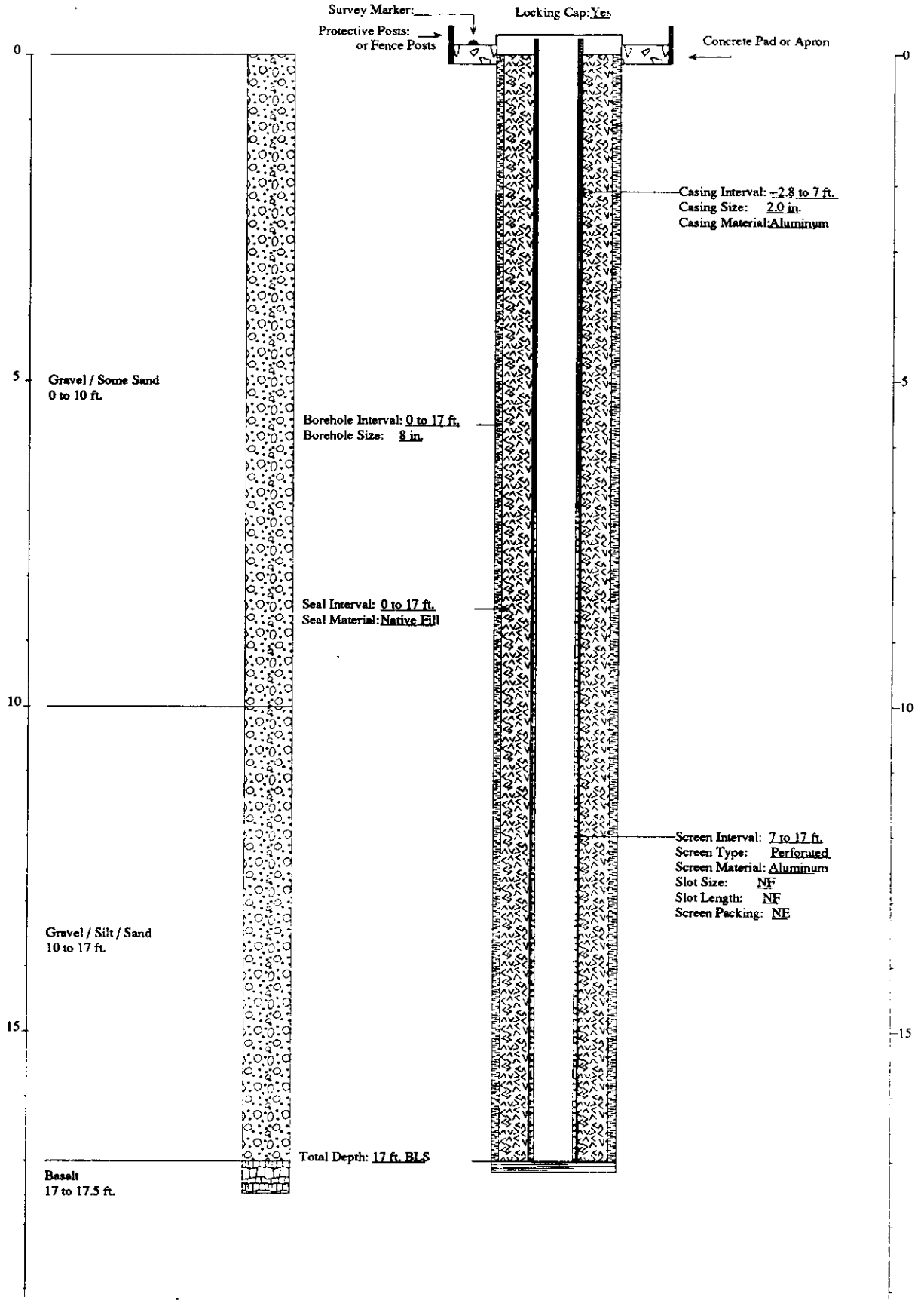
07/29/1993

Facility: CPP
Well Type: Observation Well
Well Status: Active
Year Drilled: 1983
Total Depth: 17

Easting: 297265.69
Northing: 691583.62
Longitude: 1125553.44
Latitude: 433342.59
Completion Depth: 17

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: 4916.75

Water Level: NF
Water Level Date: NF
Water Level Access: NF



INEL COMPREHENSIVE WELL SURVEY

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-27

A. Sources for Well Abandonment

1) What sources indicated that the well was plugged or destroyed:
(X) Comprehensive Well Survey status: Destroyed.
( ) INEL Well Catalog (field survey by K. Beard) _
( ) Personal communication _
( ) Other _

2) Was the well located by field inspection and documented in "Idaho National Engineering Laboratory Well Catalog" (DOE/ID-10380)
( ) Well was located by field inspection.
(X) Well was not located by field inspection.

B. Abandonment Procedures

1) How was the well abandoned or destroyed:
(X) Backfilled
( ) Buried
( ) Grouted
( ) Other

2) List procedure and amounts of material used to abandon the well:
The borehole was filled with native material.

C. Well Casing

1) Does the well contain surface or other well casing:
Yes _ No X Not Certain _

2) Was the annular space between the casing and borehole grouted:
Yes _ No _ Not Documented _ N/A X

D. Compliance with State Regulations

State of Idaho Reg.3.12.1. Permanently abandoned wells may have the casing removed or left in place and shall be filled with bentonite grout, cement grout, concrete, puddling clay, or other material as required to stop the upward or downward movement of water and prevent the waste and/or contamination of the ground water.

1) Total depth of well 38 ft. Top of basalt 38 ft.

2) Was the well properly abandoned in accordance with Idaho State regulations:
Yes _ No X Not Documented _

CHECKLIST FOR ABANDONED/DESTROYED WELLS AND BORINGS

Location ICPP Well Name/No. SWPP-27

3) Are additional abandonment procedures necessary:
Yes _ No X Not Certain _
Explanation: The borehole was located in the alluvium and was backfilled with native material, which should prevent the preferential movement of fluids in the borehole.

GEOLOGIC LOG

Well Name SWPP-27

Source: Table of SWPP Wells

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Interval (feet below surface)

Begin	End	Description
0	38	Alluvium
38		Basalt

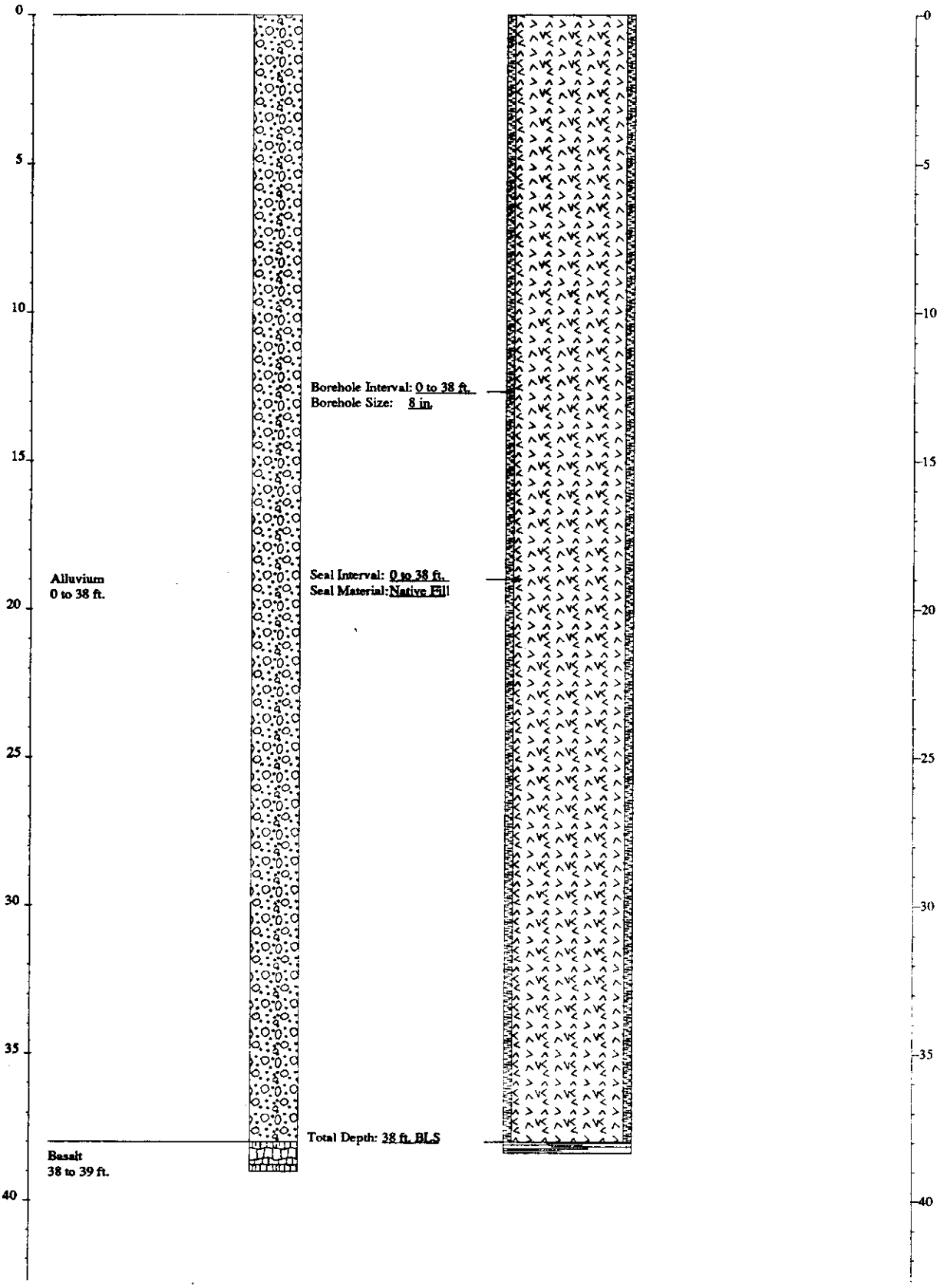
COMPILED BY/ORGANIZATION: T.L. Morgan / GAI Date October 16, 1992

WellName: SWPP-27

07/01/1993

Facility: CPP
Well Type: NA
Well Status: Backfilled
Year Drilled: 1983
Total Depth: 38

Easting: NF
Northing: NF
Longitude: NF
Latitude: NF
Completion Depth: ~38

Driller: USGS
Geologist: NF
Drilling Method: Augering
Drilling Fluid: NF
Land Surface: NF

Water Level: NF
Water Level Date: NF
Water Level Access: NF