IDAHO DEPARTMENT OF AGRICULTURE

GROUNDWATER QUALITY ASSESSMENT OF 1,2-DICHLOROPROPANE AND 1,2,3-TRICHLOROPROPANE IN NORTHWEST ADA COUNTY

Groundwater Quality/Pesticide
Technical Report
Volume 1

prepared by:

Daniel Whitney
Gary Bahr
Patrick McGourty

Division of Agricultural Technology

SEPTEMBER, 1992

GROUNDWATER QUALITY ASSESSMENT OF 1,2-DICHLOROPROPANE AND 1,2,3-TRICHLOROPROPANE IN NORTHWEST ADA COUNTY

Groundwater Quality/Pesticide
Technical Report
Volume 1

prepared by:

Daniel Whitney
Gary Bahr
Patrick McGourty

IDAHO DEPARTMENT OF AGRICULTURE
Division of Agricultural Technology

September, 1992

TABLE OF CONTENTS

	page
INTRODUCTION	1
Purpose	3
PHASE I INVESTIGATION	3
General Hydrogeology	3
Sampling Plan	4
Findings	4
PHASE II INVESTIGATION	9
Sampling Plan	9
Findings	10
PHASE I AND II INVESTIGATIONS SUMMARY	10
CONCLUSIONS AND RECOMMENDATIONS	14
REFERENCES	17
FIGURES	
Figure 1: Phase I Well Sampling Locations	5
Figure 2: Stratigraphic Cross-Section Location Map (Appendix C)	C-1
Figure 3: Stratigraphic Cross-Section A-A' (Appendix C)	C-2
Figure 4: Stratigraphic Cross-Section B-B' (Appendix C)	C-3
Figure 5: Stratigraphic Cross-Section C-C' (Appendix C)	C-4
Figure 6: Phase II Well Sampling Locations	11
Figure 7: 1,2-DCP and 1,2,3-TCP Detections Summary	15
TABLES	
Table 1: Phase I Lab and Field Analyses Summary	6
Table 2: Method 524.2 Analytes	7
Table 3: Phase II Lab and Field Analyses Summary	12
APPENDIXES	
A. QA/QC Sampling Plan	A-1 thru A-3
B. Laboratory Reports (Volume 2)	B-1 thru B-19
C. Stratigraphic Cross-Sections (Figures 2 thru 5)	C-1 thru C-4
D. Driller's Well Logs (Volume 2)	D-1 thru D-19

INTRODUCTION

In July, 1991, 1,2-Dichloropropane (DCP) and 1,2,3-Trichloropropane (TCP) were detected in a domestic well approximately 4 miles northwest of Eagle, Idaho as a result of the Statewide Groundwater Monitoring Program which is coordinated by the Idaho Department of Water Resources (IDWR). The well was drilled to a depth of 68 feet but only cased to 38 feet. The IDWR confirmed these detections with a second sampling in August, 1991. The average concentrations of the 1,2-DCP and 1,2,3-TCP are approximately 18 and 7 parts per billion (ppb), respectively. The maximum contaminant level (MCL) set by the EPA for 1,2-DCP is 5 ppb. A MCL has yet to be established for 1,2,3-TCP.

The IDHW Division of Environmental Quality (DEQ) followed up on these detections by sampling an adjacent domestic well. The depth of this well is 73 feet. The laboratory results indicated the presence of 1,2-DCP at approximately 20 ppb and no detection of 1,2,3-TCP.

The Idaho Department of Agriculture (IDA) recognized that these two compounds are/were present in some pesticide products. Subsequently, IDA conducted a literature review on the uses of 1,2-DCP and 1,2,3-TCP and the products of which they were or currently are an ingredient. The findings from this activity are as follows:

1. The production of 1,2-DCP (also referred to as propylene dichloride) was discontinued by the Dow Chemical Company in 1989 (Barber (Dow Chemical Company), personal communication). The Merck Index, Ninth Edition (1976) states that the uses of 1,2-DCP include 1) as an oils and fat solvent, 2) in dry cleaning fluids, 3) in degreasing applications, and 4) in insecticidal fumigant mixtures.

2. Three insecticidal fumigants previously contained 1,2-Dichloropropane as either an active ingredient, inert, or impurity to the product. The product names include Telone (Dow Chemical Company), Vorlex (Nor-Am Agricultural Products), and D-D 92 (Shell Int'l Chemical Company) (Westner (DuPont Chemical Company, formerly with Shell Chemical), personal communication). Telone C17 and Dorlone (Dow Chemical Company) are and were, respectively, formulated with Telone. Telone C17 consists of 77.9% Telone, 16.5% Chloropicrin (Trichloronitromethane), and 5.6 inerts by weight (DowElanco, Pesticide Products Label, 1992). Dorlone is no longer produced but consisted of 79% Telone, 19% Ethylene Dibromide (EDB), and 2% inerts by weight (Thomson, 1976). The use of EDB was banned in 1984 (McKenry, 1987). Dorlone has not been known to be

registered in the State of Idaho (McGourty, personal communication) Note: EDB was analyzed for but not detected in the two wells northwest of Eagle.

3. Telone is currently registered in Idaho as Telone II. Its formulation consists of 94% 1,3-Dichloropro**pene** and 6% inerts. For comparison purposes, the 1976/77 revision of Agricultural Chemicals lists Telone's formulation as "a mixture of the various combinations of the 1,3-Dichloropro**penes** and related chlorinated hydrocarbons". It is interesting to note that 1,3-Dichloropro**pene** is prepared from 1,2,3-TCP with NaOH (Merck Index, Ninth Edition, 1976). Telone II contains no detectable amounts of 1,2-Dichloropropane (Stewart (DowElanco), personal communication). However, it may contain some 1,2,3-TCP. It is used as a preplant fumigant for the control of nematodes and soilborne insects on several crops (Thomson, 1988). Telone C17 is a nematicide and soil fungicide for use on several crops.

4. Vorlex is currently registered in Idaho and consists of 40% 1,3- Dichloropropene and other related chlorinated C3 (propane) hydrocarbons, 20% methyl isothiocyanate, and 40% inerts as listed in the 1991 Crop Protection Chemicals Reference. The Agricultural Chemical 1988/89 Revision (Thomson, 1988) lists Vorlex formulation as 20% methyl isothiocyanate and 80% mixture of dichloropro**penes**, dichloropropanes and other related compounds. Trichloropropane is a component of Vorlex (Lee, (Nor-Am Chemical Co.), personal communication). Vorlex is a preplant soil fumigant for the control of nematodes, diseases, weeds, and insects on several crops (Thomson, 1988).

5. D-D 92 is a discontinued product in the United States but consisted of a mixture of 1,2-DCP and 1,3-Dichloropro**pene** (Thomson, 1976). It was previously registered in the State of Idaho. Shell Chemical considered 1,2-DCP as an impurity in D-D (Westner (DuPont Chemical Company), personal communication). 1,2-DCP is a byproduct of 1,3-Dichloropro**pene** and glycol manufacturing (Westner (DuPont Chemical Company), personal communication). D-D was used as a preplant soil fumigant for nematode and soil insect control on several crops (Thomson, 1976).

6. 1,3-Dichloropro**pene** is both biologically and metabolically active (Westner (DuPont Chemical Company), personal communication). Consequently, it breaks down in approximately 6 weeks to chloroethanes (2 carbon compounds). Conversely, 1,2,3-TCP is very stable in the environment. Stewart (DowElanco), personal

communication) states that 1,2-DCP breaks down to alcohols with hydrolysis.

PURPOSE

As a result of these findings, the Idaho Department of Agriculture (IDA) believed that further investigations were warranted to determine the extent (lateral and vertical), and source(s) of the contamination due to the likelihood that pesticide usage may have contributed to it. Consequently, IDA conducted a problem identification/assessment monitoring investigation in December, 1991 as the initial phase (Phase I) of these investigations. A second phase (Phase II) was conducted in June, 1992 to further define the lateral and vertical boundaries of the contamination.

PHASE I INVESTIGATION

GENERAL HYDROGEOLOGY

IDA reviewed several well logs of the area as an initial step to Phase I. These logs imply that the hydrogeology of northwest Ada County consists of an upper and lower aquifer composed of alternating layers of clay and sand, separated by a thick clay layer. Such a stratigraphic sequence is indicative of fluvial deposition. A review of Thomas and Dion (1974) suggests that the lower aquifer is part of the Glenns Ferry Formation of the Idaho Group, whereas the upper aquifer includes the Older terrace gravel, Younger terrace gravel, and recent alluvium deposits.

Water level data from the logs indicate that the upper aquifer, except for the uppermost layer, and lower aquifer are under confining (artesian) pressures. The confining pressures in the lower aquifer are great enough to cause the natural flow of groundwater at the surface (flowing artesian) in wells which penetrate this aquifer. The minimum depth of these wells in the study area is approximately 230 feet. Water levels rise to an elevation of approximately 2,530 feet MSL (depth of 20 to 50 feet) in those wells which are completed in the confined section of the upper aquifer. Most of these wells range in depth from 60 to 140 feet. The groundwater in the uppermost layer of the upper aquifer occurs under water-table conditions and is encountered at depths ranging from 5 to 20 feet. This upper layer consists of a thick sequence of clayey sand, sand, and gravel which is underlain by a 10 to 20 foot thick clay layer.

The direction of groundwater flow (horizontal gradient) in the upper aquifer is to the southwest, toward the Boise River (Thomas and Dion, 1974). The direction of groundwater flow in the lower aquifer is unknown but surmised to be similar to the upper aquifer.

An upward (vertical) hydraulic gradient exists between the upper and lower aquifers due to the flowing artesian conditions of the lower aquifer. Such a gradient provides a natural impedance to the downward migration of dissolved contaminants to the lower aquifer. Because of this natural impedance and the two contaminated wells being completed in the upper aquifer, this study focused solely on the upper aquifer.

SAMPLING PLAN

A distance of one radial mile from the initial IDWR detection (referred to as well X in this report) was selected as the area from which to collect samples for the Phase I investigation. Eight wells and several alternates were selected within this area on the basis of well depth and location to the initial detection with respect to hydraulic gradient (figure 1). All eight are domestic wells and range in depth from 45 to 108 feet. Three wells are located upgradient of well X, two are at relatively equal gradient, and two are down gradient.

The groundwater samples were collected in accordance to the QA/QC sampling plan presented in Appendix A. Standard EPA/USGS protocol (i.e., well purging) have been incorporated into the plan. Analyses for specific conductance (dissolved solids content), pH, temperature and nitrate (NO_3) concentration were conducted on-site using an Orion Conductivity Meter Model 122, Orion pH Meter Model 230A, and HACH Pocket Colorimeter Nitrate Test Kit. The results from these analyses are summarized in Table 1. (Note: Table 1 includes data from a previous on-site water quality analysis conducted by IDA on December 19, 1991)

Laboratory testing was conducted by the Washington Department of Ecology Laboratory, Manchester, Washington utilizing EPA methods 524.2 and 8240. These methods combined include the analyses of approximately 70 volatile organic compounds (Table 2). The laboratory reports are presented in Appendix B (Volume 2).

FINDINGS

A summary of the laboratory results is as follows:

1) No compounds were detected in the samples collected from locations 1 through 6 (figure 1) nor in the trip and transfer blanks.
2) 1,2-DCP was detected at 0.2 ppb at sample location 7.
3) 1,2-DCP and 1,2,3-TCP were detected at 6 and 7 ppb, respectively, at sample location 8.
4) 1,2-DCP and 1,2,3-TCP were detected at 7 and 7 ppb, respectively, in the field duplicate which was collected at

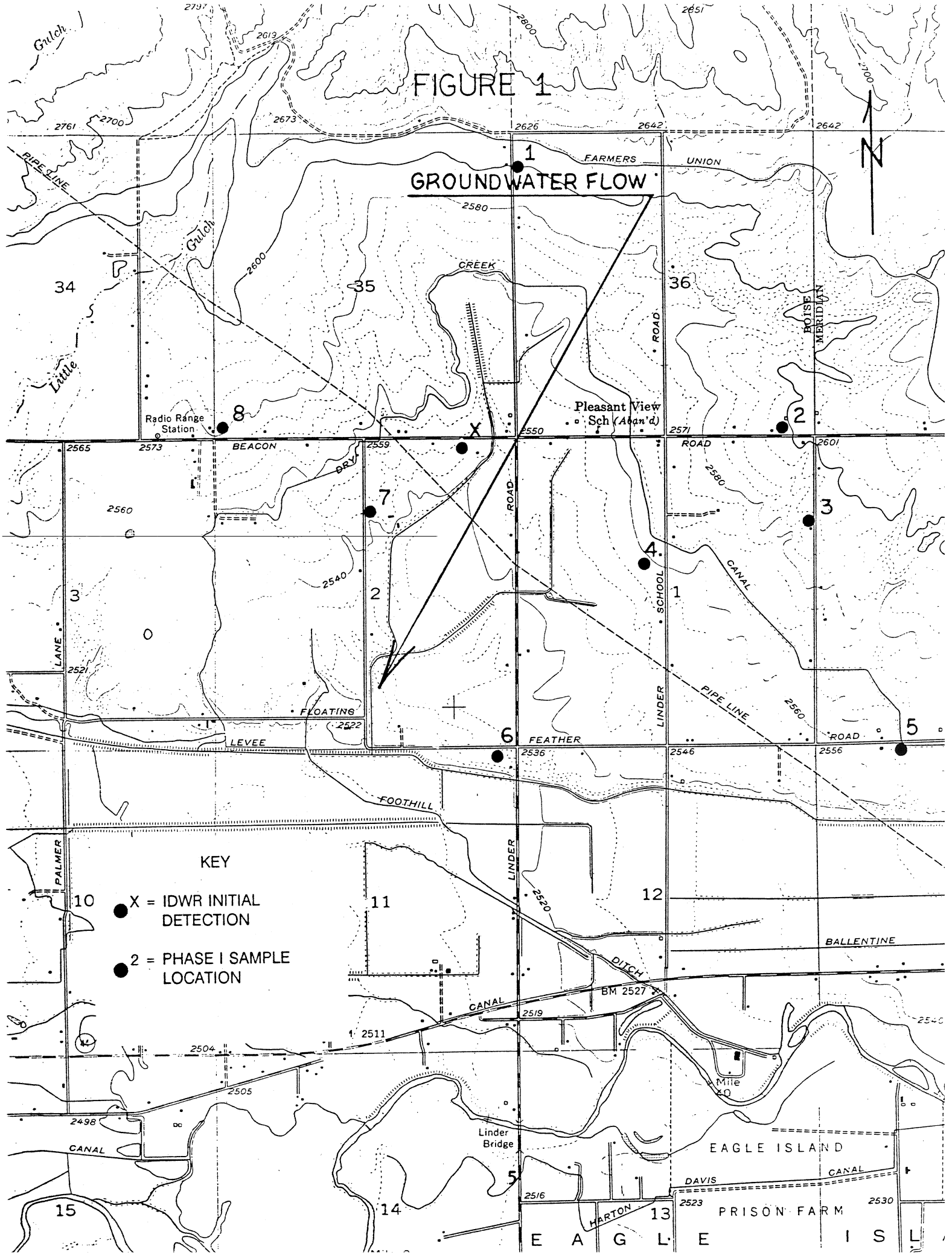


FIGURE 1
GROUNDWATER FLOW
N
FARMERS UNION
PIPE LINE
CREEK
ROAD
BOISE MERIDIAN
Pleasant View Sch (Aban'd)
Radio Range Station
BEACON
DRY
ROAD
LANE
FLOATING
LEVEE
FEATHER
LINDER
SCHOOL
CANAL
PIPE LINE
FOOTHILL
PALMER
BALLENTINE
DITCH
BM 2527
Mile 20
Linder Bridge
EAGLE ISLAND
DAVIS
HARTON
PRISON FARM
E A G L E I S L
KEY
X = IDWR INITIAL DETECTION
2 = PHASE I SAMPLE LOCATION

TABLE 1 - Phase I Study Data Results

IDA SAMPLE NUMBER	WELL TYPE/TOTAL DEPTH	DATE	TEMP (° C)	pH	COND. (μs/cm)	NO_3-N (ppm)	1,2-DCP (ppb)	1,2,3-TCP (ppb)
1	Domestic,	12/18/91	13.2	-	580	-	-	-
	CT, 60 feet	2/26/92	13.4	7.56	568	4.4	ND	ND
2	Domestic,	12/19/91	12.2	7.67	390	1.4	-	-
	CT, 45 feet	2/26/92	10.1	7.74	387	2.4	ND	ND
3	Domestic,	12/18/91	13.5	-	420	1.2	-	-
	CT, 127 feet	2/26/92	12.5	7.55	409	2.3	ND	ND
4	Domestic,	12/19/91	10.3	7.33	530	2.9	-	-
	CT, 108 feet	2/26/92	14.6	7.44	535	2.4	ND	ND
5	Domestic,	12/19/91	13.1	7.27	420	2.9	-	-
	CT, 75 feet	2/26/92	13.2	7.34	430	2.4	ND	ND
6	Domestic,	12/19/91	12.8	7.34	520	2.2	-	-
	CT, 65 feet	2/26/92	12.5	7.30	520	4.2	ND	ND
7	Domestic,	12/19/91	13.0	7.43	530	2.2	-	-
	CT, 110 feet	2/26/92	13.5	7.66	482	4.2	0.2	ND
8	Domestic,	12/19/91	13.4	6.89	450	1.5	-	-
	CT, 65 feet	2/26/92	14.2	7.46	496	4.4	7.0	6.0

CT - Cable tool drilling technic.

TABLE 2

LIST OF ANALYTES

COMPOUND	COMPOUND
Acetone	2-Butanone
Benzene	1,3-Dichloropropane
Bromobenzene	2,2-Dichloropropane
Bromochloromethane	1,1-Dichloropropene
Bromodichloromethane	cis-1,3-Dichloropropene
Bromoform	trans-1,3-Dichloropropene
Bromomethane	Ethylbenzene
n-Butylbenzene	Hexachlorobutadiene
sec-Butylbenzene	Isopropylbenzene
tert-Butlybenzene	4-Isopropyltoluene
Carbon Tetrachloride	Methylene chloride
Chlorobenzene	Naphthalene
Chloroethane	n-Propylbenzene
Chloroform	Styrene
Chloromethane	1,1,1,2-Tetrachloroethane
2-Chlorotoluene	1,1,2,2-Tetrachloroethane
4-Chlorotoluene	Tetrachloroethene
Dibromochloromethane	Toluene
1,2-Dibromo-3-Chloropropane	1,2,3-Trichlorobenzene
1,2-Dibromoethane	1,2,4-Trichlorobenzene
Dibromomethane	1,1,1-Trichloroethane
1,2-Dichlorobenzene	1,1,2-Trichloroethane
1,3-Dichlorobenzene	Trichloroethene
1,4-Dichlorobenzene	Trichlorofluoromethane
Dichlorodifluoromethane	1,2,3-Trichloropropane
1,1-Dichloroethane	1,2,4-Trimethylbenzene
1,2-Dichloroethane	1,3,5-Trimethylbenzene
1,1-Dichloroethene	Vinyl Chloride
cis-1,2-Dichloroethene	o-Xylene
trans-1,2-Dichloroethene	m-Xylene
1,2-Dichloropropane	p-Xylene
Carbon Disulfide	

sample location 8.

5) Matrix spikes recoveries and precision data were within acceptance limits.

It is important to note that all samples were analyzed within the recommended 14 day holding time. The findings of 1,2-DCP and 1,2,3-TCP are summarized in Table 1. The NO_3 data (expressed as NO_3-N) presented in this table show no direct relationship between the detections of 1,2-DCP and 1,2,3-TCP and the concentrations of NO_3-N. However, the NO_3-N concentrations in several of the wells roughly double between the 12/19/91 and 2/26/92 sampling events.

The laboratory results initially suggest that groundwater contamination by DCP and TCP is not that extensive and somewhat localized in the area of the initial detection. However, a perplexing finding from this study is that the contamination detected in well 7 which is immediately down gradient from well X (figure 1) was much less than that detected in well 8 which is at a relatively equal hydraulic gradient to well X.

Owner supplied information on the well construction of wells 7 and 8 reveal that the depths of these wells are 110 feet and 67 feet, respectively (Note: Well logs were not available for these two wells. Well logs for most of the other wells can be found in Appendix D, Volume 2). However, correcting for elevation changes indicates that the bottom of well 7 is at an elevation of 2,437 feet MSL whereas that of well 8 is at 2,513 feet MSL, a difference of 76 feet. Such an elevation difference suggests that these wells may be completed in different sand zones within the upper aquifer.

Subsequently, IDA constructed several stratigraphic cross-sections of the study area from several well logs (Appendix D) to better understand the groundwater quality results (Figures 2 through 5, Appendix C). These cross-sections are a stratigraphic depiction of the upper aquifer in a north-south, east-west, and northwest-southeast direction centered about well X (figure 2).

The cross-sections reveal the alternating layers of clay and sand mentioned above. The sand layers are relatively thin compared to the clay layers. Also, a thick sequence of clayey sand, sand, and gravel is common from the surface to an elevation of approximately 2,510 - 2,500 feet MSL. A clay layer which is generally 10 to 20 feet in thickness underlies this sequence. The alternating layering of the thin sand zones becomes prevalent below this clay layer.

Incorporating the laboratory data with the cross-sections suggests the following:

1. The highest concentrations of 1,2-DCP and 1,2,3-TCP appear to be limited to the thick sequence of clayey

sand, sand, and gravel (uppermost layer) and the first sand zone underlying the uppermost clay layer as evidenced by wells 8 and X (figure 3). (Note: Well X is assumed to be only 38 feet in depth due to this being the total depth of the casing. No well screen was installed below the casing). The well adjacent to well X, sampled by DEQ but not shown on the cross-sections, was drilled to a depth of 73 feet and cased to 71 feet. These depths indicate that the well is completed in the first sand zone. Also, 1,2-DCP and 1,2,3-TCP are not present in these layers at a distance of approximately 1 mile to the north-northeast (upgradient) and east of well X as evidenced by wells 1 and 2, respectively (figures 3 & 4).

2. The contamination is not present in the upper aquifer below the first sand zone at a distance of approximately one mile to the east and south-southeast of well X as evidenced by wells 3 and 6, respectively (figures 3 and 4), and 1/2 mile - 1 mile to the southeast as evidenced by wells 4 and 5 (figure 5).

3. The 1,2-DCP detected in well 7 indicates that either the sand zone at the 110 foot depth level and down gradient from well X is slightly contaminated, or that leakage from the uppermost layer and/or first sand zone is occurring along the outside of or through the casing of well 7, due to an inadequate seal or corrosion to the casing, respectively. The depth of the surface seal for this well is unknown due to the lack of a well log.

These findings bear several questions:
1. Is the groundwater of the uppermost clayey sand/sand/gravel sequence extensively contaminated in A) directions immediately upgraident and to the southeast, south, southwest of well X, B) the area between wells X and 8, and C) in the vicinity and to the west of well 8 ?
2. Is the groundwater of the first sand zone contaminated in directions south, southwest and west of well 8 (generally down gradient of wells X and 8) ?
3. Is the sand zone in which well 7 is completed contaminated in a down gradient direction ?

PHASE II INVESTIGATION

SAMPLING PLAN

Phase II of the study was designed to answer the above questions by determining the vertical extent of contamination within the upper aquifer as well as to further refine the lateral extent of contamination within the study area. IDA selected 10 wells and

several alternates from which to sample for this investigation. No well completed in the uppermost layer to the south and southwest of well X nor between well X and 8 was available for sampling. The locations (figure 6) and depths of the sampled wells were selected on the basis of the stratigraphic cross-sections (Appendix C). Again, all 10 are domestic wells and completed in the upper aquifer. They range in depth from 50 to 100 feet. With respect to well X, two wells are located immediately upgradient, two are at relatively equal gradient, and three are down gradient. With respect to well 8, two are at relatively equal gradient and two are down gradient. On-site and laboratory analyses as well as the collection procedures of the groundwater samples were similar to those of Phase I.

FINDINGS

The laboratory reports for the Phase II sampling are presented in Appendix B. The results are summarized below:

1) No compounds were detected in the samples collected from locations B, D, F, H and L (figure 6) nor in the trip and transfer blanks.
2) 2-Butanone (Methyl Ethyl Ketone; MEK) was detected at 2.0 ppb at sample location A. (MEK is a manmade solvent which has had many uses historically. The EPA has not established a MCL for MEK).
3) 1,2-DCP and 1,2,3-TCP were detected at:
   5.0 and 29.0 ppb, respectively, at sample location C;
   2.0 and 1.0 ppb, respectively, at sample location E;
   0.9 and 7.0 ppb, respectively, at sample location 11; and
   1.0 and 8.0 ppb, respectively, at sample location 12.
4) Matrix spikes recoveries and precision data were within acceptance limits.

All samples were analyzed within the recommended 14 day holding time. The laboratory detections as well as the on-site water quality analyses are summarized in Table 3. As with Table 1, the data in this table show no direct relationship between the detections of 1,2-DCP and 1,2,3-TCP and the concentrations of NO_3-N. However, the highest concentration of 1,2,3-TCP (well C) corresponds with the highest concentration of NO_3-N.

PHASE I AND II INVESTIGATIONS SUMMARY

Incorporating the above results with the findings from Phase I indicates the following:

1. The groundwater of the uppermost layer contains small concentrations of 1,2-DCP and 1,2,3-TCP to a minimum

FIGURE 6

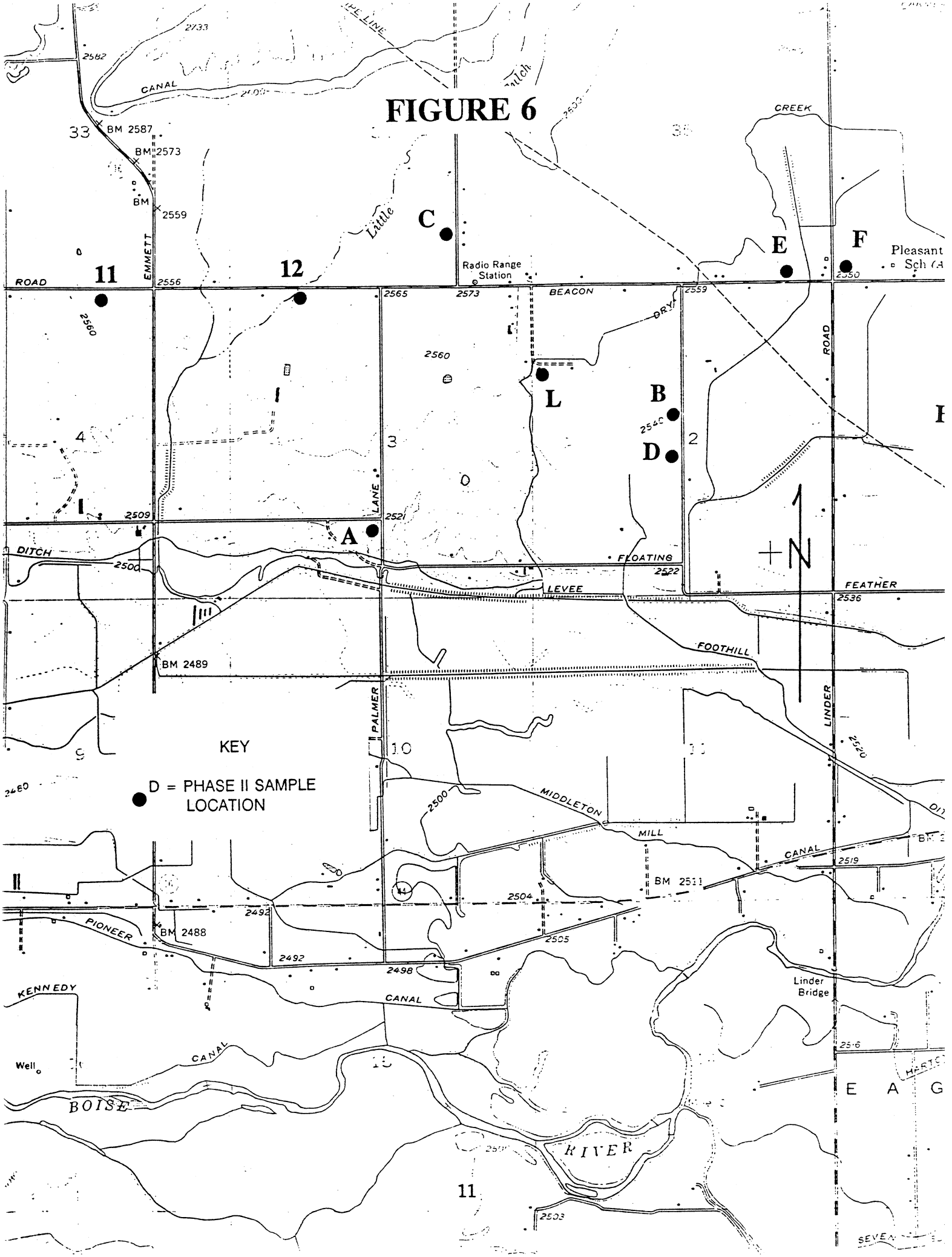

KEY
D = PHASE II SAMPLE LOCATION
A
B
C
D
E
F
L
CANAL
BM 2587
BM 2573
BM 2559
EMMETT
ROAD
Little
Radio Range Station
BEACON
DRY
CREEK
Pleasant Sch
LANE
DITCH
FLOATING
LEVEE
FEATHER
FOOTHILL
BM 2489
PALMER
LINDER
MIDDLETON
MILL
BM 2511
PIONEER
BM 2488
KENNEDY
Linder Bridge
Well
BOISE
RIVER

TABLE 3 - Phase II Study Data Results

ISDA SAMPLE NUMBER	WELL TYPE/TOTAL DEPTH	DATE	TEMP (° C)	pH	COND. (µs/cm)	NO_3-N (ppm)	1,2-DCP (ppb)	1,2,3-TCP (ppb)	MEK (ppb)
A	Domestic, CT, 57 feet	6/24/92	14.4	7.15	890	1.5	ND	ND	2.0
B	Domestic, CT, 100 feet	6/25/92	14.4	7.44	475	1.1	ND	ND	ND
C	Domestic, CT, 75 feet	6/24/92	14.3	7.60	894	12.7	5.0	29.0	ND
D	Domestic, CT, 110 feet	6/25/92	14.7	7.56	480	1.4	ND	ND	ND
E	Domestic, CT, 93 feet	6/24/92	14.7	7.39	606	2.0	2.0	1.0	ND
F	Domestic, CT, 50 feet	6/24/92	12.7	8.01	562	2.2	ND	ND	ND
H	Domestic, CT, 43 feet	6/24/92	13.8	7.53	590	1.4	ND	ND	ND
L	Domestic, CT, 92 feet	6/24/92	14.4	7.15	890	1.5	ND	ND	ND
11	Domestic, CT, 90 feet	6/25/92	14.8	7.64	608	2.9	0.9	7.0	ND
12	Irrigation, CT, 77 feet	6/25/92	-	-	-	-	1.0	8.0	ND

CT - Cable tool drilling technic.

distance of approximately 2.5 miles west of well X as evidenced by well 11 (figure 6). The compounds are not present in this layer immediately upgradient or to the southwest of well X as evidenced by wells F and H.

The lack of contamination in well F is perplexing given its relative close proximity to well X and shallow depth (50 feet). Possible explanations include: A) well F is just beyond the extent (eastern boundary) of the contamination, B) products containing the two compounds were not used on the fields upgradient to well F, or C) the open dewatering ditch just north of well E (figure 6) is creating perturbations in the hydraulic gradient and consequent flowpaths of the water table.

2. Contamination occurs in the uppermost layer approximately 1/2 mile to the northwest of well 8 as evidenced by well C. The highest concentration of 1,2,3-TCP (29.0 ppb) occurs in this well.

3. 1,2-DCP and 1,2,3-TCP are not present in the uppermost layer at a distance of approximately 1 mile southeast of well X as evidenced by well H. Also, these compounds are not likely present in the first sand zone of the upper aquifer, down gradient of well 8 (figure 1) as evidenced by well L (figure 6).

4. The sand zone in which well 7 is completed appears not to be contaminated in a down gradient direction from this well (figure 1) as evidenced by wells B and D. As previously stated, the depth of well 7 is 110 feet. Wells B and D are 110 and 90 feet in depth, respectively (owner supplied information, well logs are not available).

5. The upper aquifer in an area immediately upgradient of well X appears to be slightly contaminated at a depth of 91 feet as evidenced by well E. This contamination may be a result of cross-contamination during construction of the well. The well was constructed in 1985 (Appendix D). It is likely that the contamination found in well X was present prior to this date. Consequently, drilling activities associated with well E may have carried the contamination from the uppermost layer down to lower layers within the upper aquifer. Similarly, the well sampled by DEQ which is adjacent to well X was drilled in 1988. Drilling activities also may have resulted in the contamination of this well. However, leakage around the outside of the casing of these wells may also be the cause of their contamination due to the relatively shallow depth (18 feet) of their surface seals.

6. Well A is completed to a depth of 57 feet. The well log (Appendix D) indicates that it is completed in the uppermost layer. The source of the 2-Butanone detected in this well is unknown. However, this compound has many uses ranging from a solvent to a sterilizer for surgical and dental instrumentation (Hazardous Substances Data Bank, 1992).

CONCLUSIONS AND RECOMMENDATIONS

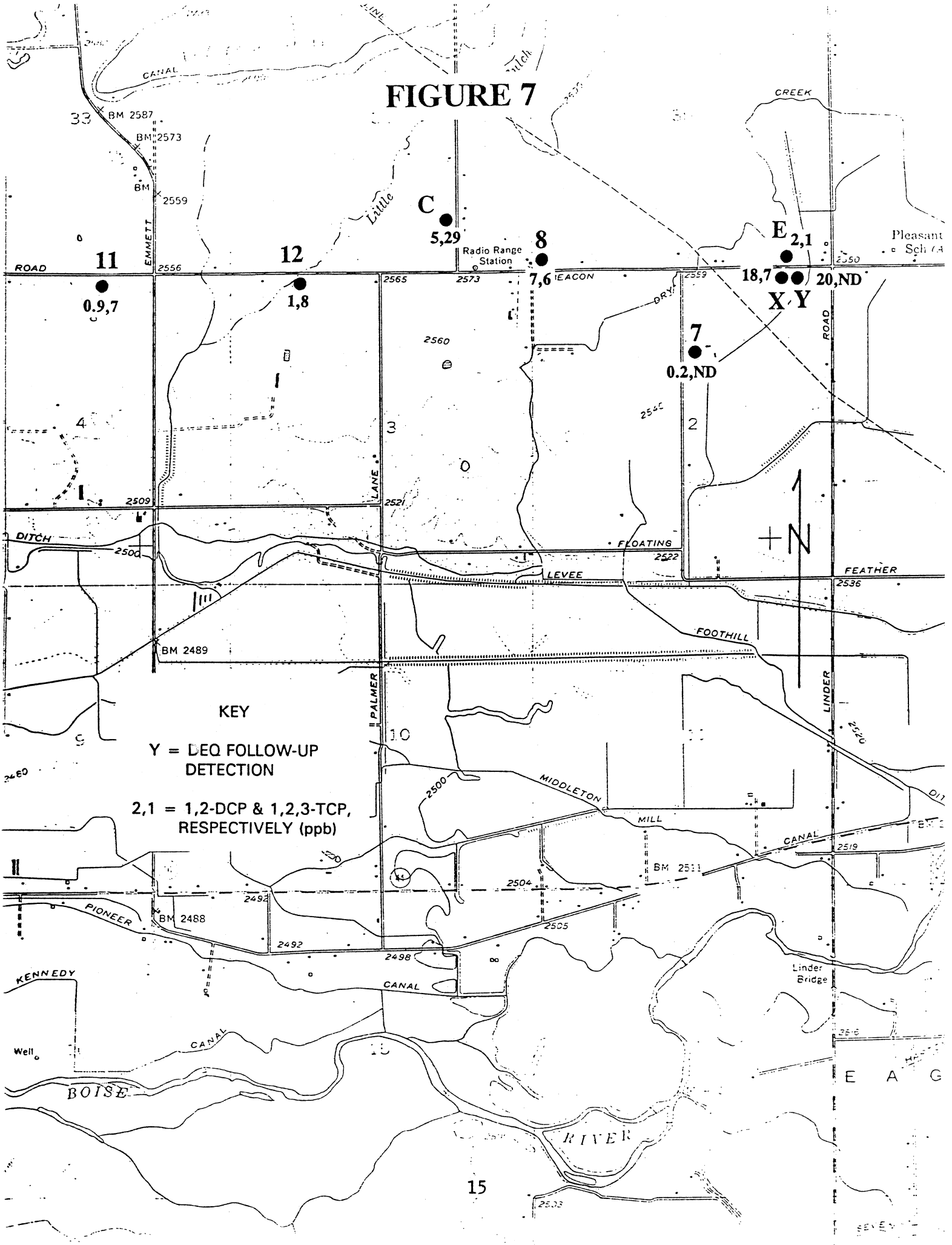
The information collected from this study reveals that the uppermost layer of the upper aquifer is contaminated with 1,2-DCP and 1,2,3-TCP. This contamination appears to be bounded on the east by Linder Road (near Well X) and 1/2 mile to the north of Beacon Light Road in northwest Ada County. Also, these two compounds were detected in the furthermost western well location (well 11) of the Phase II study (approx. 2.5 miles west of the Linder Road). Consequently, the western extent of contamination is still unknown. A southern boundary could not be estimated due to the lack of wells completed in the uppermost layer in this direction.

1,2-DCP and 1,2,3-TCP also are present in the thin sand zones of the upper aquifer in the immediate vicinity of well X, down to a depth of 91 feet. These occurrences are believed to be related to well construction and/or drilling activities. Well 7, which is completed to a depth of 110 feet within the upper aquifer, contains a very small concentration of 1,2-DCP. This occurrence appears to be a relatively localized condition.

Figure 7 summarizes the locations of 1,2-DCP and 1,2,3-TCP detected in the groundwater of northwest Ada County by this study and the IDWR/DEQ sampling events. Overall, eight out of the twenty wells (40%) sampled in the study area contain detectable amounts of 1,2-DCP and/or 1,2,3-TCP. Of these eight wells, four (50%) contain 1,2-DCP at or above the MCL for this compound. In addition, no distinct relationship can be drawn between the concentrations of NO_3-N and the presence of 1,2-DCP/1,2,3-TCP in the wells of this study.

Due to the rural setting of the area and the relatively low concentrations of the contaminants, the source of these compounds appear to be from the past usage of insecticidal fumigants. IDA does not expect further contamination from the current use of these fumigants due to changes in their active ingredients over the past few years with respect to 1,2-DCP and the discontinuation or cancellation of some products (i.e., D-D 92).

FIGURE 7


KEY
Y = DEQ FOLLOW-UP DETECTION
2,1 = 1,2-DCP & 1,2,3-TCP, RESPECTIVELY (ppb)
11
0.9,7
12
1,8
C
5,29
8
7,6
E
2,1
18,7
20,ND
X Y
7
0.2,ND
N
ROAD
EMMETT
LANE
PALMER
LINDER
ROAD
DITCH
FLOATING
LEVEE
FEATHER
FOOTHILL
MIDDLETON
MILL
CANAL
PIONEER
KENNEDY
CANAL
BOISE
RIVER
Radio Range Station
BEACON
Little
CREEK
Pleasant
Linder Bridge
Well
BM 2587
BM 2573
BM 2559
BM 2489
BM 2488
BM 2511

Based on the findings of this study, the Idaho Department of Agriculture recommends that: 1) the domestic wells in the study area which are completed in the uppermost clayey sand, sand, and gravel sequence, and the first few sand zones of the upper aquifer be tested for 1,2-DCP, 1,2,3-TCP, and NO_3, and 2) construction standards for future wells in the area include a requirement for sealing off the uppermost layer and first few sands zones of the upper aquifer with casing and a grout seal that extends the total length of the casing prior to drilling to deeper depths.

REFERENCES

Barber, L. 1991. Personal communication. Sr. Chemist, Dow Chemical Company, Midland, Michigan.

Crops Protection Chemicals Reference, Eighth Edition, 1992. Chemical and Pharmaceutical Press, John Wiley & Sons, Inc. and Chemical and Pharmaceutical Publishing Corp., New York, N.Y., pp. 1892.

Hazardous Substance Data Bank, 1992. *In* Tomes™, Volume 14, by Micromedex, Inc. Denver, Co.

Lee, N., 1991. Personal Communication. Chemist, Nor-Am Chemical Company, Fresno, Calif.

McGourty, P., 1991. Personal Communication. Bureau Chief, Division of Agricultural Technology, Idaho Department of Agriculture, Boise, Idaho.

McKenry, M.V., 1987. Fumigants and Nematicides Under California Conditions. *In* Fate of Pesticides in the Environment: Proceedings of a Technical Seminar. Eds. Biggar, J.W., and Seiber, J.N. Division of Agriculture and Natural Resources, University of California, Davis, Calif. p. 47.

Stewart, B., 1991. Personal Communication. Sr. Chemist, DowElanco, Indianapolis, Indiana.

The Merck Index, Ninth Edition: An Encyclopedia of Chemicals and Drugs, 1976. Editor; Windholz, M. Merck and Co., Inc., Rahway, N.J. pp. 1313.

Thomas, C.A., and Dion, N.P., 1974. Characteristics of Streamflow and Ground-Water Conditions in the Boise River Valley, Idaho: Water Resources Investigations 38-74. U.S. Geological Survey, Water Resources Division, Boise, Idaho, pp. 75.

Thomson, W.T., 1976. Agricultural Chemicals - Book III, Miscellaneous Chemicals: Fumigants, Growth Regulators, Repellents and Rodenticides, 1976-77 Revision. Thomson Publications, Fresno, Calif., pp. 164.

Thomson, W.T., 1988. Agricultural Chemicals - Book III, Miscellaneous Chemicals: Fumigants, Growth Regulators, Repellents and Rodenticides, 1988-89 Revision. Thomson Publications, Fresno, Calif., pp. 210.

Westner, D. 1991. Personal communication. Sr. Chemist, E. I. Du Pont De Nemours & Co., (Inc.), Wilmington, Delaware.

APPENDIX A

QA\QC SAMPLING PLAN

QA/QC SAMPLING PLAN

A. OBSERVATIONS:

Observe the conditions around the well site, particularly with respect to potential impacts to groundwater, and record your observations.

B. SAMPLING POINT:

Locate a sampling point which is as close to the well as possible. The sample should be obtained from the distribution line before any water purifier, holding tanks, treatment systems, or other units which could affect the quality of the water. Typically, the best sample location is an outside faucet as close to the well as possible. Remove any garden hose prior to taking the sample. If the only access is from a faucet in the house with an aerator, remove the aerator prior to purging providing that it can be easily removed. However, always try to use a faucet which does not have an aerator attached to it.

C. PURGING:

Before a groundwater sample can be collected, the well must be purged to remove the water standing in the well casing. Generally, a minimum of three casing volumes should be removed to minimize the influence of old water in the casing. However, water quality parameters which are easily measured in the field will be used to determine the time of sample collection. These parameters include specific conductance, pH, and temperature. A sample will be collected only when three successive measurements for these parameters, taken at intervals of 5 minutes or more, differ by less than the following amounts:

1. specific conductance... 5% (or 5 uS/cm when less than 100 uS/cm)

2. pH..... 0.1 unit

3. temperature.....0.2 degrees Celsius (0.35 degrees Fahrenheit)

The final measurement from meeting these conditions shall be recorded in a field book.

D. NITRATE ANALYSIS:

Nitrate analysis utilizing the HACH kit will be conducted immediately following the above purging procedure. The instructions for conducting this analysis are included with the HACH kit and shall be adhered to.

E. SAMPLE COLLECTION:

1. Wash hands prior to taking a sample. Put on latex gloves for protection from possible acid burns. An acid preservative will be present in each bottle.

2. slowly fill the sample bottle to the top, just to the point of overflowing. Try to avoid spillage. Be careful not to touch the bottle rim or inside of cap. Carefully set the bottle on a level surface.

3. Place the cap (septum), teflon side down, on the convex sample meniscus. Seal the sample tightly with the screw cap.

4. To ensure that the sample has been properly sealed, invert the bottle and lightly tap the lid on a solid surface. The absence of entrapped air bubbles indicates a proper seal.

5. If air bubbles are present, open the bottle, add the necessary additional sample, and reseal in the same manner as stated above.

6. Dry the sample bottle off, place a label on it, record the time, date, location, and sample identification number, and place clear plastic tape over the label.

7. Chill the bottle immediately by placing it in ice in a cooler. Keep bottle out of light as much as possible (pesticides can photo-degrade). Make sure all samples are placed securely in the cooler to avoid breakage during transport.

F. TRIP BLANK:

A trip blank will be placed in the cooler the morning of the field sampling. This blank will remain in the cooler at all times. It will be prepared in the IDA laboratory and labelled with the date, time, and TRIP BLANK identification. The purpose of the trip blank is to evaluate whether any contamination of the collected samples has occurred during their transportation in the field and to the laboratory.

G. TRANSFER BLANK:

A transfer blank shall be collected at any one of the eight site locations in which an outside faucet is utilized. The transfer blank will be collected just prior to collection of the groundwater sample (after the nitrate analysis). The purpose of this blank is to evaluate possible contamination to the sample from outside interferences at the sample location. A sample container labelled TRANSFER BLANK will be provided as well as a container of de-ionized water. Take the container with the de-ionized water to the same area as you will be taking the sample. Wash hands and put on latex gloves. Be

sure to wear these same gloves to collect the groundwater sample. Pour the de-ionized water into the labelled sample container according to the sample collection procedures listed above. Remember to record the date, time, and location.

H. FIELD DUPLICATE:

A field duplicate shall be collected at any one of the eight site locations. The purpose of the field duplicate is to evaluate lab analyses repeatability. This duplicate is simply a second groundwater sample which is collected at a given site. Collect this sample in the same manner as you collect the initial sample. However, fake the time on the field duplicate label by adding 4 hours to the time of collection and record the site identification number as 5N1W35NWNW11.

I. LAB SPIKE:

A lab spike will be included with the groundwater samples. The spike will be prepared in the IDHW laboratory and placed in the cooler prior to shipment to the Washington Dept. of Ecology laboratory. The purpose of the lab spike is to evaluate laboratory precision. It will be labelled with a bogus date, time, location, and sample identification number.

APPENDIX C

STRATIGRAPHIC CROSS-SECTIONS (FIGURES 2 THRU 5)

FIGURE 2

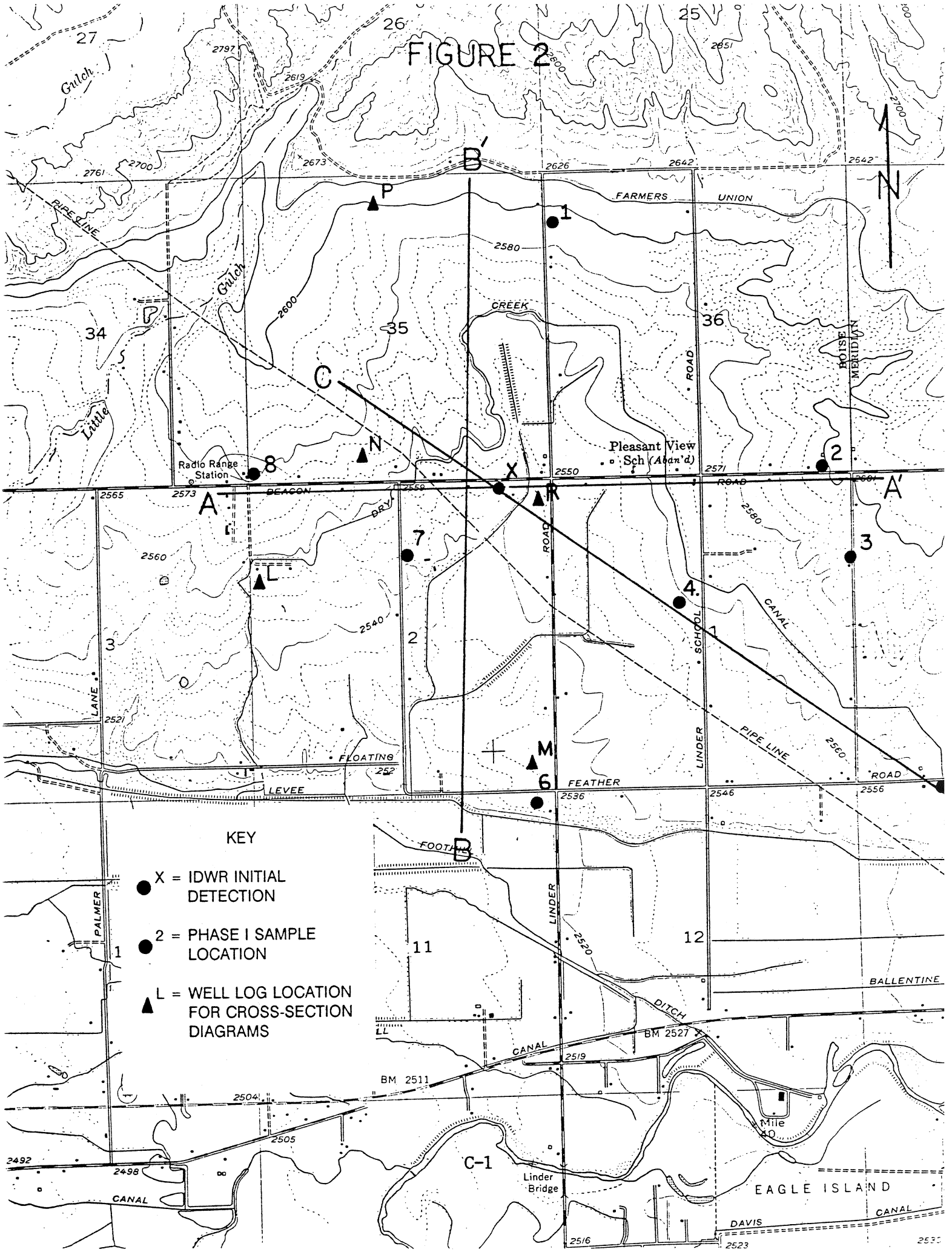

KEY
X = IDWR INITIAL DETECTION
2 = PHASE I SAMPLE LOCATION
L = WELL LOG LOCATION FOR CROSS-SECTION DIAGRAMS
FARMERS UNION
PIPE LINE
CREEK
Pleasant View Sch (Aban'd)
Radio Range Station
BEACON
DRY
FLOATING
LEVEE
FEATHER
FOOTHILL
LINDER
SCHOOL
ROAD
CANAL
BALLENTINE
DITCH
BM 2527
BM 2511
Mile 40
Linder Bridge
EAGLE ISLAND
DAVIS
PALMER
LANE
Little
Gulch
BOISE MERIDIAN
C-1

FIGURE 3

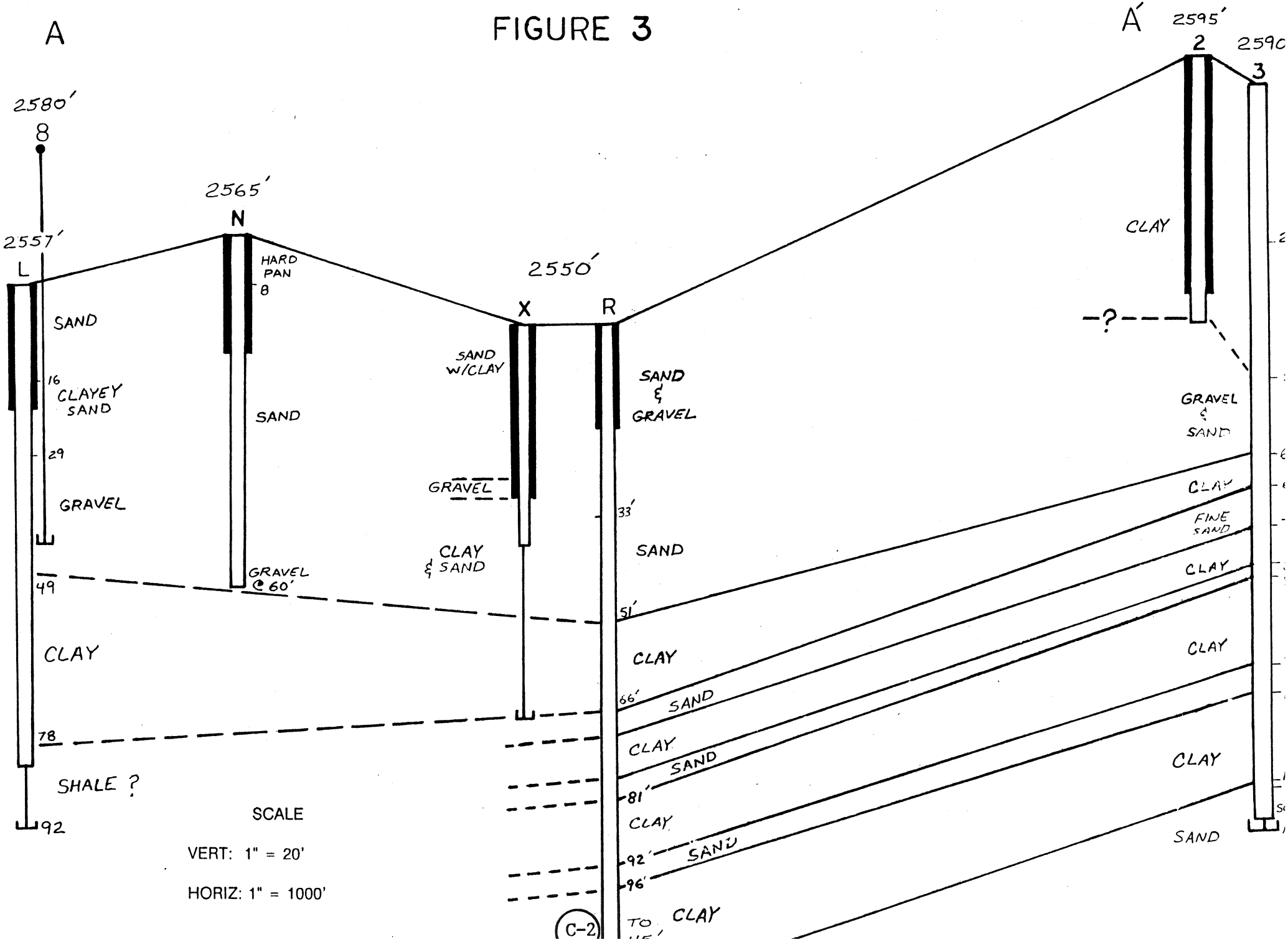
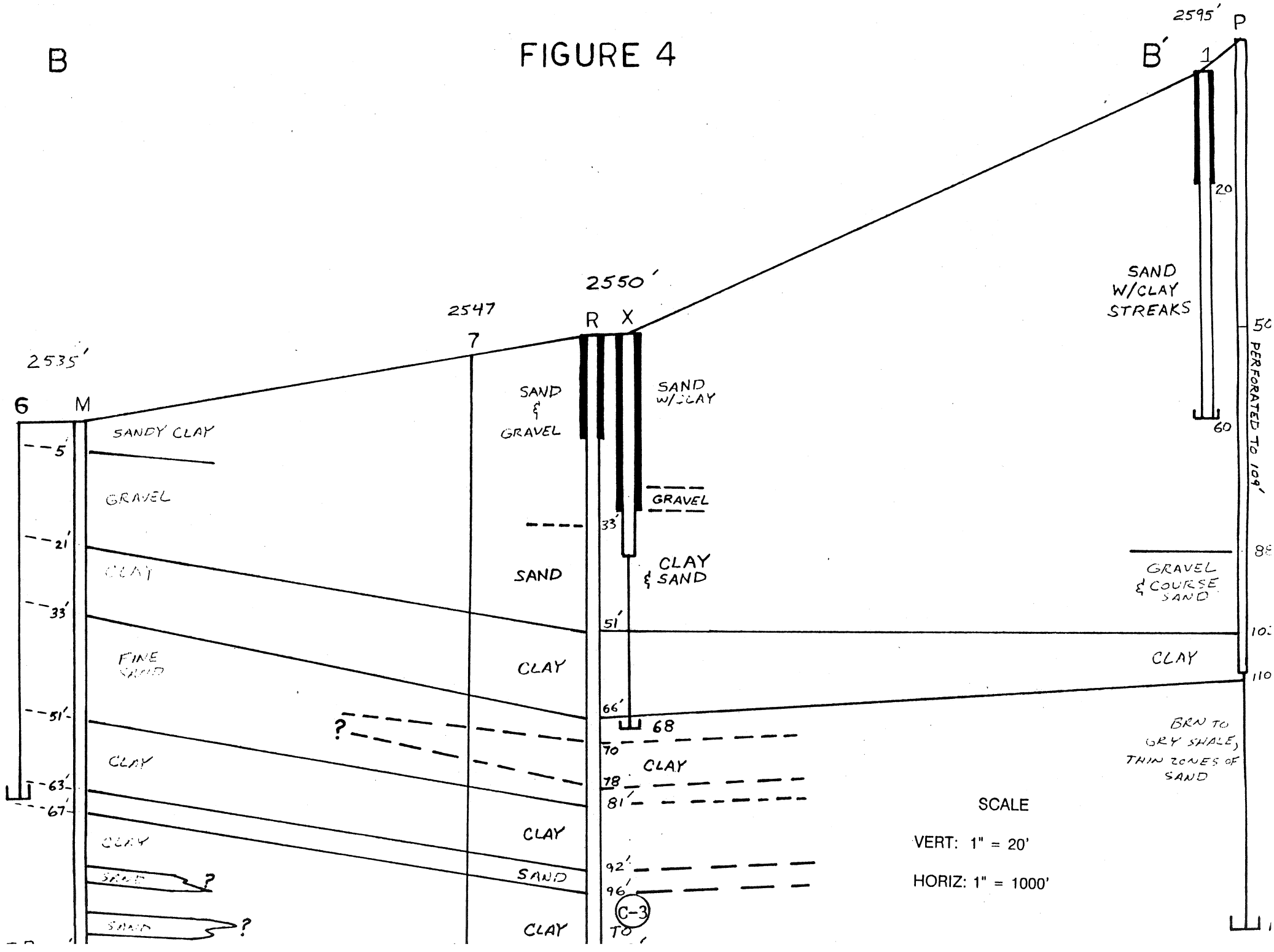

A
A'
2580'
8
2565'
N
2557'
L
HARD PAN
8
2550'
X
R
2595'
2
2590
3
SAND
16
CLAYEY SAND
29
GRAVEL
49
CLAY
78
SHALE ?
92
SAND
GRAVEL @ 60'
SAND W/CLAY
GRAVEL
CLAY & SAND
SAND & GRAVEL
33'
SAND
51'
CLAY
66'
SAND
CLAY
SAND
81'
CLAY
92'
SAND
96'
CLAY
TO
CLAY
?
GRAVEL & SAND
CLAY
FINE SAND
CLAY
CLAY
CLAY
SAND
SCALE
VERT: 1" = 20'
HORIZ: 1" = 1000'
C-2

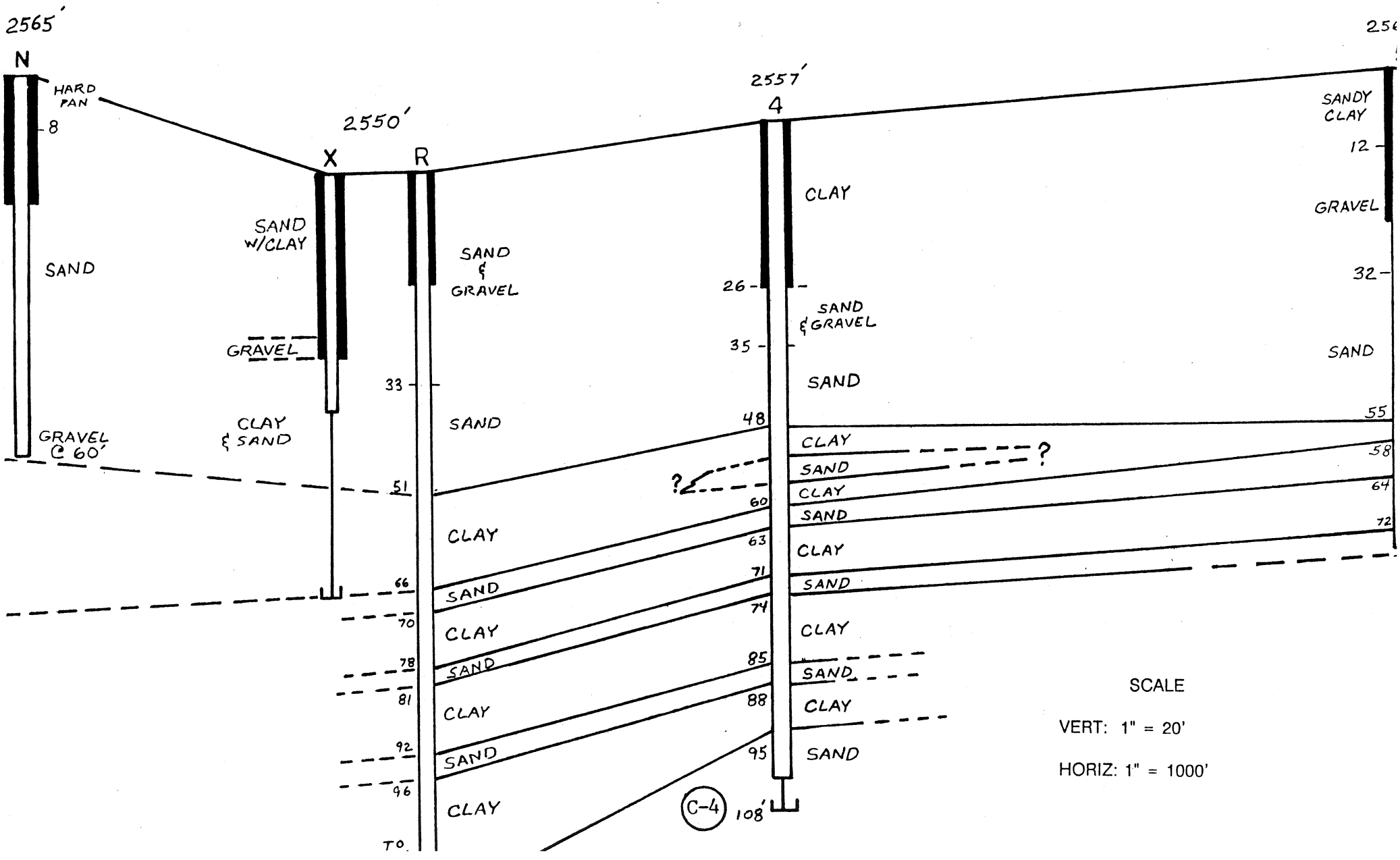
FIGURE 4


B
B'
2595'
P
1
20
60
SAND W/CLAY STREAKS
50
PERFORATED TO 109'
88
GRAVEL & COURSE SAND
102
CLAY
110
BRN TO GRY SHALE, THIN ZONES OF SAND
2550'
R
X
SAND W/CLAY
GRAVEL
33'
CLAY & SAND
51'
66'
68
70
CLAY
78
81'
92'
96'
C-3
TD
2547
7
SAND & GRAVEL
SAND
CLAY
CLAY
SAND
CLAY
2535'
6
M
SANDY CLAY
5'
GRAVEL
21'
CLAY
33'
FINE SAND
51'
CLAY
63'
67'
CLAY
SAND
?
SAND
?
SCALE
VERT: 1" = 20'
HORIZ: 1" = 1000'

C

FIGURE 5

C'


2565'
N
HARD PAN
8
SAND
GRAVEL @ 60'
2550'
X
SAND W/CLAY
GRAVEL
CLAY & SAND
R
SAND & GRAVEL
33
SAND
51
CLAY
66
SAND
70
CLAY
78
SAND
81
CLAY
92
SAND
96
CLAY
TO.
2557'
4
CLAY
26
SAND & GRAVEL
35
SAND
48
CLAY
SAND
CLAY
60
SAND
63
CLAY
71
SAND
74
CLAY
85
SAND
88
CLAY
95
SAND
C-4
108'
?
?
SANDY CLAY
12
GRAVEL
32
SAND
55
58
64
72
SCALE
VERT: 1" = 20'
HORIZ: 1" = 1000'

GROUNDWATER QUALITY ASSESSMENT; 1,2-DICHLOROPROPANE AND 1,2,3-TRICHLOROPROPANE: NORTHWEST ADA COUNTY

Appendixes B & D
Volume 2

prepared by:

Daniel Whitney
Gary Bahr
Patrick McGourty

IDAHO DEPARTMENT OF AGRICULTURE
Division of Agricultural Technology

September, 1992

APPENDIX B

LABORATORY REPORTS
PHASE I & II

WELL 1 - LABORATORY REPORT

25-MAR-92 Washington State Department of Ecology

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 04 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098063 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920304 # Days to Ext/Anal: 07 7

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	1UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	1U
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 04 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098063 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	97	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	101	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	97	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	110	(Surr) PR

WELL 2 - LABORATORY REPORT

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 05 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098064 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920304 # Days to Ext/Anal: 07 7

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	2UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	1U
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 05 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098064 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	98	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	98	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	103	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	103	(Surr) PR

WELL 3 - LABORATORY REPORT

25-MAR-92 Washington State Department of Ecology Page 12

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 06 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098065 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920304 # Days to Ext/Anal: 07 7

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	1UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	1UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	1U
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	5UJ
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U

Transaction #: 03259203 Seq #: 06 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098065 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5U	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	102	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	102	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	99	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	104	(Surr) PR

WELL 4 - LABORATORY REPORT

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 09 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098066 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920304 # Days to Ext/Anal: 07 7

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	1UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	2UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	1U
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

Transaction #: 03259203 Seq #: 09 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098066 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	99	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	98	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	98	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	99	(Surr) PR

WELL 5 - LABORATORY REPORT

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 10 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098067 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920304 # Days to Ext/Anal: 07 7

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	3UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	1U
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

Transaction #: 03259203 Seq #: 10 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098067 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	94	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	98	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	100	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	100	(Surr) PR

WELL 6 - LABORATORY REPORT

25-MAR-92 Washington State Department of Ecology Page 6
*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 03 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098062 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920303 # Days to Ext/Anal: 07 6

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5UJ
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	2UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	1U
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	95476	Benzene, 1,2-Dimethyl	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 03 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098062 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1UJ	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	93	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	89	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	107	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	102	(Surr) PR

WELL 7 - LABORATORY REPORT

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 11 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098068 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920304 # Days to Ext/Anal: 07 7

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	5U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	1UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	0.2J
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	1U
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

Transaction #: 03259203 Seq #: 11 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098068 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	96	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	102	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	101	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	108	(Surr) PR

WELL 8 - LABORATORY REPORT

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 12 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098069 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920306 # Days to Ext/Anal: 0/ 9

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	1UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	7
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	6
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	95476	Benzene, 1,2-Dimethyl	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
50	108678	1,3,5-Trimethylbenzene	ug/l	1U

Transaction #: 03259203 Seq #: 12 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098069 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	98	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	94	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	107	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	96	(Surr) PR

WELL 8 - LABORATORY REPORT
DUPLICATE

DUPLICATE WELL 8

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 13 (51) VOA - PP Scan (GCMS)
Proj Code : DOE-032D EAGLE AREA PE # : D7300

Sample No.: 92 098070 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 920306 # Days to Ext/Anal: 07 9

Line	Par #	Parameter Description	Units	Value
1	74873	Chloromethane	ug/l	1U
2	75718	Methane, Dichlorodifluoro-	ug/l	5U
3	74839	Bromomethane	ug/l	1U
4	75014	Vinyl Chloride	ug/l	1U
5	75003	Chloroethane	ug/l	1UJ
6	75694	Trichlorofluoromethane	ug/l	1U
7	75092	Methylene Chloride	ug/l	1U
8	67641	Acetone	ug/l	2UJ
9	75150	Carbon Disulfide	ug/l	5U
10	75354	1,1-Dichloroethene	ug/l	1U
11	75343	1,1-Dichloroethane	ug/l	1U
12	156605	trans-1,2-Dichloroethene	ug/l	1U
13	156592	Cis-1,2-Dichloroethene	ug/l	1U
14	590207	2,2-Dichloropropane	ug/l	1U
15	74975	Bromochloromethane	ug/l	1U
16	67663	Chloroform	ug/l	1U
17	107062	1,2-Dichloroethane	ug/l	1U
18	78933	2-Butanone	ug/l	1UJ
19	71556	1,1,1-Trichloroethane	ug/l	1U
20	56235	Carbon Tetrachloride	ug/l	1U
21	563586	1,1-Dichloropropene	ug/l	1U
22	75274	Bromodichloromethane	ug/l	1U
23	78875	1,2-Dichloropropane	ug/l	7
24	74953	Dibromomethane	ug/l	1U
25	10061026	trans-1,3-Dichloropropene	ug/l	1U
26	79016	Ethene, trichloro-	ug/l	1U
27	124481	Dibromochloromethane	ug/l	1U
28	106934	1,2-Dibromoethane (EDB)	ug/l	1U
29	79005	1,1,2-Trichloroethane	ug/l	1U
30	142289	1,3-Dichloropropane	ug/l	1U
31	71432	Benzene	ug/l	1U
32	10061015	cis-1,3-Dichloropropene	ug/l	1U
33	75252	Bromoform	ug/l	1UJ
34	591786	2-Hexanone	ug/l	1U
35	108101	4-Methyl-2-Pentanone	ug/l	1U
36	127184	Tetrachloroethene	ug/l	1U
37	79345	ETHANE, 1,1,2,2-TETRACHLORO-	ug/l	1U
38	630206	Ethane, 1,1,1,2-Tetrachloro-	ug/l	1U
39	108883	Toluene	ug/l	1U
40	108907	Chlorobenzene	ug/l	1U
41	100414	Ethylbenzene	ug/l	1U
42	100425	BENZENE, ETHENYL-(STYRENE)	ug/l	1U
43	108861	Bromobenzene	ug/l	1U
44	96184	1,2,3-Trichloropropane	ug/l	7
45	95498	2-Chlorotoluene	ug/l	1U
46	106434	4-Chlorotoluene	ug/l	1U
47	1330207	Total Xylenes	ug/l	1U
48	95636	1,2,4-Trimethylbenzene	ug/l	1U
49	98066	Tert-Butylbenzene	ug/l	1U
[illegible]	[illegible]	1,3,5-Trimethylbenzene	ug/l	1U

*** Lab Analysis Report ***

Transaction #: 03259203 Seq #: 13 (51) VOA - PP Scan (GCMS)

Sample No.: 92 098070 (continued from previous page)

Line	Par #	Parameter Description	Units	Value	
51	135988	Sec-Butylbenzene	ug/l	1U	
52	99876	p-Isopropyltoluene	ug/l	1U	
53	104518	Butylbenzene	ug/l	1U	
54	96128	1,2-Dibromo-3-chloropropane	ug/l	5UJ	
55	87616	1,2,3-Trichlorobenzene	ug/l	1U	
56	98828	Isopropylbenzene (Cumene)	ug/l	1U	
57	103651	BENZENE, PROPYL-	ug/l	1U	
58	541731	1,3-Dichlorobenzene	ug/l	1U	
59	106467	1,4-Dichlorobenzene	ug/l	1U	
60	95501	1,2-Dichlorobenzene	ug/l	1U	
61	120821	1,2,4-Trichlorobenzene	ug/l	1U	
62	91203	Naphthalene	ug/l	1U	
63	87683	Hexachlorobutadiene	ug/l	1U	
64	2747582	d8-Toluene	% Recov	99	(Surr) PR
65	-460004	p-Bromofluorobenzene	% Recov	98	(Surr) PR
66	17070070	d4-1,2-Dichloroethane	% Recov	102	(Surr) PR
67	2199691	D4-1,2-Dichlorobenzene	% Recov	101	(Surr) PR

Project: DOE-371Y EAGLE-2 Officer: DOE Account: D7600

Laboratory: Ecology, Manchester

WELL A

Sample No: 92 268105 Description: NW159 Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	2J*	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	99	% Recov
D4-1,2-Dichlorobenzene	100	% Recov
d8-Toluene	101	% Recov
d4-1,2-Dichloroethane	100	% Recov

(Sample Complete)

Washington State Department of Ecology
Sample/Project Analysis Results

Project: DOE-371Y EAGLE-2

Officer: DOE

Account: D7600

WELL B

Laboratory: Ecology, Manchester

Sample No: 92 268107

Description: NW3N7

Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	101	% Recov
D4-1,2-Dichlorobenzene	104	% Recov
d8-Toluene	102	% Recov
d4-1,2-Dichloroethane	102	% Recov

(Sample Complete)

Washington State Department of Ecology
Sample/Project Analysis Results

Project: DOE-371Y EAGLE-2

Officer: DOE

Account: D7600

Laboratory: Ecology, Manchester

WELL C

Sample No: 92 268106

Description: NE2E8

Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	5 *	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	29 *	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	104	% Recov
D4-1,2-Dichlorobenzene	99	% Recov
d8-Toluene	104	% Recov
d4-1,2-Dichloroethane	105	% Recov

(Sample Complete)

Project: DOE-371Y EAGLE-2

Officer: DOE Account: D7600

Laboratory: Ecology, Manchester

WELL D

Sample No: 92 268108 Description: NW4N6 Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	105	% Recov
D4-1,2-Dichlorobenzene	105	% Recov
d8-Toluene	95	% Recov
d4-1,2-Dichloroethane	108	% Recov

(Sample Complete)

Washington State Department of Ecology
Sample/Project Analysis Results

Project: DOE-371Y EAGLE-2

Officer: DOE Account: D7600

Laboratory: Ecology, Manchester

WELL E

Sample No: 92 268109 Description: NS5E5 Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	2 *	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1 *	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	99	% Recov
D4-1,2-Dichlorobenzene	101	% Recov
d8-Toluene	102	% Recov
d4-1,2-Dichloroethane	105	% Recov

(Sample Complete)

Project: DOE-371Y EAGLE-2

Officer: DOE Account: D7600

Laboratory: Ecology, Manchester

WELL F

Sample No: 92 268110 Description: SS6W4 Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	101	% Recov
D4-1,2-Dichlorobenzene	108	% Recov
d8-Toluene	103	% Recov
d4-1,2-Dichloroethane	104	% Recov

(Sample Complete)

Project: DOE-371Y EAGLE-2

Officer: DOE Account: D7600

Laboratory: Ecology, Manchester

WELL H

Sample No: 92 268111 Description: SN7W3 Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	103	% Recov
D4-1,2-Dichlorobenzene	100	% Recov
d8-Toluene	100	% Recov
d4-1,2-Dichloroethane	106	% Recov

(Sample Complete)

Project: DOE-371Y EAGLE-2

Officer: DOE Account: D7600

WELL L

Laboratory: Ecology, Manchester

Sample No: 92 268112 Description: WW8W2 Source: Water (General)

Begin Date: 92/06/24 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1UJ	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	99	% Recov
D4-1,2-Dichlorobenzene	96	% Recov
d8-Toluene	98	% Recov
d4-1,2-Dichloroethane	105	% Recov

(Sample Complete)

Project: DOE-371Y EAGLE-2

Officer: DOE Account: D7600

WELL 11

Laboratory: Ecology, Manchester

Sample No: 92 268113 Description: EN9N1 Source: Water (General)

Begin Date: 92/06/25 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5UJ	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	0.9J*	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5U	ug/l
1,2,3-Trichloropropane	7*	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	100	% Recov
D4-1,2-Dichlorobenzene	102	% Recov
d8-Toluene	97	% Recov
d4-1,2-Dichloroethane	107	% Recov

(Sample Complete)

31-JUL-92
07:56:36

Washington State Department of Ecology
Sample/Project Analysis Results

Project: DOE-371Y EAGLE-2

WELL 12

Laboratory: Ecology, Manchester

Sample No: 92 268114 Description: NW10E8

Begin Date: 92/06/25 :

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	5UJ	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	5U	ug/l
Carbon Disulfide	5U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	5U	ug/l
1,2-Dichloropropane	1 *	ug/l
2-Butanone	5U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Ethene, trichloro-	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
1,2-Dibromo-3-chloropr+	5UJ	ug/l
1,2,3-Trichloropropane	8 *	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
Ethylbenzene	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone(M+	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1UJ	ug/l
trans-1,3-Dichloroprop+	1UJ	ug/l
p-Bromofluorobenzene	104	% Recov
D4-1,2-Dichlorobenzene	107	% Recov
d8-Toluene	99	% Recov
d4-1,2-Dichloroethane	103	% Recov

APPENDIX D

DRILLER'S WELL LOGS

WELL 1 - WELL LOG

USE TYPEWRITER OR BALL POINT PEN

#1

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 12-23-71 A.V.X.

1. WELL OWNER

Name [redacted]

Address STAR

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 60 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
~~.312~~ inches	~~7"~~ inches	feet	feet
.35 inches	6" inches	18" feet	40 feet
.312 inches	7" inches	40 feet	60 feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel

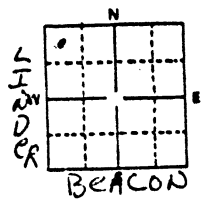
Placed from feet to feet

Surface seal? ☒ Yes ☐ No To what depth 18" feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

DW ¼ NW ¼ Sec. 36 T. 5 N ☒ R. 1 ☒ W

7. WATER LEVEL

Static water level 10 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature ° F. Quality

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☒ Bailer ☒ Other AIR COMP.

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	20	clay		X
6"	20	40	SANDY clay		X
7"	40	58	clay		X
7"	58	60	gravel	X	

10. Work started 11 Dec finished 13 Dec. 71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

PHIPPS & SON 98
Driller's or Firm's Name Number

8209 DOROTHY AVE BOISE
Address

Wesley O. Phipps 12/23/71
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

yes
great

WELL 2 - WELL LOG

#2

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 45 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	1 feet	40 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

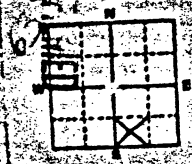
Placed from ___ feet to ___ feet

Surface seal depth 40' Material used in seal ☐ Cement grout ☐ Puddling clay ☒ Well cuttings

Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name None

Lot No. ___ Block No. ___

County Ada

SW ¼ SE ¼ Sec. 36 T. 5 N N/S, R. 1 W E/W

7. WATER LEVEL

Static water level 25 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ °F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☒ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
15	0	8

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	44	Clay	X	
	44	45	Gravel		

10. Work started 8-16-74 finished 8-18-74

11. DRILLERS CERTIFICATION

Firm Name McCoy Well Drilling Firm No. 290

Address 573 Idaho Blvd Date 12/30/74

Signed by (Firm Official) Ted Hunsperger

and

(Operator) Ted Hunsperger

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL 3 - WELL LOG

(#3)

DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. _____

2. NATURE OF WORK

☐ New well ☒ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
0.50 inches	6 inches +	98 feet	120 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

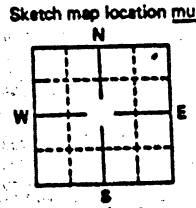
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name JOHNSON
Type STAINESS STEEL Model No. 304
Diameter 5" Slot size 20 Set from 120 feet to 125 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth REPAIR SAME THERE Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County ADA
NE ¼ NE ¼ Sec. 31, T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 45 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 54 °F. Quality GOOD
Describe artesian or temperature zones below.

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
20	52	6

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
[redacted]					X
6	98	103	SAND	X	
	103	112	BROWN CLAY		X
	112	113	SAND	X	
	113	118	BROWN CLAY		X
	118	127	SAND	X	

RECEIVED DEC 07 1987 Department of Water Resources

RECEIVED JUL 13 1987 Department of Water Resources Western Regional Office

10. Work started 11-20-56 finished 11-22-56

11. DRILLERS CERTIFICATION OR

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name COURSEWELL Firm No. 409
Address BOISE, IDA Date _____
Signed by (Firm Official) Larry E. Course
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL 4 - WELL LOG

Form 238-7
6-89

(#4)

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. [redacted]

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
Well diameter increase
Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
2.50 inches	6 inches +	1 feet	96 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

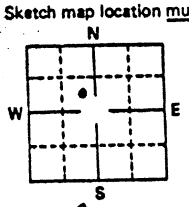
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Cook
Type STAINLESS STEEL Model No. 304
Diameter 5 Slot size .20 Set from 98 feet to 103 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 26 Material used in seal: ☐ Cement grout ☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

SE ¼ NW ¼ Sec. 1, T. 4 N ☒ S ☐ R. 1 E ☐ W ☒

7. WATER LEVEL

Static water level 12 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 54 °F. Quality GOOD
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
45	75	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	3	TOP SOIL		✓
	3	18	BROWN CLAY		✓
8	18	26	REDISH CLAY		✓
6	26	35	SAND & GRAVEL	✓	
	35	48	SAND	✓	
	48	52	BROWN CLAY		✓
	52	56	SAND	✓	
	56	60	BROWN CLAY		✓
	60	63	SAND	✓	
	63	71	BROWN CLAY		✓
	71	74	SAND	✓	
	74	85	BROWN CLAY		✓
	85	88	SAND	✓	
	88	95	BROWN CLAY		✓
	95	108	SAND	✓	

RECEIVED
APR 30 1990
Department of Water Resources
Western Regional Office

RECEIVED
MAY 02 1990
Department of Water Resources

RECEIVED
APR 26 1990
Department of Water Resources

10. Work started 4-16-90 finished 4-24-90

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Coonse Well Drilling Firm No. 409
Address EAGLE, IDA Date 4-24-90
Signed by (Firm Official) Gary E. Coonse
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL 5 - WELL LOG

USE TYPEWRITER OR BALL POINT PEN

(#5)

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. [redacted]

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement

[ ] Abandoned (describe method of abandoning)

3. PROPOSED USE

[X] Domestic [ ] Irrigation [ ] Test [ ] Other (specify type)

[ ] Municipal [ ] Industrial [ ] Stock [ ] Waste Disposal or Injection

4. METHOD DRILLED

[X] Cable [ ] Rotary [ ] Dug [ ] Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 75 feet

Casing schedule: [X] Steel [ ] Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	0 feet	66 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? [ ] Yes [X] No

Perforated? [ ] Yes [X] No

How perforated? [ ] Factory [ ] Knife [ ] Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? [ ] Yes [X] No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? [ ] Yes [X] No Size of gravel

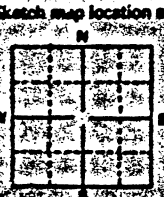
Placed from feet to feet

Surface seal depth 24 Material used in seal [ ] Cement grout [ ] Puddling clay [X] Well cuttings

Seating procedure used [X] Slurry pit [ ] Temporary surface casing [ ] Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



Lot Subdivision Name

Lot No. Block No.

County

SE SE ¼ Sec. 1 T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 15 feet below land surface

Flowing? [ ] Yes [X] No G.P.M. flow

Temperature ____ F. Quality

Artesian closed-in pressure ____ p.s.i.

Controlled by [ ] Valve [ ] Cap [ ] Plug

8. WELL TEST DATA

[ ] Pump [ ] Bailer [ ] Other Air

Discharge G.P.M.	Draw Down	Hours Pumped
40		3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
	0	3	Dirt		✓
	3	12	Sandy Dirt		✓
	12	32	Gravel		✓
	30	55	Yellow sand	✓	
	55	58	Brown Clay		✓
	58	64	Brown sand	✓	
	64	72	" Clay		✓
	72	75	white sand	✓	

10. Work started Feb. 76 finished Feb. 76

11. DRILLERS CERTIFICATION

Firm Name Russel Cowe No.

Address Boise Date

Signed by (Firm Official) Russel Cowe

and

(Operator) Ben McGeim

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL X - WELL LOG

(X)

RECEIVED

NOV 27 1968

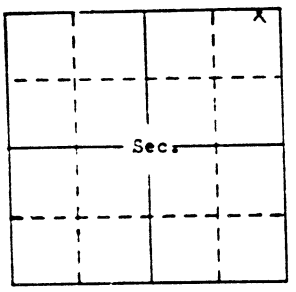
Department of Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER: [redacted]
Name
Address [redacted]
Beacon Road
Owner's Permit No.
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: domestic
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other (explain)
CASING SCHEDULE: Threaded ☐ Welded ☒
4 "Diam. from 0 ft. to 38' ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: .237 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
PERFORATED? Yes ☐ No ☒ Type of (explain)
perforator used:
Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☐ No ☐
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☐
No. ☒ size of gravel Gravel
placed from ft. to ft. Surface seal
provided? Yes ☒ No ☐ To what depth?
30 ft. Material used in seal: Clay
Did any strata contain unusable water? Yes ☐
No. ☒ Type of water:
Depth of strata ft. Method of sealing
strata off:
Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒

Locate well in section



LOCATION OF WELL: County Ada
NE ¼ NE ¼ Sec. 2 T. 4 N/S R. one E/W

Size of drilled hole: 4" Total depth of well: 68 Standing water level below ground: 8-6 Temp. Fahr. 50 Test delivery: 30 gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: Compressor test
Length of time of test: one Hrs. 20 Min.
Drawdown: ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
0	2	sandy soil	X
2	8	Clay & sand mixture	X
8	26	Clay & sand mix	X
26	30	gravel	X
30	68	blue shale or Clay with thin sand streaks	X

Work started: Nov. 14-1968
Work finished: Nov. 20-1968
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ernest Relsey
Address: R#1 Star Idaho
Signed by:
License No. 37 Date: Nov. 25-1968

Use other side for additional remarks

USGS

WELL L - WELL LOG

USE TYPEWRITER OR BALL POINT PEN

#7 (L)

State of Idaho
Department of Water Administration

[redacted]

WELL DRILLER'S REPORT

received 8-22-73

PHA 2 #A

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. _____

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☑ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☑ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 92 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6" inches	6+ feet	31'6" feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☑ No

Perforated? ☐ Yes ☑ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☑ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☑ No Size of gravel _____

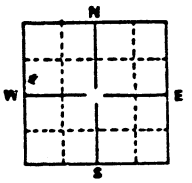
Placed from _____ feet to _____ feet

Surface seal? ☑ Yes ☐ No To what depth 21 feet

Material used in seal ☐ Cement grout ☑ Puddling clay Bentonite

6. LOCATION OF WELL

Sketch map location must agree with written location.



(3)

County ADA

SW ¼ NW ¼ Sec. 2, T. 4N N/S, R. 1 E/W

7. WATER LEVEL

Static water level 19 feet below land surface

Flowing? ☐ Yes ☑ No G.P.M. flow 5?

Temperature _____ °F. Quality Good

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☑ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☑ Bailer ☑ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
	12'	1

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	surf	16'	Brown sand		✓
	16'	29'	Sand & clay		✓
	29	49'	Sand	✓	
	49	65'	Brown & Tan clay		✓
	65	79'	Gray clay	✓	✓
	79	92'	Blue shale water bearing	✓	

10. Work started 7-12-72 finished 7-19-72

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Chester D. Kinsey — Driller's or Firm's Name — 33 Number

RT 1, Eagle, Ida 93616 — Address

Chester D. Kinsey — Signed By — 7-23-72 Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL M - WELL LOG

#6 M

Form 238-7
6/89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted] EAGLE IDAHO

Owner's Permit No. 63-96-Z-037

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
Well diameter increase
Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	90 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

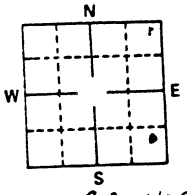
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Cook
Type STAINLESS Model No. 304
Diameter 5 Slot size .20 Set from 93 feet to 98 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth _____ Material used in seal: ☐ Cement grout ☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County CANYON
SE ¼ SE ¼ Sec. 2, T. 4 N ☒ S ☐ R. 1 E ☐ W ☒

7. WATER LEVEL

Static water level 3 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 54 °F. Quality GOOD
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	55	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	2	SANDY TOP SOIL		
	2	5	SANDY CLAY		
	5	19	GRAVEL		
6	19	21	GRAVEL		
	21	33	BROWN CLAY		
	33	51	FINE SAND		
	51	63	BROWN CLAY		X
	63	67	MED SAND	X	
	67	76	BROWN CLAY		X
	76	79	MED SAND		
	79	84	BROWN CLAY		
	84	88	MED SAND		
	88	91	BROWN CLAY		
	91	97	MED SAND		

RECEIVED MAR 28 1990 Department of Water Resources
RECEIVED MAR 23 1990 Department of Water Resources
RECEIVED MAR 26 1990 Department of Water Resources Western Regional Office

10. Work started 3-5-90 finished 3-12-90

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Coonse Well Drilling Firm No. 409
Address EAGLE IDAHO Date 8-21-90
Signed by (Firm Official) Gary E. Coonse
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL N - WELL LOG

USE TYPEWRITER OR BALL POINT PEN

#8 N

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 10-1-71 DWD

PHASE II (B)

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 8" inches Total depth 60 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.301 inches	8 inches	18 feet	60 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

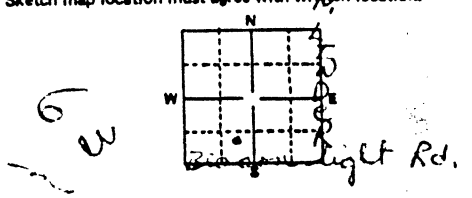
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SE ¼ SW ¼ Sec. 35 T. 5 N ☒ R. 1 ☒ W

7. WATER LEVEL

Static water level 20 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ °F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other AIR COMP

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8"	0	4	TOP SOIL		☒
"	4	8	HARD PAN		☒
"	8	60	SAND		☒
	60		SAND & GRAVEL	☒	

10. Work started 9/26/71 finished 9/28/71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

PHIPPS & SON — Driller's or Firm's Name — 981 Number

2209 DOROTHY AVE. — Address

Wesley A. Phipps — Signed By — 10/1/71 Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL P - WELL LOG

#1 AH. B (P)

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO

Permit No. _____ Well No. _____ County Ada

Owner [redacted]

Address [redacted]

Driller Chester D. Linsey

Address Eagle, Ida

Well location NW ¼ NW ¼ Sec. 35, T. 5 N/S, R. 1 E/W

Size of drilled hole 14"

Total depth of well 153'

Locate well in section

NW¼ X	NE¼
SW¼	SE¼

Give depth to standing water from the ground 61' Water temp. _____ °Fahr.

On "Pumping Test" delivery was 1440 g.p.m. or _____ c.f.s. Drawdown was 41' feet.

Size of pump and motor used to make test 140 Hp Diesel, 6" colum Pump, 3, 10" bowls

Length of time of test 4 hours _____ minutes.

If flowing well, give flow _____ c.f.s. or ~~1440~~ g.p.m. and of shut off pressure _____

If flowing well, described control works _____
(TYPE AND SIZE OF VALVE, ETC.)

Water will be used for Irrigation Weight of casing per lineal foot 16½#

Thickness of casing 8 Ga Casing material steel
(STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing 14", 112', 2' above ground to 109' below.
(CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

The bottom 60' perforated, 15 per ft 3/8" x 3" perforations

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.

Number and size of perforations _____ located _____ feet to _____ feet from ground

Date of commencement of well aug 3-61 Date of completion of well aug 11-61

NWNW S.35 5N1W

63

WELL LOG

From Feet	To Feet	Type of Material	Water-bearing Formation Yes or No	Casing Perforated Yes or No
0'	3'	top soil	no	no
3'	65'	yellow sand & streaks of clay, sand very fine	no	no
65'	88'	yellow sand & streaks of clay	yes	yes
88'	102'	coarse gravel and sand, River bed formation	yes	yes
102'	109'	yellow clay, streaks of sand	no	yes
109'	153'	brown to grey shale, every few ft or inches, devises with coarse sand and gravel	yes, not cased.	

If more space is required use Sheet No. 2

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is true and correct to the best of my knowledge and belief.

Signed Christy E. D'Amey

By

License No. 33

Dated Aug 22-61, 19

WELL R - WELL LOG

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

ARTESIAN
Go 2 one to Sampl
for artesian pressure check

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. 63-88-W-212

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection (specify type)
☐ Other _____

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
2.50 inches	6 inches	+ 2 feet	214 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

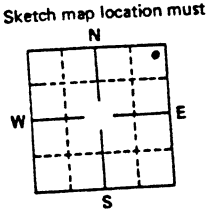
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☐ ~~Well cuttings~~ ☒ Puddling clay (Bentonite)
Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County ADA
NE ¼ NE ¼ Sec. 02, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level _____ feet below land surface.
Flowing? ☒ Yes ☐ No G.P.M. flow 250
Artesian closed-in pressure 4 p.s.i.
Controlled by: ☒ Valve ☐ Cap ☐ Plug
Temperature 54 °F. Quality GOOD

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
250	FLOWING	—

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	2	TOP SOIL		X
	2	18	SAND & GRAVEL	X	
6	18	33	SAND & GRAVEL	X	
	33	51	SAND		X
15	51	66	CLAY (SANDY CLAY)	X	
4	66	70	FINE SAND		X
8	70	78	BROWN CLAY	X	
3	78	81	FINE SAND (MUDDY SAND)		X
19	81	92	BROWN CLAY	X	
4	92	96	FINE SAND		X
	96	115	CLAY, BROWN	X	
	115	118	3 FINE SAND		X
	118	121	BROWN CLAY	X	
	121	124	3 FINE SAND		X
	124	166	BROWN CLAY	X	
	166	168	FINE SAND		X
	168	185	BROWN CLAY	X	
	185	187	FINE SAND		X
	187	191	BROWN CLAY	X	
	191	204	FINE SAND		X
	204	218	BROWN CLAY	X	
	218	225	MED SAND		X
	225	228	BROWN CLAY	X	
	228	231	COARSE SAND-FINE GRAVEL	X	

RECEIVED
JUN 30 1989
Department of Water Resources
Western Regional Office

10.

Work started Nov. 14. 1988 finished Nov. 28. 1988

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name COONSE WELL DRILLING Firm No. 409
Address EAGLE, IDA Date DEC 1, 1988
Signed by (Firm Official) Gary E. Coonse
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL A - WELL LOG

(A) [redacted]

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

RECEIVED

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 57 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6" inches	0 feet	51 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☐ No Size of gravel _____

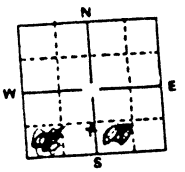
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

S ☒ E ¼ S ☒ W ¼ Sec. 3, T. ☒ N N/S, R. 1 W E/W

7. WATER LEVEL

Static water level 2 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ °F. Quality good

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
50	unknown	6

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	4	Topsoil		X
6"	4	31	Hard pan Boulders & gravel	X	
6"	31	47	Sand & clay layers	X	
6"	47	51	Stiff Bardon Clay		X
6"	51	57	Grey Coarse Clean Sand	X	
			Well complete		

10. Work started Nov-1/71 finished ~~Oct 20/71~~ Nov-8

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

David Knie Well & Pump Service — Driller's or Firm's Name — Number 208

R5 Caldwell Idaho — Address

David W Knie — Signed By — Nov 22/71 — Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL C - WELL LOG

Form 238-7
6/78

[redacted]

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER

Name [redacted]

Address Star Id.

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	75 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

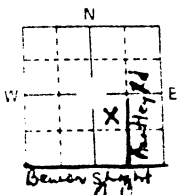
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from feet to feet
Surface seal depth 18 feet Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name
Lot No. Block No.
County Ada
NW SE Sec. 34 T 5 N R. 1 W

7. WATER LEVEL

Static water level 55 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F Quality

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
30 GPM		1 HR.

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	55	Sand & Clay		X
	55	60	Sand	X	
	60	68	Coarse Sand	X	
	68	74	Coarse Sand & Gravel	X	

RECEIVED
MAR 2 1982
Department of Water Resources
Western Regional Office

10. Work started 6 April 81 finished 7 April 81

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name D & W Phipps Firm No. 332
Address 2068 Bentley Date 4 May 81
Signed by (Firm Official) Dean R Phipps
and
(Operator)

WELL E - WELL LOG

DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

Possibly (E) *

E

W

*

~~YES~~

Maybe close to others

Def

1. WELL OWNER

Name [redacted]

Address [redacted]

Eagle Id. 83616

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal

☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary

☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	86 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☒ Yes ☐ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☒ Yes ☐ No

Manufacturer's name Cooks

Type 304 Stainless Model No. _____

Diameter 5" Slot size .020 Set from 86 feet to 91 feet

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____

Placed from _____ feet to _____ feet

Surface seal depth [redacted] Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____

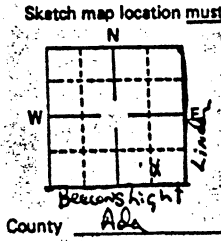
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth

Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name None

Lot No. ____ Block No. ____

County Ada

SE ¼ SE ¼ Sec. 35, T. 5 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 20 feet below land surface.

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Artesian closed-in pressure ____ p.s.i.

Controlled by: ☐ Valve ☐ Cap ☐ Plug

Temperature ____ °F. Quality _____

Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
30 GPM		1 HR

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	2	Top Soil		X
	2	25	Sand		X
	25	34	Sand & Gravel	X	
	34	79	Sand & Clay	X	
	79	84	Brown Sand	X	
	84	91	Coarse Sand	X	
	91	99	Brown Clay		X

RECEIVED APR 23 1985 Department of Water Resources Western Regional Office

RECEIVED APR 22 1985 Department of Water Resources

10. Work started 18 Feb 85 finished 22 Feb 85

11. DRILLERS CERTIFICATION DL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Well Drilling Firm No. 332

Address Box Boatling Date 26 Feb 85

Signed by (Firm Official) Dennis Phipps

and

(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL F - WELL LOG

[redacted]

good for shallow

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address Eagle Idaho

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 50 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.220 inches	6 inches	1 feet	37 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

20' PVC liner

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel

Placed from feet to feet

Surface seal depth 18' Material used in seal ☐ Cement grout ☐ Puddling clay ☒ Well cuttings

Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location. 63

Subdivision Name

Lot No. Block No.

County Ada

SW ¼ SW ¼ Sec. 36 T. 5 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 6 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature °F. Quality

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other

Discharge G.P.M.	Draw Down	Hours Pumped
15	20	1

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	1	Brown topsoil		X
9"	1	18	Brown clay		X
6"	18	19	" "		X
6"	19	35	Brown sand gravel	X	
6"	35	45	" Clay		X
6"	45	50	Brown clay	X	

10. Work started 4/12/77 finished 4/13/77

11. DRILLER'S CERTIFICATION

Firm Name Id S Well Drilling Firm No. 212

Address 2305 Cayuna Dr Meridian Ida Date 5/11/77

Signed by (Firm Official) Earl Shine

and (Operator) Earl Shine

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Clear to Hess

WELL H - WELL LOG

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address [redacted] Boise

Owner's Permit No.

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☑ Domestic ☐ Irrigation ☐ Test ☐ Municipal

☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

☐ Other _____ (specify type)

4. METHOD DRILLED

☑ Rotary ☑ Air ☐ Hydraulic ☐ Reverse rotary

☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6" inches +	1 feet	39 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☑ Yes ☐ No

Was a packer or seal used? ☐ Yes ☑ No

Perforated? ☐ Yes ☑ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☑ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☑ No ☐ Size of gravel _____

Placed from _____ feet to _____ feet

Surface seal depth 22 Material used in seal: ☐ Cement grout ☐ Bentonite ☑ Puddling clay ☐ _____

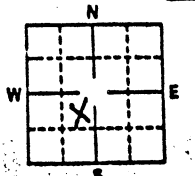
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☑ Overbore to seal depth

Method of joining casing: ☐ Threaded ☑ Welded ☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NE ¼ SW ¼ Sec. 1, T. 4 N/S R. 1 E/W.

7. WATER LEVEL

Static water level 10 feet below land surface.

Flowing? ☐ Yes ☑ No G.P.M. flow _____

Artesian closed-in pressure _____ p.s.i.

Controlled by: ☐ Valve ☐ Cap ☐ Plug

Temperature ___ °F. Quality _____

Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☑ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	20	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	1	Topsoil		✓
9"	1	22	Brown clay (sandy)		✓
6"	22	28	Brown + white sand	✓	
6"	28	43	Brown gravel + sand	✓	

RECEIVED JUL 10 1987 Department of Water Resources

RECEIVED AUG 07 1987 Department of Water Resources

RECEIVED JUL 14 1987 Department of Water Resources Western Regional Office

10. Work started 6-8-87 finished 6-8-87

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name SOS WELLDRILLING Firm No. 212

Address 4145 Black cat Road MERIDIAN, ID 83642 Date 6-16-87

Signed by (Firm Official) Fred Schmi

and

(Operator) Fred Schmi

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL 11 - WELL LOG

1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER

Name [redacted]

Address Emmett Hwy

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
.250 inches	6 inches +	18" feet	85 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

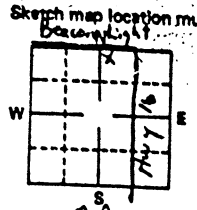
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson's
Type Model No.
Diameter 5 Slot size .035 Set from 85 feet to 90 feet
Diameter Slot size Set from feet to feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from feet to feet
Surface seal depth 18' Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port

6. LOCATION OF WELL 63

Sketch map location must agree with written location.



Subdivision Name

Lot No. Block No.

County Ada

NW ¼ NE ¼ Sec. 4, T. 4 N, R. 1 W.

7. WATER LEVEL

Static water level 60 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed-in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F. Quality

8. WELL TEST DATA

☐ Pump ☒ Bailer ☒ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	3	Top Soil		X
	3	50	Dry Sand		X
	50	60	Sand	X	
	60	76	Sandy Clay		X
	76	50	coarse Sand & Gravel	X	

10. Work started 10 March 77 finished 21 March 77

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Phipps Drilling Firm No. 98
Address 2209 Dorothy Ave Date 18 April 77
Signed by (Firm Official) Donald Phipps
and
(Operator) Donald Phipps

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL 12 - WELL LOG

USE TYPEWRITER OR BALL POINT PEN

[redacted]

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name [redacted]

Address RT 1 Eagle, Ida

Owner's Permit No.

2. NATURE OF WORK

☑ New Well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☑ Stock

4. METHOD DRILLED

☑ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 14 inches Total depth 77 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
1250 inches	14 inches	+ 14" feet	77 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☑ No

Perforated? ☑ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☑ Torch

Size of perforation 1/8 inches by 6" inches each

Number		From	To
426	perforations	73 feet	76 feet
	perforations	feet	feet
	perforations	feet	feet

Well screen installed? ☐ Yes ☑ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☑ No Size of gravel

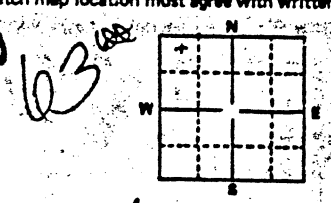
Placed from feet to feet

Surface seal? ☑ Yes ☐ No To what depth 30 feet

Material used in seal ☐ Cement grout ☑ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



63

County Ada

NW ¼ NW ¼ Sec. 3 T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 42 feet below land surface

Flowing? ☐ Yes ☑ No G.P.M. flow

Temperature °F. Quality Good

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☑ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
1200	7'	3½ hrs

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
14"	Surf	58'	Brown Sand		✓
	58'	77'	Gravel Pinched Sand	✓	

10.

Work started 8-27-73 finished 9-10-73

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Floyd E Sullo — 33

Driller's or Firm's Name — Number

RT 1 Box 257 Eagle

Address

Chuck D. Kinney — 10-14-73

Signed By — Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL Y - WELL LOG

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

Iowt #5 next door neighbor

Possibly contaminated

good one to sample

1. WELL OWNER

Name [redacted]

Address [redacted]

Owner's Permit No. 63-88-2-62

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6" inches +	1 feet	71 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

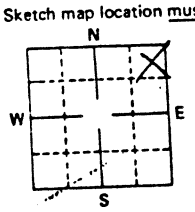
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
NE ¼ NE ¼ Sec. 2, T. 4 (N), R. 1 (W)

7. WATER LEVEL

Static water level 20 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
40	70	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	4	Top Soil		☒
	4	23	Sandy Clay		☒
	23	35	Gravel (W)	☒	
	35	62	(Blue) Clay		☒
	62	73	Sand + Clay	☒	

RECEIVED
JUN 29 1989
Department of Water Resources
Western Regional Office

RECEIVED
JUL 21 1989
Department of Water Resources

10.

Work started 7/28/88 finished 7/29/88

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Phipps Drilling Firm No. 311
Address 7015 McGourlin Date 6/22/89
Signed by (Firm Official) and (Operator) [signature]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT