Ground Water Quality Technical Report Number 9

Russell Sole Source Aquifer Ground Water Monitoring

Nez Perce County, Idaho

Prepared by
Wade Melton

Lewiston Regional Office
Idaho Division of Environmental Quality
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Acknowledgments

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Abstract

The City of Lewiston's municipal and industrial ground water is drawn from the Russell Aquifer, a federally designated sole source aquifer. Various contaminants including volatile organic chemicals, chloride, nitrite/nitrate, metals, and pesticides have been detected in local monitoring and private wells. The detections have resulted in a need to further define local ground water conditions.

The purpose of this project was to document ground water quality in some areas of known contamination, to determine the persistence of various contaminants over time, and to provide baseline concentrations for pollutants not previously studied.

Sampling for this study took place at several locations in the Lewiston and Lapwai areas. Sampling wells included the Lewiston Levee Landfill, the EKO and McCann wells near the Twin City Foods wastewater land application site, and private wells in the Lindsay Creek, Tammany Creek, and Lapwai areas.

The results of the study suggest that nitrite/nitrate contamination remains a problem in the Lindsay Creek and Tammany Creek areas. Two private wells at Lindsay Creek and one well at the Tammany Creek School tested above the MCL of 10 mg/l. Nitrite/nitrate concentrations in the EKO and McCann wells remain high as well, although the source of these high concentrations is difficult to assess.

Volatile organic chemicals (VOC), metal, and pesticide contamination does not appear to be a concern at the present time. VOC and metal samples taken at the Lewiston Levee Landfill all tested below the instrument detection limit. Pesticide samples from various Lewiston locations all tested below the detection limit as well.

The private wells in Lapwai do not appear to be strongly affected by the nearby sewage lagoons. However, the nitrite/nitrate concentrations at each well were above 1 mg/l - a sign of human influence. Additionally, their close proximity to the sewage lagoons indicates that the wells should be closely monitored in the future.

INTRODUCTION

The City of Lewiston's municipal and industrial ground water is drawn from the Russell Aquifer, a federally designated sole source aquifer. Various contaminants, including volatile organic chemicals (VOC), chloride, nitrite/nitrate, metals, and pesticides have been detected in local monitoring and private wells. These detections have resulted in a need to better define present local ground water conditions and determine persistence of the pollutants over time.

Potential sources of ground water contamination to the Russell Aquifer include:

1. A hazardous waste landfill
2. Various industrial sites
3. A waste water land application site
4. Area agricultural practices
5. Livestock feedlots
6. Residential septic systems and sewage lagoons.

PURPOSE AND OBJECTIVES

The purpose of this study was to document ground water quality in several areas with known contamination sources, to determine the persistence of various contaminants over time, and determine baseline concentrations for pollutants not previously studied. A number of monitoring and private wells that have been the subject of previous detections were resampled in the Lewiston area. Additionally, several private wells were sampled on a portion of the Russell Aquifer recharge area near the City of Lapwai.

REVIEW OF PREVIOUS WORK

The Lewiston Levee Landfill ground water monitoring wells were sampled by the US Army Corps of Engineers during a Lower Granite reservoir drawdown in September, 1992. VOC's samples from these wells displayed detections of toluene, methylene chloride, acetone, and

several other compounds. There were also detections of various metals (antimony, arsenic, chromium, lead, mercury), one pesticide (alpha-BHC), and nitrite/nitrate.

The McCann and EKO wells were sampled in 1995 and earlier (Ralston, 1995) in an effort to assess the impact of the nearby Twin City Foods waste water land application site. The Ralston document summarizes previous ground water sampling efforts at these sites. Over several samples taken from April 1993 to September 1995, the EKO well's nitrite/nitrate concentration ranged from 9.9 to 20.1 mg/l. The chloride concentration at the EKO well ranged from 615 to 1190 mg/l. The McCann well was also sampled previously; twice in 1989 and once in 1995. The nitrite/nitrate range from these samples is 10.0 to 13.0 mg/l. Chloride samples, taken in 1988, 1989, 1991, and 1995, range in concentrations from 7 to 104 mg/l.

The Division of Environmental Quality (IDEQ) sampled the Lindsay Creek area in July, 1988. Numerous houses with shallow dug wells and deeper drilled wells were tested for nitrite/nitrate. The concentrations for the shallow dug wells in the area ranged from 2.02 to 10.6 mg/l. The nitrite/nitrate concentrations for the deeper wells ranged from 0.006 to 7.99 mg/l.

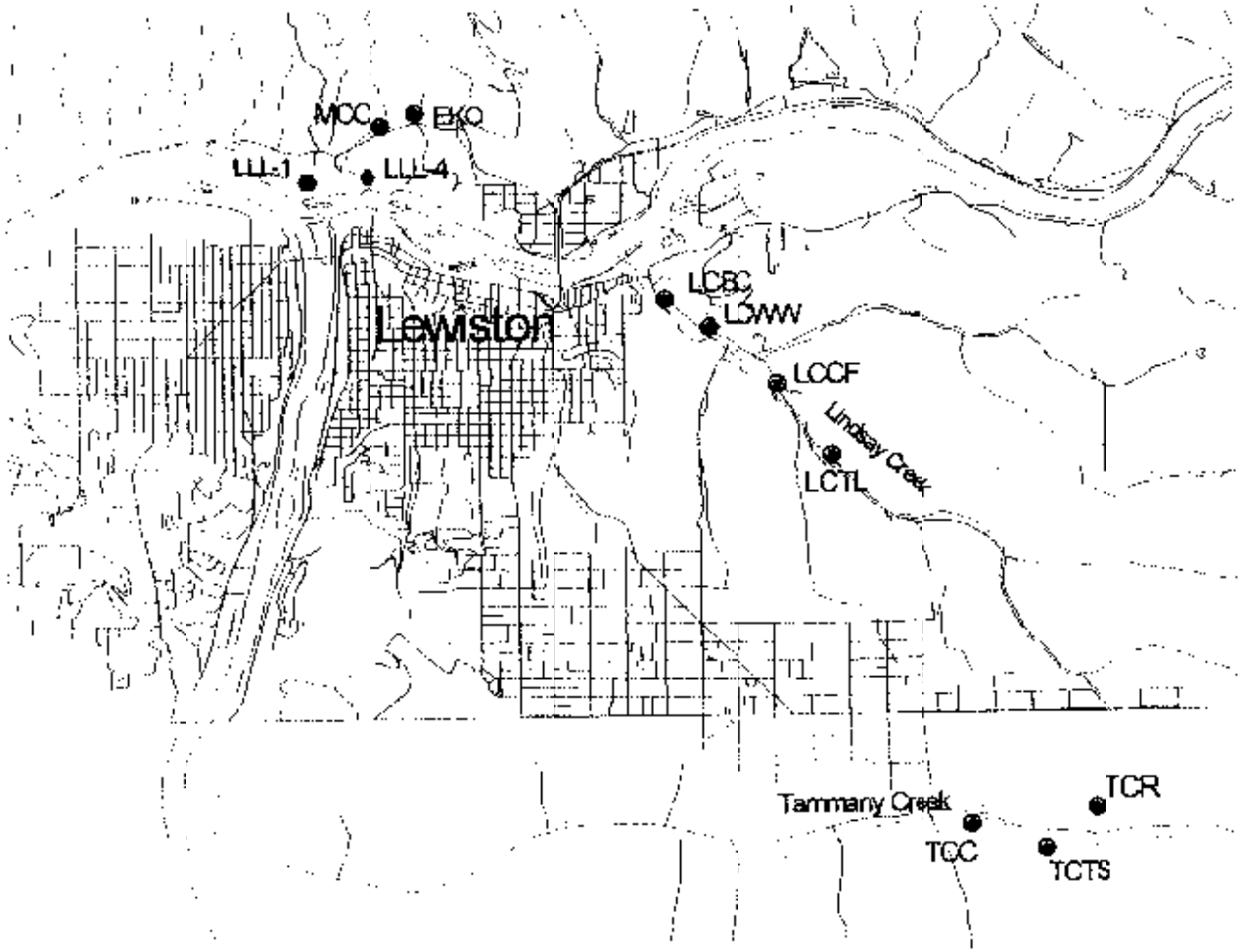
IDEQ sampled Tammany Creek in May, 1995. Several residential and business wells and the Tammany School were tested for nitrite/nitrate. The Tammany School well demonstrated the highest concentration (12.4 mg/l) found in the area. The residential and business wells in the area showed a range of 0.008 to 5.7 mg/l.

The Lapwai area wells have been the subject of previous sampling, although efforts to date aimed at obtaining this data have been unsuccessful. A 1995 City of Lapwai sample from the Lapwai School demonstrated a nitrite/nitrate concentration of 1.5 mg/l.

STUDY AREA

Sampling for this study took place at several locations in the Lewiston and Lapwai areas (see Figure 1 for the Lewiston locations and Figure 2 for the Lapwai sites). Sampling wells include

Figure 1. Groundwater Monitoring Locations



Monitor Well

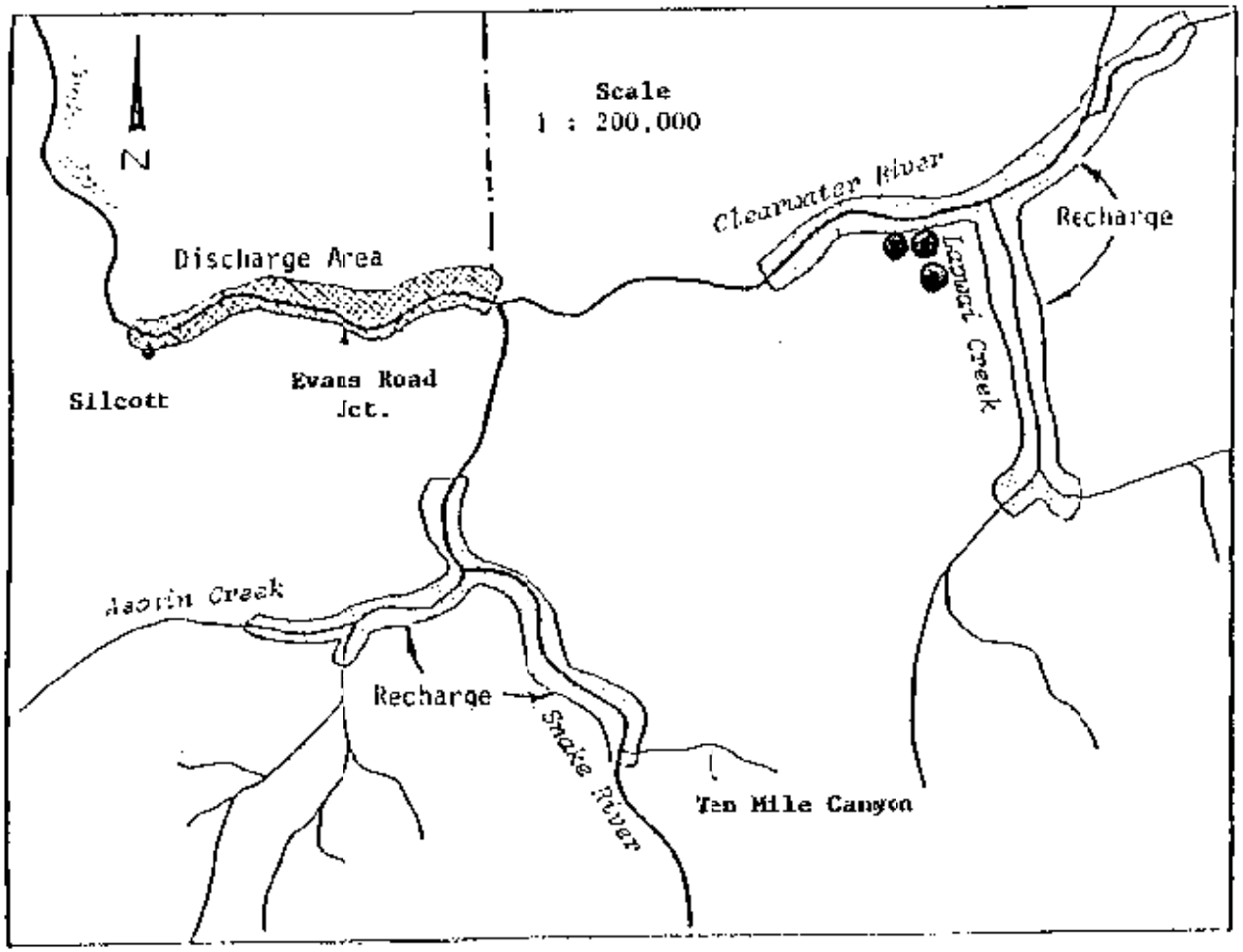
Domestic Well

Streets and Roads

Surface Water

N
W
E
S

Figure 2. Lapwai Sampling Area. Location of Recharge and Discharge Areas of the Russell Aquifer in the Lewiston Basin.



Legend: Areas of River Aquifer Interconnection

Recharge Area Discharge Area Domestic Wells

the Lewiston Levee Landfill, the Twin City Foods land application site, Lindsay Creek, Tammany Creek, and the City of Lapwai. A brief description of these facilities and sites follows:

The Lewiston Levee Landfill is a silt/fine soil encapsulated 5.2 acre landfill built by the US Army Corps of Engineers during construction of the Lower Granite Dam. The site is located on the north shore of the Clearwater River near its confluence with the Snake River. Approximately 1,000,000 cubic yards of waste materials, including wastes generated by the Camas Prairie Railroad, Potlatch Corporation, landfill materials from other sites in Lewiston, and other unidentified wastes were buried at the site (Shannon and Wilson, 1992). Five monitoring wells, located around the perimeter of the landfill, were constructed and sampled during a September 1992 Lower Granite Dam drawdown. The samples demonstrated concentrations of some VOC's, metals, and pesticides, as well as nitrite/nitrate. Additionally, dioxins and furans were found at the site, but their presence was not confirmed in duplicate samples.

The Twin City Foods waste water land application site has been the subject of previous nitrite/nitrate, chloride, and other contaminant sampling (Ralston, 1995). Sampling at the site consisted of two nearby wells that are potentially affected by activities at the waste water land application site. The McCann well is a private stock watering well located approximately 0.5 mile to the southwest. The EKO well is located at the EKO Composting facility approximately .2 miles to the south.

The Lindsay Creek area has been the subject of past IDEQ research. In 1988, numerous Lindsay Creek wells and springs were sampled for nitrite/nitrate and other pollutants. Many of the wells, particularly shallow, private, drinking water wells, demonstrated elevated levels of nitrite/nitrate. For this study, several of the previously monitored private wells were chosen for follow-up sampling.

Tammany Creek area private and business wells (and one school well) were also the subject of IDEQ nitrite/nitrate research in 1995. Several wells from the 1995 study demonstrated high

levels of nitrite/nitrate (up to 12.4 ppm). For the study, several of the previously monitored wells were chosen for follow-up sampling.

Lapwai wells near the sewage lagoons have apparently been the subject of previous sampling by the Nez Perce Tribe. As of this time, efforts to obtain data from previous sampling from these particular wells have not been successful. However, previous 1995 sampling data from a well at the Lapwai School indicate a concentration of 1.5 mg/l. For this study, three wells in close proximity to the sewage lagoon were chosen by the Tribe for nitrite/nitrate sampling.

HYDROGEOLOGIC SETTING

There are three formations that contain aquifers within the Lewiston Basin: the Wanapum, the Saddle Mountains, and the Grande Ronde formations. The Wanapum and the Saddle Mountains formations provide the majority of moderate to shallow depth irrigation and domestic wells in the region through a series of poorly connected to isolated aquifers. It is believed that recharge in the Wanapum and Saddle Mountains formations occurs primarily from irrigation and precipitation. The Lewiston Orchards and Clarkston Heights areas are believed to be the sites of irrigation recharge. Discharge occurs as springs and seeps found on slopes below these communities and also from shallow, private domestic wells (Cohen and Ralston, 1980).

The underlying, older Grande Ronde formation is separated from the Wanapum/Saddle Mountains Formations by a continuous layer of weathered basalt or saphrolite layer of varying thickness. It appears to contain aquifers of much higher yield, recharge potential, and lateral continuity. Recharge to the aquifer is supplied by precipitation (limited by the low precipitation/high evapotranspiration found in the region) and stream flow. Stream flow recharge is believed to occur in the regions near the confluence of the Clearwater River and Lapwai Creek and near the confluence of the Snake River and Asotin Creek (see Figure 2). Discharge for the Grande Ronde formation occurs at the confluence of the Snake and Clearwater Rivers and continues several miles downstream. Table 1 depicts the approximate depths of the Wanapum/Saddle Mountains and Grande Ronde Formations.

Table 1. Approximate depths below surface of Russell Aquifer water bearing formations.

	Wanapum/Saddle Mountains Formations	Grande Ronde Formation
Approximate feet below surface	0 to 200	200 to 800

The Russell aquifer is vulnerable to contamination via several mechanisms (CH2M Hill, 1988). The primary threat is from contaminated recharge waters from adjacent rivers and streams. Another potential mechanism may be from downward migration of contaminants through fractured and jointed basalt flows.

MATERIALS AND METHODS

Selection of Wells for Sampling

1. Lewiston Levee Landfill Wells

Selection of the Lewiston Levee Landfill was based on previous detections at the site and the need to maintain a close watch on potential pollutant migration from the landfill site. There are five monitoring wells in place at the site. Two of these were chosen for sampling based on their location relative to each other and to the landfill (well #4 was directly up gradient from the landfill, while well #1 was directly down gradient). Additionally, the two wells are the deepest at the site (both wells are 45 ft. deep), which was important due to the presence of a 15-20 ft. deep bentonite layer that surrounds the landfill. These two wells were chosen due to their ability to demonstrate natural, unimpeded water flow characteristics.

2. McCann and EKO Wells

Selection of the McCann and EKO wells was based on previous detections at the site and the need to monitor the effects of a nearby land application site. Previous samplings detected nitrite/nitrate and chloride in concentrations well above normal for the Lewiston area. These wells are in close proximity to the Twin City Foods waste water land application site and offer the best analysis of the ground water system and the local effects of the land application site.

3. Lindsay Creek Wells

The selection of Lindsay Creek for sampling was based on previous detections found in the area in 1988. Specific well selection was based on the concentrations detected, the depth of the well, and the co-operation of the homeowner. The Wolff residence well was the most shallow in the study (16 ft. deep) and offered a glimpse into shallow depth water quality conditions. The Law residence was chosen because of its depth (320 ft.) and proximity to the Wolff residence well (approximately 40 ft). The location of these two wells allowed for comparisons between the more shallow Wanapum Formation and the underlying Grand Ronde Formation. The other residence wells were all roughly 60 ft. deep and would provide an intermediate estimate of ground water conditions in the area.

4. Tammany Creek Wells

Selection of Tammany Creek for further monitoring was based on previous detections at the site. Well selection was based on the concentrations detected in previous studies and the co-operation of the homeowners. The Tammany Creek School was chosen because of high concentrations of nitrite/nitrate (12.4 mg/l) found in 1995. The Cromer and Rhynearson residences were chosen because these wells represented the low and middle concentrations (.008 mg/l and 4.2 mg/l, respectively) from the IDEQ's 1995 research. Depth to water in the well was also considered. All three wells chosen from the Tammany Creek area have a depth to water of 100 ft. or less.

5. Lapwai Wells

Selection of the Lapwai wells was based on proximity to Lapwai sewage lagoons and on the wishes of the Nez Perce Tribe. The wells that were sampled in this study were chosen by a Tribal representative.

Monitoring Parameters and Rationale

Table 2 depicts the number of samples to be taken, the number of QA samples to be taken, the sample matrix, and the container type. Additionally, the lab method number for each analysis appears in parentheses following the analytes.

Table 2. Sample location and number, QA/QC, analytes, and protocol. See Appendix 1 for the complete detailed analyte list.

Site	# of Samples	# of duplicate SAMPLES	Analyses	Sample Matrix	Container Type
Lewiston Landfill Levee	2	1	VOCs (502.2)	Water	Glass Bottle (40 ml)
	2	1	Metals (204.2)		Polyethylene (1 liter)
	2		Nitrite/ Nitrate (353.2)		Polyethylene (1 liter)
	2		Pesticides (525.2)		Amber Glass (1 liter)
Twin City Foods	2	1	Nitrite/ Nitrate	Water	Polyethylene (1 liter)
	1		Pesticides		Amber Glass (1 liter)
	2		Chloride (325.3)		Polyethylene (50 mls)
Lindsay Creek	5	2	Nitrite/ Nitrate	Water	Polyethylene (1 liter)
	2		Pesticides		Amber Glass (1 liter)
Tammany Creek	3	1	Nitrite/ Nitrate	Water	Polyethylene (1 liter)
	1		Pesticides		Amber Glass (1 liter)
Lapwai	3	1	Nitrite/ Nitrate	Water	Polyethylene (1 liter)

The rationale for the choice of the analytes was based on the area's history. Nitrite/nitrate is a common pollutant in the area and has been the subject of substantial previous research. VOC's and metals were chosen based on past sampling detections at the Lewiston Levee Landfill. Chloride was based on previous detections in wells near the Twin City Foods land application site. Pesticides were included in the sampling based on a desire to assess overall agricultural impacts to the Russell Aquifer and to provide baseline pesticide data for the area.

Sample Preservation Methods and Holding Times

The following table depicts the sample type and its corresponding preservation method and holding time.

Table 3. Sample type, preservation methods, and holding times.

Sample Type	Preservation Methods	Holding Times
Nitrates	2 ml Sulfuric Acid per liter. Cool to 4 C	28 days (nitrite/nitrate combined)
Metals	1.5 ml Nitric Acid per liter. Cool to 4 C	6 months
Pesticides	80 mg Sodium Thiosulfate Cool to 4 C	14 days
Chloride	Cool to 4 C	28 days
VOCs	2-3 mg Sodium Thiosulfate Cool to 4 C	14 days

Frequency of Sample Collection

Sampling occurred only once per site.

RESULTS

This section reports on the results of the study by location and contaminant. A tabular depiction of the data from this study can be found in Appendix 2.

1. Lewiston Levee Landfill

Nitrite/Nitrate

Nitrite/nitrate concentrations found at the landfill site were both relatively low. Monitoring well #1 had a concentration below the detection limit of 0.005 mg/l. However, the concentration at monitoring well #4 (2.99 mg/l) is high enough to indicate the possibility of human influence. In the 1992 Army Corps of Engineers sampling, three of four samples at well #1 were non-detections for nitrite/nitrate. Well #4 demonstrated nitrite/nitrate concentrations of 1.1, 0.5, and non-detect in three 1992 samples.

Monitoring well #1 is located closer to the Clearwater River (approximately 25 ft from the river's edge) at the southeast corner of the facility. It is likely that the low nitrite/nitrate level at well #1 (<0.005 mg/l) was a result of bank recharge from the nearby river, thus masking any possible landfill leachate. Monitoring well #4, located at the northern-most point of the landfill, displayed a much higher nitrite/nitrate concentration (2.99 mg/l). Table 4 depicts the nitrite/nitrate values found in monitoring wells #1 and #4 in 1997 and 1992.

Table 4. 1997/1992 nitrite/nitrate concentrations at the Lewiston Levee Landfill site.

Site	1997 Nitrite/ Nitrate Concentration (mg/l)	1992 Nitrite/Nitrate Concentration Range (mg/l)
Lewiston Levee Well #1	<0.005	BDL to 0.033
Lewiston Levee Well #4	2.99	BDL to 1.1

Since ground water flow in this area is likely similar to flow at the nearby land application site/EKO facility interchange (where flow is directly to the south), it is plausible that the higher nitrite/nitrate concentration found at the monitoring well is a result of drainage from the cattle feedlot operation located directly north at the McCann site.

VOC's and Metals

For the study, only the Lewiston Levee Landfill site was tested for VOC's and metals. Both wells that were tested at the site (monitoring wells #1 and #4) showed contaminant levels below the instrument detection limits for all VOC's. A replicate sample from well #4 also tested below the detection limits. Monitoring wells #1 and #4 both tested below detection limits for all metals tested (antimony, arsenic, chromium, lead, and mercury). A replicate from well #1 also tested non-detect for all metals. In 1992, each well tested above detection limits on at least one occasion for one of more of the metals. However, the majority of the 1992 concentrations were below detection limits.

Pesticides

Both monitoring wells at the Levee site were tested for pesticides. Both wells tested below the instrument detection limits.

2. McCann and EKO Wells

Nitrite/Nitrate

Nitrite/nitrate concentrations found at the McCann and EKO wells were relatively high. The concentration at the McCann well was 9.25 mg/l. The concentration at the EKO well was 12.1 mg/l. The MCL for nitrite/nitrate is 10 mg/l. These concentrations are similar to those of previous ground water sampling in the area. Ralston's document showed a range of 10.0-13.0 mg/l and 9.9-20.1 mg/l for McCann and EKO, respectively. Table 5 depicts the 1997 nitrite/nitrate concentrations and the 1989-95 concentration range.

Table 5. 1997 and 1989-95 nitrite/nitrate concentrations at the McCann and EKO wells.

Site	1997 Nitrite/Nitrate Concentrations (mg/l)	1989-95 Nitrite/Nitrate Concentration Range (mg/l)
McCann Well	9.25	10.0 to 13.0
EKO Well	12.1	9.9 to 20.1

Ralston reports the depth of the EKO well as 240 ft. with a depth of water of 180 ft. This depth indicates that the EKO well draws primarily from the Wanapum Formation with potential for draw from the upper portion of the Grande Ronde Formation (Ralston, 1995). According to the well driller's log, the depth of the McCann well is approximately 750 ft. with a depth to water of roughly 500 ft. This depth suggests that the well penetrates into the Grande Ronde formation.

Chloride

For the study, only the McCann and EKO wells were tested for chloride. The McCann and EKO well concentrations were 76.8 mg/l and 806.2 mg/l, respectively. The chloride value in the EKO well was higher than the secondary standard of 250 mg/l. These values were consistent with the range of values found in previous studies (Ralston, 1995). The range for the McCann well was 7.0-104.0 mg/l and the EKO well ranged from 615-1190 mg/l. As noted by Ralston, the values indicate that the EKO well is being influenced by high chloride content waste water application at the Twin City Foods site, while the McCann well is apparently not being directly affected by activities at the site. The mechanism for this influence could be one of many faults that occur in the area or the natural, down-gradient drainage of the ground water.

Table 6 depicts the chloride concentrations and the specific conductance (a measurement which reflects ion concentrations found in water) values found in this study and during previous work at the site (Ralston, 1995).

Table 6. 1997 and 1989-95 chloride concentrations and conductance values for the McCann and EKO wells.

Site	1997 Chloride Concentration(mg/l)	1989-95 Chloride Range (mg/l)	1997 Conductance (uS/m)	1989-95 Conductance Range (uS/m)
McCann Well	76.8	7-104	868	951-1100
EKO Well	806.2	615-1150	3,390	3179-3600

Study results are similar to the results from previous efforts. Chloride concentrations and specific conductance are extremely high at the EKO well, but much lower in the McCann well. This suggests that the flow of ground water from the land application site is directly to the south (the location of the EKO facility). The McCann well, located to the southwest, is spared the effects of the chloride. However, the high nitrite/nitrate concentrations found at both sites indicate that the land application site may not be the source of elevated nitrite/nitrate found in the area. Ralston suggests the possibility that the area's nitrite/nitrate background concentration may be high or that activities at the EKO composting facility may be responsible for adding nitrite/nitrate to the EKO well. Since this area is considered to be a discharge area, the elevated levels of nitrite/nitrate and chloride should not influence the rest of the aquifer or be a substantial concern to human health via drinking water. There are no domestic wells between the EKO facility and the discharge area of the Snake River/Clearwater River confluence.

Pesticides

The McCann well tested below the detection limit for pesticides. The EKO well was not tested for pesticides in this study.

3. Tammany Creek

Nitrite/Nitrate

Nitrite/nitrate concentrations at the Tammany Creek site ranged from 0.011 mg/l at the Cromer residence, 1.76 mg/l at the Rhynearson residence, and 17.5 mg/l at the Tammany School. The Cromer well demonstrated no real change over the last two years (the well had a concentration of 0.008 mg/l in 1995). The Rhynearson well showed a substantial decrease in nitrite/nitrate concentrations over the last two years. The 1995 nitrite/nitrate value was 4.2 mg/l versus 1.76 from this study. The Tammany School showed a substantial increase in nitrite/nitrate over the last 2 years, rising from 12.4 mg/l in 1995 to 17.5 in 1997. The North Central District Health Department was notified of the drinking water nitrate MCL of 10 mg/l at the Tammany School, and the school was contacted. The school was aware of the nitrite/nitrate problem and was using bottled drinking water.

The Tammany School well is 407 feet deep with a depth to water of 55 feet. Well depth information is not available for the Cromer and Rhynearson residences; however, depth to water was listed at 100 feet for each in the 1995 IDEQ study. The variation in concentrations at this site is difficult to assess. The wells are relatively close to each other and the depth to water is similar, yet the concentrations are very different. Previous data shows a similar trend. Different wellhead protection practices at each site or the age and condition of the well may offer an explanation. The well log for the Tammany School shows that the well was drilled to 600 ft. with water bearing zones at several depths along the well. The well was sealed and cased to 120 ft. It is likely that the high nitrite/nitrate concentrations found in this well are a result of contaminated water from shallower aquifer(s) entering the well. However, without well logs for the other sites and without further research into the problem, any explanation of the variation at this time is purely speculative. Table 7 depicts the 1997 nitrite/nitrate concentrations found at each site, as well as the 1995 nitrite/nitrate concentrations that were found in previous IDEQ sampling.

Table 7. 1997/1995 nitrite/nitrate concentrations at Tammany Creek.

Site	1997 Nitrite/Nitrate Concentrations (mg/l)	1995 Nitrite/Nitrate Concentrations (mg/l)
Tammany School	17.5	2.4
Cromer Residence	0.011	0.008
Rhynearson Residence	1.76	4.2

Pesticide

The Tammany School was the only well from the Tammany Creek area tested for pesticides. Concentrations for all pesticides at this location were below the instrument detection limits.

4. Lindsay Creek

Nitrite/Nitrate

The Lindsay Creek area nitrite/nitrate concentration ranged from 0.008 mg/l-18.3 mg/l during this study. The highest concentration (18.3 mg/l) was found in a shallow dug well at the Wolff residence. The low concentration (0.008 mg/l) occurred at the Law residence in a 320 ft. deep drilled well. The wells are adjacent to each other (approximately 40 ft. apart). The Laws well concentration dropped from 0.023 mg/l in 1988 to 0.008 mg/l in 1997, while the Wolff residence well rose dramatically over the same time frame from 5.32 mg/l in 1988 to 18.3 mg/l in 1997.

The Cowger residence nitrite/nitrate concentration also increased, rising from 6.99 mg/l in 1988 to 10.3 mg/l in 1997. The Breedon well rose slightly from 1.22 mg/l to 1.33 mg/l and the Fuchs well concentration dropped from 7.99 mg/l to 6.37 mg/l over the same time frame. The proximity to Lindsay Creek itself may explain the variation in these three wells. The Cowger residence is located along the creek (the Fuchs residence is also very close), while the Breedon residence sits approximately 150 ft from the creek. It is likely that the Cowger and Fuchs wells are more influenced by nitrite/nitrate concentrations from bank recharge from Lindsay Creek itself. Table 8 depicts the 1997 nitrite/nitrate concentrations, as well as the 1988 concentrations found in previous IDEQ research.

Table 8. 1997/1988 nitrite/nitrate concentrations at Lindsay Creek.

Site	1997 Nitrite/Nitrate Concentration (mg/l)	1988 Nitrite/Nitrate Concentration (mg/l)
Law Residence	0.008	0.023
Wolff Residence	18.3	5.32
Cowger Residence	10.3	6.99
Breedon Residence	1.33	1.22
Fuchs Residence	6.37	7.99

Pesticides

The Wolff and Law residences at Lindsay Creek were tested for pesticides. Both wells tested below the detection limit for all pesticides. The Law residence, a 320 ft. deep drilled well, would be expected to display concentrations below the detection limit. However, the Wolff well, a hand dug well only 16 ft. deep, would be the most likely of all the wells tested to display elevated concentrations of pesticides. The fact that this well tested non-detect for all pesticides suggests that, at least in the Lindsay Creek area, ground water contamination from pesticides is not an immediate concern.

5. Lapwai

Nitrite/Nitrate

Nitrite/nitrate concentrations found in the Caulkins, Allen, and Rickman residences demonstrated relatively low levels of the pollutant. The Caulkins residence well had a concentration of 0.97 mg/l, while the Allen and Rickman residence wells showed slightly higher values of 1.75 and 1.55 mg/l, respectively. Comparisons to past sampling from these wells is not possible as previous data for these wells has not yet become available. However, these values are consistent with City of Lapwai well samples taken from the Lapwai School in 1995 (the school well concentration was 1.5 mg/l).

CONCLUSIONS

The purpose of this study was to determine the concentrations of nitrite/nitrate, pesticides, VOC's, metals, and chloride is various wells in the Lewiston and Lapwai areas. Additionally, the persistence of the various compounds was to be determined in areas that were previously studied. The major conclusions of this study are as follows:

1. Nitrite/nitrate contamination remains a problem in the Lindsay Creek and Tammany Creek areas. In some cases, the extent of the contamination has worsened over the last several years. As of this time, two residences in Lindsay Creek and the Tammany School displayed

concentrations above the MCL of 10 mg/l for nitrite/nitrate. Numerous other wells in these areas demonstrated nitrite/nitrate levels that suggest human influence.

2. Nitrite/nitrate concentrations remain high in the McCann and EKO wells. The high nitrite/nitrate concentrations may be a result of activities at the Twin City Foods land application site. However, because the concentrations of nitrite/nitrate are high in both wells, yet the McCann well does not show the same high chloride values that are found in the EKO well, it is possible that some other force is involved. Background nitrite/nitrate concentrations in the area may be naturally high, activities at the EKO composting facility may be affecting the EKO well, or there could be an additional source(s) that have not yet been considered.

3. VOC, metal, pesticide and nitrite/nitrate contamination from the landfill at the Lewiston Levee does not appear to be a concern at the present time. However, well placement and depth (relative to the bentonite layer surrounding the landfill) compromises the ability to accurately assess the situation at the site. Additional monitoring wells, deeper than the bentonite layer, would provide a more complete description of potential pollutant migration at the site. Additionally, a well drilled directly into the landfill would clear up confusion regarding what materials and compounds are actually present in the landfill and what contaminants future research should aim to assess.

4. Presently, pesticide contamination of ground water in the Lewiston area does not appear to be a concern. None of the wells tested displayed a concentration of any pesticide above the detection limit. Given the slow movement of pesticides through soil, it is not surprising that the deeper wells were non-detects. However, the more shallow wells (including a 16 ft. deep well at Lindsay Creek) also tested below the detection limit. This data suggests that, at the present time, there is no problem regarding pesticide contamination of ground water in the Lewiston area.

5. The wells in the Lapwai area do not appear to be strongly affected by the nearby sewage lagoons. However, nitrite/nitrate concentrations above 1 mg/l are indicative of potential human

influence. Since previous information is not available for these wells, it is not possible to assess persistence. Because of their proximity to the sewage lagoons, these wells should continue to be closely monitored.

6. It appears that the upper portion of the Wanapum Formation of the Russell Aquifer is the most contaminated. Numerous shallower wells (<100 ft.) from the Lindsay Creek and Tammany Creek areas have demonstrated levels of nitrite/nitrate contamination that indicate obvious human influence. Some of the wells from these areas displayed concentrations well above the MCL of 10 mg/l. Nitrite/nitrate and chloride concentrations found in deeper wells near the Twin City Foods land application site suggest that the area from the lower Wanapum Formation to the upper Grande Ronde Formation also may have been contaminated near this site. However, this area is considered to be an aquifer discharge area, so the nitrite/nitrate levels do not appear to be a concern at this time.

No VOC, metal, or pesticide contamination to any part of the Russell aquifer was found in this study.

QUALITY ASSURANCE/QUALITY CONTROL

QA/QC consisted of trip blanks and replicates. Seven replicate samples were used (5 nitrate, 1 metal, and 1 VOC sample), as well as 1 trip blank used per site. The trip blanks were combined into a composite and tested for chloride. The composite sample concentration was below the chloride detection limit of 0.9 mg/l.

A metals replicate sample was taken at the Lewiston Levee Landfill. The original and replicate samples both had concentrations below the detection limit for all metals. VOC replicate samples were also taken at the Lewiston Levee Landfill site. The original and replicate samples both displayed concentrations below the detection limit.

Nitrite/nitrate replicates were taken at several sites. A replicate sample taken at the EKO site demonstrated identical concentrations to the original (12.1 mg/l each). The replicate taken at Tammany School showed a concentration of 17.3 mg/l versus 17.5 mg/l for the original sample. A replicate sample taken at the Wolff residence at Lindsay Creek gave a result of 18.4 mg/l versus 18.3 mg/l for the original. A replicate sample taken at the Caulkins residence in Lapwai showed an even lower variability: 0.97 mg/l in the original and 1.00 mg/l in the replicate. A replicate sample taken at the Law residence at Lindsay Creek showed the highest variability. The original sample displayed a concentration of 0.008 mg/l. The replicate concentration was below the detection limit of 0.005 mg/l.

Overall, the replicate and trip blank system worked to ensure the quality of the data. The sample and duplicate samples were compared using EPA's relative percent difference (RPD) formula (United States Environmental Protection Agency, 1994).

$$RPD = [S - D] \times 100 / (S - D)/2$$

Where: S = The First Sample Value (the original sample).

D = The Second Sample Value (the duplicate sample).

EPA uses a 20% relative difference value to determine the precision and accuracy of the duplicate/original sample. The highest RPD in this study, found at the Caulkins residence in Lapwai, was 3.0 percent. The sample to duplicate RPD from the Law residence at Lindsay Creek was not ascertainable due to the replicate testing below the detection limit. The original sample tested at 0.008 mg/l.- just above the detection limit of 0.005 mg/l. While the RPD cannot be determined, the difference between the two values is not likely to be considered significant. According to the State Laboratory there is often more variability found in samples with concentrations at or near the detection limit.

Literature Cited

1. CH2M Hill. Petition for Sole Source Aquifer Designation. Public Utility District No. 1 of Asotin County. January, 1988. Unpublished.

2. Cohen, P.L., and D. Ralston. Reconnaissance Study of the "Russell" Basalt Aquifer in the Lewiston Basin of Idaho and Washington. Idaho Water Resources Research Institute. March, 1980.

3. Idaho Division of Environmental Quality. Tammany Creek Sampling Results, 1995. Unpublished.

4. Idaho Division of Environmental Quality. Lindsay Creek Sampling Results, 1988. Unpublished.

5. Ralston, D. Reconnaissance Hydrogeologic and Soils Analysis of the Wastewater Land Application Site for Twin City Foods, Inc., Lewiston, Idaho. October, 1995. Unpublished.

6. Shannon and Wilson. Lewiston Levee Waste Area Monitoring Results Lewiston, Idaho. September, 1992. Unpublished.

7. United States Environmental Protection Agency. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA 540/R-94/013. February, 1994.

APPENDIX 1

List of Analytes

NITRITE/NITRATE (NO_2- and NO_3- and N)

CHLORIDE

METALS:

Antimony
Arsenic
Chromium
Lead
Mercury

VOC's:

Benzene
Bromochloromethane
Bromoform
n-Butylbenzene
tert-Butylbenzene
Chlorobenzene
Chloroform
2-Chlorotoluene
Dibromochloromethane
1,3-Dibromoethane
1,2-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethane
1,1-Dichloroethene
trans-1,2-Dichloroethene
1,3-Dichloropropane
1,1-Dichloropropene
trans-1,3-Dichloropropene
Hexachlorobutadiene
p-Isopropyltoluene
Napthalene
Styrene
1,1,2,2-Tetrachloroethane
Toluene
1,2,4-Trichlorobenzene
1,1,2-Trichloroethane
Trichlorofluoromethane
1,2,4-Trimethylbenzene
Vinyl Chloride

Bromobenzene
Bromodichloromethane
Bromomethane
sec-Butylbenzene
Carbon tetrachloride
Chloroethane
Chloromethane
4-Chlorotoluene
1,2-Dibromo-3-chloropropane
Dibromomethane
1,3-Dichlorobenzene
Dichlorodifluoromethane
1,2-Dichloroethane
cis-1,2-Dichloroethene
1,2-Dichloropropane
2,2-Dichloropropane
cis-1,3-Dichloropropene
Ethylbenzene
Isopropylbenzene
Methylene Chloride
n-Propylbenzene
1,1,1,2-Tetrachloroethane
Tetrachloroethene
1,2,3-Trichlorobenzene
1,1,1-Trichloroethane
Trichloroethene
1,2,3-Trichloropropane
1,3,5-Trimethylbenzene
Xylenes (total)

PESTICIDES

Acenaphthene
Alachlor
Ametryn
Atraton
Benz(a)anthracene
Benzo(k)fluoranthene
Benzo(a)pyrene
Butachlor
Butylbenzyl phthalate
a-Chlordane
t-Nonachlor
Chlorobenzilate
Chloropropham
Chlorthalonil
Cyanazine
DCPA
4,4'-DDE
Diazinon
di-n-Butyl phthalate
Dichlorvos
bis(2-ethylhexyl)adipate
Diethyl phthalate
2,4-Dinitrotoluene
Diphenamid
Disulfoton sulfone
Endonsulfan I
Endosulfan sulfate
Endrin aldehyde
Fiperalin (Fipron)
Bromoxynil
Ethoprop
Fenamiphos
Fluorane
a-BHC
d-BHC
Heptachlor
2,2',3,3',4,4',6-Heptachlorobiphenyl
2,2',4,4',5,6'-Hexachlorobiphenyl
Hexazinone
Isophorone
Methyl paraoxon
Metribuzin
MGK 264-isomer a
Molinate
Norflurazon
2,2'3,3',4,5',6,6'-Octachlorobiphenyl
2,2',3',4,6-Pentachlorobipphenyl
trans-Permathin
Prometon
Pronamide
Propazine

Acenapthylene
Aldrin
Anthracene
Atrazine
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Bromacil
Butylate
Carboxin
g-Chlordane
Chlorneb
2-Chlorobiphenyl
Clorpyrifos (Duragard)
Chrysene
Cycloate
4,4'-DDD
4,4'-DDT
Dibenz(a,h)anthracene
2,3-Dichlorobiphenol
Dieldrin
bis(2-ethylhexyl) phthalate
Dimethyl phthalate
2,6-Dinitrotoluene
Disulfoton
Disulfonton sulfoxide
Endosulfan II
Endrin
EPTC
Dienochlor (Pentac)
Acephate (Orthene)
Etridiazole
Fenarimol
Fluoridone
b-BHC
g-BHC (Lindane)
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Indeno(1,2,3-c,d)pyrene
Methoxychlor
Metolachlor
Mevinphos
MGK 264-isomer b
Napropamide
Pebulate
Pentachlorophenol
cis-Permathrin
Phenanthrene
Prometryn
Propachlor
Pyrene

Simazine
Stirofos
Terbacil
Terbutryn
2,2',4,4'-Tetrachlorobiphenyl
Tricyclazole
Vernolate
Rotenone (Pyrellin)
Fenarimol (Rubagin)

Simetryn
Tebuthiuron
Terbufos
Triademefon
2,4,5-Trichlorobiphenyl
Trifluralin
Pyrethrins (Pyrellin)
Metalaxyl (Subdue)

APPENDIX 2

Results

Sample #	Nitrite/ Nitrate (mg/l)	Chloride (mg/l)	Pesticides (mg/l)	Metals (mg/l)	VOC's (mg/l)
MCC-1-1	9.25	nt	nt	nt	nt
MCC-1-2	nt	76.8	nt	nt	nt
EKO-1-1	12.1	nt	nt	nt	nt
EKO-1-1R	12.1	nt	nt	nt	nt
EKO-1-2	nt	806.2	nt	nt	nt
LLL-1-1	nt	nt	nt	BDL	nt
LLL-1-1R	nt	nt	nt	BDL	nt
LLL-1-2	<0.005	nt	nt	nt	nt
LLL-1-3	nt	nt	BDL	nt	nt
LLL-1-4	nt	nt	nt	nt	BL
LLL-4-1	2.99	nt	nt	nt	nt
LLL-4-2	nt	nt	nt	BDL	nt
LLL-4-3	nt	nt	nt	nt	BDL
LLL-4-3R	nt	nt	nt	nt	BDL
LLL-4-4	nt	nt	BDL	nt	nt
TCR-1-1	1.76	nt	nt	nt	nt
TCTS-1-1	17.50	nt	nt	nt	nt
TCTS-1-1R	17.30	nt	nt	nt	nt
TCC-1-1	0.011	nt	nt	nt	nt
LCBC-1-1	10.30	nt	nt	nt	nt
LCWW-1-1	18.30	nt	nt	nt	nt
LCWW-1-1R	18.40	nt	nt	nt	nt
LCCF-1-1	6.37	nt	nt	nt	nt
LCGB-1-1	1.33	nt	nt	nt	nt
LCTL-1-1	0.008	nt	nt	nt	nt
LCTL-1-1R	<0.005	nt	nt	nt	nt

BDL: Below Instrument Detection Limit
ns: Sample Not Tested for Contaminant

Name [illegible]

Address [illegible]

City [illegible] | State [illegible] | Zip Code [illegible]

Sampler(s)

Project or Site [illegible]

Lab Charge Code 8277

State of Idaho
Division Of Environmental Quality

Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	Water	Soil	Other	BTEX (8020)	418.1 (I.R.) TPH	8015 (G.C.) TPH	VOC's – 502.2/8021	TCLP – Metals (1311)	TCLP – Volatiles (1311)	TCLP – Pest. (1311)	Total Metals	Cyanides (335.2)	Flashpoint	pH	PAH's (8270)	Organochlorides (8080)	Herbicides (8150)	Organophosphates (8140)	[illegible]	[illegible]	[illegible]	[illegible]			NUMBER OF CONTAINERS
	2/7/97	[illegible]	[illegible]	✓																				✓				
	[illegible]	[illegible]	[illegible]	✓																								
	[illegible]	[illegible]	[illegible]	✓																		✓						
97-75	[illegible]	[illegible]	[illegible]	✓																			✓					
97-72	[illegible]	[illegible]	[illegible]	✓						✓																		
97-77	[illegible]	[illegible]	[illegible]	✓																			✓					
97-78	[illegible]	[illegible]	[illegible]	✓																			✓					
	[illegible]	[illegible]	[illegible]	✓																					✓			

COMMENTS

* metals to be tested: [illegible]

~~[illegible]~~

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible] Matthews	[illegible]	[illegible]

Received with Seal Intact? ☑ Yes ☐ No

Label Tag, COC Agree? ☑ Yes ☐ No

OFFICE

Lab Charge Code 8297

State of Idaho
Division Of Environmental Quality

Name	[illegible]
Address	[illegible]
City	[illegible]
State	[illegible]
Zip Code	[illegible]
Sampler(s)	
Project or Site	[illegible]

Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	Water	Soil	Other	BTEX (8020)	418.1 (I.R.) TPH	8015 (G.C.) TPH	VOC's – 502.2/8021	TCLP – Metals (1311)	TCLP – Volatiles (1311)	TCLP – Pest. (1311)	Total Metals	Cyanides (335.2)	Flashpoint	pH	PAH's (8270)	Organochlorides (8080)	Herbicides (8150)	Organophosphates (8140)			NUMBER OF CONTAINERS
	[illegible]	[illegible]	[illegible]	✓																		✓		
	[illegible]	[illegible]	[illegible]																			✓		
	[illegible]	[illegible]	[illegible]	✓																		✓		
97-80	[illegible]	[illegible]	[illegible]	✓																			✓	
	[illegible]	[illegible]	[illegible]	✓																		✓		
	[illegible]	[illegible]	[illegible]	✓																				

COMMENTS

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time
[signature]	2/11	[illegible]	[signature]	2/12/97	
[signature]	2/12/97	[illegible]	[signature] Matthews	2/12/97	[illegible]

Received with Seal Intact? ☑ Yes ☐ No

Label Tag, COC Agree? ☑ Yes ☐ No

OFFICE

Name	Wade Melton LEO-DEQ
Address	1118 F St
City	Lewiston
State	ID
Zip Code	83501
Sampler(s)	
Project or Site	McCann 4 EW-1 well

Lab ChargeCode: 8297

State of Idaho
Division Of
Environmental Quality

Chain of Custody Form

FIELD NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	Water	Soil	Other	BTEX (8020)	418.1 (I.R.) TPH	8015 (G.C.) TPH	VOC's – 502.2/8021	TCLP – Metals (1311)	TCLP – Volatiles (1311)	TCLP – Pest. (1311)	Total Metals	Cyanides (335.2)	Flashpoint	pH	PAH's (8270)	Organochlorides (8080)	Herbicides (8150)	Organophosphates (8140)						Number of Containers
	2/6/97	2:00	MCC-1-1	✓																		✓					
97-75 SM	2/6/97	2:00	MCC-1-2	✓																			✓				
97-76	2/6/97	2:00	MCC-1-3	✓																				✓			
	2/6/97	2:30	LEW-1-1	✓																		✓					
	2/6/97	2:30	LEW-1-1R	✓																		✓					
	2/6/97	2:30	LEW-1-2	✓																			✓				
	2/6/97	1:30	TRIP BLANK 1																					✓			

Comments: No Trip Blank for Chlorides ✓

RECEIVED
MAR 21 1997
DEQ - LEWISTON
REGIONAL OFFICE

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	
[signature]	2/11	10:30	[signature] (Inorganic)	2/12/97		Received with Seal Intact? ☐ Yes ☐ No
[signature]	2/12/97	8:45	Connie Matthews	2/12/97	17:50	Label Tag, COC Agree? ☑ Yes ☐ No

Name	
Address	
City	State / Zip Code
Sampler(s)	
Project or Site	

Lab Charge Code: 8297

State of Idaho
Division Of
Environmental Quality

Chain of Custody Form

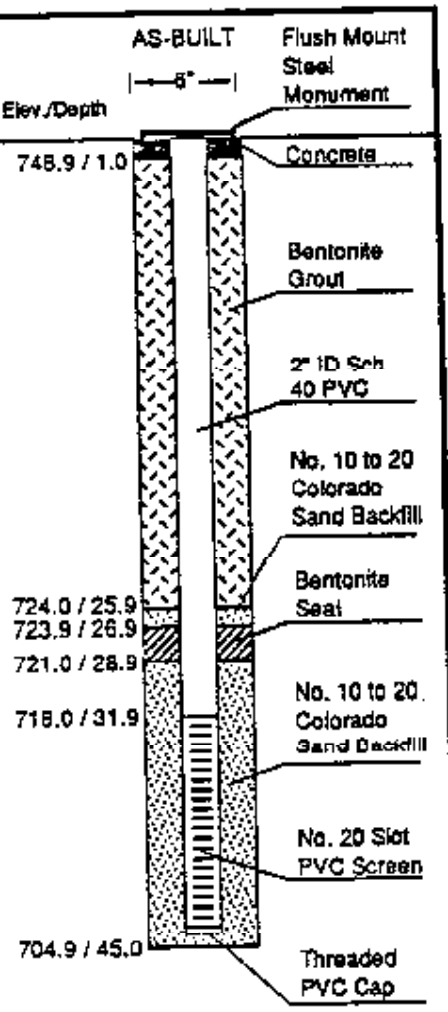
LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	TYPE OF SAMPLE: Water	Soil	Other	TESTS: BTEX (8020)	418.1 (I.R.) TPH	8015 (G.C.) TPH	VOC's – 502.2/8021	TCLP – Metals (1311)	TCLP – Volatiles (1311)	TCLP – Pest. (1311)	Total Metals	Cyanides (335.2)	Flashpoint	pH	PAH's (8270)	Organochlorides (8080)	Herbicides (8150)	Organophosphates (8140)							NUMBER OF CONTAINERS
	2/10	2:30	LLL-Y-1	✓																		✓						
	2/10	2:10	LLL-Y-2	✓																				✓				
97-73	2/10	2:10	LLL-Y-3	✓						✓																		
97-74	2/10	2:20	LLL-Y-3R	✓						✓																		
97-79	2/10	2:30	LLL-Y-4	✓																			✓					

OFFICE

* metals to be tested: Antimony, Arsenic, Aluminum, Iron, Vanadium

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	
	2/11	10:30		2/12/97		Received with Seal Intact? ☐ Yes ☐ No
	2/12/97	8:45	Sonia Matthews	2/12/97	8:50	Label Tag, COC Agree? ☑ Yes ☐ No

GEOLOGIC LOG Ground Elevation: 749.94 Feet	Depth, Ft.	Water Level	Blows/Ft.	Soil Sample	PID, ppm
Medium to dark brown, fine to medium SAND and medium to coarse GRAVEL; dry to damp	0				0
- Grades to brownish gray, gravelly, fine to coarse SAND at 9 feet - Boulder at 12 to 13.5 feet					
Dark brownish gray, slightly silty, fine to medium SAND and fine to coarse GRAVEL; dry to damp	13.5	2-4-92 ▽	See Note 1		
Dark gray, fine to medium SAND and SILT; trace fine to medium GRAVEL; moist	19				
Medium dense to dense, dark gray, slightly silty, fine to medium SAND; poorly graded; trace wood fragments; wet	25				
- Grades to some gravel at 35 feet			56/11"	S-1	
			50/4"	S-2	
			65	S-3	
BOTTOM OF BORING AT 45.0 FEET	45				



Drilled By: Environmental West Exploration
Drilling Method: Air Rotary Mobile B-80
PSI=120-150 During Drilling
Drilling Date: 1-31-92
Logged by: B. Geiger

Quantity Backfill Materials:
Sand 3.5 Bags
Bentonite 1 Bag
Grout 4 Bags

Development:
Method Brainard-Kilman Pump
Date 2-2-92
Quantity Water Removed 205 Gal.

LEGEND

I 2" O.D. Split Spoon Sample

NOTES

1. Drill cuttings logged continuously from 0 to 10 feet, at 5-foot intervals to 32.5 feet.
2. The contacts represent the approx. boundaries between soil types and the actual transitions may be gradual.
3. Elevations shown are preliminary.

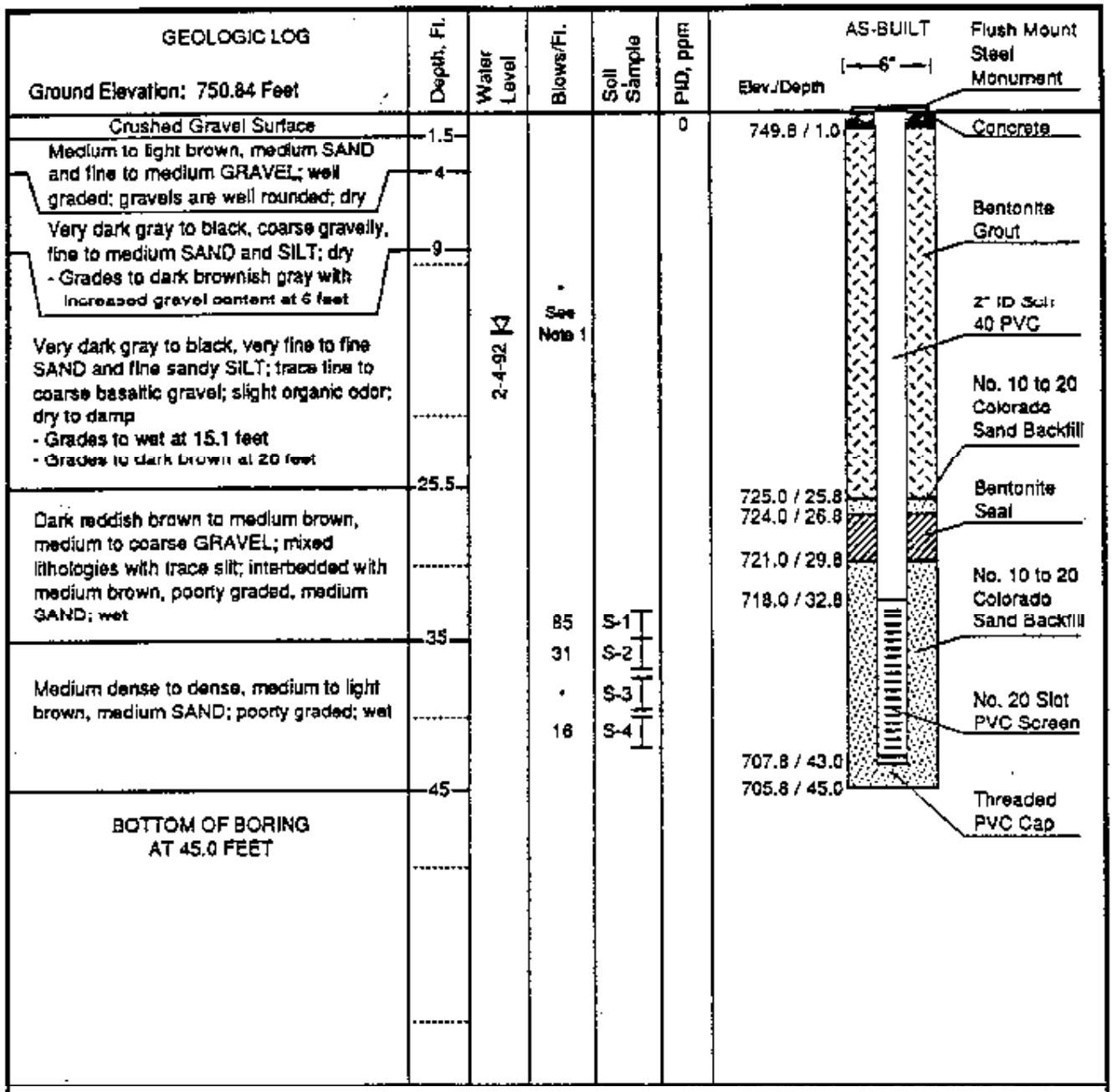
Lewiston Levees
Lewiston, Idaho

MONITORING WELL MW-1

February 1992 V-100-01

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 3



Drilled By: Environmental West Exploration
Drilling Method: Air Rotary Mobile B-80
PSI=120-150 During Drilling
Drilling Date: 1-30-92
Logged by: S. Geiger

Quantity Backfill Materials:
Sand 3.5 Bags
Bentonite 1 Bag
Grout 8 Bags

Development:
Method Brainard-Kilman Pump
Date 2-2-92
Quantity Water Removed 205 Gal.

LEGEND

I 2" O.D. Split Spoon Sample

NOTES

1. Drill cuttings logged continuously from 0 to 10 feet, at 5-foot intervals to 33 feet; sample #3 not collected due to heaving sands.
2. The contacts represent the approx. boundaries between soil types and the actual transitions may be gradual.
3. Elevations shown are preliminary.

Lewiston Levees
Lewiston, Idaho

MONITORING WELL MW-4

February 1992 V-100-01

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 6

State of Idaho, Department of Health and Welfare
Bureau of Laboratories - Boise Laboratory
2220 Old Penitentiary Road, Boise, Idaho 83712
WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0115/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LEWISTON LANDFILL WELL #4
Storet:	
NPDES No.:	
Sample Location:	LLL-4-2
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	HNO3

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 14:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
01097	Antimony	<5 (ug/l)	02/25/97	BP
01002	Arsenic, Total	<10 (ug/l)	02/24/97	BP
01034	Chromium, Total	<2 (ug/l)	02/26/97	BP
01051	Lead, Total	<5 (ug/l)	02/26/97	BP
71900	Mercury, Total	<0.5 (ug/l)	02/26/97	BP

State of Idaho, Department of Health and Welfare
Bureau of Laboratories - Boise Laboratory
2220 Old Penitentiary Road, Boise, Idaho 83712
WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

2-25-97

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0117/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LEWISTON LANDFILL WELL #1
Storet:	
NPDES No.:	
Sample Location:	LLL-1-1R
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	HNO3

Date Collected: 02/07/97 Date Received in Lab: 02/12/97
Time Collected: 15:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
01097	Antimony	<5 (ug/l)	02/25/97	BP
01002	Arsenic, Total	<10 (ug/l)	02/24/97	BP
01034	Chromium, Total	<2 (ug/l)	02/26/97	BP
01051	Lead, Total	<5 (ug/l)	02/26/97	BP
71900	Mercury, Total	<0.5 (ug/l)	02/26/97	BP

State of Idaho, Department of Health and Welfare
Bureau of Laboratories - Boise Laboratory
2220 Old Penitentiary Road, Boise, Idaho 83712
WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

2.25.97

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0116/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LEWISTON LANDFILL WELL #1
Storet:	
NPDES No.:	
Sample Location:	LLL-1-1
Collected by.	WADE MELTON
rpose:	Other
xen From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	HNO3

Date Collected: 02/07/97 Date Received in Lab: 02/12/97
Time Collected: 15:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
01097	Antimony	<5 (ug/l)	02/25/97	BP
01002	Arsenic, Total	<10 (ug/l)	02/24/97	BP
01034	Chromium, Total	<2 (ug/l)	02/26/97	BP
01051	Lead, Total	<5 (ug/l)	02/26/97	BP
71900	Mercury, Total	<0.5 (ug/l)	02/26/97	BP

State of Idaho
DEPARTMENT OF HEALTH AND WELFARE
Division of Health

BUREAU OF LABORATORIES

2220 Old Penitentiary Rd.
Boise, Idaho 83712
(208) 334-2235

PHILIP E. BATT
Governor
LINDA L. CABALLERO
Director
RICHARD H. SCHULTZ
Administrator

ORGANIC CHEMISTRY REPORT
VOLATILE ORGANIC COMPOUNDS - METHOD 8021

Log No.: 97-72 Sample: WATER Analyst: W. BAKER

Date Analyzed: 3/9/97 Date Reported: 3/10/97

ANALYTE	RESULTS (ug/l)*	ANALYTE	RESULTS (ug/l)*
Benzene	U	1,2-Dichloropropane	U
Bromobenzene	U	1,3-Dichloropropane	U
Bromochloromethane	U	2,2-Dichloropropane	U
Bromodichloromethane	U	1,1-Dichloropropene	U
Bromoform	U	cis-1,3-Dichloropropene	U
Bromomethane	U	trans-1,3-Dichloropropene	U
n-Butylbenzene	U	Ethylbenzene	U
sec-Butylbenzene	U	Hexachlorobutadiene	U
tert-Butylbenzene	U	Isopropylbenzene	U
Carbon tetrachloride	U	p-Isopropyltoluene	U
Chlorobenzene	U	Methylene chloride	U
Chloroethane	U	Naphthalene	U
Chloroform	U	n-Propylbenzene	U
Chloromethane	U	Styrene	U
2-Chlorotoluene	U	1,1,1,2-Tetrachloroethane	U
4-Chlorotoluene	U	1,1,2,2-Tetrachloroethane	U
Dibromochloromethane	U	Tetrachloroethene	U
1,2-Dibromo-3-chloropropane	U	Toluene	U
1,2-Dibromoethane	U	1,2,3-Trichlorobenzene	U
Dibromomethane	U	1,2,4-Trichlorobenzene	U
1,2-Dichlorobenzene	U	1,1,1-Trichloroethane	U
1,3-Dichlorobenzene	U	1,1,2-Trichloroethane	U
1,4-Dichlorobenzene	U	Trichloroethene	U
Dichlorodifluoromethane	U	Trichlorofluoromethane	U
1,1-Dichloroethane	U	1,2,3-Trichloropropane	U
1,2-Dichloroethane	U	1,2,4-Trimethylbenzene	U
1,1-Dichloroethene	U	1,3,5-Trimethylbenzene	U
cis-1,2-Dichloroethene	U	Vinyl chloride	U
trans-1,2-Dichloroethene	U	Xylenes (total)	U

* All analytical results less than the Minimum Reportable Limit (MRL) will be reported as U. The MRL is highly matrix-dependent and can range from approximately 0.5-10 ug/l or higher.

State of Idaho
DEPARTMENT OF HEALTH AND WELFARE
Division of Health

BUREAU OF LABORATORIES

2220 Old Penitentiary Rd.
Boise, Idaho 83712
(208) 334-2235

PHILIP E. BATT
Governor
LINDA L. CABALLERO
Director
RICHARD H. SCHULTZ
Administrator

ORGANIC CHEMISTRY REPORT
VOLATILE ORGANIC COMPOUNDS - METHOD 8021

Log No.: 97-73 Sample: WATER Analyst: W. BAKER

Date Analyzed: 3/9/97 Date Reported: 3/10/97

ANALYTE	RESULTS (ug/l)*	ANALYTE	RESULTS (ug/l)*
Benzene	U	1,2-Dichloropropene	U
Bromobenzene	U	1,3-Dichloropropane	U
Bromochloromethane	U	2,2-Dichloropropane	U
Bromodichloromethane	U	1,1-Dichloropropene	U
Bromoform	U	cis-1,3-Dichloropropene	U
Bromomethane	U	trans-1,3-Dichloropropene	U
n-Butylbenzene	U	Ethylbenzene	U
sec-Butylbenzene	U	Hexachlorobutadiene	U
tert-Butylbenzene	U	Isopropylbenzene	U
Carbon tetrachloride	U	p-Isopropyltoluene	U
Chlorobenzene	U	Methylene chloride	U
Chloroethane	U	Naphthalene	U
Chloroform	U	n-Propylbenzene	U
Chloromethane	U	Styrene	U
2-Chlorotoluene	U	1,1,1,2-Tetrachloroethane	U
4-Chlorotoluene	U	1,1,2,2-Tetrachloroethane	U
Dibromochloromethane	U	Tetrachloroethene	U
1,2-Dibromo-3-chloropropane	U	Toluene	U
1,2-Dibromoethane	U	1,2,3-Trichlorobenzene	U
Dibromomethane	U	1,2,4-Trichlorobenzene	U
1,2-Dichlorobenzene	U	1,1,1-Trichloroethane	U
1,3-Dichlorobenzene	U	1,1,2-Trichloroethane	U
1,4-Dichlorobenzene	U	Trichloroethene	U
Dichlorodifluoromethane	U	Trichlorofluoromethane	U
1,1-Dichloroethane	U	1,2,3-Trichloropropane	U
1,2-Dichloroethane	U	1,2,4-Trimethylbenzene	U
1,1-Dichloroethene	U	1,3,5-Trimethylbenzene	U
cis-1,2-Dichloroethene	U	Vinyl chloride	U
trans-1,2-Dichloroethene	U	Xylenes (total)	U

* All analytical results less than the Minimum Reportable Limit (MRL) will be reported as U. The MRL is highly matrix-dependent and can range from approximately 0.5-10 ug/l or higher.

State of Idaho
DEPARTMENT OF HEALTH AND WELFARE
Division of Health

BUREAU OF LABORATORIES

2220 Old Penitentiary Rd.
Boise, Idaho 83712
(208) 334-2235

PHILIP E. BATT
Governor
INÑAKI CABALLERO
Director
RICHARD H. SCHULTZ
Administrator

ORGANIC CHEMISTRY REPORT
VOLATILE ORGANIC COMPOUNDS - METHOD 8021

Log No.: 97-74 Sample: WATER Analyst: W. BAKER

Date Analyzed: 3/9/97 Date Reported: 3/10/97

ANALYTE	RESULTS (ug/l)*	ANALYTE	RESULTS (ug/l)*
Benzene	U	1,2-Dichloropropane	U
Bromobenzene	U	1,3-Dichloropropane	U
Bromochloromethane	U	2,2-Dichloropropane	U
Bromodichloromethane	U	1,1-Dichloropropene	U
Bromoform	U	cis-1,3-Dichloropropene	U
Bromomethane	U	trans-1,3-Dichloropropene	U
n-Butylbenzene	U	Ethylbenzene	U
sec-Butylbenzene	U	Hexachlorobutadiene	U
tert-Butylbenzene	U	Isopropylbenzene	U
Carbon tetrachloride	U	p-Isopropyltoluene	U
Chlorobenzene	U	Methylene chloride	U
Chloroethane	U	Naphthalene	U
Chloroform	U	n-Propylbenzene	U
Chloromethane	U	Styrene	U
2-Chlorotoluene	U	1,1,1,2-Tetrachloroethane	U
4-Chlorotoluene	U	1,1,2,2-Tetrachloroethane	U
Dibromochloromethane	U	Tetrachloroethene	U
1,2-Dibromo-3-chloropropane	U	Toluene	U
1,2-Dibromoethane	U	1,2,3-Trichlorobenzene	U
Dibromomethane	U	1,2,4-Trichlorobenzene	U
1,2-Dichlorobenzene	U	1,1,1-Trichloroethane	U
1,3-Dichlorobenzene	U	1,1,2-Trichloroethane	U
1,4-Dichlorobenzene	U	Trichloroethene	U
Dichlorodifluoromethane	U	Trichlorofluoromethane	U
1,1-Dichloroethane	U	1,2,3-Trichloropropane	U
1,2-Dichloroethane	U	1,2,4-Trimethylbenzene	U
1,1-Dichloroethene	U	1,3,5-Trimethylbenzene	U
cis-1,2-Dichloroethene	U	Vinyl chloride	U
trans-1,2-Dichloroethene	U	Xylenes (total)	U

* All analytical results less than the Minimum Reportable Limit (MRL) will be reported as U. The MRL is highly matrix-dependent and can range from approximately 0.5-10 ug/l or higher.

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 Tammany School Dist #343
Address Lewiston, Idaho 83501
Owner's Permit No. 85-74-N-29-1

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	
______	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 ______ 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.

N / E / S (grid with X marked)

Subdivision Name ______
______
Lot No. ______ Block No. ______

County NEZ PERCE
SE ¼ SW ¼ Sec. 32, T. 35 N, R. 5 E.W.

7. WATER LEVEL

Static water level 280 feet below land surface.
Flowing? ☐ Yes ☑ No G.P.M. flow ______
Artesian closed-in pressure ______ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 58 °F. Quality good

8. WELL TEST DATA

☑ Pump ☐ Bailer ☐ Air ☐ Other ______

Discharge G.P.M.	Pumping Level	Hours Pumped
30 GPM	360	4

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
			Old		
			Well Finished		
			Well Report 3-28-74 5-15-74		
6	467	485	Hard Blue Basalt		X
	485	590	Med Hard Blue Basalt		X
	590	600	Fractured Blue Basalt	✓	
			5 gal per min		

10. Work started Aug 26-77 finished Aug 30-77

11. DRILLERS CERTIFICATION

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

Firm Name DeTray Drilling Firm No. 150
Address 1016-15th C, Lewiston Date 8-31-78
Signed by (Firm Official) W. Cole DeTray
and
(Operator) Scott DeTray

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 Carl Fuchs

Address 850 Hayuni Rd Lewiston Ida

Owner's Permit No. 85-76-N-7

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 TYPE DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5 WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 56 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+ 2 feet	38 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 ____ 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 ____

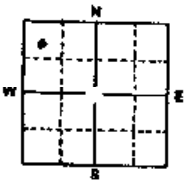
Placed from ____ feet to ____ feet

Surface seal depth 38 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. 86



Subdivision Name ____

Lot No. ____ Block No. ____

County NEZ Perce

NW ¼ NW ¼ Sec. 4 T. 35 N/S R. 5 E/W

7. WATER LEVEL

Static water level 17 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature 58 ° F. Quality Good

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

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA Air Test 50

☐ Pump ☐ Bailer ☒ Other

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

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	18	Sand & Clay		
8-6	18	41	Basalt		
6	41	54	Sand Stone	X	
			Water Bearing		
	54	56	Shale		

Received
Idaho Dept. of Water Resources
Nez Perce Co.

10. Work started Sept 16 '76 finished Sept 16 '76

11. DRILLERS CERTIFICATION

Firm Name Burns Well Drilling Firm No. 103

Address Cottonwood, Ida Date 9-20-76

Signed by (Firm Official) George R. Burns

and

(Operator) ____

USE TYPEWRITER or BALL POINT PEN

State of Idaho
Department of Water Administration

RECEIVED

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 Tammany School Dist #343

Address RR-Lewiston, Idaho

Owner's Permit No. 85-74-N-29

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 7/8 inches Total depth 407 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
1/4 inches	8 5/8 inches	+2 feet	70 feet
5/16 inches	7 inches	+2 feet	102 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 ____

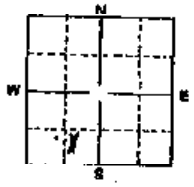
Placed from ____ feet to ____ feet

Surface seal? ☒ Yes ☐ No To what depth 100 feet

Material used in seal ☒ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County NEZ PERCE

SE ¼ SW ¼ Sec. 23 T. 35 N, R. 5 E/W

7. WATER LEVEL

Static water level 55 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
506 PM	275	4
Estimated G.P.M. 100		

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
	0	4	Top Soil		✓
	4	19	cobble & Gravel		✓
	19	39	cobble Rock & clay lay		✓
	39	43	Clay & Rock Cobble	✓	
	43	49	clay & Rock Basalt		✓
	49	69	Fractured & loose Basalt		✓
	69	75	Basalt Blue		✓
	75	100	Basalt & Clay		✓
	100	110	Blue Basalt		✓
	110	120	Blue Basalt Scoria &		✓
			Green shale Gravel &	✓	
	120	154	Blue Basalt Small Scoria		✓
	154	193	Black Basalt		✓
	193	200	Black w/ Green Deposits		✓
	200	255	Blue Basalt Some Scoria 2 6PM	✓	
	255	394	Blue Basalt - Some		
			Crevices		✓
	394	398	Blue Basalt w/ Scoria		
			& Green Mineral Deposits	✓	
	403	407	Blue Basalt		✓

10. Work started March 5-74 finished March 27-74

11. DRILLER'S CERTIFICATION

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

DeTray Drilling 150

Driller's or Firm's Name Number

1036 15th Ave Clarkston, Wash

Address

Signed By C. L. DeTray Date 5-15-74

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

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.

WELL OWNER
Name E.J. McCANN MACANN LAND CO.
Address LEWISTON
Owner's Permit No. 85-74-N-28

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

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

METHOD DRILLED
☐ Cable ☒ Rotary ☐ Dug ☐ Other

WELL CONSTRUCTION
Diameter of hole 8 inches Total depth 749 feet
Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	8 inches	+2 feet	127 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

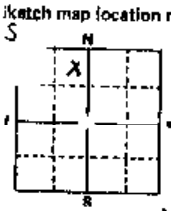
Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☐ No
Manufacturer's name ____ 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 127 Material used in seal ☐ Cement grout ☒ Puddling clay ☒ Well cuttings
Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

LOCATION OF WELL
Sketch map location must agree with written location.



Subdivision Name ____
Lot No. ____ Block No. ____
County NEZ PERCE
NE ¼ NW ¼ Sec. 32, T. 35 N/S, R. 5 E/W

7. WATER LEVEL
Static water level 500 feet below land surface
Flowing? ☐ Yes ☒ No G.P.M. flow ____
Temperature 62° F. Quality GOOD
Artesian closed-in pressure ____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA AIR TEST 300 GPM.
☐ Pump ☐ Bailer ☒ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
10	0	7	CLAY		X
10	7	21	LAVA		X
10	21	64	SANDY CLAY		X
10	64	73	LAVA		X
10	73	126	SANDY CLAY - WASH		X
8			ROCK		X
8	126	164	BASALT GRAY		X
8	164	183	LAVA POROUS HARD	A	
8	183	229	BASALT (GRAY)		X
8	229	249	BASALT (GRAY SEAMED)		X
8	249	342	BASALT GRAY		X
8	342	344	LAVA		X
8	344	492	BASALT DARK GRAY		X
8	492	505	LAVA		X
8	505	581	BASALT SEAMED - GRAY		X
8	581	606	LAVA		X
8	606	649	BASALT GRAY SEAMED VERY HARD		X
8	649	669	LAVA		X
8	669	729	BASALT GRAY		X
8	729	749	CINDERS RED	W	

10. Work started APRIL 16 finished MAY 1 1974

11. DRILLERS CERTIFICATION 58 103
Firm Name BURNS & WITT Firm No. ____
Address LEWISTON Date 6/15/75
Signed by (Firm Official) G.P. Burns
and
(Operator) [illegible]

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number	97-75
Date Analyzed	03/10/97 GC/MS
Analyst	M. Sevier
Sample ID	Lewiston Levee Landfill LLL-1-3

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	[illegible]
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.06
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.34
Benzo(g,h,i)perylene	U	[illegible]
Benzo(a)pyrene	U	0.03
Bromacil	U	0.16
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.25
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
t-Nonachlor	U	0.33
Chlorneb	U	0.09
Chlorobenzilate	U	1.29
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursban)	U	0.04
Chlorthalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cycloate	U	0.10
DCPA	U	0.09
4,4'-DDD	U	2.07
4,4'-DDE	U	0.08
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
di-n-Butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.15
Dieldrin	U	0.05
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	[illegible]
Disulfoton sulfoxide	U	0.30
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
[illegible]	U	ND
[illegible]	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
[illegible]	U	0.95
Fenarimol	U	1.20
Fluorene	U	0.06
Fluridone	U	0.55
a-BHC	U	0.29
b-BHC	U	0.31
d-BHC	U	0.23
g-BHC (Lindane)	U	0.13
Heptachlor	U	0.15
Heptachlor epoxide	U	0.06
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.13
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-cd)pyrene	U	0.06
Isophorone	U	0.04
Methoxychlor	U	0.06
Methyl paraoxon	U	0.17
Metolachlor	U	0.09
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	[illegible]
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.38
Prometryn	U	0.06
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.13
Simetryn	U	0.13
Stirofos	U	0.13
Tebuthiuron	U	2.80
Terbacil	U	2.19
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triadimefon	U	0.33
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	2.80
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
[illegible]	U	ND
Fenarimol (Rubigan)	U	ND

SURROGATES

Acenaphthene - d10	40.9
Phenanthrene - d10	78.7
Chrysene - d12	121
Perylene - d12	73.5

Percent solids N/A

Supervisor [signature] Date 5-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Leb Number 97-76
Date Analyzed 03/10/97 GC/MS
Analyst M. Sevier
Sample ID McCann and EKO wells MCC-1-3

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.16
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atrazin	U	0.16
Azinphos	U	0.06
Benzo(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.34
Benzo(g,h,i)perylene	U	0.03
Benzo(a)pyrene	U	0.03
Bromacil	U	0.10
Bromoxynil	U	0.08
Butachlor	U	0.06
Butylate	U	0.25
Butylbenzyl phthalate	U	1.40
Carboxin	U	0.12
a-Chlordane	U	0.13
g-Chlordane	U	0.25
t-Nonachlor	U	0.25
Chlorpyrifos	U	0.09
Chrysene	U	1.30
Chrysenequinone	U	0.09
p-Chlorobenzoyl	U	0.11
Chloroperphtalate	U	0.04
Chlorpyrifos (Dursaban)	U	0.12
Chlorthalonil	U	0.08
Chrysene	U	0.17
Cyanazine	U	0.16
Cycocel	U	0.09
DCPA	U	0.07
4,4'-DDD	U	0.08
4,4'-DDE	U	0.06
4,4'-DDT	U	0.11
Diallate	U	0.01
Dibenz(a,h)anthracene	U	ND
di-n-butyl phthalate	U	0.14
2,3-Dinitrobiphenyl	C	0.15
Dinitramine	U	0.05
Dinoseb	U	0.09
bis(2-ethylhexyl)adipate	C	ND
bis(2-ethylhexyl)phosphate	U	0.17
Diethyl phthalate	U	0.06
Dimethyl pothalate	U	0.10
2,4-Dinitrotoluene	U	0.16
2,6-Dinitrotoluene	U	0.04
Diphenamid	U	0.62
Diuron	U	0.07
Disulfoton sulfone	U	0.20
Disulfoton sulfoxide	U	0.30
Endosulfan I	U	0.44
Endosulfan II	U	0.15
Endosulfan sulfate	U	0.29
Endrin	U	0.19
Endrin aldehyde	C	0.11
EPTC	U	ND
Fenarimol (Rubigan)	U	ND
Fluoranthene (Pentanil)	U	ND
Bromoxynil	C	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Fluazifop	U	0.11
Fluridone	U	0.36
Fonofos	U	0.05
Fosamine	U	1.20
Hexazinone	U	0.06
Indeno(1,2,3-cd)pyrene	U	0.35
Isophorone	U	0.20
a-BHC	U	0.31
b-BHC	U	0.21
d-BHC	U	0.15
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.08
Heptachlor epoxide	U	0.11
2,3',3,3',4,4',6-Heptachlorobiphenyl	U	0.13
Hexachlorobenzene	U	0.11
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.07
Hexachlorocyclopentadiene	U	0.11
Hexazinone	U	0.06
Indeno(1,2,3-cd)pyrene	U	0.04
Isophorone	U	0.08
Methoxychlor	U	0.17
Metolachlor	U	0.09
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Naphthalene	U	0.06
Napropamide	U	0.15
Norflurazon	U	0.15
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.59
Pebulate	U	0.15
2,2',3',4,6-Pentachlorobiphenyl	U	ND
Pentachlorophenol	U	0.05
cis-Permethrin	U	0.09
trans-Permethrin	U	0.06
Phenanthrene	U	0.58
Prometon	U	0.08
Prometryn	U	0.10
Pronamide	U	0.11
Propachlor	U	0.12
Propazine	U	0.07
Pyrene	U	0.15
Simazine	U	0.13
Simetryn	U	0.13
Stirofos	U	3.20
Tebuthiuron	U	2.10
Terbacil	U	0.10
Terbufos	U	0.11
Tetrazine	U	0.04
2,2',4,4'-Tetrachlorobiphenyl	U	0.33
Triadimefon	U	3.08
2,4,5-Trichlorobiphenyl	U	2.60
Tricyclazole	U	0.10
Trifluralin	U	0.08
Vernolate	U	ND
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Bromoxynil (Buctril)	U	ND
Fenarimol (Rubigan)	U	ND

Percent Solids N/A

SURROGATES

Acenaphthene - d10	45.4
Phenanthrene - d10	50
Chrysene - d12	58.2
Perylene - d12	30.6

Supervisor [signature] Date 3-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number	97-77
Date Analyzed	03/10/97 GC/MS
Analyst	M. Sevier
Sample ID	Lewiston Levee Landfill Well #1 LCWW-1-2

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.16
Aldrin	U	0.31
Ametryn	U	0.09
Anthracene	U	0.07
Atrazine	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.54
Benzo(g,h,i)perylene	U	0.05
Benzo(a)pyrene	U	0.04
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.25
Carbazole	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
t-Nonachlor	U	0.22
Chlorneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chloropropham	U	0.11
Chlorpyrifos (Dursguard)	U	0.04
Chlorthalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cyclohexanone	U	0.10
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.06
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
di-n-butyl phthalate	U	ND
2,2'-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.13
Dieldrin	U	0.05
Diethylhexyl(adipate)	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.37
Dimethyl phthalate	U	0.06
2,6-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	3.07
Disulfoton sulfoxide	U	3.98
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Fipronil (Prevue)	U	ND
Fluorochlor (Pentac)	U	ND
Fluoranthene	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.14
Fenamiphos	U	0.95
Fluoranthene	U	1.20
Fluorene	U	0.06
Fluridone	U	0.55
a-BHC	U	0.20
b-BHC	U	0.31
d-BHC	U	0.21
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.08
2,3',4,4',5,5',6-Heptachlorobiphenyl	U	0.18
Hexachlorobenzene	U	0.19
2,2',4,4',5,5'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-cd)pyrene	U	0.06
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.09
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.05
Molinate	U	0.09
Naproanilide	U	0.06
Napthalene	U	0.19
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Perthane	U	0.08
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.05
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.20
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.13
Pyrene	U	0.07
Simazine	U	0.15
Terbacil	U	0.13
Terbufos	U	2.80
Terbufos	U	2.10
Terbutryn	U	0.10
Terbutryn	U	0.11
2,2',3,4,4',5'-Hexachlorobiphenyl	U	0.07
Trans-nonachlor	U	0.33
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	2.60
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Nicotinoyl (Subdue)	U	ND
Resmirmol (Rubigan)	U	ND

SURROGATES			
Acenaphthene - d10	81.4	Percent Solids	N/A
Phenanthrene - d10	87.7		
Chrysene - d12	67.4		
Perylene - d12	58.1		

Supervisor C. Bean Date 3-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number 97-78
Date Analyzed 03/10/97 GC/MS
Analyst M. Sevier
Sample ID Lewiston Levee Landfill Well #1 LCTL-1-2

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.12
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.54
Benzo(g,h,i)perylene	U	0.05
Benzo(a)pyrene	U	0.03
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.25
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
t-Nonachlor	U	0.22
Chlorneb	U	0.09
Chlorobenzilate	U	1.39
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Duraguard)	U	0.04
Chlorothalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cycloate	U	0.10
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.08
4,4'-DDT	U	0.08
Diazinon	U	0.13
Dibenz(a,h)anthracene	U	0.01
Di-n-Butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.15
Dieldrin	U	0.05
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.11
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	0.07
Disulfoton sulfoxide	U	0.30
Endosulfan I	U	1.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.33
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Piperalin (Pipron)	U	ND
[illegible] (Permit)	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	0.95
Fenarimol	U	1.29
Fluorene	U	0.06
Fluridone	U	0.35
a-BHC	U	0.20
b-BHC	U	0.31
d-BHC	U	0.21
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.06
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.13
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.31
Indeno(1,2,3-c,d)pyrene	U	0.05
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.08
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	0.05
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.36
Prometryn	U	0.06
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.15
Simetryn	U	0.13
Stirofos	U	0.13
Tebuthiuron	U	2.80
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triademefon	U	0.33
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	2.80
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Metalaxyl (Subdue)	U	ND
Fenarimol (Rubigan)	U	ND

Percent Solids N/A

SURROGATES

Acenaphthene - d10	20.1
Phenanthrene - d10	21.7
Chrysene - d12	60.2
Perylene - d12	60.7

Supervisor [signature] Date 3-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number 97-80
Date Analyzed 03/10/97 GC/MS
Analyst M. Sevier
Sample ID Tammany Creek wells TCTS-1-2

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.13
Alachlor	U	0.16
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.34
Benzo(g,h,i)perylene	U	[illegible]
Benzo(a)pyrene	U	0.03
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.08
Butylbenzyl phthalate	U	0.35
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
[illegible]	U	0.22
Chlorneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursban)	U	0.04
Chlorthalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cycloate	U	0.10
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.03
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
di-n-Butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.15
Dieldrin	U	3.84
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.19
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	3.89
Disulfoton sulfoxide	U	0.20
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Piperalin (Pipron)	U	ND
[illegible]	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	0.35
Fenarimol	U	1.20
Fluorene	U	0.06
Fluridone	U	0.35
a-BHC	U	0.20
b-BHC	U	0.37
d-BHC	U	0.21
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.13
Heptachlor epoxide	U	0.06
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.15
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-c,d)pyrene	U	0.06
Isophorone	U	3.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.65
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	0.08
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.38
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.15
Simetryn	U	0.15
Stirofos	U	0.13
Tebuthiuron	U	2.80
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triadimefon	U	0.55
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	2.80
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Metalaxyl (Subdue)	U	ND
Fenarimol (Rubigan)	U	ND

SURROGATES

Acenaphthene - d10	30.3
Phenanthrene - d10	34.1
Chrysene - d12	63.4
Perylene - d12	58.1

Percent Solids N/A

Supervisor ____________ Date 3-11-97

State of Idaho, Department of Health and Welfare
Bureau of Laboratories - Boise Laboratory
2220 Old Penitentiary Road, Boise, Idaho 83712
WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
111A F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0114/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297 NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LEWISTON LEVEE LANDFILL WELL #4
Storet:	
NPDES No.:	
Sample Location:	LLL-4-1
Collected By:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 14:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	2.99 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0118/
(Please Refer to this Tracking Number on any communications)

Grant/Project: 8297
NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:
Storet:
NPDES No.:
Sample Location: LLL-1-2
Collected by: WADE MELTON
Purpose:
Taken From: Well - W
Type of Sample:
Composite: No
Preservation: H2SO4, Cooled 4° C

Date Collected: 02/07/97 Date Received in Lab: 02/12/97
Time Collected: 15:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	<0.005 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
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WATER QUALITY REPORT - CHEMICAL REPORT

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Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0120/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	MCCANN & EKO WELLS
Storet:	
NPDES No.:	
Sample Location:	MCC-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/06/97 Date Received in Lab: 02/12/97
Time Collected: 14:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	9.25 (mg/l)	02/18/97	BL

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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0121/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	MCCANN & EKO WELLS
Storet:	
NPDES No.:	
Sample Location:	MCC-1-2
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	Cooled 4° C

Date Collected: 02/06/97 Date Received in Lab: 02/12/97
Time Collected: 14:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00940	Chloride	76.8 (mg/l)	02/13/97	BO

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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0122/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	MCCANN & EKO WELLS
Storet:	
NPDES No.:	
Sample Location:	EKO-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/06/97 Date Received in Lab: 02/12/97
Time Collected: 14:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	12.1 (mg/l)	02/18/97	BL

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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
111A F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0123/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	MCCANN & EKO WELLS
Storet:	
NPDES No.:	
Sample Location:	EKO-1-1R
Collected By:	WADE MELTON
Purpose:	Other
Taken From:	Well - W
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/06/97 Date Received in Lab: 02/12/97
Time Collected: 14:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	12.1 (mg/l)	02/18/97	BL

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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0124/
(Please Refer to this Tracking Number on any communications)

Grant/Project: 8297
NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:
Storet:
NPDES No.:
Sample Location: EKO-1-2
Collected by: WADE MELTON
Purpose:
Taken From: Well - W
Type of Sample:
Composite: No
Preservation: Cooled 4° C

Date Collected: 02/06/97 Date Received in Lab: 02/12/97
Time Collected: 14:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00940	Chloride	806.2 (mg/l)	02/13/97	BO

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LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0109/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	TAMMANY CREEK WELLS
Storet:	
NPDES No.:	
Sample Location:	TCR-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 09:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	1.76 (mg/l)	02/18/97	BL

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LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1119 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0110/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297 NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	TAMMANY CREEK WELLS
Storet:	
NPDES No.:	
Sample Location:	TCTS-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 10:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	17.5 (mg/l)	02/18/97	BL

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Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0111/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	TAMMANY CREEK WELLS
Storet:	
NPDES No.:	
Sample Location:	TCTS-1-1R
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 10:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	17.3 (mg/l)	02/18/97	BL

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Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0112/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	TAMMANY CREEK WELLS
Storet:	
NPDES No.:	
Sample Location:	TCC-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 10:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	0.011 (mg/l)	02/18/97	BL

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Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0113/
(Please Refer to this Tracking Number on any communications)

Grant/Project: 8297
NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:
Storet:
NPDES No.:
Sample Location: TRIP BLANK
Collected by: WADE MELTON
Purpose:
Taken From: Unknown - U
Type of Sample:
Composite: No
Preservation: Cooled 4° C

Date Collected: 02/10/97 Date Received in Lab: 02/12/97
Time Collected: 09:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00940	Chloride	<0.3 (mg/l)	02/13/97	BO

NOTES:

Four individual trip blank VOC containers for chroride analysis combined for one analysis per Wade Melton

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Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0127/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCBC-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/07 Date Received in Lab: 02/12/97
Time Collected: 10:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	10.3 (mg/l)	02/18/97	BL

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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0128/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297 NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCWW-1-1
Collected by:	WADE MELTON
rpose:	Other
xen From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/07 Date Received in Lab: 02/12/97
Time Collected: 11:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	18.3 (mg/l)	02/18/97	BL

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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0129/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCWW-1-1R
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/97 Date Received in Lab: 02/12/97
Time Collected: 11:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	18.4 (mg/l)	02/18/97	BL

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LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0130/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCCP-1-1
Collected By:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/07 Date Received in Lab: 02/12/97
Time Collected: 11:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	6.37 (mg/l)	02/18/97	BL

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LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0131/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCGB-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/07 Date Received in Lab: 02/12/97
Time Collected: 11:45

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	1.33 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
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LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0132/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCTL-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/97 Date Received in Lab: 02/12/97
Time Collected: 12:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	0.008 (mg/l)	02/18/97	BL

NOTES:

UNPRESERVED TOTAL AMMONIA <0.005 MG/L AS N.

State of Idaho, Department of Health and Welfare
Bureau of Laboratories - Boise Laboratory
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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0133/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LYNDSAY CREEK
Storet:	
NPDES No.:	
Sample Location:	LCTL-1-1R
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/11/07 Date Received in Lab: 02/12/97
Time Collected: 12:00

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	<0.005 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
Bureau of Laboratories - Boise Laboratory
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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
111A F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0278/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LAPWAI
Storet:	
NPDES No.:	
Sample Location:	LPC-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/12/97 Date Received in Lab: 02/14/97
Time Collected: 10:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	0.970 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0279/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LAPWAI
Storet:	
NPDES No.:	
Sample Location:	LPC-1-1R
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/12/97 Date Received in Lab: 02/14/97
Time Collected: 10:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	1.00 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
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WATER QUALITY REPORT - CHEMICAL REPORT

LAB: BOISE, Phone: (208) 334-2235
Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0280/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LAPWAI
Storet:	
NPDES No.:	
Sample Location:	LPA-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation:	H2SO4, Cooled 4° C

Date Collected: 02/12/97 Date Received in Lab: 02/14/97
Time Collected: 11:30

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	1.75 (mg/l)	02/18/97	BL

State of Idaho, Department of Health and Welfare
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WATER QUALITY REPORT - CHEMICAL REPORT

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Section Manager, Inorganic Chemistry: Jim Dodds

IDEQ - LEWISTON
WADE MELTON
1118 F STREET
LEWISTON, ID 83501

Tracking Number: 40297-0281/
(Please Refer to this Tracking Number on any communications)

Grant/Project:	8297
	NCIRO-Lewiston - RESERVED - NCIRO
Survey Name:	LAPWAI
Storet:	
NPDES No.:	
Sample Location:	LPR-1-1
Collected by:	WADE MELTON
Purpose:	Other
Taken From:	Unknown - U
Type of Sample:	
Composite:	No
Preservation.	H2SO4, Cooled 4° C

Date Collected: 02/12/97 Date Received in Lab: 02/14/97
Time Collected: 12:15

STORET	TEST PERFORMED	RESULTS	COMPLETED	ANST
00630	Total NO2 + NO3 as N	1.55 (mg/l)	02/18/97	BL

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number 97-78
Date Analyzed 03/10/97 GC/MS
Analyst M. Sevier
Sample ID Lewiston Levee Landfill Well #1 LCTL-1-2

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.14
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.34
Benzo(g,h,i)perylene	U	0.05
Benzo(a)pyrene	U	0.03
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.25
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
t-Nonachlor	U	0.22
Chlorneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursban)	U	0.04
Chlorothalonil	U	0.12
Chrysene	L	0.08
Cyanazine	U	0.17
Cycloate	U	0.10
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.08
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
Di-n-Butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.13
Dieldrin	U	[illegible]
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	0.07
Disulfoton sulfoxide	U	0.20
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Piperalin (Pipron)	U	ND
[illegible]	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	0.05
Fenarimol	U	5.20
Fluorene	U	0.06
Fluridone	U	0.55
a-BHC	U	0.29
b-BHC	U	0.31
d-BHC	U	0.23
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.05
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.12
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-c,d)pyrene	U	0.05
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	[illegible]
Metribuzin	U	0.16
Mevinphos	U	0.28
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.73
Pebulate	U	0.08
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.38
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.13
Simetryn	U	0.13
Stirofos	U	0.15
Tebuthiuron	U	2.80
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triademefon	U	0.33
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	2.60
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Carbaryl (Sevin)	U	ND
Fenarimol (Rubigan)	U	ND

Percent Solids N/A

SURROGATES

Acenaphthene - d10	20.1
Phenanthrene - d10	21.7
Chrysene - d12	60.1
Perylene - d12	60.1

Supervisor [signature] Date 3-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number 97-79
Date Analyzed 03/10/97 GC/MS
Analyst M. Savter
Sample ID Lewiston Levee Landfill Well #4 LLL-Y-4

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.16
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.54
Benzo(g,h,i)perylene	U	0.05
Benzo(a)pyrene	U	0.03
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.23
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
t-Nonachlor	U	0.22
Chlorneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursban)	U	0.04
Chlorothalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cycloate	U	0.10
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.09
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
Di-n-Butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.13
Dieldrin	U	0.05
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	0.07
Disulfoton sulfoxide	U	0.20
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.11
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Piperalin (Pipron)	U	ND
Dienochlor (Pentac)	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	0.95
Fenarimol	U	1.20
Fluorene	U	0.06
Fluridone	U	0.35
a-BHC	U	0.20
b-BHC	U	0.30
d-BHC	U	0.21
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.06
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.15
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-c,d)pyrene	U	0.06
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.09
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	0.09
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.34
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.13
Simetryn	U	0.13
Stirofos	U	0.13
Tebuthiuron	U	2.30
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triademefon	U	0.33
2,4,5-Trichlorobiphenyl	U	0.02
Tricyclazole	U	2.60
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
[illegible] (Subaro)	U	ND
Fenarimol (Rubigan)	U	ND

SURROGATES

Acenaphthene - d10	39.1
Phenanthrene - d10	93.5
Chrysene - d12	85.9
Perylene - d12	77.3

Percent Solids N/A

Supervisor W. Bacon Date 3-11-97

State of Idaho
DEPARTMENT OF HEALTH AND WELFARE
Division of Health

BUREAU OF LABORATORIES

2220 Old Penitentiary Rd.
Boise, Idaho 83712
(208) 334-2235

PHILIP E. BATT
Governor
LINDA L. CABALLERO
Director
RICHARD H. SCHULTZ
Administrator

ORGANIC CHEMISTRY REPORT
VOLATILE ORGANIC COMPOUNDS - METHOD 8021

Log No.: 97-74 Sample: WATER Analyst: W. BAKER

Date Analyzed: 3/9/97 Date Reported: 3/10/97

ANALYTE	RESULTS (ug/l)*	ANALYTE	RESULTS (ug/l)*
Benzene	U	1,2-Dichloropropane	U
Bromobenzene	U	1,3-Dichloropropane	U
Bromochloromethane	U	2,2-Dichloropropane	U
Bromodichloromethane	U	1,1-Dichloropropene	U
Bromoform	U	cis-1,3-Dichloropropene	U
Bromomethane	U	trans-1,3-Dichloropropene	U
n-Butylbenzene	U	Ethylbenzene	U
sec-Butylbenzene	U	Hexachlorobutadiene	U
tert-Butylbenzene	U	Isopropylbenzene	U
Carbon tetrachloride	U	p-Isopropyltoluene	U
Chlorobenzene	U	Methylene chloride	U
Chloroethane	U	Naphthalene	U
Chloroform	U	n-Propylbenzene	U
Chloromethane	U	Styrene	U
2-Chlorotoluene	U	1,1,1,2-Tetrachloroethane	U
4-Chlorotoluene	U	1,1,2,2-Tetrachloroethane	U
Dibromochloromethane	U	Tetrachloroethene	U
1,2-Dibromo-3-chloropropane	U	Toluene	U
1,2-Dibromoethane	U	1,2,3-Trichlorobenzene	U
Dibromomethane	U	1,2,4-Trichlorobenzene	U
1,2-Dichlorobenzene	U	1,1,1-Trichloroethane	U
1,3-Dichlorobenzene	U	1,1,2-Trichloroethane	U
1,4-Dichlorobenzene	U	Trichloroethene	U
Dichlorodifluoromethane	U	Trichlorofluoromethane	U
1,1-Dichloroethane	U	1,2,3-Trichloropropane	U
1,2-Dichloroethane	U	1,2,4-Trimethylbenzene	U
1,1-Dichloroethene	U	1,3,5-Trimethylbenzene	U
cis-1,2-Dichloroethene	U	Vinyl chloride	U
trans-1,2-Dichloroethene	U	Xylenes (total)	U

* All analytical results less than the Minimum Reportable Limit (MRL) will be reported as U. The MRL is highly matrix-dependent and can range from approximately 0.5-10 ug/l or higher.

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number 97-75
Date Analyzed 03/10/97 GC/MS
Analyst M. Sevier
Sample ID Lewiston Levee Landfill LLL-1-3

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	[illegible]
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.23
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.54
Benzo(g,h,i)perylene	U	[illegible]
Benzo(a)pyrene	U	0.03
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.08
Butylbenzyl phthalate	U	0.25
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
[illegible]	U	0.22
Chloroneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursband)	U	0.04
Chlorthalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cycloate	U	0.16
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.08
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
di-n-Butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.15
Dieldrin	U	[illegible]
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.24
Disulfoton	U	0.62
Disulfoton sulfone	U	[illegible]
Disulfoton sulfoxide	U	0.20
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Piperalin (Pipron)	U	ND
[illegible]	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	[illegible]
Fenarimol	U	1.30
Fluorene	U	0.06
Fluridone	U	0.33
a-BHC	U	0.20
b-BHC	U	0.31
d-BHC	U	0.23
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.04
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.13
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-c,d)pyrene	U	0.06
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.09
Metribuzin	U	0.16
Mevinphos	U	0.30
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.19
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	[illegible]
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.38
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.15
Simetryn	U	0.13
Stirofos	U	0.13
Tebuthiuron	U	2.00
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triademefon	U	0.33
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	2.80
Trifluralin	U	0.10
Vernolate	U	0.08
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Metalaxyl (Subdue)	U	ND
Fenarimol (Rubigan)	U	ND

SURROGATES

Acenaphthene - d10	40.9
Phenanthrene - d10	78.7
Chrysene - d12	121
Perylene - d12	73.5

Percent Solids N/A

Supervisor W Bell [signature] Date 5-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number	97-76
Date Analyzed	03/10/97 GC/MS
Analyst	M. Sevier
Sample ID	McCann and EKO wells MCC-1-3

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.16
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.08
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.34
Benzo(g,h,i)perylene	U	0.05
Benzo(a)pyrene	U	0.25
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.25
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
t-Nonachlor	U	0.21
Chlorneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursban)	U	0.04
Chlorthalonil	U	0.12
Chrysene	U	0.08
Cyanazine	U	0.17
Cycloate	U	0.06
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.08
4,4'-DDT	U	0.06
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	0.01
Di-n-butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.15
Dieldrin	U	0.05
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.82
Disulfoton sulfone	U	0.07
Disulfoton sulfoxide	U	0.20
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
[illegible]	U	ND
[illegible]	U	ND
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	0.04
Fenarimol	U	1.20
Fluorene	U	0.06
Fluridone	U	0.35
a-BHC	U	0.20
b-BHC	U	0.31
d-BHC	U	0.22
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.06
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.13
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-c,d)pyrene	U	0.06
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.89
Metribuzin	U	0.16
Mevinphos	U	0.20
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.06
Molinate	U	0.09
Napropamide	U	0.06
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	0.04
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.32
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.15
Simetryn	U	0.13
Stirofos	U	0.13
Tebuthiuron	U	1.90
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triadimefon	U	0.35
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	1.60
Trifluralin	U	0.10
Vernolate	U	0.09
Pyrethrins (Pyrenone)	U	ND
Rotenone (Pyrellin)	U	ND
[illegible]	U	ND
Fenarimol (Rubigan)	U	ND

Percent Solids N/A

SURROGATES

Acenaphthene - d10	43.4
Phenanthrene - d10	50
Chrysene - d12	58.2
Perylene - d12	56.8

Supervisor [signature]

Date 3-11-97

STATE OF IDAHO BUREAU OF LABS - ORGANIC CHEMISTRY SECTION

Lab Number 97-77
Date Analyzed 03/10/97 GC/MS
Analyst M. Sevier
Sample ID Lewiston Levee Landfill Well #1 LCWW-1-2

Method 525.2 or 625 or 8270

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Acenaphthene	U	0.11
Acenaphthylene	U	0.11
Alachlor	U	0.19
Aldrin	U	0.11
Ametryn	U	0.09
Anthracene	U	0.07
Atraton	U	0.16
Atrazine	U	0.06
Benz(a)anthracene	U	0.20
Benzo(b)fluoranthene	U	0.30
Benzo(k)fluoranthene	U	0.34
Benzo(g,h,i)perylene	U	[illegible]
Benzo(a)pyrene	U	0.18
Bromacil	U	0.10
Butachlor	U	0.08
Butylate	U	0.06
Butylbenzyl phthalate	U	0.25
Carboxin	U	1.40
a-Chlordane	U	0.12
g-Chlordane	U	0.11
trans-Nonachlor	U	0.22
Chlorneb	U	0.09
Chlorobenzilate	U	1.30
2-Chlorobiphenyl	U	0.09
Chlorpropham	U	0.11
Chlorpyrifos (Dursban)	U	0.04
Chlorothalonil	U	0.12
Chrysene	U	0.09
Cyanazine	U	0.17
Cycloate	U	0.10
DCPA	U	0.09
4,4'-DDD	U	0.07
4,4'-DDE	U	0.08
4,4'-DDT	U	0.08
Diazinon	U	0.11
Dibenz(a,h)anthracene	U	3.01
di-n-butyl phthalate	U	ND
2,3-Dichlorobiphenyl	U	0.14
Dichlorvos	U	0.15
Dieldrin	U	[illegible]
bis(2-ethylhexyl)adipate	U	0.09
bis(2-ethylhexyl)phthalate	U	ND
Diethyl phthalate	U	0.17
Dimethyl phthalate	U	0.06
2,4-Dinitrotoluene	U	0.10
2,6-Dinitrotoluene	U	0.16
Diphenamid	U	0.04
Disulfoton	U	0.62
Disulfoton sulfone	U	[illegible]
Disulfoton sulfoxide	U	0.20
Endosulfan I	U	0.30
Endosulfan II	U	0.44
Endosulfan sulfate	U	0.13
Endrin	U	0.29
Endrin aldehyde	U	0.19
EPTC	U	0.11
Piperalin (Pipron)	U	ND
[illegible]	U	[illegible]
Bromoxynil	U	ND
Acephate (Orthene)	U	ND

COMPOUND	UG/L OR UG/KG	MDL IN WATER
Ethoprop	U	0.11
Etridiazole	U	0.16
Fenamiphos	U	0.85
Fenarimol	U	1.20
Fluorene	U	0.09
Fluridone	U	0.35
a-BHC	U	0.20
b-BHC	U	0.31
d-BHC	U	0.22
g-BHC (Lindane)	U	0.15
Heptachlor	U	0.15
Heptachlor epoxide	U	0.08
2,2',3,3',4,4',6-Heptachlorobiphenyl	U	0.11
Hexachlorobenzene	U	0.13
2,2',4,4',5,6'-Hexachlorobiphenyl	U	0.11
Hexachlorocyclopentadiene	U	0.07
Hexazinone	U	0.11
Indeno(1,2,3-c,d)pyrene	U	0.08
Isophorone	U	0.04
Methoxychlor	U	0.08
Methyl paraoxon	U	0.17
Metolachlor	U	0.09
Metribuzin	U	0.16
Mevinphos	U	0.30
MGK 264 - isomer a	U	0.04
MGK 264 - isomer b	U	0.03
Molinate	U	0.09
Napropamide	U	0.08
Norflurazon	U	0.13
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	U	0.13
Pebulate	U	[illegible]
2,2',3',4,6-Pentachlorobiphenyl	U	0.15
Pentachlorophenol	U	ND
cis-Permethrin	U	0.03
trans-Permethrin	U	0.07
Phenanthrene	U	0.06
Prometon	U	0.38
Prometryn	U	0.08
Pronamide	U	0.10
Propachlor	U	0.11
Propazine	U	0.12
Pyrene	U	0.07
Simazine	U	0.13
Simetryn	U	0.13
Stirofos	U	0.13
Tebuthiuron	U	2.80
Terbacil	U	2.10
Terbufos	U	0.10
Terbutryn	U	0.11
2,2',4,4'-Tetrachlorobiphenyl	U	0.04
Triadimefon	U	0.35
2,4,5-Trichlorobiphenyl	U	0.08
Tricyclazole	U	[illegible]
Trifluralin	U	0.10
Vernolate	U	0.06
Pyrethrins (Pyrellin)	U	ND
Rotenone (Pyrellin)	U	ND
Metalaxyl (Subdue)	U	ND
Fenarimol (Rubigan)	U	ND

Percent Solids N/A

SURROGATES

Acenaphthene - d10	51.4
Phenanthrene - d10	37.7
Chrysene - d12	67.4
Perylene - d12	58.1

Supervisor W. Baker Date 3-11-97