Northwest Gas & Go
Removal Assessment Report
Sandpoint, Idaho
TDD: 04-11-0002

Contract: 68-S0-01-01
August 2005

Region 10

START-2

Superfund Technical Assessment and Response Team

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NORTHWEST GAS & GO
REMOVAL ASSESSMENT REPORT
SANDPOINT, IDAHO

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LIST OF ACRONYMS

Acronym	Definition
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, xylenes
◦C	degrees Celsius
CAP	Corrective Action Plan
DQOs	data quality objectives
DTW	depth to water
E & E	Ecology and Environment, Inc.
EPA	United States Environmental Protection Agency
◦F	degrees Fahrenheit
GAC	granular activated carbon
Gas & Go	Northwest Gas & Go gasoline station
gpm	gallons per minute
GPS	global positioning survey
IDEQ	Idaho Department of Environmental Quality
ITD	Idaho Transportation Department
IDW	investigation-derived waste
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MSE	Millennium Science and Engineering
MSL	mean sea level
MTBE	methyl tert-butyl ether
µg/L	micrograms per liter
NPDES	National Pollution Discharge Elimination System
OSC	On-Scene Coordinator
%R	percent recovery
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
PID	photo-ionization detector

LIST OF ACRONYMS

Acronym	Definition
psi	pounds per square inch
RA	removal assessment
RP	responsible party
RPD	relative percent difference
SMC	system monitoring compound
SSSP	site specific sampling plan
START	Superfund Technical Assessment and Response Team
TDD	technical direction document
TOC	top of casing
UPRR	Union Pacific Railroad
UST	underground storage tank
VOC	volatile organic compounds

NORTHWEST GAS & GO
REMOVAL ASSESSMENT REPORT
SANDPOINT, IDAHO

1. INTRODUCTION

The United States Environmental Protection Agency (EPA), Region 10, has tasked Ecology and Environment, Inc. (E & E), under the Superfund Technical Assessment and Response Team (START)-2 Contract Number 68-S0-01-01, to conduct a removal assessment (RA) at the Northwest Gas & Go site in Sandpoint, Idaho, under Technical Direction Document (TDD) Number 04-11-0002. The site is currently managed by the Idaho Department of Environmental Quality (IDEQ) under a Revised Corrective Action Plan (CAP; Quantum 1998).

The Northwest Gas & Go site is a gasoline station located at the intersection of United States Highway 95 (North 5th Avenue) and West Larch Street in Sandpoint, Idaho. The gasoline station is located directly adjacent to a steep bank that drops down approximately 30 feet to the east to Sand Creek, which flows into the Pend Oreille River (the outflowing river from Lake Pend Oreille) approximately 1/3 mile to the southeast. Groundwater flow in the site vicinity is generally to the east and northeast. In 1989, a petroleum sheen and petroleum constituents were discovered in groundwater seeps flowing from the aforementioned steep bank (Chen-Northern 1990). The seeps are suspected to be the source of a chronic release to the western shoreline of Sand Creek, a navigable tributary to Lake Pend Oreille. Sand Creek is a year-round, publically accessible economic, recreation, and environmental resource that flows through downtown Sandpoint. Many business are situated overlooking the creek; a marina and park with boat launch and swimming beaches are located about one-half mile downstream of the seeps and fish and wildlife are found throughout the area potentially affected by the seeps

Based on the observed discharge of petroleum contaminants to surface water, IDEQ conducted an investigation and determined that the source of the petroleum contamination was the Northwest Gas & Go gasoline station (Gas & Go), which was directly upgradient of the creek and the seep area. Contamination documented at the site included free phase petroleum product on the groundwater table and volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX), in the groundwater. Site contaminants consist of both gasoline and diesel fuels. The responsible party (RP) for the Gas & Go site at the time the seep was discovered was Ralph B. Williams (Chen-Northern 1990).

Over the next several years, several investigations were conducted both by IDEQ and the RP. It was determined through testing that a leaking product line carrying gasoline from the on-site underground storage tanks to the dispenser pumps had leaked an indeterminate amount of gasoline. Additionally, IDEQ determined that the former Husky gasoline station (currently the site of a Quality Inn hotel) on the west side of Highway 95 had also leaked petroleum products to the subsurface at one time.

In the mid 1990s, IDEQ and the RP installed recovery systems to prevent the contamination from reaching Sand Creek. The first recovery system was a seep collection system that was installed in the west bank of Sand Creek, downgradient of the site. The seep collection system consisted of a french drain system that was installed perpendicular to the direction of groundwater flow. The french drain was designed to collect contaminated groundwater before it reached the creek and direct it to a sump, where it was pumped to a groundwater treatment system constructed on the Gas & Go site (Quantum 1998).

Also, in the early 1990s, IDEQ installed a groundwater and product recovery system, which the RP continues to operate[1]. The product recovery and treatment system consisted of four groundwater recovery wells, an oil/water separator, and an air stripper. The recovery and treatment system was designed to pump both contaminated groundwater and recovered product from the recovery wells and seep collection system to the oil/water separator. Recovered product in the oil/water separator is stored in a tank for off-site recycling, while the contaminated groundwater is treated by an air stripper before it is discharged to Sand Creek. Currently, the RP is following the Revised CAP (Quantum 1998), which requires monthly maintenance of the treatment system and periodic sampling of the discharge and several on-site monitoring wells for analytical testing of the contaminants of concern.

In 2004, IDEQ requested the EPA's assistance with the Gas & Go site. IDEQ had observed that the existing treatment system had not significantly reduced the amount of contamination at the site, and suspected that the historical releases from the service station and other nearby facilities was the source of a chronic release to Sand Creek. Therefore, IDEQ requested that EPA conduct an assessment to gather, review, and evaluate existing data to determine whether additional investigation is required to understand site conditions or what action must be taken to mitigate the threats of release. EPA tasked the START-2 to investigate the site, review existing data, and to provide recommendations for improving and/or augmenting the water recovery and treatment systems at the site.

This report is organized into the following sections: Introduction (Section 1); site description (Section 2); previous investigations (Section 3); field activities (Section 4); field survey results (Section 5); quality assurance/quality control (Section 6); treatment system recommendations (Section 7);

[1] The RP has changed since the installation of the treatment system; see Section 2.2.

summary and conclusions (Section 8); and references (Section 9). Selected photographs of site activities are included as Appendix A.

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2. SITE DESCRIPTION

2.1 SITE LOCATION

The Northwest Gas & Go site is a gasoline station located on the northeast corner of the intersection of United States Highway 95 (North 5th Avenue) and West Larch Street in Sandpoint, Idaho (Figure 2-1, Site Location Map). Directly northeast of the gasoline station, is a steep bank that drops down approximately 30 feet to Sand Creek, which flows into the Pend Oreille River (the outflowing river from Lake Pend Oreille) approximately 1/3 mile to the southeast (Figure 2-2, Site Vicinity Map).

2.2 SITE LAYOUT AND TERRAIN

The Gas & Go site encompasses approximately 2 acres of developed commercial property (Figure 2-3, Gas & Go Site). The terrain in the area is flat with a slight decline towards the east. The bank to Sand Creek is steep (approximately 30 to 40 degrees) and slopes down approximately 30 feet to Sand Creek (Chen- Northern 1990).

2.3 OWNER AND OPERATOR

The Gas & Go is a gasoline station and convenience store that is currently operational. Mr. Ralph Williams purchased the property around 1968 and built the gasoline station in the early 1970s (Beck 2005b). Mr. Williams was the owner at the time the petroleum release occurred and was the initial RP responsible for operating the treatment system. Mr. Williams maintained responsibility for the treatment system and the CAP until he sold the property and business to Mr. Young in December 2001 (Beck 2004). In July 2004, Mr. Young sold the property and business to Sidney Oskoui, who currently maintains ownership. Under the arrangement of the property transaction, Mr. Young retained the responsibility for operating and maintaining the on-site treatment system in accordance with the CAP (Beck 2004).

2.4 SURROUNDING AREAS

The site is located in a neighborhood with mixed residential and commercial property uses. To the east and southeast are residences. To the south, across West Larch Street, is a Safeway grocery store

(Figure 2-2). To the west, across US Highway 95, is a Quality Inn hotel with an attached diner. To the southwest of the site, across US Highway 95 and West Larch Street, is a Union Pacific Railroad (UPRR) right-of-way and a bulk fuel facility (currently Clark Oil[2]; formerly Chevron). To the north of the site is undeveloped highway right-of-way and the bank to Sand Creek.

Little Sand Creek, a tributary to Sand Creek, and Lake Pend Oreille are the primary drinking water sources for the city of Sandpoint (City of Sandpoint 2005). Additionally, Sand Creek and the lake are an important economic and recreational resource for the city of Sandpoint.

2.4.1 Weather and Climate

The average annual precipitation for Sandpoint is 31.98 inches, with most precipitation falling in the months of November, December, January, and February. The maximum 24-hour precipitation maximum recorded from 1910 to 2004 for the area is 2.95 inches, which occurred on May 27, 1998. In the winter (January), the average minium temperature is 20.3 degrees Fahrenheit (°F) and the average maximum is 32.2 °F. In the summer (July), the average minium temperature is 48.5 °F and the average maximum is 81.0 °F (WRCC 2005). The site is not located within a flood plain (FEMA 2005).

2.4.2 Geology and Hydrogeology

The START-2 reviewed available drilling logs from the on-site monitoring wells and other existing data to evaluate the on-site geology and hydrogeology. Copies of available drilling logs and a summary of available groundwater levels are included in Appendix B. Based on the drilling logs, START-2 developed lithological cross sections of the site vicinity including the Clark Oil/former Chevron /UPRR property. Figure 2-4 shows the site layout with the location of the east-west (A-A') and north-south (B-B') cross sections. The A-A' cross section map is presented in Figure 2-5 Parts A and B, and the B-B' cross section map is presented in Figure 2-6.

The subsurface geology at the site is characterized by two water bearing units that are not completely separated, due to many interfingered layers of sands, silt, and clays. The cross sections reveal that there is a large zone of these interfingered layers and lenses of silts, sands, and clays throughout the area. There also appears to be some deeper zones of more permeable silty sands and fine grained sand that may account for the lower water bearing unit (see CW-13 and DQW-104 on cross section A-A' [Figure 2-5, Part A], and CW-12, CW-8, DQW-103, RW-3, and RW-4 on cross section B-B' [Figure 2-

[2]The Clark Oil bulk fuel business was recently bought by Coleman Oil. Clark Oil continues to own the property and operate the facility, while Coleman Oil owns the business (Beck 2005a).

6]). Many of these borings with deeper sand layers also had low permeable clay and silty clay layers above the sand layers that would act as a semi-confining unit. Because of the presence of layers and lenses of silts, sands, and clays, there appear to be less defined upper and lower water bearing units and more of a mixing of the two units.

The IDEQ methyl tert-butyl ether (MTBE) report describes the upper water bearing unit as ranging from 3 to 12 feet below ground surface (bgs), while the lower water bearing unit ranges from 9 to 19 feet bgs (MSE 2002) . Many of the site monitoring wells had great fluctuations in depth to water (DTW). For example, RW-6 in the upper water bearing zone had DTW, ranging from 5.8 to 13.9 feet bgs. Some of the deeper wells, which were intended to be installed in the lower water bearing unit, have low DTW. For example MW-13D, set to a depth of 37 feet, had a DTW of 5.1 on Apil 4, 2003. Also, CW-8, installed to a depth of 25 feet, had a DTW of 7.85 and 5.18 in February and June 2002, respectively.

The lower and upper zone MTBE concentration plume maps in the IDEQ MTBE report show the MTBE plume in the deeper water bearing zone flowing towards the east in the direction of DQW-104 and DQW-106. This may be due to the sand layers found at depth in these two deeper wells. Sand was encountered at these deep wells at about 21 to 22 feet bgs. DQW-101, the farthest deep well to the east, has a sand layer from about 21 to 25 feet bgs followed by a low permeability silty clay layer from 25 to 37 feet bgs (MSE 2002). In both the lower and upper water bearing units, groundwater flow appears to be to the east toward Sand Creek. The lower water bearing unit has some zones of southeasterly and northeasterly flow, and the upper water bearing unit has some zones of northeasterly flow (MSE 2002).

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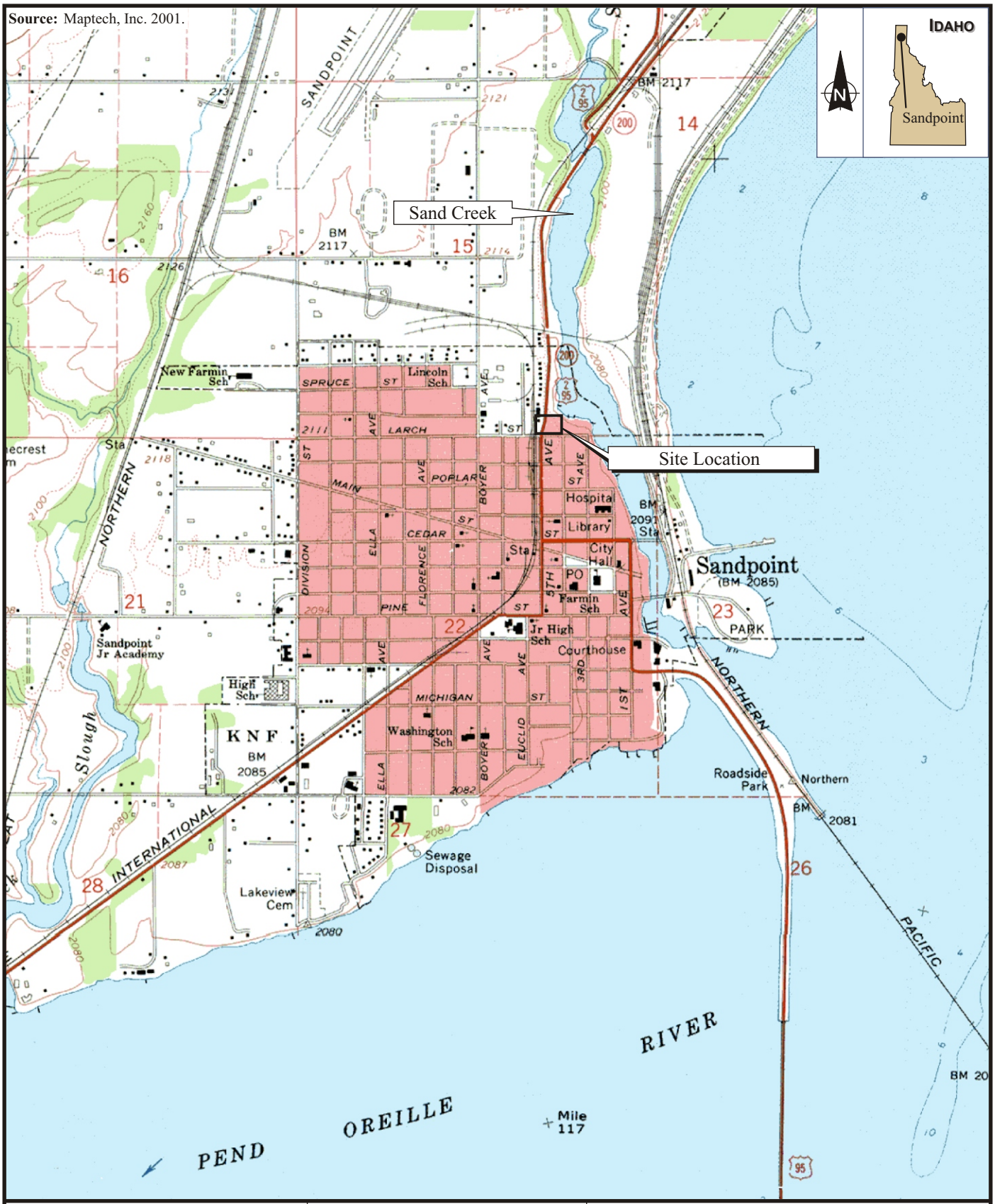

ecology and environment, inc. International Specialists in the Environment Seattle, Washington	NORTHWEST GAS & GO REMOVAL ASSESSMENT Sandpoint, Idaho	Figure 2-1 SITE LOCATION MAP		
	0 1000 2000 Approximate Scale in Feet	Date: 6-23-05	Drawn by: AES	10:START-2\04110002\fig 2-1

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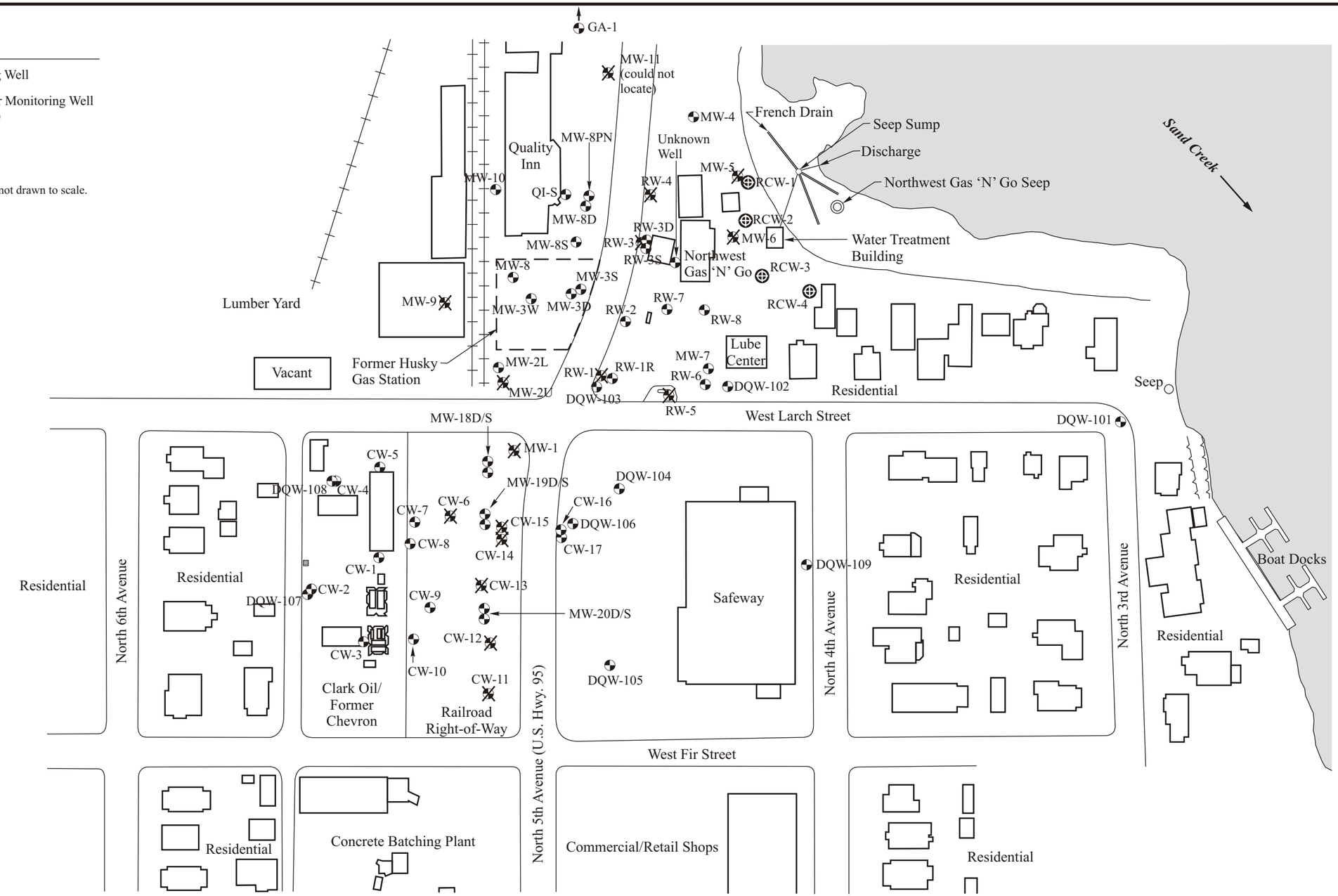
Key:

- Groundwater Monitoring Well
- Abandoned Groundwater Monitoring Well (location is approximate)
- Recovery Well

Note: Some features are not drawn to scale.



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0 100 200
Approximate Scale in Feet

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REMOVAL ASSESSMENT
Sandpoint, Idaho

Figure 2-2
SITE VICINITY MAP

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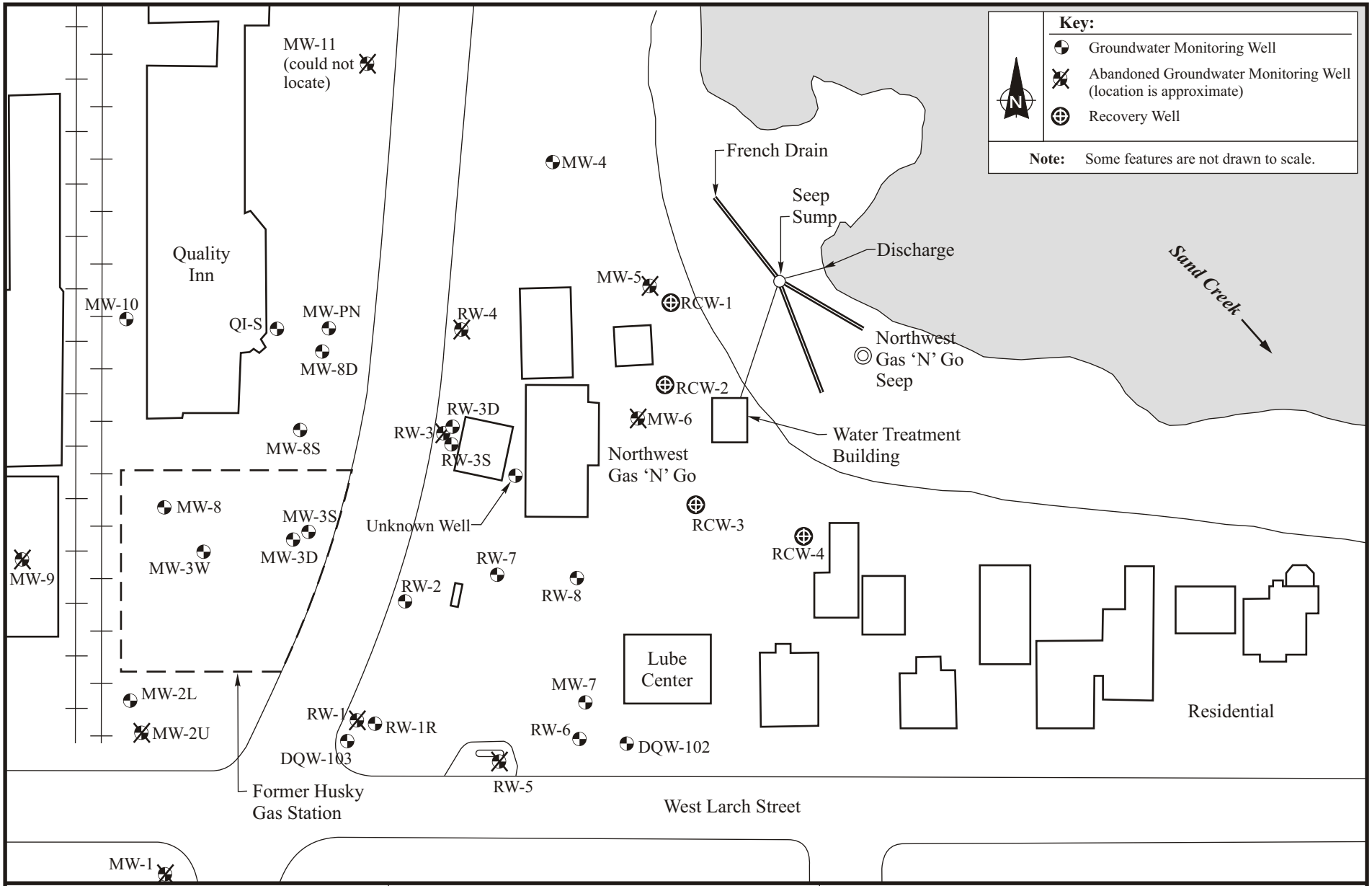

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Seattle, Washington

NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

0 50 100
Approximate Scale in Feet

Figure 2-3
GAS & GO SITE

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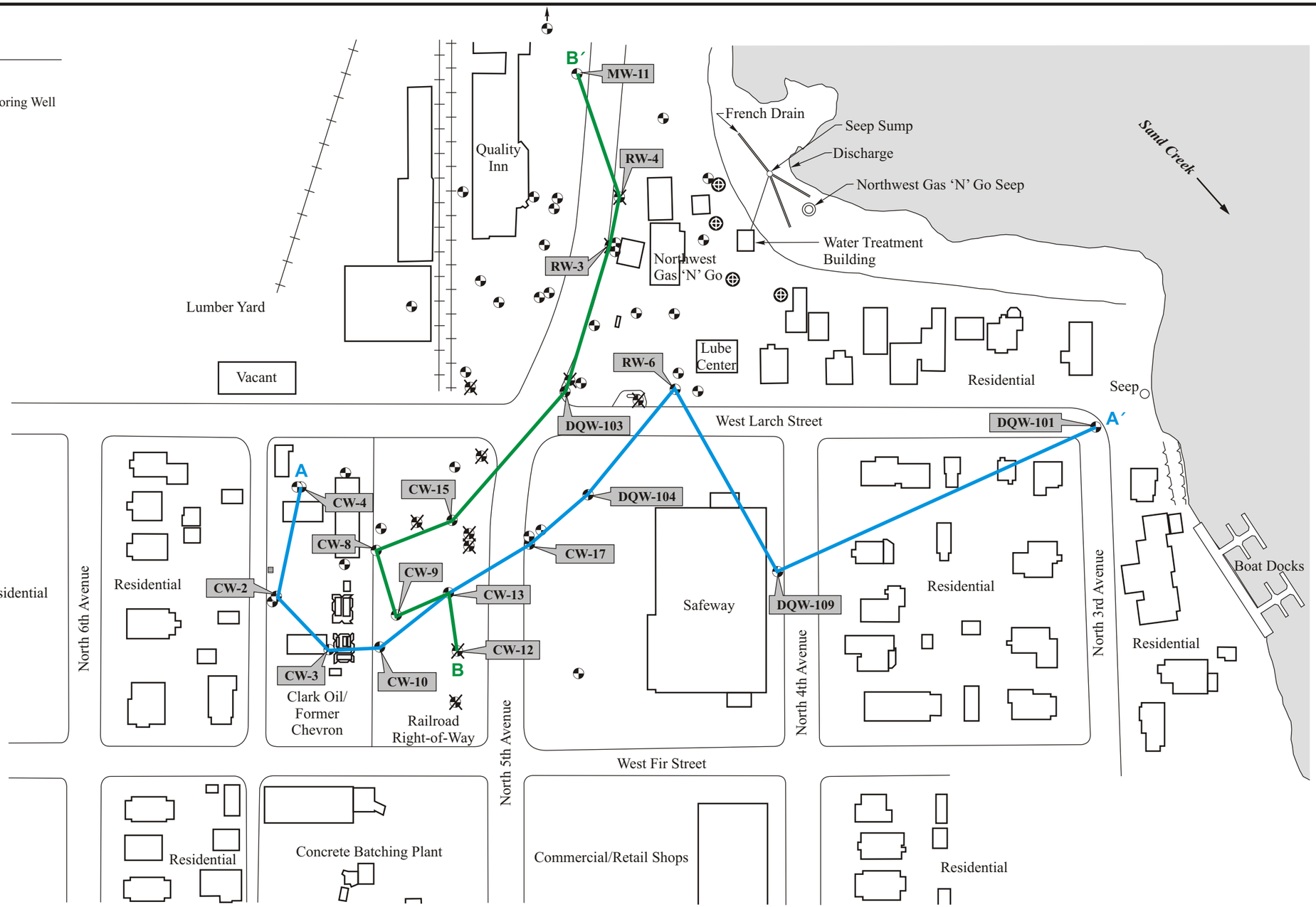
Key:

- Groundwater Monitoring Well
- Abandoned Groundwater Monitoring Well (location is approximate)
- Recovery Well



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0 100 200
Approximate Scale in Feet

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Figure 2-4
SITE LAYOUT WITH CROSS-SECTIONS

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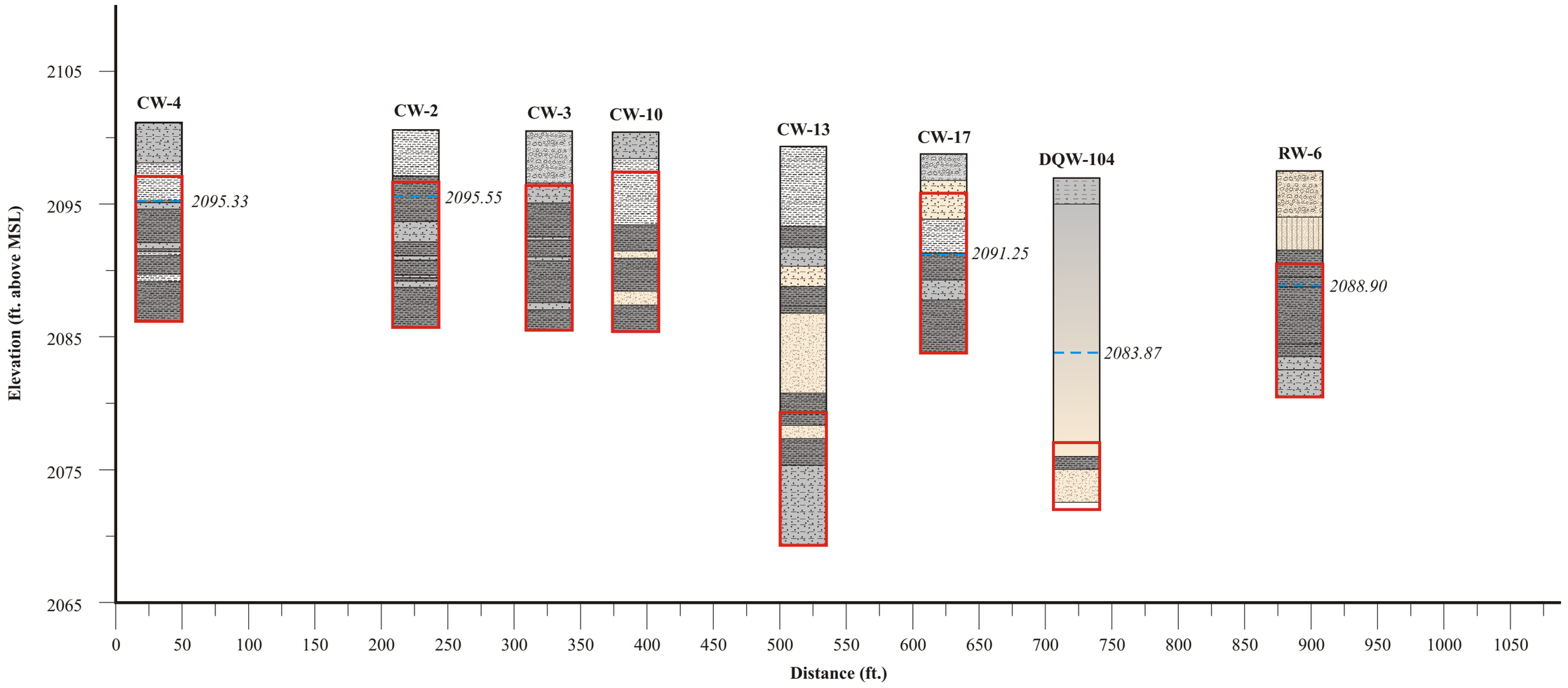
A



Key:

Soil Fill Material	Silt	Sand
Silty Gravel	Interfingered Layers & Lenses	Sand with Silt
Silty Clay	Sandy Gravely Silt	Well Screen Interval
Silty Sand	Sandy Silty Clay	Water Level (3/17/2005)

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Figure 2-5
A - A′ CROSS-SECTION MAP
(Part A)

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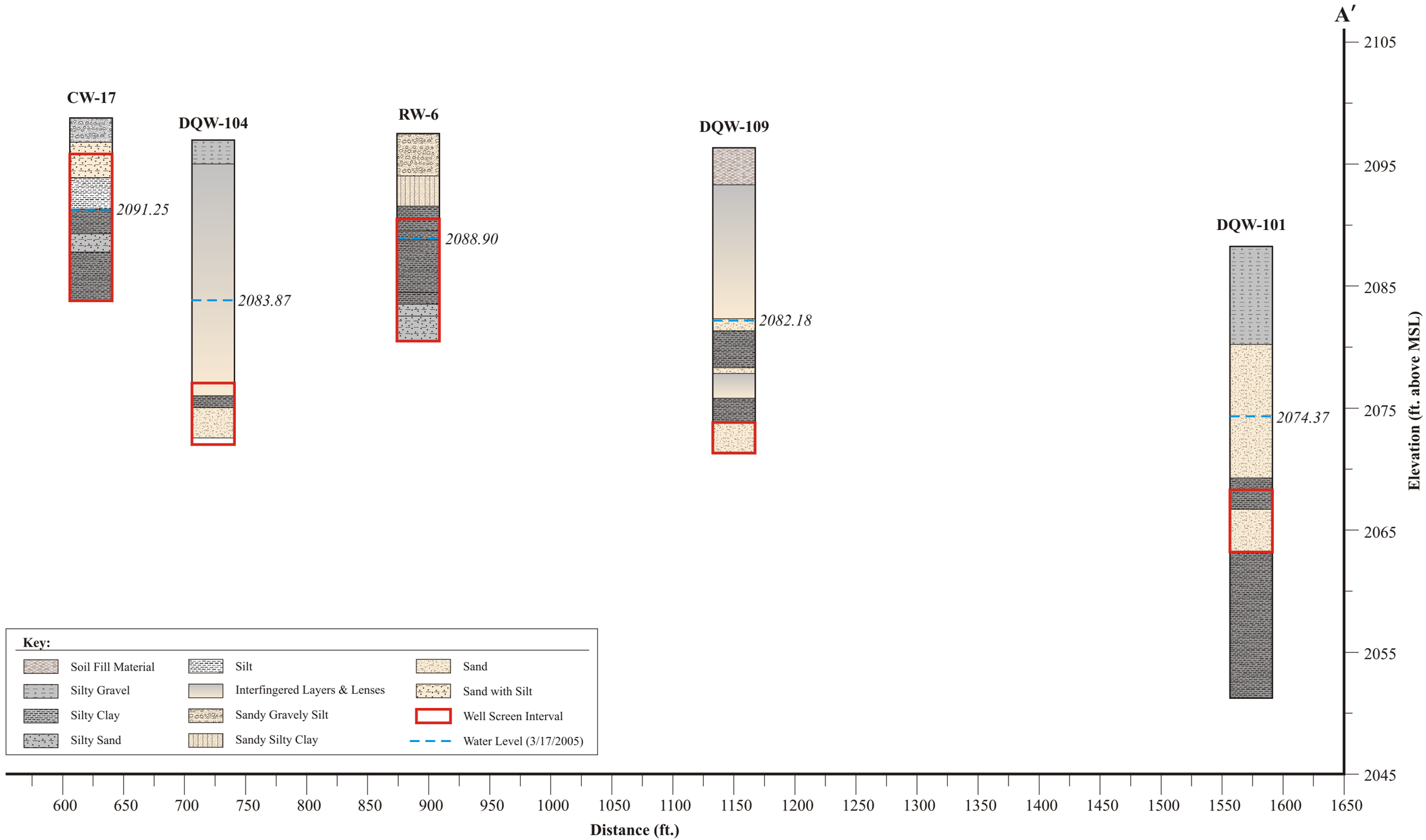

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Figure 2-5
A - A′ CROSS-SECTION MAP
(Part B)

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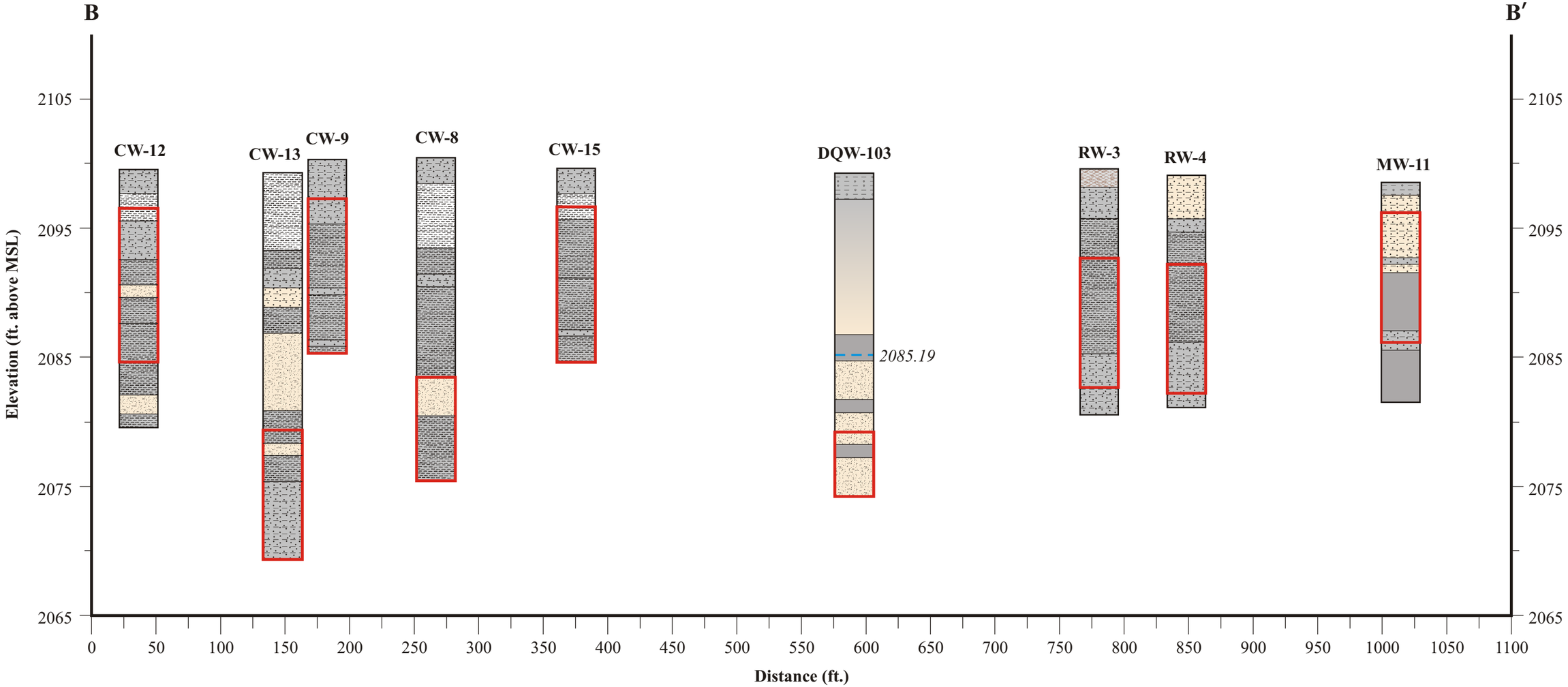

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Figure 2-6
B - B′ CROSS-SECTION MAP

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3. PREVIOUS INVESTIGATIONS

There have been numerous investigations at the site since the petroleum contaminants were discovered in the seep above Sand Creek in 1989. The investigations have been led by both IDEQ and the various responsible parties in the area. Investigations have been performed at the Gas & Go site as well as the adjacent sites of the former Husky gas station, the Clark Oil/Former Chevron site, and the UPRR right-of-way. A summary of the investigations relevant to the Gas & Go site, including the adjacent sites, is provided below.

3.1 GAS & GO SITE

3.1.1 IDEQ Investigations

In May 1989, IDEQ responded to a complaint and investigated the presence of petroleum constituents, including a petroleum sheen, from groundwater seeps into Sand Creek, located directly downgradient from the Northwest Gas & Go property. During the initial response, IDEQ deployed sorbent booms and pads along the seep drainage channel and the banks of the creek to contain the contamination. The subsequent investigation involved collecting water samples from the seeps and from Sand Creek. Analytical testing of the samples indicated that BTEX compounds were present. (Chen-Northern 1990)

IDEQ searched the surrounding area for likely sources and determined that the most likely source of the petroleum contamination was the Gas & Go gasoline station and the Quality Inn, which was the site of a former Husky gasoline station. An investigation of the underground storage tanks (USTs) and product distribution lines at the Gas & Go site indicated that there was a leak in one of the product distribution lines from the USTs to the dispenser pumps, which released an unknown quantity of gasoline. (Chen-Northern 1990)

IDEQ investigated the site in two phases of an environmental site assessment, both performed by IDEQ contractor Chen-Northern. The first phase was performed in 1989, during which seven monitoring wells were installed on the Gas & Go and Quality Inn sites. The report for the first phase of the investigation was not available in the IDEQ files but it is referenced in later reports. The second phase

was performed in 1990, during which an additional five monitoring wells were installed. As a result of the two investigations, Chen-Northern concluded that free product was present on the groundwater table, and VOCs, including benzene, toluene, ethylbenzene, and xylenes, were present in the groundwater at the site. Although the contamination was primarily gasoline, fingerprint analyses indicated that some diesel contamination also was present in the groundwater. Chen-Northern also concluded that there were two sources of the groundwater contamination, including the leaking product distribution line on the Gas & Go property and a previous release at the former Husky station (Chen-Northern 1990).

3.1.2 Treatment System Installation

By 1991, IDEQ was operating a product recovery system (separator tanks) at the seeps, and 30 gallons of product were reported to have been recovered between June and November, 1991. IDEQ was also considering more active and permanent treatment systems, including a french drain system, a cut-off wall with extraction wells, and a groundwater recovery and treatment system. For the recovered groundwater, the treatment system options that were considered included filtration and air stripping. (Brown and Caldwell 1991)

IDEQ oversaw the installation of a two-phase treatment system. The first part of the system was a seep collection system installed on the bank of Sand Creek, directly downgradient of the Gas & Go site. The seep collection system involved the trenching and installation of a network of french drains and a sump. The purpose of the system was to intercept petroleum-contaminated groundwater flowing toward the creek. Groundwater was collected via the french drains and routed to the sump, where it could be recovered for treatment and disposal. The second part of the system was a groundwater and product recovery system, which was installed between 1994 to 1995. The system included four recovery wells (RCW-1, RCW-2, RCW-3 and RCW-4), submersible groundwater pumps, an oil-water separator, and a shallow-tray air stripper. The operation of the treatment system was performed in accordance with the CAP that was prepared by Golder Associates on behalf of Ralph Williams (Golder 1994).

A Revised CAP was prepared for Ralph Williams in 1998 (Quantum 1998), and this is the current CAP used to guide the operation of the on-site treatment system. Under the Revised CAP, the RP for the Gas & Go site is responsible for performing periodic maintenance of the system and periodic sampling of the treatment system effluent and certain monitoring wells for various analytical parameters. Under the Revised CAP, the treatment system effluent is to be sampled quarterly for VOCs (BTEX, MTBE, and naphthalene), chlorine, pH, temperature, and flow. Additionally, the RP is responsible for sampling specific monitoring wells for VOCs (BTEX, MTBE, and naphthalene) and for free product levels.

More details about the site and the treatment system are presented in Section 4.

3.2 FORMER HUSKY STATION

A Husky gas station was formerly located on the northwest corner of Larch and 5th, directly across the street from the Gas & Go site. At the time of the initial investigation of the Gas & Go site in 1989, the Husky station was no longer present, and a Quality Inn hotel was located on the site instead (Chen-Northern 1990). It is not known when the Husky station closed.

During IDEQ's investigation of the Gas & Go site, it was determined that the former Husky station also was a potential source for the free product and VOC contamination observed in the groundwater at the Gas & Go site and in the seeps flowing to Sand Creek (Chen-Northern 1990). During the investigation of the Gas & Go site in 1990, IDEQ contractors installed monitoring wells at the former Husky station intending to use them as background locations. Sampling results for the samples collected from the Husky station monitoring wells indicated that free product and VOC contamination was present on the former Husky site. Based on these data, IDEQ determined that there had likely been a petroleum release at the former Husky station. Details about this release, including the quantity and release date, are unknown (Chen-Northern 1990).

Based on this discovery, Kimball Engineering, on behalf of the owner of the Quality Inn property, investigated the site and installed several monitoring wells (KE-4, KE-5, and KE-8[3]; Kimball 1992). IDEQ concluded that, over time, the petroleum contamination from the two sources (Gas & Go site and former Husky) may have combined into one plume. IDEQ intended the treatment system on the Gas & Go site to address the contaminated groundwater from the combined sources, and IDEQ notified Husky Oil that they would be partly responsible for the costs of the treatment system (Beck 2004).

3.3 CLARK OIL / FORMER CHEVRON / UPRR

The Clark Oil facility is a bulk fuel facility that is located approximately 1/8 of a mile to the southwest of the Gas & Go site. Chevron owned and operated the facility until 1985. Clark Oil purchased the facility in 1985 from a third party after Chevron sold it (DBA 1997). The facility is currently operated by Coleman Oil, who has leased the property since November 2004 from Clark Oil. Clark Oil continues to own the property and operate the facility for Coleman Oil (Beck 2005a).

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[3]These monitoring wells were named MW-8S, MW-8D, and MW-8PN in the 2002 survey performed after the highway widening project (Wyatt Engineering 2002), and the more recent names are used in this report.

The bulk fuel facility is located directly adjacent to a UPRR right-of-way. The UPRR was used to load and offload fuel from rail tanker cars to the bulk fuel facility (DBA 1997). In 1985, as Chevron was closing its facility, they conducted an environmental assessment which discovered subsurface petroleum contamination on the site. The results of this investigation were not reported to IDEQ at the time they were discovered (DBA 1997).

In 1993, the Idaho Transportation Department (ITD) conducted an environmental assessment of the UPRR right-of-way for a potential ITD road widening project on Highway 95 (Riedel 1993). A further investigation of the UPRR right-of-way determined that the source of the contamination was a release from the former transfer pipeline used to transfer fuel from tank cars on the UPRR right-of-way to tanks on the former Chevron facility (AGI 1994).

Based on the results of these investigations, Clark Oil, Chevron, and UPRR performed a joint environmental assessment of the adjacent Clark Oil/former Chevron and UPRR properties (DBA 1997). The investigations included the installation of 17 monitoring wells on the Clark Oil site, the UPRR, and downgradient in the Safeway parking lot to evaluate the impact to groundwater from these releases (Cambria 1996, Cambria 1997). No free product was detected in any of these 17 monitoring wells, although benzene and MTBE were detected in some of the groundwater samples (Cambria 1997). In 1998, a limited clean-up action was performed in which contaminated soil on the UPRR right-of-way[4] was excavated for off-site disposal (Maxim 1998). Regular groundwater monitoring has been conducted at the site since 1997 by a consultant for Chevron (MSE 2002).

3.4 IDEQ MTBE STUDY

After MTBE was detected in groundwater from the Clark Oil/former Chevron site, IDEQ decided to investigate MTBE contamination in the area suspected of originating from the Clark Oil/former Chevron site. In 2002, IDEQ's environmental contractor, Millennium Science and Engineering (MSE), installed nine deep monitoring wells in the area's lower aquifer (DQW-101 through DQW-109). The monitoring wells were installed on the Clark Oil/former Chevron site and at several downgradient locations, including the Safeway property and the Gas & Go site. (MSE 2002)

As a result of the MTBE investigation, MSE reported to IDEQ that there were two separate plumes of MTBE and benzene contamination originating from the Clark Oil/Former Chevron facility. A small plume of contaminated groundwater (MTBE and benzene) in the upper water bearing unit was

[4]Contaminated soil near monitoring well CW-6 was excavated, and CW-6 was abandoned as a result.

found to extend as far as the UPRR right-of-way. The lower water bearing unit had a larger plume of contaminated groundwater that extended as far downgradient as the Safeway property. MSE also found that MTBE contamination was present on the Gas & Go site (28.2 micrograms per liter [µg/L] in DQW-102); however, they stated that they could not evaluate the connection between the occurrence of MTBE on the Gas & Go site and the release at the Clark Oil / former Chevron facility based on the limited available data. (MSE 2002)

3.5 IDAHO TRANSPORTATION DEPARTMENT

In 2001 and 2002, the ITD performed a road-widening project of Highway 95 at the Larch Street intersection. The widening involved claiming right-of-way from UPRR, Safeway, Quality Inn, and the Gas & Go properties (Lyon 2001).

In preparation for the road widening project, ITD commissioned an environmental impact study in 1993 (Riedel 1993). As a result of this study, ITD's contractor identified probable petroleum contamination on the UPRR right-of-way. This contamination led to the limited soil excavation discussed in Section 3.3.

Additionally, ITD determined that their road widening project would impact several of the monitoring wells in the area (Lyon 2001). The following wells were abandoned for the road widening: CW-11, CW-12, CW-13, CW-14, and CW-15[5] and MW-1 on the UPRR property (Lyon 2001), and RW-1, RW-3, and RW-4 on the Gas & Go property (Lyon 2002). The abandoned wells were replaced with the following monitoring wells (Lyon 2002, Wyatt Engineering 2002):

Abandoned Wells	Replacement Wells
MW-1	MW-18 Deep and Shallow
CW-11 through 15	MW-19 Deep and Shallow and MW-20 Deep and Shallow
RW-1	RW-1R
RW-3	RW-3R Deep and Shallow
RW-4	Abandoned, not replaced

[5] These monitoring wells were named MW-11 through MW-15 in the Lyon correspondence; START-2 assumes that they refer to monitoring wells CW-11 through CW-15.

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4. START-2 ACTIVITIES

For this removal assessment, the START-2 reviewed existing documents and data reports and performed field work. Because of the large number of previous investigations and historical reports, the START-2 reviewed available historical reports to compile existing data and to develop a draft conceptual model of contamination at the site. The START-2 visited the site in December 2004 to perform a site reconnaissance and collect global positioning system (GPS) data for existing monitoring wells. In March 2005, the START-2 performed a field sampling event to assist IDEQ and the RP with the scheduled semi-annual sampling which included, collecting samples of on-site monitoring wells and the treatment system effluent. The START-2 also was on site to collect notes and observations about the site and the treatment system.

4.1 REVIEW OF EXISTING DATA

After 15 years of investigations, there have been several reports and a large amount of analytical data generated for the Gas & Go site. Most of these reports are about the Gas & Go site itself, including IDEQ's initial investigations, recommendations for treatment systems and corrective action, and responding reports from consultants working on behalf of the RP. Some of the reports prepared on behalf of the owners of the Quality Inn property (former Husky gas station) address only the contamination from the former gas station source (e.g. Kimball 1992).

An additional source of historical reports and analytical data is the combined Clark Oil/Chevron/ UPRR site. At the request of the On-Scene Coordinator (OSC), START-2 included this combined site and the available reports in the historical data review to determine whether the contamination from the Clark Oil/former Chevron/UPRR site impacted the Gas & Go site and/or Sand Creek.

START-2 reviewed available reports and analytical data obtained from the IDEQ office in Coeur d'Alene, Idaho. Although there is a lot of existing data, not all data and reports were available to START-2 for review. For example, some reports (e.g., the 1989 Chen-Northern Phase I Investigation) are referred to in later reports, but copies were no longer on file with IDEQ. The well logs for some of the on-site monitoring wells also were not available. Additionally, although many documents include designs

and proposals for the on-site treatment system, no as-built reports or diagrams for the treatment system are available.

4.1.1 Monitoring Wells

Table 4-1 presents a summary of the various monitoring wells that have been installed in the area of interest, including the Gas & Go site, the Quality Inn site (former Husky gas station), and the Clark Oil/former Chevron/UPRR site. The primary source of the information in Table 4-1 were available drilling logs, copies of which are included in Appendix B. Where drilling logs were not available, relevant information was gathered from existing reports and START-2 field observations. Many of the monitoring wells have been abandoned, and some were replaced by newer wells. For example, some monitoring wells (including MW-1, RW-1, RW-3, and RW-4) were abandoned by the highway widening project conducted by ITD in 2001 to 2002 (Lyon 2002). For abandoned monitoring wells, replacement wells are identified, if known.

4.1.2 Free Product

Table 4-2 summarizes the thickness of free product measured in the Gas & Go and Quality Inn monitoring wells over the years. This table does not include monitoring wells on the Clark Oil/former Chevron/UPRR site, because no free product has ever been reported in those wells (MSE 2002, Cambria 1997). Additionally, Table 4-2 does not include the DQW series of wells, which were installed in the lower water bearing unit because free product has not been observed in these wells (MSE 2002). The data in Table 4-2 includes data from IDEQ's initial investigation in the early 1990s, the periodic monitoring performed by the RP in accordance with the CAP, and the most recent sampling event performed by START-2 in 2005. More details about the results of START-2's field measurements are presented in Section 5.0.

In general, the data in Table 4-2 indicates that the amount of free product on the groundwater table has decreased over time. For example, in July 1991, two monitoring wells, including RW-1 and RW-2, were determined to have up to 4 feet of product on the groundwater table. Figures 4-1 and 4-2 illustrate the amounts and extent of the free product plume on the groundwater table at the Gas & Go site on July 25, 1991, using data obtained from an IDEQ contractor (Brown and Caldwell 1991). The most recent data, however, indicates that typical product thicknesses were less than 1 foot. In the recent field measurements by START-2 (March 17, 2005), the greatest thickness of free product detected was 0.27

feet in RW-8. Updated free product plume figures with recent data collected by START-2 are presented in Section 5.0.

4.1.3 VOC Analyses

Table 4-3 summarizes the analytical results of the water samples that START-2 reviewed for the site. This table does not represent all data that may exist for the site; but it does represent the data that START-2 was able to review in the available historical reports. Most of the available data for the Gas & Go site is present, while a representative amount of data for the Clark Oil/Former Chevron/UPRR site also is included. Most of the water samples were analyzed for the volatile organic BTEX compounds, and many were also analyzed for MTBE and naphthalene.

Many of the early samples were collected from the seeps and creek by IDEQ investigators during the initial investigations into the site in 1989 and 1990. The samples from 1991 through 1994 represent the various site investigations, including samples collected from many of the newly-installed site monitoring wells. Beginning in 1995, the RP began to collect periodic samples in accordance with the CAP. In 1996, the investigation of the Clark Oil/Former Chevron/UPRR site began with the installation and sampling of the "CW"-series monitoring wells. Data through 2002 from these investigations are included in Table 4-3, although START-2 understands that more recent data has been collected on behalf of Clark Oil/Chevron, which START-2 has not reviewed.

Figure 4-3 illustrates the July 25, 1991 concentrations of benzene present in selected on-site monitoring wells, as determined through an IDEQ contractor's sampling effort (Brown and Caldwell 1991). For comparison, Figure 5-7 in Section 5.0 presents recent data collected by START-2.

Tables 4-4 and 4-5 summarize specific data sets as extracted from the historical data in Table 4-3. Table 4-4 summarizes the BTEX results samples collected from the seep, Sand Creek, and the seep sump. Table 4-5 summarizes the VOC results for the effluent samples collected from the treatment system discharge. The data in these tables is compared to the site-specific discharge limits for BTEX assigned by IDEQ (Quantum 1998).

The data in Table 4-4 indicate that VOC concentrations are decreasing in the seep water. In 1989 and 1990, benzene concentrations in some of the seeps were as high as 8,700 µg/L, and many were above 4,000 µg/L. In 1995, after the seep collection system was installed, the concentrations were lower, with typical benzene concentrations in the seep or seep sump samples ranging from 1,200 to 3,100 µg/L. In 2004, the seep sump sample contained benzene at a concentration of 379 µg/L, although it increased to

1,100 µg/L during the March 2005 sampling performed by START-2. Similar decreasing trends are observed for the other BTEX compounds of toluene, ethylbenzene, and total xylenes.

When discussing the seep sump samples, it should be noted that the seep sump collection system is designed to intercept groundwater before it reaches Sand Creek. Groundwater recovered in the seep sump is sent to the on-site treatment system. So, even though VOC concentrations appear to be decreasing in the seep water, it is also important to look at available data from the seep or creek that represent groundwater downstream from the seep collection system. The results for those samples that were collected after the installation of the seep collection system have very low levels of VOCs (below applicable discharge limits). For example, the seep and creek samples collected on March 8, 2004, had benzene concentrations ranging from less than the detection limit of 0.5 µg/L to 3.98 µg/L, which are less than the discharge limit for benzene of 71 µg/L (Table 4-4).

The data in Table 4-5 indicates that the discharged water from the treatment system is meeting the CAP-required discharge limits. With the exceptions of two samples in March and April 1995, benzene has not exceeded the discharge limit of 71 µg/L. The two exceedances were among the earliest from the discharge system, so it seems likely that they occurred during normal start-up and troubleshooting operations. The other VOCs with specified discharge limits (toluene, ethylbenzene, and naphthalene) have not exceeded their corresponding discharge limits throughout the treatment system's operation.

4.1.4 Treatment System and Corrective Action Plan

The treatment system includes four recovery wells (RCW-1 through RCW-4) and a seep collection system. The seep collection system is a series of french drains that were installed in the seep to intercept contaminated groundwater flowing toward Sand Creek. Water from the seep collection system is collected in a sump, where it is pumped to the treatment system. Groundwater is also recovered from the on-site recovery wells and pumped to the treatment system. Of the four recovery wells, three (RCW-1, RCW-2, and RCW-3) are currently used to recover groundwater. The fourth recovery well, RCW-4, is no longer used because of problems with silt accumulation in the well. (Quantum 1998)

The various sources of recovered groundwater (three recovery wells and the seep sump) are pumped into an oil/water separator in a treatment shed located east of the convenience store (Figure 2-3). The oil/water separator is designed to send recovered product to an oil storage tank for off-site recycling and to send the untreated groundwater to a shallow tray air stripper to remove the VOC constituents. After passing through the air stripper, the treated groundwater is discharged to Sand Creek (Quantum

1998). According to RP, Mike Young, the system has not recovered much product since it was installed, and almost no product in the past couple of years (Beck 2005b).

A schematic design of the treatment system is presented in Figure 4-4. Recommendations for treatment system improvement and upgrades are provided in Section 7.0.

In accordance with the Revised CAP, the RP is responsible for maintaining the on-site treatment system and performing periodic maintenance and sampling. Table 4-6 summarizes the sampling requirements from the Revised CAP (Quantum 1998). Currently, the treated water discharge from the air stripper is required to be sampled for VOCs (including BTEX, MTBE, and naphthalene), chlorine, pH, and temperature quarterly. Many of the site monitoring wells are to be measured for depth of free product semi-annually, and additional specific monitoring wells (RW-1R, MW-3s, MW-4, and MW-7) are to be sampled for VOCs (including BTEX, MTBE, and naphthalene).

4.2 DECEMBER 2004 SITE VISIT

START-2 visited the site in December 2004 with OSC Liverman and with IDEQ project manager Kreg Beck. The site visit was performed so that OSC and START-2 could familiarize themselves with the site. During the site walk, START-2 collected GPS coordinates of the existing site monitoring wells, for use in developing site figures. START-2 also collected photographs and other notes about the conditions at the site and the site treatment system. During this site visit, START-2 also reviewed files and data reports in IDEQ's file room at the Coeur d'Alene office.

4.3 MARCH 2005 FIELD SAMPLING EVENT

START-2 performed a field sampling event in March 2005. The purpose of this field event was to:

- Collect a round of groundwater elevations and product levels from the on-site monitoring wells;
- Confirm data about the existing monitoring wells;
- Assist the RP with the semi-annual sampling event for the CAP;
- Collect additional samples from the site to assist in site characterization and evaluate the efficacy of the on-site treatment system; and
- Collect notes and observations about the site and the on-site treatment system.

The field work was performed by START-2 on March 17th and 18th, 2005.

4.3.1 Monitoring Well Gauging

During the field event, START-2 located the existing site monitoring wells and confirmed their characteristics. START-2 attempted to locate all existing wells on the Gas & Go site, including the adjacent Quality Inn property (former Husky gas station). Additionally, START-2 located other area monitoring wells, including those on the Safeway property and representative wells on the Clark Oil/UPRR property.

For each well located, START-2 confirmed the location on a site diagram and opened the well. START-2 opened the well cap and documented the diameter and other observations. START-2 then used a Solinst Model 122 Oil/Water Interface Meter to determine the elevations of the groundwater and the thickness of product on the groundwater table, if any. START-2 decontaminated the interface probe with Alconox and water between each monitoring well.

4.3.2 Groundwater and Treatment System Sampling

In accordance with the CAP, the RP is responsible for performing periodic sampling and monitoring of the treatment system and specific on-site monitoring wells. The CAP sampling requirements are detailed in Table 4-6. IDEQ noted that the START-2 field event in March 2004 was scheduled for about the same time as the scheduled semi-annual CAP sampling event. At the request of IDEQ, and as directed by the OSC, START-2 collected the CAP-required samples, in addition to some additional samples. The CAP-required monitoring and groundwater sample collection activities performed by the START-2 are listed below:

Thickness Measure to Free Product

RW-1R, RW-2, RW-3RS, RW-6, RW-7, RW-8, MW-3S, MW-3W, MW-4, MW-6, and MW-7

Groundwater Samples for VOC Analysis

RW-1R, MW-3S, MW-4, MW-7, and Treatment System Discharge (Note: discharge is also sampled for chlorine and pH)

In addition to conducting the CAP-required activities, START-2 collected information and samples from wells not included as compliance points in the CAP. As discussed in Section 4.3.1, START-2 collected groundwater elevations and product levels from the existing on-site wells, as well as additional area wells, including the DQW monitoring wells and a representative number of the Clark Oil

monitoring wells. START-2 also collected samples for VOCs from RCW-1, RCW-2, RCW-3, the Seep Sump, and the oil/water separator effluent (the combined untreated: "Before Stripper").

Samples were collected in accordance with the Site Specific Sampling Plan (E & E 2005). Groundwater samples were collected from monitoring wells MW-4, RW-1R, MW-7, and MW-3S, with disposable Teflon ®) bailers. For each monitoring well, START-2 used the total depth of the well and the groundwater elevation to calculate the volume of water in the well. Before collecting a sample from the monitoring well, START-2 purged the well with the disposable bailer into a 5-gallon bucket. While purging the monitoring well, START-2 monitored the purge water for water quality parameters, including temperature, pH, conductivity, and turbidity. START-2 recorded the monitoring data, the well volumes, and purge volumes for each monitoring well in the field log book.

In general, START-2 attempted to purge three well volumes from each monitoring well or until the water quality parameters stabilized. However, for some of the monitoring wells (especially MW-4), the groundwater recharged slowly after the initial well volume was purged. For MW-4, START-2 recorded the slow recharge rate of the well and then collected a sample after documenting water quality parameters.

Groundwater samples for VOC analysis were poured into three 40-milliliter vials from the bailer. After sample collection, the vials were labeled, preserved, and then stored at 4 degrees Celsius (°C). After sampling each monitoring well, the bailer and string were discarded, and a new bailer and string was used for the next sample.

After collecting monitoring well samples, the remaining samples were collected from groundwater and treatment system water samples inside the treatment system building. These samples included RCW-1, RCW-2, RCW-3, Seep Sump, Before Stripper (i.e., combined untreated water after the oil/water separator), and Discharge (i.e., the treated water from the air stripper that is discharged to Sand Creek). These samples were collected directly from appropriate sampling ports located inside the water treatment building. The samples were collected in three 40-milliliter vials for VOC analysis; after sampling, the sample containers were labeled, preserved, and then stored at 4 °C. The treatment system discharge was also sampled for pH and chlorine content. This sample was collected in a 250-milliliter polyethylene bottle with no preservative. This sample was also stored at 4 °C.

4.3.3 Groundwater Recovery and Treatment System Data

START-2 collected data about site treatment system, including the recovery wells, the seep sump, the oil/water separator, and the air stripper. START-2 performed an informal recharge test of RCW-1 and

RCW-2 to determine the extent of hydraulic draw-down and the ability of the aquifer to recharge. The recharge test was performed by turning off the recovery well system, removing the pumps from RCW-1 and RCW-2, and then measuring the depths to groundwater in the two recovery wells for the next several hours. START-2 also reviewed total flow records maintained by the RP to evaluate total system flow rates and the flow rates of individual inputs to the system, (recovery wells and Seep Sump). Finally, START-2 recorded notes and observations about the general condition of the treatment system.

4.4 ANALYTICAL PROTOCOL

The samples were submitted under proper chain of custody to Columbia Analytical Services in Kelso, Washington. All 10 water samples and a trip blank were analyzed for a specific list of VOCs , including BTEX, MTBE, naphthalene, 1,2-dibromoethane and 1,2-dichloroethane, in accordance with EPA SW-846 Method 8260B. BTEX, MTBE, and napthalene were included as requirements of the CAP. The additional VOC analytes of 1,2-dibromoethane and 1,2-dichloroethane were included to be consistent with previous sampling events performed by IDEQ.

The Discharge sample was also analyzed for total residual chlorine in accordance with EPA Method 330.4 and pH by EPA Method 150.1.

The analytical results for the samples are presented in Section 5.

4.5 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated during the sampling event consisted of purge water from the monitoring wells. The purge water was collected in buckets during sampling and was disposed of in the on-site treatment system.

Table 4-1

MONITORING WELL INFORMATION
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Alternate Name	Well Status	Depth / Aquifer	Well Log Available	Location	Installation Date	Date Closed	Installed By	Elevation - TOC (feet above MSL)	Depth of Well - from Well Log (ft. bgs)	Depth of Well - Measured by START on 3/17/05 (ft below TOC)	Diameter (in.)	Depth of Screened Interval (ft. bgs)	Notes
MW-1	n.a.	Abandoned	Unknown	No	UPRR	May 1989	5/15/2001	Chen-Northern Inc.	2100.61	n.a.	n.a.	n.a.	n.a.	Replaced by MW-18D/S
MW-2U	n.a.	Abandoned	Unknown	Yes	Quality Inn	1/16/1990	Unknown	Chen-Northern Inc.	2100.74	11.5	17.7	4	1.0 - 11.0	n.a.
MW-2L	MW-2	Existing	Unknown	No	Quality Inn	May 1989	n.a.	Chen-Northern Inc.	2100.64	n.a.	n.a.	n.a.	n.a.	n.a.
MW-3S	MW-3	Existing	Unknown	No	Quality Inn	May 1989	n.a.	Chen-Northern Inc.	2099.01	n.a.	12.05	4	n.a.	n.a.
MW-3D	n.a.	Existing	Deep	Yes	QI	10/7/2002	n.a.	Ruen Drilling, Inc.	n.a.	n.a.	36.4	2	17 - 36.5	Next to MW-3S
MW-3W	KE-8?	Existing	Unknown	Yes???	Quality Inn	Unknown	n.a.	Unknown	n.a.	n.a.	16.2	2	n.a.	n.a.
MW-4	n.a.	Existing	Unknown	No	Gas & Go	May 1989	n.a.	Chen-Northern Inc.	2097.49	n.a.	18.2	4	n.a.	n.a.
MW-5	n.a.	Abandoned	Unknown	No	Gas & Go	May 1989	Unknown	Chen-Northern Inc.	2098.56	n.a.	n.a.	n.a.	n.a.	n.a.
MW-6	n.a.	Abandoned	Unknown	No	Gas & Go	May 1989	Unknown	Chen-Northern Inc.	2098.81	n.a.	n.a.	n.a.	n.a.	n.a.
MW-7	n.a.	Existing	Unknown	No	Gas & Go	May 1989	n.a.	Chen-Northern Inc.	2098.33	n.a.	13.5	4	n.a.	n.a.
MW-8	n.a.	Existing	Unknown	Yes	Quality Inn	1/10/1990	n.a.	Chen-Northern Inc.	2100.89	18.8	NM	4	2.3 - 13.3	Damaged, blocked by truck.
MW-8S	KE-5?	Existing	Unknown	No	Quality Inn	1992?	n.a.	Kimball Engineering	n.a.	n.a.	n.a.	2	n.a.	From Kimball 1/17/92
MW-8D	KE-8?	Existing	Unknown	No	Quality Inn	1992?	n.a.	Kimball Engineering	n.a.	n.a.	25	2	n.a.	From Kimball 1/17/92
MW-8PN	KE-4?	Existing	Unknown	No	Quality Inn	1991?	n.a.	Kimball Engineering	n.a.	n.a.	17.6	2	n.a.	From Kimball 1/17/92
MW-9	n.a.	Abandoned	Unknown	Yes	West of QI	1/9/1990	Unknown	Chen-Northern Inc.	ND (Snow)	18.8	n.a.	4	3.3 - 13.3	n.a.
MW-10	n.a.	Existing	Unknown	Yes	Behind QI	1/16/1990	n.a.	Chen-Northern Inc.	2100.51	18.5	17	4	3.0 - 13.0	Screened 3 to 18'?? (Table)
MW-11	n.a.	Abandoned	Unknown	Yes	Quality Inn	1/11/1990	n.a.	Chen-Northern Inc.	2098.52	17.9	n.a.	4	2.4 - 12.4	Could not locate.
RW-1	JUB-1	Abandoned	Shallow	Yes	Gas & Go	9/6/1990	5/2/2002	J-U-B Engineers, Inc.	n.a.	17	16.85	4?	10?	ITD: Replaced by RW-1R
RW-1R	n.a.	Existing	Shallow	Yes	Gas & Go	10/7/2002	n.a.	Ruen Drilling, Inc.	n.a.	n.a.	16.35	2	12 - 17	Replaced RW-1
RW-2	JUB-2	Existing	Shallow	Yes	Gas & Go	9/6/1990	n.a.	J-U-B Engineers, Inc.	n.a.	17 - 20?	n.a.	4	10?	n.a.
RW-3	JUB-3	Abandoned	Shallow	Yes	Gas & Go	9/7/1990	5/2/2002	J-U-B Engineers, Inc.	n.a.	18	n.a.	4?	10?	ITD: Replaced by RW-3RD/S
RW-3RD	n.a.	Existing	Deep	Yes	Gas & Go	10/7/2002	n.a.	Ruen Drilling, Inc.	n.a.	n.a.	39.3	2	22 - 39.5	Replaced RW-3 (Nested)
RW-3RS	n.a.	Existing	Shallow	Yes	Gas & Go	10/7/2002	n.a.	Ruen Drilling, Inc.	n.a.	n.a.	15.2	2	12.5 - 16	
RW-4	JUB-4	Abandoned	Shallow	Yes	Gas & Go	9/7/1990	5/2/2002	J-U-B Engineers, Inc.	n.a.	17?	n.a.	4?	10?	ITD: Not Replaced
RW-5	JUB-5	Abandoned	Shallow	Yes	Gas & Go	9/7/1990	5/2/2002?	J-U-B Engineers, Inc.	n.a.	17?	n.a.	4?	10?	n.a.
RW-6	JUB-6	Existing	Shallow	Yes	Gas & Go	9/7/1990	n.a.	J-U-B Engineers, Inc.	n.a.	18?	17	4	10?	n.a.
RW-7	n.a.	Existing	Unknown	No	Gas & Go	11 to 12/1991	n.a.	Unknown	n.a.	n.a.	15.25	2	n.a.	n.a.
RW-8	n.a.	Existing	Unknown	No	Gas & Go	11 to 12/1991	n.a.	Unknown	n.a.	n.a.	15.25	2	n.a.	n.a.
GA-1	n.a.	Existing	Unknown	Yes	QI	9/26/1993	n.a.	Ruen Drilling	n.a.	17.6	17.3	4	7.2 - 16.7	n.a.
QI-S	KE-3?	Existing	Unknown	No	Quality Inn	1991?	n.a.	Kimball Engineering	n.a.	n.a.	18	2	n.a.	From Kimball 1/17/92
RCW-1	n.a.	Existing	Unknown	No	Gas & Go	before 8/9/92	n.a.	Unknown	n.a.	n.a.	29	4	n.a.	n.a.
RCW-2	n.a.	Existing	Unknown	No	Gas & Go	before 8/9/92	n.a.	Unknown	n.a.	n.a.	25.3	4	n.a.	n.a.
RCW-3	n.a.	Existing	Unknown	No	Gas & Go	before 8/9/92	n.a.	Unknown	n.a.	n.a.	NM	4	n.a.	n.a.
RCW-4	n.a.	Existing	Unknown	No	Gas & Go	before 8/9/92	n.a.	Unknown	n.a.	n.a.	NM	4	n.a.	Not used for groundwater recovery
DQW-101	n.a.	Existing	Deep	Yes	Larch and 3rd	1/31/2002	n.a.	Jasper Mountain Drilling	n.a.	25	25	2	20 - 25	n.a.
DQW-102	n.a.	Existing	Deep	Yes	Gas & Go	2/4/2002	n.a.	Jasper Mountain Drilling	n.a.	25	25	2	20 - 25	n.a.
DQW-103	n.a.	Existing	Deep	Yes	Gas & Go	2/5/2002	n.a.	Jasper Mountain Drilling	n.a.	25	24.9	2	20 - 25	n.a.
DQW-104	n.a.	Existing	Deep	Yes	Safeway	1/24/2002	n.a.	Jasper Mountain Drilling	n.a.	25	25	2	20 - 25	n.a.
DQW-105	n.a.	Existing	Deep	Yes	Safeway	1/22/2002	n.a.	Jasper Mountain Drilling	n.a.	25	25	2	22.5 - 25	n.a.
DQW-106	n.a.	Existing	Deep	Yes	Safeway	2/8/2002	n.a.	Jasper Mountain Drilling	n.a.	25	24.7	4	20 - 25	n.a.
DQW-107	n.a.	Existing	Deep	Yes	Clark Oil	2/6/2002	n.a.	Jasper Mountain Drilling	n.a.	25	24.8	2	20 - 25	n.a.
DQW-108	n.a.	Existing	Deep	Yes	Clark Oil	2/7/2002	n.a.	Jasper Mountain Drilling	n.a.	25	25	2	20 - 25	n.a.
DQW-109	n.a.	Existing	Deep	Yes	Safeway	1/23/2002	n.a.	Jasper Mountain Drilling	n.a.	25	25	2	22.5 - 25	n.a.

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Table 4-1 (Continued)

MONITORING WELL INFORMATION
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Alternate Name	Well Status	Depth / Aquifer	Well Log Available	Location	Installation Date	Date Closed	Installed By	Elevation - TOC (feet above MSL)	Depth of Well - from Well Log (ft. bgs)	Depth of Well - Measured by START on 3/17/05 (ft below TOC)	Diameter (in.)	Depth of Screened Interval (ft. bgs)	Notes
CW-1	n.a.	Existing	Shallow	Yes	Clark Oil	4/9/1996	n.a.	Cascade Drilling	2100.63	15.3	n.a.	2	4.3 - 15.3	n.a.
CW-2	n.a.	Existing	Shallow	Yes	Clark Oil	4/10/1996	n.a.	Cascade Drilling	2100.65	15	14.7	2	4 - 15	n.a.
CW-3	n.a.	Existing	Shallow	Yes	Clark Oil	4/10/1996	n.a.	Cascade Drilling	2100.51	15	n.a.	2	4 - 15	n.a.
CW-4	n.a.	Existing	Shallow	Yes	Clark Oil	4/10/1996	n.a.	Cascade Drilling	2101.14	15	14.7	2	4 - 15	n.a.
CW-5	n.a.	Existing	Shallow	Yes	Clark Oil	4/10/1996	n.a.	Cascade Drilling	2100.49	15	n.a.	2	4 - 15	n.a.
CW-6	n.a.	Abandoned	Shallow	Yes	UPRR	4/11/1996	1998	Cascade Drilling	2099.8	15	n.a.	2	4 - 15	Abandoned during soil excavation
CW-7	n.a.	Unknown	Shallow	Yes	UPRR	4/11/1996	n.a.	Cascade Drilling	2100.48	15	n.a.	2	3 - 15	n.a.
CW-8	n.a.	Existing	Deep	Yes	UPRR	4/11/1996	n.a.	Cascade Drilling	2100.48	25	n.a.	2	17 - 25	Lower aquifer
CW-9	n.a.	Existing	Shallow	Yes	UPRR	4/11/1996	n.a.	Cascade Drilling	2100.35	15	n.a.	2	3 - 15	n.a.
CW-10	n.a.	Existing	Shallow	Yes	UPRR	4/11/1996	n.a.	Cascade Drilling	2100.46	15	n.a.	2	3 - 15	n.a.
CW-11	n.a.	Abandoned	Shallow	Yes	UPRR	4/12/1996	5/15/2001	Cascade Drilling	2099.7	15	n.a.	2	3 - 15	n.a.
CW-12	n.a.	Abandoned	Shallow	Yes	UPRR	4/12/1996	5/15/2001	Cascade Drilling	2099.54	15	n.a.	2	3 - 15	n.a.
CW-13	n.a.	Abandoned	Deep	Yes	UPRR	4/12/1996	5/15/2001	Cascade Drilling	2099.37	30	n.a.	2	20 - 30	Lower aquifer
CW-14	n.a.	Abandoned	Deep	Yes	UPRR	4/12/1996	5/15/2001	Cascade Drilling	2099.22	25	n.a.	2	20 - 25	Lower aquifer
CW-15	n.a.	Abandoned	Shallow	Yes	UPRR	4/12/1996	5/15/2001	Cascade Drilling	2099.59	15	n.a.	2	3 - 15	n.a.
CW-16	n.a.	Existing	Deep	Yes	Safeway	2/11/1997	n.a.	Ruen Drilling	2098.71	24	24.7	2	19 - 24	Lower aquifer
CW-17	n.a.	Existing	Shallow	Yes	Safeway	2/12/1997	n.a.	Ruen Drilling	2098.71	15	12.25	2	3 - 15	n.a.
MW-18S	n.a.	Existing	Shallow	Yes	UPRR	10/7/2002	n.a.	Ruen Drilling, Inc.	n.a.	n.a.	14.3	2	n.a.	Replaced MW-1 (nested)
MW-18D	n.a.	Existing	Deep	Yes	UPRR	10/7/2002	n.a.	Ruen Drilling, Inc.	n.a.	n.a.	27.5	2	15 - 35	Replaced MW-1 (nested)
MW-19S	n.a.	Existing	Shallow	No	UPRR	October 2002?	n.a.	Ruen Drilling, Inc.?	n.a.	n.a.	16.1	2	n.a.	n.a.
MW-19D	n.a.	Existing	Deep	No	UPRR	October 2002?	n.a.	Ruen Drilling, Inc.?	n.a.	n.a.	29.2	2	n.a.	n.a.
MW-20S	n.a.	Existing	Shallow	No	UPRR	October 2002?	n.a.	Ruen Drilling, Inc.?	n.a.	n.a.	13.5	2	n.a.	n.a.
MW-20D	n.a.	Existing	Deep	No	UPRR	October 2002?	n.a.	Ruen Drilling, Inc.?	n.a.	n.a.	26	2	n.a.	n.a.
MW-11 (LP)	n.a.	Unknown	Shallow	Yes	LP	7/8/1993	n.a.	GeoEngineers	2102.15	13.03	n.a.	2	2.5 - 13.03	Off-site, upgradient well.
MW-12 (LP)	n.a.	Unknown	Shallow	Yes	LP	7/9/1993	n.a.	GeoEngineers	2101	12.91	n.a.	2	2.5 - 12,91	Off-site, upgradient well.
MW-13 (LP)	n.a.	Unknown	Shallow	Yes	LP	7/9/1993	n.a.	GeoEngineers	2101.72	12.46	n.a.	2	2.5 - 12.46	Off-site, upgradient well.
MW-14 (LP)	n.a.	Unknown	Shallow	Yes	LP	7/8/1993	n.a.	GeoEngineers	2102.11	12.76	n.a.	2	2.5 - 12.76	Off-site, upgradient well.
MW-15 (LP)	n.a.	Unknown	Shallow	Yes	LP	7/8/1993	n.a.	GeoEngineers	2103.36	12.62	n.a.	2	2.5 - 12.62	Off-site, upgradient well.

Key:
bgs = below ground surface
ft. = feet
ID = Identification
LP = Louisian.a. Pacific
MSL = Mean Sea Level
MW = Monitoring Well
n.a. = Data not available.
QI = Quality Inn
RCW = Recovery Well
TOC = Top of Casing
UPRR = Union Pacific Rail Road

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Table 4-2

SUMMARY OF HISTORIC PRODUCT LEVELS [(1)]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Date of Measurement	Product Thickness (feet)																															
	MW-1	MW-2L	MW-2U	MW-3S	MW-3D	MW-3W	MW-4	MW-5	MW-6	MW-7	MW-8	MW-8S	MW-8D	MW-8PN	MW-9	MW-10	MW-11	RW-1	RW-1R	RW-2	RW-3	RW-3RS	RW-3RD	RW-4	RW-5	RW-6	RW-7	RW-8	GA-1	QI-S	RCW-1	RCW-2	RCW-3	RCW-4
7/25/1991	0	0	0	0.08	n.a.	n.a.	0	0	0.05	0.09	0	n.a.	n.a.	n.a.	n.a.	0	0	2.25	n.a.	3.51	0.41	n.a.	n.a.	0	0.02	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/5/1991	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.16667	0.08333	n.a.	n.a.	0.04167	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/17/1991	n.a.	n.a.	n.a.	3.5	n.a.	n.a.		0.2	0.5	6.7	0.1	n.a.	n.a.	n.a.	0	n.a.	0	0.1	n.a.	0.4	3.5	n.a.	n.a.	2.5	0.1	2.7	4	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/24/1993	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/29/1993	0	0	0	0.32	n.a.	n.a.	0	0.01	1.51	0.05	0	n.a.	n.a.	n.a.	n.a.	0	0	0	n.a.	n.a.	0.42	n.a.	n.a.	0.46	0	0.26	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.
10/18/1993	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/2/1994	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.27	0.37	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/30/1995	n.a.	n.a.	n.a.	0.35	n.a.	n.a.	0	n.a.	0.05	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.2	2.1	n.a.	n.a.	1.35	n.a.	0	0	1.15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/24/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/19/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.4	1	n.a.	n.a.	0.8	n.a.	n.a.	n.a.	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/20/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.15	0.2	n.a.	n.a.	0.3	n.a.	n.a.	n.a.	0.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/21/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.15	0.15	n.a.	n.a.	0.2	n.a.	n.a.	n.a.	0.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/22/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.15	0.15	n.a.	n.a.	0.2	n.a.	n.a.	n.a.	0.25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/23/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	0.15	n.a.	n.a.	0.15	n.a.	n.a.	n.a.	0.25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/24/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.125	0.125	n.a.	n.a.	0.15	n.a.	n.a.	n.a.	0.225	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/29/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.2	n.a.	0.4	n.a.
6/30/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.25	n.a.	0.15	n.a.
7/1/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.2	n.a.	0.05	n.a.
7/2/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.15	n.a.	0.05	n.a.
7/5/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.4	n.a.	0.1	n.a.
8/11/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.26	n.a.	n.a.	n.a.
8/13/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.39	n.a.	n.a.	n.a.
8/15/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.53	n.a.	n.a.	n.a.
8/17/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.63	n.a.	n.a.	n.a.
8/21/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	n.a.	n.a.	n.a.
8/23/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.13	n.a.	n.a.	n.a.
8/25/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.15	n.a.	n.a.	n.a.
10/1/1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.27	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/3/1995	n.a.	n.a.	n.a.	0.07	n.a.	n.a.	0	n.a.	0.12	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.15	0.28	n.a.	n.a.	0.27	n.a.	0.08	0.16	0.28	n.a.	n.a.	3.28	0.04	0.55	n.a.
5/1/1996	n.a.	n.a.	n.a.	0.02	n.a.	n.a.	0	n.a.	0.1	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0	0.31	n.a.	n.a.	0.1	n.a.	0	0.07	0.38	n.a.	n.a.	n.a.	n.a.	0.18	n.a.
8/4/1996	n.a.	n.a.	n.a.	0.02	n.a.	n.a.	0	n.a.	0.08	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.225	0.275	n.a.	n.a.	0.25	n.a.	0.025	0	0.55	n.a.	n.a.	n.a.	n.a.	0.955	n.a.
11/5/1996	n.a.	n.a.	n.a.	0.15	n.a.	n.a.	0	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.025	0.2	n.a.	n.a.	0.25	n.a.	0	0.05	0.35	n.a.	n.a.	n.a.	n.a.	1.9	n.a.
9/30/1997	n.a.	n.a.	n.a.	0	n.a.	0.3	0	n.a.	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.05	0.32	n.a.	n.a.	0.17	n.a.	0.02	0.05	0.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/30/1997	n.a.	n.a.	n.a.	0	n.a.	0.01	0	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0	0.04	n.a.	n.a.	0.025	n.a.	0	0	0.075	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/1/1998	n.a.	n.a.	n.a.	0	n.a.	0.01	0	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.02	0	n.a.	n.a.	0	n.a.	0	0	0.17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/30/1998	n.a.	n.a.	n.a.	0.125	n.a.	0.55	0	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.08	0.13	n.a.	n.a.	0.15	n.a.	0.05	0.04	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/16/1998	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/22/1999	n.a.	n.a.	n.a.	3.5	n.a.	0.15	0	n.a.	n.a.	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.7	1.75	n.a.	n.a.	1.3	n.a.	1.75	0.1	1.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/4/1999	n.a.	n.a.	n.a.	0.3	n.a.	1.1	0	n.a.	n.a.	0.95	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.25	0.8	n.a.	n.a.	0.7	0	1	0.6	1.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/30/2000	n.a.	n.a.	n.a.	3.4	n.a.	0.4	0	n.a.	n.a.	0.05	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.3	0.85	n.a.	n.a.	0.45	n.a.	3.5	0.2	0.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/6/2000	n.a.	n.a.	n.a.	0.45	n.a.	0.8	0	n.a.	n.a.	0.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0.4	0.7	n.a.	n.a.	0.5	n.a.	0.3	0.4	0.65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/30/2001	n.a.	n.a.	n.a.	3.1	n.a.	0.8	0	n.a.	n.a.	0.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	1.1	1.8	n.a.	n.a.	0.8	n.a.	3.5	0.7	1.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7/5/2001	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.25	n.a.	1.1	1.5	n.a.	n.a.	0.88	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/6/2001	n.a.	n.a.	n.a.	0.7	n.a.	1.8	0	n.a.	n.a.	0.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.05	n.a.	0.4	3.4	n.a.	n.a.	0.7	n.a.	0.4	1.1	1.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/2/2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/5/2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	0.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.7	0.7	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/21/2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11/20/2002	n.a.	n.a.	n.a.	1.87	n.a.	0.9	0	n.a.	n.a.	0.25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0.64	n.a.	0.61	n.a.	n.a.	n.a.	1.75	1.04	0.9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/1/2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/4/2003	n.a.	n.a.	n.a.	1	n.a.	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0.3	n.a.	0.1	n.a.	n.a.	n.a.	0.7	0.05	0.45	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/1/2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	0.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0.2	n.a.	0.7	n.a.	n.a.	n.a.	0.2	0.6	1.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/16/2004	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0.1	n.a.	1.1	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/17/2005 [(2)]	n.a.	0	n.a.	0	0	0	0	n.a.	n.a.	0.13	n.a.	0.25	0	0	n.a.	0	n.a.	n.a.	0	0.07	n.a.	0.05	0	n.a.	n.a.	0.02	0.07	0.27	0	0	0	0	n.a.	n.a.

Note: (1) Unless otherwise indicated, data is reported from historical reports obtained from IDEQ files.
(2) Data from March 17, 2005, was collected by START-2.

Key:
IDEQ = Idaho Department of Environmental Quality
n.a. = Data not available.
START = Superfund Technical Assessment and Response Team

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Table 4-3

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [(1)]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L) Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Additional Analyses	Report / Source
5/21/1989	Seep 1		5,800	3,800	300	n.a.	n.a.	3,400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/21/1989	Seep 2		570	330	100	n.a.	n.a.	1,090	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/21/1989	Seep 3		4,300	4,100	940	n.a.	n.a.	8,480	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/21/1989	Seep 4L		2	3	1	n.a.	n.a.	12	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/21/1989	Seep 4U		5,600	7,300	700	n.a.	n.a.	6,300	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/21/1989	Seep 5		112	11	6	n.a.	n.a.	27	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-1		< 5	3	3	n.a.	n.a.	7	n.a.	n.a.	500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-2L		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-3		5,000	9,800	1,300	n.a.	n.a.	6,720	n.a.	n.a.	14,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-4		2	33	< 1	n.a.	n.a.	< 1	n.a.	n.a.	n.a.	n.a.	16,000	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-5		8,800	11,500	1,700	n.a.	n.a.	9,400	n.a.	n.a.	n.a.	n.a.	6,000	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-6		22,900	31,800	2,400	n.a.	n.a.	14,500	n.a.	n.a.	n.a.	n.a.	20,000	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
5/27/1989	MW-7		600	1,000	520	n.a.	n.a.	2,130	n.a.	n.a.	n.a.	n.a.	14,000	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
8/4/1989	MW-3		3,100	8,100	1,300	n.a.	n.a.	No Data	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
8/4/1989	MW-4		< 1	< 1	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
8/4/1989	Seep 2		470	220	60	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/17/1990	Seep 1		4,900	7,400	1,100	n.a.	n.a.	8,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/17/1990	Seep 2		304	98	21	n.a.	n.a.	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/17/1990	Seep 3		4,710	9,600	2,990	n.a.	n.a.	17,900	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/17/1990	Seep 4L		77	5	8	n.a.	n.a.	34	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/17/1990	Seep 4U		8,700	10,800	700	n.a.	n.a.	4,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/17/1990	Seep 5		68	< 1	3	n.a.	n.a.	2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chen-Northern, May 1990
1/18/1990	MW-1		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-10		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-11		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-2L		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-2U		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-3		4,260	11,100	1,450	n.a.	n.a.	8,860	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-4		1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-5		9,100	8,600	1,100	n.a.	n.a.	6,600	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-6		21,500	29,900	2,700	n.a.	n.a.	18,100	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-7		377	123	111	n.a.	n.a.	312	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-8		5	< 1	3	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
1/18/1990	MW-9		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	GC Fingerprinting	Chen-Northern, May 1990
3/13/1990	Sand Creek		n.a.	n.a.	7,000	7,000	11,500	18,500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Steve Tanner (IDEQ); IDHW Bureau of Labs, 3/27/1990
6/7/1990	Sand Creek Bottom		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	ND	ND	n.a.	n.a.	n.a.	n.a.	Kerosene - ND	M. Beckwith (IDEQ); Idaho Labs 6/19/1990
9/26/1990	MW-6		11,400	15,500	10,500	n.a.	n.a.	44,300	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 500	< 1,000	1,2-Dichloroethane - ND; 1,2-Dibromoethane - ND; PCP - ND; Cresols - ND; HCID - Gasoline	JUB Engineers; Precision Analytics, October 10, 1990 (In PDC, 2/8/92)
9/26/1990	R3		< 5	< 5	< 5	n.a.	n.a.	< 5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	JUB Engineers; Precision Analytics, October 10, 1990 (In PDC, 2/8/92)
9/26/1990	R4		< 5	< 5	< 5	n.a.	n.a.	< 5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	JUB Engineers; Precision Analytics, October 10, 1990 (In PDC, 2/8/92)
9/26/1990	RW-2		2,370	1,970	440	n.a.	n.a.	< 5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 5	< 5	1,2-Dichloroethane - ND; 1,2-Dibromoethane - ND; PCP - ND; Cresols - ND; HCID - Gasoline	JUB Engineers; Precision Analytics, October 10, 1990 (In PDC, 2/8/92)
9/26/1990	RW-3		900	1,200	800	n.a.	n.a.	3,500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 500	< 1,000	1,2-Dichloroethane - ND; 1,2-Dibromoethane - ND; PCP - ND; Cresols - ND; HCID - Gasoline	JUB Engineers; Precision Analytics, October 10, 1990 (In PDC, 2/8/92)
9/26/1990	RW-4		1,400	1,600	1,300	n.a.	n.a.	3,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 500	< 1,000	1,2-Dichloroethane - ND; 1,2-Dibromoethane - ND; PCP - ND; Cresols - ND; HCID - Gasoline	JUB Engineers; Precision Analytics, October 10, 1990 (In PDC, 2/8/92)
10/18/1990	RW-1		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	n.a.	n.a.	3,000	n.a.	n.a.	n.a.	HCID - ND	2/8/92 - PD Consultants/ Appendix E - J-U-B Engineers, Inc. (4/22/91)
10/18/1990	RW-5		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	n.a.	n.a.	3,000	n.a.	n.a.	n.a.	HCID - ND	2/8/92 - PD Consultants/ Appendix E - J-U-B Engineers, Inc. (4/22/91)
10/18/1990	RW-6		9.0	6.0	< 1	n.a.	n.a.	21	n.a.	n.a.	n.a.	n.a.	50,000	n.a.	n.a.	n.a.	HCID - Diesel	2/8/92 - PD Consultants/ Appendix E - J-U-B Engineers, Inc. (4/22/91)
10/18/1990	Seep 2		150	16	39	n.a.	n.a.	28	n.a.	n.a.	n.a.	n.a.	2,000	n.a.	n.a.	n.a.	HCID - ND	2/8/92 - PD Consultants/ Appendix E - J-U-B Engineers, Inc. (4/22/91)
10/18/1990	Seep 4U		4,435	4,072	361	n.a.	n.a.	2,659	n.a.	n.a.	n.a.	n.a.	21,000	n.a.	n.a.	n.a.	HCID - Gasoline	2/8/92 - PD Consultants/ Appendix E - J-U-B Engineers, Inc. (4/22/91)
10/31/1990	Gas and Go Well 4		< 5	NR	NR	NR	NR	NR	n.a.	n.a.	ND	ND	n.a.	n.a.	n.a.	n.a.	Kerosene - ND	Brian Painter (IDEQ); Idaho Labs
12/5/1990	Creek (Outside Boom)		482	NR	NR	NR	NR	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Creek (452)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	ND	135,000	n.a.	n.a.	n.a.	n.a.	Kerosene - ND	IDEQ / Idaho Labs
5/7/1991	Creek / Hillside (451)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	ND	1,992,000	n.a.	n.a.	n.a.	n.a.	Kerosene - ND	IDEQ / Idaho Labs
5/7/1991	Creek / Hillside (453)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	ND	58,900	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Outside Boom in Creek		212	186	4.8	n.a.	n.a.	209.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Rob Howarth (IDEQ), 3/2/1992
5/7/1991	Pond Above Separator		6230	6140	1600	n.a.	n.a.	9730	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Rob Howarth (IDEQ), 3/2/1992
5/7/1991	Pond above separator (448)		6230	NR	NR	NR	NR	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Sand Creek Boom (450)		212	NR	NR	NR	NR	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Separator Oulet (449)		5100	NR	NR	NR	NR	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Separator Outflow		5100	5600	350	n.a.	n.a.	4140	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Rob Howarth (IDEQ), 3/2/1992
5/7/1991	Storm Drain (454)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	ND	15,700	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Storm Drain (457)		< 5	NR	NR	n.a.	n.a.	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
5/7/1991	Storm Drain N. of Site		ND	ND	ND	n.a.	n.a.	ND	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Chloroform - 0.75 ug/L	Rob Howarth (IDEQ), 3/2/1992
7/25/1991	SEP-1		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	HCID - Fuel Oil	Brown and Caldwell, 11/11/1991
7/25/1991	Above Separator		6.22	< 5	< 700	ND	82.9	82.9	n.a.	< 5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
7/25/1991	Below Separator (Outflow)		494	NR	NR	NR	NR	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
7/25/1991	Creek (Outside Boom)		< 5	NR	NR	NR	NR	NR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
7/25/1991	MW-1		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	n.a.	n.a.	< 200	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991
7/25/1991	MW-10		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	n.a.	n.a.	< 200	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991
7/25/1991	MW-11		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	n.a.	n.a.	< 200	n.a.	n.a.	n.a.	Aluminum - ND; Cadmium - ND; Chromium - ND; Cobalt - ND; Copper - ND; Iron 1,500 ug/L; Lead - ND; Tin - ND; Zinc - 17.0 ug/L	Brown and Caldwell, 11/11/1991
7/25/1991	MW-2L		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	n.a.	n.a.	200	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991
7/25/1991	MW-4		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	n.a.	n.a.	600	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L) Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Additional Analyses	Report / Source
7/25/1991	MW-5		12,000	9,000	1,100	n.a.	n.a.	8,220	n.a.	n.a.	n.a.	n.a.	2,900	n.a.	n.a.	n.a.	Aluminum - ND; Cadmium - ND; Chromium - ND; Cobalt - ND; Copper - ND; Iron - 6,750 ug/L; Lead - ND; Tin - ND; Zinc - 8.0 ug/L	Brown and Caldwell, 11/11/1991
7/25/1991	MW-7		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 200	n.a.	n.a.	n.a.	HCID - Gasoline, Fuel Oil	Brown and Caldwell, 11/11/1991
7/25/1991	MW-8		2.1	3.4	2.3	n.a.	n.a.	5.3	n.a.	n.a.	n.a.	n.a.	< 200	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991
7/25/1991	RW-1		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	HCID - Gasoline, Fuel Oil	Brown and Caldwell, 11/11/1991
7/25/1991	RW-2		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	HCID - Gasoline, Fuel Oil	Brown and Caldwell, 11/11/1991
7/25/1991	RW-3		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	HCID - Gasoline, Fuel Oil	Brown and Caldwell, 11/11/1991
7/25/1991	RW-5		4.7	3.4	0.5	n.a.	n.a.	4.0	n.a.	n.a.	n.a.	n.a.	< 200	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991
7/25/1991	RW-6		15.5	5.0	< 0.5	n.a.	n.a.	13.3	n.a.	n.a.	n.a.	n.a.	3,300	n.a.	n.a.	n.a.	n.a.	Brown and Caldwell, 11/11/1991
7/25/1991	Separator in Lagoon		6,760	9,500	1,390	3,670	3,690	7,360	n.a.	< 5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	IDEQ / Idaho Labs
10/5/1991	RW2-1		27,000	34,000	9,900	n.a.	n.a.	57,000	n.a.	n.a.	n.a.	340,000	n.a.	n.a.	n.a.	n.a.	n.a.	2/8/92 - PD Consultants
10/5/1991	RW3-1		4,200	5,900	5,900	n.a.	n.a.	33,000	n.a.	n.a.	n.a.	26,000	n.a.	n.a.	n.a.	n.a.	n.a.	2/8/92 - PD Consultants
10/5/1991	RW4-1		5,200	17,000	5,000	n.a.	n.a.	27,000	n.a.	n.a.	n.a.	31,000	n.a.	n.a.	n.a.	n.a.	n.a.	2/8/92 - PD Consultants
10/5/1991	RW5-1		59.0	42.0	30.0	n.a.	n.a.	150	n.a.	n.a.	n.a.	1,200	n.a.	n.a.	n.a.	n.a.	n.a.	2/8/92 - PD Consultants
9/29/1993	Below O/W Sep - Discharge Pipe		2,348	1,969	113	1,162	1,102	2,264	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.23	1,2-Dichloroethene - 1.23 ug/L	IDEQ / Idaho Labs
11/26/1991	KE-3		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 1,000	n.a.	< 1,000	n.a.	n.a.	n.a.	n.a.	Kimball Engineering, 1/17/1992
11/26/1991	KE-4		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 1,000	n.a.	< 1,000	n.a.	n.a.	n.a.	n.a.	Kimball Engineering, 1/17/1992
11/26/1991	KE-5		840	1,570	2,430	n.a.	n.a.	14,200	n.a.	n.a.	158,000	n.a.	320,000	n.a.	n.a.	n.a.	n.a.	Kimball Engineering, 1/17/1992
11/26/1991	KE-8		184	106	761	n.a.	n.a.	4,100	n.a.	n.a.	151,000	n.a.	46,000	n.a.	n.a.	n.a.	n.a.	Kimball Engineering, 1/17/1992
7/13/1993	MW11 (LP)		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	< 100	450	n.a.	< 750	n.a.	n.a.	n.a.	9/9/93 - GeoEngineers
7/13/1993	MW12 (LP)		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	< 100	< 250	n.a.	< 750	n.a.	n.a.	n.a.	9/9/93 - GeoEngineers
7/13/1993	MW13 (LP)		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	< 100	< 250	n.a.	< 750	n.a.	n.a.	n.a.	9/9/93 - GeoEngineers
7/13/1993	MW14 (LP)		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	< 100	< 250	n.a.	< 750	n.a.	n.a.	n.a.	9/9/93 - GeoEngineers
7/13/1993	MW15 (LP)		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 0.5	n.a.	n.a.	< 100	350	n.a.	< 750	n.a.	n.a.	n.a.	9/9/93 - GeoEngineers
2/17/1994	Sandcreek Seep		< 1	< 1	< 1	n.a.	n.a.	28	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2	1,2-Dichloroethene - 2 ug/L	Anatek, 2/28/94
6/2/1994	GW-1		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-2		5230	3450	778	n.a.	n.a.	3460	n.a.	n.a.	36500	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-3		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-4		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-5		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-6		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-7		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-8		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-9		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-10		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-11		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-12		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-13		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-14		2,640	62	30	n.a.	n.a.	46	n.a.	n.a.	995	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-15		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-16		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-17		8,790	5,740	30,100	n.a.	n.a.	71,900	n.a.	n.a.	5,180,000	3,700,000	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-18		8	6	34	n.a.	n.a.	37	n.a.	n.a.	3,710	9,600	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-19		130	10	13	n.a.	n.a.	10	n.a.	n.a.	1,060	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-20		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-21A		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-21B		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-22A		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-22B		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-23A		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	GW-23B		< 1	< 1	< 1	n.a.	n.a.	< 1	n.a.	n.a.	< 200	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	MW-7		32,700	13,900	32,800	n.a.	n.a.	104,000	n.a.	n.a.	3,930,000	16,500,000	n.a.	n.a.	n.a.	n.a.	Iron - 5,700 ug/L	6/27/94 - PD Consultants
6/2/1994	No. Seep		188	92	39	n.a.	n.a.	146	n.a.	n.a.	3,030	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	RCW-3		4,390	5,620	654	n.a.	n.a.	3,720	n.a.	n.a.	49,000	4,900	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	RCW-3		2,650	3,490	384	n.a.	n.a.	2,320	n.a.	n.a.	20,600	14,100	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
6/2/1994	RW-2		8,500	4,760	1,370	n.a.	n.a.	8,200	n.a.	n.a.	110,000	315,000	n.a.	n.a.	n.a.	n.a.	Iron - 15,000 ug/L	6/27/94 - PD Consultants
6/2/1994	RW-3		1,390	1,410	1,480	n.a.	n.a.	7,860	n.a.	n.a.	135,000	238,000	n.a.	n.a.	n.a.	n.a.	Iron - 7,000 ug/L	6/27/94 - PD Consultants
6/2/1994	RW-4		7,420	9,460	8,540	n.a.	n.a.	30,800	n.a.	n.a.	1,360,000	1,940,000	n.a.	n.a.	n.a.	n.a.	Iron - 5,700 ug/L	6/27/94 - PD Consultants
6/2/1994	RW-6		< 1	< 1	< 1	n.a.	n.a.	49	n.a.	n.a.	< 200	99,500	n.a.	n.a.	n.a.	n.a.	Iron - 5,300 ug/L	6/27/94 - PD Consultants
6/2/1994	RW-7		10,400	1,760	1,070	n.a.	n.a.	5,110	n.a.	n.a.	57,000	< 250	n.a.	n.a.	n.a.	n.a.	Iron - 9,800 ug/L	6/27/94 - PD Consultants
6/2/1994	So. Seep		1,280	963	126	n.a.	n.a.	1,420	n.a.	n.a.	16,400	< 250	n.a.	n.a.	n.a.	n.a.	PCE?	6/27/94 - PD Consultants
3/8/1995	Air Stripper Discharge		64	120	9.5	n.a.	n.a.	170	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Iron 6,400 ug/L; O&G < 1.0	Ralph Williams; NCA 3/21/1995
3/30/1995	Before Stripper		2100	3600	300	n.a.	n.a.	3900	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	HCID: Gasoline is present; Iron = 6,500 ug/L	Ralph Williams; NCA 4/28/1995
3/30/1995	After Stripper		260	440	32	n.a.	n.a.	590	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
3/30/1995	Seep Sump		3100	4800	430	n.a.	n.a.	5200	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
3/30/1995	MW-6		1,900	2,000	140	n.a.	n.a.	6,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
3/30/1995	MW-7		220	47	210	n.a.	n.a.	500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
3/30/1995	RW-1		9.0	2.6	1.3	n.a.	n.a.	3.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
3/30/1995	MW-4		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
4/10/1995	After Stripper		470	650	55	n.a.	n.a.	950	n.a.	n.a.	6700	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/28/1995
4/10/1995	Seep		1,200	390	120	n.a.	n.a.	350	n.a.	n.a.	2,600	n.a.	n.a.	n.a.	n.a.	n.a.	Iron = 6,600 ug/L; O&G = 5,000 ug/L	Ralph Williams; NCA 4/28/1995
6/29/1995	Gas-N-Go Seep		1,540	1,030	30.8	340	304	644	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	N. Blanchette (DEQ); IDH, Bureau of Laboratories, Sample Information, 7/25/95
9/26/1995	Air Stripper Discharge		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Lead - 300 ug/L	Ralph Williams; NCA 10/10/1995
9/26/1995	"B-4 Stripper"		1,900	1,600	89	n.a.	n.a.	3,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/10/1995
10/3/1995	After Stripper		12	14	2.6	n.a.	n.a.	40	n.a.	n.a.	2,200	n.a.	n.a.	n.a.	n.a.	n.a.	TSS: 25 mg/L	Ralph Williams; NCA 10/17/1995
10/3/1995	MW-4		< 0.5	0.64	< 0.5	n.a.	n.a.	2.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/17/1995
10/3/1995	MW-7		44	17	39	n.a.	n.a.	92	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/17/1995

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [(1)]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L)															Additional Analyses	Report / Source
		Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)		
10/3/1995	RCW-4		8,000	4,000	480	n.a.	n.a.	2,400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/17/1995
10/3/1995	Seep Sump		2,100	2,200	180	n.a.	n.a.	3,400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/17/1995
4/23/1996	MW-1	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 2.0	< 50	n.a.	< 50	< 50	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Chloroform - ND; Carbon Disulfide - 11	Cambria, 6/11/96
4/23/1996	MW-1	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/22/1996	CW-1	8020	160	38	260	n.a.	n.a.	580	< 500	140	9,200	4,200	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - 4,100 ug/L	Cambria, 6/11/96
4/22/1996	CW-1	8240	100	47	280	n.a.	n.a.	620	< 25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/22/1996	CW-2	8020	230	12	19	n.a.	n.a.	< 20	3,300	< 10	3,500	5,200	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND	Cambria, 6/11/96
4/22/1996	CW-2	8240	150	< 5.0	< 5.0	n.a.	n.a.	< 10	1,400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/24/1996	CW-3	8020	30	9.1	7	n.a.	n.a.	6	< 50	n.a.	1,800	2,000	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - 1,400 ug/L	Cambria, 6/11/96
4/24/1996	CW-3	8240	42	9	7	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/22/1996	CW-4	8020	2,700	130	690	n.a.	n.a.	1,800	6,700	130	7,900	3,000	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND	Cambria, 6/11/96
4/22/1996	CW-4	8240	7,200	< 500	2,000	n.a.	n.a.	5,300	9,300	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/22/1996	CW-5	8020	19	0.8	14	n.a.	n.a.	19	110	< 10	280	440	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	Cambria, 6/11/96
4/22/1996	CW-5	8240	21	< 5.0	14	n.a.	n.a.	18	81	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/24/1996	CW-6	8020	1,600	540	510	n.a.	n.a.	3,600	< 1,000	89	19,000	2,900	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND	Cambria, 6/11/96
4/24/1996	CW-6	8240	2,900	710	650	n.a.	n.a.	4,200	< 300	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/24/1996	CW-7	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 2.0	< 50	n.a.	< 50	1,100	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	Cambria, 6/11/96
4/24/1996	CW-7	8240	< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/24/1996	CW-8	8020	120	8.8	40	n.a.	n.a.	10	430	n.a.	3,200	2,000	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Chloroform - ND	Cambria, 6/11/96
4/24/1996	CW-8	8240	64	< 5.0	23	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/23/1996	CW-9	8020	17	5.6	19	n.a.	n.a.	22	< 50	< 10	2,700	1,100	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	Cambria, 6/11/96
4/23/1996	CW-9	8240	< 5.0	< 5.0	12	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/23/1996	CW-10	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 2.0	< 50	< 10	90	1,400	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Chloroform - ND	Cambria, 6/11/96
4/23/1996	CW-10	8240	< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/23/1996	CW-11	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 2.0	< 50	< 10	ND	110	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	Cambria, 6/11/96
4/23/1996	CW-11	8240	< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/24/1996	CW-12	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 2.0	< 50	n.a.	ND	90	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Chloroform - ND	Cambria, 6/11/96
4/24/1996	CW-12	8240	< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/24/1996	CW-13	8020	28	< 0.5	2.9	n.a.	n.a.	< 2.0	< 50	n.a.	430	120	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	Cambria, 6/11/96
4/24/1996	CW-13	8240	20	< 5.0	< 5.0	n.a.	n.a.	< 10	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/23/1996	CW-14	8020	63	2.5	11	n.a.	n.a.	2	180	n.a.	1,400	970	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Chloroform - ND	Cambria, 6/11/96
4/23/1996	CW-14	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/23/1996	CW-15	8020	83	2.1	9.6	n.a.	n.a.	2	< 50	n.a.	1,200	170	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	Cambria, 6/11/96
4/23/1996	CW-15	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 6/11/96
4/23/1996	MW-1	8020	ND	ND	ND	n.a.	n.a.	ND	ND	n.a.	ND	ND	n.a.	< 200	n.a.	n.a.	Organic Lead - < 200	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	MW-1	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-1	8020	1.4	5.1	18	n.a.	n.a.	56	ND	n.a.	1,100	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-1	8240	77	27	140	n.a.	n.a.	228	ND	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-2	8020	20	39	35	n.a.	n.a.	75	3,200	n.a.	2,200	ND	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - 120 ug/L; Phenanthrene - ND; Phenol - ND; Chloroform - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-2	8240	160	ND	2	n.a.	n.a.	2	2,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-3	8020	63	20	4.6	n.a.	n.a.	10	ND	n.a.	1,400	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-3	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-4	8020	1250	210	860	n.a.	n.a.	1,800	2,700	n.a.	16,000	ND	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - 27 ug/L; Chloroform - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-4	8240	4700	210	1500	n.a.	n.a.	1,700	6,400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-5	8020	ND	ND	ND	n.a.	n.a.	ND	44	n.a.	35	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - 7,500 ug/L	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/22/1996	CW-5	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-6	8020	2300	520	130	n.a.	n.a.	2,600	ND	n.a.	20,000	ND	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Chloroform - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-6	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-7	8020	ND	ND	ND	n.a.	n.a.	ND	ND	n.a.	ND	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-7	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-8	8020	78	7	8.4	n.a.	n.a.	6.4	290	n.a.	1,900	ND	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - 190 ug/L; Chloroform - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-8	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-9	8020	9.2	9.1	11	n.a.	n.a.	4.5	ND	n.a.	1,400	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-9	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-10	8020	8.5	ND	1.6	n.a.	n.a.	7	36	n.a.	ND	ND	n.a.	< 200	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - 6 ug/L	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-10	8240	ND	ND	ND	n.a.	n.a.	ND	ND	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-11	8020	ND	ND	ND	n.a.	n.a.	ND	ND	n.a.	ND	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-11	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-12	8020	ND	ND	ND	n.a.	n.a.	ND	ND	n.a.	ND	ND	n.a.	< 1,000	n.a.	n.a.	Organic Lead - ND; Acenaphthelene - 14 ug/L; 2-Methylnaphthelene - NA; Phenanthrene - 1.2 ug/L; Phenol - NA; Chloroform - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-12	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-13	8020	2.4	0.6	ND	n.a.	n.a.	ND	ND	n.a.	40	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - 11,000 ug/L	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/24/1996	CW-13	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-14	8020	73	1.4	8	n.a.	n.a.	3.1	120	n.a.	540	ND	n.a.	300	n.a.	n.a.	Organic Lead - ND; Chloroform - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-14	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-15	8020	0.8	2	3.8	n.a.	n.a.	1.8	ND	n.a.	280	ND	n.a.	n.a.	n.a.	n.a.	TPH-418.1 - ND	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)
4/23/1996	CW-15	8240	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Assoc. 5/15/97 (Split with Cambria 6/11/96)

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L) Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Additional Analyses	Report / Source
5/2/1996	MW-3		43	51	21	n.a.	n.a.	110	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/9/96
5/2/1996	MW-4		< 0.5	1.1	0.81	n.a.	n.a.	4.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/9/96
5/2/1996	MW-7		9.9	2.1	6.1	n.a.	n.a.	12	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/9/96
5/2/1996	RW-1		< 0.5	1.00	< 0.5	n.a.	n.a.	2.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/9/96
5/2/1996	Seep		2,300	2,600	240	n.a.	n.a.	2,700	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/9/96
5/7/1996	5/7/96-1 (Location Unknown)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Fuel ID: GRHC - 18.9%, DRHC - 79.3, HORC - 1.84%	Ralph Williams; NCA 6/3/96
5/8/1996	RCW-1		820	1,800	340	n.a.	n.a.	2,400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/15/96
6/4/1996	Air Stripper Discharge		7.51	6.38	1.15	n.a.	n.a.	10.4	n.a.	n.a.	n.a.	n.a.	3,700	n.a.	n.a.	n.a.	Lead - < 300; flashpoint	Ralph Williams; NCA 8/13/96
8/4/1996	MW-4		0.639	4.17	1.96	n.a.	n.a.	19.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 8/13/96
8/4/1996	MW-7		37.0	< 25	63.0	n.a.	n.a.	124	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 8/13/96
8/4/1996	RW-1		14.5	32.4	7.15	n.a.	n.a.	65.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 8/13/96
8/4/1996	Seep		1,700	1,320	97.0	n.a.	n.a.	2,200	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 8/13/96
9/5/1996	Air Stripper Discharge		1.59	1.65	< 0.5	n.a.	n.a.	4.82	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Lead - < 200 ug/L; TPH < 1,000 ug/L	Ralph Williams; NCA 9/20/1996
11/5/1996	MW-4		4.70	32.1	4.69	n.a.	n.a.	32.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 11/13/96
11/5/1996	MW-7		16.0	21.8	55.7	n.a.	n.a.	171	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 11/13/96
11/5/1996	RCW-1		12,300	31,200	3,170	n.a.	n.a.	20,500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 11/13/96
11/5/1996	RW-1		938	1,030	ILLEGIBLE	n.a.	n.a.	6,050	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 11/13/96
11/5/1996	RW-6		31.0	21.3	21.5	n.a.	n.a.	69.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 11/13/96
11/5/1996	Seep Sump		1,380	543	108	n.a.	n.a.	ILLEGIBLE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 11/13/96
2/13/1997	MW-1	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 10	< 50	< 250		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	MW-1	8240	< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/15/1997	CW-1	8020	121	4.05	291	n.a.	n.a.	605	58.5	85.5	15,700	6,240		3,500	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - 82.8 ug/L; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/15/1997	CW-1	8240	72	37.3	275	n.a.	n.a.	607	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/15/1997	CW-2	8020	82.1	5.23	3.96	n.a.	n.a.	14.2	2190	< 10	3,330	3,150		< 750	n.a.	n.a.	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - 12ug/L; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/15/1997	CW-2	8240	69.5	1.04	1.76	n.a.	n.a.	2.86	2010	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/15/1997	CW-3	8020	27.1	2.38	10.1	n.a.	n.a.	9.65	14.8	< 10	1,570	981		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/15/1997	CW-3	8240	18.5	7.51	8.13	n.a.	n.a.	7.12	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/15/1997	CW-4	8020	3700	132	1560	n.a.	n.a.	2690	4280	112	24,100	1,550		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - 40.9 ug/L; Phenanthrene - ND; Phenol - 37.2 ug/L; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/15/1997	CW-4	8240	2890	108	1300	n.a.	n.a.	2270	3580	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/15/1997	CW-5	8020	27.1	< 0.5	18.5	n.a.	n.a.	8.13	77.1	< 10	485	448		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - 1.18 ug/L; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/15/1997	CW-5	8240	17.5	< 1.0	16.3	n.a.	n.a.	6.28	51.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-6	8020	3050	748	842	n.a.	n.a.	3980	128	152	32,900	4,950		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - 65.8 ug/L; Phenanthrene - ND; Phenol - 34.5 ug/L; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-6	8240	2820	708	803	n.a.	n.a.	4100	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-7	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 10	ND	429		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-7	8240	< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-8	8020	280	< 12.5	53.5	n.a.	n.a.	< 25	705	< 10	2,590	1,300		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-8	8240	247	5.72	43.9	n.a.	n.a.	3.16	608	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-9	8020	12.4	0.615	11.7	n.a.	n.a.	3.8	10.6	< 10	789	952		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-9	8240	1.93	1.21	8.55	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-10	8020	2.71	< 0.5	2.04	n.a.	n.a.	2.06	5.79	< 10	332	952		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-10	8240	< 1.0	< 1.0	1.26	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-11	8020	< 0.5	1.08	< 0.5	n.a.	n.a.	2.38	< 1.0	< 10	< 50	< 250		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-11	8240	< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-12	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 10	< 50	< 250		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-12	8240	< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-13	8020	1.49	2.93	29.6	n.a.	n.a.	18	44.7	< 10	1,720	819		750	n.a.	5.41	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - 5.41 ug/L	Cambria 4/29/97

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L)															Additional Analyses	Report / Source
		Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)		
2/13/1997	CW-13	8240	31.7	1.94	21.8	n.a.	n.a.	12.9	6.27	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-14	8020	0.722	1.98	10.3	n.a.	n.a.	6.29	353	< 10	897	714		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-14	8240	52.9	1.62	7.46	n.a.	n.a.	4.09	347	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/13/1997	CW-15	8020	18	0.756	2.52	n.a.	n.a.	3.65	3.99	< 10	174	< 250		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/13/1997	CW-15	8240	13.8	< 1.0	1.85	n.a.	n.a.	2.69	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/17/1997	CW-16	8020	37.5	0.687	5.28	n.a.	n.a.	3.13	26.2	< 10	473	562		< 750	n.a.	13.2	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - 1.04 ug/L; Methyl-Chloride - ND; 1,2-Dichloroethane - 13.2 ug/L	Cambria 4/29/97
2/17/1997	CW-16	8240	28.9	1.14	4.27	n.a.	n.a.	2.08	10.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria 4/29/97
2/17/1997	CW-17	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 10	62.4	< 250		< 750	n.a.	ND	Acenaphthelene - ND; 2-Methylnaphthelene - ND; Phenanthrene - ND; Phenol - ND; Chloroform - ND; Methyl-Chloride - ND; 1,2-Dichloroethane - ND	Cambria 4/29/97
2/17/1997	CW-17	8240	< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
3/4/1997	Air Stripper Discharge		1.54	1.57	502	n.a.	n.a.	28.8	n.a.	n.a.	n.a.	n.a.	6,230	n.a.	n.a.	n.a.	Lead - < 50 ug/L, Flashpoint	Ralph Williams; NCA 3/18/97 (S703011)
4/3/1997	Air Stripper Discharge		8.03	< 0.5	< 0.5	n.a.	n.a.	1.86	n.a.	n.a.	n.a.	n.a.	< 1,000	n.a.	n.a.	n.a.	Lead - < 50 ug/L, Flashpoint	Ralph Williams; NCA 4/21/97 (S704011)
4/22/1997	MW-4		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	n.a.	n.a.	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/8/97 (S704055)
4/22/1997	MW-6		74.4	99.3	32.1	n.a.	n.a.	1,880	n.a.	n.a.	18,100	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/8/97 (S704055)
4/22/1997	MW-7		10.3	< 2.5	< 2.5	n.a.	n.a.	< 5.0	n.a.	n.a.	1,420	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/8/97 (S704055)
4/22/1997	RW-1		4.02	9.02	8.99	n.a.	n.a.	21.4	n.a.	n.a.	323	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/8/97 (S704055)
4/22/1997	RW-6		18.9	5.11	12.3	n.a.	n.a.	16.2	n.a.	n.a.	1,440	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/8/97 (S704055)
4/22/1997	Seep II		821	787	171	n.a.	n.a.	699	n.a.	n.a.	5,580	n.a.	n.a.	n.a.	n.a.	n.a.	Fluoride - 185 ug/L	Ralph Williams; NCA 5/8/97 (S704055)
6/24/1997	MW-1	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 5.0	< 50	< 250	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	MW-1	8240	< 2.0	< 2.0	< 2.0	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-1	8020	154	50.3	324	n.a.	n.a.	449	65.1	110	8,270	5,970	n.a.	940	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - 96 ug/L; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-1	8240	224	106	768	n.a.	n.a.	1080	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-2	8020	16.8	0.593	3.45	n.a.	n.a.	4.23	< 1.0	< 5.0	1,360	2,250	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-2	8240	379	< 20	< 20	n.a.	n.a.	< 20	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-3	8020	60	15.4	22.2	n.a.	n.a.	20.8	51.2	< 5.0	3,320	893	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-3	8240	49.6	< 20	< 20	n.a.	n.a.	< 20	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-4	8020	3810	153	1760	n.a.	n.a.	3090	4250	101	24,400	1,580	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - 46.9 ug/L; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-4	8240	4110	221	2400	n.a.	n.a.	3920	6200	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-5	8020	12	0.749	19.4	n.a.	n.a.	10.5	< 1.0	< 5.0	298	557	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-5	8240	< 10	< 10	16.8	n.a.	n.a.	< 10	< 10	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-6	8020	3830	698	656	n.a.	n.a.	2850	< 1.0	144	20,300	6,020	n.a.	869	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - 85 ug/L; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-6	8240	3930	787	704	n.a.	n.a.	3100	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-7	8020	0.65	< 0.5	< 0.5	n.a.	n.a.	1	< 1.0	< 5.0	70.3	617	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-7	8240	< 2.0	< 2.0	< 2.0	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-8	8020	148	4.65	37	n.a.	n.a.	8.23	485	< 5.0	2,730	1,170	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-8	8240	231	< 20	41.1	n.a.	n.a.	< 20	830	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-9	8020	1.1	0.785	9.88	n.a.	n.a.	3.18	3.57	< 5.0	652	553	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-9	8240	< 20	< 20	83.3	n.a.	n.a.	25.1	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-10	8020	1.47	< 0.5	1.1	n.a.	n.a.	< 1.0	2.57	< 5.0	200	459	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-10	8240	< 2.0	< 2.0	< 2.0	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-11	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 5.0	ND	ND	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-11	8240	< 2.0	< 2.0	< 2.0	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L) Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Additional Analyses	Report / Source
6/24/1997	CW-12	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 5.0	ND	ND	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-12	8240	< 2.0	< 2.0	< 2.0	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-13	8020	53.9	< 0.5	20.4	n.a.	n.a.	4.8	15.8	< 5.0	1,430	651	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-13	8240	< 40	< 40	< 40	n.a.	n.a.	< 40	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-14	8020	4.83	0.969	7.47	n.a.	n.a.	3.66	< 1.0	< 5.0	1,140	644	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-14	8240	94.6	< 20	< 20	n.a.	n.a.	< 20	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-15	8020	36.6	< 0.5	1.82	n.a.	n.a.	< 1.0	1.63	< 5.0	191	< 250	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-15	8240	< 2.0	< 2.0	< 2.0	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-16	8020	5.84	1	7.93	n.a.	n.a.	4.54	18.9	< 5.0	1,390	886	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-16	8240	88	< 40	< 40	n.a.	n.a.	< 40	50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
6/24/1997	CW-17	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 5.0	< 50	< 250	n.a.	< 750	n.a.	n.a.	Organic Lead - ND; Acenaphtylene - ND; 2-Methyl-naphthalene - ND; Phenantrene - ND; Phenol - ND; Chloroform - ND; Carbon disulfide - ND	Cambria, 9/23/1997
6/24/1997	CW-17	8240	63.1	< 2.0	2.9	n.a.	n.a.	< 2.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Cambria, 9/23/1997
9/29/1997	MW-1	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	114	< 250	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-1	8020	155	33.6	454	n.a.	n.a.	616	< 10	307	16,400	2,370	n.a.	566	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-2	8020	98.3	< 5.0	< 5.0	n.a.	n.a.	< 10	666	35.3	3,890	2,240	n.a.	792	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-3	8020	90.4	17.3	17.5	n.a.	n.a.	9.95	21.6	26.8	3,200	505	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-4	8020	5,420	< 50	2,520	n.a.	n.a.	2,410	5,460	193	36,000	1,030	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-5	8020	62.6	< 2.5	70.4	n.a.	n.a.	8.01	27.5	116	1,610	318	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-6	8020	3,930	487	539	n.a.	n.a.	2,160	< 100	199	23,400	4,420	n.a.	915	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-7	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	1.08	2.05	238	321	n.a.	642	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-8	8020	121	< 5.0	16.4	n.a.	n.a.	< 10	714	15.3	1,510	1,110	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-9	8020	81.3	10.8	138	n.a.	n.a.	21.3	30.1	40.9	3,920	1,290	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-10	8020	8.85	< 0.5	7.65	n.a.	n.a.	2.84	12.3	9.81	1,100	432	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-11	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	< 250	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-12	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	71.9	< 250	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-13	8020	36.4	< 0.5	12.2	n.a.	n.a.	2.11	12.1	4.36	742	310	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-14	8020	93.0	< 2.5	6.64	n.a.	n.a.	< 5.0	747	< 5.0	1,060	552	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/30/1997	CW-15	8020	246	< 2.5	19.6	n.a.	n.a.	< 5.0	33.5	18.7	2,180	467	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-16	8020	99.4	< 2.5	< 2.5	n.a.	n.a.	< 5.0	< 5.0	< 5.0	1,360	679	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
9/29/1997	CW-17	8020	< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	3.84	389	< 250	n.a.	< 500	n.a.	n.a.	n.a.	Cambria 12/15/1997
10/1/1997	MW-3		18.9	20.1	43.1	n.a.	n.a.	183	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/21/97 (S710018)
10/1/1997	MW-4		< 0.5	< 0.5	< 0.5	n.a.	n.a.	1.86	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/21/97 (S710018)
10/1/1997	MW-7		126	40.0	123	n.a.	n.a.	210	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/21/97 (S710018)
10/1/1997	RW-1		40.8	28.6	30.0	n.a.	n.a.	179	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/21/97 (S710018)
10/1/1997	Air Stripper Discharge		24.9	9.98	5.49	n.a.	n.a.	15	n.a.	n.a.	n.a.	n.a.	< 1,000	n.a.	n.a.	n.a.	Lead, < 50, Flashpoint	Ralph Williams; NCA 10/21/97 (S710019)
10/21/1997	RW-3		513	1,000	1,680	12,710	2,680	15,390	ND	1,380	n.a.	n.a.	n.a.	n.a.	ND	ND	n.a.	Brian Painter; Bureau of Laboratories 12/22/1997
10/21/1997	RW-6		14.1	65.4	146	1,510	2,520	4,030	ND	575	n.a.	n.a.	n.a.	n.a.	ND	ND	n.a.	Brian Painter; Bureau of Laboratories 12/22/1997
12/30/1997	"LEAK"		151	31.4	35.9	n.a.	n.a.	83.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1/13/98 (DEQ Stamp Date) - Ralph Williams, NW Gas N Go/ Data and COC
12/30/1997	MW-3		424	136	461	n.a.	n.a.	4,200	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1/13/98 (DEQ Stamp Date) - Ralph Williams, NW Gas N Go/ Data and COC
12/30/1997	MW-4		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1/13/98 (DEQ Stamp Date) - Ralph Williams, NW Gas N Go/ Data and COC
12/30/1997	MW-7		120	46.0	158	n.a.	n.a.	235	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1/13/98 (DEQ Stamp Date) - Ralph Williams, NW Gas N Go/ Data and COC
12/30/1997	RW-1		7.13	0.749	< 0.5	n.a.	n.a.	9.70	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1/13/98 (DEQ Stamp Date) - Ralph Williams, NW Gas N Go/ Data and COC
12/30/1997	RW-6		6.03	1.67	8.71	n.a.	n.a.	9.50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1/13/98 (DEQ Stamp Date) - Ralph Williams, NW Gas N Go/ Data and COC
1/6/1998	MW-1		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	371	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-1		122	40.9	312	n.a.	n.a.	561	44.2	261	11,300	5,700	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-2		12.0	< 5.0	< 5.0	n.a.	n.a.	< 10	1,240	19.9	1,420	1,910	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-3		35.3	11.0	10.8	n.a.	n.a.	10.7	10.9	14.0	1,290	667	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/7/1998	CW-4		4,030	52.9	2,030	n.a.	n.a.	3,170	3,940	217	25,700	2,230	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-5		5.53	1.04	12.3	n.a.	n.a.	3.34	40.1	3.75	416	495	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/7/1998	CW-6		2,730	448	562	n.a.	n.a.	2,930	< 50	341	25,200	6,290	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-7		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	371	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/7/1998	CW-8		162	< 5.0	32.5	n.a.	n.a.	< 10	602	22.9	1,780	933	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/7/1998	CW-9		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	448	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-10		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	790	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-11		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	< 250	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-12		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	< 250	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-13		< 0.5	< 0.5	6.61	n.a.	n.a.	< 1.0	< 1.0	1.87	406	476	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/7/1998	CW-14		62.0	< 2.5	5.11	n.a.	n.a.	< 5.0	729	105	593	619	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/7/1998	CW-15		7.68	< 0.5	< 0.5	n.a.	n.a.	< 1.0	1.52	1.26	102	< 250	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-16		8.24	< 0.5	< 0.5	n.a.	n.a.	< 1.0	36.3	1.15	137	781	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98
1/6/1998	CW-17		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	< 250	n.a.	< 750	n.a.	n.a.	n.a.	Cambria, 2/24/98

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L) Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Additional Analyses	Report / Source
3/26/1998	Air Stripper Discharge		28.4	37	6.12	n.a.	n.a.	54.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Lead - < 63.6; O&G 1,730, flashpoint	Ralph Williams; NCA 4/13/98 (S803076)
4/1/1998	"LEAK"		188	100	48.9	n.a.	n.a.	124	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/9/98
4/1/1998	MW-4		< 0.5	0.777	< 0.5	n.a.	n.a.	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/9/98
4/1/1998	MW-7		107	46.8	153	n.a.	n.a.	325	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/9/98
4/1/1998	RCW-3		2,460	3,060	286	n.a.	n.a.	2,600	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/9/98
4/1/1998	RW-1		6.07	4.65	2.23	n.a.	n.a.	21.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/9/98
4/1/1998	RW-3		1,260	1,270	1,470	n.a.	n.a.	6,140	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/9/98
9/30/1998	MW-4		11.5	8.89	6.51	n.a.	n.a.	19.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/98
9/30/1998	MW-7		183	112	222	n.a.	n.a.	236	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/98
9/30/1998	RW-1		57.2	< 25	< 25	n.a.	n.a.	< 25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/98
10/1/1998	Air Stripper Discharge		2.07	1.04	< 0.5	n.a.	n.a.	1.94	4.71	< 100	70.5	n.a.	n.a.	n.a.	n.a.	n.a.	Phosphorus, Nitrate, Nitrite	Ralph Williams; NCA 10/19/98
12/16/1998	MW-1		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-2		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	2,520	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-3		< 5.0	5.7	< 5.0	n.a.	n.a.	< 5.0	9.9	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-4		833	18.2	109	n.a.	n.a.	116	1,600	17.4	n.a.	n.a.	n.a.	n.a.	ND	8.9	EDC - 8.9; EDB - ND; PAHs - All ND, except Naphthalene - 32 ug/L	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-5		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-7		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-8		222	< 5.0	33.7	n.a.	n.a.	< 5.0	821	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	6.6	EDC - 6.6; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-9		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-10		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND; PAHs - All ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-11		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-12		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-13		7.6	< 5.0	< 5.0	n.a.	n.a.	< 5.0	53.2	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-14		33.7	< 5.0	< 5.0	n.a.	n.a.	< 5.0	1,350	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-15		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-16		20.1	< 5.0	< 5.0	n.a.	n.a.	< 5.0	270	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	25.1	EDC - 25.1; EDB - ND	2/1/99 - Kleinfelder, Inc.
12/16/1998	CW-17		< 5.0	< 5.0	< 5.0	n.a.	n.a.	< 5.0	< 5.0	< 5.0	n.a.	n.a.	n.a.	n.a.	ND	ND	EDC - ND; EDB - ND	2/1/99 - Kleinfelder, Inc.
1/5/1999	Air Stripper Discharge		4.51	1.97	< 0.5	n.a.	n.a.	< 1.0	7.7	< 100	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 1/19/1999
4/22/1999	Air Stripper Discharge		4.18	3.65	0.960	n.a.	n.a.	4.57	3.15	2.54	173	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904059)
4/22/1999	East Leak		71.8	48.5	21.7	n.a.	n.a.	52.1	5.59	< 1.0	611	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904061)
4/22/1999	MW-4		< 0.5	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 1.0	< 1.0	< 50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904060)
4/22/1999	RCW-1		3,430	6,600	846	n.a.	n.a.	5,670	204	< 50	59,900	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904060)
4/22/1999	RCW-2		1,780	2,370	382	n.a.	n.a.	2,740	118	54.8	28,500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904060)
4/22/1999	RCW-3		5,580	10,900	1,430	n.a.	n.a.	9,640	383	< 50	102,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904060)
4/22/1999	RW-1		8.11	1.77	2.66	n.a.	n.a.	11.2	23.3	5.90	1,220	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/4/1999 (S904060)
7/22/1999	Air Stripper Discharge		8.67	1.08	< 0.5	n.a.	n.a.	1.16	5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 8/9/1999
10/4/1999	Air Stripper Discharge		8.59	< 0.5	< 0.5	n.a.	n.a.	< 1	2.57	1.04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/11/1999 (S910007)
10/4/1999	MW-4		1.60	3.00	1.71	n.a.	n.a.	8.28	1.69	24.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/11/1999 (S910006)
10/4/1999	RW-1		4.74	2.72	< 2.5	n.a.	n.a.	13.5	13.3	45.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/11/1999 (S910006)
10/4/1999	RW-5		0.970	2.06	0.927	n.a.	n.a.	5.02	< 1.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/11/1999 (S910006)
1/8/2000	Air Stripper Discharge		66.3	0.873	0.686	n.a.	n.a.	< 1.0	8.96	< 10	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 1/14/2000 (S001006)
3/30/2000	MW-4		3.67	4.63	28.0	n.a.	n.a.	74.3	< 0.5	322	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003110)
3/30/2000	RCW-1		344	412	59.1	n.a.	n.a.	1,380	15.2	150	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003110)
3/30/2000	RCW-2		2,580	5,000	1,310	n.a.	n.a.	7,210	130	980	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003110)
3/30/2000	RCW-3		2,900	4,270	586	n.a.	n.a.	4,920	93.2	614	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003110)
3/30/2000	RW-1		17.8	67.0	54.6	n.a.	n.a.	288	20.4	644	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003110)
3/30/2000	Sump (French Drain System)		1400	759	250	n.a.	n.a.	236	55.7	136	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003110)
3/30/2000	MW-3		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	84,000,000	75,000,000	n.a.	1,300,000	n.a.	n.a.	Fuel ID:	Ralph Williams; NCA (S003111)
3/30/2000	Air Stripper Discharge		8.9	7.5	1.55	n.a.	n.a.	9.33	6.25	22.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S003113)
7/5/2000	Air Stripper Discharge		15.3	< 0.5	< 0.5	n.a.	n.a.	< 1.0	10.8	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S007005)
9/6/2000	Air Stripper Discharge		4.68	< 0.5	0.511	n.a.	n.a.	< 1.0	3.66	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S00009019)
10/10/2000	MW-3		595	568	1,090	n.a.	n.a.	4,470	< 50	1,400	51,700	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	MW-3W		65.5	27.7	259	n.a.	n.a.	640	< 25	620	13,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	RCW-1		726	1,660	628	n.a.	n.a.	6,360	< 50	808	44,700	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	RCW-3		1,560	881	272	n.a.	n.a.	2,160	< 25	250	13,500	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	RW-1		0.867	< 0.5	< 0.5	n.a.	n.a.	< 1.0	< 0.5	10.4	144	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	RW-2		4,950	894	728	n.a.	n.a.	591	< 25	490	23,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	RW-3 [1]		*36,300,000*	*13,500,000*	*64,500,000*	n.a.	n.a.	*43,300,000*	*< 1,250,000*	*124,000,000*	*6,400,000,000*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
10/10/2000	RW-7		6,840	1,100	1,720	n.a.	n.a.	5,370	< 50	15,900	391,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Quantum; NCA (S010030)
12/28/2000	Air Stripper Discharge		5.39	3.85	1.28	n.a.	n.a.	13.8	3.25	18.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S012120)
4/12/2001	Air Stripper Discharge		7.41	< 0.5	< 0.5	n.a.	n.a.	1.5	2.13	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 4/12/2001 (S103090)
7/5/2001	RW-1		123	238	1,790	n.a.	n.a.	4,180	< 200	131,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 7/18/2001 (S107036)
7/5/2001	RW-2		9,190	4,010	1,030	n.a.	n.a.	5,900	< 200	5,370	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 7/18/2001 (S107036)
7/5/2001	RW-3		557	846	1,410	n.a.	n.a.	6,130	313	2,560	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 7/18/2001 (S107036)
7/5/2001	Air Stripper Discharge		< 0.5	1.98	1.68	n.a.	n.a.	8.37	3.77	39.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 7/18/2001 (S107037)
10/2/2001	Air Stripper Discharge		0.718	< 1.0	< 1.0	n.a.	n.a.	3.93	< 5.0	23.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/08/2001 (S110017)
1/7/2002	Air Stripper Discharge		40.6	40.2	23	n.a.	n.a.	128	22	28.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S201009)
1/7/2002	Northwest Gas n' Go Seep		No Data	No Data	No Data	n.a.	n.a.	No Data	22.0	No Data	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-1		16.4	5.45	126	n.a.	n.a.	511.8	< 5.0	111	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-2		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	749	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-3		1.88	2.95	8.65	n.a.	n.a.	4.76	< 5.0	1.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-4		557	16.5	741	n.a.	n.a.	485.28	1,200	59	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/26/2002	CW-5		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-8		36.1	2.77	24.2	n.a.	n.a.	< 2.0	805	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-10		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	CW-16		44.6	< 1.0	< 1.0	n.a.	n.a.	< 2.0	888	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [(1)]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L) Method	Benzene	Toluene	Ethylbenzene	Xylenes (m-, p-)	Xylenes (o-)	Total Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	TPH-G	TPH-D	TPHC	TPH - Motor Oil	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Additional Analyses	Report / Source
2/28/2002	CW-17		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/27/2002	DQW-101		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-102		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	28.2	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-103		< 1.0	< 1.0	2.4	n.a.	n.a.	3.46	< 5.0	1.48	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-104		11.7	< 1.0	2.63	n.a.	n.a.	< 2.0	310	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-105		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-106		50.3	1.1	9.19	n.a.	n.a.	3.42	1,350	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-107		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	1,670	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	DQW-108		808	7.76	250	n.a.	n.a.	10.1	2,500	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/27/2002	DQW-109		49.9	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#1		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	1.86	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#2		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#3		361	13.9	100	n.a.	n.a.	159.67	995	17.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#4		5.53	< 1.0	1.08	n.a.	n.a.	< 2.0	34.8	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#5		1.31	2.28	27.5	n.a.	n.a.	48.78	< 5.0	16.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#1A		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#2A		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#3A		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	289	< 10	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#4A		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#5A		2.6	1.41	1.61	n.a.	n.a.	3.1	480	1.79	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	Geo#6A		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	775	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	RW-1		2.6	< 1.0	2.87	n.a.	n.a.	13.91	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/28/2002	Seep		< 1.0	< 1.0	< 1.0	n.a.	n.a.	< 2.0	< 5.0	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
2/25/2002	ge01, 6-8		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge01, 23-25		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge02, 6-8		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge02, 23-25		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge03, 6-8		292	9.7	58.5	120	1.7	121.7	873	13.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge03, 23-25		< 0.5	0.7	< 0.5	< 0.5	< 0.5	< 1.0	277	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge04, 6-8		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	8.2	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge04, 23-24		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge05, 6-8		0.8	1.7	22.3	40.4	2.6	43	< 0.5	13.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge05, 23-25		0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	300	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/25/2002	ge06, 23-25		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	809	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/27/2002	DQW-101		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-102		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	22.3	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-103		< 0.5	< 0.5	1.5	2.2	< 0.5	2.2	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-104		9.4	< 0.5	1.6	2	< 0.5	2	436	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-105		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	2.0	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-106		45.1	1.0	6.8	2.5	< 0.5	2.5	1,270	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-107		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	1,540	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-108		844	5.6	1.0	8.8	< 0.5	8.8	2,390	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/27/2002	DQW-109		39.0	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-1		8.6	1.1	< 0.5	5.9	17.3	23.2	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	672	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-4		513	14.5	699	446	6.6	452.6	1,090	64.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/26/2002	CW-5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-8		30.4	2.1	16.3	1.6	< 0.5	1.6	772	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-10		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-16		36.1	< 0.5	< 0.5	1.6	< 0.5	1.6	606	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	CW-17		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	RW-1		2.2	< 0.5	2.0	9.4	1.3	10.7	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Total VOCs	David Brown & Associates, 5/3/2002
2/28/2002	DQW-207 (Dup of DQW-103)		< 0.5	< 0.5	1.7	2.6	< 0.5	2.6	< 0.5	< 5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Associates, 5/3/2002
2/28/2002	DQW-208 (Dup of DQW-107)		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	1,500		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	David Brown & Associates, 5/3/2002
5/5/2002	Air Stripper Discharge		0.754	< 2.0	1.9	n.a.	n.a.	1.7	< 5.0	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/14/02 (S205011)
5/5/2002	MW-4		6.52	5.08	19.4	n.a.	n.a.	92.2	< 5.0	184	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/14/02 (S205011)
5/5/2002	RCW-1		442	243	25.3	n.a.	n.a.	711	62.3	175	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/14/02 (S205011)
5/5/2002	RCW-2		713	326	182	n.a.	n.a.	1,620	< 50	137	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/14/02 (S205011)
5/5/2002	RCW-3		3,810	5,710	884	n.a.	n.a.	8,210	641	< 2,000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 5/14/02 (S205011)
6/21/2002	RCW-3		5,300	8,200	215	n.a.	n.a.	10,300	ND	375	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9/4/02 - Millennium Science & Engineering, Inc.
7/5/2002	Air Stripper Discharge		3.83	< 2.0	< 1.0	n.a.	n.a.	< 1.5	7.65	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S207017)
11/22/2002	MW-18		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Paula Lyon, IDEQ; NCA (S211071)
11/22/2002	MW-3D		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Paula Lyon, IDEQ; NCA (S211071)
11/22/2002	RW-3RD		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Paula Lyon, IDEQ; NCA (S211071)
11/22/2002	DQW-103		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	< 1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
11/22/2002	Air Stripper Discharge		1.83	< 2.0	< 1.0	n.a.	n.a.	< 1.5	< 5.0	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA S211070)
12/2/2002	MW-4		< 0.5	< 2.0	< 1.0	n.a.	n.a.	< 1.5	< 5.0	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S212003)
12/2/2002	RW-1R		25.8	< 2.0	1.34	n.a.	n.a.	< 1.5	16.3	58.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA (S212003)
1/6/2003	Air Stripper Discharge		3.53	< 2.0	< 1.0	n.a.	n.a.	2.4	< 5.0	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ken Scheur (Ralph Williams); NCA 1/21/03 (S3A0045)
4/1/2003	MW-4		< 0.5	< 2.0	< 1.0	n.a.	n.a.	< 1.5	n.a.	n.a.	< 100	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ken Scheur (Ralph Williams); NCA 4/15/03 (S3D0035)
4/1/2003	Air Stripper Discharge		10.1	< 2.0	< 1.0	n.a.	n.a.	< 1.5	n.a.	n.a.	144	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ken Scheur (Ralph Williams); NCA 4/15/03 (S3D0035)
7/3/2003	Air Stripper Discharge		1.11	< 2.0	1.18	n.a.	n.a.	1.86	< 5.0	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ken Scheur (Ralph Williams); NCA 7/17/03 (S3G0031)
10/1/2003	MW-4		< 0.5	< 2.0	< 1.0	n.a.	n.a.	6.25	< 5.0	21.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/03 (S3J0025)
10/1/2003	RCW-1		27.2	14.2	3.22	n.a.	n.a.	77.2	19.0	21.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/03 (S3J0025)
10/1/2003	RCW-2		208	45.1	< 1.0	n.a.	n.a.	509	91.7	162	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/03 (S3J0025)
10/1/2003	Air Stripper Discharge		1.08	< 2.0	< 1.0	n.a.	n.a.	< 1.5	< 5.0	22	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/9/03 (S3J0025)
10/14/2003	RCW-3		3,400	7,610	1,630	n.a.	n.a.	11,200	597	1,970	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/20/03 (S3J0088)

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Table 4-3 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA (SORTED BY DATE) [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

		ANALYTICAL RESULTS (ug/L)																
Sample Date	**Sample Name/ Location**	**Method**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes (m-, p-)**	**Xylenes (o-)**	**Total Xylenes**	**Methyl tert-Butyl Ether (MTBE)**	**Naphthalene**	**TPH-G**	**TPH-D**	**TPHC**	**TPH - Motor Oil**	**1,2-Dibromoethane (EDB)**	**1,2-Dichloroethane (EDC)**	**Additional Analyses**	**Report / Source**
10/30/2003	Sump Discharge		Data Missing	Data Missing	Data Missing	n.a.	n.a.	Data Missing	Data Missing	Data Missing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/30/03 (S3J0201)
10/30/2003	Oil / Water Separator Discharge		Data Missing	Data Missing	Data Missing	n.a.	n.a.	Data Missing	Data Missing	Data Missing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams; NCA 10/30/03 (S3J0201)
1/8/2004	Air Stripper		2.55	< 2	< 1	n.a.	n.a.	< 1.5	< 5	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	RCW-1		339	171	58.5	n.a.	n.a.	737	48.6	110	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	RCW-2		999	554	200	n.a.	n.a.	1,860	70.3	238	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	RCW-3		3,770	5,170	745	n.a.	n.a.	6,950	328	550	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	Air Stripped Disc		9.09	4.11	< 1	n.a.	n.a.	4.39	6.86	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	Between Air Stip and Oil Separator		633	491	183	n.a.	n.a.	841	22.4	271	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	IDT Discharge Before Creek		1.11	3.16	< 1	n.a.	n.a.	7.01	< 5	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	Middle Seep Area South of #1 Sample		< 0.5	< 2	< 1	n.a.	n.a.	< 1.5	< 5	< 20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/8/2004	End of Gas & Go Plume - Into Sand Creek		3.98	3.46	2.88	n.a.	n.a.	16.6	< 5	21.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
3/18/2004	IDT 5th Ave Separator Heavy Silt (Rain)		4.4	8.28	2.93	n.a.	n.a.	14.9	< 5	20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ralph Williams - NCA Labs
4/16/2004	Air Stripper	8260	2	< 1	< 1	< 2	< 1	< 3	< 1	1	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/16/2004	RCW-1	8260	844	2,980	695	3,790	1,760	5,550	10	No Data	n.a.	n.a.	n.a.	n.a.	< 0.05	6	n.a.	Kreg Beck, DEQ / ATL
4/16/2004	RCW-2	8260	6.0	< 1	< 1	574	392	966	9.0	33	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/16/2004	RCW-3	8260	682	546	< 1	1,580	637	2,217	34	237	n.a.	n.a.	n.a.	n.a.	< 0.05	7	n.a.	Kreg Beck, DEQ / ATL
4/16/2004	RW-3RS	8260	64,000	452,000	88,000	331,000	568,000	899,000	< 1	547,000	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/16/2004	RW-8	8260	10,300	19,200	732	4,210	2,120	6,330	26	411	n.a.	n.a.	n.a.	n.a.	< 0.05	20	n.a.	Kreg Beck, DEQ / ATL
4/16/2004	Seep	8260	379	232	169	760	210	970	22	100	n.a.	n.a.	n.a.	n.a.	< 0.05	7	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	MW-3S	8260	318	461	256	1,680	365	2,045	< 4	400	n.a.	n.a.	n.a.	n.a.	< 0.2	< 4	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	MW-3W	8260	5.0	< 1	< 1	91	< 1	91	< 1	30	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	MW-3D	8260	3	1	1	3	1	4	1	6	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	MW-4	8260	1.0	< 1	3.0	10	2	12	< 1	2.0	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	MW-7	8260	10	14	< 1	309	45	354	< 1	86	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	New Deep Well	8260	< 1	< 1	< 1	< 2	< 1	< 3	< 1	< 1	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	MW-11	8260	< 1	< 1	< 1	< 2	< 1	< 3	< 1	< 1	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	RW-1R	8260	5.0	2.0	1.0	4	2	6	< 1	1.0	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	RW-2	8260	3,680	310	< 1	3,910	840	4,750	< 1	300	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	RW-3RD	8260	10	10	10	29	2	31	< 1	3.0	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	RW-3RS	8260	1,060	1,020	570	4,940	570	5,510	< 20	300	n.a.	n.a.	n.a.	n.a.	< 1	< 20	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	RW-6	8260	< 1	< 1	< 1	10	< 1	10	< 1	14	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	RW-7	8260	730	150	< 20	1,560	110	1,670	< 20	260	n.a.	n.a.	n.a.	n.a.	< 1	< 20	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	DQW-102	8260	< 1	< 1	< 1	< 2	< 1	< 3	32	< 1	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
4/19/2004	DQW-103	8260	< 1	< 1	< 1	< 2	< 1	< 3	< 1	< 1	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Kreg Beck, DEQ / ATL
7/20/2004	Air Stripper Discharge	8260	4.61	18.8	1.56	n.a.	n.a.	21.2	< 5	40.9	n.a.	n.a.	n.a.	n.a.			n.a.	Sandpoint Gas & Go; NCA 7/29/04 (S4G0119)
10/5/2004	RCW-1	8260	167	43	13	244	83	327	< 1	30	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Anatek Labs / Kreg Beck - DEQ
10/5/2004	DQW-102	8260	< 1	< 1	< 1	< 2	< 1	< 3	14	6	n.a.	n.a.	n.a.	n.a.	< 0.05	< 1	n.a.	Anatek Labs / Kreg Beck - DEQ
3/18/2005 [2]	MW-4	8260	< 0.5	< 0.5	< 0.5	0.84	< 0.5	0.84	< 0.5	< 2.0	n.a.	n.a.	n.a.	n.a.	< 2.0	< 0.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	RW-1R	8260	44	27	110	70	9.2	79.2	< 0.5	54	n.a.	n.a.	n.a.	n.a.	< 2.0	< 0.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	MW-7	8260	6.4	38	90	570	120	690	< 2.5	280	n.a.	n.a.	n.a.	n.a.	< 10	< 2.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	MW-3S	8260	500	610	1,000	4,000	240	4,240	< 2.5	450	n.a.	n.a.	n.a.	n.a.	< 10	< 2.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	Seep Sump	8260	1,100	580	260	440	270	710	22	64	n.a.	n.a.	n.a.	n.a.	< 10	< 2.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	RCW-1	8260	87 J	79 J	62 J	180 J	110 J	290 J	< 0.5	37	n.a.	n.a.	n.a.	n.a.	< 2.0	< 0.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	RCW-2	8260	950	210	20	1,100	410	1,510	< 2.5	92	n.a.	n.a.	n.a.	n.a.	< 10	< 2.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	RCW-3	8260	1,600	2,000	240	2,400	860	3,260	< 5.0	170	n.a.	n.a.	n.a.	n.a.	< 20	54 J	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	Before Stripper (Combined Untreated)	8260	750	440	230	1,200	240	1,440	15	98	n.a.	n.a.	n.a.	n.a.	< 10	< 2.5	n.a.	EPA START; STL-Seattle
3/18/2005 [2]	Discharge (Treated Water)	8260	2.2	1.8	2.6	13	3.9	16.9	3.7	43	n.a.	n.a.	n.a.	n.a.	< 2.0	< 0.5	Chlorine = 0.1J; pH = 8.08	EPA START; STL-Seattle

Note: Unless otherwise indicated, data is reported from historical reports obtained from IDEQ files.
(1) The results for this sample are presented as reported. The high concentrations are considered to be suspect.
(2) The March 18, 2005, samples were collected by and analyzed for START-2.

Key:
EPA Environmental Protection Agency
HCID Hydrocarbon Identification
IDEQ Idaho Department of Environmental Quality
J Estimated Value
n.a. Not Available
ND Not Detected
NR Not Reported
START Superfund Technical Assessment and Response Team
TPH Total Petroleum Hydrocarbons
TPHC Total Petroleum Hydrocarbons
TPH-D Total Petroleum Hydrocarbons - Diesel
TPH-G Total Petroleum Hydrocarbons - Gasoline
ug/L micrograms per liter

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Table 4-4

SUMMARY OF HISTORIC ANALYTICAL DATA - SEEP AND CREEK SAMPLES [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L)					
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
Discharge Limit (2)		71	200,000	29,000	n.a.	n.a.	2,350
5/21/1989	Seep 1	***5,800***	**3,800**	**300**	**3,400**	n.a.	n.a.
5/21/1989	Seep 2	***570***	**330**	**100**	**1,090**	n.a.	n.a.
5/21/1989	Seep 3	***4,300***	**4,100**	**940**	**8,480**	n.a.	n.a.
5/21/1989	Seep 4L	**2**	**3**	**1**	**12**	n.a.	n.a.
5/21/1989	Seep 4U	***5,600***	**7,300**	**700**	**6,300**	n.a.	n.a.
5/21/1989	Seep 5	***112***	**11**	**6**	**27**	n.a.	n.a.
8/4/1989	Seep 2	***470***	**220**	**60**	No Data	n.a.	n.a.
1/17/1990	Seep 1	***4,900***	**7,400**	**1,100**	**8,000**	n.a.	n.a.
1/17/1990	Seep 2	***304***	**98**	**21**	**106**	n.a.	n.a.
1/17/1990	Seep 3	***4,710***	**9,600**	**2,990**	**17,900**	n.a.	n.a.
1/17/1990	Seep 4L	***77***	**5**	**8**	**34**	n.a.	n.a.
1/17/1990	Seep 4U	***8,700***	**10,800**	**700**	**4,000**	n.a.	n.a.
1/17/1990	Seep 5	**68**	< 1	**3**	**2**	n.a.	n.a.
3/13/1990	Sand Creek	n.a.	n.a.	**7,000**	**18,500**	n.a.	n.a.
6/7/1990	Sand Creek Bottom	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/18/1990	Seep 2	***150***	**16**	**39**	**28**	n.a.	n.a.
10/18/1990	Seep 4U	***4,435***	**4,072**	**361**	**2,659**	n.a.	n.a.
12/5/1990	Creek (Outside Boom)	***482***	NR	NR	NR	n.a.	n.a.
5/7/1991	Creek (452)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/7/1991	Creek / Hillside (451)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/7/1991	Creek / Hillside (453)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/7/1991	Sand Creek Boom (450)	***212***	NR	NR	NR	n.a.	n.a.
5/7/1991	Separator Outflow	***5,100***	**5,600**	**350**	**4,140**	n.a.	n.a.
5/7/1991	Storm Drain (454)	NA	n.a.	n.a.	NA	n.a.	n.a.
5/7/1991	Storm Drain (457)	< 5	NR	NR	NR	n.a.	n.a.
5/7/1991	Storm Drain N. of Site	ND	ND	ND	ND	n.a.	n.a.
5/7/1991	Outside Boom in Creek	***212***	**186**	**4.8**	**209.1**	n.a.	n.a.
5/7/1991	Pond Above Separator	***6,230***	**6140**	**1600**	**9,730**	n.a.	n.a.
7/25/1991	Creek (Outside Boom)	< 5	NR	NR	NR	n.a.	n.a.
7/25/1991	Separator in Lagoon	***6,760***	**9,500**	**1,390**	**7,360**	n.a.	< 5
2/17/1994	Sandcreek Seep	< 1	< 1	< 1	**28**	n.a.	n.a.
6/2/1994	So. Seep	***1,280***	**963**	**126**	**1,420**	n.a.	n.a.
6/2/1994	No. Seep	***188***	**92**	**39**	**146**	n.a.	n.a.
3/30/1995	Seep Sump	***3,100***	**4800**	**430**	**5,200**	n.a.	n.a.
4/10/1995	Seep	***1,200***	**390**	**120**	**350**	n.a.	n.a.
6/29/1995	Gas-N-Go Seep	***1,540***	**1,030**	**30.8**	**644**	n.a.	n.a.
10/3/1995	Seep Sump	***2,100***	**2,200**	**180**	**3,400**	n.a.	n.a.
5/2/1996	Seep	***2,300***	**2,600**	**240**	**2,700**	n.a.	n.a.
8/4/1996	Seep	***1,700***	**1,320**	**97.0**	**2,200**	n.a.	n.a.
11/5/1996	Seep Sump	***1,380***	**543**	**108**	ILLEGIBLE	n.a.	n.a.
4/22/1997	Seep II	***821***	**787**	**171**	**699**	n.a.	n.a.

Table 4-4 (Continued)

SUMMARY OF HISTORIC ANALYTICAL DATA - SEEP AND CREEK SAMPLES [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L)					
		Benzene	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**	**Naphthalene**
Discharge Limit (2)		**71**	**200,000**	**29,000**	**n.a.**	**n.a.**	**2,350**
3/30/2000	Sump (French Drain System)	***1,400***	**759**	**250**	**236**	**55.7**	**136**
1/7/2002	Northwest Gas n' Go Seep	No Data	No Data	No Data	No Data	**22.0**	No Data
2/28/2002	Seep	< 1.0	< 1.0	< 1.0	< 2.0	< 5.0	< 1.0
10/30/2003	Sump Discharge	Data Missing	Data Missing	Data Missing	Data Missing	Data Missing	Data Missing
3/8/2004	End of Gas & Go Plume - Into Sand Creek	**3.98**	**3.46**	**2.88**	**16.6**	< 5	**21.4**
3/8/2004	IDT Discharge Before Creek	**1.11**	**3.16**	< 1	**7.01**	< 5	< 20
3/8/2004	Middle Seep Area South of #1 Sample	< 0.5	< 2	< 1	< 1.5	< 5	< 20
3/18/2004	IDT 5th Ave Separator Heavy Silt (Rain)	**4.4**	**8.28**	**2.93**	**14.9**	< 5	**20**
4/16/2004	Seep Sump	***379***	**232**	**169**	**970**	**22**	**100**
3/18/2005 [2]	Seep Sump	***1,100***	**580**	**260**	**710**	**22**	**64**

Notes:
Bold typeface indicates the compound was detected above the detection limit.
Underlined and italicized typeface indicates a concentration that exceeded the listed standard.
(1) Unless otherwise indicated, data is reported from historical reports obtained from IDEQ files. Data includes BTEX, MTBE, and naphthalene.
(2) The site discharge limits are based on Idaho Surface Water Discharge Limits as presented in the Revised CAP (Quantum 1998).
(3) The March 18, 2005, samples were collected by and analyzed for START-2.

Key:
CAP = Corrective Action Plan
EPA = Environmental Protection Agency
IDEQ = Idaho Department of Environmental Quality
n.a. = Not Analyzed or Data Not Available
ND = Not Detected
NR = Not Reported
PRG = Preliminary Remediation Goal
ug/L = micrograms per liter

Table 4-5

SUMMARY OF HISTORICAL ANALYTICAL DATA - AIR STRIPPER DISCHARGE SAMPLES [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L)					
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
Discharge Limit (2)		**71**	**200,000**	**29,000**	**n.a.**	**n.a.**	**2,350**
3/8/1995	Air Stripper Discharge	**64**	**120**	**9.5**	**170**	n.a.	n.a.
3/30/1995	After Stripper	***260***	**440**	**32**	**590**	n.a.	n.a.
4/10/1995	After Stripper	***470***	**650**	**55**	**950**	n.a.	n.a.
9/26/1995	Air Stripper Discharge	< 0.5	< 0.5	< 0.5	< 1	n.a.	n.a.
10/3/1995	After Stripper	**12**	**14**	**2.6**	**40**	n.a.	n.a.
6/4/1996	Air Stripper Discharge	**7.51**	**6.38**	**1.15**	**10.4**	n.a.	n.a.
9/5/1996	Air Stripper Discharge	**1.59**	**1.65**	< 0.5	**4.82**	n.a.	n.a.
3/4/1997	Air Stripper Discharge	**1.54**	**1.57**	**502**	**28.8**	n.a.	n.a.
4/3/1997	Air Stripper Discharge	**8.03**	< 0.5	< 0.5	**1.86**	n.a.	n.a.
10/1/1997	Air Stripper Discharge	**24.9**	**9.98**	**5.49**	**15**	n.a.	n.a.
3/26/1998	Air Stripper Discharge	**28.4**	**37**	**6.12**	**54.7**	n.a.	n.a.
10/1/1998	Air Stripper Discharge	**2.07**	**1.04**	< 0.5	**1.94**	**4.71**	< 100
1/5/1999	Air Stripper Discharge	**4.51**	**1.97**	< 0.5	< 1.0	**7.7**	< 100
4/22/1999	Air Stripper Discharge	**4.18**	**3.65**	**0.960**	**4.57**	**3.15**	**2.54**
7/22/1999	Air Stripper Discharge	**8.67**	**1.08**	< 0.5	**1.16**	**5.0**	< 1.0
10/4/1999	Air Stripper Discharge	**8.59**	< 0.5	< 0.5	< 1	**2.57**	**1.04**
1/8/2000	Air Stripper Discharge	**66.3**	**0.873**	**0.686**	< 1.0	**8.96**	< 10
3/30/2000	Air Stripper Discharge	**8.9**	**7.5**	**1.55**	**9.33**	**6.25**	**22.1**
7/5/2000	Air Stripper Discharge	**15.3**	< 0.5	< 0.5	< 1.0	**10.8**	< 5.0
9/6/2000	Air Stripper Discharge	**4.68**	< 0.5	**0.511**	< 1.0	**3.66**	< 5.0
12/28/2000	Air Stripper Discharge	**5.39**	**3.85**	**1.28**	**13.8**	**3.25**	**18.7**
4/12/2001	Air Stripper Discharge	**7.41**	< 0.5	< 0.5	**1.5**	**2.13**	< 5.0
7/5/2001	Air Stripper Discharge	< 0.5	**1.98**	**1.68**	**8.37**	**3.77**	**39.5**
10/2/2001	Air Stripper Discharge	**0.718**	< 1.0	< 1.0	**3.93**	< 5.0	**23.6**
1/7/2002	Air Stripper Discharge	**40.6**	**40.2**	**23**	**128**	**22**	**28.5**
5/5/2002	Air Stripper Discharge	**0.754**	< 2.0	**1.9**	**1.7**	< 5.0	< 20
7/5/2002	Air Stripper Discharge	**3.83**	< 2.0	< 1.0	< 1.5	**7.65**	< 20
11/22/2002	Air Stripper Discharge	**1.83**	< 2.0	< 1.0	< 1.5	< 5.0	< 20
1/6/2003	Air Stripper Discharge	**3.53**	< 2.0	< 1.0	**2.4**	< 5.0	< 20
4/1/2003	Air Stripper Discharge	**10.1**	< 2.0	< 1.0	< 1.5	n.a.	n.a.
7/3/2003	Air Stripper Discharge	**1.11**	< 2.0	**1.18**	**1.86**	< 5.0	< 20
10/1/2003	Air Stripper Discharge	**1.08**	< 2.0	< 1.0	< 1.5	< 5.0	22

Table 4-5 (Continued)

SUMMARY OF HISTORICAL ANALYTICAL DATA - AIR STRIPPER DISCHARGE SAMPLES [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Date	Sample Name/ Location	ANALYTICAL RESULTS (ug/L)					
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
Discharge Limit (2)		**71**	**200,000**	**29,000**	**n.a.**	**n.a.**	**2,350**
1/8/2004	Air Stripper	**2.55**	< 2	< 1	< 1.5	< 5	< 20
3/8/2004	Air Stripped Disc	**9.09**	**4.11**	< 1	**4.39**	**6.86**	< 20
4/16/2004	Air Stripper	**2**	< 1	< 1	< 3	< 1	**1**
7/20/2004	Air Stripper Discharge	**4.61**	**18.8**	**1.56**	**21.2**	< 5	**40.9**
3/18/2005 [3]	Discharge (Treated Water)	**2.2**	**1.8**	**2.6**	**16.9**	**3.7**	**43**

Notes: Bold typeface indicates the compound was detected above the indicated detection limit.
Underlined and italicized typeface indicates a concentration that exceeded the listed standard.
(1) Unless otherwise indicated, data is reported from historical reports obtained from IDEQ files. Data includes BTEX, MTBE, and Naphthalene.
(2) The site discharge limits are based on Idaho Surface Water Discharge Limits as presented in the Revised CAP (Quantum 1998).
(3) The March 18, 2005, samples were collected by and analyzed for START-2.

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NR = Not Reported
PRG = Preliminary Remediation Goal
ug/L = micrograms per liter

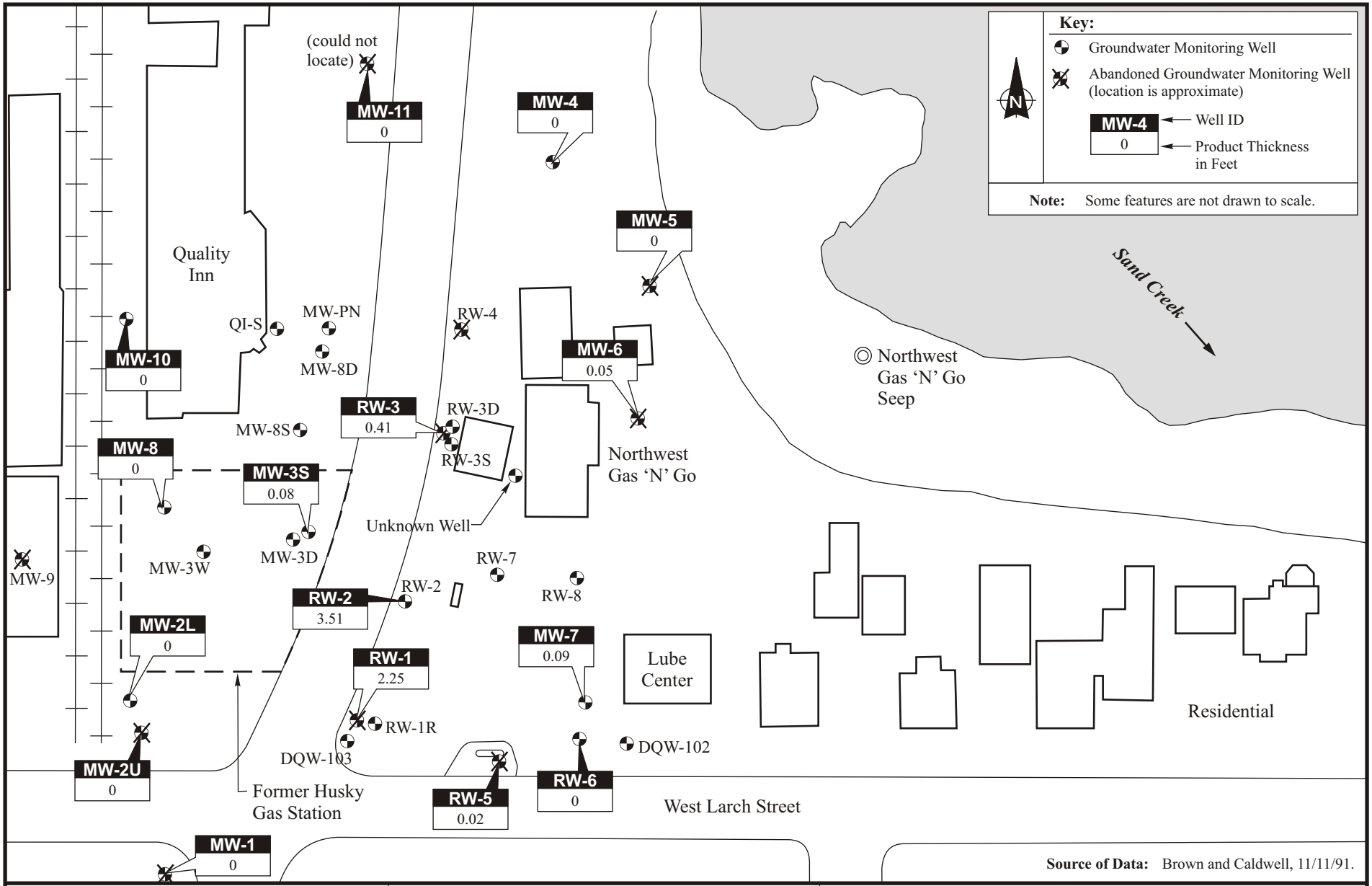
Table 4-6

CORRECTIVE ACTION PLAN SAMPLING REQUIREMENTS [1]
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Sample Location	Frequency	Parameters
Air Stripper Discharge	Monthly	Chlorine
Air Stripper Discharge	Quarterly	BTEX, MTBE, Napthalene Chlorine, pH, Temperature, and Flow
RW-1 (RW-1R) MW-3S MW-4 MW-7	Biannually	Depth of Free Product BTEX, MTBE, Naphthalene
RW-2 RW-3 (RW-3RS) RW-4 (abandoned) RW-6 RW-7 RW-8 MW-3W MW-6	Biannually	Depth of Free Product
Air Stripper Trays	Biannually	Redrill holes in trays

Notes: (1) Source: Revised CAP (Quantum 1998)

Key:
CAP = Corrective Action Plan



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REMOVAL ASSESSMENT
Sandpoint, Idaho

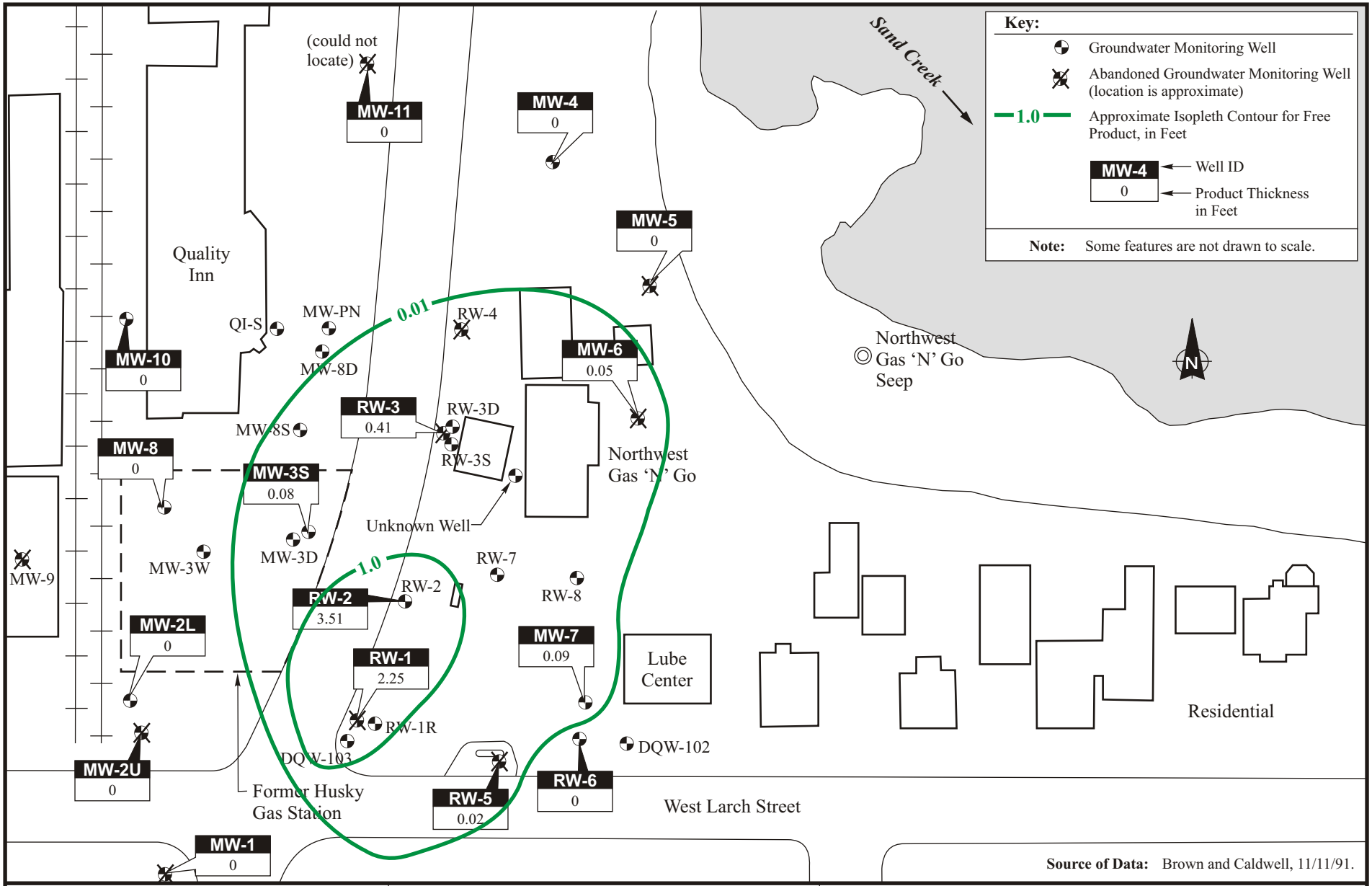
0 50 100
Approximate Scale in Feet

Figure 4-1
PRODUCT LEVELS
JULY 25, 1991

Date: 6/23/05

Drawn by: AES

10:START-2\04110002\fig 4-1



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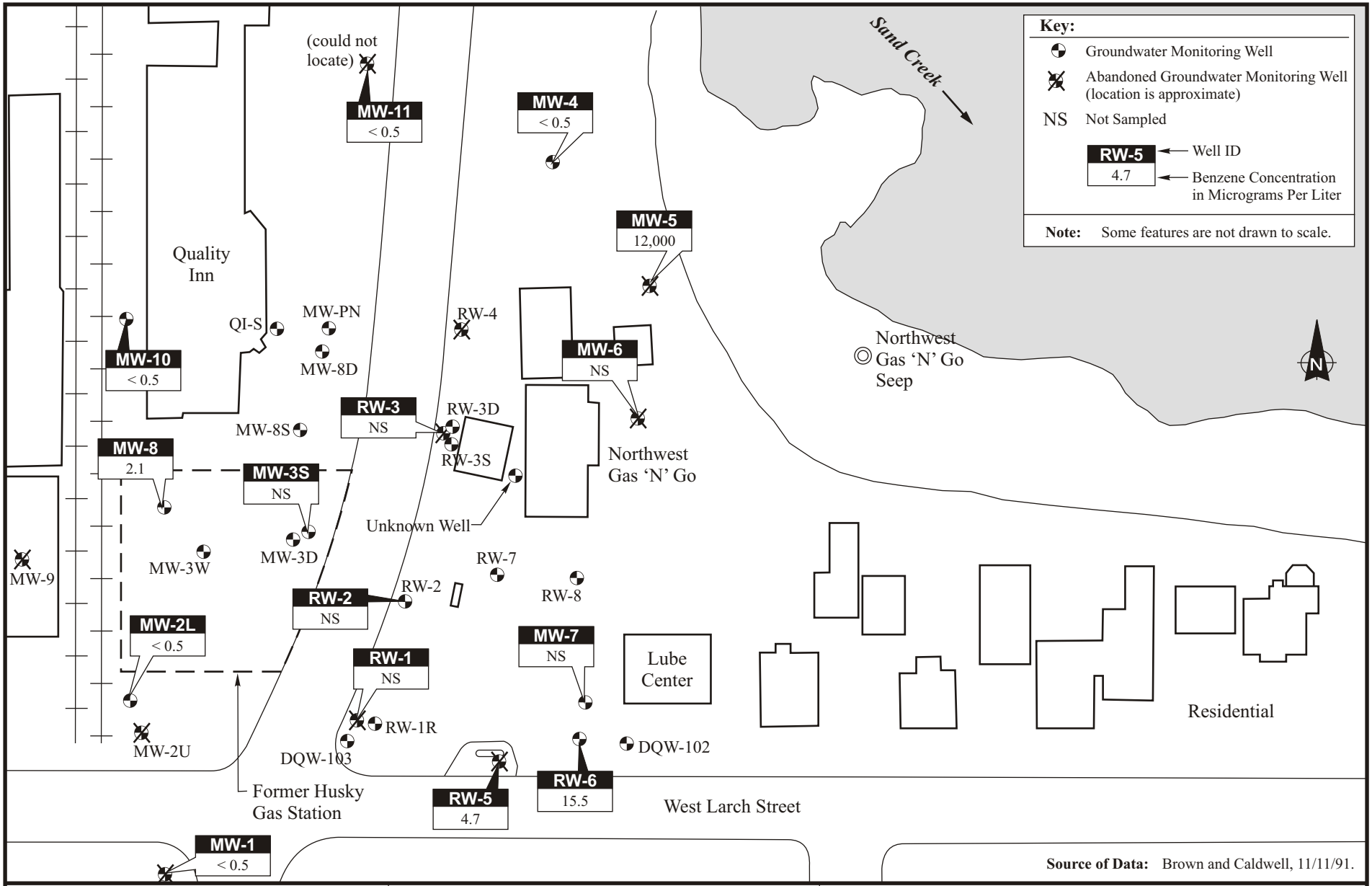
Seattle, Washington

NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

0 50 100
Approximate Scale in Feet

Figure 4-2
PRODUCT LEVELS WITH CONTOURS
JULY 25, 1991

Date: 6/23/05
Drawn by: AES
10:START-2\04110002\fig 4-1



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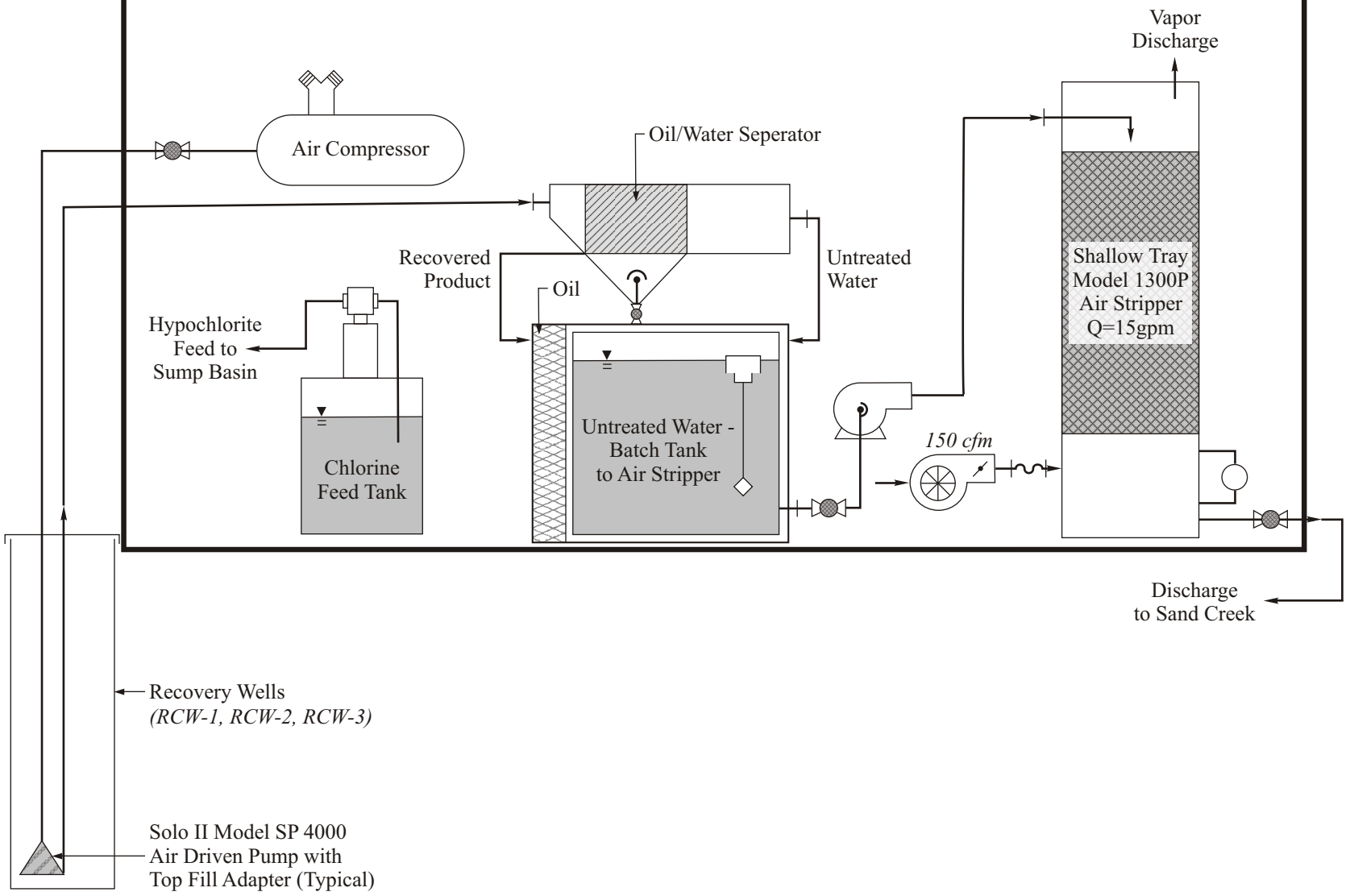
REMOVAL ASSESSMENT
Sandpoint, Idaho

0 50 100
Approximate Scale in Feet

Figure 4-3
BENZENE CONCENTRATIONS
JULY 25-26, 1991

Date: 6/23/05
Drawn by: AES
10:START-2\04110002\fig 4-3



ecology and environment, inc. International Specialists in the Environment Seattle, Washington	NORTHWEST GAS & GO REMOVAL ASSESSMENT Sandpoint, Idaho	Figure 4-4 GROUNDWATER TREATMENT SCHEMATIC		
	Source: Quantum Environmental Engineering and Geologic Consulting 1998.	Date: 6/23/05	Drawn by: AES	10:START-2\04110002\fig 4-4

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5. FIELD SURVEY RESULTS

5.1 GROUNDWATER ELEVATIONS

For each monitoring well, START-2 confirmed the location of the monitoring well, measured the well diameter and total depth and measured the depth to product (if present) and groundwater. START-2 also used a MultiRAE photoionization detector (PID) to measure gaseous VOC concentrations in the head space of the monitoring well. The results of the head space monitoring are summarized in Table 5-1 and discussed in Section 5.2. Because historical documentation was incomplete and because many of the monitoring wells in the area (including Clark Oil/former Chevron/UPRR) have been abandoned, START-2 used the field observations in Table 5-1 to help confirm the locations and identities of the site monitoring wells. This data has also been used to update the information in Table 4-1.

Table 5-1 includes the depth to groundwater measurements for each well. Depth to groundwater in the site monitoring wells ranged from 5.1 feet bgs to 15.55 feet bgs (Table 5-2). Using the surveyed top-of-casing (TOC) elevation information and the groundwater elevation measurements, START-2 determined the actual groundwater elevations for various monitoring wells. The data used to determine groundwater elevations are presented in Table 5-2. Note that the data in Table 5-2 only includes those monitoring wells gauged by START-2 in March 2005.

Where known for each well, Table 5-2 includes the surveyed elevation of the TOC as referenced from mean sea level (MSL). This information was usually listed on available well logs or in the original report that covered the installation of that well. For the DQW wells, which were installed for IDEQ's MTBE study, the actual MSL elevation was not reported, but the elevations of those wells were estimated from a monitoring well survey performed for ITD with elevations relative to a local datum (Wyatt 2002) . The MSL elevations were estimated by comparing the unknown wells to those monitoring wells that had a known MSL elevation. For some monitoring wells, the original TOC elevation was unknown and could not be estimated, so groundwater elevations were not determined for those wells.

The groundwater elevations are also corrected for the presence of free product. Because the presence of free product in a monitoring well will depress the groundwater by the weight of the free product, the amount of displacement was estimated for those wells that contained free product. The

actual specific gravity of the free product at the site was unknown, so START-2 used a standard specific gravity of 0.73 (Bussey 2005).

Figure 5-1 presents the groundwater elevations for those monitoring wells that could be determined for the entire study area, including the Clark Oil/former Chevron/UPRR site.

Table 5-2 also includes information as to the water bearing unit that the monitoring well represents. For example, RW-3 was replaced with two monitoring wells (RW-3RD and RW-3RS) after the highway widening. RW-3RD was installed in the lower water bearing unit and RW-3RS installed in the upper water bearing unit. For many of the site monitoring wells, the targeted water bearing unit was determined from the total depth of the well, the name, or a specific comment in a report. For example, monitoring wells DW-101 through DW-109 were all installed in the lower water bearing unit for the IDEQ MTBE study (MSE 2002). For other wells, the water bearing unit that the monitoring well represented was determined based on measured depth to groundwater. The groundwater elevations for the two different water bearing units are illustrated on Figure 5-2. The data on this figure and in Table 5-2 clearly demonstrates that there are two distinct water bearing units. For example, the following monitoring well pairs are located directly adjacent to each other, although the groundwater elevations differ by a range of 3 to 6 feet:

Monitoring Well Pair	Upper Water Bearing Unit	Lower Water Bearing Unit
CW-16 and CW-17	CW-17; 2,091.25 feet MSL	CW-16; 2,085.22 feet MSL
CW-2 and DQW-107	CW-2; 2,095.55feet MSL	DQW-107; 2,092.25 feet MSL
CW-4 and DQW-108	CW-4; 2,095.33 feet MSL	DQW-108; 2092.33 feet MSL

START-2 used the groundwater elevations to determine groundwater flow directions for each water bearing unit. Figure 5-3 presents the potentiometric contour lines for the upper water bearing unit, and Figure 5-4 presents the potentiometric contour lines for the lower water bearing unit. As depicted on both figures, the groundwater elevation data indicates that the general groundwater flow for both water bearing units is to the east.

5.2 PRODUCT LEVELS

START-2 observed that seven of the monitoring wells contained free product, while all of the other wells investigated on March 17, 2005, had no measurable free product. Free product was observed in MW-7, MW-8S, RW-2, RW-3RS, RW-6, RW-7, and RW-8, and ranged in thickness from 0.02 feet in RW-6 to 0.27 feet in RW-8. The free product measurements are displayed on Figure 5-5. In general, free product was observed in monitoring wells known to historically contain product (See Figure 4-1). The

data also indicates that, in general, the thickness of free product is less than in the past. For example, RW-2 was reported to have as much as 3.51 feet of free product in 1991 (Brown and Caldwell 1991), while the same well only had 0.07 feet in March 2005.

Figure 5-6 presents the estimated extent of the product plume at the Gas & Go site. For comparison, please refer to Figure 4-2, which displays the estimated plume map from July 1991. Based on the March 2005 data, the product plume is in the same general location, with the center of the plume located in the vicinity of RW-2, RW-7, and RW-8. Note that, based on the March 2005 data, it appears that there are two distinct plumes, with the larger plume located under the Gas & Go property itself, and a smaller free product plume centered on MW-8S at the former Husky gas station property.

The data in Table 5-1 also includes the VOC PID reading recorded after each monitoring well was opened for gauging. A detection of VOC vapors is an indication that either free product or VOC contamination in the groundwater may be present. Many monitoring wells had no detectable VOC vapors, while other monitoring wells did have detectable VOC vapors, with readings as high as 860 ppm for RW-2. In general, the detected VOC vapors corresponded to monitoring wells that either had free product or that were within the area of groundwater contamination.

5.3 ANALYTICAL RESULTS

The samples collected by START-2 are summarized in Table 5-3. This table includes the EPA sample ID, sample date and time, sample description, and the analytical parameters for which each sample was submitted. Copies of the data validation memoranda are included in Appendix C.

The results of the analytical testing are summarized in Table 5-4. The results indicate that VOCs were detected at varying concentrations in all of the site samples. The sample with the lowest VOC concentrations was MW-4, which is located to the north of the recovery wells, downgradient of the product plume. During the first few years of monitoring, VOCs were not detected in MW-4, but in the past few years, some samples collected from MW-4 have contained trace levels of BTEX, MTBE, and naphthalene. In the sample collected by START-2, the only compound detected was total xylenes at a concentration 0.84 µg/L, while the other VOCs were not detected.

The other monitoring wells that were sampled included RW-1R, MW-7, and MW-3S, which are located within the 2 product plumes. Benzene concentrations in these monitoring wells ranged from 6.4 µg/L in MW-7 to 500 µg/L in MW-3S, and total xylenes ranged from 79.1 µg/L in RW-1R to 4,240 µg/L in MW-3S. Toluene, ethylbenzene, and naphthalene were also detected in these monitoring wells at comparable concentrations. MTBE was not detected in RW-1R, MW-7, or RW-3S.

The Seep Sump sample contained benzene at a concentration of 1,100 µg/L and also contained toluene, ethylbenzene, total xylenes, MTBE, and naphthalene. The three recovery well samples all contained BTEX and naphthalene at comparable concentrations although they did not contain MTBE. RCW-3 also contained 1,2-dichloroethane at an estimated concentration of 54 µg/L; this was the only detection of either 1,2-dibromoethane or 1,2-dichloroethane in the any of the site samples collected on March 17, 2005.

The only groundwater sample (including the monitoring wells, the recovery wells, and the seep sump) that contained MTBE was the seep sump sample. The seep sump contained MTBE, at a concentration of 22 µg/L. This may be an indication that the MTBE contamination from the Clark Oil/former Chevron/UPRR site is being intercepted by the seep collection system without migrating through the area the sampled wells cover. The MTBE-contaminated groundwater may be moving either through the lower aquifer or laterally around the Gas & Go site.

The "Before Stripper" sample was collected between the oil/water separator and the air stripper and thus represents the combined untreated water. This sample contained 750 µg/L of benzene, 440 µg/L of toluene, 230 µg/L of ethylbenzene, 1,440 µg/L of total xylenes, 15 µg/L of MTBE, and 98 µg/L of naphthalene (Table 5-4). The detection of MTBE in the combined untreated sample is an indication that a large quantity of the total flow into the system comes from the seep sump. Of the VOCs detected in the combined untreated water, benzene exceeded the discharge limit of 71 µg/L.

The Discharge sample represents the treated water that is discharged to Sand Creek. This sample contained 2.2 µg/L benzene, 1.8 µg/L toluene, 2.6 µg/L ethylbenzene, 16.9 µg/L total xylenes, 3.7 µg/L MTBE, and 43 µg/L naphthalene. Each of these concentrations represent a reduction from the untreated water sample and indicates that none of the detected compounds exceeded the site discharge limit, including benzene.

5.4 GROUNDWATER RECOVERY AND TREATMENT SYSTEM DATA

The results of the recovery well recharge test and flow rate calculations are presented in Appendix D. The results of the recharge test for RCW-1 indicated that the depth to water was initially 18.4 feet bgs, and after approximately one hour, the water level had begun to stabilize at 14.4 feet bgs (Table D-1). For RCW-2, the initial DTW was 21.5 feet bgs, and after approximately two and a half hours, the water level had risen to 13.7 feet bgs.

The flow calculations from the data provided by the RP indicates that the components of the groundwater recovery system have the following flow rates in gallons per minute (gpm):

Component	Approximate flow rate
RCW-1	0.38 gpm
RCW-2	0.14 gpm
RCW-3	0.22 gpm
Seep Sump	1.06 gpm
Total	**1.80 gpm**

Table 5-1

MONITORING WELL GAUGING DATA AND INFORMATION
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	March 17, 2005							
	Well Status	Diameter (in.)	Depth of Well (ft. below TOC)	Depth to Product (ft. below TOC)	Depth to Water Level (ft. below TOC)	Product Layer Thickness (ft.)	VOC PID Reading (ppm)	Notes
MW-1	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MW-2U [1]	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MW-2L [1]	Existing	4	17.7	None	7.91	0	n.a.	Well cap was missing.
MW-3S	Existing	4	12.05	None	7.25	0	442	n.a.
MW-3D	Existing	2	36.4	None	12.31	0	23	n.a.
MW-3W	Existing	2	16.2	None	7.15	0	n.a.	n.a.
MW-4	Existing	4	18.2	None	14.41	0	0	n.a.
MW-5	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MW-6	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MW-7	Existing	4	13.5	9.11	9.24	0.13	375	n.a.
MW-8	Damaged	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	No vault lid, and well casing was visibly damaged. Not accessible (vehicle parked over it.)
MW-8S	Existing	2	NA	7.86	8.11	0.25	200	n.a.
MW-8D	Existing	2	25	None	14.79	0	0	n.a.
MW-8PN	Existing	2	17.6	None	8.67	0	0	n.a.
MW-9	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MW-10	Existing	4	17	None	8.01	0	0	Well cap was missing.
MW-11	Assumed Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Could not locate.
RW-1	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
RW-1R	Existing	2	16.35	None	8.52	0	2.8	n.a.
RW-2	Existing	4	16.85	9.35	9.42	0.07	860	n.a.
RW-3	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
RW-3RD	Existing	2	39.3	None	15.55	0	5.9	n.a.
RW-3RS	Existing	2	15.2	11.07	11.12	0.05	490	n.a.
RW-4	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
RW-5	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
RW-6	Existing	4	17	8.61	8.63	0.02	178	n.a.
RW-7	Existing	2	15.25	10.43	10.50	0.07	604	n.a.
RW-8	Existing	2	15.25	10.81	11.08	0.27	21	n.a.
GA-1	Existing	4	17.3	None	11.25	0	0	Missing vault cap bolts.
QI-S	Existing	2	18	None	5.86	0	0	n.a.

Table 5-1 (Continued)

MONITORING WELL GAUGING DATA AND INFORMATION
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	March 17, 2005							
	Well Status	Diameter (in.)	Depth of Well (ft. below TOC)	Depth to Product (ft. below TOC)	Depth to Water Level (ft. below TOC)	Product Layer Thickness (ft.)	VOC PID Reading (ppm)	Notes
RCW-1	Existing	4	29	None	18.4 (2)	0	n.a.	Active Recovery Well
RCW-2	Existing	4	25.3	None	21.5 (2)	0	n.a.	Active Recovery Well
RCW-3	Existing	4	n.a.	n.a.	n.a.	n.a.	n.a.	Active Recovery Well
RCW-4	Abandoned	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
DQW-101	Existing	2	25	None	13.78	0	0	n.a.
DQW-102	Existing	2	25	None	15.44	0	0	n.a.
DQW-103	Existing	2	24.9	None	14.03	0	40	n.a.
DQW-104	Existing	2	25	None	13.15	0	0.1	n.a.
DQW-105	Existing	2	25	None	12.88	0	0	n.a.
DQW-106	Existing	4	24.7	None	13.12	0	3.3	n.a.
DQW-107	Existing	2	24.8	None	8.40	0	0	n.a.
DQW-108	Existing	2	25	None	8.81	0	0	n.a.
DQW-109	Existing	2	25	None	14.15	0	0	n.a.
CW-2 (3)	Existing	2	14.7	None	5.10	0	0	n.a.
CW-4 (2)	Existing	2	14.7	None	5.81	0	0	n.a.
CW-16 (3)	Existing	2	24.75	None	13.46	0	2.1	n.a.
CW-17 (3)	Existing	2	12.25	None	7.46	0	n.a.	Well cap was missing.
MW-18S	Existing	2	14.3	None	6.18	0	0.1	Nested Well: Southern Well (MW-18).
MW-18D	Existing	2	27.5	None	13.64	0	3.2	Nested Well: Northern Well (MW-18).
MW-19S	Existing	2	16.1	None	6.58	0	0	Nested Well: Northern Well (MW-19).
MW-19D	Existing	2	29.2	None	14.04	0	0	Nested Well: Southern Well (MW-19).
MW-20S	Existing	2	13.5	None	7.06	0	0	Nested Well: Northern Well (MW-20)
MW-20D	Existing	2	26	None	13.45	0	0	Nested Well: Southern Well (MW-20)

Notes: (1) One monitoring well was located in the general location of MW-2L and MW-2U. Based on the total depth of the well, START-2 assumes that it is MW-2L, although the depth to water would be consistent with MW-2U.
(2) For recovery wells RCW-1 and RCW-2, the water levels are influenced by the hydraulic control of the pumps, and the water levels were measured approximately 10 minutes after the wells were turned off.
(3) For the Clark Oil / Former Chevron / UPRR monitoring wells (the CW monitoring wells), only wells CW-2, CW-4, CW-16 and CW-17 were gauged.

Key:
ft. = feet
ID = Identification
in. = inches
n.a. = not applicable / not available
PID = Photo-Ionization Detector
ppm = parts per million
TOC = top of casing
UPRR = Union Pacific Railroad
VOC = Volatile Organic Compound

Table 5-2

GROUNDWATER ELEVATIONS AND PRODUCT LAYER THICKNESS - MARCH 17, 2005
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID [1]	Elevation TOC [3] (ft. above MSL)	March 17, 2005				
		Product Level (ft. below TOC)	Water Level (ft. below TOC)	Water Bearing Unit	Product Thickness (ft.)	Water Table Elevation - Corrected [5] (ft. above MSL)
MW-2L [3]	2,100.74	None	7.91	Upper	0	2,092.83
MW-3S	2,099.01	None	7.25	Upper	0	2,091.76
MW-3D	Unknown	None	12.31	Lower	0	Not Determined
MW-3W	Unknown	None	7.15	Upper	0	Not Determined
MW-4	2,097.49	None	14.41	Upper	0	2,083.08
MW-7	2,098.33	9.11	9.24	Upper	0.13	2,089.18
MW-8S	Unknown	7.86	8.11	Upper	0.25	Not Determined
MW-8D	Unknown	None	14.79	Lower	0	Not Determined
MW-8PN	Unknown	None	8.67	Upper	0	Not Determined
MW-10	2,100.51	None	8.01	Upper	0	2,092.50
RW-1R	Unknown	None	8.52	Upper	0	Not Determined
RW-2	2,099.29	9.35	9.42	Upper	0.07	2,089.92
RW-3RD	Unknown	None	15.55	Lower	0	Not Determined
RW-3RS	Unknown	11.07	11.12	Upper	0.05	Not Determined
RW-6	2,097.52	8.61	8.63	Upper	0.02	2,088.90
RW-7	2,099.57	10.43	10.50	Upper	0.07	2,089.12
RW-8	2,099.27	10.81	11.08	Upper	0.27	2,088.39
GA-1	Unknown	None	11.25	Unknown	0	Not Determined
QI-S	Unknown	None	5.86	Upper	0	Not Determined
DQW-101	2,088.15 [4]	None	13.78	Lower	0	2,074.37
DQW-102	2,097.52 [4]	None	15.44	Lower	0	2,082.08
DQW-103	2,099.22 [4]	None	14.03	Lower	0	2,085.19
DQW-104	2,097.02 [4]	None	13.15	Lower	0	2,083.87
DQW-105	2,098.56 [4]	None	12.88	Lower	0	2,085.68
DQW-106	2,098.71 [4]	None	13.12	Lower	0	2,085.59
DQW-107	2,100.65 [4]	None	8.40	Lower	0	2,092.25
DQW-108	2,101.14 [4]	None	8.81	Lower	0	2,092.33
DQW-109	2,096.33 [4]	None	14.15	Lower	0	2,082.18
CW-2	2,100.65	None	5.10	Upper	0	2,095.55
CW-4	2,101.14	None	5.81	Upper	0	2,095.33
CW-16	2,098.71	None	13.46	Lower	0	2,085.25
CW-17	2,098.71	None	7.46	Upper	0	2,091.25
MW-18S	Unknown	None	6.18	Upper	0	Not Determined
MW-18D	Unknown	None	13.64	Lower	0	Not Determined
MW-19S	Unknown	None	6.58	Upper	0	Not Determined
MW-19D	Unknown	None	14.04	Lower	0	Not Determined
MW-20S	Unknown	None	7.06	Upper	0	Not Determined
MW-20D	Unknown	None	13.45	Lower	0	Not Determined

Notes:
(1) This summary table only includes those monitoring wells gauged by START-2 on March 17, 2005.
(2) One monitoring well was located in the general location of MW-2L and MW-2U. Based on the total depth of the well, START-2 assumes that it is MW-2L, although the depth to water would be consistent with MW-2U, in the upper water bearing unit. Because of the discrepancy, the groundwater elevation of rMW-2L is not shown on Figures 5-3 and 5-4.
(3) Elevation data was obtained from historical reports obtained from IDEQ files.
(4) Elevations in ft. above MSL were estimated from elevations related to a local datum.
(5) Corrections to water table elevation assume a correction factor for free product on the groundwater table.
Correction Factor = 0.73

Key:
ft. = feet
ID = Identification
MSL = mean sea level
TOC = top of casing

Table 5-3

2005 SAMPLE COLLECTION AND ANALYTICAL SUMMARY
NORTHWEST GAS & GO SITE
SANDPOINT, IDAHO

EPA Sample ID	Station Location ID	Matrix	Sample Location Type	Sample Description	Sampler	Sample Collection		ANALYSES	
						Date	Time	VOCs [1]	Chlorine, pH
05030101	MW-4	Ground Water	Monitoring Well	On Site Monitoring Well	SGH	3/18/2005	09:30	X	NA
05030102	RW-1R	Ground Water	Monitoring Well	On Site Monitoring Well	SGH	3/18/2005	10:13	X	NA
05030103	MW-7	Ground Water	Monitoring Well	On Site Monitoring Well	SGH	3/18/2005	11:07	X	NA
05030104	MW-3S	Ground Water	Monitoring Well	On Site Monitoring Well	SGH	3/18/2005	11:57	X	NA
05030105	Seep Sump	Ground Water	Treatment Shed	Influent from Seep Sump to Treatment System	SGH	3/18/2005	12:15	X	NA
05030106	RCW-1	Ground Water	Treatment Shed	Influent from RCW-1 to Treatment System	SGH	3/18/2005	12:20	X	NA
05030107	RCW-2	Ground Water	Treatment Shed	Influent from RCW-2 to Treatment System	SGH	3/18/2005	12:21	X	NA
05030108	RCW-3	Ground Water	Treatment Shed	Influent from RCW-3 to Treatment System	SGH	3/18/2005	12:22	X	NA
05030109	Before Stripper	Treatment System Water	Treatment Shed	Combined Untreated Groundwater after Oil/Water Separator and Before Air Stripper	SGH	3/18/2005	12:50	X	NA
05030110	Discharge	Treatment System Water	Treatment Shed	Treated Discharge Water from Treatment System	SGH	3/18/2005	12:43	X	X
05030111	Trip Blank	DI Water	NA	Water Blank	CAS	3/18/2005	NA	X	NA

Note: (1) VOCs include BTEX, MTBE, naphthalene, 1,2-dichloroethane, and 1,2-dibromomethane.

Key:
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes.
CAS = Columbia Analytical Services, Inc.
DI = de-ionized
EPA = Environmental Protection Agency
ID = Identification
MTBE = Methyl tert-Butyl Ether
NA = Not applicable
SGH = Steven G. Hall
X = The indicated sample was analyzed for the indicated parameter.

Table 5-4

SUMMARY OF ANALYTICAL TESTING - MARCH 2005 SEMIANNUAL SAMPLING EVENT
NORTHWEST GAS & GO
SANDPOINT, IDAHO

EPA Sample ID	05030101	05030102	05030103	05030104	05030105	05030106	05030107	05030108	05030109	05030110	05030111	
Station ID	MW-4	RW-1R	MW-7	MW-3S	Seep Sump	RCW-1	RCW-2	RCW-3	Before Stripper (Combined Untreated Water)	Discharge (Treated Water)	Trip Blank	Site Discharge Limit [2]
VOC Analytes (µg/L)												
Benzene	0.50 U	**44**	**6.4**	***500***	***1,100***	***87 J***	***950***	***1,600***	***750***	**2.2**	0.50 U	71
Toluene	0.50 U	**27**	**38**	**610**	**580**	**79 J**	**210**	**2,000**	**440**	**1.8**	0.50 U	200,000
Ethylbenzene	0.50 U	**110**	**90**	**1,000**	**260**	**62 J**	**20**	**240**	**230**	**2.6**	0.50 U	29,000
Total Xylenes [1]	**0.84**	**79.2**	**690**	**4,240**	**710**	**290 J**	**1,510**	**3,260**	**1,440**	**16.9**	1.0 U	n.a.
m,p-Xylenes	**0.84**	**70**	**570**	**4,000**	**440**	**180 J**	**1,100**	**2,400**	**1,200**	**13**	0.50 U	n.a.
o-Xylene	0.50 U	**9.2**	**120**	**240**	**270**	**110 J**	**410**	**860**	**240**	**3.9**	0.50 U	n.a.
Methyl tert-Butyl Ether (MTBE)	0.50 U	0.50 U	2.5 U	2.5 U	**22**	0.50 U	2.5 U	5.0 U	**15**	**3.7**	0.50 U	n.a.
Naphthalene	2.0 U	**54**	**280**	**450**	**64**	**37**	**92**	**170**	**98**	**43**	2.0 U	2,350
1,2-Dibromoethane	2.0 U	2.0 U	10 U	10 U	10 U	2.0 U	10 U	20 U	10 U	2.0 U	2.0 U	n.a.
1,2-Dichloroethane	0.50 U	0.50 U	2.5 U	2.5 U	2.5 U	0.50 U	2.5 U	**54 J**	2.5 U	0.50 U	0.50 U	99 [3]
General Chemistry Parameters												
Chlorine, Total Residual (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 J-	n.a.	0.44
pH (no units)	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.08	NA	n.a.

Note: Bold typeface indicates the compound was detected above the indicated detection limit.
Underlined and italicized typeface indicates a concentration that exceeded the listed standard.
(1) Total xylenes were calculated by adding the concentrations of m,p-xylenes and o-xylene.
(2) The site discharge limit is the surface water discharge standards as set forth in the Revised CAP (Quantum 1998).
(3) The Revised CAP does not list a discharge limit for 1,2-dichloroethane, but there is a comparable state water quality standard in IDAPA 58.01.02.

Key:
CAP = Corrective Action Plan
EPA = Environmental Protection Agency
ID = Identification
J = Estimated Value
J- = Estimated Value, Expected Biased Is Low
µg/L = micrograms per liter
mg/L = milligrams per liter
n.a. = not applicable
NA = Not Analyzed
PRG = Preliminary Remediation Goal
U = Compound Not Detected at Indicated Detection Limit

Key:

- Groundwater Monitoring Well
- Recovery Well

MW-10 ← Well ID
2092.50 ← Groundwater Elevations in Feet Above Mean Sea Level

Note: Some features are not drawn to scale.

GA-1
MW-4
2083.08
French Drain
Seep Sump
Discharge
Northwest Gas 'N' Go Seep
Sand Creek
Quality Inn
MW-8PN
MW-10
2092.50
QI-S
MW-8D
RW-3RS
RW-3RD
RCW-1
RCW-2
Water Treatment Building
MW-8S
MW-3S
2091.76
Northwest Gas 'N' Go
RCW-3
RCW-4
MW-8
RW-7
2089.12
RW-8
2088.39
MW-3W
MW-3D
RW-2
2089.92
MW-7
2089.18
Lube Center
Lumber Yard
Vacant
Former Husky Gas Station
MW-2L
RW-1R
Residential
Seep
CW-4
2095.33
DQW-103
2085.19
RW-6
2088.90
West Larch Street
DQW-101
2074.37
DQW-102
2082.08
CW-5
MW-18D/S
DQW-104
2083.87
CW-16
2085.25
MW-19D/S
DQW-106
2085.59
DQW-109
2082.18
DQW-108
2092.33
CW-7
CW-8
CW-17
2091.25
CW-2
2095.55
CW-1
MW-20D/S
Safeway
DQW-107
2092.25
CW-9
Residential
Residential
Residential
North 6th Avenue
CW-3
CW-10
Clark Oil/ Former Chevron
Railroad Right-of-Way
North 5th Avenue (U.S. Hwy. 95)
North 4th Avenue
North 3rd Avenue
Boat Docks
DQW-105
2085.68
West Fir Street
Residential
Concrete Batching Plant
Commercial/Retail Shops
Residential

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Seattle, Washington

N

0 100 200
Approximate Scale in Feet

NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

Figure 5-1
GROUNDWATER ELEVATIONS
MARCH 17, 2005

Date:	Drawn by:	
6/23/05	AES	10:START-2\04110002\fig 5-1

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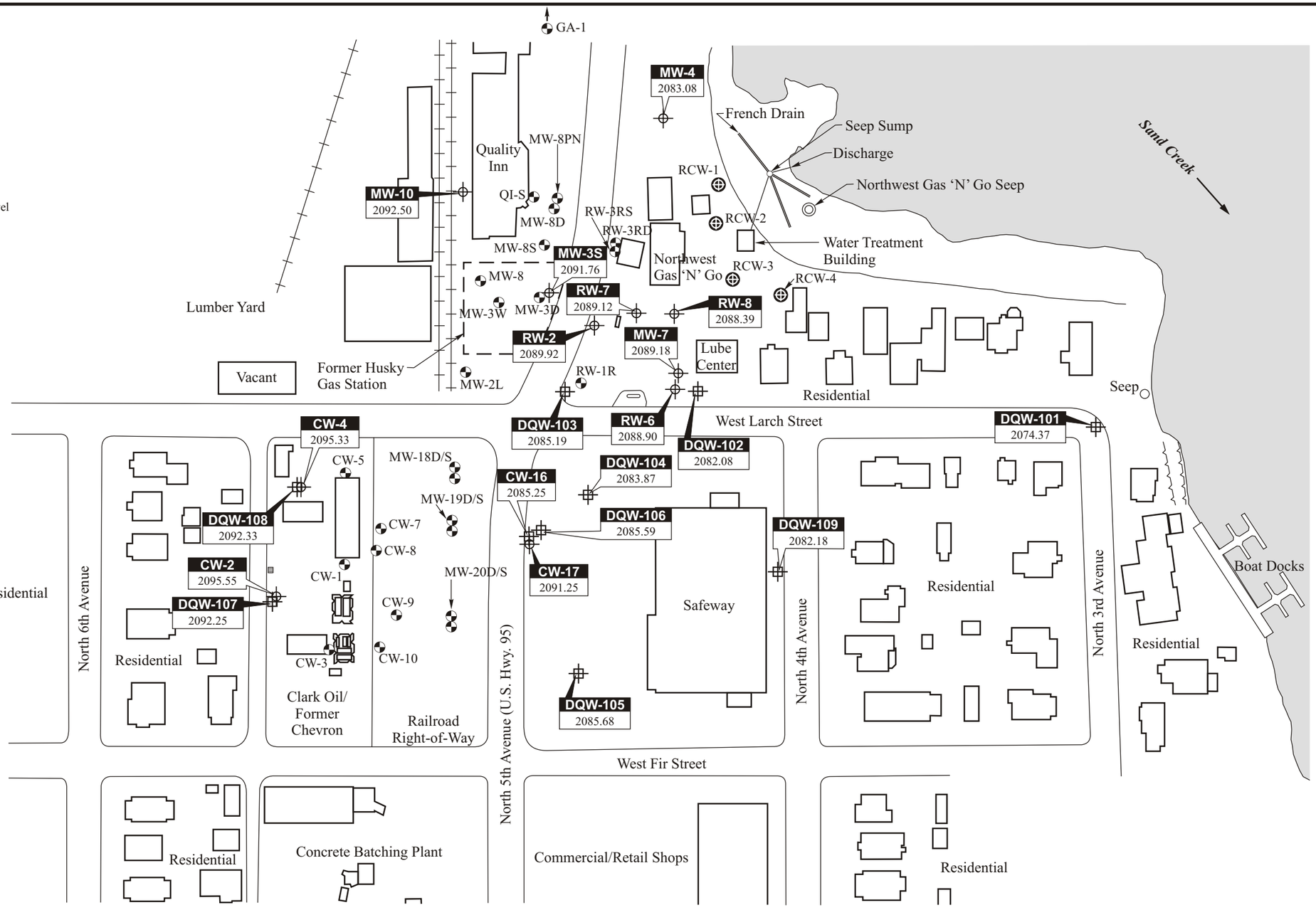
Key:

- Groundwater Monitoring Well
- Upper Water Unit
- Lower Water Unit
- Recovery Well

MW-10 ← Well ID
2092.50 ← Groundwater Elevations in Feet Above Mean Sea Level

Note: Some features are not drawn to scale.

Upper or lower water units are only indicated for those monitoring wells with groundwater elevations determined on March 17, 2005.



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Seattle, Washington

0 100 200
Approximate Scale in Feet

NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

Figure 5-2
GROUNDWATER ELEVATIONS
UPPER AND LOWER WATER UNITS
MARCH 17, 2005

Date:	Drawn by:	
6/28/05	AES	10:START-2\04110002\fig 5-2

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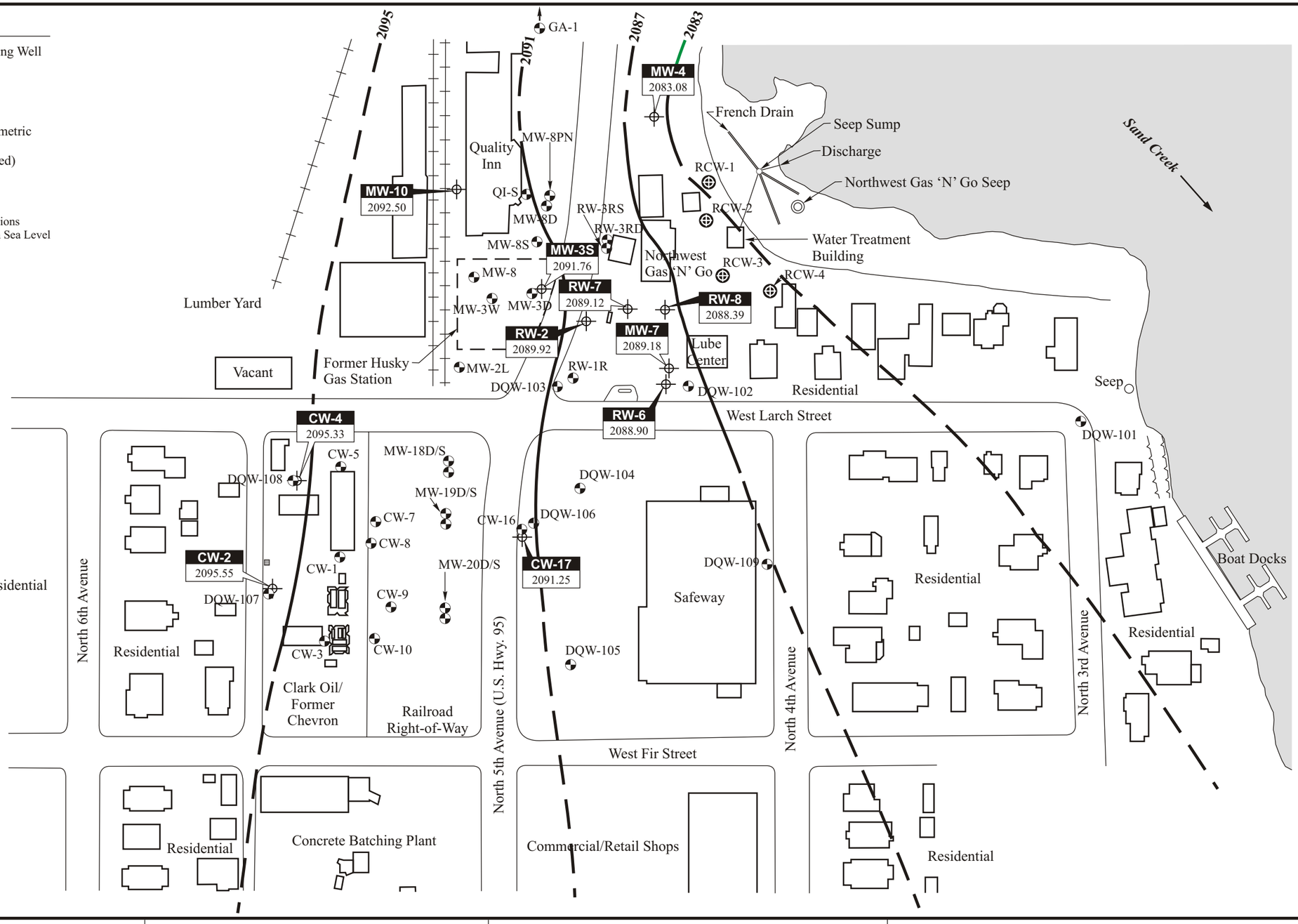
Key:

- Groundwater Monitoring Well
- Upper Water Unit
- Recovery Well
- **2095** — Approximate Potentiometric Surface Contour Line (dashed where estimated)

MW-10 / 2092.50 — Well ID; Groundwater Elevations in Feet Above Mean Sea Level

Note: Some features are not drawn to scale.



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Seattle, Washington

0 100 200
Approximate Scale in Feet

NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

Figure 5-3

GROUNDWATER ELEVATIONS AND HYDRAULIC CONTOURS
UPPER WATER UNIT
MARCH 17, 2005

Date:	Drawn by:	
6/28/05	AES	10:START-2\04110002\fig 5-3

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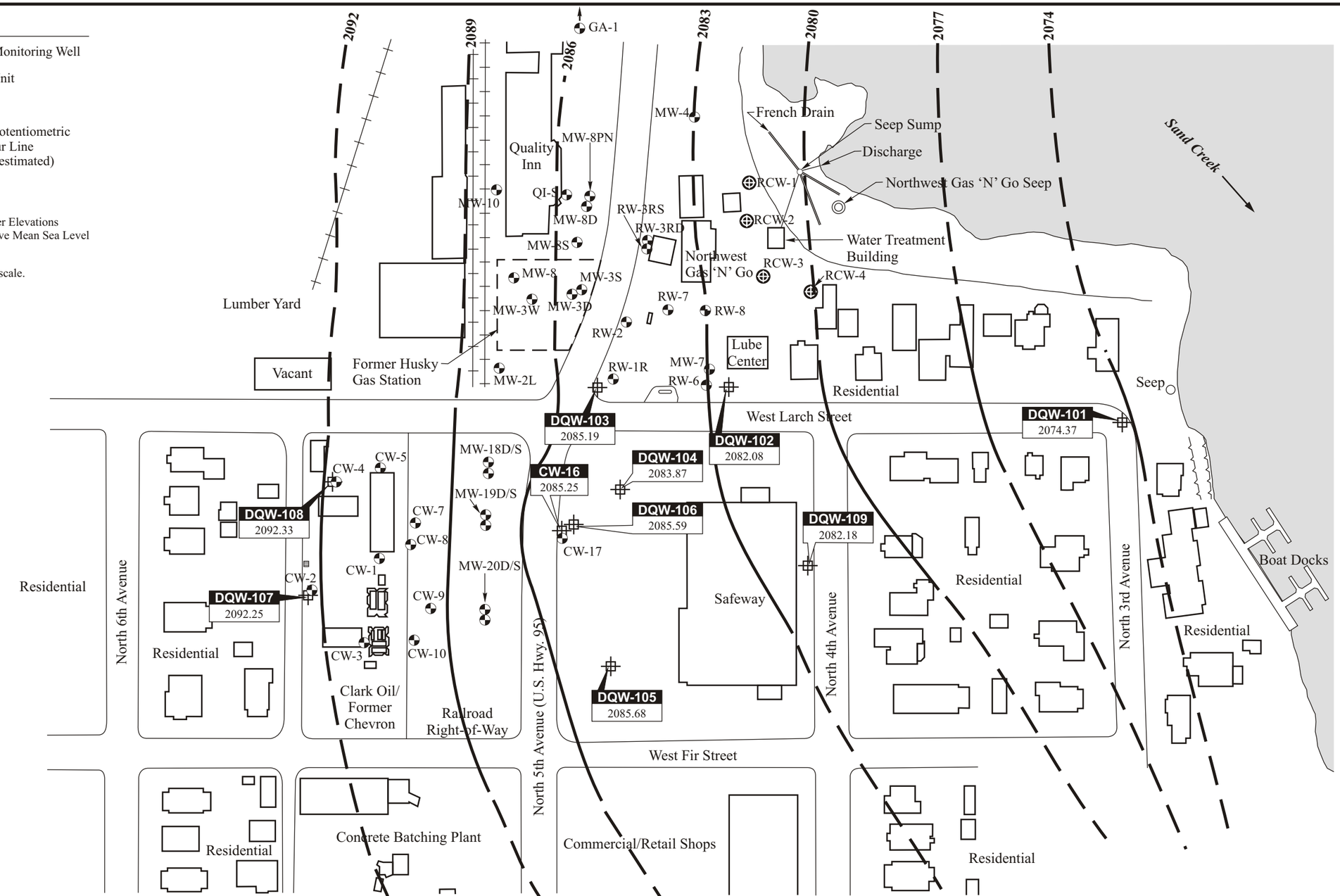
Key:

- Groundwater Monitoring Well
- Lower Water Unit
- Recovery Well
- **2092** — Approximate Potentiometric Surface Contour Line (dashed where estimated)
- **MW-10** / 2092.50 — Well ID / Groundwater Elevations in Feet Above Mean Sea Level

Note: Some features are not drawn to scale.



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N

0 100 200
Approximate Scale in Feet

NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

Figure 5-4

GROUNDWATER ELEVATIONS AND HYDRAULIC CONTOURS
LOWER WATER UNIT
MARCH 17, 2005

Date:	Drawn by:	
6/28/05	AES	10:START-2\04110002\fig 5-4

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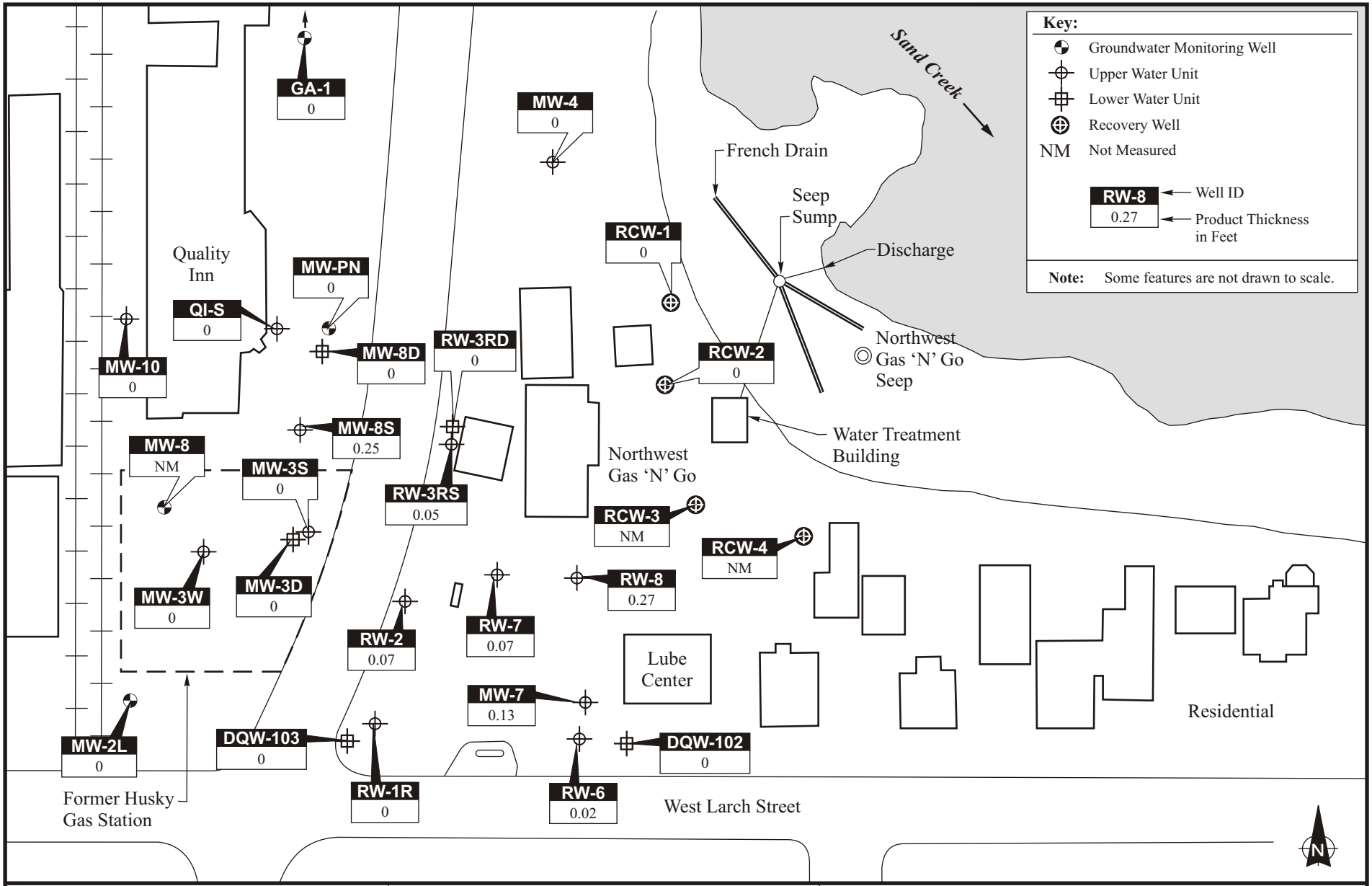

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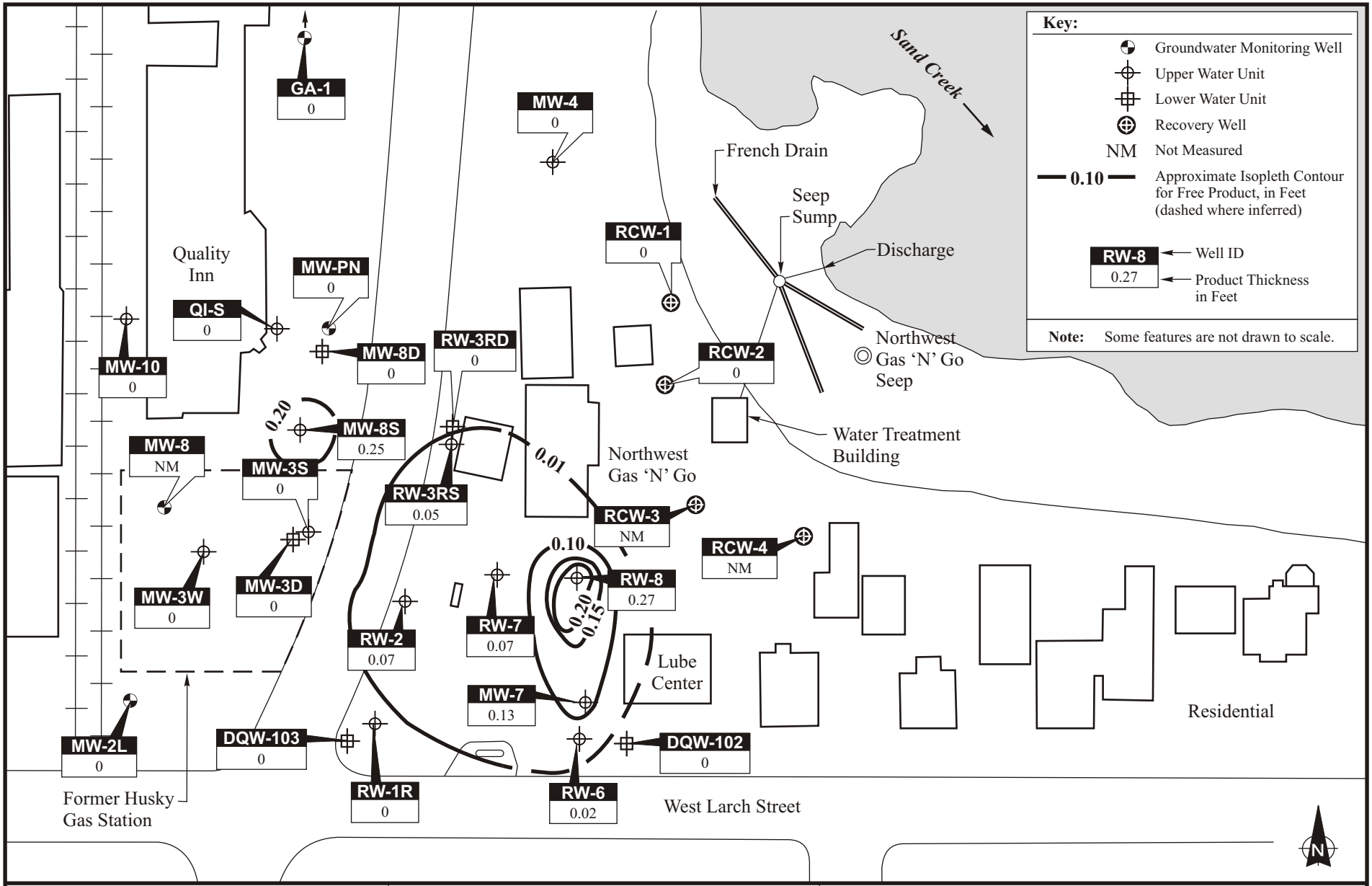
Sandpoint, Idaho

Figure 5-5
PRODUCT LEVELS
MARCH 17, 2005

Date:	Drawn by:	
6/28/05	AES	10:START-2\04110002\fig 5-5



5-20

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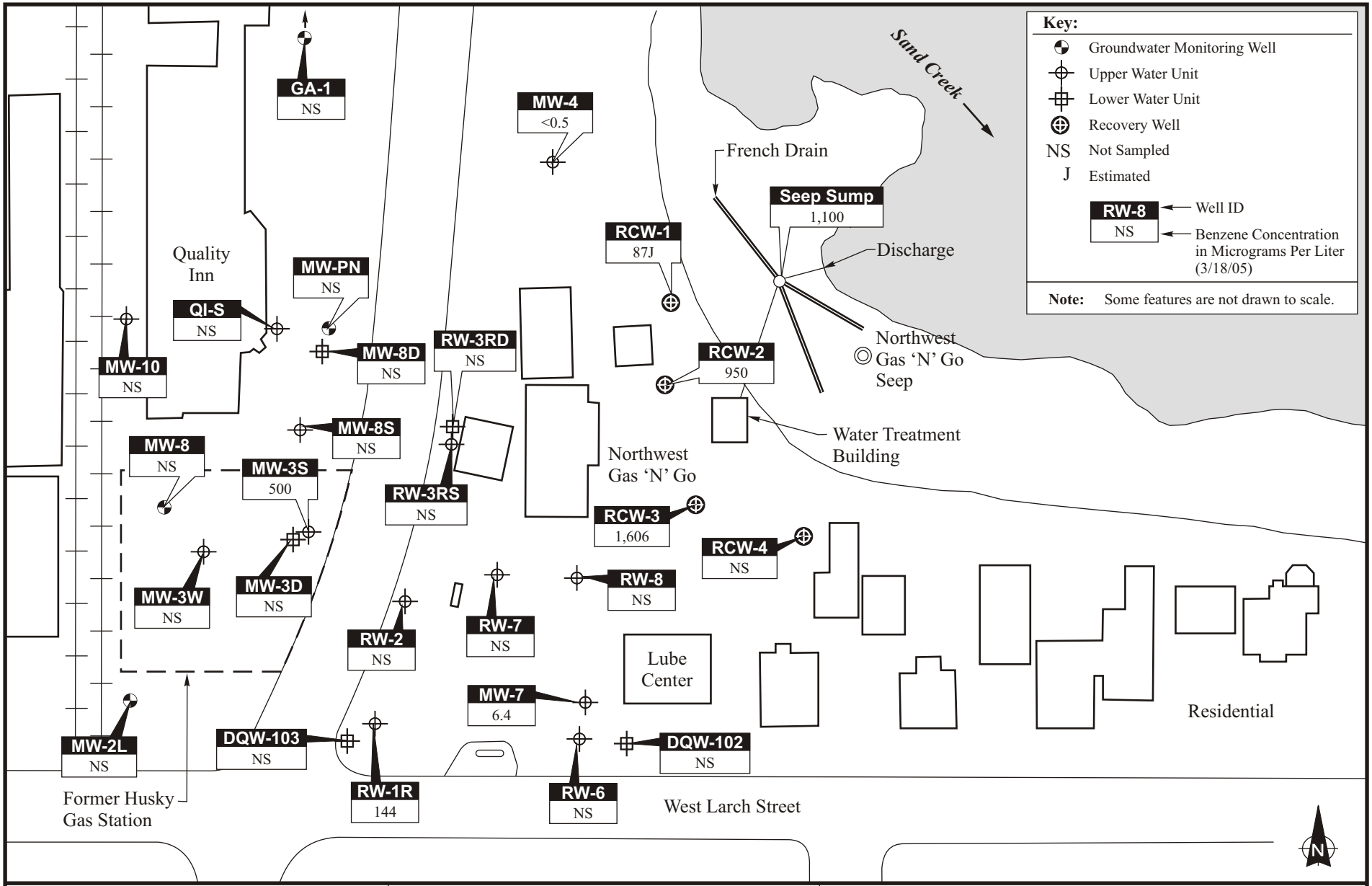
NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

0 50 100
Approximate Scale in Feet

Figure 5-6
PRODUCT LEVELS WITH CONTOURS
MARCH 17, 2005

Date: 6/28/05
Drawn by: AES
10:START-2\04110002\fig 5-6



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NORTHWEST GAS & GO
REMOVAL ASSESSMENT
Sandpoint, Idaho

0 50 100
Approximate Scale in Feet

Figure 5-7
BENZENE CONCENTRATIONS
MARCH 18, 2005

Date: 6/28/05
Drawn by: AES
10:START-2\04110002\fig 5-7

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6. QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance/quality control (QA/QC) data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware and reagents. Specific QC requirements for laboratory analyses are incorporated in the Contract Laboratory Program Statement of Work for Organic Analyses (EPA 2003). These QC requirements or equivalent requirements found in the analytical methods were followed for analytical work on the project. This section describes the QA/QC measures taken and provides an evaluation of the usability of data presented in this report.

All samples were collected following the guidance of the site specific sampling plan (SSSP; E & E 2005) and the START Quality Assurance Project Plan (QAPP; E & E 2003) for the field activities. START-2 subcontracted VOC (EPA SW-846 method 8260), pH (EPA method 150.1), and total residual chlorine (EPA method 330.4) analyses, which were performed by Columbia Analytical Services, Inc., Kelso, Washington.

Data from the START-2 subcontracted commercial laboratory were reviewed and validated by a START-2 chemist. Data qualifiers were applied as necessary according to the following guidance:

- EPA (EPA 1990) Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures; and
- EPA (EPA 2002) Contract Laboratory Program National Functional Guidelines for Organic Data Review.

In the absence of other QC guidance, method-specific QC limits were also utilized to apply qualifiers to the data.

6.1 SATISFACTION OF DATA QUALITY OBJECTIVES

The following EPA (EPA 2000) guidance document was used to establish data quality objectives (DQOs) for this project:

- Guidance for the Data Quality Objectives Process (EPA QA/G-4), EPA/600/R-96/055.

The EPA On-Scene Coordinator determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The

data quality achieved during the field work produced sufficient data that met the DQOs stated in the SSSP (E & E 2005). A discussion of accomplished objectives is presented in the following subsections.

6.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA samples included one trip blank sample. Rinsate blank samples were not required as all samples were collected using dedicated equipment. The trip blank sample was collected from non-dedicated sampling equipment and met the QC frequency criteria of one trip blank per VOC sample cooler. Trip blanks are discussed in subsection 4.4.3. QC samples included matrix spike (MS)/matrix spike duplicate (MSD) samples for organic analyses at a rate of one MS/MSD per matrix per analysis.

6.3 PROJECT-SPECIFIC DATA QUALITY OBJECTIVES

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' ability to meet project DQOs for precision, accuracy, and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratory and the field team were able to meet DQOs for the project.

6.3.1 Precision

Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The MS/MSD samples measure the precision of the analytical method.

The RPD values were reviewed for all samples. All spike duplicate results were within QC limits. The DQO for precision of 85% was met.

6.3.2 Accuracy

Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the system monitoring compound (SMC; also known as surrogate) spike percent recovery (%R) for organic analyses or the MS %Rs for all analyses. The SMC %R values were reviewed for all appropriate sample analyses and were within QC limits. The MS %R values were reviewed for all MS/MSD analyses. One sample result (approximately 1% of the data) were qualified as estimated quantities (J) based on MS %R outliers. The project DQO for accuracy of 85% was met.

6.3.3 Completeness

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All data were reviewed for usability. No sample results were rejected, therefore the project DQO for completeness of 90% was met.

6.3.4 Representativeness

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point or environmental condition. The number and selection of samples were determined in the field to account accurately for site variations and sample matrices. The DQO for representativeness of 85% was met.

6.3.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The DQO for comparability was met.

6.4 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PARAMETERS

The laboratory data also were reviewed for holding times/temperature, laboratory blank samples, and trip blank samples. These QA/QC parameters are summarized below. In general, the laboratory and field QA/QC parameters were considered acceptable.

6.4.1 Holding Times/Temperature

All samples were maintained with the temperature QC limits and were analyzed within QC holding time limits except the total residual chlorine analysis for sample Discharge. The sample result was qualified as an estimated quantity (J-).

6.4.2 Laboratory Blanks

All laboratory blanks met the frequency criteria. No analytes were detected in any analyses that affected sample results.

6.4.3 Trip Blank

The trip blank was collected by pouring distilled, deionized water into 40-milliliter glass vials. The trip blank was maintained with the samples during the field event. No VOCs were detected in the trip blank.

7. RECOMMENDATIONS FOR TREATMENT SYSTEM IMPROVEMENTS

The groundwater recovery and treatment system installed at the Northwest Gas & Go site has been operating since 1995, and it has recovered roughly 100 gallons of petroleum product in that time (Beck 2005b). Measurable levels of petroleum product are still present on site groundwater indicating that the source of groundwater contamination has not been completely removed. START-2 has evaluated the existing recovery and treatment system and has identified actions that can be taken to improve product recovery at the site, thus minimizing the likelihood of chronic releases to Sand Creek.

There are a number of improvements that can be made to the existing system that may help increase product recovery. These improvements, discussed in subsection 7.1, can be made without additional capital outlay. However, if these changes are made and found not to increase product recovery, START-2 has identified other means of improving product recovery, either through upgrading the existing system (subsection 7.2) or replacing the existing system (subsection 7.3).

In addition to identifying actions to improve the groundwater recovery and treatment system, START-2 also noted a few operational items to be addressed so that the recovery system can be operated in accordance with local, state, and federal regulations.

START-2 understands that the effluent from the treatment system is currently being discharged to Sand Creek without a National Pollutant Discharge Elimination System (NPDES) permit. Treated effluent was discharged to the City of Sandpoint sewer system until 1998, when the system operator proposed that the discharge be directed to Sand Creek and that the frequency of effluent sampling be decreased to four times per year. START-2 understands that DEQ discussed with EPA whether a NPDES permit was necessary for the discharge to Sand Creek. According to DEQ, EPA allowed the treatment system to operate without the NPDES permit because the system was operating with an approved CAP under the oversight of DEQ (Beck 2005a). START recommends that DEQ consider any potential impact to the NPDES status when considering any treatment system modifications or upgrades.

According to the Revised CAP, the system operator collects and analyzes samples of the treated effluent quarterly. However, if improvements are made to the recovery system, it may be prudent to increase the effluent sampling frequency until it can be established that contaminant levels in the treated effluent continue to meet the surface water discharge limits proposed in the Revised CAP (Quantum

1998). Another recommendation is to regularly collect and analyze the following samples, as part of the CAP: a sample of the air stripper influent (a "Before Stripper" sample after the oil/water separator and before the air stripper) and a sample of the groundwater recovered from the seep sump. This information is important for assessing whether or not the treatment system is effectively treating the recovered groundwater and will provide information regarding existing contaminant levels. These samples have been collected from time to time, but they are not part of the regularly scheduled CAP sampling requirements.

START-2 also understands that the vapor discharged from the air stripper is not treated and that there is not an air discharge permit in place for the treatment system. It is unknown whether or not the treatment system requires an operating air permit; however, it is likely that this particular system qualifies for the air permitting-exemption requirements under Idaho Administrative Procedure Act 58.01.01.222.03 as it is unlikely that the treatment system currently discharges large quantities of VOCs. Although, if improvements made to the system are successful and larger amounts of contaminants are recovered; it would be prudent to re-evaluate whether or not the treatment system at the Gas & Go site is exempt from Idaho's air permitting requirements.

7.1 IMPROVING EXISTING RECOVERY SYSTEM

Based on the observations made during START-2's site visit in March 2005, it appears that the entire recovery and treatment system is due for some maintenance and cleaning. START-2 observed that the well vaults and the vault underneath the treatment shed are filling in with mud. Mud is especially prominent in the vault underneath the treatment shed as it is completely covering process piping and electrical lines. It is recommended that the mud be cleaned out of the recovery well vaults and the vault underneath the treatment shed as the weight of the mud can crack the process piping and result in leaks. During the site visit, START-2 noted that some of the piping between the recovery well vaults appeared compressed and deformed. Because the process piping has been covered with mud and some of the piping is deformed, it may be prudent to pressure test the process piping to assess whether or not it is leaking. If the pipes are found to be leaking, measures should be taken to repair the lines or replace them.

START-2 also recommends removing the pumps from the wells and scrubbing the well screens to remove any sediment or microbial slime that may have built up in the screens. The RP can conduct this with commonly available well development supplies. Cleaning the pumps and the treatment system components ought to improve the performance of the system.

Also during the START-2's site visit, the recovery pumps were turned off and START-2 measured how quickly groundwater recharged into recovery wells RCW-1 and RCW-2. Based on the information obtained from this short test, START-2 understands that the recovery pumps currently maintain the groundwater elevation in the recovery wells between four feet (RCW-1) and eight feet (RCW-2) below the normal water table elevation (see Appendix D). Based on the amount of petroleum product recovered since the system has been operating, it is evident that maintaining groundwater at these elevations is not generating an effective cone of depression. According to the pump test performed by Brown and Caldwell in 1991, the maximum sustainable pumping rate of Well RCW-2 is upwards of three gpm (Brown and Caldwell 1992). The zone of influence around these wells is estimated to be 70 feet, and the maximum sustainable drawdown in these wells is an estimated 16 feet (Brown and Caldwell 1992). The actual pumping rate in these wells ranges from an estimated 0.1 gpm to 0.5 gpm (Appendix D). However, the pumps are capable of pumping up to 5 gpm; therefore, it would appear that the recovery pumps are not operating at their optimum capacity.

If product is still available for recovery in the area of the operating recovery wells, the START-2 suggests that the water level in the recovery wells be lowered to an elevation that will generate an effective cone of depression. In order to generate a cone of depression at the site and influence product to move towards the recovery wells, it is important to maintain hydraulic control of the site. This can not be accomplished without lowering the intake elevation of recovery pumps and operating the pumps more aggressively. By lowering the intake elevation of the pumps[6] and maintaining the operating pump pressure between 40 pounds per square inch (psi) and 100 psi, the pumps likely will operate at their optimum flow rate. Operating the pumps at their optimum flow rate will help maintain hydraulic control of the site around these wells and presumably generate a more effective cone of depression around the recovery wells.

7.2 UPGRADING EXISTING RECOVERY SYSTEM

Although aggressively pumping recovery wells RCW-1, RCW-2, and RCW-3 will likely draw in product from the immediate area surrounding these wells, it is unlikely that this will draw product from the southwestern corner of the Northwest Gas & Go property, where the center of the remaining free product plume is located. This is because the product in this area is greater than 70 feet west of the

[6] The water level in the recovery wells needs to be lowered to an elevation lower than what is currently being maintained in the wells. START-2 does not have enough data at this time to recommend the optimum drawdown depth.

pumping area[7] and in the ten years that the system has been operating, pumping RCW1, RCW-2, and RCW-3 has not significantly influenced product recovery from this part of the site.

In order to capture the gasoline product located on the groundwater in the southwest corner of the Northwest Gas & Go property, it may be necessary to install additional recovery wells. Although recovery wells RW-7 and RW-8 are located at the downgradient edge of the southwest corner's product plume, these wells are not ideal for use in maintaining hydraulic control of groundwater in this area. Their small diameter[8] makes it difficult to maintain a lower water table elevation without pumping the wells dry. It should be noted that the upper saturated zone in the southwest corner of the property is approximately five feet thick. Given the limited amount of groundwater in this area, generating an effective cone of depression in this area may be difficult as the wells may need to be pumped virtually dry to have any impact on the surrounding aquifer. However, these wells and possibly some additional wells could be utilized to actively recover product with skimmer pumps. A bail down test would be recommended to assess whether or not product skimming in this area would be effective. In addition to a bail down test, additional subsurface investigation may be warranted to assess whether or not there is enough product to recover from the groundwater in the area.

7.3 REPLACING EXISTING RECOVERY SYSTEM

It is likely that product recovery cannot be substantially improved solely by depressing the groundwater table or by actively skimming product. It also is probable that the reason why the amount of measurable product on the groundwater has decreased over the years is because the product has migrated laterally through the subsurface and adhered to soil in the vadose zone thereby making floating product more difficult to recover. A more effective means of recovering gasoline product from the subsurface at the Northwest Gas & Go site could be through installing a dual phase extraction system. This system would be recommended for the contamination present at the southwest corner of the Northwest Gas & Go property and also could be utilized in the currently operating recovery wells.

Dual phase extraction utilizes the elements of total fluid extraction combined with soil vapor extraction. This type of setup also is referred to as bioslurping. To operate a dual phase extraction system, vacuum is applied to suction pipes inserted in recovery wells at a specified depth to recover both

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[7] The zone of influence predicted by Brown and Caldwell during their 1991 pump test is 70 feet. Recovery wells outside of the zone of influence are unlikely to be impacted by recovery operations occurring at RCW-1, RCW-2, and RCW-3.

[8] Both RW-7 and RW-8 are 2-inch diameter wells.

groundwater and product while maintaining the groundwater at a specified elevation. Once water is no longer being extracted, a vacuum in the soil is formed. The vacuum acts to volatilize and recover gasoline from the soil. The action of drawing air into the soil increases oxygen levels in the subsurface, thereby stimulating aerobic biodegredation of petroleum contaminants. Recovered groundwater and liquid product are separated in an oil/water separator. Product is stored in a small tank until it can be properly disposed. Groundwater can then be sent through granular activated carbon (GAC) units or an air stripper to be treated before discharge. Because the vapors extracted from the subsurface will have elevated levels of petroleum contaminants, the vapor recovered from the subsurface likely will need treatment prior to discharge to the atmosphere. Vapors can be treated with vapor-phase GAC units. However, if high levels of contaminants are present within the vapor stream, a thermal oxidizer would be more appropriate for vapor treatment. Some of the water treatment equipment currently in use at the Gas & Go site[9] could be retained to treat water recovered by the dual phase extraction system. This would help defray the capital cost of installing a dual phase extraction system. The equipment cost of an off-the-shelf dual-phase extraction system can range between $25,000 and $45,000, depending on the type of system that site conditions indicate (Wooster 2005). This cost does not include vapor treatment equipment or installation of additional recovery wells and process piping from the recovery wells to the treatment building. If a thermal oxidizer is determined to be necessary for treating extracted vapors, the capital cost of these units can range from $30,000 to $40,000 (Wooster 2005). Vapor-phase GAC units range from $3,000 to $5,000 per unit (Wooster 2005). It is common to have two GAC units in series to treat the recovered vapors. The vapor effluent from the air stripper also could be directed to these carbon units. Depending on how close the nearest carbon service is to the Northwest Gas & Go site, the cost to replace the carbon in the units could equal the cost of purchasing new units (Wooster 2005).

Before beginning the process of designing and installing a dual phase extraction system, START-2 recommends conducting a pilot test to assess whether or not this technology would be effective at the Northwest Gas & Go site. Running a pilot test would provide the following information that would be utilized in the final design:

- The vapor and liquid extraction rates, which would be useful for determining equipment sizes.
- The zone of influence, which would help determine if additional extraction wells are necessary and where to position them.

[9] This equipment includes the oil/water separator, the product storage tank, and the air stripper.

- An initial estimate of the quantity of VOCs available for recovery. This would provide information as to how long to the system would be operated and would help determine the type of vapor treatment that would be most appropriate for use at the site.

The pilot test can be conducted using any of the wells at the site, although the wells located in the southwest corner of the Northwest Gas & Go property (i.e., MW-7, RW-7, or RW-8) are recommended if considering this technology for this part of the site. The original CAP authored by Golder Associates for remediating the Northwest Gas & Go property described procedures for conducting a soil vapor extraction test (Golder 1994). The procedures for conducting a dual phase extraction pilot test would be very similar to the soil vapor extraction test. The cost of conducting a comprehensive pilot test could run upwards of $15,000 (Meyer 2005).

8. SUMMARY

START-2 was tasked by EPA to conduct an RA at the Gas & Go site in Sandpoint, Idaho. The site is a gasoline station that is located upgradient of Sand Creek, which flows into the Pend Oreille River. In 1989, IDEQ investigated the presence of a petroleum sheen and petroleum constituents were discovered in groundwater seeps flowing from the steep bank directly adjacent to the Gas & Go site.

By 1995, IDEQ had overseen the installation of a groundwater/product recovery and treatment system at the site. The groundwater recovery system consists of recovery wells and a french drain seep collection system. The recovered groundwater is sent to an oil/water separator where free product can be stored for recycling and the recovered groundwater is treated in an air stripper before being discharged to Sand Creek.

START-2's actions at the site included a historical data review, gauging the on-site monitoring wells for groundwater elevations and product levels; collection of semi-annual corrective action sampling, and observations about the treatment system.

Currently, the system is treating about 1.8 gpm of VOC-contaminated groundwater. Analytical data of the treated effluent indicates that it is not exceeding discharge limits. The system is not recovering much free product although free product remains on the groundwater at the site. Based on the data and observations collected by START-2, recommendations to improve the performance of the system have been presented herein. The historical petroleum releases may continue as a potential chronic source of petroleum releases to Sand Creek as long as the contamination is found at the site. A more aggressive treatment approach to reduce the amount of persistent contamination is recommended. This may be accomplished by improving, upgrading, or replacing the groundwater recovery and treatment system as suggested herein.

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APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial No.: Canon Power Shot A70 Digital Camera **TDD No.:04-11-0002**
Lens Type: Canon Zoom Lens **Site Name: Northwest Gas & Go**

Photo No.	Direction	By	Date	Time	Description
01	S	SGH	12/16/04	13:59	Northwest Gas & Go Gasoline Station.
02	NE	SGH	12/16/04	13:08	View of Sand Creek from Gas & Go Site.
03	E	SGH	12/16/04	12:50	View of Sand Creek and seep area from Gas & Go Site.
04	NE	SGH	12/16/04	12:52	Seep to Sand Creek..
05	E	SGH	12/16/04	12:51	Seep sump, with lid.
06	E	SGH	12/16/04	12:56	Seep sump, opened.
07	NE	SGH	12/16/04	13:35	OSC Liverman and IDEQ Beck, with treatment shed in background.
08	NE	SGH	12/16/04	13:38	Gas & Go Treatment shed, with OSC Liverman and IDEQ Beck.
09	SW	SGH	12/16/04	12:24	View of Quality Inn parking lot (former Husky Oil station), with UPRR right-of-way and Clark Oil in background.
10	NW	SGH	3/17/05	12:41	RCW-1 with groundwater pump.
11	NE	SGH	3/17/05	12:40	RCW-1 with groundwater pump.
12	SE	SGH	12/16/04	15:14	Oil / water separator inside treatment shed.
13	S	SGH	12/16/04	15:14	Air stripper inside treatment shed.
14	NE	SGH	3/17/05	12:48	Plumbing sump underneath treatment shed.
15	NE	SGH	3/17/05	12:48	Manifold for groundwater influent from recovery wells.
16	E	SGH	3/17/05	12:53	Chlorine injection (yellow tank) and compressed air distribution system for groundwater recovery pumps.

Key:

E	East
IDEQ	Idaho Department of Environmental Quality
N	North
S	South
OSC	On-Scene Coordinator
SGH	Steven G. Hall
TDD	Technical Direction Document
UPRR	Union Pacific Railroad
W	West

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 1 Northwest Gas & Go Gasoline Station.
Direction: South

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 2 View of Sand Creek from Gas & Go Site.
Direction: Northeast

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 3 View of Sand Creek and seep area from Gas & Go Site.
Direction: East

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 4 Seep to Sand Creek..
Direction: Northeast

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 5 Seep sump, with lid.
Direction: East

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 6 Seep sump, opened.
Direction: East

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 7 OSC Liverman and IDEQ Beck, with treatment shed in background.
Direction: Northeast

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 8 Gas & Go Treatment shed, with OSC Liverman and IDEQ Beck.
Direction: Northeast

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 9 View of Quality Inn parking lot (former Husky Oil station), with UPRR right-of-way and Clark Oil in background.
Direction: Southwest

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 10 RCW-1 with groundwater pump.
Direction: Northwest

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 11 RCW-1 with groundwater pump.
Direction: Northeast

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 12 Oil / water separator inside treatment shed.
Direction: Southeast

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 13 Air stripper inside treatment shed.
Direction: South

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 14 Plumbing sump underneath treatment shed.
Direction: Northeast

NORTHWEST GAS & GO

Sandpoint, Idaho

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 15 Manifold for groundwater influent from recovery wells.
Direction: Northeast

Seattle START Canon Power Shot A70 Digital Camera

Taken by: Steven G. Hall

Photo 16 Chlorine injection (yellow tank) and compressed air distribution system for groundwater recovery pumps.
Direction: East

APPENDIX B

HISTORICAL GEOLOGICAL AND HYDROGEOLOGICAL DATA

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
MW-1	Upper	NA	2100.56	7/25/1991	7.96
				12/17/1991	4.2
				9/29/1993	9.09
				3/17/2005	-
MW-2U	Upper	17.7	2100.74	7/25/1991	7.91
				12/17/1991	5.75
				9/29/1993	8.86
				3/17/2005	7.91
MW-2L	Lower	NA	2100.64	7/25/1991	7.64
				9/9/1993	8.6
				3/17/2005	-
MW-3S	Upper	12.05	2099.01	7/15/1991	7.23
				12/17/1991	8.8
				9/29/2993	7.84
				3/30/1995	4.95
				10/3/1995	9.48
				5/1/1996	3.96
				8/4/1996	7.72
				11/5/1996	7.4
				9/30/1997	8.74
				12/30/1997	6.65
				4/1/1998	5.15
				9/30/1998	11.95
				4/22/1999	8.2
				10/4/1999	11.3
				3/30/2000	6.8
				9/6/2000	11.2
				3/30/2001	8.7
				10/6/2001	12.2
				11/20/2002	10.87
				3/17/2005	7.25
MW-3W	Upper	16.2	NA	9/30/1997	9.24
				12/30/1997	6.775
				4/1/1998	5.34
				9/30/1998	11.85
				4/22/1999	6.05
				10/4/1999	12.5
				3/30/2000	4.9
				9/6/2000	12.3
				3/30/2001	6.7
				10/6/2001	13.6
				11/20/2002	10.65
				4/4/2003	5.5
				3/17/2005	7.15

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
MW-4	Upper	18.2	2097.49	7/25/1991	14.37
				12/17/1991	14.3
				9/29/1993	15.05
				3/30/1995	13.7
				10/3/1995	15.2
				5/1/1996	13.5
				8/4/1996	14.915
				11/5/1996	13
				9/30/1997	15.14
				12/30/1997	14.125
				4/1/1998	13.65
				9/30/1998	15.65
				4/22/1999	13.3
				10/4/1999	16.3
				3/30/2000	13.3
				9/6/2000	15.75
				3/30/2001	14
				10/6/2001	16.3
				5/5/2002	13.9
				6/21/2002	14.06
				11/2/2002	15.3
				4/4/2003	8
				10/1/2003	No Data
				4/16/2004	13.5
				3/17/2005	14.41
MW-5	Upper	NA	2098.77	7/25/1991	15.72
				12/1/1991	15.6
				9/29/1993	16.63
				3/17/2005	-
MW-6	Upper		2098.77	7/25/1991	12.56
				12/17/1991	12.8
				9/29/1993	14.56
				3/30/1995	11.7
				10/3/1995	13.82
				5/1/1996	11.8
				8/4/1996	13.33
				9/30/1997	No Water
				3/17/2005	-
MW-7	Upper	13.5	2098.33	7/25/1991	9.82
				12/1/1991	14.7
				9/29/1993	11.1
				3/30/1995	6
				10/3/1995	11.67
				5/1/1996	5.65
				8/4/1996	9.35
				11/5/1996	9.6
				9/30/1997	10.55
				12/30/1997	7.8
				4/1/1998	9
				9/30/1998	13
				4/22/1999	8.5
				10/4/1999	13.4
				3/30/2000	5.55
				9/6/2000	12.4
				3/30/2001	8
				10/6/2001	13.1
				5/5/2002	7.9
				11/20/2002	12.35
				10/1/2003	13
				4/16/2004	7.35
				3/17/2005	9.11

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
MW-8	Upper	19.0	2100.89	1/10/1990	8
				7/25/1991	7.67
				12/17/1991	4.4
				9/29/1993	8.23
				3/30/1995	5.8
				10/3/1995	Not Measured
				2/28/2002	4.44
				3/17/2005	Not Measured
MW-9	Upper	19.0	NA	1/9/1990	6.5
				12/17/1991	No Data
				9/29/1993	Not Measured
				3/17/2005	-
MW-10	Upper	17.0	2100.51	1/16/1990	9.5
				7/25/1991	6.02
				12/17/1991	3.15
				9/29/1993	7.84
				2/28/2002	4.79
				3/17/2005	8.01
MW-11	Upper	17.0	2098.52	1/11/1990	8
				7/25/1991	9.29
				12/17/1991	8.00
				9/29/1993	10.08
				3/17/2005	Not Measured
RW-1	Upper	17.1	2099.22	7/25/1991	12.4
				12/17/1991	6.9
				9/29/1993	9.26
				3/30/1995	5.1
				10/3/1995	8.95
				5/1/1996	4
				8/4/1996	8
				11/5/1996	7.4
				9/30/1997	8.85
				12/30/1997	6.55
				4/1/1998	5.35
				9/30/1998	11.275
				4/22/1999	6.1
				10/4/1999	11.9
				3/30/2000	4.4
				9/6/2000	11.2
				3/30/2001	6.2
				10/6/2001	12.45
				2/28/2002	5.31
				5/2/2002	6.8
				3/17/2005	-
RW-1R	Upper	16.35		11/20/2002	11.25
				4/4/2003	6.8
				10/1/2003	11.3
				4/16/2004	8.5
				3/17/2005	8.52

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-2	Upper	16.85	2099.29	7/25/1991	13.37
				10/5/1991	No Data
				12/17/1991	10.3
				6/2/1994	9.27
				3/30/1995	7.85
				6/19/1995	8.5
				6/20/1995	8.35
				6/21/1995	8.05
				6/22/1995	8.1
				6/23/1995	8.05
				6/24/1995	8.125
				10/3/1995	11.12
				5/1/1996	7.4
				8/4/1996	8.225
				11/5/1996	9.15
				9/30/1997	11.13
				12/30/1997	8.025
				4/1/1998	6.5
				9/30/1998	12.28
				4/22/1999	8.1
				10/4/1999	12.25
				3/30/2000	6
				9/6/2000	12.3
				3/30/2001	8.8
				10/6/2001	13
				11/20/2002	12.19
				4/4/2003	7
				10/1/2003	12.1
				4/16/2004	8.4
				3/17/2005	9.35
RW-3	Upper	18	2099.62	7/25/1991	9.68
				10/5/1991	No Data
				12/17/1991	12.4
				9/29/1993	11.31
				6/2/1994	10.57
				3/30/1995	9.5
				6/19/1995	10.2
				6/20/1995	9.5
				6/21/1995	9.25
				6/22/1995	9.1
				6/23/1995	9.1
				6/24/1995	9.125
				10/3/1995	11.9
				5/1/1996	7.71
				8/4/1996	10.4
				11/5/1996	10.35
				9/30/1997	11.32
				12/30/1997	8.09
				4/1/1998	7.425
				9/30/1998	13.1
				4/22/1999	9.55
				10/4/1999	13.6
				3/30/2000	8
				9/6/2000	13.5
				3/3/2001	11.2
				10/6/2001	16.8
				5/2/2002	11.1
				3/17/2005	-

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-3R	Upper			11/20/2002	13.06
				4/4/2003	9
				10/1/2003	12.3
				3/17/2005	-
RW-4	Upper	17	2099.18	7/25/1991	No Data
				10/5/1991	No Data
				12/17/1991	12
				9/29/1993	11.7
				10/18/1993	No Data
				3/30/1995	9.55
				5/24/1995	9.75
				6/19/1995	10.7
				6/20/1995	10.2
				6/21/1995	9.9
				6/22/1995	9.11
				6/23/1995	9.7
				6/24/1995	9.75
				10/1/1995	12.42
				10/3/1995	12.42
				5/1/1996	8.1
				8/4/1996	10.75
				11/5/1996	11.2
				9/30/1997	11.62
				12/30/1997	9.725
				4/1/1998	8.275
				9/30/1998	13.4
				4/22/1999	9.5
				10/4/1999	13.6
				3/30/2000	8.25
				9/6/2000	13.4
				3/30/2001	10.9
				10/6/2001	14.2
				5/2/2002	11.2
				3/17/2005	-
RW-5	Upper	17	2098.09	7/25/1991	8.06
				10/5/1991	No Data
				12/17/1991	7.4
				9/29/1993	9.35
				9/30/1997	Not Measured
				10/4/1999	11.7
				3/17/2005	-

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-6	Upper	17	2097.52	7/25/1991	8.59
				10/5/1991	No Data
				12/17/1991	10.8
				9/29/1993	11.54
				6/2/1994	8.37
				3/30/1995	5.9
				10/3/1995	11.18
				5/1/1996	6.27
				8/4/1996	8.925
				11/5/1996	9.25
				9/30/1997	10.25
				12/30/1997	7.275
				4/1/1998	5.8
				9/30/1998	12.4
				4/22/1999	8.45
				10/4/1999	13.6
				9/30/2000	8
				9/6/2000	12.2
				3/30/2001	10.1
				10/6/2001	13
				5/5/2002	9.6
				6/21/2002	9.16
				11/20/2002	13.9
				4/4/2003	6.4
				10/1/2003	12.6
				4/16/2004	7.5
				3/17/2005	8.61
RW-7	Upper	15.25	2099.57	12/17/1991	12.3
				3/30/1995	7.4
				10/3/1995	12.32
				5/1/1996	7.07
				8/4/1996	10.2
				11/5/1996	10.47
				9/30/1997	11.21
				12/30/1997	9.15
				4/1/1998	7.32
				9/30/1998	13.04
				4/22/1999	8.5
				10/4/1999	13.85
				3/30/2000	7
				9/6/2000	13.25
				3/30/2001	9.8
				10/6/2001	14.6
				5/5/2002	9.8
				11/2/2002	13.77
				4/4/2003	8
				10/1/2003	13.4
				3/17/2005	10.43

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-8	Upper	15.25	2099.27	12/17/1991	11.2
				3/30/1995	9.05
				6/19/1995	11
				6/20/1995	10.3
				6/21/1995	10.4
				6/22/1995	10.3
				6/23/1995	10.3
				6/24/1995	10.225
				10/3/1995	13.1
				5/1/1996	8
				8/4/1996	11.35
				11/5/1996	11.6
				9/30/1997	12.15
				12/30/1997	9.775
				4/1/1998	7.9
				9/30/1998	14.25
				4/22/1999	10.4
				10/4/1999	14.8
				3/30/2000	7.9
				9/6/2000	13.8
				3/30/2001	11.2
				10/6/2001	15.1
				5/5/2002	9.8
				6/21/2002	10.4
				11/20/2002	13.2
				4/4/2003	8.85
				10/1/2003	14.8
				3/17/2005	10.81
RCW-1	NA	NA	NA	6/24/1993	No Data
				10/18/1993	No Data
				6/29/1995	16.4
				6/30/1995	15
				7/1/1995	15
				7/2/1995	14.975
				7/5/1995	15.3
				8/11/1995	15.61
				8/13/1995	15.92
				8/15/1995	15.93
				8/17/1995	16.03
				8/21/1995	16.35
				8/23/1995	16.5
				8/25/1995	16.5
				10/3/1995	18.2
				11/5/1996	No Data
				9/30/1997	No Data
				4/1/1998	No Data
				4/22/1999	No Data
				3/30/2000	No Data
				6/21/2002	14.25
				4/1/2003	No Data
				3/17/2005	Not Measured

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RCW-2	NA	NA	NA	6/24/1993	No Data
				10/18/1993	No Data
				10/3/1995	15.42
				5/1/1996	13.4
				9/30/1997	15.8
				4/1/1998	13.55
				4/22/1999	No Data
				3/30/2000	No Data
				6/21/2002	13.88
				4/1/2003	No Data
				3/17/2005	Not Measured
RCW-3	NA	NA	NA	6/24/1993	No Data
				10/18/1993	No Data
				6/29/1995	14.8
				6/30/1995	14.3
				7/1/1995	14.2
				7/5/1995	14.35
				7/21/1995	14.225
				10/3/1995	16.45
				5/1/1996	13
				8/4/1996	16.33
				11/5/1996	15.4
				9/30/1997	No Data
				4/1/1998	No Data
				4/22/1999	No Data
				3/30/2000	No Data
				6/21/2002	13.67
				4/1/2003	No Data
				3/17/2005	Not Measured
RCW-4	NA	NA	NA	10/18/1993	No Data
				10/3/1995	17.05
				3/17/2005	Not Measured
MW-18D	Lower	27.5	NA	3/17/2005	13.64
MW-18S	Upper	14.3	NA	3/17/2005	6.18
MW-3D	Lower	36.4	NA	4/4/2003	5.1
				4/16/2004	No Data
				3/17/2005	12.31
RW-3RD	Lower	39.3	NA	4/16/2004	15.7
				3/17/2005	15.55
RW-3RS	Upper	15.2	NA	4/16/2004	10.45
				3/17/2005	11.07
GA-1	Upper	17.3	NA	9/29/1993	11.33
				3/17/2005	11.25
DQW-101	Lower	25	2088.15 *	1/31/2002	12
				6/21/2002	13.45
				3/17/2005	13.78
DQW-102	Lower	25	2097.52 *	2/4/2002	6
				6/21/2002	15.44
				3/17/2005	15.44
DQW-103	Lower	24.9	2099.22 *	2/5/2002	6.25
				6/21/2002	13.79
				4/16/2004	13.3
				3/17/2005	14.03
DQW-104	Lower	25	2097.02 *	1/24/2002	6
				6/21/2002	13.07
				3/17/2005	13.15
DQW-105	Lower	25	2098.56 *	1/22/2002	6
				6/21/2002	12.91
				3/17/2005	12.88

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
DQW-106	Lower	24.7	2098.71 *	2/8/2002	6
				6/21/2002	13.03
				3/17/2005	13.12
DQW-107	Lower	24.8	2100.65 *	2/5/2002	6
				6/21/2002	8.79
				3/17/2005	8.40
DQW-108	Lower	25	2101.14 *	2/6/2002	6
				6/21/2002	9.18
				3/17/2005	8.81
DQW-109	Lower	25	2096.33 *	2/7/2002	6
				6/21/2002	14.48
				3/17/2005	14.15
CW-1	Upper	15.3	2100.63	4/22/1996	3.09
				2/28/2002	2.5
				3/17/2005	Not Measured
CW-2	Upper	14.7	2100.65	4/22/1996	3.29
				2/28/2002	2.61
				6/21/2002	5.51
				3/17/2005	5.10
CW-3	Upper	15	2100.51	4/22/1996	3.47
				6/21/2002	5.86
				2/28/2002	3.2
				3/17/2005	Not Measured
CW-4	Upper	14.7	2101.14	4/22/1996	3.64
				2/28/2002	3.2
				6/21/2002	5.82
				3/17/2005	5.81
CW-5	Upper	15	2100.49	4/22/1996	3.17
				2/28/2002	2.24
				3/17/2005	Not Measured
CW-6	Upper	15	2099.8	4/22/1996	2.88
				3/17/2005	-
CW-7	Upper	15	2100.48	4/22/1996	3.05
				3/17/2005	Not Measured
CW-8	Lower	25	2100.48	4/22/1996	9.28
				2/28/2002	7.85
				6/21/2002	5.18
				3/17/2005	Not Measured
CW-9	Upper	15	2100.35	4/22/1996	3.10
				2/28/2002	2.11
				6/21/2002	5.57
				3/17/2005	Not Measured
CW-10	Upper	15	2100.46	4/22/1996	3.51
				2/28/2002	2.3
				6/21/2002	5.85
				3/17/2005	Not Measured
CW-11	Upper	15	2099.7	4/22/1996	5.47
				3/17/2005	-
CW-12	Upper	15	2099.54	4/22/1996	5.85
				3/17/2005	-
CW-13	Lower	30	2099.37	4/22/1996	11.90
				3/17/2005	-
CW-14	Lower	25	2099.22	4/22/1996	11.11
				3/17/2005	-
CW-15	Upper	15	2099.59	4/22/1996	4.73
				3/17/2005	-

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
CW-16	Lower	24.75	2098.71	2/17/1997	14.27
				2/28/2002	10.94
				6/21/2002	13.38
				3/17/2005	13.46
CW-17	Upper	12.25	2098.71	2/17/1997	4.80
				2/28/2002	4.82
				6/21/2002	5.29
				3/17/2005	7.46
QI-S	Lower	18	NA	3/17/2005	5.86
MW-8S	Upper	NA	NA	3/17/2005	7.86
MW-8D	Lower	25	NA	3/17/2005	14.79
MW-8PN	Upper?	17.6	NA	3/17/2005	8.67
MW-19 S	Upper	16.1	NA	3/17/2005	6.58
MW-19 D	Lower	29.2	NA	3/17/2005	14.04
MW-20 S	Upper	13.5	NA	3/17/2005	7.06
MW-20 D	Lower	26	NA	3/17/2005	13.45

Key::

* = Estimated Elevation - Top of Casing (above mean sea level)

- = Well is abandoned

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LOG OF EXPLORATION BORING

PROJECT: Sandcreek Phase II Investigation
Sandpoint, Idaho
JOB NO.: 188-1486-12
DRILL TYPE: SOIL CME-75
ROCK
DRILLED BY: E. Kelly
LOGGED BY: P. Hunter
REMARKS: Installed 4" monitoring well, screened interval from 11' - 1' below ground surface.

HOLE NO. MW-2 (upper)
SHEET 1 OF 1
LOCATION: NW Corner Larch Street and US 95
ELEVATION: TOP OF HOLE 2101.02
GROUNDWATER 2097.50
DATE: HOLE STARTED 1/16/90
COMPLETED 1/16/90

DEPTH (Feet)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	S.P.T. (N) (BLOWS/FT.)	In-Situ OVA Reading (ppm)	Head-Space Analysis (ppm)
0.0		FILL, Silty GRAVEL with sand and cobble to sandy lean CLAY; medium dense, moist, non-plastic to plastic fines, cobble-size material, subroun, coarse to fine sand, mottled, with trash, rubble, dark brown to brown.	LSS	29		0
3.5		Sandy SILT; firm to stiff, moist to saturated, nonplastic, fine sand, interbedded with silty sand lenses, brown, (ML).	LSS	27		0
5.8		Silty SAND; medium dense, saturated, granular nonplastic, medium to fine sand, brown, (SM).	LSS	8		0
6.5		Static Water Level (5/27/89) Lean CLAY; very stiff, moist, medium plasticity, fine sand, brown, (CL).	LSS	17		0
9.0		Silty SAND; loose, saturated, granular non-plastic, medium to fine grain, brown, (SM).				
10.0		Lean CLAY; firm, saturated, medium plasticity, brown, (CL).	LSS	6		0
12.0		BOTTOM OF HOLE				

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LOG OF EXPLORATION BORING

PROJECT: Sandcreek Phase II Investigation
Sandpoint, Idaho
JOB NO.: 188-1486-12
DRILL TYPE: SOIL CME-75 with 10" Hollow Stem Auger
ROCK
DRILLED BY: E. Kelly
LOGGED BY: M. Petaja
REMARKS:

HOLE NO. MW-8
SHEET 1 OF 1
LOCATION: South of Quality Inn
East of railroad tracks
ELEVATION: TOP OF HOLE 2101.25
GROUNDWATER 2097.84
DATE: HOLE STARTED 1/9/90
COMPLETED 1/10/90

DEPTH (Feet)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	S.P.T. (N) (BLOWS/FT.)	In-Situ OVA Reading (ppm)	Head-Space Analysis (ppm)
0.0		Asphaltic CONCRETE				
0.2		FILL, Silty GRAVEL with sand; medium dense, slightly moist, non-plastic, subround, 2 inch minus, coarse to fine sand, brown.	SSS	12		
2.2		Silty CLAY with sand; stiff, moist, slightly plastic, fine sand with silty SAND layers, brown, detectable product odor, (CL-ML).	SSS	11		
			LSS	13	60	110
			SSS	14	80	150
8.0		GWL: (1-10-90)				
10.0		Lean CLAY; firm, saturated, highly plastic, interbedded with sandy SILT layers, gray, (CL) product odor.	LSS	8	300	400
			SSS	1	200	300
			LSS	12	65	100
			SSS	12	10	20
			500 ML	for TPH		
			125 ML	for BTEX		
19.0		BOTTOM OF HOLE				

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LOG OF EXPLORATION BORING

PROJECT: Sandcreek Phase II Investigation
Sandpoint, Idaho
188-1486-12

JOB NO.:

DRILL TYPE: SOIL CME-75 with 10" Hollow Stem Auger
ROCK

DRILLED BY: E. Kelly
LOGGED BY: M. Petaja
REMARKS:

HOLE NO. MW-9
SHEET 1 OF 1
LOCATION: SW of Quality Inn

ELEVATION: TOP OF HOLE
GROUNDWATER 1/9/90
DATE: HOLE STARTED 1/9/90
COMPLETED

DEPTH (Feet)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	S.P.T. (N) (BLOWS/FT.)	In-Situ OVA Reading (ppm)	Head-Space Analysis (ppm)
0.0		FILL, Silty GRAVEL with Sand; loose, saturated, non-plastic, subround, coarse to fine sand, 1 inch gravel, brown.	SSS	7		
			SSS	14		
3.0		Sandy SILT; stiff, moist, non-plastic, fine sand, brown, (ML). First water at 6.5 feet.				
			LSS	11	1	5
6.0		Silty SAND; medium dense, moist to saturated,				
6.5		non-plastic, medium to fine grain, brown (SM). GWL: (1-9-90)	SSS	10	5	8
7.3		Lean CLAY; stiff, saturated, moderately plastic, brown, (CL).				
9.0		Silty SAND; loose, saturated, non-plastic, medium to fine sand, brown, (SM).	LSS	5		
10.5		Lean CLAY; soft, saturated, highly plastic, brown, (CL).	LSS	4		
			LSS	8		
			SSS	6		
			500 ML			
			125 ML			
19.0		BOTTOM OF HOLE				

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LOG OF EXPLORATION BORING

PROJECT: Sandcreek Phase II Investigation
Sandpoint, Idaho
JOB NO.: 188-1486-12
DRILL TYPE: SOIL CME-75
ROCK
DRILLED BY: E. Kelly
LOGGED BY: P. Hunter
REMARKS: Installed 4" monitoring well screened from 18 - 3 feet below ground surface.

HOLE NO. MW-10
SHEET 1 OF 1
LOCATION: See Figure 2
Behind Quality Inn
ELEVATION: TOP OF HOLE 2100.87
GROUNDWATER 2096.93
DATE: HOLE STARTED 1/16/90
COMPLETED 1/16/90

DEPTH (Feet)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	S.P.T. (N) (BLOWS/FT.)	In-Situ OVA Reading (ppm)	Head-Space Analysis (ppm)
0.0						
0.5		FILL, GRAVEL.				
		Fill - Silty SAND with gravel; loose, moist, poorly graded, black.	LSS	11	0	4
2.0		Lean CLAY; firm, slightly moist, moderately plastic, light brown.	SSS	8		
		Becomes very moist and softer at 3.5'.	LSS	5	0	4
			SSS	10	0	4
		Saturated at 6.5'.	LSS	9	0	4
8.0		Silty SAND; loose, saturated, poorly graded, very fine sand, light brown, (SM).	SSS	7	0	4
9.0		Silty CLAY; soft, very moist to wet, moderately plastic, light brown, (CL). Saturated at 9.5'.				
10.0					Collected Soil Samples for TPH and BTEX Analysi	
		Lean CLAY; firm, saturated, moderately plastic, light brown.	LSS	13	0	4
			SSS	4	0	4
			LSS	10	0	4
			SSS	30	0	4
15.0		Silty SAND; medium dense, saturated, poorly graded, very fine sand, light brown, (SM). Layer of lean CLAY from 15.5 to 16.0'.	LSS	8	0	4
18.5		BOTTOM OF HOLE				

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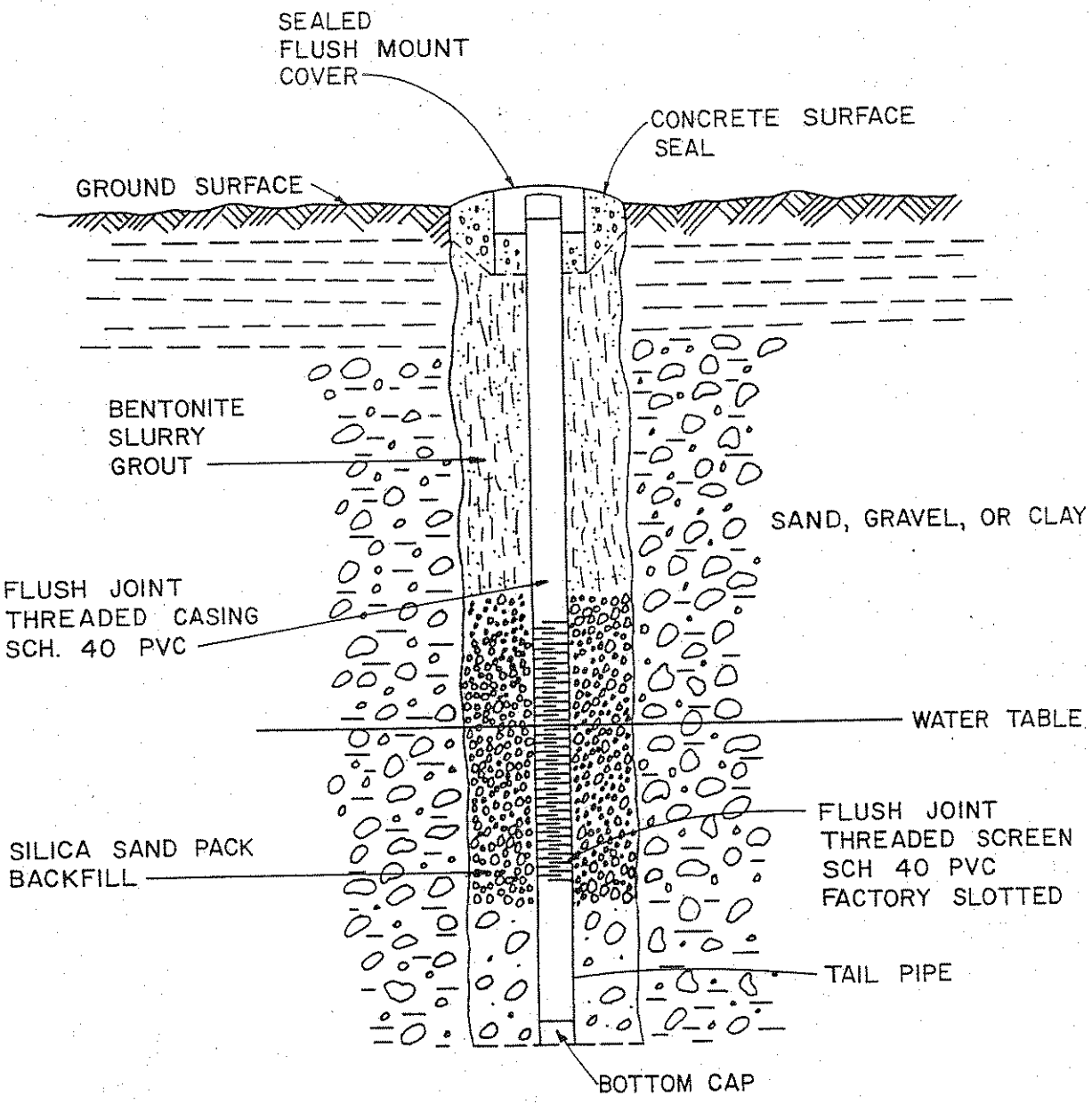
LOG OF EXPLORATION BORING

PROJECT:	Sandcreek Phase II Investigation Sandpoint, Idaho	HOLE NO.	MW-11
		SHEET	1 OF 1
JOB NO.:	188-1486-12	LOCATION:	East of Quality Inn adjacent to US 95
DRILL TYPE: SOIL	CME-75 with 10" Hollow Stem Auger	ELEVATION: TOP OF HOLE	2098.14
ROCK		GROUNDWATER	2090.17
DRILLED BY:	E. Kelly	DATE: HOLE STARTED	1/11/90
LOGGED BY:	M. Pataja	COMPLETED	1/11/90
REMARKS:			

DEPTH (Feet)	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	S.P.T. (N) (BLOWS/FT.)	In-Situ OVA Reading (ppm)	Head-Space Analysis (ppm)
0.0	Asphaltic Concrete.				
0.3	FILL - Silty GRAVEL with sand, medium dense, slightly moist, non-plastic, subangular, 1 inch minus, coarse to fine sand, asphalt coated, brown to black.	LSS	22		
1.0	Sandy SILT; very stiff, slightly moist, non-plastic, fine sand, brown. (ML).	SSS	14		
5.8	Silty SAND; loose, moist to wet, non-plastic, medium to fine sand, brown, (SM).	LSS	8		
6.3	Sandy SILT; firm, wet, non-plastic, medium to fine sand, brown, (ML).	SSS	6		
7.0	CLAY; stiff, moist to saturated, high plasticity, brown, (CL). Encountered water at 8.0 feet.				
		LSS	12		
11.5	Silty SAND; medium dense, saturated, non-plastic, medium to fine sand, brown (SM).	SSS	22		
13.0	Lean CLAY; soft, saturated, highly plastic, with silty SAND layers, gray, (CL).				
		LSS	6		
		SSS	10		
17.0	BOTTOM OF HOLE				



SCHEMATIC SHOWING TYPICAL MONITORING WELL CONSTRUCTION DETAIL

FIGURE 7

Chen-Northern, Inc.	DETAIL OF TYPICAL MONITORING WELL CONSTRUCTION			
DATE	DRAWN	REVIEWED	SCALE	PROJECT NO.
MARCH 1990	JMS	RAN	NTS	189-1486-12

TABLE 2-2

Monitoring Well Construction Details

(values expressed in feet)

Monitoring Well No.	Depth of Boring	Total Well Depth	Screened Interval
MW-2U	12.0	11.5	1.0 - 11.0
MW-8	19.0	18.8	2.3 - 13.3
MW-9	19.0	18.8	3.3 - 13.3
MW-10	18.5	18.5	3.0 - 13.0
MW-11	17.9	17.9	2.4 - 12.4

Soil boring logs indicate there are four major sediment types: a silty sand, a sandy silt, a silty clay and a lean clay, with the exception of monitoring well MW-8 where only a silty clay and lean clay were encountered. These units appear to be successively deposited, although other thin interfingering sand and silt lenses are present within the major units. Figure 8 is a cross-sectional diagram displaying the lateral continuity of sedimentary units between borings; the line of section (A-A') is shown on Figure 5. This stratigraphic sequence was probably deposited during a transgressive stage of glacial Lake Pend Oreille.

The hydraulic conductivity of the shallow water-bearing unit underlying the site was estimated by performing a series of rising and falling head (slug) tests. Semi-log plots of water level recovery versus time were calculated in accordance with methodology developed by Bouwer and Rice (1976) on monitoring wells MW-2, MW-7, and MW-9. The data following the initial portion of the plot appears to be more representative of groundwater flow from the aquifer and was used to calculate the hydraulic conductivity of the water-bearing zone. Values for hydraulic conductivity are presented in Table 2-3. All slug test data, time/recovery plots, and calculations are contained in Appendix D.

TABLE 2-4

Monitoring Well Elevation Data

Monitoring Well No.	Date Measured	Static Water Level BTC[1]	Ground Surface Elevation*	Elevation Top of Casing*	Static Water Elevation*
MW-1	1/16/90	4.85	2100.96	2100.61	2095.76
MW-2L	1/16/90	3.74	2101.07	2100.64	2096.90
MW-2U	1/16/90	3.24	2101.02	2100.74	2097.50
MW-3	1/16/90	3.20	2099.30	2099.01	2095.81
	2/14/90	2.57	---	---	2096.44
MW-4	1/16/90	13.40	2097.84	2097.49	2084.09
	2/14/90	13.51	---	---	2083.98
MW-5	1/16/90	15.03	2098.80	2098.56	2083.53
	2/14/90	13.40	---	---	2085.16
MW-6	1/16/90	10.85**	2099.08	2098.81	2087.96
	2/14/90	8.24**	---	---	2090.57
MW-7	1/16/90	4.68	2098.59	2098.33	2093.65
	2/14/90	3.49	---	---	2094.84
MW-8	1/16/90	3.05	2101.25	2100.89	2097.84
	2/14/90	2.39	---	---	2098.50
MW-9	1/16/90	3.74	N.A.	N.A.	---
MW-10	1/16/90	3.58	2100.87	2100.51	2096.93
MW-11	1/16/90	8.35	2098.94	2098.52	2090.17
	2/14/90	6.48	---	---	2092.04

[1]BTC - Below top of casing.

[2]N.A. - Not determined because snow cover prevented locating well.

* Elevations are expressed as feet AMSL.

** 0.65 feet of free product was measured in this well.

Suite 201, 2005 Ironwood Parkway, Coeur d'Alene, Idaho 83814 (208) 667-1574

TEST HOLE RECORD

DRILLER: Jim Erdman
HELPER: Bryan Rock
RIG: CME 75 - 6" Auger
LOCATION:

DATE: 9/6/90
TIME: 8:45 a.m.
OBSERVER: Jim DeSmet
HOLE ID: RW#1
CLIENT: Northwest Company

DEPTH (ft)	DESCRIPTION	SAMPLE	COMMENTS
0 - 3.5	Med. Brown Sandy Gravelly Silt		
3.5 - 6.0	Med. Brown Sandy Silty Clay - Firm		
6.0 - 8.0	Lt. Brown/Grey Silty Clay - Firm		
8.0 - 13.0	Blue Grey Silty Clay - Soft - Odor - Petroleum		
13.0 - 14.0	Lt. Brown Silty Clay - Firm - Strong Odor		
14.0 - 15.0	Grey Silty Sand - Loose - Strong Odor & Water		
15.0 - 20.0	Dark Grey Silty Sand - Loose - No Odor		
Well Complete with 6" long cap, 10 ft. of 20 Slot Screen, 8' of 4" Blank PVC, Silica 10/20 screen sand to 2' above screen, bottom of cap at 17'.			
Two feet of Bentonite placed over sand with grout above that.			

J-U-B ENGINEERS, Inc.
Suite 201, 2005 Ironwood Parkway, Coeur d'Alene, Idaho 83814 (208) 667-1574

TEST HOLE RECORD

DRILLER: Jim Erdman
HELPER: Bryan Rock
RIG: CME 75 - 6" Auger
LOCATION:

DATE: 9/6/90
TIME: 1:00 p.m.
OBSERVER: Jim DeSmet
HOLE ID: RW#2
CLIENT: Northwest Company

DEPTH (ft)	DESCRIPTION	SAMPLE	COMMENTS
0 - 3.5	Gravelly Silt Loam Fill		
3.5 - 8.5	Med. Brown Silty Clay		
8.5 - 10.0	Firm Blue Grey Silty Clay - Odor of Fuel/Water		
10.0 - 14.0	Soft Blue Grey Clay		
14.0 - 20.0	Soft Dark Grey Silty Sand - Slight Odor		
Dupl. Sample			

J-U-B ENGINEERS, Inc.
Suite 201, 2005 Ironwood Parkway, Coeur d'Alene, Idaho 83814 (208) 667-1574

TEST HOLE RECORD

DRILLER: Jim Erdman
HELPER: Bryan Rock
RIG: CME 75 - 6" Auger
LOCATION:

DATE: 9/7/90
TIME: 7:49 a.m.
OBSERVER: Jim DeSmet
HOLE ID: RW#3
CLIENT: Northwest Company

DEPTH (ft)	DESCRIPTION	SAMPLE	COMMENTS
0 - 1.0	Asphalt/Grannular Fill		
1.0 - 1.5	Rounded Aggregate Fill		
1.5 - 3.5	Blue Grey Silty Fine Sand - Slight Odor		
3.5 - 14.0	Blue Grey Silty Clay - Sluff - Water/Odor of Gas		
14.0 - 18.0	Dark Grey Silty Fine Sandy		
Bottom of Hole - 18'			
4" completion std. as RW#1			

J-U-B ENGINEERS, Inc.
Suite 201, 2005 Ironwood Parkway, Coeur d'Alene, Idaho 83814 (208) 667-1574

TEST HOLE RECORD

DRILLER: Jim Erdman
HELPER: Bryan Rock
RIG: CME 75 - 6" Auger
LOCATION:

DATE: 9/7/90
TIME: 10:18 a.m.
OBSERVER: Jim DeSmet
HOLE ID: RW#4
CLIENT: Northwest Company

DEPTH (ft)	DESCRIPTION	SAMPLE	COMMENTS
0 - 1.0	Asphalt/Grannular Fill		
1.0 - 3.5	Sandy Silty/Fill		
3.5 - 4.5	Silty Fine Sand - Med. Brown		
4.5 - 7.0	Med. Brown Find Silt/Clay - Firm		
7.0 - 13.0	Blue Grey Silty/Clay - Soft - Odor of Old Fuel		
13.0 - 18.0	Dark Grey Silty Sand - Soft - Odor of Old Fuel		
Same Completion as RW#1			

J-U-B ENGINEERS, Inc.
Suite 201, 2005 Ironwood Parkway, Coeur d'Alene, Idaho 83814 (208) 667-1574

TEST HOLE RECORD

DRILLER: Jim Erdman
HELPER: Bryan Rock
RIG: CME 75 - 6" Auger
LOCATION:

DATE: 9/7/90
TIME: 1:30 p.m.
OBSERVER: Jim DeSmet
HOLE ID: RW#5
CLIENT: Northwest Company

DEPTH (ft)	DESCRIPTION	SAMPLE	COMMENTS
0 - 2.0	Sandy Gravelly Fill		
2.0 - 7.0	Brown/Blue Grey Mottled Silt - Firm		
7.0 - 13.0	Blue Grey Fine Sandy Silt - Soft - Water		
13.0 - 15.0	Dark Grey Silty Sand - Water		
15.0 - 18.0	Silty Clay w/Sandy ??? Beds		
18.0 - 20.0	Silty Fine Sand		
Same Complete Scheme as RW#1			

J-U-B ENGINEERS, Inc.
Suite 201, 2005 Ironwood Parkway, Coeur d'Alene, Idaho 83814 (208) 667-1574

TEST HOLE RECORD

DRILLER: Jim Erdman
HELPER: Bryan Rock
RIG: CME 75 - 6" Auger
LOCATION:

DATE: 9/7/90
TIME: 4:30 p.m.
OBSERVER: Jim DeSmet
HOLE ID: RW#6
CLIENT: Northwest Company

DEPTH (ft)	DESCRIPTION	SAMPLE	COMMENTS
	Drill 18' Deep	One Sample Taken from Auger Flights	
	Same Completion Scheme	Odor of Petroleum in Soil	

PROJECT: Holland & Hart/
Sandpoint Husky Sta/ID

RECORD OF BOREHOLE GA-1

SHEET 1 OF 1

DATUM: MSL

PROJECT NUMBER: 933-1281

BORING LOCATION: 50 ft NE of Quality Inn

BORING DATE: 9/23/93

DEPTH FEET	BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH	NUMBER	TYPE	BLOWS / 6 IN. (140 lb. hammer, 30 inch drop)	N	RECOVERY (%)	PENETRATION RESISTANCE BLOWS/FT (0 10 20 30 40 50) / WATER CONTENT, PERCENT (Wp W Wl)	PIEZOMETER GRAPHIC / WATER LEVEL
0	8-inch O.D. Hollow-stem Augers	Asphalt										Flush-mount Well Monument; Concrete
		Dark yellowish brown (10YR4/2) silty, sandy GRAVEL, (FILL)			2.5	1	SS			100		Locking Well Plug; Bentonite Chips
		Moderate yellowish brown (10YR5/4) fine sandy SILT	SM									
		Moderate yellowish brown (10YR5/4) silty CLAY, moist, plastic	CL		4.0							
5		Moderate yellowish brown (10YR5/4) clayey SILT, few small dark brown pockets of clay	ML		5.0	2	SS			100		4-inch PVC Casing
					6.5							
		Light olive brown (5Y5/6) silty CLAY, stiff, plastic	CL		7.5	3	SS			100		Sand (CSSI 10-20)
					9.0							
10		Dusky yellow (5Y6/4) to light olive brown (5Y5/6) fine sandy SILT, dry	SM		10.0	4	SS			33		9/23/93
		Dusky yellow (5Y6/4) to light olive gray (5Y5/2) silty CLAY, little fine sand, wet at 13.5 ft	CL		11.5							
					12.5	5	SS			100		4-inch Screen PVC (0.020" slots)
					14.0							
15		Light olive gray (5Y5/2) silty fine SAND, wet, loose	SM		15.0	6	SS			100		
		Light olive gray (5Y5/2) silty CLAY, wet, plastic	CL		16.5							
		Soft, light olive gray (5Y5/2) silty CLAY, wet, plastic, very thin fine sand laminations at 18.75 ft	CL		17.5	7	SS			100		
		End of borehole at 17.6 feet										
		Sampled to 19 feet			19.0							
20												
25												
30												

DRILL RIG: Mobile B-61

DRILLING CONTRACTOR: Ruen Drilling

DRILLER: J. Erdman

Golder Associates

LOGGED: R. Biegen

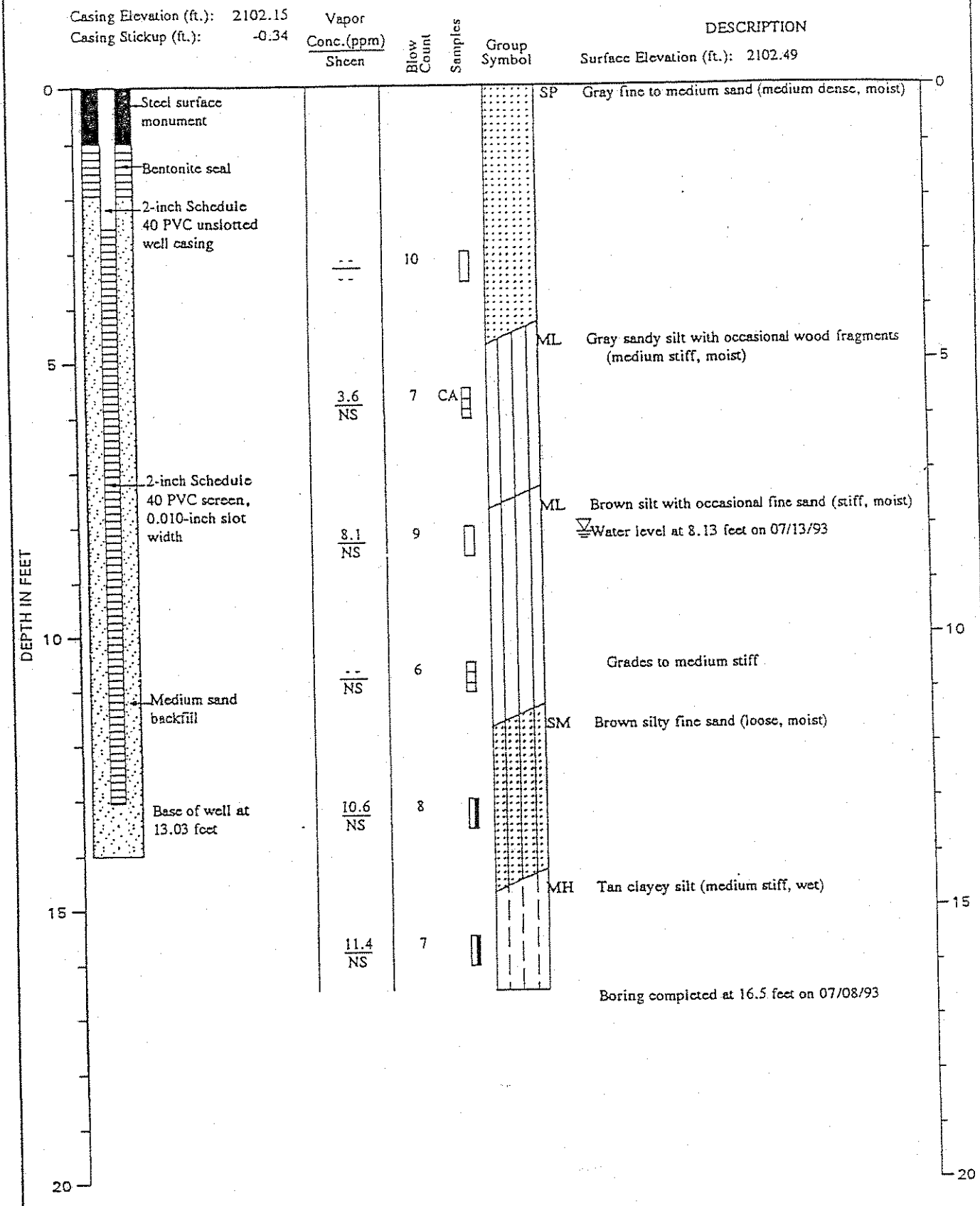
CHECKED:

DATE:

Table 1
Monitoring Well GA-1 Specifications

Well Number	Total Depth of Boring (ft. bgs)	Borehole Diameter (inches)	Casing/ Screen Material	Screen Slot Size (inches)	Screened Interval (ft. bgs)	Bottom of Casing/ Screen (ft. bgs)	Filter Pack Interval ((ft. bgs)	Filter Pack Material	Casing Stickup (ft. ags)	Comments
GA-1	17.6	8	Sch. 40 PVC	0.020	7.2 - 16.7	17.6	5.0 - 17.6	CSSI 10-20	-0.57	Flush-mount monument.

MONITORING WELL NO. MW11(LP)



Note: See Figure A-2 for explanation of symbols

Geo Engineers

LOG OF MONITORING WELL

FIGURE A-3

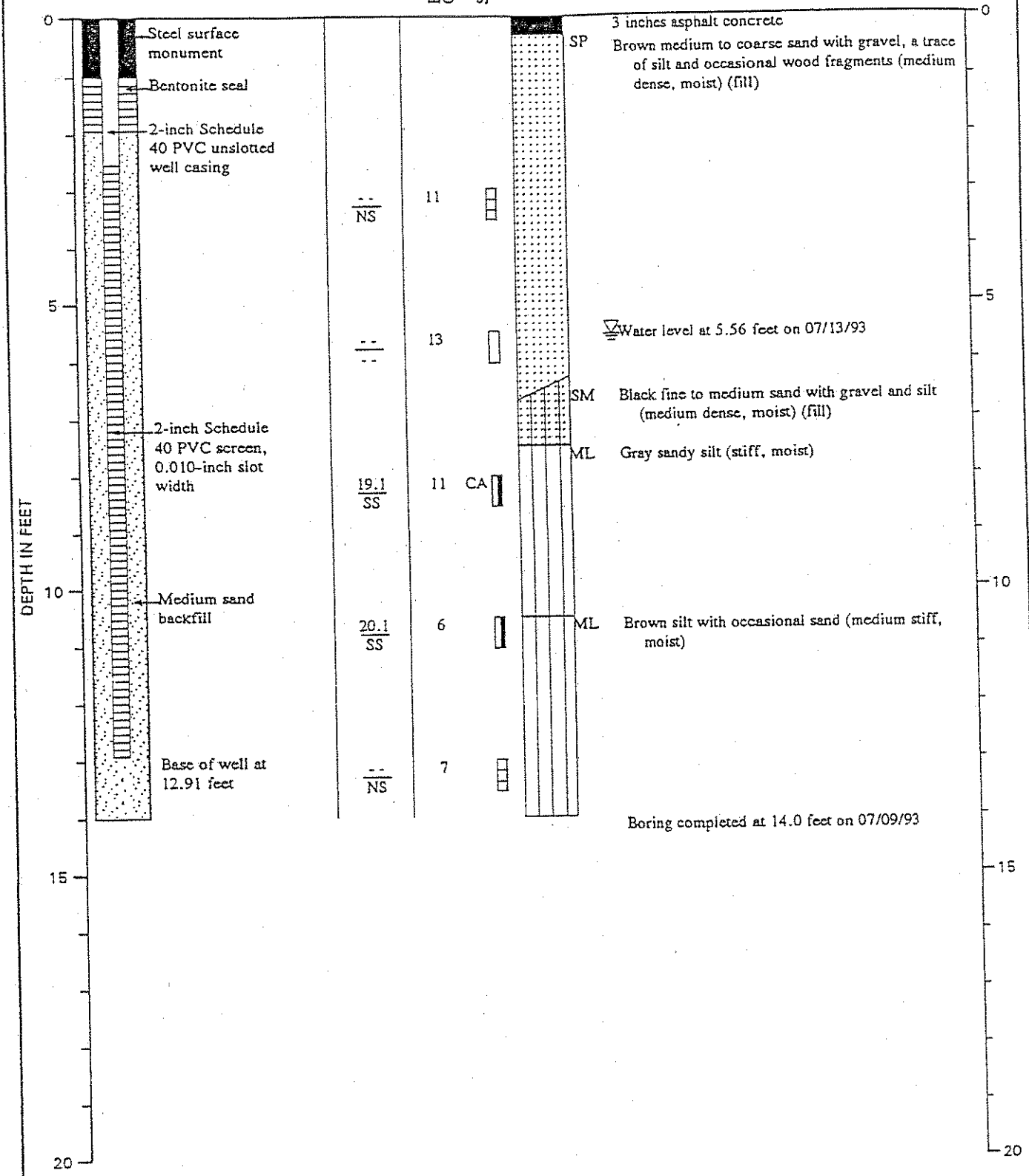
:RTK:CMS 8/4/93

3158-001-508

MONITORING WELL NO. MW12(LP)

WELL SCHEMATIC

Casing Elevation (ft.): 2101
Casing Stickup (ft.): 0.34



Note: See Figure A-2 for explanation of symbols

Geo Engineers

LOG OF MONITORING WELL

FIGURE A-4

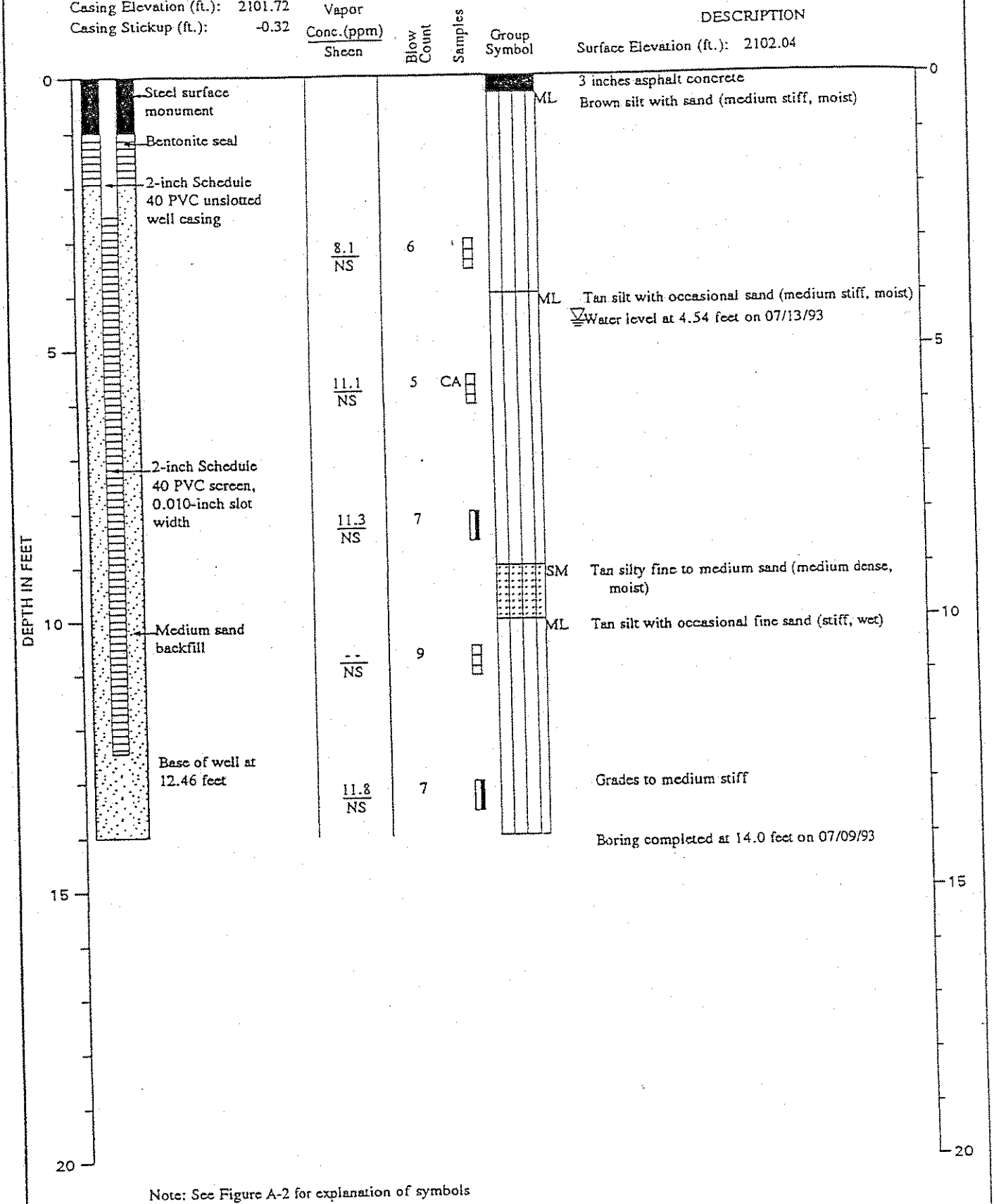
:RTK:CMS 8/16/93

3158-001-SOB

MONITORING WELL NO. MW-13(LP)

WELL SCHEMATIC

Casing Elevation (ft.): 2101.72
Casing Stickup (ft.): -0.32



Note: See Figure A-2 for explanation of symbols

Geo Engineers

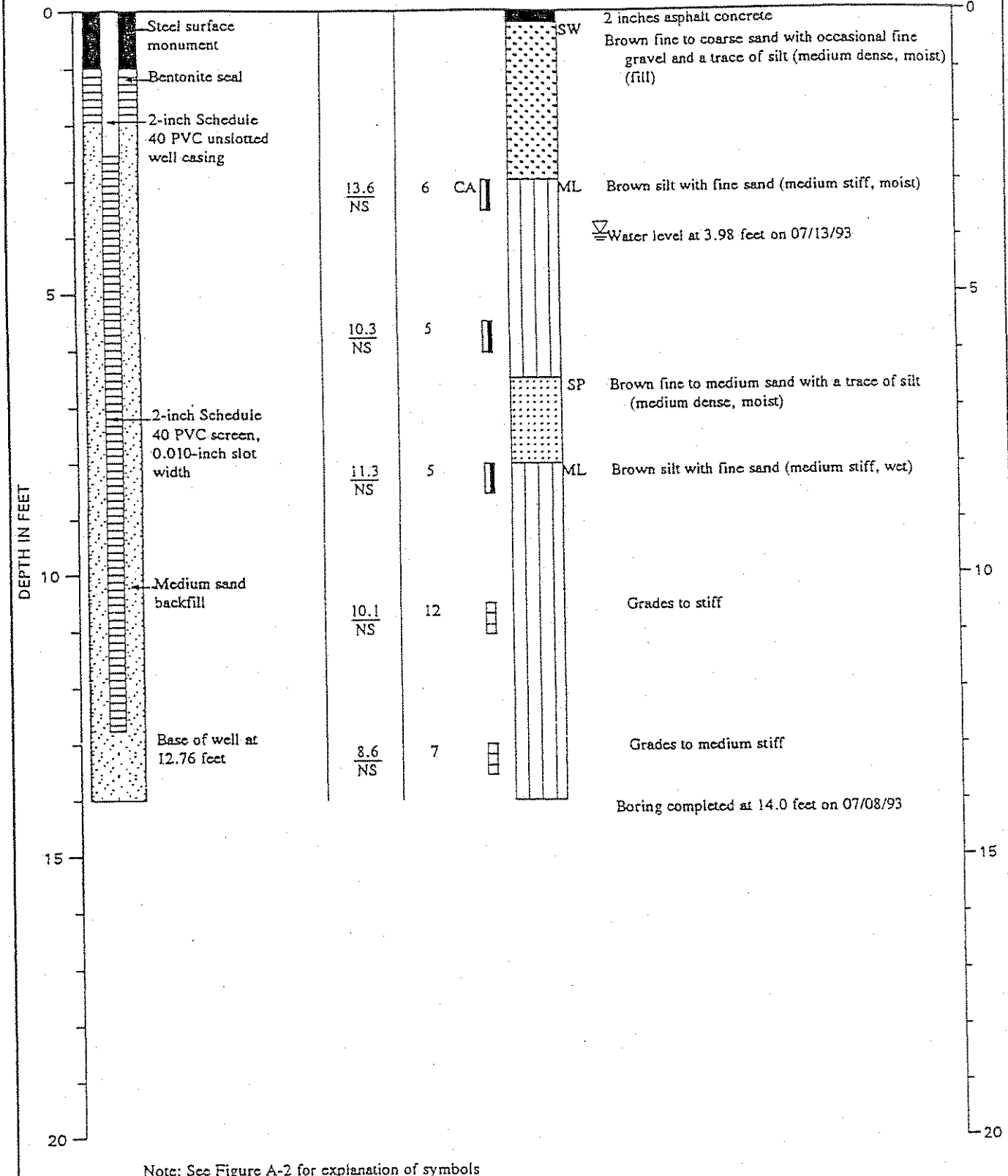
LOG OF MONITORING WELL

FIGURE A-5

:RTK:CMS 8/4/93

3158-001-S08

MONITORING WELL NO. MW14(LP)



Note: See Figure A-2 for explanation of symbols

Geo Engineers

LOG OF MONITORING WELL

FIGURE A-6

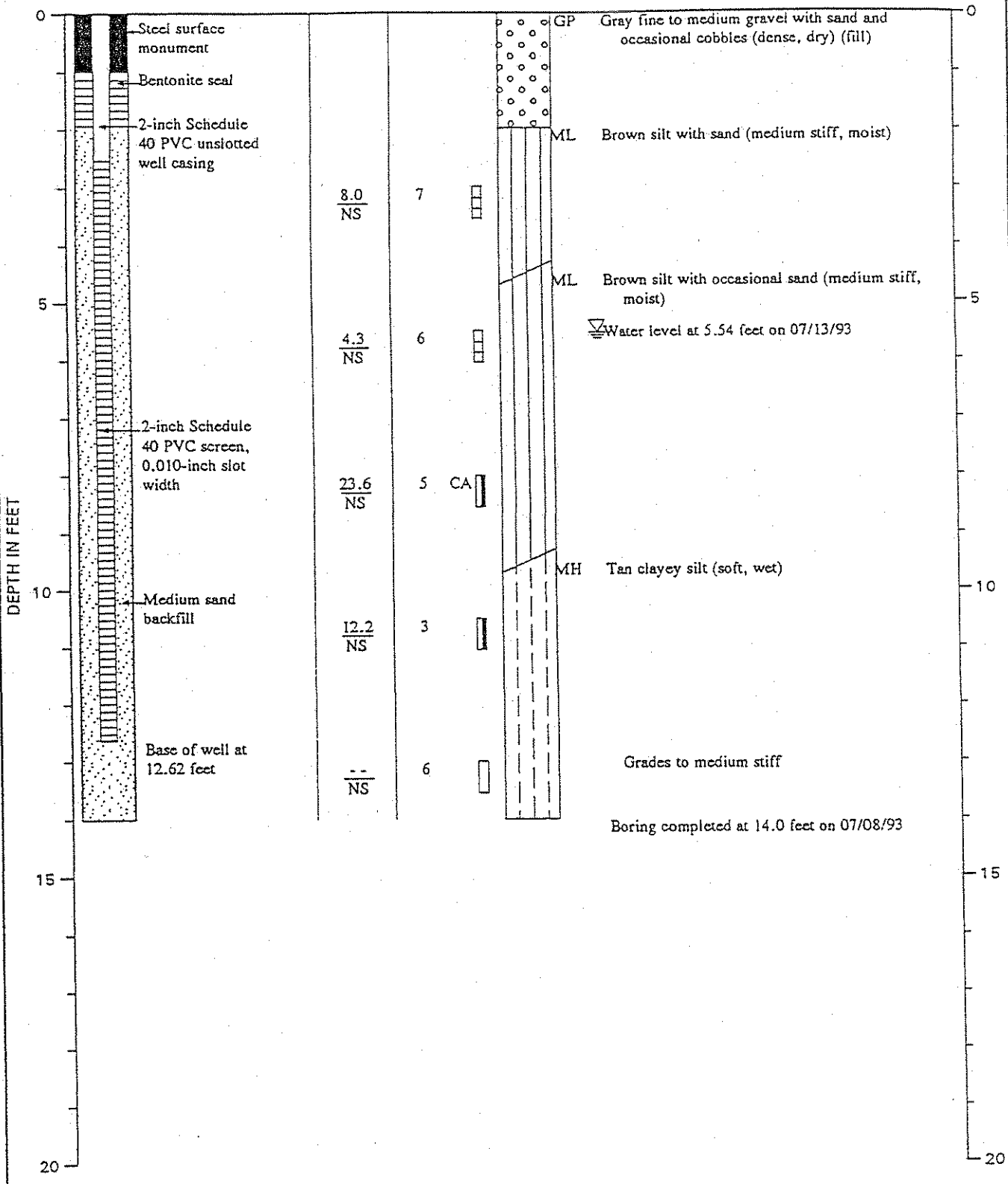
:RTK:CMS 8/4/93

3158-001-S08

MONITORING WELL NO. MW15(LP)

WELL SCHEMATIC

Casing Elevation (ft.): 2103.36
Casing Stickup (ft.): -0.41



Note: See Figure A-2 for explanation of symbols

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LOG OF MONITORING WELL

FIGURE A-7

SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE GRAINED SOILS MORE THAN 50% RETAINED ON NO. 200 SIEVE	GRAVEL MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY-GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE GRAINED SOILS MORE THAN 50% PASSES NO. 200 SIEVE	SILT AND CLAY LIQUID LIMIT LESS THAN 50	INORGANIC	ML	SILT
			CL	CLAY
		ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
	SILT AND CLAY LIQUID LIMIT 50 OR MORE	INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS			PT	PEAT

NOTES:

1. Field classification is based on visual examination of soil in general accordance with ASTM D2488-90
2. Soil classification using laboratory tests is based on ASTM D2487-85.
3. Descriptions of soil density or consistency are based on interpretation of blowcount data, visual appearance of soils, and/or test data.

SOIL MOISTURE MODIFIERS:

Dry – Absence of moisture, dusty, dry to the touch

Moist – Damp, but no visible water

Wet – Visible free water or saturated, usually soil is obtained from below water table

GEI 85-91

Geo Engineers

SOIL CLASSIFICATION SYSTEM

FIGURE A-1

LABORATORY TESTS:

CA Chemical Analysis

FIELD SCREENING TESTS:

Headspace vapor concentration data given in parts per million

Sheen classification system:

NS No Visible Sheen
SS Slight Sheen
MS Moderate Sheen
HS Heavy Sheen
NT Not Tested

SOIL GRAPH:

SM Soil Group Symbol (See Note 2)

Distinct Contact Between Soil Strata

Gradual or Approximate Location of Change Between Soil Strata

Water Level

Bottom of Boring

BLOW-COUNT/SAMPLE DATA:

Blows required to drive a 2.4-inch I.D. split-barrel sampler 12 inches or other indicated distances using a 140-pound hammer falling 30 inches.

22 — Location of relatively undisturbed sample

12 — Location of disturbed sample

17 — Location of sampling attempt with no recovery

Blows required to drive a 1.5-inch I.D. (SPT) split-barrel sampler 12 inches or other indicated distances using 140-pound hammer falling 30 inches.

10 — Location of sample obtained in general accordance with Standard Penetration Test (ASTM D-1586) procedures

26 — Location of SPT sampling attempt with no recovery

Location of grab sample

"P" indicates sampler pushed with weight of hammer or against weight of drill rig.

NOTES:

1. The reader must refer to the discussion in the report text, the Key to Boring Log Symbols and the exploration logs for a proper understanding of subsurface conditions.

2. Soil classification system is summarized in Figure A-1.

GEI 121-90

Geo Engineers

KEY TO BORING LOG SYMBOLS

FIGURE A-2

Soil Test Boring Log

Quantum Engineering and Geologic Consulting

Job Name: ICA-5th Ave
Job Number: 123
Engr./Geologist: James S. De Smet, PE, PG
Driller: Kuen Drilling
Operator: Jim Erdman
Equipment: Longyear BK-66

Boring Number: MW18
Location: 5' South of Mitzy's Sign
Date: 10/7/02
TOC Elev:
SWL: 17.00

2" Blank PVC
2" PVC 10-slot Well Screen
20/30 Silica Sand
3/8" Bentonite Chips
Concrete Well Head
Split Spoon Interval

Depth (ft.)	Depth Interval (ft.)	Sample Interval	PID/Odor (ppm)	Description	Well Construction	Comments
0	0-0.5			Asphalt and base rock		
	0.5-10.0			Medium brown silty clay, moist		
10	10.0-12.0		0-1.3	Tan/brown silty clay, moist		
12	12.0-20.5			Tan/brown silty clay, water		
20	20.5-35.0		1.5	Grey fine silty sand, water		
24			0.0			
36	35.0-37.0			Brown clay, dense wet, bottom of hole		

Soil Test Boring Log

antum Engineering and Geologic Consult..

Job Name: ICA-5th Ave
Job Number: 123
Engr./Geologist: James S. De Smet, PE, PG
Driller: Ruen Drilling
Operator: Jim Erdman
Equipment: Longyear BK-66

Boring Number: MW3D
Location: Replacement for MW3
Date: 10/7/02
TOC Elev:
SWL: 15.47

2" Blank PVC
2" PVC 10-slot Well Screen
20/30 Silica Sand
3/8" Bentonite Chips
Concrete Well Head
Split Spoon interval

Depth (ft.)	Depth Interval (ft.)	Sample Interval	PID/Odor (ppm)	Description	Well Construction	Comments
0	0-0.5			Asphalt and base rock		
	0.5-16.0		15-200	Medium brown silty clay, moist		Strong odor of petroleum
16	16.0-24.0			Brown, silty clay interbedded with grey silty fine sand, saturated		
			0.0			No odor or sheen
			0.0			No odor or sheen
24	24.0-37.0			Grey silty fine sand, saturated		
			0.0			No odor orsheen
	37.0-39.0			Medium brown clay, dense and wet		No odor or sheen

Soil Test Boring Log

...antum Engineering and Geologic Consu...

Job Name: ICA-5th Ave
Job Number: 123
Engr./Geologist: James S. De Smet, PE, PG
Driller: Ruen Drilling
Operator: Jim Erdman
Equipment: Longyear BK-66

Boring Number: RWR
Location: NE Corner of 5th and Larch
Date: 10/7/02
TOC Elev:
SWL: 12.35

2" Blank PVC
2" PVC 10-slot Well Screen
20/30 Silica Sand
3/8" Bentonite Chips
Concrete Well Head
Split Spoon Interval

Depth (ft.)	Depth Interval (ft.)	Sample Interval	PID/Odor (ppm)	Description	Well Construction	Comments
0	0-0.5			Asphalt and base rock		
	0.5-15.0			Brown Silty Clay		
2						
4						
			0.0			
6						
8						
10			0.0			
12						
14						
	15.0-16.0			Dark grey silty fine sand, saturated		Slight odor
16	16.0-17.0			Brown clay		No odor
				Bottom of hole		
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						
38						

Soil Test Boring Log

Quantum Engineering and Geologic Consulting

Job Name: ICA-8th Ave
Job Number: 123
Engr./Geologist: James S. De Smet, PE, PG
Driller: Ruen Drilling
Operator: Jim Erdman
Equipment: Longyear BK-66

Boring Number: RW3RD
Location: NW Cor. of West Pump Island
Date: 10/7/02
TOC Elev:
SWL: 18.48

2" Blank PVC
2" PVC 10-slot Well Screen
20/30 Silica Sand
3/8" Bentonite Chips
Concrete Well Head
Split Spoon Interval

Depth (ft.)	Depth Interval (ft.)	Sample Interval	PID/Odor (ppm)	Description	Well Construction	Comments
0	0-0.5			Asphalt and base rock		
	0.5-8.0			Brown silty clay with gravel		Strong odor of petroleum
2						
4						
6			180-200			
8	8.0-10.0			Medium brown clay with strong odor of petroleum		
10	10.0-14.5		200-250	Medium brown clay with thin interbedded sand seams , strong odor of petroleum		Strong odor
12			300-400			
14						
	14.5-16.0		10.0-20.0	Grey silty fine sand, saturated, strong odor		
16	16.0-17.0			Brown Clay, dense, wet		Strong odor
	17.0-40.0			Grey silty fine sand, saturated		Slight odor and slight sheen
18			300.0-400.0			
20						
22						
24						
			0.1-0.2			
26						no odor or sheen
28						
30			0.0			
32						
34						
			0.0			
36						
38						
40	40.0-42.0		0.0	Brown clay, no odor, dense, wet		No odor
42						

Soil Test Boring Log

Quantum Engineering and Geologic Consul.

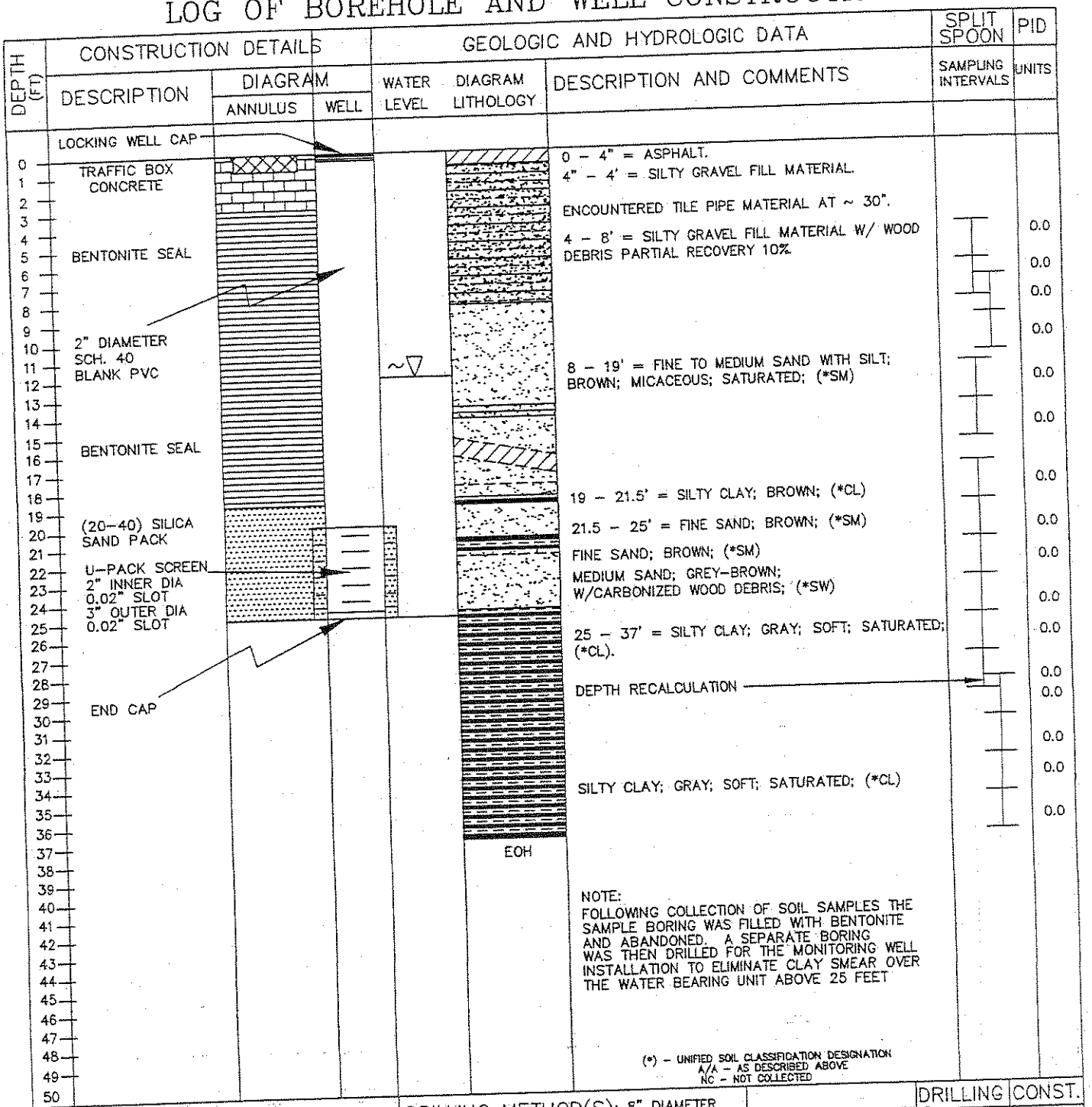
Job Name: ICA-5th Ave	Boring Number: RW3RS		2" Blank PVC
Job Number: 123	Location: NW Cor. of West Pump Island		2" PVC 10-slot Well Screen
Engr/Geologist: James S. De Smet, PE, PG	Date: 10/7/02		20/30 Silica Sand
Driller: Ruen Drilling	TOC Elev:		3/8" Bentonite Chips
Operator: Jim Erdman	SWL: 13.70		Concrete Well Head
Equipment: Longyear BK-66			Split Spoon Interval

Depth (ft.)	Depth Interval (ft.)	Sample Interval	PID/Odor (ppm)	Description	Well Construction	Comments
0	0-0.5			Asphalt and base rock		
	0.5-14.5			Brown Silty Clay		Strong odor
2						
4						
6						
8						
10						
12						
14						
	14.5-16.0			Grey silty sand, wet		Strong odor, no sheen
16	16.0-17.0			Brown clay, dense and wet		
				Bottom of hole		
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						
38						

NO. DQW-101

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION



NOTE:
FOLLOWING COLLECTION OF SOIL SAMPLES THE SAMPLE BORING WAS FILLED WITH BENTONITE AND ABANDONED. A SEPARATE BORING WAS THEN DRILLED FOR THE MONITORING WELL INSTALLATION TO ELIMINATE CLAY SMEAR OVER THE WATER BEARING UNIT ABOVE 25 FEET

(*) - UNIFIED SOIL CLASSIFICATION DESIGNATION
A/A - AS DESCRIBED ABOVE
NC - NOT COLLECTED

PROJECT: IDEQ SANDPOINT
LOCATION: LARCH STREET AND FIFTH AVENUE
SANDPOINT, IDAHO
GEOLOGIST: MARK LILLY
DRILLING CO.: JASPER MT. DRILLING
DRILLERS: BOB ELLIOT
BERT CRANE

DRILLING METHOD(S): 8" DIAMETER HOLLOW STEM AUGER
DRILL RIG: MOBILE B-53
FLUID: N/A
CASING: SCH. 40 PVC
INSIDE DIA.: 2"
OUTSIDE DIA.: N/A
BITS:

	DRILLING	CONST.
DATE STARTED:	1/24/02	1/31/02
TIME:	1415	0900
DATE COMPL.:	1/25/02	1/31/02
TIME:	1130	1400

TOTAL DEPTH: BH=37 FT; MW=25 FT
TOC ELEVATION: (DQW-101)

NO. DOW-102

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION

DEPTH (FT)	CONSTRUCTION DETAILS: DESCRIPTION	DIAGRAM: ANNULUS	DIAGRAM: WELL	WATER LEVEL	GEOLOGIC AND HYDROLOGIC DATA: DIAGRAM LITHOLOGY	DESCRIPTION AND COMMENTS	SPLIT SPOON: SAMPLING INTERVALS	PID: UNITS
0	LOCKING WELL CAP					0 – 4" = ASPHALT.		
1	TRAFFIC BOX CONCRETE					4" – 2' = SILTY GRAVEL FILL MATERIAL.		
2								0.0
3								
4								
5								0.0
6				~▽				
7	BENTONITE SEAL					2 – 17.5' = INTERFINGERED LAYERS & LENSES OF CLAYS, SILTS & SANDS; (*CL, ML, SM & SW) – AVERAGE 80–95% CLAYEY SILT/SILTY CLAY – AVERAGE 10–15% FINE TO MEDIUM SAND –– LITHOLOGY DESCRIPTION BASED ON DRILL CUTTINGS		0.0
8								
9								
10								
11	2" DIAMETER SCH. 40 BLANK PVC							0.0
12						AUGER BRINGING UP WATER AT 13'.		
13								
14								
15						PID READINGS COLLECTED FROM DRILL CUTTINGS.		0.0
16	BENTONITE SEAL							
17						17.5 – 18' = SILTY CLAY; BROWN; STIFF; SATURATED; (*CL).		0.0
18								
19						18 – 20.5' = FINE SAND; LIGHT BROWN; (*SM).		0.0
20	(20–40) SILICA SAND PACK							0.0
21	U-PACK SCREEN 2" INNER DIA 0.01" SLOT 3" OUTER DIA 0.01" SLOT					20.5 – 21' = CLAY; LIGHT BROWN; SOFT; SATURATED; (*CL).		0.0
22						21 – 25.5' = VERY FINE TO MEDIUM SAND; GRAY TO BLUE GRAY; (*SM).		0.0
23								0.0
24	END CAP							
25		EOH			EOH			0.0
26								
27								

(*) – UNIFIED SOIL CLASSIFICATION DESIGNATION
A/A – AS DESCRIBED ABOVE
NC – NOT COLLECTED

PROJECT:	IDEQ SANDPOINT
LOCATION:	LARCH STREET AND FIFTH AVENUE SANDPOINT, IDAHO
GEOLOGIST:	MARK LILLY
DRILLING CO.:	JASPER MT. DRILLING
DRILLERS:	BOB ELLIOT, BERT CRANE

DRILLING METHOD(S):	8" DIAMETER HOLLOW STEM AUGER
DRILL RIG:	MOBILE B-53
FLUID:	N/A
CASING:	SCH. 40 PVC
INSIDE DIA.:	2"
OUTSIDE DIA.:	N/A
BITS:	

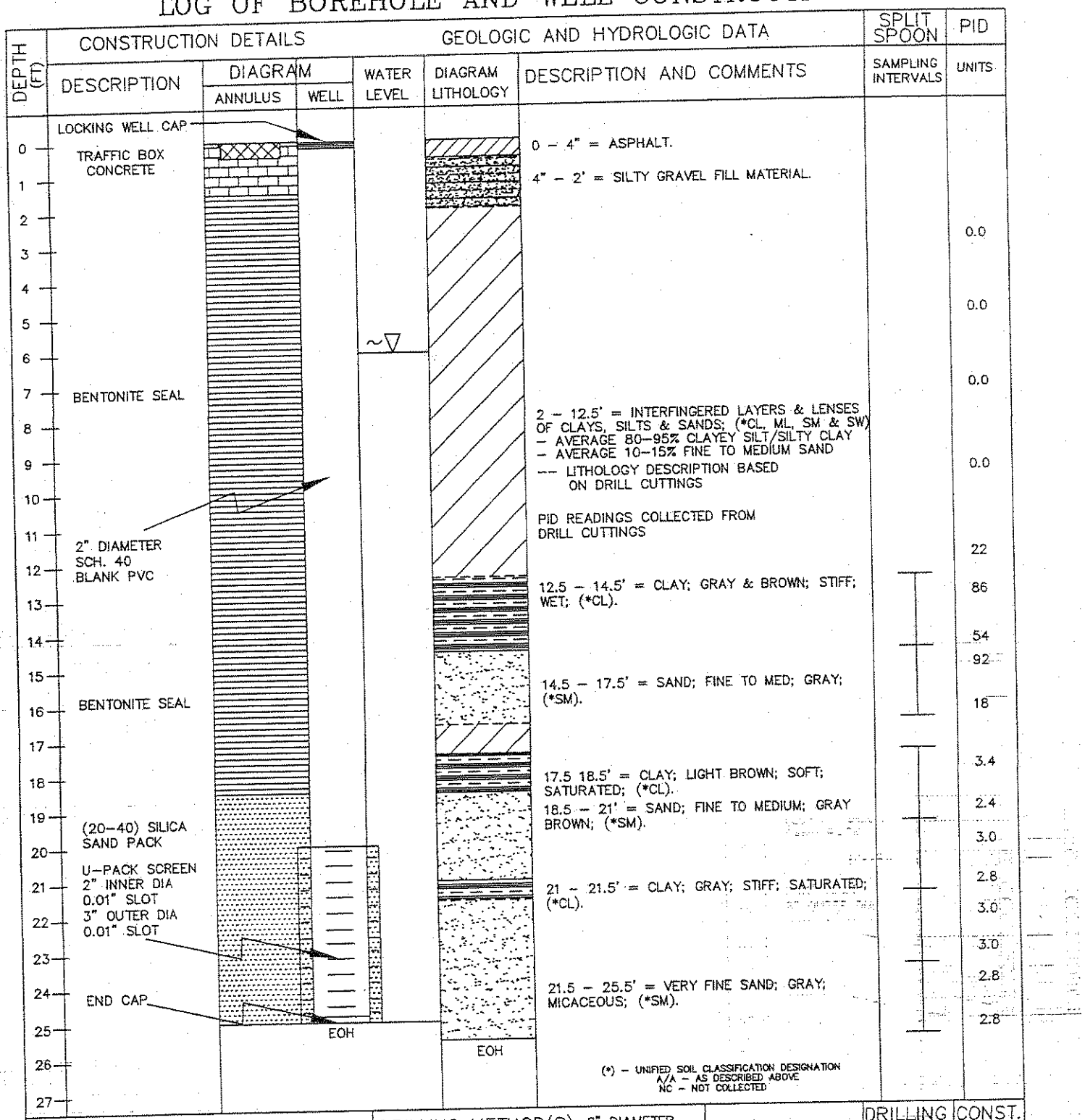
	DRILLING	CONST.
DATE STARTED:	2/4/02	2/4/02
TIME:	0740	1030
DATE COMPL.:	2/4/02	2/4/02
TIME:	1030	1515

TOTAL DEPTH: BH=25.5 FT; MW=25 FT
TOC ELEVATION: (DOW-102)

NO. DQW-103

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION

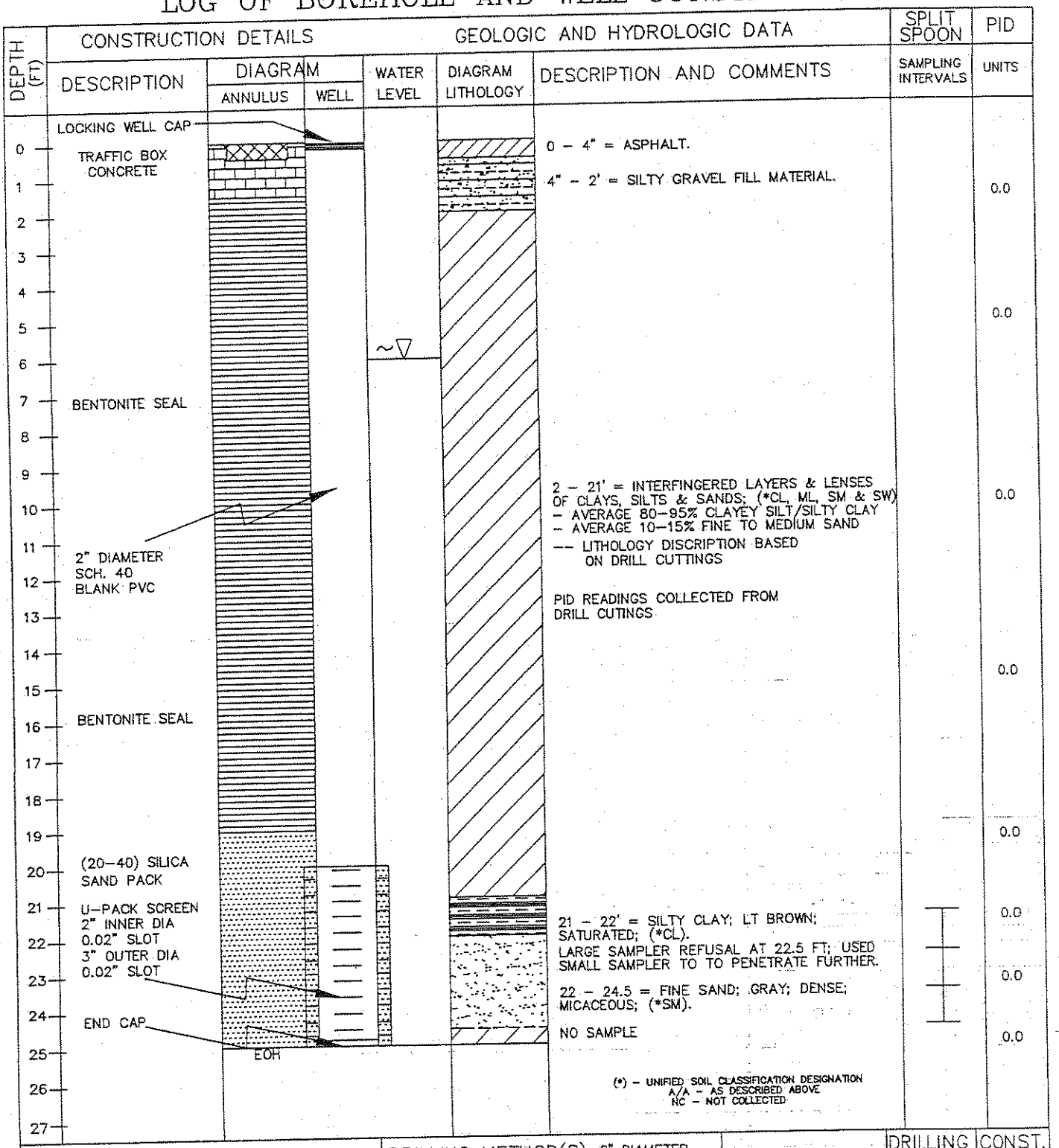


			DRILLING	CONST.
PROJECT: IDEQ SANDPOINT	DRILLING METHOD(S): 8" DIAMETER HOLLOW STEM AUGER	DATE STARTED:	2/4/02	2/5/02
LOCATION: LARCH STREET AND FIFTH AVENUE SANDPOINT, IDAHO	DRILL RIG: MOBILE B-53	TIME:	1525	0745
GEOLOGIST: MARK LILLY	FLUID: N/A	DATE COMPL.:	2/4/02	2/5/02
DRILLING CO.: JASPER MT. DRILLING	CASING: SCH. 40 PVC	TIME:	1745	1400
DRILLERS: BOB ELLIOT BERT CRANE	INSIDE DIA.: 2"			
	OUTSIDE DIA.: N/A	TOTAL DEPTH: BH=25.5 FT; MW=25 FT		
	BITS:	TOC ELEVATION:		(DQW-103)

NO. DQW-104

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION



PROJECT:	IDEQ SANDPOINT
LOCATION:	LARCH STREET AND FIFTH AVENUE SANDPOINT, IDAHO
GEOLOGIST:	MARK LILLY
DRILLING CO.:	JASPER MT. DRILLING
DRILLERS:	BOB ELLIOT, BERT CRANE

DRILLING METHOD(S):	8" DIAMETER HOLLOW STEM AUGER
DRILL RIG:	MOBILE B-53
FLUID:	N/A
CASING:	SCH. 40 PVC
INSIDE DIA.:	2"
OUTSIDE DIA.:	N/A
BITS:	

	DRILLING	CONST.
DATE STARTED:	1/23/02	1/24/02
TIME:	1420	0745
DATE COMPL.:	1/23/02	1/24/02
TIME:	1615	1330

TOTAL DEPTH: 25 FEET

TOC ELEVATION:

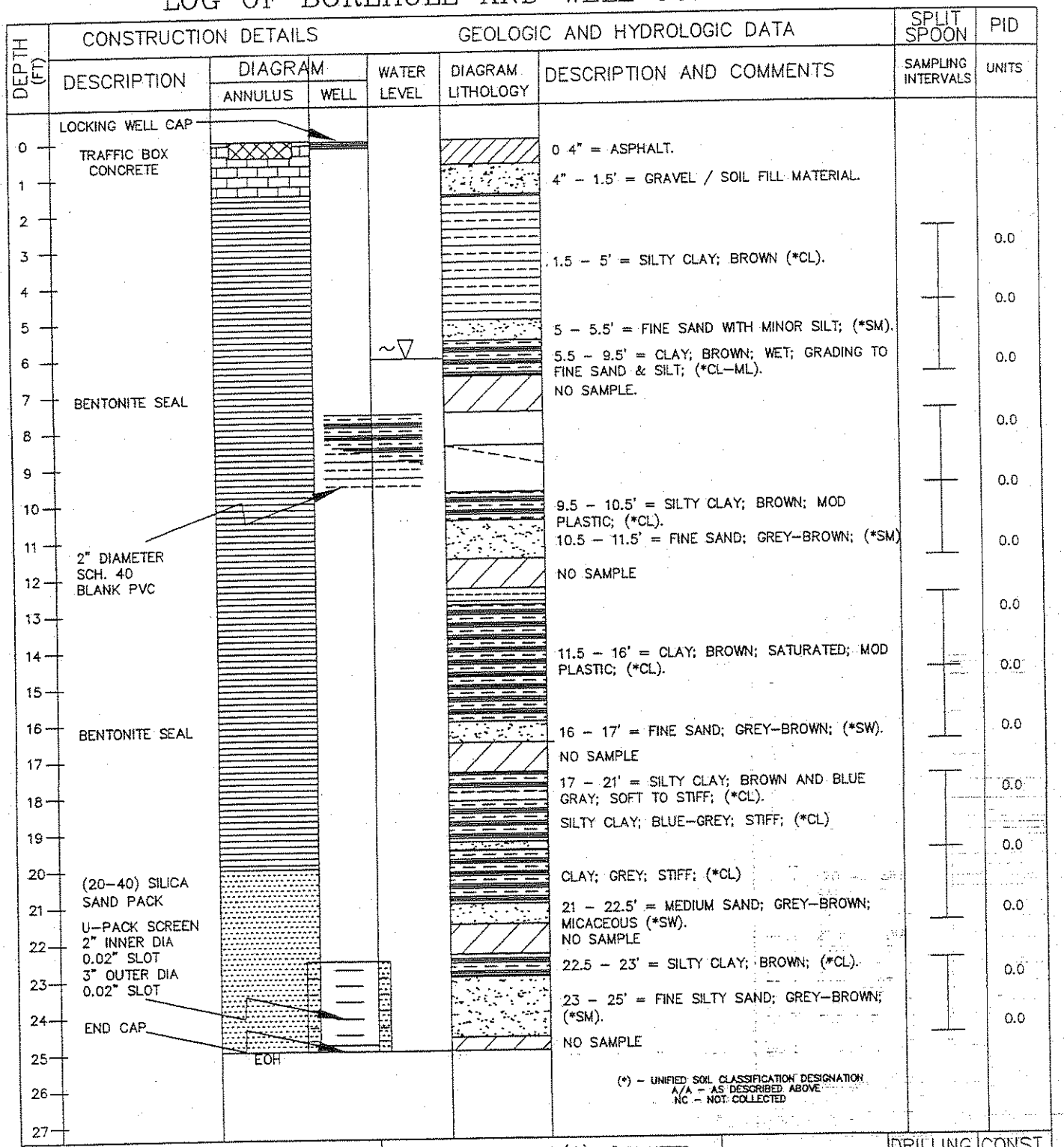
(DQW-104)

NO. DQW-105

PAGE: 1 OF: 1

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION

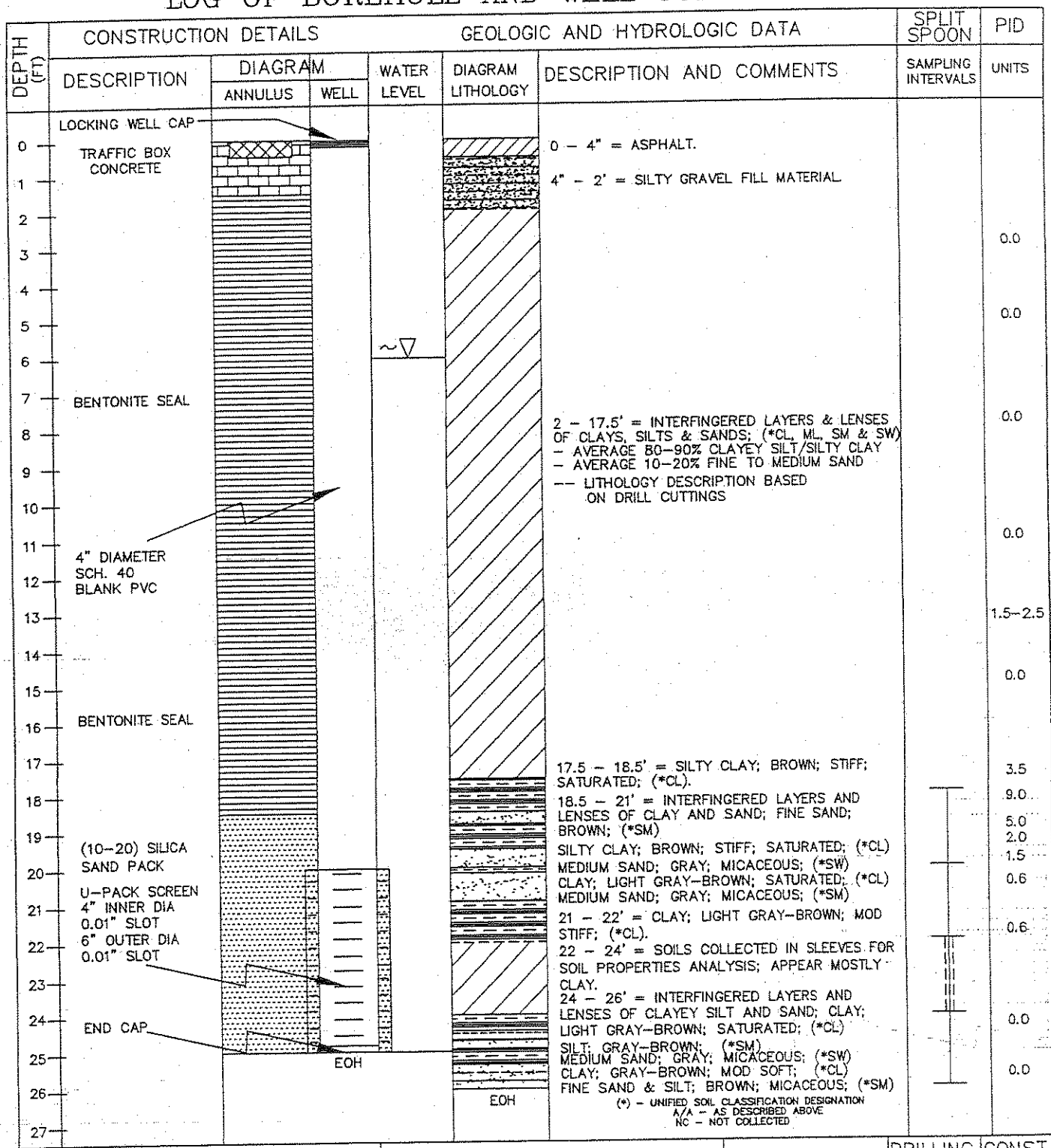


			DRILLING	CONST.
PROJECT: IDEQ SANDPOINT	DRILLING METHOD(S): 8" DIAMETER HOLLOW STEM AUGER	DATE STARTED:	1/21/02	1/22/02
LOCATION: LARCH STREET AND FIFTH AVENUE SANDPOINT, IDAHO	DRILL RIG: MOBILE B-53	TIME:	1025	0800
GEOLOGIST: MARK LILLY	FLUID: N/A	DATE COMPL.:	1/21/02	1/22/02
DRILLING CO.: JASPER MT. DRILLING	CASING: SCH. 40 PVC	TIME:	1700	1430
DRILLERS: BOB ELLIOT BERT CRANE	INSIDE DIA.: 2"			
	OUTSIDE DIA.: N/A	TOTAL DEPTH: 25 FEET		
	BITS:	TOC ELEVATION:		(DQW-105)

NO. DQW-106

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION

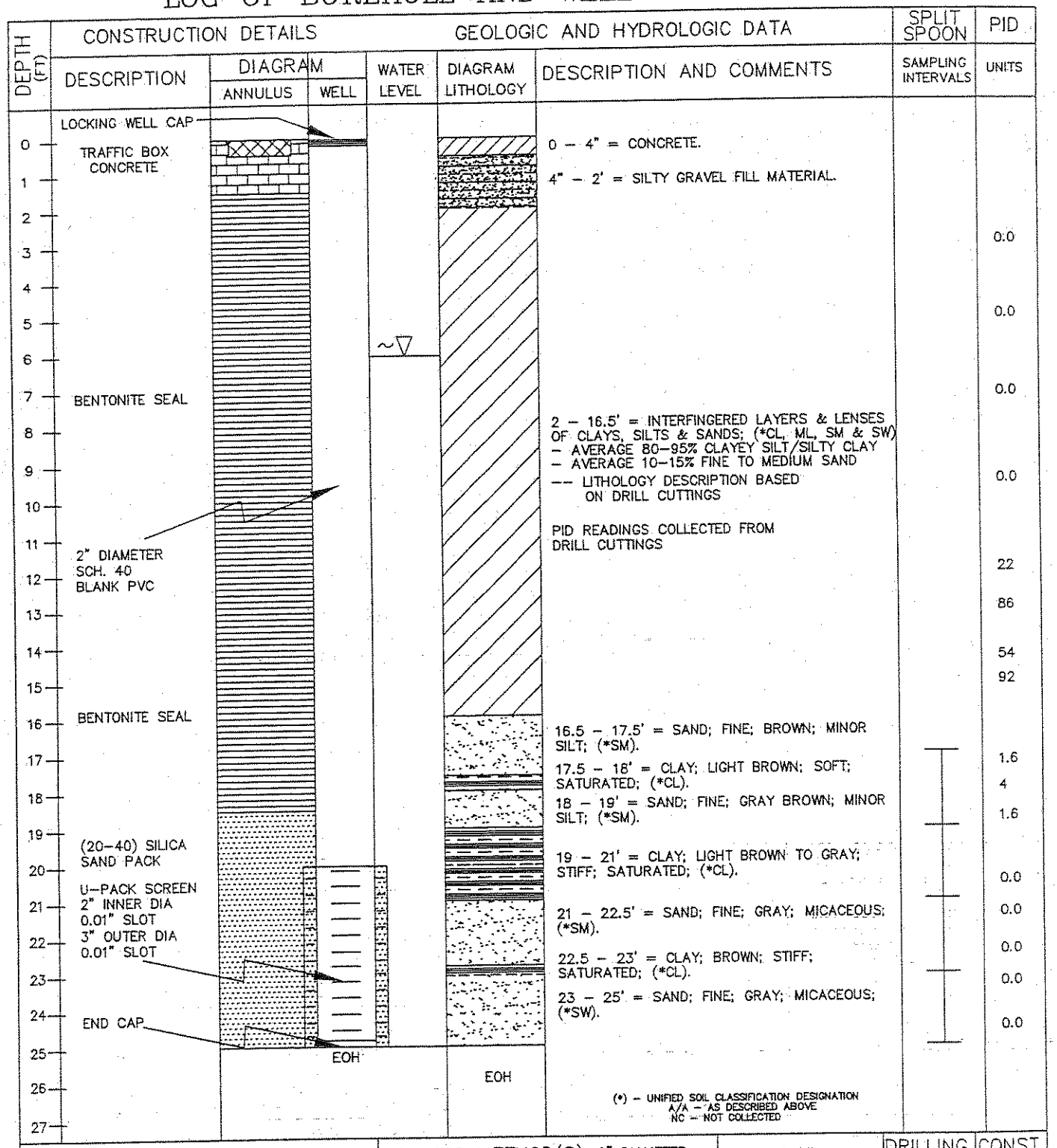


			DRILLING	CONST.
PROJECT: IDEQ SANDPOINT	DRILLING METHOD(S): 11" DIAMETER	DATE STARTED:	2/8/02	2/8/02
LOCATION: LARCH STREET AND FIFTH AVENUE	HOLLOW STEM AUGER	TIME:	0900	1200
SANDPOINT, IDAHO	DRILL RIG: MOBILE B-53	DATE COMPL.:	2/8/02	2/8/02
GEOLOGIST: MARK LILLY	FLUID: N/A	TIME:	1200	1900
DRILLING CO.: JASPER MT. DRILLING	CASING: SCH. 40 PVC			
DRILLERS: BOB ELLIOT	INSIDE DIA.: 4"			
BERT CRANE	OUTSIDE DIA.: N/A	TOTAL DEPTH: BH=26 FT; MW=25 FT		
	BITS:	TOC ELEVATION:		(DQW-106)

NO. DOW-107

MSE Millennium Science & Engineering, Inc.

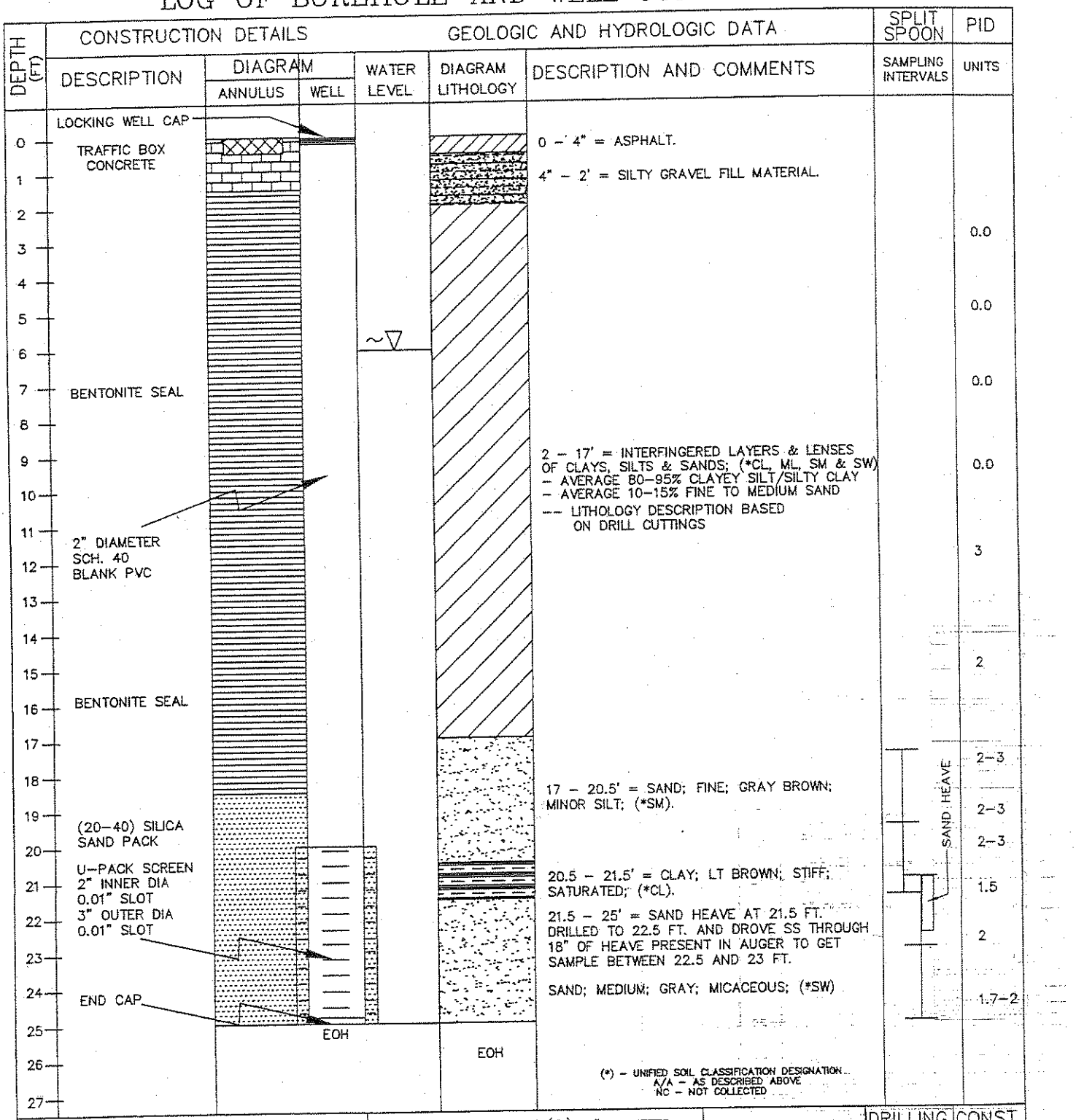
LOG OF BOREHOLE AND WELL CONSTRUCTION



			DRILLING	CONST.
PROJECT: IDEQ SANDPOINT	DRILLING METHOD(S): 8" DIAMETER	DATE STARTED:	2/5/02	2/6/02
LOCATION: LARCH STREET AND FIFTH AVENUE	HOLLOW STEM AUGER	TIME:	1510	0745
SANDPOINT, IDAHO	DRILL RIG: MOBILE B-53	DATE COMPL.:	2/5/02	2/6/02
GEOLOGIST: MARK LILLY	FLUID: N/A	TIME:	1720	1430
DRILLING CO.: JASPER MT. DRILLING	CASING: SCH. 40 PVC			
DRILLERS: BOB ELLIOT	INSIDE DIA.: 2"			
BERT CRANE	OUTSIDE DIA.: N/A	TOTAL DEPTH: 25 FT		
	BITS:	TOC ELEVATION:		(DQW-107)

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION



PROJECT:	IDEQ SANDPOINT
LOCATION:	LARCH STREET AND FIFTH AVENUE SANDPOINT, IDAHO
GEOLOGIST:	MARK LILLY
DRILLING CO.:	JASPER MT. DRILLING
DRILLERS:	BOB ELLIOT, BERT CRANE

DRILLING METHOD(S):	8" DIAMETER HOLLOW STEM AUGER
DRILL RIG:	MOBILE B-53
FLUID:	N/A
CASING:	SCH. 40 PVC
INSIDE DIA.:	2"
OUTSIDE DIA.:	N/A
BITS:	

	DRILLING	CONST.
DATE STARTED:	2/6/02	2/7/02
TIME:	1615	1030
DATE COMPL.:	2/7/02	2/7/02
TIME:	1030	1556

TOTAL DEPTH: 25 FT

TOC ELEVATION:

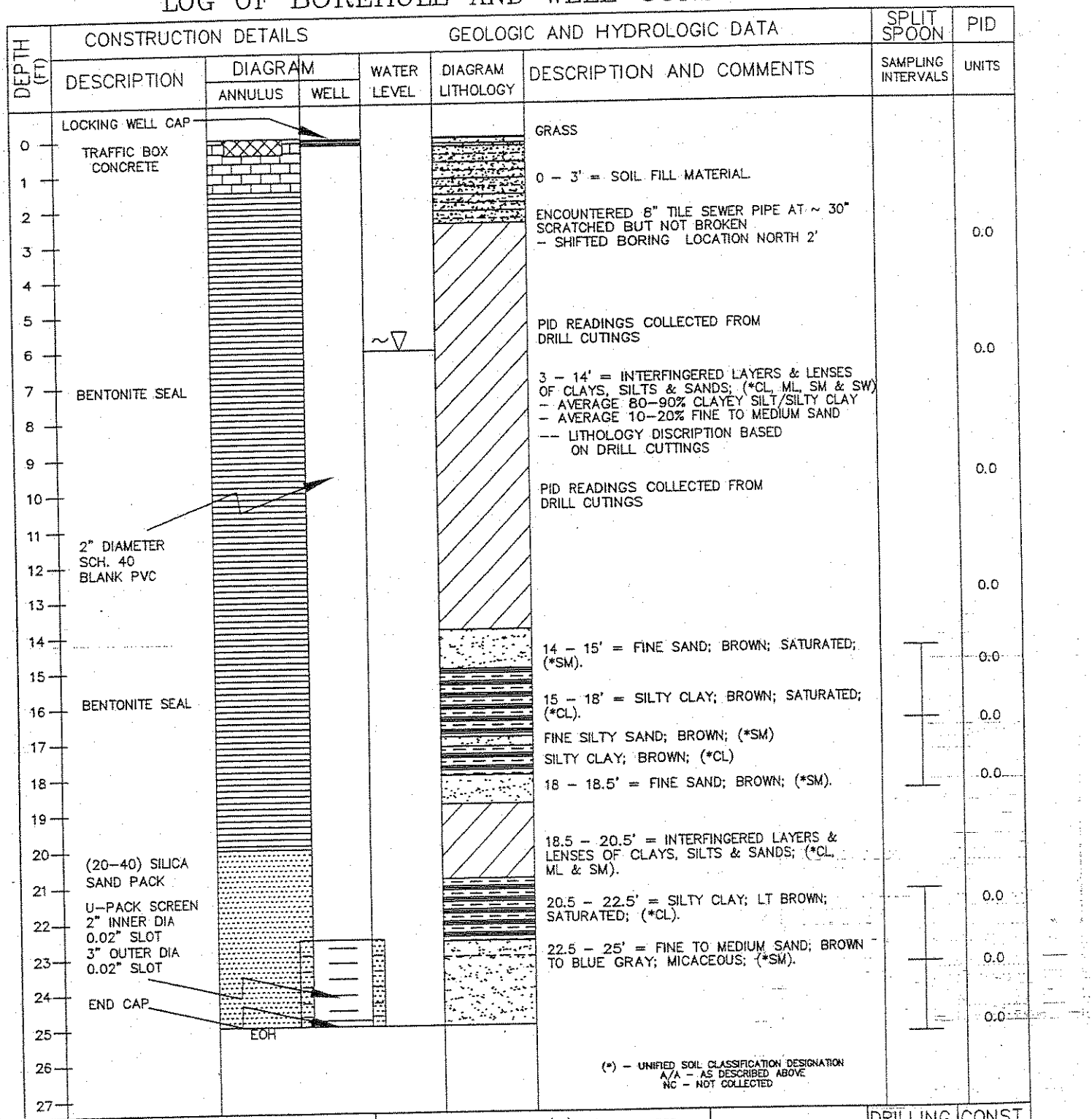
(DQW-108)

NO. DQW-109

PAGE: 1 OF: 1

MSE Millennium Science & Engineering, Inc.

LOG OF BOREHOLE AND WELL CONSTRUCTION



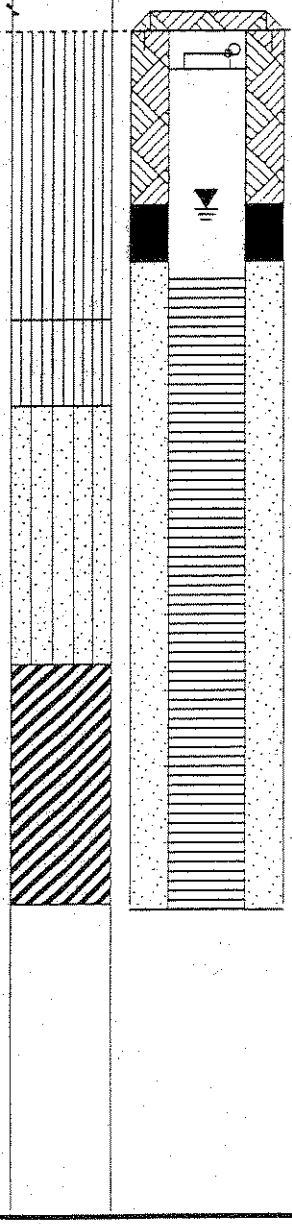
			DRILLING	CONST.
PROJECT: IDEQ SANDPOINT	DRILLING METHOD(S): 8" DIAMETER	DATE STARTED:	1/22/02	1/23/02
LOCATION: LARCH STREET AND FIFTH AVENUE	HOLLOW STEM AUGER	TIME:	1410	0830
SANDPOINT, IDAHO	DRILL RIG: MOBILE B-53	DATE COMPL.:	1/22/02	1/23/02
GEOLOGIST: MARK LILLY	FLUID: N/A	TIME:	1645	1415
DRILLING CO.: JASPER MT. DRILLING	CASING: SCH. 40 PVC			
DRILLERS: BOB ELLIOT	INSIDE DIA.: 2"			
BERT CRANE	OUTSIDE DIA.: N/A	TOTAL DEPTH: 25 FEET		
	BITS:	TOC ELEVATION:		(DQW-109)

Client: CHEVRON/UNION PACIFIC
Project No: 31-319 Phase Task

Location 523 Larch St., Sandpoint, ID
Surface Elev. 2,100.88 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				SILT (ML); Red brown; damp; 95% silt, 5% very coarse grained sand; no plasticity; moderate permeability.
5				Clayey SILT (ML); Grey; wet; 25% clay, 75% silt; medium plasticity; low to very low estimated permeability.
				Silty SAND (SM); Grey brown; wet; 35% silt, 65% very fine grained sand; no plasticity; moderate estimated permeability.
10				
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				
20				

TPHg (ppm) | Graphic Log | Well Construction Graphics | Depth (feet) | Well Construction Details



T.O.C. Elev. 2,100.63

Bottom of Well

Driller	Cascade Drilling	Development Yield	0.3 gal/m	Bentonite Seal	3.0' to 4.0'
Logged By	DCE	Well Casing	2" Dia. 0' to 4.3'	Sand Pack	4.0' to 15.3'
Drilling Started	4/9/96	Casing Type	Schedule 40 PVC	Sand Pack Type	#3 Sand
Drilling Completed	4/9/96	Well Screen	2" Dia. 4.3' to 15.3'	Static Water Level	3.09 ft Depth
Construction Completed	4/9/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/14/96	Slot Size	0.010"	Notes:	No samples collected.
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II/Bentonite		

Cambria Environmental Technology, Inc.

Client: CHEVRON/UNION PACIFIC

Location 523 Larch St., Sandpoint, ID

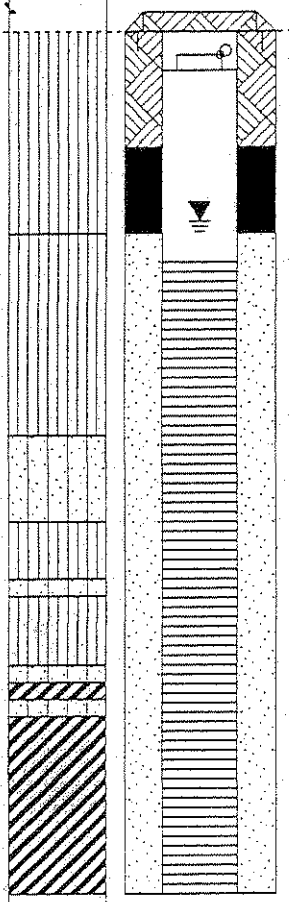
Project No: 31-319 Phase Task

Surface Elev. 2,101.30 ft,

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				SILT (ML); Light brown; damp; 2% clay, 95% silt, 3% fine to very fine; sand; low plasticity; low estimated permeability.
5				Clayey SILT (ML); Light brown; damp; 35% clay, 65% silt; low plasticity; low estimated permeability.
				Silty SAND (SM); Light brown; damp; 3% clay, 35% silt, 62% very fine grained sand; no plasticity; moderate estimated permeability.
				Clayey SILT (ML); Light brown; damp; 45% clay, 55% silt; medium plasticity; low estimated permeability.
10				Silty SAND (SM); grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 9'6" to 9'8".
				Clayey SILT (ML); Light brown; damp; 45% clay, 55% silt; medium plasticity; low estimated permeability.
				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 11'0" to 11'3".
15				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 11'6" to 11'9".
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
20				

TPHg (ppm): 210, 1

Graphic Log / Well Construction Graphics



Depth (feet)	Well Construction Details
0	T.O.C. Elev. 2,100.65
5	
10	
15	Bottom of Well
20	

Driller Cascade Drilling

Logged By DCE

Drilling Started 4/10/96

Drilling Completed 4/10/96

Construction Completed 4/10/96

Development Completed 4/13/96

Water Bearing Zones N/A

Development Yield 0.35 gal/m

Well Casing 2" Dia. 0' to 4'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 4' to 15'

Screen Type Schedule 40 PVC

Slot Size 0.010"

Drilling Mud N/A

Grout Type Portland I/II/Bentonite

Bentonite Seal 2.0' to 3.5"

Sand Pack 3.5' to 15.0'

Sand Pack Type 20/30 Silica Sand

Static Water Level 3.29 ft Depth

Date 4/22/96

Notes:

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

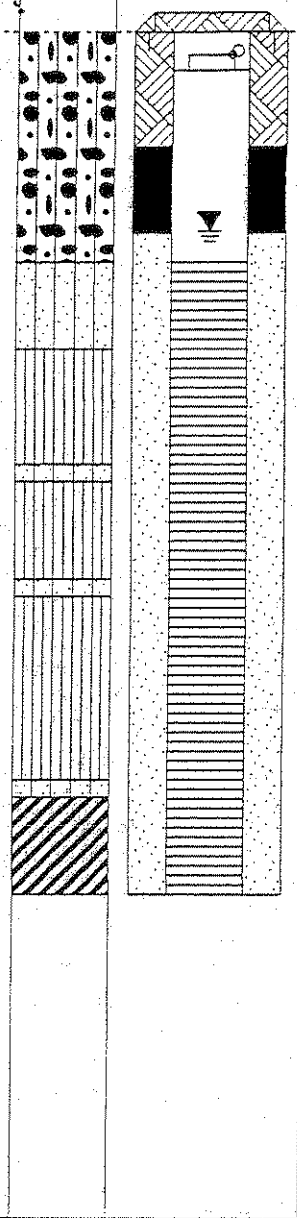
Project No: 31-319 Phase Task

Well ID CW-3 Boring ID SB-H

Location 523 Larch St., Sandpoint, ID

Surface Elev. 2,100.51 ft. Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty Sandy GRAVEL (GM); Brown; damp; 20% silt, 20% fine to very coarse grained sand, 60% pebble gravel; no plasticity; high estimated permeability.
5				Silty SAND (SM); Grey/brown; wet; 35% silt, 65% fine grained sand; no plasticity; moderate estimated permeability.
				Clayey SILT (ML); Light brown; wet; 45% clay, 55% silt; medium plasticity; low estimated permeability.
				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 7'6" to 7'8".
10				Clayey SILT (ML); Light brown; wet; 45% clay, 55% silt; medium plasticity; low estimated permeability.
				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 9'6" to 9'8".
				Clayey SILT (ML); Light brown; wet; 45% clay, 55% silt; medium plasticity; low estimated permeability.
				Silty SAND (SM); Grey/brown; wet; 35% silt, 65% fine to very fine grained sand; no plasticity; moderate estimated permeability.
15				Silty CLAY (CH); Light brown; damp; 55% clay, 45% silt; high plasticity; very low estimated permeability.
20				



Well Construction Details

T.O.C. Elev. 2,100.51

Bottom of Well

Driller	Cascade Drilling	Development Yield	0.24 gal/m	Bentonite Seal	2.0' to 3.5"
Logged By	DCE	Well Casing	2" Dia. 0' to 4'	Sand Pack	3.5' to 15.0'
Drilling Started	4/10/96	Casing Type	Schedule 40 PVC	Sand Pack Type	20/30 Silica Sand
Drilling Completed	4/10/96	Well Screen	2" Dia. 4' to 15'	Static Water Level	3.47 ft Depth
Construction Completed	4/10/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/12/96	Slot Size	0.010"	Notes:	
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II/Bentonite		

Cambria Environmental Technology, Inc.

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Well ID MW-4 Boring ID SB-4

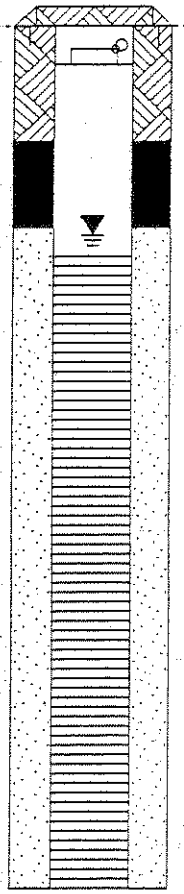
Location 523 Larch St., Sandpoint, ID

Surface Elev. 2,101.53 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			Asphalt
				Silty SAND (SM); Brown; damp; 20% silt, 80% fine to very coarse grained sand; no plasticity; moderate to high estimated permeability(Fill).
				SILT (ML); Green/mottled grey-brown; damp; 5% clay, 90% silt, 5% very fine grained sand; low plasticity; low estimated permeability.
5				
				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 6'0" to 6'2".
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
10				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 9'0" to 9'3".
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silt (ML); Light brown, wet, 80% silt, 10% clay, 10% very fine grained sand, medium plasticity, moderate permeability unit from 9'6" to 9'8".
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
20				

TPHg (ppm): 1.9

Graphic Log / Well Construction Graphics



Depth (feet)	Well Construction Details
0	T.O.C. Elev. 2,101.14
5	
10	
15	Bottom of Well
20	

Driller	Cascade Drilling	Development Yield	0.20 gal/m	Bentonite Seal	2.0' to 3.5"
Logged By	DCE	Well Casing	2" Dia. 0' to 4'	Sand Pack	3.5' to 15.0'
Drilling Started	4/10/96	Casing Type	Schedule 40 PVC	Sand Pack Type	20/30 Silica Sand
Drilling Completed	4/10/96	Well Screen	2" Dia. 4' to 15'	Static Water Level	3.64 ft Depth
Construction Completed	4/10/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/15/96	Slot Size	0.010"	Notes:	
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II/Bentonite		

WELL 31319 5/22/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Well ID CW-5 Boring ID SB-5

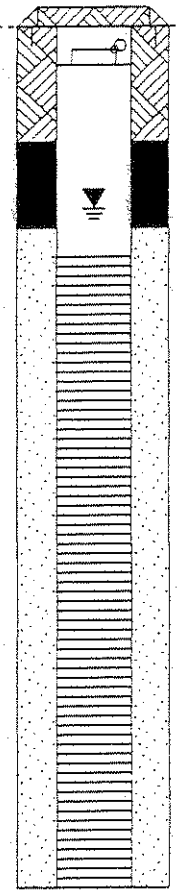
Location 523 Larch St., Sandpoint, ID

Surface Elev. 2,100.88 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			Asphalt
				Silty SAND (SM); Brown/red; damp; 20% silt, 70% very fine grained sand, 10% pebble gravel; no plasticity; high estimated permeability(Fill).
5				Silty CLAY (CH); light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
10				Silty SAND (SM); Grey/brown; wet; 35% silt, 65% very fine grained sand; no plasticity; moderate estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				
20				

TPHg (ppm): 1.8

Graphic Log / Well Construction Graphics



Depth (feet)	Well Construction Details
0	T.O.C. Elev. 2,100.49
5	
10	
15	Bottom of Well
20	

Driller Cascade Drilling

Logged By DCE

Drilling Started 4/10/96

Drilling Completed 4/10/96

Construction Completed 4/10/96

Development Completed 4/15/96

Water Bearing Zones N/A

Development Yield 0.11 gal/m

Well Casing 2" Dia. 0' to 4'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 4' to 15'

Screen Type Schedule 40 PVC

Slot Size 0.010"

Drilling Mud N/A

Grout Type Portland I/II/Bentonite

Bentonite Seal 2.0' to 3.5"

Sand Pack 3.5 to 15.0'

Sand Pack Type 20/30 Silica Sand

Static Water Level 3.17 ft Depth

Date 4/22/96

Notes:

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Location 523 Larch St., Sandpoint

Surface Elev. 2,100.16 ft.

Depth (feet)	Blow Count	Sample Interval	Lithologic Description	TPHg (ppm)	Graphic Log	Well Construction Graphics	Depth (feet)	Well Construction Details
0	Ground Surface						0	T.O.C. Elev. 2,099.80
			Silty SAND (SM); Brown to grey; moist; 20% silt, 70% medium to very coarse grained sand, 10% pebble gravel; no plasticity; high estimated permeability(Fill).	6.0				
5			Clayey SILT (ML); Grey; moist; 5% clay, 90% silt, 5% very fine grained sand; low plasticity; low estimated permeability.				5	
			Silty CLAY (CH); Grey; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.	260.0				
			Silty SAND (SM); grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability.					
10			Silty CLAY (CH); Grey; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.				10	
			Silty SAND (SM); grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 9'0" to 9'1".	3.4				
			Silty CLAY (CH); Grey; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.					
15							15	Bottom of Well
20							20	

Driller Cascade Drilling

Logged By DCE

Drilling Started 4/11/96

Drilling Completed 4/11/96

Construction Completed 4/11/96

Development Completed 4/16/96

Water Bearing Zones N/A

Development Yield 0.19 gal/m

Well Casing 2" Dia. 0' to 4'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 4' to 15'

Screen Type Schedule 40 PVC

Slot Size 0.010"

Drilling Mud N/A

Grout Type Portland I/II/Bentonite

Bentonite Seal 2.0' to 3.5'

Sand Pack 3.5' to 15.0'

Sand Pack Type 20/30 Silica Sand

Static Water Level 2.88 ft Depth

Date 4/22/96

Notes:

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

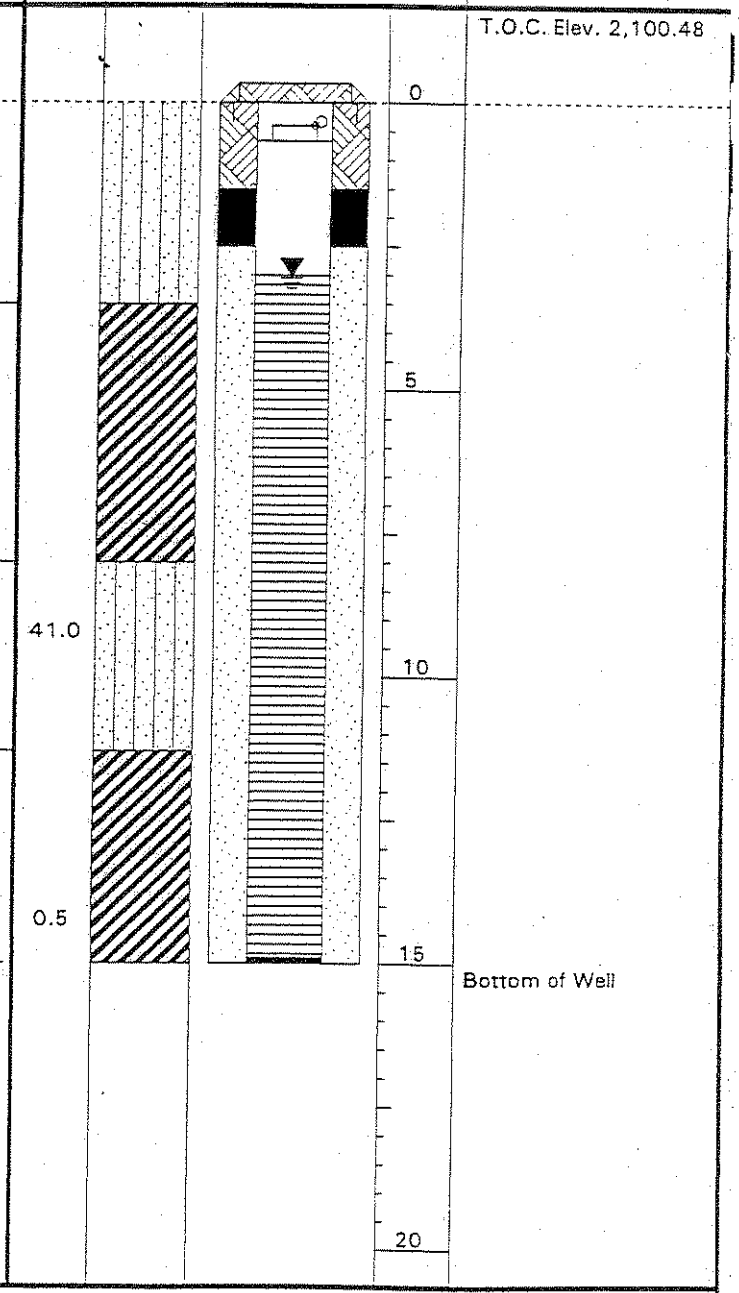
Project No: 31-319 Phase Task

Well ID CW-7 Boring ID SB-U

Location 523 Larch St., Sandpoint

Surface Elev. 2,100.67 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample Interval	Lithologic Description
0	Ground Surface		
			Silty SAND (SM); Red brown; damp; 35% silt, 65% fine to very coarse grained sand; no plasticity; moderate estimated permeability(Fill).
5			**Silty CLAY** (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
10			**Silty SAND** (SM); Grey; wet; 15% clay, 35% silt, 50% fine to very fine grained sand; no plasticity; moderate estimated permeability. Split 9.0 ft sample with AGI.
			Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15			
20			



Driller	Cascade Drilling	Development Yield	0.29 gal/m	Bentonite Seal	1.5' to 2.5'
Logged By	DCE	Well Casing	2" Dia. 0' to 3'	Sand Pack	2.5' to 15.0'
Drilling Started	4/11/96	Casing Type	Schedule 40 PVC	Sand Pack Type	20/30 Silica Sand
Drilling Completed	4/11/96	Well Screen	2" Dia. 3' to 15'	Static Water Level	3.05 ft Depth
Construction Completed	4/11/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/14/96	Slot Size	0.010"	Notes:	
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II/Bentonite		

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

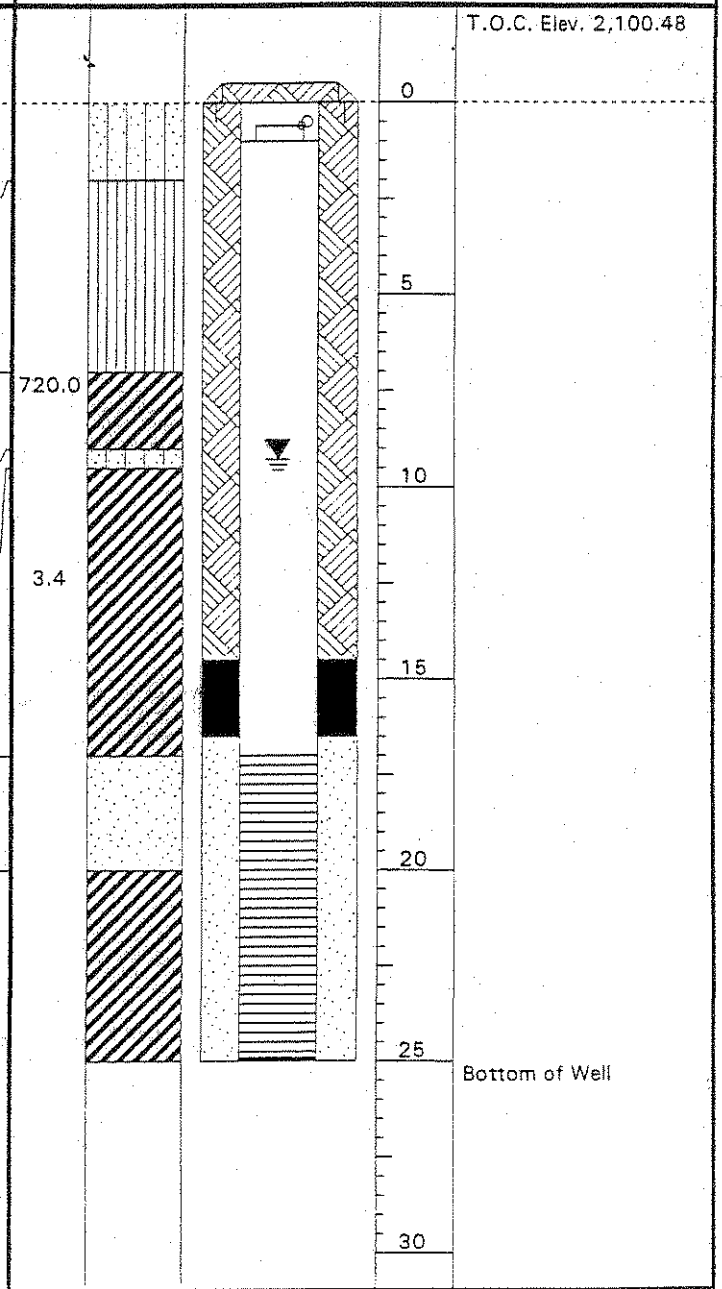
Project No: 31-319 Phase Task

Well ID CW-8 Boring ID SB-V

Location 523 Larch St., Sandpoint

Surface Elev. 2,100.14 ft. Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND(Fill) (SM); Red brown; damp; 35% silt, 65% fine to very coarse grained sand; no plasticity; moderate estimated permeability.
				SILT (ML); Light brown; damp; 10% clay, 85% silt, 5% very fine grained sand; low plasticity; low estimated permeability.
5				
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability. Split 9.0 ft sample with AGI.
10				Silty SAND (SM); grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				
				SAND (SP); Grey; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability. Clay blocked sand entry into sampler.
20				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
25				
30				



T.O.C. Elev. 2,100.48

Bottom of Well

Driller	Cascade Drilling	Development Yield	0.22 gal/m	Bentonite Seal	14.5' to 16.5'
Logged By	DCE	Well Casing	2" Dia. 0' to 17'	Sand Pack	16.5' to 25.0'
Drilling Started	4/11/96	Casing Type	Schedule 40 PVC	Sand Pack Type	20/30 Silica Sand
Drilling Completed	4/11/96	Well Screen	2" Dia. 17' to 25'	Static Water Level	9.28 ft Depth
Construction Completed	4/11/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/14/96	Slot Size	0.010"	Notes:	
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II/Bentonite		

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

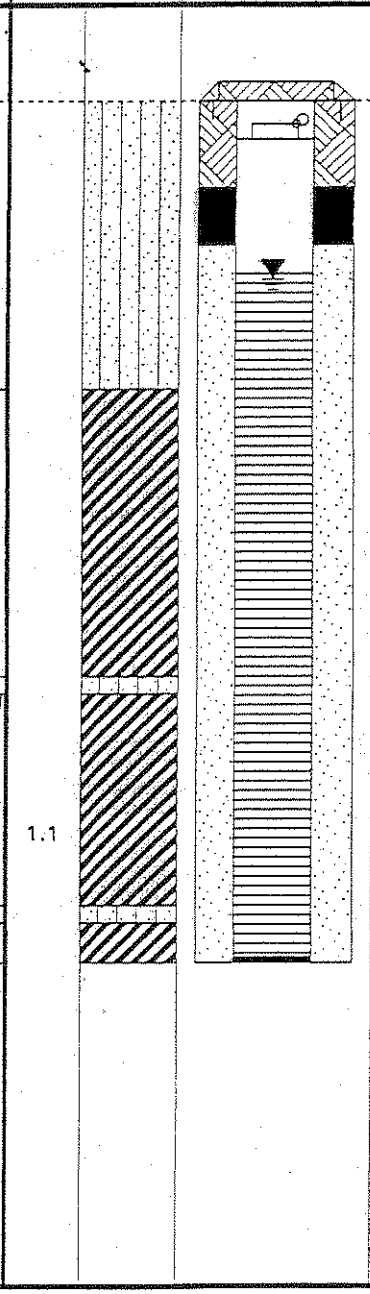
Project No: 31-319 Phase Task

Well ID CW-9 Boring ID SB-W

Location 523 Larch St., Sandpoint

Surface Elev. 2,100.53 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND (SM); Red brown; damp; 35% silt, 65% fine to very fine grained sand; no plasticity; moderate estimated permeability(Fill).
5				Silty CLAY (CH); Light brown; moist; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Wet.
10				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability.
				Silty CLAY (CH); Light brown; moist; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability unit from 14'0" to 14'2".
				Silty CLAY (CH); Light brown; moist; 55% clay, 45% silt; high plasticity; very low estimated permeability.
20				



Well Construction Details

T.O.C. Elev. 2,100.35

Bottom of Well

Driller	Cascade Drilling	Development Yield	0.26 gal/m	Bentonite Seal	1.5' to 2.5'
Logged By	DCE	Well Casing	2" Dia. 0' to 3'	Sand Pack	2.5' to 15.0'
Drilling Started	4/11/96	Casing Type	Schedule 40 PVC	Sand Pack Type	20/30 Silica Sand
Drilling Completed	4/11/96	Well Screen	2" Dia. 3' to 15'	Static Water Level	3.10 ft Depth
Construction Completed	4/11/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/14/96	Slot Size	0.010"	Notes:	
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II/Bentonite		

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Well ID CW-10

Location 523 Larch St., Sandpoint

Surface Elev. 2,100.56 ft,

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND (SM); Red brown; damp; 35% silt, 65% fine to very coarse grained sand; no plasticity; moderate estimated permeability(Fill).
				SILT (ML); Brown; wet; 5% clay, 80% silt, 15% very fine grained sand; medium plasticity; low estimated permeability.
5				
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability. Split 8.0 ft sample with AGI.
				SAND (SP); Grey; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability.
10				
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				SAND (SP); Grey; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				
20				

TPHg (ppm)	Graphic Log	Well Construction Graphics	Depth (feet)	Well Construction Details
				T.O.C. Elev. 2,100.46
			0	
			5	
21.0				
			10	
0.2			15	Bottom of Well
			20	

Driller Cascade Drilling

Logged By DCE

Drilling Started 4/11/96

Drilling Completed 4/11/96

Construction Completed 4/11/96

Development Completed 4/14/96

Water Bearing Zones N/A

Development Yield 0.33 gal/m

Well Casing 2" Dia. 0' to 3'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 3' to 15'

Screen Type Schedule 40 PVC

Slot Size 0.010"

Drilling Mud N/A

Grout Type Portland I/II/Bentonite

Bentonite Seal 1.5' to 2.5'

Sand Pack 2.5' to 15.0'

Sand Pack Type 20/30 Silica Sand

Static Water Level 3.51 ft Depth

Date 4/22/96

Notes:

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Well ID CW-11 Boring ID SB-Y

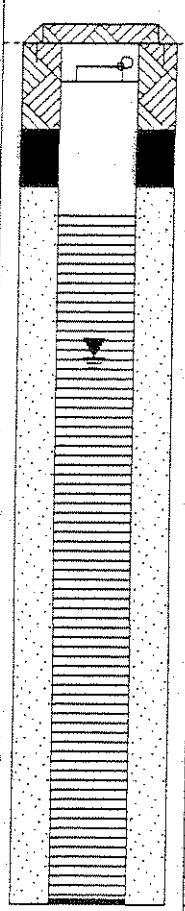
Location 523 Larch St., Sandpoint

Surface Elev. 2,099.84 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND (SM); Brown; moist; 30% silt, 65% fine to very coarse grained sand, 5% pebble gravel; no plasticity; moderate estimated permeability.
				SILT (ML); Light brown; moist; 5% clay, 93% silt, 2% very fine grained sand; low to medium plasticity; low estimated permeability.
5				
				Clayey SILT (ML); Light brown; wet; 20% clay, 80% silt; medium plasticity; very low estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
10				
				Silty SAND (SM); Light brown; wet; 35% silt, 65% very fine grained sand; no plasticity; moderate estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silty SAND (SM); Grey; wet; 20% silt, 80% very fine grained sand; no plasticity; moderate estimated permeability.
15				
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
20				

TPHg (ppm): ND

Graphic Log / Well Construction Graphics



Depth (feet)	Well Construction Details
0	T.O.C. Elev. 2,099.70
5	
10	
15	Bottom of Well
20	

Driller: Cascade Drilling

Logged By: DCE

Drilling Started: 4/12/96

Drilling Completed: 4/12/96

Construction Completed: 4/12/96

Development Completed: 4/15/96

Water Bearing Zones: N/A

Development Yield: 0.19 gal/m

Well Casing: 2" Dia. 0' to 3'

Casing Type: Schedule 40 PVC

Well Screen: 2" Dia. 3' to 15'

Screen Type: Schedule 40 PVC

Slot Size: 0.010"

Drilling Mud: N/A

Grout Type: Portland I/II/Bentonite

Bentonite Seal: 1.5' to 2.5'

Sand Pack: 2.5' to 15.0'

Sand Pack Type: 20/30 Silica Sand

Static Water Level: 5.47 ft Depth

Date: 4/22/96

Notes:

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Location 523 Larch St., Sandpoint

Surface Elev. 2,099.61 ft.

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND (SM); Brown; damp; 30% silt, 65% fine to very coarse grained sand, 5% pebble gravel; no plasticity; moderate estimated permeability.
				SILT (ML); Light brown; damp; 5% clay, 95% silt; medium plasticity; low estimated permeability.
5				Silty SAND (SM); Light brown; wet; 45% silt, 55% very fine grained sand; no plasticity; moderate estimated permeability.
				Clayey SILT (ML); Light brown; wet; 45% clay, 55% silt; high plasticity; very low estimated permeability.
10				SAND (SP); Brown; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability
				Clayey SILT (ML); Light brown; wet; 45% clay, 55% silt; high plasticity; very low estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				
				SAND (SP); Grey/brown; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; very high estimated permeability.
20				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
25				

TPHg (ppm): ND

Graphic Log / Well Construction Graphics

Depth (feet)	Well Construction Details
0	T.O.C. Elev. 2,099.54
5	
10	
15	Bottom of Well
20	Bottom of Boring
25	

Driller: Cascade Drilling

Logged By: DCE

Drilling Started: 4/12/96

Drilling Completed: 4/12/96

Construction Completed: 4/12/96

Development Completed: 4/15/96

Water Bearing Zones: N/A

Development Yield: 0.11 gal/m

Well Casing: 2" Dia. 0' to 3'

Casing Type: Schedule 40 PVC

Well Screen: 2" Dia. 3' to 15'

Screen Type: Schedule 40 PVC

Slot Size: 0.010"

Drilling Mud: N/A

Grout Type: Portland I/II/Bentonite

Bentonite Seal: 1.5' to 2.5'

Sand Pack: 2.5' to 15.0'

Sand Pack Type: 20/30 Silica Sand

Static Water Level: 5.85 ft Depth

Date: 4/22/96

Notes:

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

Project No: 31-319 Phase Task

Well ID CW-13 Boring ID SB-AA

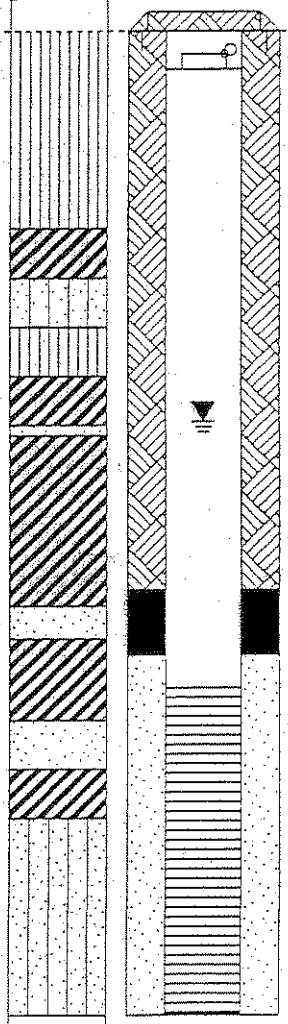
Location 523 Larch St., Sandpoint

Surface Elev. 2,099.74 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				SILT (ML); Light brown; wet; 5% clay, 95% silt; medium plasticity; low estimated permeability.
5				
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated plasticity.
				Silty SAND (SM); Brown; wet; 20% silt, 80% fine to very fine grained sand; no plasticity; high estimated permeability.
10				Sandy SILT (ML); Light brown; wet; 5% clay, 50% silt, 45% very fine grained sand; no plasticity; moderate estimated permeability.
				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
15				SAND (SP); grey; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability unit from 12'0" to 12'2".
				SAND (SP); Grey; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability.
20				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				SAND (SP); Grey; wet; 5% silt, 95% fine to very fine grained sand; no plasticity; high estimated permeability.
25				Silty CLAY (CH); Grey; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silty SAND (SM); Grey; wet; 25% silt, 75% fine to very fine grained sand; no plasticity; moderate estimated permeability.
30				
35				

TPHg (ppm): 0.9

Graphic Log / Well Construction Graphics



Depth (feet): 0, 5, 10, 15, 20, 25, 30, 35

Well Construction Details: T.O.C. Elev. 2,099.37; Bottom of Well

Driller	Cascade Drilling	Development Yield	0.83 gal/m
Logged By	DCE	Well Casing	2" Dia. 0' to 20'
Drilling Started	4/12/96	Casing Type	Schedule 40 PVC
Drilling Completed	4/12/96	Well Screen	2" Dia. 20' to 30'
Construction Completed	4/12/96	Screen Type	Schedule 40 PVC
Development Completed	4/15/96	Slot Size	0.010"
Water Bearing Zones	N/A	Drilling Mud	N/A
		Grout Type	Portland I/II/Bentonite

Bentonite Seal	17' to 19'
Sand Pack	19.0' to 30.0'
Sand Pack Type	20/30 Silica Sand
Static Water Level	11.90 ft Depth
Date	4/22/96
Notes:	

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

Client: CHEVRON/UNION PACIFIC

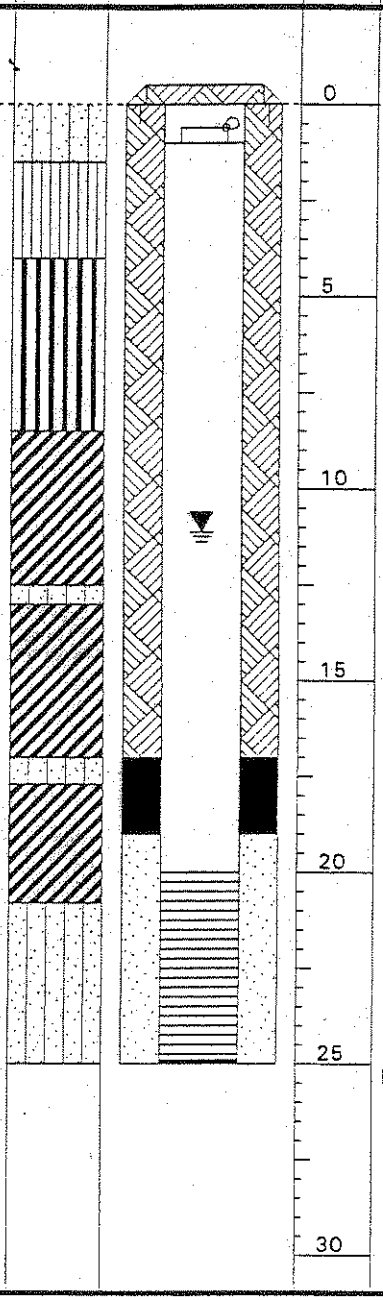
Project No: 31-319 Phase Task

Well ID GW-14 Boring ID GB-BB

Location 523 Larch St., Sandpoint

Surface Elev. 2,099.76 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND(Fill) (SM); Red-brown; damp to moist; 35% silt, 60% medium to very coarse grained sand; 5% pebble gravel; no plasticity; moderate to high estimated permeability.
5				SILT (ML); Light brown; moist; 5% clay, 93% silt, 2% very fine grained sand; medium plasticity; low estimated permeability.
				Clayey SILT (MH); Light brown; moist; 30% clay, 65% silt, 5% very fine grained sand; high plasticity; low estimated permeability.
10				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silty SAND (SM); Grey; wet; 15% silt, 85% fine grained sand; no plasticity; high estimated permeability.
15				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silty SAND (SM); Grey; wet; 15% silt, 85% fine grained sand; no plasticity; high estimated permeability.
20				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				SAND (SP); Grey; wet; 100% fine to very fine grained sand; no plasticity; high estimated permeability.
25				
30				



Well Construction Details

T.O.C. Elev. 2,099.22

Bottom of Well

Driller Cascade Drilling	Development Yield 0.95 gal/m	Bentonite Seal 17' to 19'
Logged By DCE	Well Casing 2" Dia. 0' to 20'	Sand Pack 19.0' to 25.0'
Drilling Started 4/12/96	Casing Type Schedule 40 PVC	Sand Pack Type 20/30 Silica Sand
Drilling Completed 4/12/96	Well Screen 2" Dia. 20' to 25'	Static Water Level 11.11 ft Depth
Construction Completed 4/12/96	Screen Type Schedule 40 PVC	Date 4/22/96
Development Completed 4/15/96	Slot Size 0.010"	Notes:
Water Bearing Zones N/A	Drilling Mud N/A	
	Grout Type Portland I/II/Bentonite	

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON/UNION PACIFIC

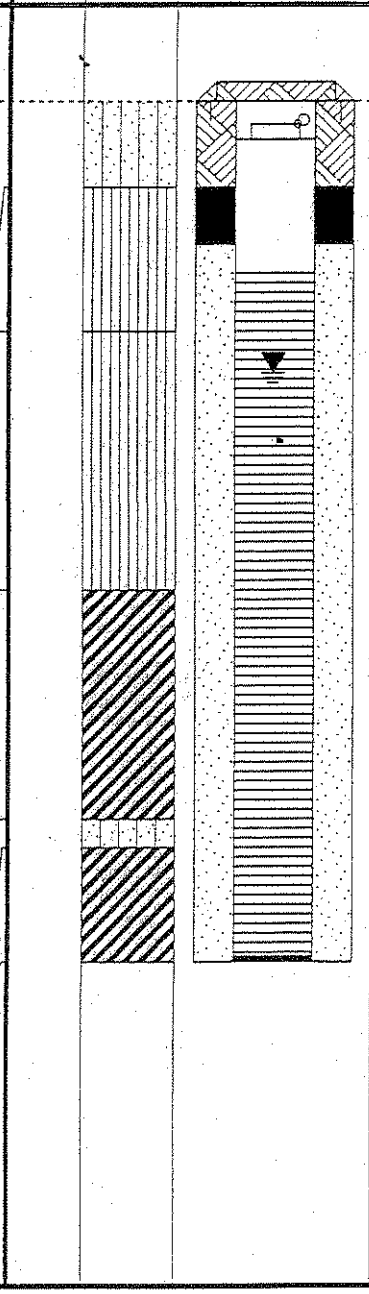
Project No: 31-319 Phase Task

Well ID CW-15 Boring ID SB-CC

Location 523 Larch St., Sandpoint

Surface Elev. 2,099.74 ft. Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty SAND(Fill) (SM); Red-brown; damp to moist; 35% silt, 60% medium to very coarse grained sand; 5% pebble gravel; no plasticity; moderate to high estimated permeability.
				SILT (ML); Light brown; moist; 5% clay, 93% silt, 2% very fine grained sand; medium plasticity; low estimated permeability.
5				Clayey SILT (ML); Light brown; moist; 30% clay, 65% silt, 5% very fine grained sand; high plasticity; low estimated permeability.
10				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
				Silty SAND (SM); Grey; wet; 15% silt, 85% fine grained sand; no plasticity; high estimated permeability.
15				Silty CLAY (CH); Light brown; wet; 55% clay, 45% silt; high plasticity; very low estimated permeability.
20				



Well Construction Details

T.O.C. Elev. 2,099.59

Bottom of Well

Driller	Cascade Drilling	Development Yield	0.38 gal/m	Bentonite Seal	1.5' to 2.5'
Logged By	DCE	Well Casing	2" Dia. 0' to 3'	Sand Pack	2.5' to 15.0'
Drilling Started	4/12/96	Casing Type	Schedule 40 PVC	Sand Pack Type	20/30 Silica Sand
Drilling Completed	4/12/96	Well Screen	2" Dia. 3' to 15'	Static Water Level	4.73 ft Depth
Construction Completed	4/12/96	Screen Type	Schedule 40 PVC	Date	4/22/96
Development Completed	4/15/96	Slot Size	0.010"	Notes:	No samples collected.
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II		

WELL 31320 5/22/96

Cambria Environmental Technology, Inc.

Client: CHEVRON

Location Highway 95, Sandpoint, ID

Project No: 31-319 Phase Task11

Surface Elev. 2098.89 ft,

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			**CONCRETE**
				Silty/Sandy GRAVEL; (GM); brown; dense; damp; 5% clay, 15% silt, 25% sand, 55% gravel to 1" diameter; moderate estimated permeability. Road base.
5				**Sandy SILT**; (ML); red-brown; soft; damp; 65% silt, 35% fine to coarse sand; non-plastic; moderate estimated permeability.
				SILT; (ML); light brown; medium stiff; moist; 5% clay, 93% silt, 2% very fine sand; medium plasticity; low estimated permeability.
10				**Clayey SILT**; (MH); light brown; stiff; moist; 30% clay, 65% silt, 5% very fine sand; high plasticity; very low estimated permeability.
				Silty SAND; (SM); grey/brown; loose; wet; 15% silt, 85% sand; non-plastic; high estimated permeability.
15				**Clayey SILT**; (MH); light brown mottled grey; stiff; wet; 40% clay, 60% silt; high plasticity; very low estimated permeability.
				Silty SAND; (SM); grey; loose; wet; 25% silt, 75% very fine sand; non-plastic; high estimated permeability.
				Clayey SILT; (MH); brown/grey; soft; wet; 25% clay, 70% silt, 5% very fine sand; medium plasticity; very low estimated permeability.
20				**Silty SAND**; (SM); brown; loose; wet; 12% silt, 88% fine to very fine sand; non-plastic; high estimated permeability.
				Clayey SILT; (ML); grey; soft; wet; 30% clay, 65% silt, 5% very fine sand; high plasticity; very low estimated permeability.
25				**Silty SAND**; (SM); grey; loose; wet; 12% silt, 88% very fine sand; non-plastic; high estimated permeability. 12% silt, 88% fine to very coarse sand @ 21 ft. 12% silt, 88% very fine sand @ 22 ft.
30				

Depth (feet)	TPHg (ppm)	Graphic Log	Well Construction Graphics	Well Construction Details
				T.O.C. Elev. 2098.71 ft
0				
5	1.7			
10				
15	ND			Water level @ 14.27 ft.
20	ND			
25				Bottom of boring @ 25 ft.
30				

Driller Ruen Drilling

Logged By DCE

Drilling Started 2/11/97

Drilling Completed 2/11/97

Construction Completed 02/11/97

Development Completed 02/14/97

Water Bearing Zones NA

Development Yield 0.2 g/min

Well Casing 2" Dia. 0 to 19'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 19' to 24'

Screen Type Schedule 40 PVC

Slot Size 0.010"

Drilling Mud NA

Grout Type Portland I/II

Bentonite Seal 3' to 18.5'

Sand Pack 18.5' to 25'

Sand Pack Type 20/40 Sand

Static Water Level 14.27 ft Depth

Date 02/17/97

Notes: On Highway 95.

WELL 31319 4/8/97

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: CHEVRON

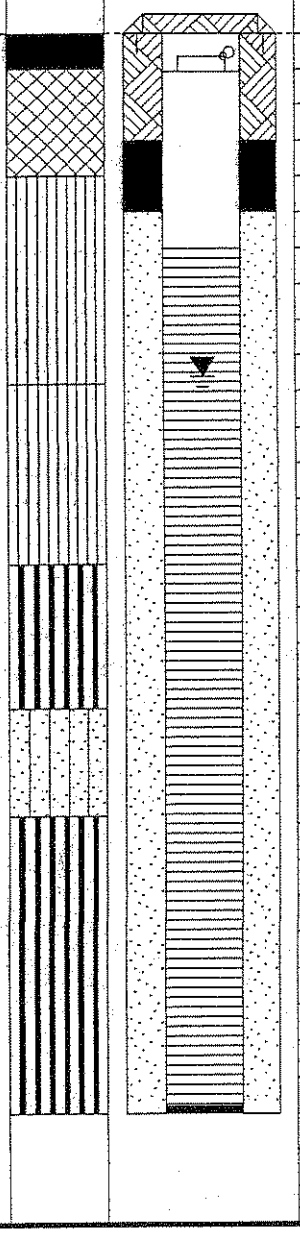
Project No: 31-319 Phase Task11

Well ID CW-17 Boring ID SB-GG

Location Highway 95, Sandpoint, ID

Surface Elev. 2098.90 ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description	TPHg (ppm)
0	Ground Surface			CONCRETE	
				Silty/Sandy GRAVEL; (GM); brown; dense; damp; 5% clay, 15% silt, 25% sand, 55% gravel to 1" diameter; moderate estimated permeability.	
				Sandy SILT; (ML); red-brown; soft; damp; 65% silt, 35% fine to coarse sand; non-plastic; moderate estimated permeability.	
5				SILT; (ML); light brown; medium stiff; moist; 5% clay, 93% silt, 2% very fine sand; medium plasticity; low estimated permeability.	1.7
				Clayey SILT; (MH); light brown; stiff; moist; 30% clay, 65% silt, 5% very fine sand; high plasticity; very low estimated permeability.	
10				Silty SAND; (SM); grey/brown; loose; wet; 15% silt, 85% sand; non-plastic; high estimated permeability.	
				Clayey SILT; (MH); light brown mottled grey; stiff; wet; 40% clay, 60% silt; high plasticity; very low estimated permeability.	ND
15					



Well Construction Details

T.O.C. Elev. 2098.71 ft

Water level @ 4.80 ft.

Bottom of boring @ 15.00 ft.

Driller	Ruen Drilling	Development Yield	0.63 g/min	Bentonite Seal	1.5' to 2.5'
Logged By	DCE	Well Casing	2" Dia. 0 to 3'	Sand Pack	2.5' to 15'
Drilling Started	2/12/97	Casing Type	Schedule 40 PVC	Sand Pack Type	20/40 Sand
Drilling Completed	2/12/97	Well Screen	2" Dia.3' to 15'	Static Water Level	4.80 ft Depth
Construction Completed	02/12/97	Screen Type	Schedule 40 PVC	Date	02/17/97
Development Completed	02/12/97	Slot Size	0.010"	Notes:	On Highway 95.
Water Bearing Zones	NA	Drilling Mud	NA		
		Grout Type	Portland I/II		

WELL 31319 4/8/97

Cambria Environmental Technology, Inc.

Project Report for
Interstate Concrete and Asphalt

Monitor Well Report for the area of
North 5th Avenue and West Larch Street intersection
ST-5110(645) Fifth Ave.
in Sandpoint, Idaho

WEI Project No.691101

December 17, 2002

Survey Narrative:

On February 26th and 28th of 2002 Wyatt Engineering, Inc. performed a field survey and developed a list of elevations and coordinates for 36 monitoring wells. On December 13th of 2002 Wyatt Engineering , Inc., performed additional field survey work to develop the following list of elevations and coordinates for 23 monitoring wells.

The elevations and coordinates listed in this report were based on the same assumed datum and coordinate system as was used previously by this office in February of 2002. The horizontal coordinates generated for each monitoring well were established using a Trimble 5600 robotic total station and a Trimble data collector. The coordinates represent the center of the monitoring well cap.

The elevations for the monitoring wells were established using an automatic level with a rod and were checked with closed loop observations. Ground elevations represent the north side of the rim of each well casing. The PVC rim elevations represent the north side of each PVC pipe inside the well casing.

The monitoring well identifying number (DEQ #) reported here are based on various maps and sketches supplied by others. The WEI number listed corresponds to the survey field notes.

Monitoring Well # DEQ #	WEI #	Northing	Easting	Elevation PVC Pipe Rim	Elevation Ground-Case Rim
North of West Larch Street					
Rw-1R	1090	5012.6	5162.1	99.41	99.92
Mw-2	1081	4996.8	5019.5	101.18	101.51
Rw-2	1091	5069.7	5174.3	99.61	100.01
Mw-3D	1078	5085.2	5102.0	98.23	98.91
Rw-3RD	1095	5186.4	5207.4	100.03	100.43
Rw-3RS	1094	5183.3	5206.7	100.12	100.47
Mw-3S	1079	5086.5	5112.6	98.61	98.86
Mw-3W	1080	5073.8	5068.0	100.45	100.62
Mw 4	1096	5320.6	5258.6	97.67	98.35
Rw-6	1093	4988.9	5275.4	98.18	98.50
Rw-8	1092	5081.2	5274.5	99.62	99.94
Mw-8d	1076	5215.4	5120.1	99.51	100.08
Mw-8S	1077	5149.0	5112.2	99.30	99.57
Mw-Pn	1075	5231.4	5133.6	99.34	99.55
South of West Larch Street					
Cw-16	1089	4808.2	5093.7	99.73	100.03
Cw-17	1088	4799.4	5093.6	99.89	100.11
Mw-18D	1082	4906.5	4979.1	101.16	101.35
Mw-18S	1083	4903.2	4977.9	101.11	101.43
Mw-19D	1086	4724.4	4979.8	101.61	102.25
Mw-19S	1087	4720.0	4979.7	101.48	102.08
Mw-20D	1084	4810.2	4979.0	101.48	101.93
Mw-20S	1085	4805.1	4979.3	101.72	101.91
Dqw-101	1097	4946.3	5797.2	88.80	89.28

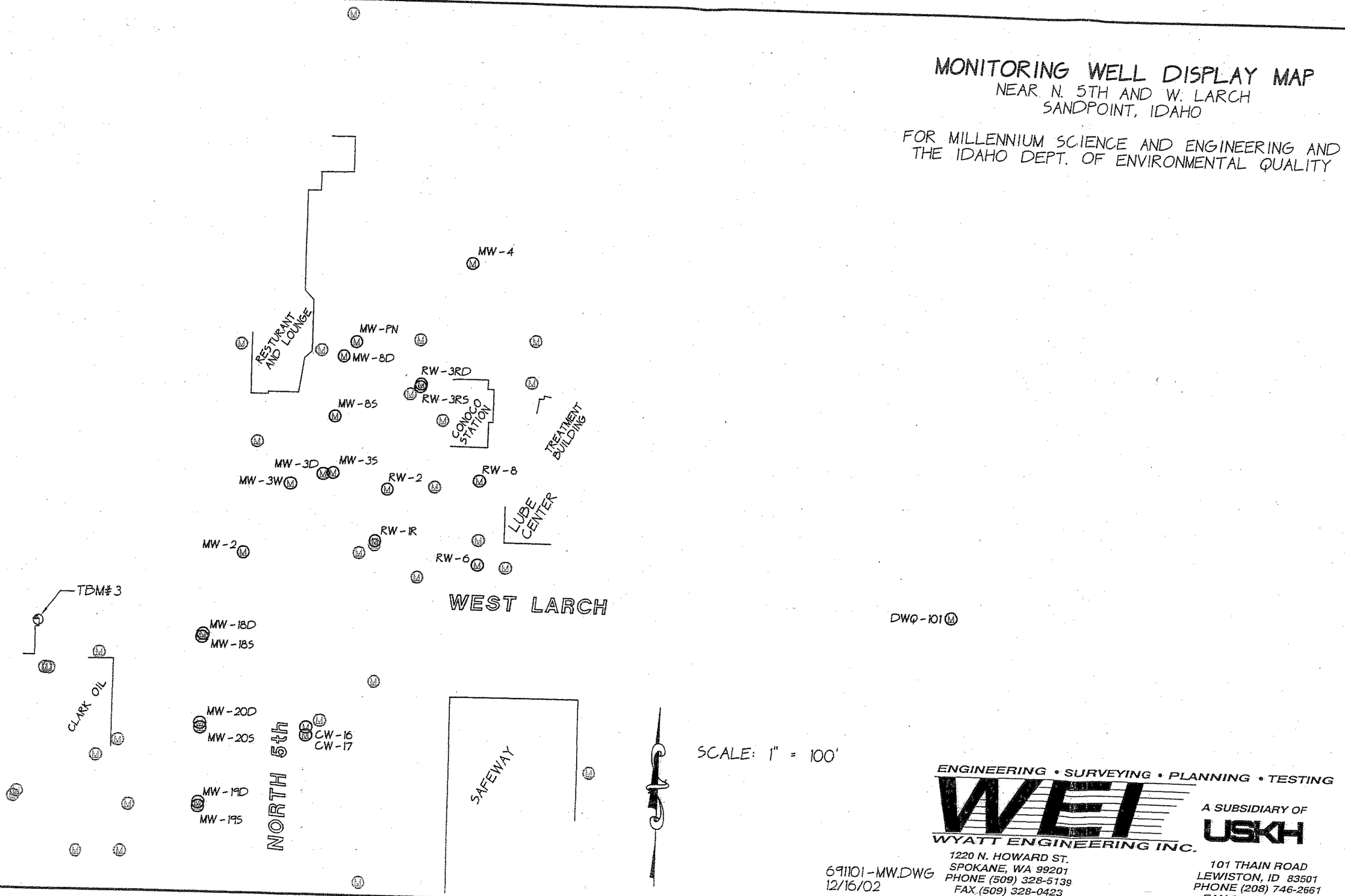
The following temporary site bench marks were established during field work:

Name	Elevation	Description
TBM #3	102.83	NE corner of retaining wall at Clarke Oil Office Bldg.
TBM #4	102.05	"X" on SE bolt of traffic light pole at the northwest intersection of North 5th and West Larch.
TBM #5	100.54	"X" on SW bolt of traffic light pole at the northeast intersection of North 5th and West Larch.

MONITORING WELL DISPLAY MAP

NEAR N. 5TH AND W. LARCH
SANDPOINT, IDAHO

FOR MILLENNIUM SCIENCE AND ENGINEERING AND
THE IDAHO DEPT. OF ENVIRONMENTAL QUALITY



SCALE: 1" = 100'

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691101-MW.DWG
12/16/02

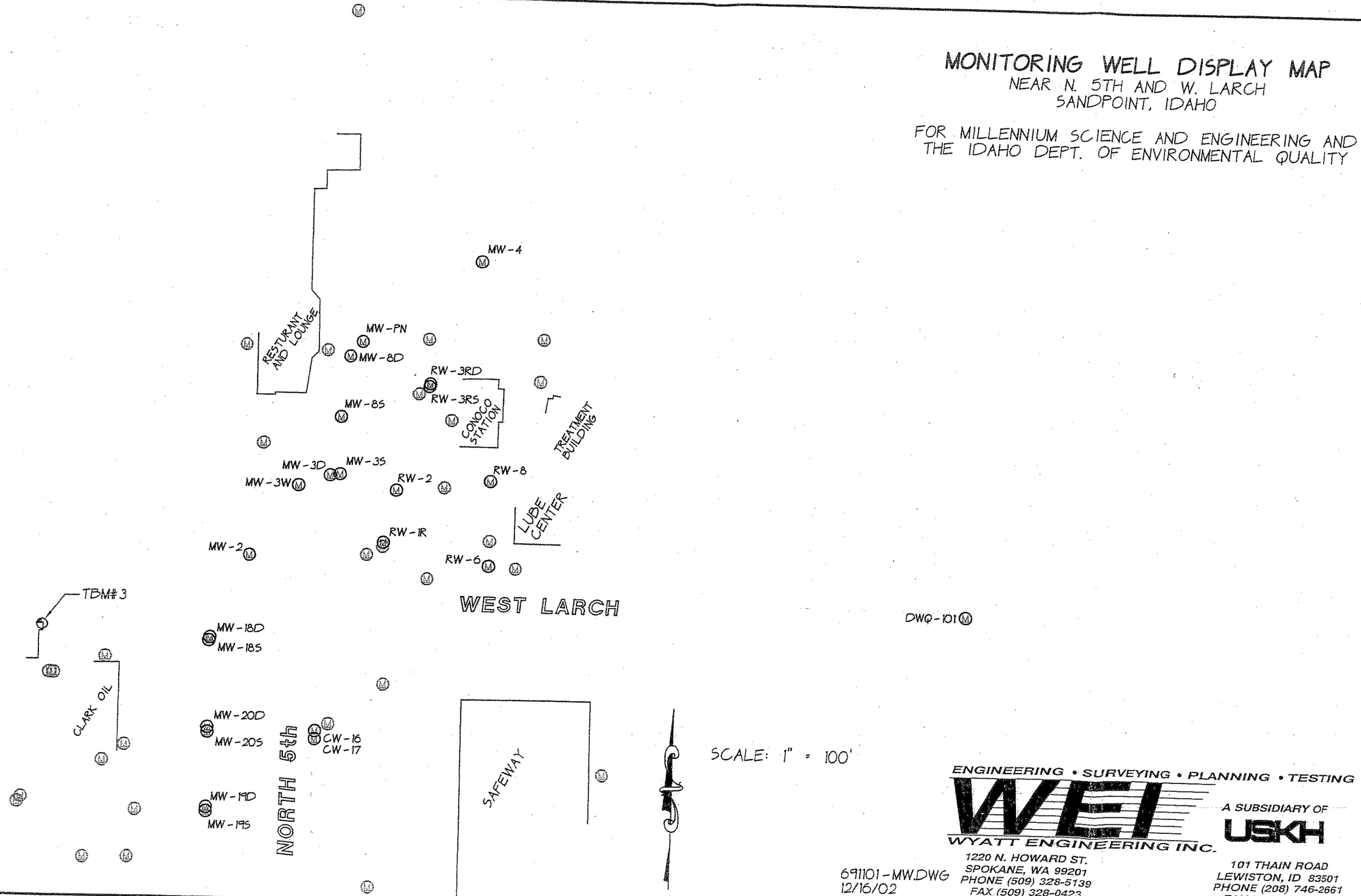
1220 N. HOWARD ST.
SPOKANE, WA 99201
PHONE (509) 328-5139
FAX (509) 328-0423

101 THAIN ROAD
LEWISTON, ID 83501
PHONE (208) 746-2661
FAX (208) 746-6825

MONITORING WELL DISPLAY MAP

NEAR N. 5TH AND W. LARCH
SANDPOINT, IDAHO

FOR MILLENNIUM SCIENCE AND ENGINEERING AND
THE IDAHO DEPT. OF ENVIRONMENTAL QUALITY



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691101-MW.DWG
12/16/02

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
MW-1	Upper	NA	2100.56	7/25/1991	7.96
				12/17/1991	4.2
				9/29/1993	9.09
				3/17/2005	-
MW-2U	Upper	17.7	2100.74	7/25/1991	7.91
				12/17/1991	5.75
				9/29/1993	8.86
				3/17/2005	7.91
MW-2L	Lower	NA	2100.64	7/25/1991	7.64
				9/9/1993	8.6
				3/17/2005	-
MW-3S	Upper	12.05	2099.01	7/15/1991	7.23
				12/17/1991	8.8
				9/29/1993	7.84
				3/30/1995	4.95
				10/3/1995	9.48
				5/1/1996	3.96
				8/4/1996	7.72
				11/5/1996	7.4
				9/30/1997	8.74
				12/30/1997	6.65
				4/1/1998	5.15
				9/30/1998	11.95
				4/22/1999	8.2
				10/4/1999	11.3
				3/30/2000	6.8
				9/6/2000	11.2
				3/30/2001	8.7
				10/6/2001	12.2
				11/20/2002	10.87
				3/17/2005	7.25
MW-3W	Upper	16.2	NA	9/30/1997	9.24
				12/30/1997	6.775
				4/1/1998	5.34
				9/30/1998	11.85
				4/22/1999	6.05
				10/4/1999	12.5
				3/30/2000	4.9
				9/6/2000	12.3
				3/30/2001	6.7
				10/6/2001	13.6
				11/20/2002	10.65
				4/4/2003	5.5
				3/17/2005	7.15

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
MW-4	Upper	18.2	2097.49	7/25/1991	14.37
				12/17/1991	14.3
				9/29/1993	15.05
				3/30/1995	13.7
				10/3/1995	15.2
				5/1/1996	13.5
				8/4/1996	14.915
				11/5/1996	13
				9/30/1997	15.14
				12/30/1997	14.125
				4/1/1998	13.65
				9/30/1998	15.65
				4/22/1999	13.3
				10/4/1999	16.3
				3/30/2000	13.3
				9/6/2000	15.75
				3/30/2001	14
				10/6/2001	16.3
				5/5/2002	13.9
				6/21/2002	14.06
				11/2/2002	15.3
				4/4/2003	8
				10/1/2003	No Data
				4/16/2004	13.5
				3/17/2005	14.41
MW-5	Upper	NA	2098.77	7/25/1991	15.72
				12/1/1991	15.6
				9/29/1993	16.63
				3/17/2005	-
MW-6	Upper		2098.77	7/25/1991	12.56
				12/17/1991	12.8
				9/29/1993	14.56
				3/30/1995	11.7
				10/3/1995	13.82
				5/1/1996	11.8
				8/4/1996	13.33
				9/30/1997	No Water
				3/17/2005	-
MW-7	Upper	13.5	2098.33	7/25/1991	9.82
				12/1/1991	14.7
				9/29/1993	11.1
				3/30/1995	6
				10/3/1995	11.67
				5/1/1996	5.65
				8/4/1996	9.35
				11/5/1996	9.6
				9/30/1997	10.55
				12/30/1997	7.8
				4/1/1998	9
				9/30/1998	13
				4/22/1999	8.5
				10/4/1999	13.4
				3/30/2000	5.55
				9/6/2000	12.4
				3/30/2001	8
				10/6/2001	13.1
				5/5/2002	7.9
				11/20/2002	12.35
				10/1/2003	13
				4/16/2004	7.35
				3/17/2005	9.11

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
MW-8	Upper	19.0	2100.89	1/10/1990	8
				7/25/1991	7.67
				12/17/1991	4.4
				9/29/1993	8.23
				3/30/1995	5.8
				10/3/1995	Not Measured
				2/28/2002	4.44
				3/17/2005	Not Measured
MW-9	Upper	19.0	NA	1/9/1990	6.5
				12/17/1991	No Data
				9/29/1993	Not Measured
				3/17/2005	-
MW-10	Upper	17.0	2100.51	1/16/1990	9.5
				7/25/1991	6.02
				12/17/1991	3.15
				9/29/1993	7.84
				2/28/2002	4.79
				3/17/2005	8.01
MW-11	Upper	17.0	2098.52	1/11/1990	8
				7/25/1991	9.29
				12/17/1991	8.00
				9/29/1993	10.08
				3/17/2005	Not Measured
RW-1	Upper	17.1	2099.22	7/25/1991	12.4
				12/17/1991	6.9
				9/29/1993	9.26
				3/30/1995	5.1
				10/3/1995	8.95
				5/1/1996	4
				8/4/1996	8
				11/5/1996	7.4
				9/30/1997	8.85
				12/30/1997	6.55
				4/1/1998	5.35
				9/30/1998	11.275
				4/22/1999	6.1
				10/4/1999	11.9
				3/30/2000	4.4
				9/6/2000	11.2
				3/30/2001	6.2
				10/6/2001	12.45
				2/28/2002	5.31
				5/2/2002	6.8
				3/17/2005	-
RW-1R	Upper	16.35		11/20/2002	11.25
				4/4/2003	6.8
				10/1/2003	11.3
				4/16/2004	8.5
				3/17/2005	8.52

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-2	Upper	16.85	2099.29	7/25/1991	13.37
				10/5/1991	No Data
				12/17/1991	10.3
				6/2/1994	9.27
				3/30/1995	7.85
				6/19/1995	8.5
				6/20/1995	8.35
				6/21/1995	8.05
				6/22/1995	8.1
				6/23/1995	8.05
				6/24/1995	8.125
				10/3/1995	11.12
				5/1/1996	7.4
				8/4/1996	8.225
				11/5/1996	9.15
				9/30/1997	11.13
				12/30/1997	8.025
				4/1/1998	6.5
				9/30/1998	12.28
				4/22/1999	8.1
				10/4/1999	12.25
				3/30/2000	6
				9/6/2000	12.3
				3/30/2001	8.8
				10/6/2001	13
				11/20/2002	12.19
				4/4/2003	7
				10/1/2003	12.1
				4/16/2004	8.4
				3/17/2005	9.35
RW-3	Upper	18	2099.62	7/25/1991	9.68
				10/5/1991	No Data
				12/17/1991	12.4
				9/29/1993	11.31
				6/2/1994	10.57
				3/30/1995	9.5
				6/19/1995	10.2
				6/20/1995	9.5
				6/21/1995	9.25
				6/22/1995	9.1
				6/23/1995	9.1
				6/24/1995	9.125
				10/3/1995	11.9
				5/1/1996	7.71
				8/4/1996	10.4
				11/5/1996	10.35
				9/30/1997	11.32
				12/30/1997	8.09
				4/1/1998	7.425
				9/30/1998	13.1
				4/22/1999	9.55
				10/4/1999	13.6
				3/30/2000	8
				9/6/2000	13.5
				3/3/2001	11.2
				10/6/2001	16.8
				5/2/2002	11.1
				3/17/2005	-

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-3R	Upper			11/20/2002	13.06
				4/4/2003	9
				10/1/2003	12.3
				3/17/2005	-
RW-4	Upper	17	2099.18	7/25/1991	No Data
				10/5/1991	No Data
				12/17/1991	12
				9/29/1993	11.7
				10/18/1993	No Data
				3/30/1995	9.55
				5/24/1995	9.75
				6/19/1995	10.7
				6/20/1995	10.2
				6/21/1995	9.9
				6/22/1995	9.11
				6/23/1995	9.7
				6/24/1995	9.75
				10/1/1995	12.42
				10/3/1995	12.42
				5/1/1996	8.1
				8/4/1996	10.75
				11/5/1996	11.2
				9/30/1997	11.62
				12/30/1997	9.725
				4/1/1998	8.275
				9/30/1998	13.4
				4/22/1999	9.5
				10/4/1999	13.6
				3/30/2000	8.25
				9/6/2000	13.4
				3/30/2001	10.9
				10/6/2001	14.2
				5/2/2002	11.2
				3/17/2005	-
RW-5	Upper	17	2098.09	7/25/1991	8.06
				10/5/1991	No Data
				12/17/1991	7.4
				9/29/1993	9.35
				9/30/1997	Not Measured
				10/4/1999	11.7
				3/17/2005	-

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-6	Upper	17	2097.52	7/25/1991	8.59
				10/5/1991	No Data
				12/17/1991	10.8
				9/29/1993	11.54
				6/2/1994	8.37
				3/30/1995	5.9
				10/3/1995	11.18
				5/1/1996	6.27
				8/4/1996	8.925
				11/5/1996	9.25
				9/30/1997	10.25
				12/30/1997	7.275
				4/1/1998	5.8
				9/30/1998	12.4
				4/22/1999	8.45
				10/4/1999	13.6
				9/30/2000	8
				9/6/2000	12.2
				3/30/2001	10.1
				10/6/2001	13
				5/5/2002	9.6
				6/21/2002	9.16
				11/20/2002	13.9
				4/4/2003	6.4
				10/1/2003	12.6
				4/16/2004	7.5
				3/17/2005	8.61
RW-7	Upper	15.25	2099.57	12/17/1991	12.3
				3/30/1995	7.4
				10/3/1995	12.32
				5/1/1996	7.07
				8/4/1996	10.2
				11/5/1996	10.47
				9/30/1997	11.21
				12/30/1997	9.15
				4/1/1998	7.32
				9/30/1998	13.04
				4/22/1999	8.5
				10/4/1999	13.85
				3/30/2000	7
				9/6/2000	13.25
				3/30/2001	9.8
				10/6/2001	14.6
				5/5/2002	9.8
				11/2/2002	13.77
				4/4/2003	8
				10/1/2003	13.4
				3/17/2005	10.43

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RW-8	Upper	15.25	2099.27	12/17/1991	11.2
				3/30/1995	9.05
				6/19/1995	11
				6/20/1995	10.3
				6/21/1995	10.4
				6/22/1995	10.3
				6/23/1995	10.3
				6/24/1995	10.225
				10/3/1995	13.1
				5/1/1996	8
				8/4/1996	11.35
				11/5/1996	11.6
				9/30/1997	12.15
				12/30/1997	9.775
				4/1/1998	7.9
				9/30/1998	14.25
				4/22/1999	10.4
				10/4/1999	14.8
				3/30/2000	7.9
				9/6/2000	13.8
				3/30/2001	11.2
				10/6/2001	15.1
				5/5/2002	9.8
				6/21/2002	10.4
				11/20/2002	13.2
				4/4/2003	8.85
				10/1/2003	14.8
				3/17/2005	10.81
RCW-1	NA	NA	NA	6/24/1993	No Data
				10/18/1993	No Data
				6/29/1995	16.4
				6/30/1995	15
				7/1/1995	15
				7/2/1995	14.975
				7/5/1995	15.3
				8/11/1995	15.61
				8/13/1995	15.92
				8/15/1995	15.93
				8/17/1995	16.03
				8/21/1995	16.35
				8/23/1995	16.5
				8/25/1995	16.5
				10/3/1995	18.2
				11/5/1996	No Data
				9/30/1997	No Data
				4/1/1998	No Data
				4/22/1999	No Data
				3/30/2000	No Data
				6/21/2002	14.25
				4/1/2003	No Data
				3/17/2005	Not Measured

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
RCW-2	NA	NA	NA	6/24/1993	No Data
				10/18/1993	No Data
				10/3/1995	15.42
				5/1/1996	13.4
				9/30/1997	15.8
				4/1/1998	13.55
				4/22/1999	No Data
				3/30/2000	No Data
				6/21/2002	13.88
				4/1/2003	No Data
				3/17/2005	Not Measured
RCW-3	NA	NA	NA	6/24/1993	No Data
				10/18/1993	No Data
				6/29/1995	14.8
				6/30/1995	14.3
				7/1/1995	14.2
				7/5/1995	14.35
				7/21/1995	14.225
				10/3/1995	16.45
				5/1/1996	13
				8/4/1996	16.33
				11/5/1996	15.4
				9/30/1997	No Data
				4/1/1998	No Data
				4/22/1999	No Data
				3/30/2000	No Data
				6/21/2002	13.67
				4/1/2003	No Data
				3/17/2005	Not Measured
RCW-4	NA	NA	NA	10/18/1993	No Data
				10/3/1995	17.05
				3/17/2005	Not Measured
MW-18D	Lower	27.5	NA	3/17/2005	13.64
MW-18S	Upper	14.3	NA	3/17/2005	6.18
MW-3D	Lower	36.4	NA	4/4/2003	5.1
				4/16/2004	No Data
				3/17/2005	12.31
RW-3RD	Lower	39.3	NA	4/16/2004	15.7
				3/17/2005	15.55
RW-3RS	Upper	15.2	NA	4/16/2004	10.45
				3/17/2005	11.07
GA-1	Upper	17.3	NA	9/29/1993	11.33
				3/17/2005	11.25
DQW-101	Lower	25	2088.15 *	1/31/2002	12
				6/21/2002	13.45
				3/17/2005	13.78
DQW-102	Lower	25	2097.52 *	2/4/2002	6
				6/21/2002	15.44
				3/17/2005	15.44
DQW-103	Lower	24.9	2099.22 *	2/5/2002	6.25
				6/21/2002	13.79
				4/16/2004	13.3
				3/17/2005	14.03
DQW-104	Lower	25	2097.02 *	1/24/2002	6
				6/21/2002	13.07
				3/17/2005	13.15
DQW-105	Lower	25	2098.56 *	1/22/2002	6
				6/21/2002	12.91
				3/17/2005	12.88

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MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
DQW-106	Lower	24.7	2098.71 *	2/8/2002	6
				6/21/2002	13.03
				3/17/2005	13.12
DQW-107	Lower	24.8	2100.65 *	2/5/2002	6
				6/21/2002	8.79
				3/17/2005	8.40
DQW-108	Lower	25	2101.14 *	2/6/2002	6
				6/21/2002	9.18
				3/17/2005	8.81
DQW-109	Lower	25	2096.33 *	2/7/2002	6
				6/21/2002	14.48
				3/17/2005	14.15
CW-1	Upper	15.3	2100.63	4/22/1996	3.09
				2/28/2002	2.5
				3/17/2005	Not Measured
CW-2	Upper	14.7	2100.65	4/22/1996	3.29
				2/28/2002	2.61
				6/21/2002	5.51
				3/17/2005	5.10
CW-3	Upper	15	2100.51	4/22/1996	3.47
				6/21/2002	5.86
				2/28/2002	3.2
				3/17/2005	Not Measured
CW-4	Upper	14.7	2101.14	4/22/1996	3.64
				2/28/2002	3.2
				6/21/2002	5.82
				3/17/2005	5.81
CW-5	Upper	15	2100.49	4/22/1996	3.17
				2/28/2002	2.24
				3/17/2005	Not Measured
CW-6	Upper	15	2099.8	4/22/1996	2.88
				3/17/2005	-
CW-7	Upper	15	2100.48	4/22/1996	3.05
				3/17/2005	Not Measured
CW-8	Lower	25	2100.48	4/22/1996	9.28
				2/28/2002	7.85
				6/21/2002	5.18
				3/17/2005	Not Measured
CW-9	Upper	15	2100.35	4/22/1996	3.10
				2/28/2002	2.11
				6/21/2002	5.57
				3/17/2005	Not Measured
CW-10	Upper	15	2100.46	4/22/1996	3.51
				2/28/2002	2.3
				6/21/2002	5.85
				3/17/2005	Not Measured
CW-11	Upper	15	2099.7	4/22/1996	5.47
				3/17/2005	-
CW-12	Upper	15	2099.54	4/22/1996	5.85
				3/17/2005	-
CW-13	Lower	30	2099.37	4/22/1996	11.90
				3/17/2005	-
CW-14	Lower	25	2099.22	4/22/1996	11.11
				3/17/2005	-
CW-15	Upper	15	2099.59	4/22/1996	4.73
				3/17/2005	-

Table B-1

MONITORING WELL GROUNDWATER LEVEL SUMMARY
(SUMMARY OF HISTORICAL AVAILABLE DATA)
NORTHWEST GAS & GO
SANDPOINT, IDAHO

Monitoring Well ID	Water Bearing Unit (lower/upper)	Total Well Depth (ft. bgs)	Elevation - TOC (feet above MSL)	Date	Depth to Water (ft. bgs)
CW-16	Lower	24.75	2098.71	2/17/1997	14.27
				2/28/2002	10.94
				6/21/2002	13.38
				3/17/2005	13.46
CW-17	Upper	12.25	2098.71	2/17/1997	4.80
				2/28/2002	4.82
				6/21/2002	5.29
				3/17/2005	7.46
QI-S	Lower	18	NA	3/17/2005	5.86
MW-8S	Upper	NA	NA	3/17/2005	7.86
MW-8D	Lower	25	NA	3/17/2005	14.79
MW-8PN	Upper?	17.6	NA	3/17/2005	8.67
MW-19 S	Upper	16.1	NA	3/17/2005	6.58
MW-19 D	Lower	29.2	NA	3/17/2005	14.04
MW-20 S	Upper	13.5	NA	3/17/2005	7.06
MW-20 D	Lower	26	NA	3/17/2005	13.45

Key::

* = Estimated Elevation - Top of Casing (above mean sea level)

- = Well is abandoned

APPENDIX C

DATA VALIDATION MEMORANDA

ecology and environment, inc.
International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: May 26, 2005

TO: Steven G. Hall, Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Organic Data Quality Assurance Review, Northwest Gas N' Go, Sandpoint, Idaho**

REF: TDD: 04-11-0002 PAN: 001281.0421.01RO

The data quality assurance review of 11 water samples collected from the Northwest Gas N' Go site located in Sandpoint, Idaho, has been completed. Analysis for Volatile Organic Compounds (VOCs - EPA SW-846 Method 8260) was performed by Columbia Analytical Services, Kelso, Washington.

The samples were numbered:

MW-4	MW-3S	MW-7	RW-IR	Seep Sump
RCW-1	RCW-2	RCW-3	Discharge	Before Stripper
Trip Blank				

Data Qualifications:

1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of 4 °C ± 2°C. The samples were collected on March 18, 2005, and were analyzed by March 28, 2005, therefore meeting QC criteria of less than 14 days between collection and analysis for preserved water samples.

2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

3. Initial Calibration: Acceptable.

Initial calibration was performed at the beginning of each 12-hour analysis sequence. All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

4. Continuing Calibration: Acceptable.

Continuing calibration was performed at the beginning of each 12-hour analysis sequence. All RRFs were greater than the QC limit of 0.050. All % differences were within the QC limit of ±25%.

5. Blanks: Acceptable.

A method blank was analyzed for each 20 sample batch and at the beginning of each 12-hour analysis sequence beginning with the injection of BFB. There were no detections in any method blanks. One trip blank was submitted for analysis. There were no detections in the trip blank.

6. Surrogates Analysis: Acceptable.

All surrogate recoveries were within QC limits.

7. Matrix Spike Analysis: Satisfactory.

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits, except 1,2-dibromoethane and 1,2-dichloroethane, each with high recoveries. Positive sample results associated with the high recovery outliers were qualified as estimated quantities (J).

8. Laboratory Control Sample Analysis: Acceptable.

Laboratory control sample analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except ethylbenzene and o-xylene, each with recoveries 1% below the QC limits, in one out of three laboratory control samples. No qualifications were applied based on these slight QC outliers.

9. Duplicate Analysis: Acceptable.

All spike duplicate results were within laboratory QC limits.

10. Internal Standards: Acceptable.

All internal standards were within ± 30 seconds of the continuing calibration internal standard retention times. All area counts were within 50% to 200% of the continuing calibration area counts.

11. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

12. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

13. Other Data Qualification: Satisfactory.

Results for benzene, toluene, ethylbenzene, m,p-xylenes, and o-xylene in sample RCW-1 exceeded the calibration range and were qualified as estimated quantities (J).

14. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: MW-4
Lab Code: K2501989-001

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	
Toluene	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	2.0	1	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	0.84		0.50	1	03/24/05	03/24/05	KWG0504786	
o-Xylene	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	*
Naphthalene	~~ND~~	~~U~~	2.0	1	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	80-119	03/24/05	Acceptable
Toluene-d8	106	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	102	72-114	03/24/05	Acceptable

MW 5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: RW-IR
Lab Code: K2501989-002

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	44		0.50	1	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	0.50	U 1	03/24/05	03/24/05	KWG0504786	
Toluene	27		0.50	1	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	2.0	U 1	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	110	D	2.5	5	03/24/05	03/24/05	KWG0504786	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	0.50	U 1	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	70		0.50	1	03/24/05	03/24/05	KWG0504786	
o-Xylene	9.2		0.50	1	03/24/05	03/24/05	KWG0504786	*
Naphthalene	54		2.0	1	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	104	80-119	03/24/05	Acceptable
Toluene-d8	112	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	103	72-114	03/24/05	Acceptable

MW 5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: MW-7
Lab Code: K2501989-003

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	6.4	D	2.5	5	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	2.5 U	5	03/24/05	03/24/05	KWG0504786	
Toluene	38	D	2.5	5	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	10 U	5	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	90	D	2.5	5	03/28/05	03/28/05	KWG0504962	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	2.5 U	5	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	570	D	25	50	03/24/05	03/24/05	KWG0504786	
o-Xylene	120	D	2.5	5	03/24/05	03/24/05	KWG0504786	*
Naphthalene	280	D	10	5	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	80-119	03/24/05	Acceptable
Toluene-d8	111	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	111	72-114	03/24/05	Acceptable

MW 5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: MW-3S
Lab Code: K2501989-004

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	500	D	25	50	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	2.5 U	5	03/24/05	03/24/05	KWG0504786	
Toluene	610	D	25	50	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	10 U	5	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	1000	D	25	50	03/24/05	03/24/05	KWG0504786	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	2.5 U	5	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	4000	D	25	50	03/24/05	03/24/05	KWG0504786	
o-Xylene	240	D	2.5	5	03/24/05	03/24/05	KWG0504786	*
Naphthalene	450	D	100	50	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	80-119	03/24/05	Acceptable
Toluene-d8	111	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	103	72-114	03/24/05	Acceptable

MW 5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: Seep Sump
Lab Code: K2501989-005

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	1100	D	25	50	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	22	D	2.5	5	03/24/05	03/24/05	KWG0504786	
Toluene	580	D	25	50	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	10	5	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	260	D	2.5	5	03/24/05	03/24/05	KWG0504786	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	2.5	5	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	440	D	25	50	03/24/05	03/24/05	KWG0504786	
o-Xylene	270	D	2.5	5	03/24/05	03/24/05	KWG0504786	*
Naphthalene	64	D	10	5	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	105	80-119	03/24/05	Acceptable
Toluene-d8	108	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	101	72-114	03/24/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: RCW-1
Lab Code: K2501989-006

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	87	J	0.50	1	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	0.50	U 1	03/24/05	03/24/05	KWG0504786	
Toluene	79	J	0.50	1	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	2.0	U 1	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	62	J	0.50	1	03/24/05	03/24/05	KWG0504786	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	0.50	U 1	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	180	J	0.50	1	03/24/05	03/24/05	KWG0504786	
o-Xylene	110	J	0.50	1	03/24/05	03/24/05	KWG0504786	*
Naphthalene	37		2.0	1	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	105	80-119	03/24/05	Acceptable
Toluene-d8	110	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	101	72-114	03/24/05	Acceptable

5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: RCW-2
Lab Code: K2501989-007

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**950**	D	25	50	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	2.5 U	5	03/28/05	03/28/05	KWG0504962	
Toluene	**210**	D	2.5	5	03/28/05	03/28/05	KWG0504962	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	10 U	5	03/28/05	03/28/05	KWG0504962	
Ethylbenzene	**20**	D	2.5	5	03/28/05	03/28/05	KWG0504962	
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	2.5 U	5	03/28/05	03/28/05	KWG0504962	
m,p-Xylenes	**1100**	D	25	50	03/24/05	03/24/05	KWG0504786	
o-Xylene	**410**	D	25	50	03/24/05	03/24/05	KWG0504786	*
Naphthalene	**92**	D	10	5	03/28/05	03/28/05	KWG0504962	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	99	80-119	03/28/05	Acceptable
Toluene-d8	104	83-113	03/28/05	Acceptable
4-Bromofluorobenzene	100	72-114	03/28/05	Acceptable

5-26-05

Comments:

00032

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: RCW-3
Lab Code: K2501989-008

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	1600	D	50	100	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	5.0 U	10	03/28/05	03/28/05	KWG0504962	
Toluene	2000	D	50	100	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	20 U	10	03/28/05	03/28/05	KWG0504962	
Ethylbenzene	240	D	5.0	10	03/28/05	03/28/05	KWG0504962	
1,2-Dichloroethane (EDC)	54	D J	5.0	10	03/28/05	03/28/05	KWG0504962	
m,p-Xylenes	2400	D	50	100	03/24/05	03/24/05	KWG0504786	
o-Xylene	860	D	50	100	03/24/05	03/24/05	KWG0504786	*
Naphthalene	170	D	20	10	03/28/05	03/28/05	KWG0504962	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	98	80-119	03/28/05	Acceptable
Toluene-d8	104	83-113	03/28/05	Acceptable
4-Bromofluorobenzene	100	72-114	03/28/05	Acceptable

MW 5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: Discharge
Lab Code: K2501989-009

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**2.2**		0.50	1	03/24/05	03/24/05	KWG0504786	
Methyl tert-Butyl Ether	**3.7**		0.50	1	03/24/05	03/24/05	KWG0504786	
Toluene	**1.8**		0.50	1	03/24/05	03/24/05	KWG0504786	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	2.0	1	03/24/05	03/24/05	KWG0504786	
Ethylbenzene	**2.6**		0.50	1	03/24/05	03/24/05	KWG0504786	*
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	0.50	1	03/24/05	03/24/05	KWG0504786	
m,p-Xylenes	**13**		0.50	1	03/24/05	03/24/05	KWG0504786	
o-Xylene	**3.9**		0.50	1	03/24/05	03/24/05	KWG0504786	*
Naphthalene	**43**		2.0	1	03/24/05	03/24/05	KWG0504786	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	80-119	03/24/05	Acceptable
Toluene-d8	108	83-113	03/24/05	Acceptable
4-Bromofluorobenzene	103	72-114	03/24/05	Acceptable

MW 5-20-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology & Environment, Inc.
Project: Sandpoint Site/04-11-0002/001281.0421
Sample Matrix: Water

Service Request: K2501989
Date Collected: 03/18/2005
Date Received: 03/19/2005

Volatile Organic Compounds

Sample Name: Before Stripper
Lab Code: K2501989-010

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	750	D	25	50	03/28/05	03/28/05	KWG0504985	
Methyl tert-Butyl Ether	15	D	2.5	5	03/28/05	03/28/05	KWG0504985	
Toluene	440	D	25	50	03/28/05	03/28/05	KWG0504985	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	10	U	5	03/28/05	03/28/05	KWG0504985
Ethylbenzene	230	D	2.5	5	03/28/05	03/28/05	KWG0504985	
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	2.5	U	5	03/28/05	03/28/05	KWG0504985
m,p-Xylenes	1200	D	25	50	03/28/05	03/28/05	KWG0504985	
o-Xylene	240	D	2.5	5	03/28/05	03/28/05	KWG0504985	
Naphthalene	98	D	10	5	03/28/05	03/28/05	KWG0504985	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	89	80-119	03/28/05	Acceptable
Toluene-d8	95	83-113	03/28/05	Acceptable
4-Bromofluorobenzene	90	72-114	03/28/05	Acceptable

5-26-05

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Ecology & Environment, Inc.	**Service Request:**	K2501989
Project:	Sandpoint Site/04-11-0002/001281.0421	**Date Collected:**	03/18/2005
Sample Matrix:	Water	**Date Received:**	03/19/2005

Volatile Organic Compounds

Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K2501989-011	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
Methyl tert-Butyl Ether	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
Toluene	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
1,2-Dibromoethane (EDB)	~~ND~~	~~U~~	2.0	1	03/28/05	03/28/05	KWG0504985	
Ethylbenzene	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
1,2-Dichloroethane (EDC)	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
m,p-Xylenes	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
o-Xylene	~~ND~~	~~U~~	0.50	1	03/28/05	03/28/05	KWG0504985	
Naphthalene	~~ND~~	~~U~~	2.0	1	03/28/05	03/28/05	KWG0504985	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	80-119	03/28/05	Acceptable
Toluene-d8	96	83-113	03/28/05	Acceptable
4-Bromofluorobenzene	85	72-114	03/28/05	Acceptable

MW 5-26-05

Comments:

ecology and environment, inc.
International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: May 9, 2005

TO: Steven G. Hall, Project Manager, E & E, Seattle, WA

FROM: Toni Arthur, START-Chemist, E & E, Seattle, WA

SUBJ: **Organic Data Quality Assurance Review, Northwest Gas N' Go, Sandpoint, Idaho**

REF: TDD: 04-11-0002 PAN: 001281.0421.01RO

The data quality assurance review of 1 water sample collected from the Northwest Gas N' Go site located in Sandpoint, Idaho, has been completed. Analysis for Total Residual Chlorine (EPA SW-846 Method 330.4) was performed by Columbia Analytical Services, Kelso, Washington.

The sample was numbered: Discharge

Data Qualifications:

The sample was received at the laboratory on March 19, 2005 and analyzed on the same date. The laboratory report indicated that the sample was received with less than half of the hold time remaining for analysis. The sample was analyzed for total residual chlorine 1.25 hours past the hold time of 24 hours. Based on the additional time compared to the technical requirement and the sample preservation, the expected bias is low. The sample result was qualified as estimated (J-).

There were no detections in the method blank sample. The matrix spike recovery was within the laboratory QC limits.

The laboratory case narrative indicates two laboratory control samples (LCS) were analyzed in place of duplicate sample analysis for total residual chlorine due to less than optimal sample volume available. The LCS recoveries were within laboratory QC limits. The LCS/DLCS recoveries were within laboratory QC limits.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity, but the result may be biased low, because quality control criteria were not met.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Ecology & Environment, Inc.
Project Name : Sandpoint Site
Project Number : 04-11-0002
Sample Matrix : WATER

Service Request : K2501989
Date Collected : 03/18/05
Date Received : 03/19/05

Chlorine, Total Residual

Analysis Method : 330.4
Test Notes :

Units : mg/L (ppm)
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
Discharge	K2501989-009	0.1	1	03/19/05	0.1 J-	X
Method Blank	K2501989-MB	0.1	1	03/19/05	ND	

5/9/05

Report By:PWiest

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Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: May 9, 2005

TO: Steven G. Hall, Project Manager, E & E, Seattle, WA

FROM: Toni Arthur, START-Chemist, E & E, Seattle, WA

SUBJ: **Organic Data Quality Assurance Review, Northwest Gas N' Go, Sandpoint, Idaho**

REF: TDD: 04-11-0002 PAN: 001281.0421.01RO

The data quality assurance review of 1 water sample collected from the Northwest Gas N' Go site located in Sandpoint, Idaho, has been completed. Analysis for pH was performed by Columbia Analytical Services, Kelso, Washington.

The sample was numbered: Discharge

Data Qualifications:

The sample was received at the laboratory on March 19, 2005 and analyzed on the same date. There were no blank samples or duplicates provided to the laboratory for pH analysis.

Results for the laboratory duplicate sample analysis indicated RPD was less than 1. The laboratory control sample recovery was within QC limits.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method. Based upon the information provided, the data are acceptable for use.

Data Qualifiers and Definitions

No data qualifiers were necessary.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Ecology & Environment, Inc.
Project Name : Sandpoint Site
Project Number : 04-11-0002
Sample Matrix : WATER

Service Request : K2501989
Date Collected : 03/18/05
Date Received : 03/19/05

pH

Units : pH UNITS
Basis : NA

Analysis Method : 150.1
Test Notes :

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
Discharge	K2501989-009	-	1	03/19/05	8.08	

5/9/05

APPENDIX D

GROUNDWATER RECOVERY AND TREATMENT SYSTEM DATA

Appendix D
Gas & Go Pump Record for December 04
Data Collected by System Operator (Ken Scheur)

Date	Time Between Pumps Minutes	Seconds	Amount (liters)	Well
12/3/04		36	1.5	1
12/3/04	2	20	1.5	2
12/3/04	2	3	1.5	3
12/6/04		34	1.5	1
12/6/04	2	36	1.5	2
12/6/04	2	4	1.5	3
12/10/04		34	1.5	1
12/10/04	2	6	1.5	2
12/10/04	1	31	1.5	3
12/13/04		32	1.5	1
12/13/04	1	41	1.5	2
12/13/04	1	14	1.5	3
12/17/04		25	1.5.	1
12/17/04	1	25	1.5	2
12/17/04		50	1.5	3
12/20/04		30	1.5	1
12/20/04	1	50	1.5	2
12/20/04	1	2	1.5	3
12/24/04		32	1.5	1
12/24/04	2	18	1.5	2
12/24/04	1	30	1.5	3
12/27/04		36	1.5	1
12/27/04	2	26	1.5	2
12/27/04	2	36	1.5	3
12/31/04		36	1.5	1
12/31/04	2	40	1.5	2
12/31/04	1	46	1.5	3

Appendix D
Jan 05 Pump Record
Data Collected by System Operator (Ken Scheur)

Date	Time Between Pumps Minutes	Seconds	Amount (liters)	Well
1/03/05		36	1.5	1
1/03/05	2	42	1.5	2
1/03/05	1	53	1.5	3
1/07/05		36	1.5	1
1/07/05	3	1	1.5	2
1/07/05	1	57	1.5	3
1/10/05		35	1.5	1
1/10/05	3	2	1.5	2
1/10/05	2	9	1.5	3
1/14/05		39	1.5	1
1/14/05	3	14	1.5	2
1/14/05	2	24	1.5	3
1/17/05		35	1.5	1
1/17/05	3	31	1.5	2
1/17/05	2	26	1.5	3
1/21/05		29	1.5	1
1/21/05	3	2	1.5	2
1/21/05		57	1.5	3
1/24/05		31	1.5	1
1/24/05	2		1.5	2
1/24/05		49	1.5	3
1/28/05		33	1.5	1
1/28/05	2	7	1.5	2
1/28/05		58	1.5	3
1/31/05		28	1.5	1
1/31/05	1	38	1.5	2
1/31/05		33	1.5	3

Appendix D
Feb 05 Pump Record
Data Collected by System Operator (Ken Scheur)

Date	Time Between Pumps Minutes	Seconds	Amount (liters)	Well
2/04/05	2	13	1.5	2
2/04/05	1	45	"	3
2/07/05		30	"	1
2/07/05	2	4	"	2
2/07/05		21	"	3
2/11/05		35	"	1
2/11/05	2	15	"	2
2/11/05	1	21	"	3
2/14/05		32	"	1
2/14/05	1	52	"	2
2/14/05		50	"	3
2/18/05				
2/21/05		38	"	1
2/21/05	3	13	"	2
2/21/05	1	48	"	3
2/25/05			"	1
2/25/05	2	53	"	2
2/25/05	1	43	"	3
2/28/05		32	"	1
2/28/05	1	30	"	2
2/28/05	1		"	3

Appendix D
Total Fluids Pumped
Dec 04 - Feb 05
Data Collected by System Operator (Ken Scheur)

Date	Reading (gallons)
12/3/04	6586830
12/6/04	6602050
12/10/04	6629740
12/13/04	6650990
12/17/04	6652800
12/20/04	6660570
12/24/04	6668180
12/27/04	6673810
12/31/04	6688670
1/03/05	6693270
1/07/05	6706410
1/10/05	6710680
1/14/05	6728510
1/17/05	6741600
1/21/05	6762200
1/23/05	No Data
1/24/05	6764680
1/28/05	6783250
1/31/05	6788770
2/04/05	6795050
2/07/05	6798940
2/11/05	6813480
2/14/05	6822600
2/21/05	6834100
2/25/05	6838040
2/28/05	6840070

Table D-1

RECOVERY WELL RECHARGE TEST
NORTHWEST GAS & GO
SANDPOINT, IDAHO

RCW-1	
Time	**DTW (ft bgs)**
11:17	System Shut Off
11:31	18.4
11:44	15.2
11:46	15.0
12:13	14.4
12:26	14.35
14:05	14.4
RCW-2	
Time	DTW (ft bgs)
11:17	System Shut Off
11:27	21.5
11:40	19.99 (1)
11:47	19.4
12:11	17.6
12:27	16.1
12:29	16.0
14.03	13.7

Notes: At 11:17, the system was shut down, and then the pumps were taken out of the recovery wells. No product was found in either Recovery Well.

(1) After initial reading at RCW-2, an unknown quantity of water was poured into RCW-2 during pump cleaning.

Key:

bgs = below ground surface
DTW = depth to water
ft = feet
RCW = recovery well

Table D-2

Total Flow Calculations
Northwest Gas & Go
Sandpoint, Idaho

Date	Totalizer Rading (gallons)
12/3/2004	6,586,830
12/6/2004	6,602,050
12/10/2004	6,629,740
12/13/2004	6,650,990
12/17/2004	6,652,800
12/20/2004	6,660,570
12/24/2004	6,668,180
12/27/2004	6,673,810
12/31/2004	6,688,670
1/3/2005	6,693,270
1/7/2005	6,706,410
1/10/2005	6,710,680
1/14/2005	6,728,510
1/17/2005	6,741,600
1/21/2005	6,762,200
1/23/2005	No Data
1/24/2005	6,764,680
1/28/2005	6,783,250
1/31/2005	6,788,770
2/4/2005	6,795,050
2/7/2005	6,798,940
2/11/2005	6,813,480
2/14/2005	6,822,600
2/21/2005	6,834,100
2/25/2005	6,838,040
2/28/2005	6,840,070
3/17/2005	6,857,600
Number of Days	104
Total Volume (gallons)	270,770
gallons per day	2603.6
gallons per hour	108.5
gallons per minute	1.8

Table D-3

Calculation of Recovery Well Flow Rates
Northwest Gas & Go
Sandpoint, Idaho

Date	Well	Time Between Pumps Minutes	Seconds Seconds	Interval Time (minutes)	Pump Time (minutes) (estimated)	Total Cycle Time (minutes)	Amount (liters)	Amount (gallons)	Flow Rate (gallons / minute)
12/3/2004	RCW-1	0	36	0.60	0.50	1.10	1.5	0.40	0.36
12/6/2004	RCW-1	0	34	0.57	0.50	1.07	1.5	0.40	0.37
12/10/2004	RCW-1	0	34	0.57	0.50	1.07	1.5	0.40	0.37
12/13/2004	RCW-1	0	32	0.53	0.50	1.03	1.5	0.40	0.38
12/17/2004	RCW-1	0	25	0.42	0.50	0.92	1.5	0.40	0.43
12/20/2004	RCW-1	0	30	0.50	0.50	1.00	1.5	0.40	0.40
12/24/2004	RCW-1	0	32	0.53	0.50	1.03	1.5	0.40	0.38
12/27/2004	RCW-1	0	36	0.60	0.50	1.10	1.5	0.40	0.36
12/31/2004	RCW-1	0	36	0.60	0.50	1.10	1.5	0.40	0.36
1/3/2005	RCW-1	0	36	0.60	0.50	1.10	1.5	0.40	0.36
1/7/2005	RCW-1	0	36	0.60	0.50	1.10	1.5	0.40	0.36
1/10/2005	RCW-1	0	35	0.58	0.50	1.08	1.5	0.40	0.37
1/14/2005	RCW-1	0	39	0.65	0.50	1.15	1.5	0.40	0.34
1/17/2005	RCW-1	0	35	0.58	0.50	1.08	1.5	0.40	0.37
1/21/2005	RCW-1	0	29	0.48	0.50	0.98	1.5	0.40	0.40
1/24/2005	RCW-1	0	31	0.52	0.50	1.02	1.5	0.40	0.39
1/28/2005	RCW-1	0	33	0.55	0.50	1.05	1.5	0.40	0.38
1/31/2005	RCW-1	0	28	0.47	0.50	0.97	1.5	0.40	0.41
2/7/2005	RCW-1	0	30	0.50	0.50	1.00	1.5	0.40	0.40
2/11/2005	RCW-1	0	35	0.58	0.50	1.08	1.5	0.40	0.37
2/14/2005	RCW-1	0	32	0.53	0.50	1.03	1.5	0.40	0.38
2/21/2005	RCW-1	0	38	0.63	0.50	1.13	1.5	0.40	0.35
2/28/2005	RCW-1	0	32	0.53	0.50	1.03	1.5	0.40	0.38
								Average	0.38
12/3/2004	RCW-2	2	20	2.33	0.50	2.83	1.5	0.40	0.14
12/6/2004	RCW-2	2	36	2.60	0.50	3.10	1.5	0.40	0.13
12/10/2004	RCW-2	2	6	2.10	0.50	2.60	1.5	0.40	0.15
12/13/2004	RCW-2	1	41	1.68	0.50	2.18	1.5	0.40	0.18
12/17/2004	RCW-2	1	25	1.42	0.50	1.92	1.5	0.40	0.21
12/20/2004	RCW-2	1	50	1.83	0.50	2.33	1.5	0.40	0.17
12/24/2004	RCW-2	2	18	2.30	0.50	2.80	1.5	0.40	0.14
12/27/2004	RCW-2	2	26	2.43	0.50	2.93	1.5	0.40	0.14
12/31/2004	RCW-2	2	40	2.67	0.50	3.17	1.5	0.40	0.13
1/3/2005	RCW-2	2	42	2.70	0.50	3.20	1.5	0.40	0.12
1/7/2005	RCW-2	3	1	3.02	0.50	3.52	1.5	0.40	0.11
1/10/2005	RCW-2	3	2	3.03	0.50	3.53	1.5	0.40	0.11
1/14/2005	RCW-2	3	14	3.23	0.50	3.73	1.5	0.40	0.11
1/17/2005	RCW-2	3	31	3.52	0.50	4.02	1.5	0.40	0.10
1/21/2005	RCW-2	3	2	3.03	0.50	3.53	1.5	0.40	0.11
1/24/2005	RCW-2	2		2.00	0.50	2.50	1.5	0.40	0.16
1/28/2005	RCW-2	2	7	2.12	0.50	2.62	1.5	0.40	0.15
1/31/2005	RCW-2	1	38	1.63	0.50	2.13	1.5	0.40	0.19
2/4/2005	RCW-2	2	13	2.22	0.50	2.72	1.5	0.40	0.15
2/7/2005	RCW-2	2	4	2.07	0.50	2.57	1.5	0.40	0.15
2/11/2005	RCW-2	2	15	2.25	0.50	2.75	1.5	0.40	0.14
2/14/2005	RCW-2	1	52	1.87	0.50	2.37	1.5	0.40	0.17
2/21/2005	RCW-2	3	13	3.22	0.50	3.72	1.5	0.40	0.11
2/25/2005	RCW-2	2	53	2.88	0.50	3.38	1.5	0.40	0.12
2/28/2005	RCW-2	1	30	1.50	0.50	2.00	1.5	0.40	0.20
								Average	0.14
12/3/2004	RCW-3	2	3	2.05	0.50	2.55	1.5	0.40	0.16
12/6/2004	RCW-3	2	4	2.07	0.50	2.57	1.5	0.40	0.15
12/10/2004	RCW-3	1	31	1.52	0.50	2.02	1.5	0.40	0.20
12/13/2004	RCW-3	1	14	1.23	0.50	1.73	1.5	0.40	0.23
12/17/2004	RCW-3		50	0.83	0.50	1.33	1.5	0.40	0.30
12/20/2004	RCW-3	1	2	1.03	0.50	1.53	1.5	0.40	0.26
12/24/2004	RCW-3	1	30	1.50	0.50	2.00	1.5	0.40	0.20
12/27/2004	RCW-3	2	36	2.60	0.50	3.10	1.5	0.40	0.13
12/31/2004	RCW-3	1	46	1.77	0.50	2.27	1.5	0.40	0.17
1/3/2005	RCW-3	1	53	1.88	0.50	2.38	1.5	0.40	0.17
1/7/2005	RCW-3	1	57	1.95	0.50	2.45	1.5	0.40	0.16
1/10/2005	RCW-3	2	9	2.15	0.50	2.65	1.5	0.40	0.15
1/14/2005	RCW-3	2	24	2.40	0.50	2.90	1.5	0.40	0.14
1/17/2005	RCW-3	2	26	2.43	0.50	2.93	1.5	0.40	0.14
1/21/2005	RCW-3		57	0.95	0.50	1.45	1.5	0.40	0.27
1/24/2005	RCW-3		49	0.82	0.50	1.32	1.5	0.40	0.30
1/28/2005	RCW-3		58	0.97	0.50	1.47	1.5	0.40	0.27
1/31/2005	RCW-3		33	0.55	0.50	1.05	1.5	0.40	0.38
2/4/2005	RCW-3	1	45	1.75	0.50	2.25	1.5	0.40	0.18
2/7/2005	RCW-3		21	0.35	0.50	0.85	1.5	0.40	0.47
2/11/2005	RCW-3	1	21	1.35	0.50	1.85	1.5	0.40	0.21
2/14/2005	RCW-3		50	0.83	0.50	1.33	1.5	0.40	0.30
2/21/2005	RCW-3	1	48	1.80	0.50	2.30	1.5	0.40	0.17
2/25/2005	RCW-3	1	43	1.72	0.50	2.22	1.5	0.40	0.18
2/28/2005	RCW-3	1		1.00	0.50	1.50	1.5	0.40	0.26
								Average	0.22

Table D-4

Calculation of System Flow Rates
Northwest Gas & Go
Sandpoint, Idaho

Recovery Well / Source	Flow Rate (gallons / minute)
RCW-1	0.38
RCW-2	0.14
RCW-3	0.22
Subtotal	0.74
Total Flow	1.80
Seep Sump	1.06