

# **INTERIM REMEDIAL ACTION REPORT**

**for the**

**HOQUIAM CITY HALL**

**609 8<sup>th</sup> Street**

**Hoquiam, Washington**

**October 27, 1999**

**Prepared By:**

**Northwest Testing Company PO Box 11581**

**Olympia, Washington 98508-1581 Phone: (360) 866-3647**

# Northwest Testing Company, Inc.

CONSTRUCTION TESTING AND INSPECTION  
ENVIRONMENTAL CONSULTATION AND ASSESSMENT

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October 27, 1999

ATTN: Larry Miller

Evergreen Environmental, Incorporated  
321 West State Street  
P.O. Box 167  
Aberdeen, WA. 98520

RE: Hoquiam City Hall Interim Site Remedial Action Report

Dear Larry:

We have completed and enclosed herein the Interim Remedial Action Report for the Hoquiam City Hall site. At this time we are arranging for the installation of four groundwater monitoring wells at the site. A copy of this report has been forwarded to the SW Regional Department of Ecology for their review.

Please call me if you have any questions regarding this report. We appreciate this opportunity to be of service to you.

Respectfully,

**NORTHWEST TESTING COMPANY**

*Mark Robinson*

Mark Robinson  
Engineering Geologist  
Registered Site Assessor

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# INTERIM INDEPENDENT REMEDIAL ACTION REPORT

for the

## HOQUIAM CITY HALL, HOQUIAM, WA.

October 27, 1999

### 0.0.0 EXECUTIVE SUMMARY:

This interim Independent Remedial Action Report has been provided by Northwest Testing Company in conjunction with Evergreen Environmental Company, Inc., for the Hoquiam City Hall, located in Hoquiam, Washington. This report outlines the removal of two inactive gasoline and one inactive diesel underground storage tanks and the former Service Island at the City Hall complex.

This site remedial action and cleanup report follows the general guidelines outlined in the *Guidance for Remediation of Petroleum Contaminated Soils*, November 1995, the *Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC*, and the format recommended by the *Guidance on Preparing Independent Remedial Action Reports*, publication 94-18.

### 1.0.0 PROJECT BACKGROUND:

This cleanup action took place on the dates of September 29<sup>th</sup>, 30<sup>th</sup>, and October 01, 1999. The work took place at the Hoquiam City Hall complex. The site address follows:

Hoquiam City Hall  
609 8th Street  
Hoquiam, Washington  
Site Contact Person (Public Works Manager): Dean Parsons  
Phone (360) 532-5700

The City Hall complex consists of several buildings, the main ones being the City Hall itself, the Fire Department / Medic and First Aid building, and the shop and maintenance buildings. Small residential housing, the public library, and small commercial offices characterize the area surrounding the site.

There are no other active underground storage tanks in the immediate area. The city currently maintains an above ground fueling station (gas and diesel) to the east of the work area. It should be noted that the location of the City Hall was a municipal bus terminal during the 1940's, so there remains the possibility of undiscovered tanks at the site.

The City Hall complex is situated approximately one-quarter mile west of the Hoquiam River. Municipal water, storm drainage, and sewer serve the area, and there are no domestic wells in the area.

### 1.0.1 SITE DESCRIPTION:

The three tanks were located in a wide alleyway east of the main City Hall complex. A large metal building that serves as a maintenance and covered storage/parking area formed the east border of the site. The majority of the site is covered with asphaltic paving. Underground storm drain lines and other utilities, including gas, water, and telephone run north to south through the approximate center of the paved alleyway (see figure 2). The site is level in grade, with storm receptors located throughout the alleyway.

### **1.0.2 CLEANUP LOCATION:**

The cleanup area was limited to the area around the tanks and the former Pump Island. While the impermeable clays inhibited the migration of the contamination, the petroleum followed the path of buried roots that required that the excavation area be widened to remove petroleum-impacted areas. The impermeable clays encountered in the floor of the excavation impeded the downward migration of the fuel.

### **1.0.3 TOPOGRAPHICAL and GEOLOGICAL CONDITIONS:**

The site is level in grade. The general geology of the area is alluvial, consisting of mostly unconsolidated silt, sand, and gravel valley fill with some clays and local glacial deposits. Specific geology at the site was found to be composed of dark brown to black moist plastic silts with clay (ML), with intermittent lenses of peat. The site was capped at the upper 16" to 24" by a course gravel for use as a structural mat beneath the asphalt drive. While no significant groundwater was noted in the excavation area during the course of the cleanup work, groundwater was noted at approximately 36" bgs during the initial site assessment performed in 1996. Perched groundwater levels in the area can be expected to fluctuate with the seasonal rainy season and with the tidal influence due to the proximity of the river

### **1.1.0 RELEASE INFORMATION/SITE CHARACTERIZATION:**

The tanks were all constructed of bitumen coated steel and were 1,000 gallons in volume, measuring 12' length x 44" diameter. The three tanks were listed in historic data sheets kept at the City Hall, and had the designated identification:

Tank #10: Site: City Shop/Alley

Capacity: 1000 gallons  
Product: Gasoline, unleaded  
Type: Metal  
Age: Unknown  
Status: Out of Service  
Bottom of Tank bgs: 85"

Tank #11: Site: City Shop/Alley

Capacity: 1000 gallons  
Product: Gasoline, leaded  
Type: Metal  
Age: Unknown  
Status: Out of Service  
Bottom of Tank bgs: 92"

Tank #12: Site: City Shop/Alley

Capacity: 1500 gallons (listed as 1500, but found to be 1000 gallons).  
Product: Diesel  
Type: Metal  
Age: Unknown  
Status: Out of Service  
Bottom of Tank bgs: 87"

No select backfill was used for the system. All tanks were single wall, with no leak detection system or secondary containment. The tanks were found to be in good condition upon removal, with no rust or holes noted. No inventory records exist for the tanks during their service lifetime. Inventory procedures consisted of sticking the tanks occasionally to determine level.

### 1.1.1 EXCAVATION:

The tanks, plumbing, and the Service Island were removed on September 29<sup>th</sup>. Upon removal of the tanks, gasoline impact to the underlying soils was obvious through heavy odor and staining seen in the exposed soils. As noted above, the contamination followed the paths of degraded roots, requiring a widening of the excavation beyond what could be expected in the impermeable clays. Soil removal continued on October 1<sup>st</sup>, extending both the west and the north wall of the excavation to chase the contamination. Gasoline contamination was found in the upper 24" of granular material placed as ballast for the asphalt drive in these areas. In addition, some contamination had to be removed from the upper portion of the granular backfill used for the water line extending the north-south length of the alleyway.

Pier block and post support the metal maintenance shed adjacent to the east wall of the excavation. The piers rest upon a crushed rock ballast that extended to approximately 42" bgs. While the crushed rock exhibited characteristics of contamination in the field (odor, staining, elevated PID reading), the initial confirmation laboratory sample (990930-4) indicated no significant elevation of tested compounds (gasoline and BTEX). A second confirmation sample was extracted on October 01 (sample number 991001-1), which indicated an elevated total gasoline hydrocarbon level of 70 ppm, below the 100 ppm Method-A action level. The sample also yielded a xylenes level of 35 ppm, which does exceed the 20 ppm Method A action level. As a precaution, plastic sheeting was placed over the east wall prior to backfill. Final excavation dimensions were approximately 70' north to south by 30' east to west, with an excavation floor varying from 7' to 10' bgs. After field observations indicated a clean floor, side and endwalls at the tank excavation, final cleanup soil samples were taken for characterization of total petroleum hydrocarbons.

The stockpile of contaminated soils was kept in a sealed berm just south of the work area. Approximately 486 tons of contaminated soils were removed from the site. Soils were then transported to TPS Technologies in Tacoma for thermal desorption (see appendix for documentation). The tank were cleaned on site and transported to Butcher Scrap for recycling of metal.

### 1.2.0 PREVIOUS INVESTIGATIONS:

The original site assessment for this site was performed by this agency in conjunction with Evergreen Environmental in July 09 of 1996. Gasoline contamination was confirmed at that time. No indication of diesel contamination was found in the earlier assessment, and none was noted during the course of this work.

### 1.3.0 SELECTION OF CLEANUP STANDARDS:

Washington State Department of Ecology Method-A Cleanup Standards were selected because of the routine contaminate nature of the site. All constituents of contamination are found in the Method A tables.

### 1.4.0 SELECTION OF REMEDIAL ACTION:

The lateral and vertical limits of the <sup>contaminated</sup> ~~contaminant plume~~ <sup>soil</sup> were effectively identifiable through field observation and screening during the course of the cleanup action. Due to limitations on the ability to land farm the moist clay soils, excavation and transport of contaminated soils for off-site thermal remediation was selected as the most expedient means of accomplishing the remedial cleanup.

### 1.5.0 INSTITUTIONAL CONTROLS:

No significant petroleum contamination remains at the site, and the site is not expected to pose any further potential impact to human health or the environment. No institutional controls appear warranted for the site.

### **1.6.0 SAMPLING AND ANALYSIS:**

A focused sampling approach was used in which the contaminated soil plumes were traced downward and laterally with the use of a PID meter, water sheen tests, and general field observations. The coloration of the soils where the contamination did not migrate was easily identifiable. The well consolidated till material at the lower depths of the excavations impeded the downward migration of contamination.

When conditions prohibited entry to the excavation during the course of the work, field test samples were obtained with the excavator bucket with discrete samples removed from undisturbed portions of the soils in the bucket. Care was taken to avoid cross-contamination of samples from the sides of the excavator bucket, or from soils falling into the bucket from the top or sides of the excavation. When field screening indicated clean soils had been encountered, final discrete confirmation cleanup samples were extracted with hand tools and immediately placed into glass laboratory containers, sealed and identified, and stored in a chilled cooler for transport to the laboratory. Sampling tools were cleaned and decontaminated with liquinox solution and fresh water rinse between samples.

Sampling locations and methodology were adapted from the Field Sampling Procedures found in the February 1991 issue of the Department of Ecology *Guidance for Site Checks and Site Assessments of Underground Storage Tanks* and its revision. Samples were stored and transported to the laboratory for analysis, per sections 5.5 and 7.4 of the above referenced publication, and its revisions. All samples were analyzed at TEG Laboratories in Lacey, Washington.

### **1.7.0 PREPARATION AND SAFETY:**

Coveralls, boots, and latex gloves were worn by personnel while entering the excavation. Tanks were inerted just prior to removal. Upon removal, the tanks were placed away from the excavation and secured from rolling, and immediately cut, labeled, and cleaned.

### **2.0.0 CONCLUSIONS:**

Only one cleanup sample of soil, which was extracted from beneath the piers of the maintenance shed, exhibited an elevated level of xylenes. All other soils contaminated above Method A Cleanup Levels have been removed from the site and remediated. The excavation has been backfilled with imported rock. No further excavation work is anticipated. All petroleum-impacted soils were limited to the city hall property, with no indication of off-site soil contamination. Groundwater issues are discussed below.

### **2.1 GROUND WATER INVESTIGATION:**

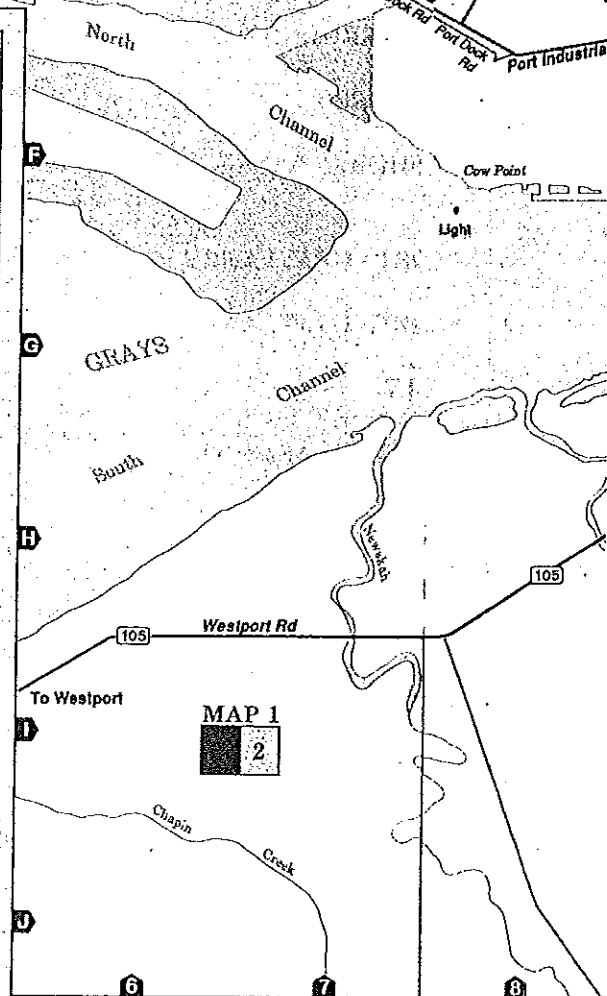
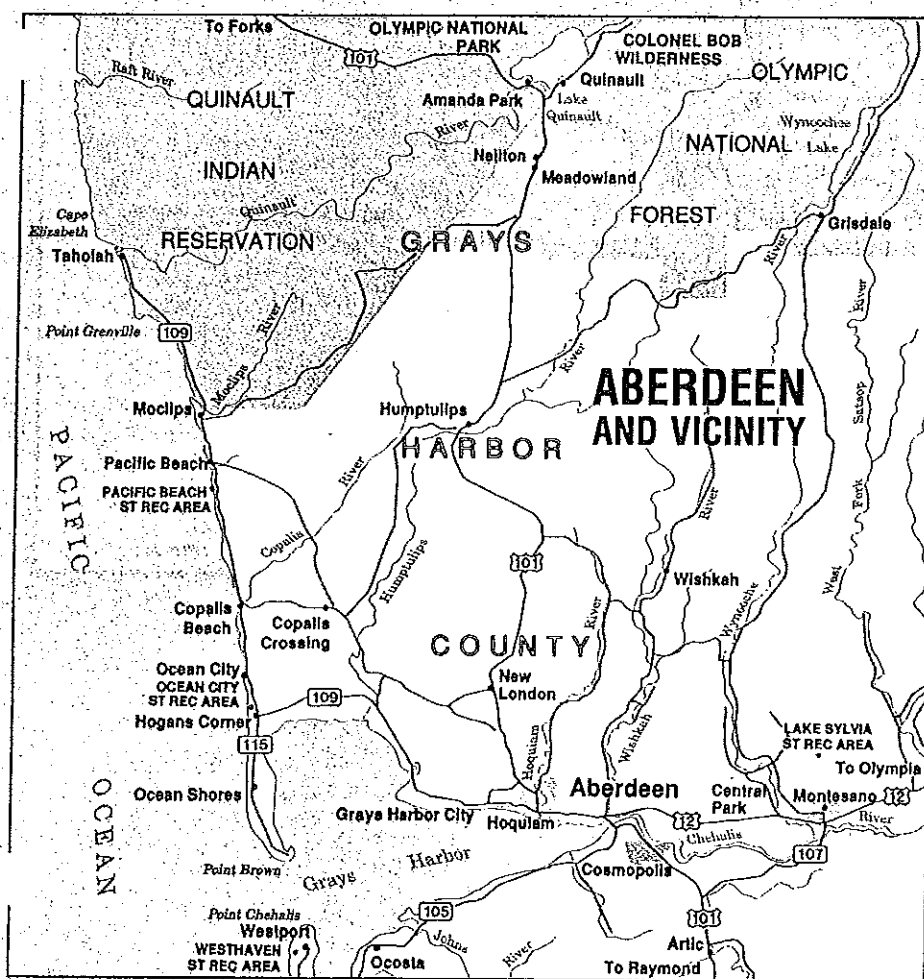
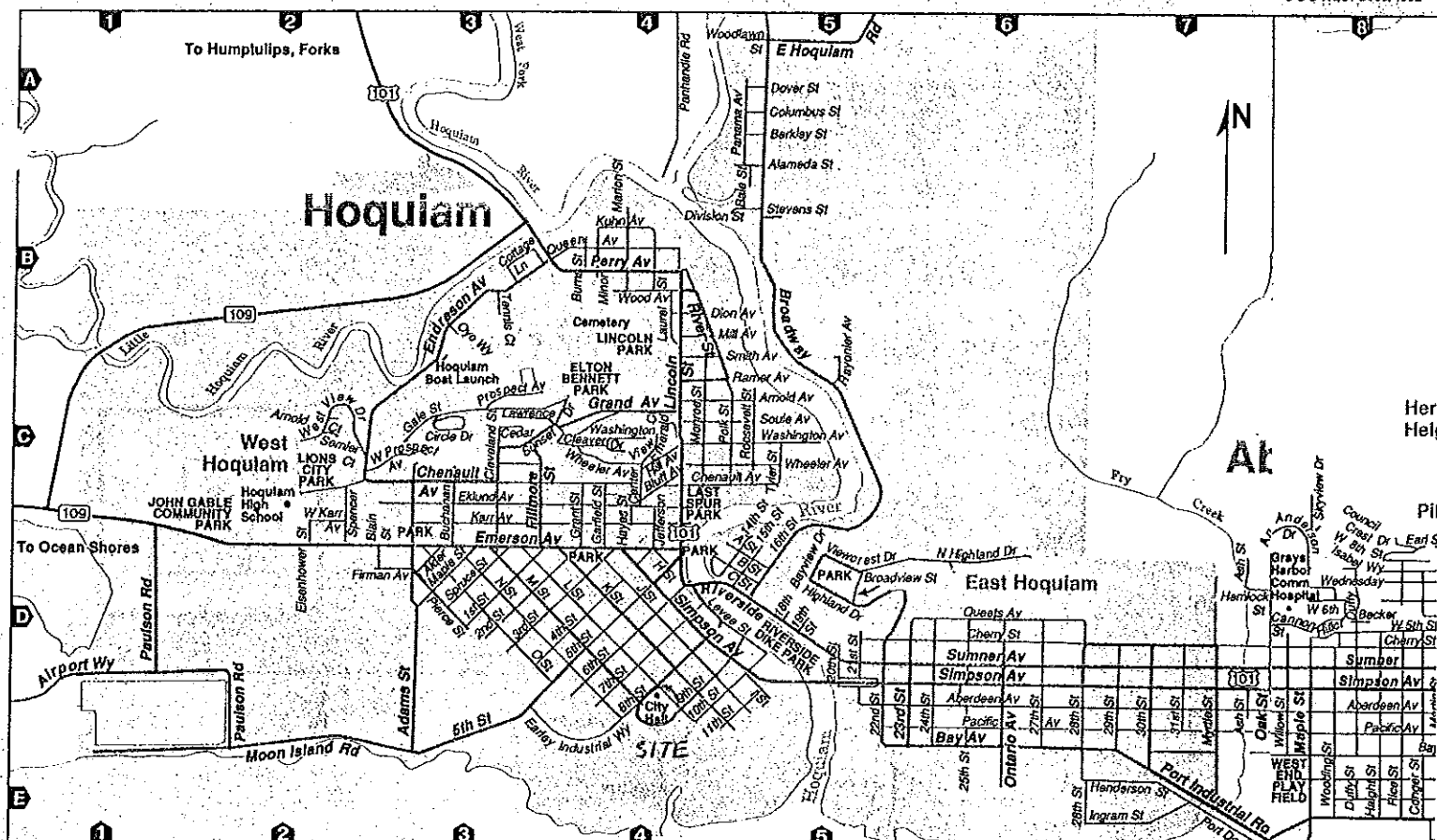
At this time, placement of four groundwater-monitoring wells is being coordinated for the site in conformance with Chapter 173-340-720 WAC groundwater cleanup standards. The groundwater will be sampled quarterly or on a schedule as directed by the Department of Ecology. Analysis will include testing for total gasoline hydrocarbons, BTEX, and total lead. Results of this testing will be forwarded to the City of Hoquiam and to the SW Regional Department of Ecology.

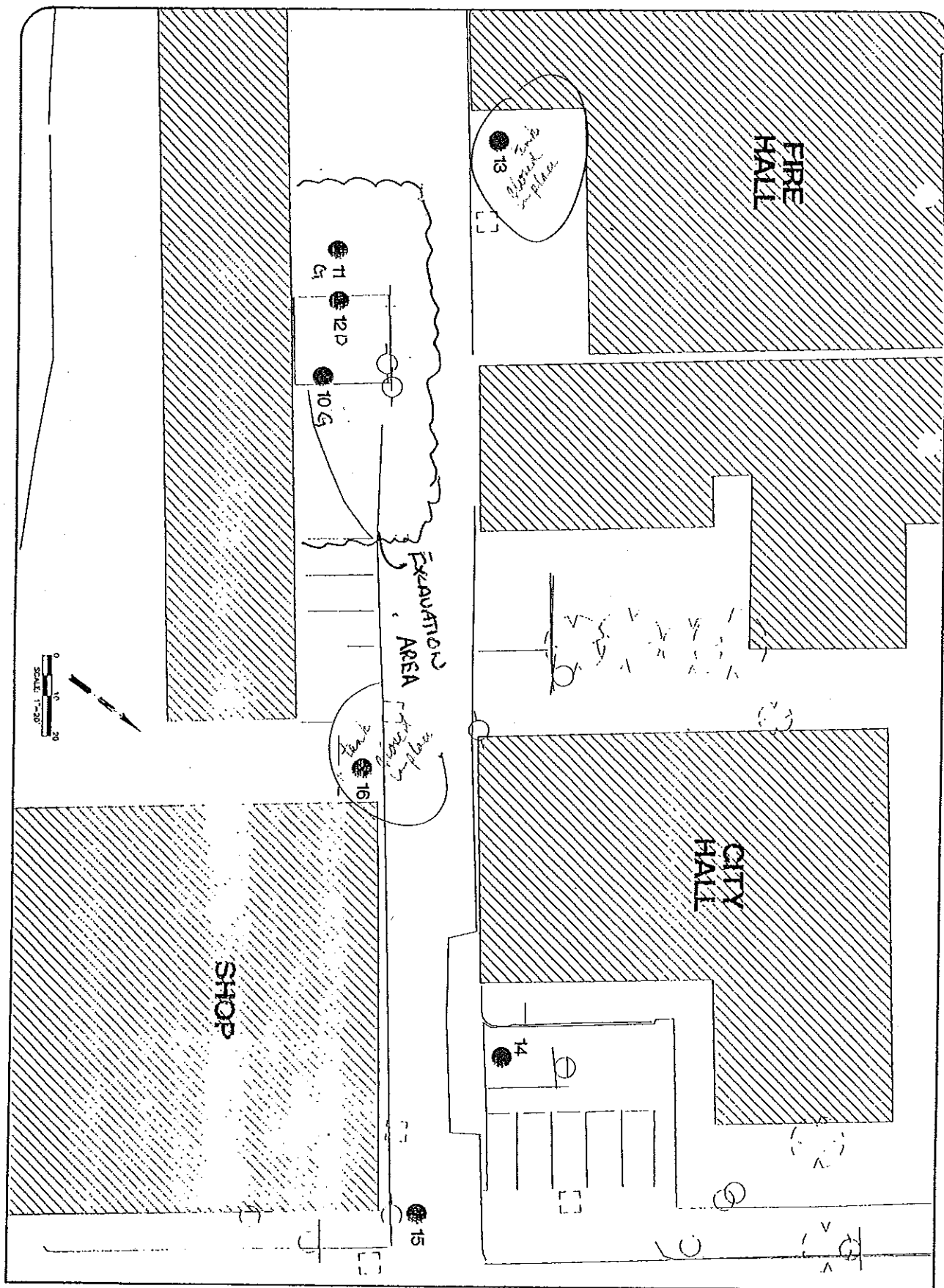
**NORTHWEST TESTING COMPANY, INC.**



Mark Robinson  
Engineering Geologist  
Registered Site Assessor

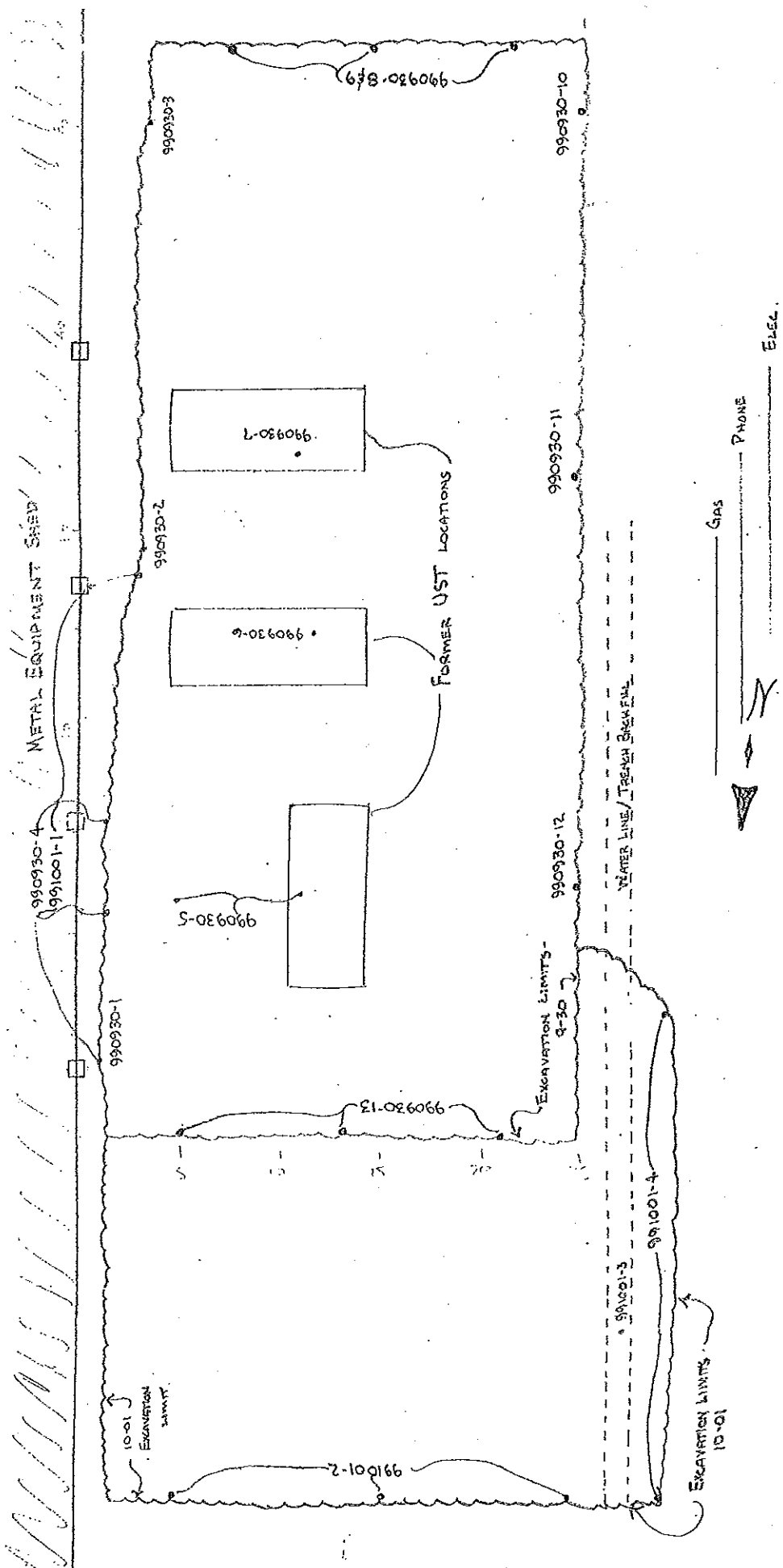






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CHECKED BY: E. Patterson				
APPROVED BY:				

1 OF 1  
 SHEET 12345  
 ON SHEET 1  
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HOGUAM CITY HALL

FIGURE #2

SCALE: 1" = 40'-0"

1001001-2007 10 10

# HOQUIAM CITY HALL

## RESULTS OF FIELD SCREENING AND CHEMICAL ANALYSIS SAMPLING

Sample Number	Sample Location	Sample Depth	Date Sample	Field Screen Results	Gasoline		Gasoline BTEX	Total Lead
					Hydrocarbons WTPH-G mg/K	mg/K		
990930-1	E wall excavation. 3.5' S of S wall Crises Center, 1' W of shed.	5'	9/30/99	ns/nd	nd	nd	6	
990930-2	E wall excavation. 30' S of S wall Crises Center, 3' W of shed	5'	9/30/99	ns/nd	nd	nd	6	
990930-3	E wall excavation. 51.5' S of S wall Crises Center, 3' W of shed	4'	9/30/99	ns/nd	nd	nd	6	
990930-4	East wall excavation, composite sample of hot zone under shed piers	32" - 44"	9/30/99	ss/nd	nd	nd	42	
990930-5	Floor excavation. 12' S of S wall Crises Center, 5'/12' W of shed (composite sample)	7"	9/30/99	ns/nd	nd	nd	nd	
990930-6	Floor excavation. 25' S of S wall Crises Center, 13' W of shed	10'	9/30/99	ns/nd	nd	nd	nd	
990930-7	Floor excavation. 34' S of S wall Crises Center, 12' W of shed	10'	9/30/99	ns/nd	nd	nd	nd	
990930-8	S wall excavation. 54.5' S of S wall Crises Center, 0'/25' W of shed (composite)	0" - 24"	9/30/99	ns/nd	nd	nd	59	
990930-9	S wall excavation. 54.5' S of S wall Crises Center, 0'/25' W of shed (composite)	24" - 6'	9/30/99	ns/nd	nd	nd	59	
990930-10	W wall excavation. 51' S of S wall Crises Center, 25' W of shed	44"	9/30/99	ns/nd	nd	nd	nd	
990930-11	W wall excavation. 32' S of S wall Crises Center, 25' W of shed	42"	9/30/99	ns/nd	nd	nd	nd	
990930-12	W wall excavation. 12' S of W wall Crises Center, 25' W of shed	49"	9/30/99	ns/nd	nd	nd	nd	
990930-13	N wall excavation. 1' N of W wall Crises Center, 0" - 25' W of shed	5'	9/30/99	ns/nd	nd	B .28	nd	
991001-1	Resample of location sample number 990939-4	32" - 44"	10/1/99	ss/nd	70	B.44 T.05 X 35	na	
991001-2	N wall excavation. 16' N of W wall Crises Center, 0" - 29' W of shed	0" - 40"	10/1/99	ns/nd	nd	nd	na	
991001-3	Trench backfill, W wall, 7' N/8' S of S wall Crises Center, 27.5' W of shed	32"	10/1/99	ns/nd	nd	B.41 EB.1 X.7	na	
991001-4	W benched wall. 0' - 16' N of S wall Crises Center, 29' W of shed	0" - 31"	10/1/99	ns/nd	33	X .25	na	

### Table Notes:

na=not applicable  
 nd=non-detect  
 hs=heavy sheen  
 ms=moderate sheen  
 ss=slight sheen  
 ns=no sheen  
 ug/L=parts per billion

## RESULTS OF FIELD SCREENING AND CHEMICAL ANALYSIS SAMPLING

Table Notes:  
na=not applicable  
nd=non-detect  
hs=heavy sheen  
ms=moderate sheen  
ss=slight sheen  
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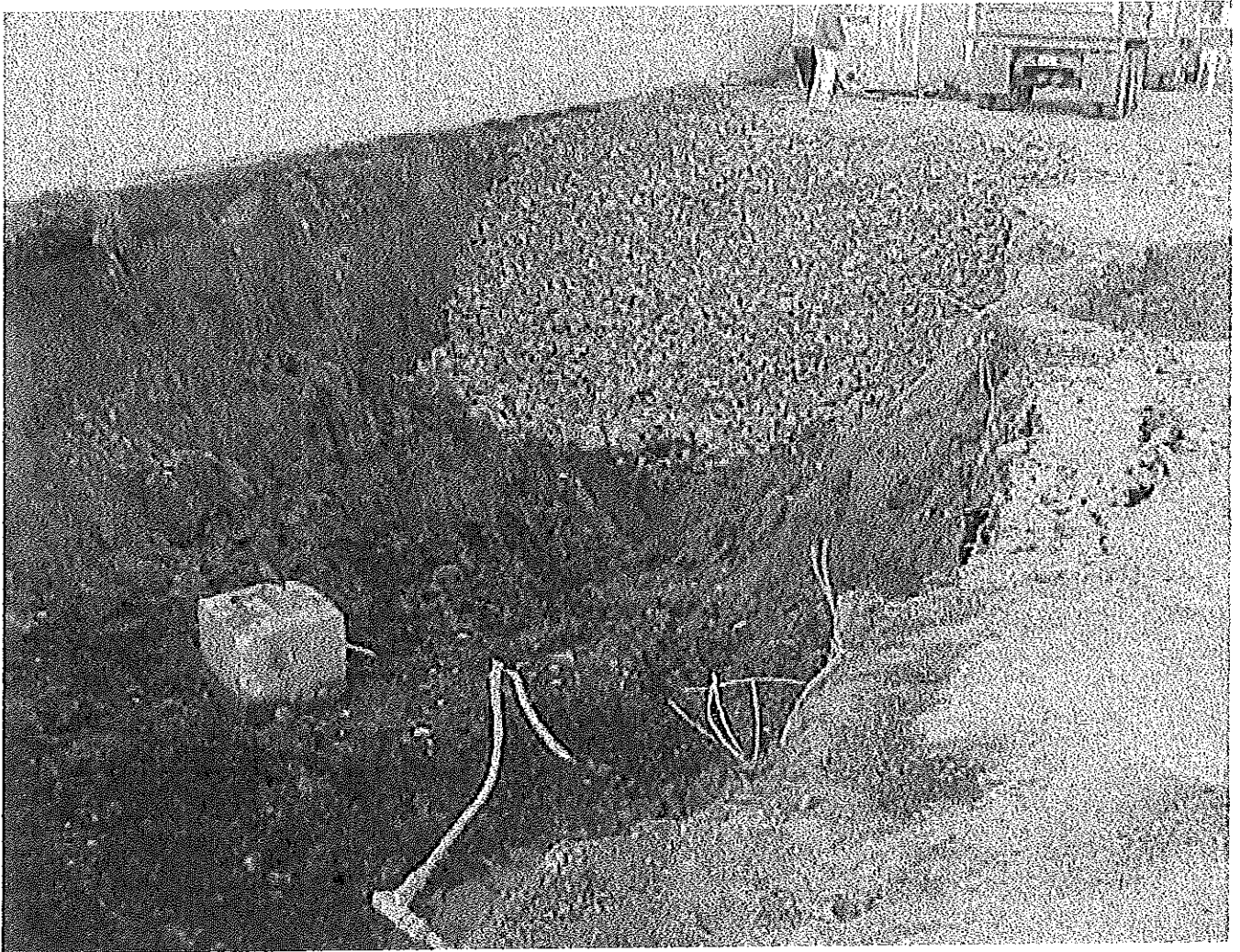


N. END EXCAVATION





LOOKING S.W.



BACKFILL- S. END