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PHASE I ENVIRONMENTAL SITE ASSESSMENT

Dental Office Parcel 1222000089 116 Southwest 160th Street Burlen, Washington 98166

RUDEY ORTHODONTICS

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We appreciate the opportunity to be of service on this assignment. If you have any questions, or if we may be of additional service, please do not hesitate to contact us.

Respectfully submitted, Wash ENVIRONMENTAL ASSOCIATES, INC. 10 Don W. Spencer, M.Sp., P.G., R.E.A. Hydrogeologia Principal EPA-Certified Asbestos Inspector/Management Hanner I.D. # AM 48151 DON W. SPENCER

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Registered Site Assessor/Licensed UST Supervisor State Certification #0878545-U7

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License: 11464	(Oregon)
License: 876	(California)
License: 5195	(Illinois)
License: 0327	(Mississippi)

PHASE "1" ENVIRONMENTAL SITE ASSESSMENT

Dental Office Parcel 1222000089 116 Southwest 160th Street Burien, Washington 98166

Prepared for:

Rudey Orthodontics 116 Southwest 160th Street Burien, Washington, 98166

Questions regarding this investigation, the conclusions reached and the recommendations given should be addressed to one of the following undersigned.

Hydrogeologial

For Eric Zuern Environmental Geologist / Project Manager

Don W. Spencer, M.Sc., P.G., R.E.A.

Principal

EPA-Certified Asbestos Inspector/Management Planie

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Reference Job Number: JN - 28270

November 25, 2008

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METHODOLOGY/SCOPE OF WORK

Our study approach consisted of completing a series of investigative tasks intended to address the level of effort often referred to as "due diligence" in the context of the Superfund Amendment and Reauthorization Act of 1986 (SARA), and nearly identical requirements set forth in the Model Toxics Control Act (MTCA), Chapter 70.105 D (Section 040) RCW pertaining to standards of liability. The objective of a Phase I Environmental Site Assessment is to reduce the potential risk for exposure to future liability for environmental problems by demonstrating that at the time of acquisition or financing, the owner, buyer, or lender had no knowledge or reason to know that any hazardous substance had been released or disposed of on, in, or at the property. Moreover, in defining the purpose of the Phase I Environmental Site Assessment process, section 1.1.1 of ASTM E-1527 advises that the goal of a Phase I Assessment is to identify "recognized environmental conditions", and defines a recognized environmental condition (REC) as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products on the property or into the ground, groundwater, or surface water of the property."

We (EAI) declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in section 312.10 of 40 CFR Part 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have performed all appropriate inquiries (AAI) in conformance with the standards and practices set forth in 40 CFR Part 312.

In an effort to evaluate condition and previous uses of the property in a manner consistent with good commercial and customary practice and in general accordance with methods outlined under ASTM E 1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", our scope of work for this study included:

- Review of chronology of ownership and site history using the resources of the King County Assessor's Office, Burien Public Library, Puget Sound Regional Archives, business directories from several time periods, and aerial photography from several time periods as primary resources. This included an attempt to identify possible former industries or uses presenting some potential for generating waste which may have included dangerous or hazardous substances as defined by state and federal laws and regulations.
- Acquisition and review of available reports and other documentation pertaining to the subject site or nearby sites.
- Review of Washington Department of Ecology (WDOE) and Burien/King County Department of Public Health documents regarding current and abandoned landfills.

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- Review of the current EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), the EPA National Priority List (NPL), the EPA Resource Conservation and Recovery Act (RCRA) Notifiers, RCRA Corrective Action Report (CORRACTS), and Emergency Response Notification System (ERNS) lists of sites which are potentially contaminated or which produce hazardous substances as a normal part of their commercial operation in the vicinity of the site.
- Review of the current Washington Department of Ecology (WDOE) listing of underground storage tanks (USTs) along with the WDOE's Leaking Underground Storage Tank (LUST) listing for WDOE-documented leaking USTs in the vicinity of the subject property.
 - Review of the current WDOE Confirmed and Suspected Contaminated Sites (CSCS) list of potentially contaminated sites which have been the subject of hazardous waste investigation and/or cleanup activity in conjunction with the Washington Model Toxics Control Act (MTCA) Chapter 173-340 WAC.
- Review published documents from the Bonneville Power Administration (BPA) to evaluate the risk for naturally occurring radon.
- A reconnaissance of the subject property including buildings and neighboring areas to look for evidence of potential contamination in the form of soil stains, odors, asbestos, lead-based paint (LBP), vegetation stress, discarded drums, discolored water, careless manufacturing or industrial practices, etc.
- Interviews with the property key site manager, and occupants.
- Preparation of a summary report which documents the assessment process and findings.

Findings

GENERAL DESCRIPTION

The subject property is comprised of an irregular-shaped parcel (tax parcel number 1222000089) covering approximately 49,392 square feet (1.13 acres) of land. Existing improvements to the property consist principally of a single-story dental office building of wood-frame construction enclosing approximately 2,630 square feet of space which was reportedly constructed in 1976 and a single-story medical office building, also of wood-frame construction erected in 1976 and encompassing approximately 6,044 square feet. Additional improvements include a paved parking area on the east portion of the property. The subject building is currently occupied by Kenneth Nishimoto Family Dentistry, Rudey Orthodontics, and Robert Walker Family Dentistry. A medical clinic occupies the second building. The approximate location of the site is shown on the Vicinity Map, Plate 1, appended herewith.

The property is located in the "five corners" commercial area, approximately nine-tenths of a mile southeast of downtown Burien, Washington. According to the King County Assessor's Office, the subject property is zoned for commercial use. Photographs reflecting the character of the subject property are provided with this report as Plate 3.

A brief description of land use on nearby parcels is provided below. Plate 2, Site Plan, depicts the setting of the subject property and land use for adjacent sites.

North:	A small church building occupies the parcel to the north of the site.	
South:	Southwest 160 th Street defines the southern site boundary. Herr Backyard Garden- Center, Lip Shtick Café, and King Buffett Restaurant are located across the street.	
East:	Ambaum Boulevard Southwest runs along the eastern property line. ABC Radiator and 1 st Avenue South are situated beyond.	
West:	Ambaum Cutoff Boulevard Southwest borders the subject site on the west. Andy's Market and Fuel and 1 st Class Carwash occupy the area across the road.	

GEOLOGIC SETTING

Physiographically, the site is situated on a gently rolling elevated plain (the Vashon Drift Plain) which was formed during the last period of continental glaciation that ended approximately 13,500 years ago.

Published geologic maps for the site vicinity (Jones, 1998) advise that much of the material underlying the subject site may be glacial recessional outwash deposits which consist of moderately to poorly sorted gravel and sand with small amounts of silt and clay.

Topographically, the site is situated on a southern facing slope approximately 235 feet above sea level. Based upon inference from topography and local drainage patterns, it appears that shallowseated groundwater (if present) in the vicinity of the subject property may locally flow in a south/southeasterly direction.

Although no site specific information has been developed by our firm with respect to depth to groundwater at this site, results of previous testing on site by others suggests that "perched" groundwater (if present) beneath the site may possibly lie at a depth of approximately 7.5 feet or more beneath the ground surface.

With respect to surface water resources, referring to the lower right-hand photo panel of Plate 3, a small drainage creek is located along the western boundary of the site. This surface water course flows in a southerly direction.

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PREVIOUS ENVIRONMENTAL WORK

- In May 1995, Herrera Environmental Consultants, Inc. (HECI) published the findings of a Phase 1 Environmental Site Assessment for the subject property. The report identifies a gas station which historically occupied the southeast portion of the site from approximately 1956 to 1975. HECI states, "There is a high likelihood that soil and groundwater contamination exist on the subject property due to operation of the Atlantic Richfield Oil Company service station on parcel B (the easternmost portion of the site) between 1957 and 1975." HECI concluded, "Based on the findings of this phase I environmental site assessment, further investigation of the soil and groundwater of the subject site is recommended."
 - On January 21, 1997, David Evans and Associates, Inc. (DEAI) published the findings of a preliminary subsurface <u>soil</u> sampling event. Three (3) borings were placed at various locations on the east side of the property (formerly occupied by the historic gas station). DEA1 retrieved nine (9) soil samplings (three from different depths in each boring) and analyzed them for the presence of gasoline range petroleum hydrocarbons. Each analyzed sample contained levels of gasoline range hydrocarbons with the three samples taken from boring 3 (the southeasternmost boring) all containing levels exceeding current MTCA Method A cleanup levels (ranging from 240-1200 parts per million). Interestingly, the samples were not analyzed for benzene, toluene, ethylbenzene, or xylene as common constitutents of gasoline or for diesel range hydrocarbons. Groundwater was apparently sampled. The borings extended to a maximum depth of 10 to 11 feet. DEAI concluded, "Additional subsurface exploration is recommended to establish the vertical and horizontal extent of hydrocarbons from which data remedial alternatives may then be developed". No further reports of subsurface sampling were provided to EAI.
 - In May of 2002, Argus Pacific responded to complaints about an odor within the subject building and inspected it for potential mold growth. Argus stated, "There were no areas of excess moisture or heavy visible mold identified in the operatory area of the dental clinic. The indoor air quality parameters (CO, CO2, RH, temperature) were all within ASHREA's recommended design standards." Argus attributed the air quality complaints to a decaying dead rat within the crawl space of the building.

DEVELOPMENT HISTORY AND LAND USE

Sources reviewed for information on site and area development and land use included the resources of the King County Assessor's Office, Puget Sound Regional Archives, and aerial photographs of the subject property and surrounding area from several time periods.

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Aerial photographs of the area were reviewed for the years 1936, 1946, 1956, 1960, 1969, 1974, 1980, 1990, 1995, 2000, and 2002. The following paragraphs provide an interpretive summary of our observations in each photo. The time intervals between the various historic aerial photographs selected for this particular project are, in our opinion, entirely adequate for the intended purpose which was to permit a general assessment of overall development and land use in the vicinity of the subject property and do not represent a significant "data gap".

- 1936 The subject site is vacant and covered with trees. Southwest 160th Street is visible along the southern site boundary. Ambaum Boulevard Southwest defines the east/northeast property line. Two (2) small residences are evident to the east across the street. The land to the west is heavily forested. A single residence is apparent to the south across Southwest 160th Street.
- 1946 A 1947-vintage residence appears under construction on the central portion of the site. Another residence is seen on the eastern portion of the site. A commercial building is visible to the northeast across Ambaum Boulevard Southwest. Some residential development is apparent to the south and far west.
- 1956 A new commercial building (dry cleaner) is now evident on the property along Ambaum Boulevard Southwest. The second residence mentioned in the 1946-dated photo is no longer present. A small gas station is present to the east across Ambaum Boulevard Southwest. Commercial buildings have been constructed to the northeast and south of the subject property. A new large grocery store is situated to the far east.
- **1960** A 1957-vintage gas station has been constructed on the eastern portion of the site. No other change is evident.
- 1969 Ambaum Cutoff Boulevard Southwest has been completed along the western site boundary. The commercial dry cleaner building has been removed leaving only the residence and gas station on the site. A gas station is now present to the west of the site across Ambaum Cutoff Boulevard Southwest.
- 1974 No substantive changes to the site are evident when comparing this to the previous photo. The surrounding area has become commercially developed.
- 1980 All former on-site buildings have now been removed. The two (2) current 1976-vintage buildings are seen on the property in this air photo. Two (2) new commercial buildings have been built to the north of the site.

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1990 The eastern portion of the site is now covered with a paved parking lot.

1995- No change in land use is apparent on the subject property. **2000**

2004 The gas station to the west of the site appears to have been remodeled. The subject site is developed to its current state.

According to resources available at the King County Assessor's Office, along with review of aerial photographs, the subject site was developed as early as 1938 when a small residence was recorded on the northeast portion of the property. Exact details regarding the construction date of this building were not discovered in our research. In 1947, a single-family dwelling finished construction on the western half of the site. The original on-site residence was then removed from the site in 1949 after the death of its owner. According to field books at the Washington State Archives, a 1920-vintage commercial building (formerly a bakery) was apparently moved to the site in 1952 and was occupied by a realty office and dry cleaner. In 1957, the Atlantic Refining Company built a gas station on the eastern portion of the site. The ARCO building reportedly contained a store, mechanic shop, and storage closets. Sometime between 1961 and 1965, the dry cleaner/realty building was removed from the site. The gas station added a large canopy to its structure in 1963. Historic aerial photographs reveal that two remaining structures (gas station and residence) were removed sometime between 1974 and 1976. In 1976, the two current on-site office buildings were constructed on the subject property. Borrowing from the jargon of ASTM, no "reasonably ascertainable" or "likely to be useful" information prior to 1936 was available. The absence of such information has no material effect upon the conclusions of this report.

Archive records suggest that the original heating for the 1920-vintage realty/dry cleaner building and 1947-vintage residence was reportedly supplied by hot water "oil burners" No additional information was identified (including the Washington Department of Ecology and/or other readily available/reasonably ascertainable public resources) regarding the location, type (above- or below ground), size, or fate of the tank which logically supplied the former "oil" heating systems, or the environmental condition of site subsurface soil and/or groundwater. Information regarding heating sources for the other historical on-site buildings was not contained in historical documents reviewed in the course of this Phase 1.

The subject site vicinity does not have historic Sanborn Fire Insurance Map coverage.

Historic Kroll maps were reviewed for the years 1940, 1960, and 1968. The 1940-dated map showed the subject site as vacant. Southwest 160th Street was apparent along the southern site boundary while Ambaum Boulevard Southwest ran along the east/northeast property line. The 1960-dated map depicts three (3) buildings and a small shed being located on the property. This is

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consistent with observations from historic aerial photographs from the period. A service station is noted as being located to the east across Ambaum Boulevard Southwest. Ambaum Cutoff Boulevard Southwest has been constructed along the western property line. The 1968-dated map reveals only two buildings remaining on the site with the easternmost building having changed shape slightly due to the addition of the canopy. Another service station is noted to the west of the property across the street.

Historic revers e street directories documented several businesses which have operated at the subject site address since 1977. Directories were not found for years prior to 1977 for the South King County area. Those businesses/listings documented at the subject site address in the directories reviewed for the years 1997, 1985, and 1991 included:

LISTED BUSINESS	DIRECTORY YEAR REVIEWED		
120 Southwest 160th Street			
Citizens Federal Savings & Loan	1977, 1985		
Washington Mutual Federal Savings	1991		
118 Southwest 180 th Street			
no listing	1977		
Kenneth Nishimoto Dentist	1985, 1991		
116 Southwest 160 th Street			
no listing	1977		
Kubisch & Lake Orthodontist	1985		
Raymond Kubisch Orthodontist	1991		
	west 160 th Street		
no listing	1977		
Highline Foot and Ankle Clinic 1985			
vacant 1991			
	Boulevard Southwest		
Five Corners Arco	1077		
no listing.	1986, 1991		

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Rudey Orthodontics November 25, 2008

PROPERTY CONVEYANCE/OWNERSHIP DATA

From the file resources of the King County Assessor's Office and resources of the Puget Sound Regional Archives, the following limited history of ownership has been established:

INSTRUMENT	OWNER	DATE OF PURCHASE
	tax parcel #1222000089	
Assessor Folio	T.J. Heady	unknown
Assessor Folio	Golden O. Brady	9-29-1929
Deed	Josephine Tanner	unknown
Deed	Gaylord Jones	4-28-1945
Deed	Chester & Marjorle Bencik	2-5-1947
Deed	Brock and Edna Hassell	6-1-1950
Deed	William and Marie Davis	7-5-1951
Deed	Clare and Violet Till	12-21-1953
Deed	Atlantic Refining Company	11-9-1956
Contract	Lloyd DuBais	11-1-1968
Contract	Seattle First National Bank	3-31-1971
Deed	Citizens Federal Savings and Loan/Seattle First National Bank	7-7-1972
Deed	Lew Macready TBA, Inc.	9-23-1975
Deed	Joe and Meriam Thompson	12-7-1978
Deed	Citizens Federal Savings	12-29-1983
Deed	Citizens Five Comers Plaza	12-2-1998
Deed	Rea Real Estate LLC	9-29-1999

SITE RECONNAISSANCE

An environmental geologist/EPA-certified Asbestos Building Inspector from our firm visited the property on November 19, 2008 to review on-site conditions and land use practices in the surrounding area. EAI was provided unguided access to the building and grounds. Representative areas reviewed during our site visit included the building interior of the dental office, adjacent office spaces within the subject building located 112 and 118 Southwest 160th Street, exterior grounds, and adjacent property exteriors. In accordance with the instructions of the client, EAI did not review the interior of 120 Southwest 160th Street.

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As mentioned earlier, the existing improvements consist principally of a 1976-vintage, single-story, dental office building. The structure has a flat roof. An asphalt-paved parking area is located on the eastern portion of the property. Landscaped areas are situated around the building and parking lot. Currently the building is leased to three dental offices. Typical building materials and/or conditions observed during our site reconnaissance included:

- Floors are wood covered with carpet, sheet vinyl, and square vinyl tile.
- Interior walls throughout the building are painted sheetrock with some wallpapered surfaces.
- Ceilings are painted drywall.
- Incandescent and fluorescent light fixtures were noted throughout the building.
- A natural gas powered forced air system provides heating and cooling.
- Referring to the lower-left photo panel of Plate 3, water heater tanks were observed in the crawlspace below each portion of the subject building.
- Small amounts of biohazardous waste generated in 112 space (Robert Walker Family Dentistry) was observed to be stored safely and labeled.
- A small surface water course flows southward on the western edge of the property and flows into a culvert beneath Southwest 160th Street. EAI was advised that the City of Burien maintains the culvert in an effort to prevent flooding.

No obvious, visually discernable evidence to suggest the presence of underground fuel storage tanks (i.e., vent lines, filler caps, etc.) was noted on the property. Similarly, no water wells or groundwater monitoring wells were found on the property. At the time of our visit, no stains, odors, or unusual vegetation conditions that might otherwise indicate the potential presence of hazardous materials were observed on the subject property.

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INTERVIEWS

Site Manager

According to Mr. Dave Azose, the site manager, there are no above- or below-ground fuel storage tanks on the property to his knowledge.

Mr. Azose also advised us through a telephone interview that he is not aware of:

- 1. any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property;
- 2. any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property; and
- 3. any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

Current Occupants

Dr. Robert Walker and Dr. Kenneth Nishimoto both stated that the bio-hazardous waste generated during the course of business is collected and removed from the site approximately every 3 months. Dr. Frank Rudey stated that his office does not generate any bio-hazardous waste in the course of business.

CHECK FOR PCB-CONTAINING MATERIALS

Prior to 1979, polychlorinated biphenyls (PCBs) were widely used in electrical equipment such as transformers, capacitors, switches, fluorescent lights (ballasts) and voltage regulators owing to their excellent cooling properties. In 1976, the EPA initiated regulation of PCBs through issues pursuant to the Toxic Substances Control Act (TSCA). These regulations generally control the use, manufacturing, storage, documentation, and disposal of PCBs. EPA eventually banned PCB use in 1978, and adoption of amendments to TSCA under Public Law 94-469 in 1979 prohibited any further manufacturing of PCBs in the United States.

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Light Fixtures

Fluorescent lights were observed throughout the subject building. These fluorescent light ballasts could not be unobtrusively or easily disassembled during our site visit.

Dr. Rudey, Dr. Walker, and Dr. Nishimoto advised us that the fluorescent light fixtures located in the office spaces have all been replaced since within approximately the last 10 years. Relying upon the approximate ages of these fluorescent light fixtures relative the chronology of evolution of governing regulations which banned the use of PCBs in the United States, it appears very unlikely that these fluorescent light fixtures have ballasts that contain PCBs.

Main Service Electrical Transformers

No pad-mounted or pole-mounted electrical transformers were noted on the site.

CHECK FOR ASBESTOS-CONTAINING MATERIALS

During our site review, four (4) types of materials suspected to potentially contain asbestos were observed within the subject building. These materials included the sheetrock wallboard system, square vinyl tile, sheet vinyl, and associated adhesive mastic. At the time of this writing we were not authorized by the client to sample or test the "suspect" asbestos-containing materials to confirm or deny this presumption.

Our effort regarding identification of potential asbestos-containing materials on/within the subject building was a preliminary review and not an asbestos survey. The "suspect" asbestos- containing materials enumerated in the previous paragraph should not be construed as a comprehensive list of all asbestos-containing materials (suspect or otherwise) that could conceivably exist in or on the subject building. Since no destructive sampling was authorized for this assessment, materials not readily accessible such as potential asbestos-containing roofing materials and/or materials obscured behind, beneath, or within walls or existing flooring materials were not reviewed.

REVIEW FOR LEAD-BASED PAINT

Lead was formerly a common additive to many paints to improve their durability and coverage. Lead-based paint presents a special hazard to small children who can ingest it by chewing on painted woodwork or eating flakes of paint. A number of studies showing the toxic effects of lead on humans, and on small children in particular, prompted the Consumer Product Safety Commission to mandate in 1977 that the amount of lead in most paints, including those for residential use, should not exceed 0.06 %.

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A review of painted surfaces on the subject property was conducted to assess the potential for leadcontent in surface layers of paint. Representative painted surfaces (listed in the table below) were analyzed using "Lead-Check" sodium rhodizonate color reagent paint tests. These tests provide a qualitative indication as to whether lead is present in paint samples with reproducible results to a lower detection limit of 0.5 percent, a level corresponding to a threshold of concern established by HUD.

PAINTED SURFACE	RESULT
112 office space office wall	negative
112 office space bathroom wall	negative
116 office space break room wall	negative
116 office space hallway wall	negative
118 office space bathroom wall	negative
118 office space office wall	negative

As noted in the table above, none of the surfaces tested using the "Lead Check" screening method showed a reddish hue response characteristic of the sodium rhodizonate method as an indication of the likely presence of lead in the painted surfaces. On that basis, we conclude that lead was not present in the tested surfaces above the lower detection limit of 0.5 percent.

RADON EVALUATION

Occurrence

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Radon is a naturally occurring, highly mobile, chemically inert radioactive gas created through radioactive decay of uranium and thorium. The potential for occurrence of radon varies widely and is dependent upon (1) the concentration of radioactive materials in the underlying bedrock; (2) the relative permeability of soils with respect to gases; and (3) the amount of fracturing or faulting in surficial materials (EPA, 1987).

Health Risks

The concern regarding radon and its potential effects upon humans arises from the results of studies (EPA, 1987) which suggest that approximately fifteen percent of all lung cancer mortalities in the United States may be attributable to exposure to radon.

The EPA has established a concentration of radon of four (4) picocuries per liter (pCi/l) as a maximum permissible concentration "action level". Concentrations above this value would signal a potential health threat. According to some studies, an average concentration in homes across the United States is on the order of 1.4 pCi/l.

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Risk of Potential Exposure in the Burien Area

The Bonneville Power Administration (BPA) has published the results of measurements for radon made in residences throughout the region they serve which includes Washington, Oregon and Idaho. For the Burien area in the immediate vicinity of the subject property 72 tests have been performed. The results of their work (BPA, 1993) suggest that radon levels over 4 picocuries per liter (pCi/l) were detected in <u>none</u> of the monitored residences in the vicinity of the subject site. Additionally, the average listed radon reading in the subject site township was 0.52 pCi/l, well below the EPA threshold of concern.

On the basis of the findings presented in the cited BPA survey, we conclude that the potential for exposure to naturally occurring radon at the subject site at concentrations exceeding the EPA's "threshold of concern" is very low.

WATER SUPPLY, WASTE WATER AND SOLID WASTE MANAGEMENT

Information supplied by the King County Assessor's Office revealed that both water and sewer services for the subject property are provided by municipal sources.

Two (2) solid waste dumpsters were noted on the property. The dumpsters, which are maintained by Waste Management, were relatively clean and free of overflowing debris at the time of our site reconnaissance.

REVIEW OF WASHINGTON DOE LISTING OF UNDERGROUND STORAGE TANKS

Review of the current Washington Department of Ecology and the EPA Region 10 listings of underground storage tanks (USTs) suggests that seven (7) facilities with registered USTs are located within a one-quarter mile distance from the subject property. These UST sites are listed in the Environmental Database in Appendix A.

The closest WDOE-listed UST site relative to the subject property is ABC Radiator Co., located at 15855 1st Avenue South. The WDOE UST database suggests that three (3) USTs have been removed from that site. A Notice of Permanent Closure of Underground Storage Tanks form reviewed at the WDOE showed that a site assessment was completed at the time of tank removal. The form shows that no contamination was found at that time. That facility is situated approximately 40 feet to the east of the subject site in an inferred cross-gradient hydrologic position. That UST site does not appear on the current WDOE listing of "Leaking Underground Storage Tank" (LUST) sites.

According to the most recent WDOE Leaking Underground Storage Tank (LUST) listing and the EPA Region 10 Tribal Land LUST listing, there are six (6) listed tank facilities located within a one-half mile distance of the subject property which have reported accidental releases or leakage to the WDOE in the past. These LUST sites are listed in the Environmental Database in Appendix A.

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The closest WDOE-listed LUST site relative to the subject property is Andy's Handy Mart located at 150 Southwest 160th Street. The WDOE LUST database suggests that a release of petroleum products to soil and groundwater at that site was reported to the WDOE on approximately April 17, 1991. Files reviewed at the WDOE revealed that in April 1991, a site assessment performed by Materials Testing and Consulting, Inc. (MTCI) accompanied the removal and replacement of four (4) underground gasoline storage tanks. During excavation, it was noted that the areas around the fill spouts of each tank were contaminated with gasoline. This contaminated material was reportedly excavated out of the pits formerly occupied by the storage tanks. Soil sampled from beneath each tank and from the excavation sidewalls after the excavation of contaminated materials were removed showed that all apparent contamination had been excavated. Groundwater from the tank excavations was sampled and revealed the presence of gasoline range hydrocarbons above Washington State cleanup levels. Three (3) monitoring wells were installed on the site after new USTs had been installed. In July 1991, grab samples from each well were obtained for testing. Results showed that groundwater quality was then compliant with the Washington State cleanup levels for gasoline and BTEX range hydrocarbons. MTCl concluded, "Based on the cleanliness of the July 23, 1991, water samples no further work or monitoring is suggested." WDOE lists the cleanup status of this facility as "Reported Cleaned Up". This site is located approximately 50 feet west of the subject site in an inferred cross-gradient hydrologic position.

Relying upon the substantial separation distances, reported results of previous cleanup efforts, and/or inferred hydrologic positions of the WDOE/EPA-listed UST/LUST sites in relation to the subject property as positive risk-mitigating factors, it is our opinion that the potential for environmental impairment of the subject property from these off-site localities is low. The approximate locations of the WDOE-documented underground storage tanks within a one-quarter mile radius of the subject property and the listed LUST sites within a one-half mile radius of the site are shown on the radius maps included in Appendix A.

The WDOE's/EPA's UST listings may not include tanks that are exempted from regulation such as heating oil tanks or tanks used for agricultural purposes and may not include USTs which were installed, removed, or abandoned prior to the advent of modern environmental UST regulations.

EPA & STATE RECORDS OF POTENTIALLY HAZARDOUS SITES

Superfund, NPL, & Brownfields

Review of the current EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and National Priority List (NPL) listings revealed <u>no CERCLIS</u>, <u>CERCLIS-NFRAP</u>, de-listed NPL, or Federal Brownfields the subject site and <u>no NPL</u> sites within one mile of the subject property that have been designated as potentially hazardous or eligible for participation in the Superfund cleanup or Brownfields programs.

CORRACTS

Review of the current EPA Corrective Action Report (CORRACTS) listing revealed that <u>no</u> <u>CORRACTS</u> sites are located within one mile of the subject property that have been designated as having a potential release at the facility under RCRA.

MTCA / State

The Washington Department of Ecology hazardous waste cleanup and investigation program was launched in 1989 as a part of the Model Toxics Control Act (MTCA), Chapter 173-340 WAC, in order to evaluate potential and actual hazards at sites within the state. Seven (7) MTCA/State sites and <u>no State "Brownfields"</u> sites are located within a one mile distance from the subject property. These MTCA/State sites are listed in the Environmental Database in Appendix A.

The closest MTCA/State site relative to the subject property is the Unocal 4704 site located at 15623 1st Avenue South. The WDOE's MTCA database suggests that soil and groundwater contamination (concentrations of contaminants above MTCA cleanup levels) has been confirmed at that site. This site is located over 1,000 feet to the north of the subject property in an inferred up-gradient hydrologic position.

Acknowledging the substantial separation distances and/or inferred hydrologic positions of the listed MTCA/State sites in relation to the subject property as positive risk-mitigating factors, it is our opinion that the potential for environmental impairment of the subject property from these off-site localities is very low.

RCRA/ TSDs

Review of EPA's Treatment, Storage and Disposal (TSD) facilities listing for sites that treat, store, or dispose of potentially hazardous materials revealed that <u>no TSD sites</u> are located within a one mile distance from the subject property.

Review of the EPA's RCRA Generator listing, revealed five (5) sites within a one-quarter mile distance from the subject property which are/have been regularly monitored by EPA/WDOE for the use or generation of small amounts of hazardous substances as a normal part of their business activities. These RCRA Generator sites located within a one-quarter mile radius of the subject site are listed in the Environmental Database in Appendix A.

Businesses named in the RCRA Generator listing are users or generators of potentially hazardous or toxic materials as a <u>normal</u> aspect of their business practices. Listed businesses are required to closely monitor and report their use or generation of such materials to the EPA.

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Based upon this information, upon the monitoring and reporting requirements imposed by the EPA, and upon the presumption that the listed user/generators exercise prudence in management of these materials to minimize liability and BPA penalties, it is our opinion that the potential for environmental impairment of the subject property from these off-site facilities is very low.

ERNS

Review of the EPA's Emergency Response Notification Systems (ERNS) list for the State of Washington revealed that the subject site has not reported a spill. This list has been compiled with periodic updates since October 1987.

LANDFILLS

A review of WDOB and King County Health Department documents regarding current and abandoned landfills revealed that there are <u>no documented landfills</u> located within a one-half mile distance from the subject property.

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CONCLUSIONS/RECOMMENDATIONS

In accordance with report language requirements of ASTM E-1527-2005, "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process", and more specifically section 12.8 thereto, the following conclusory statements are made:

We (EAI) have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-05 of the Dental Office property located at 116 Southwest 160th Street in Burien, Washington. No exceptions to or deletions from this practice were made. This assessment has revealed no evidence of "recognized environmental conditions" as defined by ASTM in connection with the property except for the following:

- Historic use of the site as a gas station from approximately 1957 to 1975.
- Use of heating oil to fuel on-site furnaces within two buildings formerly located on the subject property.
- Historic occupation of the site by a dry cleaning business from approximately 1952 to the early 1960s.

Non-CERCLA conditions of potential environmental significance identified at the subject site include:

 Presence of "suspect" asbestos-containing building materials in the form of the sheetrock wallboard system, sheet vinyl, square vinyl tile, and associated mastic adhesives.

Additional discussions along with common-sense recommendations for future management relating to the above-noted environmental conditions are provided for your consideration in the following individual subsections.

HISTORIC GAS STATION OPERATION

As noted earlier in the report, our research suggests that a former on-site retail gasoline station was located in the vicinity of the eastern portion of the subject property. This service station operated on-site from approximately 1957 until 1975 when it was demolished.

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As mentioned previously in the report, work performed by others in the vicinity of the historic gas station revealed that while gasoline range petroleum hydrocarbons were found in soils in three different areas of the property, the southeastern corner of the site contained levels well above the Washington State cleanup levels for soil. A magnetometer survey was performed on the site to look for subsurface anomalies. Three localities identified by that survey reportedly provided the interpretive basis .One of the magnetic anomalies was reportedly fairly large in size and may have been an underground storage tank. As a factor limiting the effectiveness of this previous study while groundwater was encountered in the subsurface exploration, no samples of groundwater were apparently taken to be analyzed for contamination. No reports of soil cleanup or further testing were found in our research.

As noted in the previous section, current assessment of subsurface soil and/or groundwater conditions cannot be accomplished through visual examination of surficial conditions afforded by the scope of our Level 1 Assessment effort. This limitation combined with the results of previous subsurface explorations on the site provides the basis for the following management steps offered for discussion and consideration:

- (1) An improved geophysical survey of the subject site could be conducted to evaluate whether or not the previously mentioned anomalies are potentially USTs or associated piping from the former gasoline station. The geophysical survey will likely employ the use of <u>both</u> electro-magnetic (EM) equipment and ground penetrating radar (GPR) to screen the site for subsurface anomalies characteristic of underground storage tanks or other buried metallic objects. If a UST is detected on the property and the tank is located in an accessible portion of the site, EAI recommends that such a tank (or tanks) be closed (removed) by tank decommissioning service providers certified by the Washington Department of Ecology to provide such services.
- (2) Using the information developed by others and the information obtained through geophysical methods, subsurface sampling at three (3) or four (4) locations and laboratory testing of soils could be employed to assess the lateral extent of the gasoline contamination discussed in DEAI's 1997 report. An attempt to collect groundwater should also be made to determine if that media has been affected, and to what area/extent if impacts have occurred.

FORMER USE OF HEATING OIL

As noted earlier in the report, archive records suggest that the former 1920 and 1947-vintage buildings historically located on the subject property were heated via an "oil burner" furnace. No additional information regarding the configuration of the storage vessels (above ground or below ground) logically used to store the heating oil utilized by the furnaces was provided in our review of archive documents.

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Our research of WDOE and/or other readily available/reasonably ascertainable resources revealed no definitive information regarding the exact configuration of possible heating oil tanks on the property. In addition, previous subsurface studies performed by others were mainly limited to the western portion of the subject site and <u>only assessed</u> for contamination from gasoline range hydrocarbons, not diesel or heavy oils commonly indicative of heating oil.

Subtitle I of the Resource Conservation and Recovery Act (RCRA), and the preamble to 40 CFR, parts 280/281 (BPA underground tank regulations) specifically exclude "tanks storing heating oil for consumptive use on the premises where stored" from regulation. In contrast, Chapter 173-340 WAC et seq., provides definition of liability along with specific cleanup criteria for petroleum hydrocarbons (oil, gasoline, etc.) in soils irrespective of the cited federal exclusion for heating oil tanks.

Assessment of current subsurface soil and/or groundwater conditions cannot typically be accomplished through visual examination of surficial conditions afforded by the scope of our Level I Assessment effort, nor was such a determination envisioned as a task included in the scope of our proposal.

In developing recommendations for future action regarding the site of the historical heating oil tanks, the following management alternative approaches are offered for discussion:

- (1) As recommended earlier, a limited geophysical survey of the subject site could be conducted to evaluate for the presence of potential USTs, especially on the eastern portion of the site. If such are detected on the property and are located in an accessible portion of the site, EAI recommends that they be closed (removed) by tank decommissioning service providers certified by the Washington Department of Ecology to provide such services.
- (2) Limited subsurface soil/groundwater sampling supported by appropriate laboratory analysis from two or three localities in the vicinity the former buildings known to have utilized heating oil could be employed to factually assess whether or not environmental impacts have occurred related to the former use of heating oil. This sampling and testing may be performed at the same time as the sampling recommended above.

ON-SITE DRY CLEANER ACTIVITIES

As discussed in earlier sections of the report, a dry-cleaning establishment identified in archived photographs of the subject site historically occupied the northeastern portion of the property for approximately ten (10) years. No information was disclosed in the course of our review with respect to what type of machine (if any) was used, the type of cleaning solvent such as perchloroethene (PERC) and/or stoddard solvent storage (if any), and/or disposal method of waste PERC and/or stoddard solvent that was in use at this former dry-cleaning facility.

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Throughout the United States, dry cleaning facilities have attracted considerable attention over the years from regulatory agencies, lending institutions, land owners and developers, etc., as a result of the release of cleaning solvents (such as perchloroethylene, stoddard solvents, etc.) to subsurface soils and/or groundwater environment. Some prominent lenders known to us have suffered extreme losses of collateral/capital as a result of problems with dry cleaners at several locations on the west coast. Environmental Associates, Inc., has investigated several such sites in the Puget Sound area, and we have successfully remediated such sites for land owners at occasionally considerable cost. Given those experiences and the current uncertainty regarding details for this site, we have reasonably included a note of caution for your benefit here.

As stated earlier, assessment of subsurface soil and/or groundwater conditions cannot typically be accomplished through visual examination of surficial conditions such as afforded by the scope of a Phase I Environmental Assessment. While previous subsurface explorations of the property noted soil contamination from the former on-site gas station, <u>no tests</u> were apparently performed on the samples taken for chlorinated solvents associated with dry cleaning establishments. Given the references to this type of property use alluded to in the public record, this apparent oversight in earlier testing cannot be explained by us at this time. In developing recommendations for the site, if the client chooses to perform the subsurface explorations mentioned for the other issues identified in this section, EAI recommends that soil and groundwater sampled at the site also be analyzed for chlorinated solvents (perchloroethylene, trichloroethylene, etc.) commonly associated with dry cleaners.

ASBESTOS

Borrowing evaluation criteria adopted under the Asbestos Health Emergency Response Act (AHERA, 40 CFR Part 763), the "suspect" asbestos-containing materials enumerated earlier in this report are in "good" condition. In the current use and condition, these materials do not appear to represent a threat to public health or to the environment and no action would be required at this time under current state, federal, or local laws or regulations.

To reduce exposure to potential future liability, and in an effort to comply with regulations regarding the suspected presence of asbestos in commercial and apartment buildings under Chapter 296-62-07753 WAC, it may be prudent to consider implementation of a management policy (Operations and Maintenance Program/O&M) whereby all maintenance, repair, or service personnel who may be engaged to work on the property are formally advised (i.e., signed acknowledgment) as to the "suspected" presence of asbestos-containing materials (ACM) prior to commencement of any work associated with the ACM.

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Should the owner intend to renovate, demolish, remodel, or repair any or all portions of the structure containing "suspect" asbestos, please note that applicable sections of WAC 296-65 require that all projects relating to construction, demolition, repair, or maintenance where release or likely release of asbestos fibers into the air could occur must be performed by "certified asbestos workers". Additional information may be obtained through the offices of Environmental Associates, Inc., or directly from the Washington State Department of Labor and Industries, P.O. Box 207, Olympia, Washington 98504. Finally, if future representative sampling and laboratory testing of these "suspect" asbestos-containing materials were to confirm that they do not contain asbestos, these recommendations may then logically be disregarded.

LIMITED ACCESS

ار محمد محمد المحمد ال As discussed earlier, in accordance with the instructions of the client, the on-site building located at 120 Southwest 160th Street was not reviewed in the course of this investigation per your request. Acknowledging that limitation, no warranty with respect to the conditions and/or materials which may exist therein are rendered herein.

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LIMITATIONS

This report has been prepared for the exclusive use of Dr. Frank Rudey and his several representatives for specific application to this site. Our work for this project was conducted in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our proposal dated November 12, 2008. Conclusions and opinions offered here pertaining to subsurface conditions rely solely upon results of sampling and testing conducted by others at separated sampling localities and conditions may vary between sampling localities or at other locations and depths. The environmental condition of subsurface soil, groundwater, and/or existence of subsurface appurtenances cannot typically be determined by visual examination of surficial conditions such as afforded by the scope of a Phase I Assessment such as performed here. Acknowledging that limitation, no warranty in that regard is made. The level of effort regarding identification of potential asbestos-containing materials and/or lead-bearing painted surfaces should be considered a reconnaissance, should not be confused with an asbestos or lead survey, and should not be used as a sole informational resource for removal, construction, or abatement bidding purposes. For areas to which no access was granted, no conclusions or warranties are rendered with respect to conditions or materials which may exist in those areas. EAI makes no warranty as to the accuracy or reliability of the opinions rendered by other parties. No other warranty, expressed or implied, is made. If new information is developed in future site work which may include excavations, borings, studies, etc., Environmental Associates, Inc., must be retained to reevaluate the conclusions of this report and to provide amendments as required.

REFERENCES

GENERAL

Argus Pacific, May 13, 2002, Dr. Kubisch Office Suite Indoor Air Quality Evaluation.

- Bonneville Power Administration (BPA), January 1993, Radon Monitoring Results from BPA's Residential Conservation Program, Report No. 15, (with April 1993 Map).
- David Evans and Associates, Inc. (DEAI), January 21, 1997, Final Letter Report for "Citizens Five Corners Office Plaza" 120 SW 160th Street, Burien Washington.
- Environmental Protection Agency (EPA), September 1987, Radon Reference Manual EPA 520/1-87-20.
- Herrera Environmental Consultants, Inc. (HECI), May 1995, Phase I Environmental Assessment SW 160th Street Property (Burien).
- Jones, M.A., 1998, Geologic Framework for the Puget Sound Aquifer System, Washington & British Columbia. U.S. Geological Survey Professional Paper 1424-C, 18 plates, 9 figures, 2 tables.

DATABASE

Please refer to the Environmental Database in Appendix A for information regarding the governmental database resources reviewed for this project, the ASTM search radius (the minimum search radius used for this project), and the date that the agency produced the listing. The April 30, 1985-dated King County landfill list reviewed for this project should not be construed by the report user or reviewers as out-of-date. It is simply the last date of issuance of the list selected by the government agency, ASTM not withstanding.







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