

WATER WELL INVENTORY
SEEKINS FORD-LINCOLN-MERCURY, INC.
FAIRBANKS, ALASKA


ISSUE NO. 1


Prepared for:

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1.0 INTRODUCTION

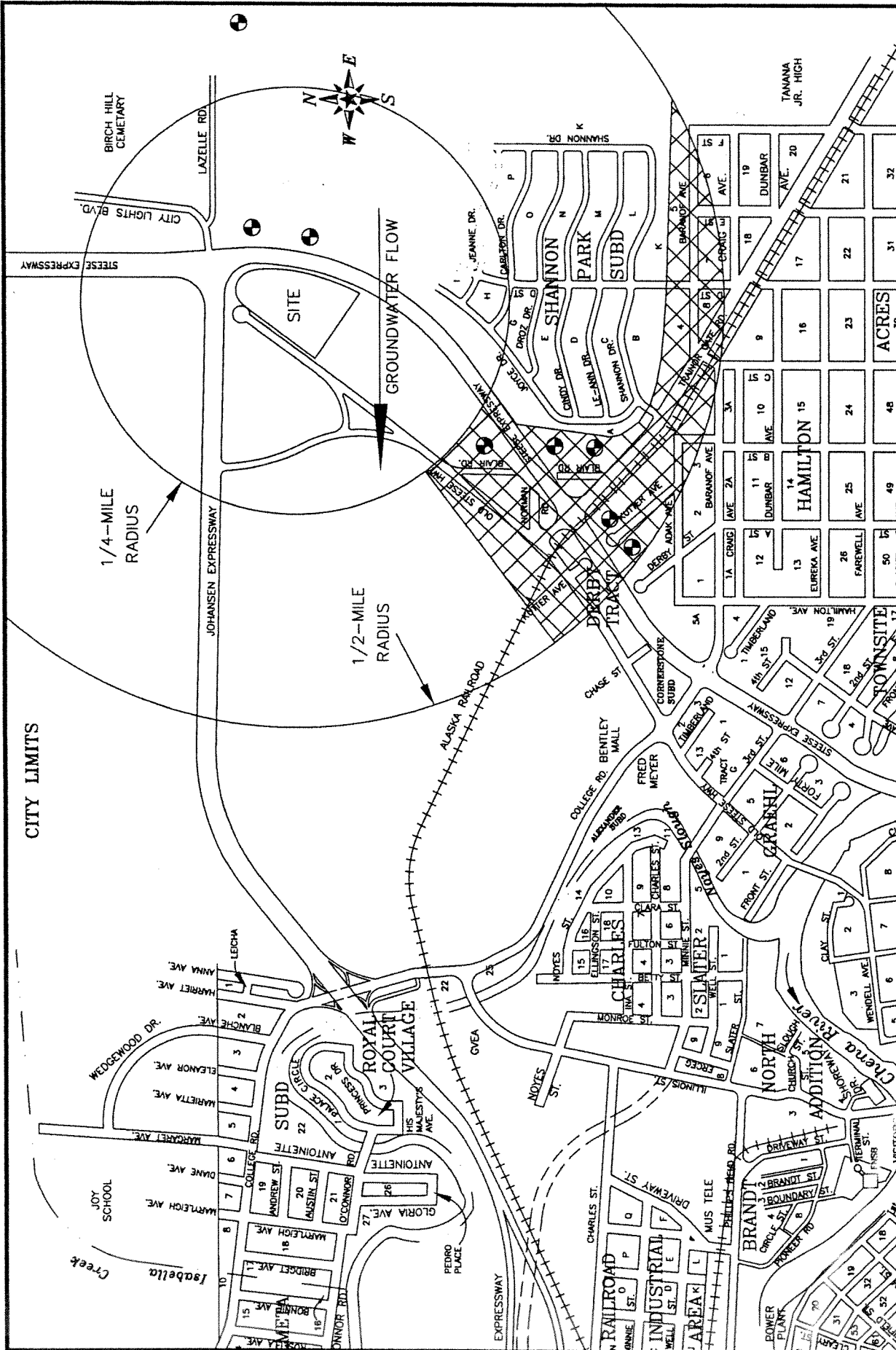
On behalf of Seekins Ford-Lincoln-Mercury, Inc. (Seekins), AGRA Earth & Environmental, Inc. (AEE) completed a water well inventory within a one-half mile radius of the Seekins property. The property is located at 1625 Old Steese Highway in Fairbanks, Alaska. Although there is no evidence that impacted groundwater extends beyond the boundaries of the Seekins property, the well search was requested by the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC) as part of an ongoing environmental investigation at the property. Verbal authorization for AEE to conduct this work was given by Mr. Ralph Seekins on February 28, 1996. This report presents the information obtained by AEE.

The water well search was conducted to allow the regulatory agencies to assess the level of risk posed to potential receptors by a plume of hydrocarbon-impacted groundwater that has been identified beneath the Seekins property. In accordance with the request from the EPA and ADEC, the well search initially focused only on those properties within a one-quarter mile radius of the Seekins property. However, when no down gradient drinking water wells were identified within the one-quarter mile search distance, the search was expanded to a one-half mile radius to allow for a more complete risk assessment. A limit of one-half mile was selected for the search due to the presence of known contaminated sites at this distance and down gradient of the Seekins property. Those sites pose a greater risk to any down gradient water wells beyond the one-half mile limit than does the impacted groundwater beneath the Seekins property.

Development within the larger search radius includes both commercial and residential land use. Commercial development is generally limited to the vicinity of the intersection of Trainer Gate Road and Old Steese Highway and along Trainer Gate Road. Residential development is generally limited to the Shannon Park subdivision and a portion of the Hamilton Acres subdivision, although a few residential properties do exist within the area of commercial development. In completing the well search, AEE contacted the U.S. Geological Survey (USGS), the Alaska Department of Natural Resources (ADNR), the ADEC, and the Fairbanks Municipal Utilities System (FMUS). The information obtained from each of these sources is presented in Sections 3 through 6 below.

2.0 SITE DESCRIPTION

The Seekins property is an approximately 10-acre parcel of land located on the southwest corner of the intersection of the Steese Expressway and Johansen Expressway in Fairbanks, Alaska (Figure 1). The property extends southwest from the intersection and is bordered on the east by the Steese Expressway and on the west by the Old Steese Highway. The site is generally flat with little topographic relief. The elevation at the site is about 435 feet above mean sea level. Topography within the site vicinity is generally flat and even within a 270-degree arc moving clockwise from due east to due north of the site. To the northeast of the site and immediately across the Steese Expressway, Birch Hill rises abruptly to an elevation of about 1,100 feet creating a terrain that is hilly with high relief. Topographic coverage of the site is provided by the USGS Fairbanks (D-2) Southeast 7.5-minute quadrangle.



**SEEKINS FORD-LINCOLN-MERCURY
1625 OLD STEESE HIGHWAY
FAIRBANKS, ALASKA**

**SEARCH AREA MAP
FIGURE 1**

<p>W.O. 6-024-01173-1</p> <p>DESIGN DJB</p> <p>DRAWN EBP/MPP/SAM</p> <p>DATE 03/27/96</p> <p>SCALE NO SCALE</p>	<p style="text-align: center;">AGRA Earth & Environmental</p> <p>3504 Industrial Ave. Suite 5 Fairbanks, Alaska 99701</p>
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PRIVATE WATER WELL

Shading denotes area in which properties are likely to have both public & private water sources.

A single L-shaped building is situated in the southern portion of the lot and the lot has been graded to provide drainage away from the building. Water, sewer, electric, and telephone utilities are provided at the site by the FMUS. The building is heated by two used oil burners fueled from aboveground storage tanks. Although the property is served by city utilities, previous work at the site by AEE has identified at least three drinking water wells on the site. Two of the wells apparently were used to supply water to offices and a repair shop that were located on the site between 1975 and 1978. The third well was installed as the original water supply for the existing building but its use was discontinued when city utilities became available.

USGS data indicate the general direction of groundwater flow in the subject area is east to west. The general westward flow of groundwater is supported by data from a single groundwater sampling event conducted by AEE in July 1995. Excluding the three unused water wells on the Seekins property, the only confirmed private wells within a quarter mile radius of the Seekins Ford property are east of the site placing them upgradient of the impacted groundwater.

3.0 UNITED STATES GEOLOGICAL SURVEY, WATER RESOURCES DIVISION

The Seekins property is situated at the eastern boundary of section 2, Township 1 South, Range 1 West, Fairbanks Meridian. Consequently, the USGS water well database was reviewed to identify any known drinking water wells located in both Sections 1 and 2 of T1S, R1W. One drinking water well was identified in each section within the one-half-mile search radius. The well in Section 1 is located near Building #1173 at the Fort Wainwright Fairbanks Fuel Terminal and is identified as U.S. Army Corps of Engineers well FWP105. Information in the database indicates the well was installed in 1993 to a depth of 68 feet.

The well in Section 2 is assigned a FNSB identification number (#GL0209) and is recorded as being installed in 1978 to a depth of 49 feet. The well is described as being located at a Chevron service station at the intersection of Old Steese Highway and Trainer Gate Road. However, historical research of the site vicinity indicates there was no Chevron station at that location at the time the well was reportedly installed. The only existing Chevron station in the area was located approximately one-quarter mile southwest of the stated location and outside the one-half-mile search radius. That station was closed in 1995 and the status of the well could not be confirmed.

4.0 ALASKA DEPARTMENT OF NATURAL RESOURCES, WATER DIVISION

The ADNR well log tracking system contains sparse information on private wells in the Fairbanks area. ADNR personnel reported only one private well inside the half mile search radius. This well, located at 114 Trainer Gate Road, was also confirmed by FMUS records.

The fact that the three water wells on the Seekins property are not included in either ADNR records or the USGS database reflects the fact that many of the drinking water wells installed in the search area were installed prior to the keeping of any official records. This was confirmed during our contacts with ADNR personnel who mentioned that many people are unaware that the location and current status of water wells need to be reported to the appropriate agencies.

5.0 ADEC PUBLIC WATER SUPPLY RECORDS

AEE contacted the ADEC regarding known public drinking water sources within the vicinity of the Seekins property. According to ADEC personnel, the public water supply records include no public water wells within a one-quarter-mile radius of the Seekins Ford property. The water source for a company that sells drinking water to residential customers is located within the one-half-mile search radius, but that source is connected to FMUS and is not a well.

6.0 FAIRBANKS MUNICIPAL UTILITIES SYSTEM (FMUS)

FMUS water and sewer service is available throughout much of the search area. In particular, water and sewer lines extend to the Seekins property along the Old Steese Highway, and are available to all properties within the Hamilton Acres and Shannon Park subdivisions. These utilities are apparently not available to the north or east of the Seekins property as FMUS personnel reported that both the Church of Jesus Christ of Latter Day Saints Steese Chapel and the Shannon Park Baptist Church have private wells. These churches are located across the Steese Expressway to the east of the Seekins property.

FMUS provided AEE with a map of the search area which included the location of FMUS water and sewer lines. The map also showed which lots in the FMUS service area are connected to water and sewer service. However, FMUS personnel reported that the map is not current and that the absence of a utility connection on the map did not necessarily mean the connection did not exist. Therefore, cross-referencing between the map and the FMUS water meter database was necessary to verify the lack of FMUS service to a property. Using the map, AEE determined that utility connections were not shown for a total of sixty-six lots within that portion of the one-half-mile search radius that is served by FMUS. This number was reduced to 22 lots after the FMUS address/meter number database was consulted. A drive-by reconnaissance of the 22 lots noted fifteen undeveloped lots, five developed and inhabited lots, and two developed but uninhabited lots. According to FMUS personnel, it can be assumed that undeveloped lots are not connected to FMUS water service. AEE has also assumed that undeveloped lots do not contain any drinking water wells. On that basis, only five properties within both the search radius and the FMUS service area are identified as having drinking water wells. Fairbanks North Star Borough assessment records also indicate that the five properties have a private water source.

7.0 SUMMARY

The water well search has identified seven properties that are within both the FMUS service area and the one-half-mile search radius of the Seekins property that are not connected to FMUS water service. A drive-by reconnaissance of these properties confirmed that five are developed lots and two are developed but uninhabited lots. It is assumed that the five inhabited lots are served by a private well. Four of those lots are private residences. The fifth lot contains a private residence and

the Alaska Tree & Garden Center, a commercial nursery. AEE's review of FMUS records indicates that the residence is connected to FMUS water service while the commercial buildings (greenhouses) are served by a private water well. It is assumed that no drinking water wells are located on the two uninhabited lots. The locations of the identified private water wells are shown on Figure 1.

Within that portion of the search radius that is not served by FMUS utilities, AEE has identified three private water wells. These wells are located near Building #1173 at the Fort Wainwright Fairbanks Fuel Terminal and on the two church properties to the east of the Steese Expressway. The latter two wells are located within the original one-quarter-mile search radius. The Fort Wainwright well is located just beyond the one-quarter-mile range. Information regarding the location of the eight wells identified by this investigation, the location of the well relative to the site, and the location of the wells relative to groundwater flow direction is presented in Table 1.

Table 1
Water Well Locations Within the One-half-mile Search Radius

Street Address	Location Relative to Seekins Property	Location Relative to Groundwater Flow Direction
1035 Blair Road	Southwest	Cross-gradient
114 Trainor Gate Road	Southwest	Cross-gradient
124 Trainor Gate Road	Southwest	Cross-gradient
151 Kutter Road	Southwest	Cross-gradient
156 Kutter Road	Southwest	Cross-gradient
Building 1173, Fort Wainwright	East	Upgradient
Steese Chapel	East	Upgradient
Shannon Park Baptist Church	East	Upgradient

The possibility exists, especially for properties developed before FMUS water service was available in the area, that a property can be connected to FMUS and have a private well. The properties for which this situation is most likely are all located in the vicinity of the Trainer Gate/Old Steese Highway intersection. This situation is not considered likely for the properties in the Shannon Park subdivision as FMUS utilities have been available in that area since initial development. For those properties having dual water sources, common practice is to rely on FMUS as the primary drinking water source and to use the well to provide water for industrial, sanitary, and/or agricultural purposes. Properties likely to have a dual water source are indicated on Figure 1.

8.0 CONCLUSION

AEE has identified a total of eight private water wells within a one-half-mile radius of the Seekins property. Three of these wells are located to the east of and upgradient from the Seekins property. At least two of the three wells are located down gradient from the Fort Wainwright Fairbanks Fuel

Terminal, a known source of groundwater contamination. Groundwater contamination was documented in both of those wells during a release investigation of the fuel terminal. Based on the direction of groundwater flow in the project area, the fuel terminal is the likely source of the contamination in the two water wells.

The other five water wells within the search radius are all located south-southwest of the Seekins property and are, therefore, situated more cross-gradient than down gradient from the impacted groundwater beneath the site. On the basis that the most current data indicate the plume of impacted groundwater does not extend beyond the Seekins property boundaries, the current risk posed to these wells by the impacted groundwater is considered to be essentially nonexistent.

In evaluating the threat to human health posed by the groundwater contamination beneath the Seekins property, it is significant that no drinking water wells are located both directly down gradient and within one-half-mile of the Seekins property. It is also important to note that two other known contaminated sites are located at or just beyond the one-half mile search limit. One of these is located at the Trainor Gate/Old Steese Highway intersection; the other is located on Trainor Gate Road approximately one-half mile west of the Seekins property. Contaminated groundwater has been found beneath both sites. Consequently, these sites likely pose a greater threat to drinking water wells at or beyond the one-half-mile search radius than does the impacted groundwater beneath the Seekins property.

9.0 LIMITATIONS

This well search was conducted using public records. However, initial development in some portions of the search area likely precedes the keeping of the records that were reviewed. As a result, some information concerning water wells in the search area may not have been filed with the appropriate agencies and those records on which AEE has relied may not be complete. Therefore, the possibility exists that water wells other than those identified in this report may exist within the search area. AEE accepts no liability for the incompleteness of the public record and no warranty or guarantee is expressed or implied.