Appendix D
Methane Evaluation

APPENDIX D

Methane Evaluation Performed Prior to the BSVE System Start-up

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Attachment

A Monitoring Data Used in the Methane Evaluation

Acronyms and Abbreviations

ACIH	American Conference of Governmental Industrial Hygienists
ADEQ	Arizona Department of Environmental Quality
AOI	Area of Interest
APM	automated people mover
APTA	American Public Transportation Association
bgs	below ground surface
BRE	Building Research Establishment
BSVE	biologically-enhanced soil vapor extraction
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO2	carbon dioxide
COP	City of Phoenix
CSM	conceptual site model
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
FAA	Federal Aviation Administration
FHHRA	focused human health risk assessment
FID	flame ionization detector
Honeywell	Honeywell International Inc.
IDLH	immediately dangerous to life or health
LEL	lower explosive limit
LOC	limiting oxygen concentration
LUST	leaking underground storage tank
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
ppmv	parts per million by volume

PSHIA	Phoenix Sky Harbor International Airport
RCRA	Resource Conservation and Recovery Act
scfm	standard cubic feet per minute
TTA	target treatment area
TLV	threshold limit value
TPH	total petroleum hydrocarbons
TWA	time-weighted average
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

APPENDIX D

Methane Evaluation Performed Prior to the BSVE System Start-up

This appendix presents an evaluation of the conditions and potential hazards from methane gas associated with the anaerobic biodegradation of petroleum hydrocarbons from the Leaking Underground Storage Tank (LUST) Area of Interest (AOI) prior to the biologically enhanced soil vapor extraction system (BSVE) start-up. This evaluation represents baseline conditions and was prepared in 2008 and incorporated into Section 6 of the *Draft Focused Human Health Risk Assessment Honeywell 34th Street Facility, Phoenix* (CH2M HILL, 2009). Figure D-1 shows the methane contour in this area. The LUST AOI is contained within the focused human health risk assessment (FHHRA) study area and includes the eastern portion of the Facility and the north-central portion of the Phoenix Sky Harbor International Airport (PSHIA) property. The methane gas detected in the LUST AOI results from anaerobic biodegradation of the mixed jet-fuel plume.

D.1 Background Information Related to Subsurface Methane

The Honeywell International Inc. (Honeywell) facility (Honeywell facility or Facility) is a 118-acre, non-residential facility in Maricopa County that consists of numerous manufacturing-related and administrative buildings. The Facility is north of PSHIA and east of commercial and industrial properties that are currently used as construction support areas for PSHIA expansion, as shown in Figure D-1. The property adjoining the Facility to the west was previously occupied by a manufacturing operation and is currently owned by the City of Phoenix (COP). North of the Facility, the property is a mix of commercial, industrial, and residential acreage, while east of the Facility, the property is zoned commercial and industrial and is occupied by businesses that include machine shops, auto shops, and support industries to the aerospace industry and PSHIA. The activities conducted at the Facility include administrative offices, manufacturing facilities, plating operations, engine assembly facilities, testing facilities, storage areas, and wastewater treatment, chip collection, maintenance, and salvage operations.

Part of the southern extent of the LUST AOI lies beneath the north-central portion of PSHIA's northern runways. The area recognized to have been contaminated by known free-product (Jet-A and JP-4 jet fuels) extends onto PSHIA south of the northernmost runway (Runway 8-26) and north of the terminals, as shown in Figure D-1. The width of the plume at the southern extent is, at most, 1,000 feet. Figure D-1 also shows the contour of the methane gas detected during static conditions (not impacted by the air injection pilot test). The figure shows the approximate boundaries of the methane contour with peak methane concentrations of 5 and 15 percent during non-air injection conditions. The historical extent of the free-product plume, as well as the static methane contours, is shown on the figures in this section to provide a frame of reference for the extent of the methane.

It is expected that land use at the Facility will remain the same in the future, and no major construction is currently planned. Based on available land use planning information, future land use of the Facility and the adjacent properties is likely to remain industrial. Honeywell plans to operate an industrial facility on this property in the foreseeable future. Should Honeywell, which leases a portion of the Facility from the COP, reduce or eliminate operations in the leased areas of the Facility, the City is likely to use the area for Airport infrastructure (parking lot, rental car operations, hotels, etc.) or for flight operations (runway and taxiways).

Construction activities may occur in a shorter period at the portion of the PSHIA property in the LUST AOI, including the paving of Taxiway A and storm sewer improvements. In April 2006, the Record of Decision (United States Department of Transportation, 2006) was approved for a PSHIA development plan that included:

- Demolition of Terminal 2 and ancillary facilities.
- West Terminal Development (33-gate terminal), garage, and terminal roadways.
- Modifications to Terminal 4, Concourse N4 International Gates.
- Construction of Crossfield Taxiways Uniform "U" and Victor "V."
- Sky Harbor Boulevard modifications.
- Construction of the automated people mover (APM) Stage 2.

Planned Taxiway A and storm sewer improvements are detailed in the 90-percent design submittal (Kirkham, 2006). Taxiway A repaving is not envisioned to involve relocating the taxiway, which will remain in its current alignment. This project will include excavating about 24 inches below the taxiway to replace the base before repaving. Storm drains beneath the taxiway will be about 10 feet below ground surface [bgs]). Paving the infield may also occur in conjunction with this project; however, paving the infield is not included in the current PSHIA-funded plans for the next 2 years.

The closest construction activity that may result in excavation deeper than 15 feet bgs—the building of an APM passenger transport system—is planned at Terminal No. 2 south of the FHHRA study area. PSHIA has development plans that include the APM to connect the Metro light rail system with terminals at PSHIA. The APM is planned to be located more than 1,000 feet south of the known extent of free product and will connect the Metro light rail system with terminals at PSHIA. The APM is being designed in two stages and is expected to extend approximately 4.7 miles. Stage 1 will start at 44th Street and Washington, then move south to the East Economy parking lot station and west to Terminal 4. This approximately 2-mile-long segment is anticipated to be complete in 2013. Stage 2 will connect with Stage 1 at Terminal 4 and will head west through Sky Harbor to Terminal 3 to the new Terminal 2, then to the West Economy parking station and Rental Car Center, before returning eastbound along the same route. Stage 2 is expected to begin in 2016 and open by 2020. Information regarding the APM project can be found on the COP Web site: http://phoenix.gov/skyharborairport/about/condev_train.html.

No known construction activities resulting in deeper excavations are planned in the foreseeable future within the BSVE system target treatment area (TTA). Figure D-1 shows the location of planned PSHIA improvements (based on the Record of Decision [United States Department of Transportation, 2006]) in relation to the Facility and the current extent of the free-product and methane plumes. Current plans call for the APM to be located

approximately 1,200 feet south of the known extent of free-product and about 1,600 feet from the estimated extent of methane concentrations greater than 5 percent.

While it does not appear that the APM will be constructed in proximity to the methane contour and the depths of excavations are currently not known, a 2005 study of tunneling and subway operations in areas with methane in soils may be useful for planning the APM construction. This study was performed by the Safety Management Program of the American Public Transportation Association (APTA). APTA convened an expert panel to review the risks associated with tunneling and subway operation in areas with methane detections along the Wilshire Corridor in Los Angeles (a corridor where a store explosion occurred in 1985). The panel concluded that recent improvements in health and safety awareness, gas measurement technologies, tunnel boring machine technologies, geology, and mitigation methods make tunneling projects more possible in areas with methane concerns. This report noted that the methane detection instrumentation has improved in the last 20 years, and there is greater experience in constructing tunnels in adverse conditions (APTA, 2005).

D.2 Overview of Methane Sources, Generation, and Hazards

This section presents common sources of methane gas, rates of methane generation, methane gas hazards, and a summary of key points presented in this section.

D.2.1 Common Sources of Methane Gas

Methane is a ubiquitous, naturally-occurring compound that can be formed by one of two primary mechanisms: thermogenic or biogenic. Thermogenic methane is produced under high pressures and temperatures, and is created during the formation of petroleum in underground reservoirs. Thermogenic methane can be encountered in and around coal deposits, oil and gas fields, and other geological formations and is commonly found throughout most of the United States (Jones and Drozd, 1983). One of the best known such areas is the Los Angeles basin. It is considered one of the richest oil- and gas-bearing provinces in the world and is home to the prolific Wilmington oil field. The City of Los Angeles has defined large portions of the metropolitan area as methane zones, and requires specific testing and special construction methods in these areas to control methane vapors (City of Los Angeles, 2006). Concentrations of more than 90 percent by volume and pressures over 2 inches of water can be found in these zones. Thermogenic methane is the primary constituent of natural gas and, therefore, it can also be found around leaking natural gas pipelines.

Natural gas is a gaseous fossil fuel found below the ground in oil fields and in coal beds and rises toward the surface of the earth. While some gas is dissipated into the atmosphere, some gas remains trapped in geologic formations. Natural gas consists primarily of thermogenic methane, but natural gas also contains heavier hydrocarbons such as ethane, propane, and butane (NaturalGas.Org, 2006). Coal-bed methane is natural gas that is stored and generated in coal beds from coal and surrounding strata. It can be either biogenic or thermogenic in origin. Biogenic coal-bed methane is typically found at depths of less than 1,000 feet bgs from coal with lower carbon content. Thermogenic coal-bed methane is typically wetter and forms during coalification when organic matter is transformed into

coal. It is generally found at greater depths than biogenic coal-bed methane. Hydrofracturing is the key process used in extracting methane from coal beds (Pinksner, 2002).

Natural thermogenic methane in shallow soil gas is common and has long been recognized and exploited for industrial and commercial uses. Natural methane seeps ignited by lightning were recorded by the ancient Greeks and Persians thousands of years ago and described as "eternal flames" (Citizens Gas Utility District, 2006). Over 2,500 years ago, the Chinese used driven metal-tipped bamboo tubes to create the world's first gas wells (inventing percussion drilling in the process) and employed bamboo pipes to carry methane to boilers that distilled sea water to manufacture salt, the first known commercial use of natural gas (NaturalGas.Org, 2006). In the United States, shallow soil-gas methane was used in 1821 in New York, where the first American gas supply well was hand-excavated to 27 feet bgs. Prior to the general availability of electricity and natural gas, shallow soil-gas methane was frequently used as a fuel for household purposes such as stoves, lights, and heat, and a common practice of the time was to capture methane from the head space of a drinking water well (North Dakota Geological Survey, 2006). In some areas of the United States, shallow soil-gas methane is still in use today, and several states such as Pennsylvania have regulations in place governing household shallow natural gas wells (Pennsylvania Department of Environmental Protection, 2006). For more than 70 years, shallow soil-gas surveys have been used to locate methane as an indicator of possible deeper oil or gas reservoirs (Jones and Drozd, 1983).

Biogenic methane, by comparison, is formed from anaerobic bacterial decomposition of organic material. Biogenic methane can be found in natural settings, such as wetlands and the digestive systems of animals, and in man-made settings such as anaerobic digesters at wastewater treatment facilities, landfills, sanitary sewers, septic systems, concentrated animal feedlots, and petroleum hydrocarbon-contaminated sites (California Environmental Protection Agency, Department of Toxic Substances Control [DTSC], 2005). One of the single largest sources of biogenic methane is from the digestive systems of termites (United States Environmental Protection Agency [USEPA], 2006). The methane gas at the site comes from the anaerobic biodegradation of petroleum hydrocarbons from the LUST AOI. Biogenic methane differs from thermogenic methane in that it is almost always generated along with gaseous carbon dioxide [CO_2]. The ratio of methane to CO_2 is generally in the one-to-one range, the ratio assumed in USEPA's landfill generation model, LandGEM (USEPA, 2005). However, the actual ratio depends on the parent material being degraded, the degradation process, and the soil geochemistry, but biogenic methane is usually diluted by CO_2. By contrast, thermogenic methane can be nearly pure hydrocarbon undiluted by CO_2 and is typically accompanied by a smaller amount of other light hydrocarbon gases such as ethane, propane, and butane.

D.2.2 Rates of Methane Gas Generation

Rates of biogenic methane production will vary depending on the environmental setting as well as the biodegradability of the organic material. Landfills are most likely the greatest single source of concern of man-made biogenic methane. Most landfills have environments that are relatively conducive to anaerobic biodegradation and have substantial quantities of easily degradable organic material. Consequently, methane generation rates can be high,

especially when the waste is relatively fresh. Methane production rates of about 40 to 200 standard cubic feet per minute (scfm) for a typical 50-acre landfill, approximately 50 feet in thickness, are predicted by a commonly-used USEPA model for landfills (USEPA, 2005). Under these conditions, methane collection and flaring (i.e., burn-off) is frequently required. Rates of methane generation decrease with time from landfills as the readily biodegradable components of the waste material are degraded. Eventually (frequently 20 to 30 years), the landfill will become stable, with very low rates of methane generation. The digestive system of animals can also produce relatively large quantities of methane. It has been estimated that a single cow will produce approximately 1 pound (or 16 standard cubic feet) of methane per day (*Los Angeles Times*, 2003).

Little information is available in literature on the rate of methane generation from the anaerobic degradation of fuel hydrocarbons in the subsurface. Oil and coal deposits are known to degrade anaerobically to produce biogenic methane, and efforts have been made recently to enhance methanogenesis in depleted or low-pressure oil reservoirs as a potential commercially-viable method of creating methane production (DeBruyn et al., 2005).

There has been very little scientific or regulatory attention given to methane generation from fuel hydrocarbon-contaminated soil or groundwater, this despite the more than 418,000 LUSTs found across the United States that have long been recognized as sources of methane generation. Most of the literature on methanogenesis associated with fuel hydrocarbon contamination has focused on methane dissolved in groundwater, which is typically considered a favorable indicator of active natural biodegradation (natural attenuation) of the petroleum hydrocarbons.

Biogenic methane in soil gas as the result of hydrocarbon degradation has been reported at numerous sites over the past 20 years, although this issue has gained little or no regulatory attention. For example, Hayman et al. (1988) describe methane in soil gas at Miami International Airport that resulted from a jet-fuel spill, and Jones and Agostino (1998) describe 12 case studies where hydrocarbon releases generated methane in soil gas. In the United Kingdom, where both biogenic and thermogenic methane in soil gas are more frequent and problematic than in the United States, it is well known that methane can be generated by hydrocarbon biodegradation. However, methane generation at hydrocarbon-contaminated sites is not usually considered problematic due to the low rates at which the methane is generated (Wilson and Card, 1999; Wilson, 2006).

No reports were found in literature or are known to the Honeywell team that identify fuel hydrocarbon-derived biogenic methane as the primary cause of an explosion. As discussed, biogenic methane is of concern at landfills, and there are documented cases of landfill gas creating explosions. Most landfill incidents were due to the migration of methane into structures. The only documented case identified by the Honeywell team in which biogenic methane from hydrocarbon waste contamination may have contributed to an explosion was at the Ford/Kingsford site in Michigan, where an explosion occurred in 1995 as the result of biogenic methane, damaging a nearby residence. This was at a site where a large variety of wastes including charcoal and briquettes, methanol, acetates, acetone, alcohols, creosote, pitch, tar, creosote ketones, heavy and light oils, and other wastes were dumped beginning in 1921 (Michigan Department of Environmental Quality, 2004). However, which of these materials was the source of the explosive conditions is unclear.

Perhaps the most highly studied petroleum hydrocarbon release site for methane production is at the location of a crude oil spill that occurred in Minnesota in 1979 (Chaplin, et al., 2002). Significant soil-gas monitoring events occurred in 1985 and 1997, and concentrations of methane were more than 15 percent methane in soil gas immediately over the floating oil near the center of the floating oil plume. Methane production rates were estimated at approximately 0.35 grams per square meter per day for this site in 1997 (18 years after the release). If these rates were extrapolated to a 50-acre floating oil plume, the methane production rate would be 160 pounds per day or 2.6 scfm under standard conditions. If the ratio of methane/CO_2 is a one-to-one mix, this would represent a gas generation rate of approximately 4 scfm, significantly less than the landfill generation rates described previously. This extrapolation is only for purposes of comparison to the above calculation performed for a typical landfill. The size of the floating hydrocarbon plume at the Honeywell site is currently less than 50 acres, and the rates of methane production from the Minnesota study are likely to vary from those occurring at the site because the type of petroleum product and environmental conditions are different. For example, the Minnesota spill was crude oil versus the jet fuels at the Honeywell site, and the depth to water was much shallower at the Minnesota spill site. While these rates could be higher or lower than the Minnesota spill, it is anticipated that the rates of methane generation at the Honeywell site are much less than landfill methane generation rates.

D.2.3 Methane Gas Hazards

Asphyxiation (a health hazard) and fire (or explosions) are the two most commonly recognized health hazards associated with methane gas.

D.2.3.1 Health Effects

Methane can act as a simple asphyxiant by displacing oxygen in the blood at high concentrations (above about 240,000 parts per million by volume [ppmv]). Methane poses an asphyxiation hazard only if it collects in a poorly ventilated, enclosed, or confined space at concentrations high enough to displace existing air and create an oxygen-deficient environment. The normal oxygen level in air is about 21 percent, and significant physiological effects can occur when levels fall to 14 to 16 percent or less. Hypoxia (oxygen deficiency) may result if the oxygen concentration is reduced to 18 percent; more serious health effects, including asphyxia, may result at lower oxygen concentrations.

With the exception of a publication by the American Conference of Governmental Industrial Hygienists (ACGIH 2004), methane is commonly considered to be inert and without toxic health effects (Hathaway et al., 1991; National Institute for Occupational Safety and Health [NIOSH], 1979; Occupational Safety and Health Administration [OSHA], 2003). According to the ACGIH, methane has the potential for cardiac sensitization (ACGIH, 2004) and central nervous system depression. Cardiac sensitizers may cause the sudden onset of arrhythmias (irregular heartbeats) and possible death due to over-sensitization to adrenaline produced by the body.

In 2004, ACGIH revised the designation of methane (and other short-chain alkane gases through butane) from a simple asphyxiant. ACGIH assigned an 8-hour threshold limit value (TLV) and 8-hour time-weighted average (TWA) of 1,000 parts per million (0.1 percent methane or 2 percent lower explosive limit [LEL]) due to its potential for cardiac

sensitization. NIOSH and OSHA still consider methane as a simple asphyxiant. The TLV-TWA is the time-weighted average concentration of a substance for a normal 8-hour work day and a 40-hour work week to which workers may be repeatedly exposed, day after day. The TLV-TWA is derived for protection of health for long-term occupational exposure (8 hours a day or 2,000 hours a year over a working lifetime). The ACGIH TLV for C_1-C_4 aliphatic hydrocarbons (which includes methane) is 1,000 ppmv (0.1 percent methane or 2 percent LEL). The TLV is based on prevention of cardiac sensitization. However, methane is not known to be a cardiac sensitizer, although some closely-related aliphatic hydrocarbons are considered weak cardiac sensitizers (propane, butane, and isobutane). The asphyxiant effects of methane may enhance cardiac sensitization.

The Honeywell team is aware of cases in which workers at landfills have been overcome (none known to be fatal) by landfill gases during excavation and trenching activities (Maslansky, 2006). Because no precise measurements were made immediately after the occurrences, it is uncertain if methane or CO_2, or a combination of both, were the cause of the effects. Information about the hazards of landfill gas is provided in the *Landfill Gas Primer, An Overview for Environmental Health Professionals* (Agency for Toxic Substances and Disease Registry, 2001). The symptoms reported were consistent with hypoxia. Occupational exposure limits for methane are presented in Section D.3 (refer to Section D.3.6.1 for additional information about excavation safety goals).

D.2.3.2 Fire and Explosion Hazards

Methane can present a fire or explosion hazard at levels below those required to produce oxygen deprivation. An explosion is a sudden release of energy that causes a shock wave. In the case of methane, an explosion can occur as the result of rapid burning of the methane gas, rapidly creating high pressure. A shock wave result is associated with a compressive zone of extremely high temperature passing through the un-reacted material. The ignition of methane can (under the right conditions) create a shock wave and an explosion. Normally, confinement (such as an unventilated underground coal mine) is required for a methane explosion. Without sufficient confinement, methane ignition would result in combustion, such as a flash fire.

There are two explosive limits for any gas or vapor: (1) the LEL, also referred to as the lower flammable limit (LFL), and (2) the UEL, also referred to as the upper flammable limit (UFL). The terms LEL and UEL are used interchangeably with LFL and UFL (Costello, 2006). The terms “LEL” and “UEL” will be used in the discussion in the remainder of this section.

The LEL of a gas or a vapor is the limiting concentration (in air) that is needed for the gas to ignite and burn or explode. At concentrations in air below the LEL, there is insufficient fuel to initiate or continue an explosion; at concentrations above the UEL, the fuel has displaced so much air that there is not adequate oxygen to begin a reaction. The amount of gas present (i.e., concentration) is commonly specified in terms of percentage of LEL: zero-percent LEL being a combustible gas-free atmosphere and 100-percent LEL being an atmosphere in which the gas is at its LEL (American Gas & Chemical, 2006).

The 100-percent LEL corresponds to 50,000 ppmv; 20-percent LEL corresponds to 1 percent methane or 10,000 ppmv; and 10-percent LEL corresponds to 0.5-percent methane by volume or 5,000 ppmv. Methane is potentially flammable or explosive at concentrations

ranging from 5-percent methane by volume (the LEL) to 15-percent methane per volume of air (the UEL) in the presence of near-atmospheric levels of oxygen (USEPA, 1991).

The LEL normally assumes atmospheric levels of oxygen, which are approximately 20 percent (e.g., National Fire Protection Association [NFPA], 2006). The limiting oxygen concentration (LOC) below which an explosion cannot occur is about 12 percent in a nitrogen atmosphere, and somewhat more oxygen is required in a CO_2 atmosphere where the LOC is about 14.5 percent (Crowl, 2003). This is an important concept because the presence of methane on the Honeywell site is usually accompanied by low oxygen concentrations and high CO_2. The result is that, although LEL is conservatively expressed assuming atmospheric oxygen, when methane is present, there often is insufficient oxygen for ignition. This concept is illustrated in Figures D-2, D-3, and D-4, which plot the oxygen and methane concentrations at Vaults ELE-VLT-03, ELE-VLT-06, and FBO-VLT-01, respectively, during the air injection pilot test conducted in early 2006. These figures compare the oxygen and methane field measurements in these vaults to the explosive limits of methane and show that the methane results did not represent an explosion risk. These figures are somewhat conservative because they do not correct for elevated CO_2, which reduces explosivity.

For example, the highest methane concentration in a PSHIA vault was 2.4 percent (48 percent of LEL) in Airport Subsurface Utility Vault No. ELE-VLT-06 on March 9, 2006. The corresponding oxygen reading in that vault was 2.8 percent, well below the LOC (the explosive triangle as shown in Figures D-2, D-3, and D-4). While this atmosphere would be unsafe for entry based on exceedances of 10-percent LEL and low oxygen content, it did not present an explosion hazard because the methane concentration was below the LEL, and the oxygen concentration was below the LOC.

Methane concentration measurements are only one element in a critical set of criteria. Methane soil-gas pressures and available gas volumes are essential factors that are important in setting methane action levels (Sepich, 2008). As discussed in Section D.5.1, it is unlikely that sufficient methane generation exists at the site to cause significant soil-gas pressures and, as a result, there will not be a constant flow of methane to the surface. Consequently, the eternal flame scenario cited in Section D.2.1 that can be created with a thermogenic methane source is not likely to occur at the site.

There is also no risk of methane ignition or explosion in soil. Even if the LEL is exceeded, oxygen is above the LOC, and an ignition source is present, the flame cannot propagate and an explosion will not occur in the soil. This is because the heat of combustion is insufficient to heat soil above the ignition temperature of methane and, therefore, a flame cannot proliferate. This is how flame arrestors work and the reason soil is an excellent flame quencher. In fact, soil is often used by firefighters to suppress fires.

As soil gas exits the subsurface into the atmosphere, it is rapidly diluted with air such that methane levels will be low and the LEL is not likely to be reached. Therefore, a fire or explosion is very unlikely to occur above ground. It can only occur in a confined space where the methane concentrations can build up and not be diluted quickly. On the site, the confined spaces of chief concern are the utility vaults. They are the primary, and possibly the only, locations with any risk of explosion in the area of elevated methane related to the biodegradation of the petroleum hydrocarbon.

The vaults are not designed to withstand an internal explosion. Because the gas is confined in the vault, the pressure rises until either the energy for expansion is exhausted (the fuel and/or oxygen is consumed) or the pressure is released. In this scenario, the vault lid would likely be blown open. However, under worst-case conditions (a fully mixed non-stratified atmosphere between the LEL and UEL and above the LOC), the vault lid at its maximum open area may not be sufficient to keep the internal pressure (35.14 pounds per square inch) below what would be the expected pressure resistance of the vault, meaning the vault could be destroyed by a gas explosion.

Trenches, pits, and other excavation works performed during construction are another potential confined space where soil vapor may accumulate. If the vapor density of a gas is greater than that of air, the vapor or gas is heavier than air and will tend to sink and concentrate in low places, such as in trenches. For example, gasoline vapors have a density 4.4 times greater than air. The Honeywell team is aware of flash fires that have occurred at excavations of highly-contaminated soils during service station remediation where gasoline vapors accumulated in the excavation. Sources of ignitions for these incidents were attributed to cigarettes being thrown into the excavations and by mechanical excavators sparking the accumulated vapors through contact with other metal or hitting a quartz-rich rock. Such flash fires are less likely for methane (Maslansky and Maslansky, 1997). Methane, with a vapor density less than 0.042 pound per cubic foot, is approximately 50 percent of the density of air (NIOSH, 2006), and methane/CO_2 mixtures have a vapor density similar to air. Consequently, methane and methane/CO_2 mixtures will mix readily with air and should not accumulate to explosive levels in open excavations.

Methane is not the only combustible gas found at the site. Hydrocarbons that were released, such as Jet-A and JP-4 fuel, have potentially flammable constituents. Jet-A, commercial aviation fuel, is not in itself sufficiently volatile at ambient temperatures to create concentrations of hydrocarbons above the LEL. However, JP-4 is sufficiently volatile, and this fuel comprises a portion of the Honeywell contamination. Excavations on PSHIA are not likely to be near any points of release of JP-4, so that high concentrations of JP-4 in soil are not likely. Any JP-4 contamination on PSHIA is likely to be deep (at the water table); therefore, it is highly unlikely that high vapor concentrations will exist and create the problems discussed above for excavations at gasoline release sites. Frequent monitoring for LEL during any excavation is recommended to verify that volatile gases do not accumulate in excavation works.

Due to the presence of other combustible gases at the site, the monitoring program for soil gas and vaults includes total LEL (LEL-WO—without carbon filter) measurements to detect other flammable gases. The LEL measurements with and without the carbon filter (referred to as LEL-W, and LEL-WO, respectively) are provided in the tables in Attachment A. Additional discussion of the use of filters in monitoring is provided in Section D.5.

D.3 Overview of Methane Safety Goals

The Honeywell team performed a survey of applicable methane safety goals published by local, state, and federal governments and leading occupational safety and health organizations. Methane gas migration is typically an issue related to landfill operations and, as such, regulatory jurisdictions have developed criteria and standards for landfill design

and operation. Other safety goals have been developed for methane gas generation and migration associated with thermogenic sources (e.g., in the area of Los Angeles) (City of Los Angeles, 2004). There are fewer standards developed for application to soil gas outside of buildings. Those that do exist apply chiefly to areas and situations where some pressure gradient has the potential to drive soil gas into a structure. Examples include locations near landfills or in areas known to have a problematic geologic source of thermogenic methane. No methane goals were found during the completion of this survey that were developed for application to sites with biogenic methane generated by fuel hydrocarbon degradation.

The safety goals in this section should be considered in the context for which they were developed and applied. In general, the most stringent standards are applied to occupied buildings with no special confined space entry requirements. Confined spaces with entry requirements (e.g., testing of the atmosphere) typically have higher acceptable levels. Confined spaces are defined as a space that is large enough and configured so that a person can enter the space, has limited or restricted means of entry or exit, and is not designed for continuous occupancy. Utility vaults are confined spaces and entry requirements are in place before they can be entered.

The codes, regulations, and standards are presented and organized in the following sections by federal, state, and local jurisdiction and address either occupational exposure limits or explosion hazards. Miscellaneous guidance has also been included.

A summary of the methane safety goals is presented in Tables D-1 and D-2 for health effects from methane and for methane explosion hazards, respectively. This summary presents an overview of available information and is not intended to be a comprehensive list of applicable regulations, standards, or goals. This section does not address the vast amount of literature regarding methane hazards or emergency response procedures in underground coal mines. Underground mines present much higher risks than the conditions found at this site due to higher methane concentrations often encountered in mines, the much greater depths below ground in mines, the complexity of the mine ventilation systems, fire detection issues in mines, egress and evacuation and unique fire preparedness in mining, mining training and emergency response requirements, and other issues. Additional information about coal mine methane safety issues can be found at www.gov/niosh/mining/topics/ventilation.

D.3.1 Federal Codes, Regulations, and Standards

D.3.1.1 Federal Aviation Administration

Federal Aviation Administration (FAA) Order 3900.19B, *FAA Occupational Safety and Health Program,* issued on April 29, 1999, and updated April 1, 2005 (FAA, 2005), specifies on page 11-1 that a hazardous atmosphere is created in confined spaces by a flammable gas in excess of 10 percent of the LEL. This document also references OSHA standards Title 29 of the Code of Federal Regulations, Part 1926.651 (29 Code of Federal Regulations [CFR] 1926.651) and 29 CFR 1910.146 (OSHA, 1970), and the ACGIH guidelines. The FAA Order specifies on page 33-2 that the most stringent requirement will prevail in the workplace. Exceedances of standards require evacuation or use of personal protective equipment and implementation of a hazard control program.

D.3.1.2 United States Environmental Protection Agency

There are three regulations/guidance established by the USEPA relating to management of methane: the Resource Conservation and Recovery Act (RCRA), Subtitle D; USEPA's "Proposed New Source Performance Standards [and] Emission Guidelines," 40 CFR 60; and USEPA's "Standards for the Use or Disposal of Sewage Sludge," 40 CFR 503.

Subtitle D of RCRA, as established in 40 CFR 258, prohibits concentrations greater than 25 percent LEL in landfill facility structures (excluding gas control or recovery system components).

Title 40 CFR § 503.24(j) prohibits concentrations greater than 25-percent LEL in structures related to sewage sludge units. When a cover is placed on an active sewage sludge unit, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25-percent LEL for methane gas during the period that the sewage sludge unit is active, and the concentration of methane gas in air at the property line of the surface disposal site shall not exceed the LEL for methane gas during the period that the sewage sludge unit is active. When a final cover is placed on a sewage sludge unit at closure, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25-percent LEL for methane gas for 3 years after the sewage sludge unit closes, and the concentration of methane gas in air at the property line of the surface disposal site shall not exceed the LEL for methane gas for 3 years after the sewage sludge unit closes, unless otherwise specified by the permitting authority.

D.3.1.3 Occupational Safety and Health Administration

OSHA uses an action level of 20-percent LEL for worker entry into excavations (29 CFR 1926.651) and 10-percent LFL in the Permit-Required Confined Space Rule (29 CFR 1910.146). Traditionally, LEL and UEL were reserved for flammable gases, while LEL and UEL were used for flammable vapors derived from flammable liquids.

D.3.1.4 National Institute for Occupational Safety and Health

In 1994, NIOSH revised the definition of "immediately dangerous to life or health" (IDLH) to include a reading of 10-percent LEL or greater of any flammable vapor gas, including methane, as an IDLH concentration based on safety concerns rather than for toxicity reasons (regardless of location). From 1990 until 1994, 100-percent LEL was considered an IDLH concentration, while prior to 1990, only toxicity data were considered when determining an IDLH value.

D.3.1.5 Federal Fire Codes

NFPA Code 30 ("Flammable and Combustible Liquids") (NFPA, 2006) indicates an action level value of 25-percent LEL, whereas NFPA 820 ("Standard for Fire Protection and Wastewater Treatment and Collection Facilities") (NFPA, 2006) uses an action level of 10 percent LEL.

In addition, the Uniform Fire Code (NFPA 30) defines a flammable vapor environment as greater than 25-percent LEL. Many communities throughout the United States have adopted the International Fire Code (International Code Council) over the Uniform Fire Code (NFPA 30). The International Fire Code defines flammable vapors or fumes "as the

concentration of flammable constituents in air that exceed 25 percent of their lower flammable limit."

D.3.2 State Codes, Regulations, and Standards

D.3.2.1 Arizona Department of Environmental Quality: Solid Waste Facilities Explosives Gas Control and Management of Sewage Sludge Units

The Arizona Department of Environmental Quality (ADEQ) [Arizona Revised Statute Section 49-761(A)] prohibits concentrations greater than 25-percent LEL in municipal solid waste landfill facility structures (excluding gas control or recovery system components).

ADEQ [Arizona Administrative Code R18-9-1002(E)(1)] prohibits concentrations greater than 25-percent LEL in structures related to sewage sludge units and is modeled after the USEPA regulation with the same action levels presented in Section D.3.1.2.

D.3.2.2 Advisory Document on Methane Assessment and Remedies at School Sites in California

The California DTSC has also established an advisory document on methane assessment and remedies in the subsurface at school sites and has recommended action levels for methane concerns, as discussed in Table D-2. At methane concentrations of greater than 10-percent LEL, further response action (e.g., periodic monitoring, removal action) is recommended. At methane pressures of 2.8 inches of water, further investigation is suggested, while at pressures greater than 13.9 inches of water, further response action (e.g., periodic monitoring, removal action) is recommended.

D.3.2.3 New Jersey Solid and Hazardous Waste Management Rules

The New Jersey Solid and Hazardous Waste Management rules (New Jersey Administrative Code 7:26) establish a methane concentration of 12,500 ppmv (25-percent LEL) inside buildings (State of New Jersey, 2002). If the concentrations are greater than this action level, induced ventilation or an active venting system is required.

D.3.3 Local Codes, Regulations, and Standards

D.3.3.1 Phoenix Fire Department Standard Operating Procedure

The Phoenix Fire Department Standard Operating Procedure for flammable vapor/gas incidents follows Section 110 (Unsafe Buildings) of the International Fire Code, which states:

> *The fire code official or the fire department official in charge of an incident shall be authorized to order the immediate evacuation of any occupied building deemed unsafe when such building has hazardous conditions that present immediate danger to building occupants.*

The Phoenix Fire Department uses 10-percent LEL action levels in occupied buildings instead of the International Fire Code's 25-percent LEL to be consistent with NIOSH's IDLH definition. In most U.S. jurisdictions, permission to reenter a structure would be made by a health or environmental agency. In Phoenix, the responsible party (e.g., building owner) must hire a competent person (e.g., Certified Industrial Hygienist) to determine reoccupying criteria.

D.3.4 Miscellaneous Guidance

D.3.4.1 American Conference of Governmental Industrial Hygienists

In 2004, ACGIH revised the designation of methane (and other short-chain alkane gases through butane) from a simple asphyxiant and assigned an 8-hour TLV-TWA of 1,000 ppmv (0.1 percent methane or 2-percent LEL) due to its potential for cardiac sensitization. NIOSH and OSHA still consider methane as a simple asphyxiant. The TLV-TWA is the time-weighted average concentration of a substance for a normal 8-hour work day and a 40-hour work week to which workers may be repeatedly exposed, day after day. The TLV-TWA is derived for protection of health for long-term occupational exposure (8 hours a day or 2,000 hours a year over a working lifetime).

The ACGIH TLV for C_1-C_4 aliphatic hydrocarbons (which includes methane) is 1,000 ppmv (0.1 percent methane or 2-percent LEL). The TLV is based on prevention of cardiac sensitization. However, methane is not known to be a cardiac sensitizer (propane and butane are considered weak cardiac sensitizers).

Because methane does not have a TLV-short-term exposure limit, an excursion limit may be applied. ACGIH states:

> *Excursions in worker exposure levels may exceed 3 times the TLV-TWA for no more than a total of 30 minutes during a workday, and under no circumstances should they exceed 5 times the TLV-TWA, provided that the TLV-TWA is not exceeded." Therefore, the excursion limit for methane would be 6 to 10 percent of the LEL for a maximum daily exposure of 30 minutes.*

Table D-2 provides an additional summary of national and international health effects of methane.

D.3.4.2 Guidance Document on Management of Methane Gas Adjacent to Landfills

The Guidance Document on Management of Methane Gas Adjacent to Landfills (Alberta Environmental Protection Agency, 2006) surveyed published action levels, primarily by U.S. and Canadian regulatory agencies, and provided recommended action levels for landfill-generated methane for indoor air criteria, point-of-entry, and soil methane concentrations adjacent to buildings.

Indoor Air. The most conservative safety factors adopted by one or more jurisdictions for managing methane gas at landfills were assumed for the recommended criteria for indoor air:

- The recommended criterion for methane in onsite structures (occupied structures or confined spaces) to initiate mitigation measures is 5,000 ppmv (10-percent LEL).
- The recommended criterion for methane in offsite structures to initiate action (further investigation) is 100 ppmv (0.2-percent LEL).

Methane Concentration in Soils Adjacent to Buildings. *The Guidance Document on Management of Methane Gas Adjacent to Landfills* (Alberta Environmental Protection Agency, 2006) recommended that criteria for methane concentrations in soils adjacent to buildings include both the soil-gas pressure and the concentration of methane. The rationale for this is that

due to minimal mixing that occurs in soil pore spaces, methane concentrations in the soil can be expected to be much higher than the concentrations that will result when the gas vents from the soil and mixes with the air. Therefore, much higher concentrations of methane can be tolerated in the soil adjacent to buildings than in the building themselves.

When monitoring for methane adjacent to buildings, it is important to consider the pressure of the gas in the soil pore space as well as the methane concentration. The rate at which a gas can move from the soil into a building is controlled by soil-gas pressure. Furthermore, detection of measurable soil-gas pressures adjacent to a building suggests that a significant flux of gas through the soil may be occurring. Gas pressure measurement is included in very few standards but is critical in controlling the rate of gas migration. Recommended criteria for soils adjacent to buildings include:

- Methane concentration of 50,000 ppmv (100-percent LEL) if the soil-gas pressure is less than 0.249 kilopascal [1 inch of water]) (there will likely be little, if any, gas flow, and dilution of gas will occur rapidly).
- Methane concentrations of 5,000 ppmv (10-percent LEL) if the gas pressure is greater than 0.249 kilopascal [1 inch of water]) (significant gas flows can occur, and dilution may not be sufficient to mitigate the potential explosion hazard).

D.3.5 Site-related Methane Safety Goals for the Pilot Test

As part of the initial pilot test monitoring program as reviewed by COP and submitted to ADEQ, a trigger or action level of 20-percent LEL was used in shallow probes and utility vaults. Confirmed readings of the LEL above 20 percent required notification, initiation of mitigation of the vault atmosphere, and monitoring. In the April 5, 2006, weekly field call, the COP Aviation Department, based on discussions with the FAA and the COP Fire Department, expressed a preference to incorporate a 10-percent LEL trigger level into the pilot test monitoring program. To address the COP request, Honeywell incorporated the following modifications to the air injection pilot test methane safety goal and contingency actions:

- If methane levels in shallow soil vapor monitoring points are measured at more than 20-percent LEL (1-percent methane), then the nearby subsurface structures (including utility vaults) and buildings are to be monitored.
- Confirmed readings in vaults at or greater than 10-percent LEL (0.5-percent methane) require notification of COP and Facility Operations.
- Confirmed readings in vaults greater than 20-percent LEL (1-percent methane) require notification of COP and Facility Operations, as well as mitigation (by ventilation) of vault atmosphere.
- A trigger or action level of 10-percent LEL (0.5-percent methane) has been used in Building 102 atmosphere (at 3 feet above grade), above which notification of Facility Operations staff and shutdown of air injection will be initiated. This trigger level will remain unchanged.

D.3.6 Design and Construction Guidelines

Methane's energy release is typically by the deflagration process (rapid burning at subsonic velocities). A combustion or explosion can occur when gases are confined (e.g., in pressurized tanks or in voids in coal mines). In an open excavation, the potential exists for flash fires. There is the potential that excavations may intercept soils with high soil-gas methane concentrations. Fires and explosions cannot occur within the soil; however, if high methane levels exist in the soil gas and enter the excavation, there could be the potential for the right mixture of methane and atmospheric oxygen to result in flammable conditions. This could result in a flash fire if a backhoe were to generate a spark. Preventative measures may be needed to ventilate the excavation or to ensure that tools that could spark and serve as an ignition source are not introduced into potentially hazardous environments. Common practice is to monitor these trenches for LEL; if the established safety factor is exceeded the excavation is stopped Large fans are occasionally brought in to ventilate the excavation.

Because methane is a ubiquitous compound, construction on sites with methane in soil gas is a common occurrence. In areas such as Los Angeles County, building codes have been adopted specifically addressing methane hazards (City of Los Angeles, 2004). In the United Kingdom, there are guidelines for building on landfill sites (Building Research Establishment (BRE) Report BR212, *Construction of New Buildings on Gas-Contaminated Land* [1991] and Report BR414, *Protective Measures for Housing on Gas-Contaminated Land* [2002]). These codes typically are written for situations where methane is being more actively generated than at the site; however, these practices can be instructive. The BSVE remediation system is being installed to reduce methane and the petroleum-based volatile organic compounds (VOCs) levels in the subsurface at the Facility and beneath a portion of PSHIA property. The operation of the BSVE system will initially involve vapor extraction to remove methane and VOCs and prevent migration. Later, air will be injected in conjunction with vapor extraction to enhance the biological degradation of the petroleum hydrocarbon constituents in the plume. As shown in the sections below, if the situation changes and construction is required before the methane is remediated, there are accepted and proven construction practices that could be implemented.

D.3.6.1 Procedures to Address Methane Exposure during Construction Activities

An approved Health and Safety Plan based on OSHA 3115 (OSHA, 1991) and OSHA 1926.651 (OSHA, 1970) has been developed and implemented during construction activities (e.g., excavation, drilling, etc.) to address the potential for exposure of construction workers, workers on nearby sites, and others in the area to hazards. The Health and Safety Plan defines worker safety training and monitoring procedures, personal protective equipment, air monitoring equipment, action levels, and appropriate protective measures. Currently, any construction, drilling, or well installation activities occurring at the site are performed under an approved Health and Safety Plan with procedures to reduce risks of worker exposure to methane gas.

Methane exposures and safety goals are established to reduce risks of worker exposure to shallow and deep soils (via underground structures, vault access, hydraulic pit operations, ventilation systems, and maintenance, etc.). Precautions must be taken to reduce the potential for workers to enter areas that are poorly ventilated and enclosed (i.e., confined spaces). OSHA 1926.651 (OSHA, 1970) will be used for health and safety compliance during

excavation activities. OSHA 1926.651(g) (OSHA, 1970) requires "where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exist or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before employees enter excavations greater than 4 feet (1.22m) in depth."

D.3.6.2 Procedures to Address Methane Exposure during Excavation and Trenching

Safe excavation and trenching procedures are essential to worker protection and have been contained in a Health and Safety Plan developed for each project based on OSHA 1926.650-652 and OSHA 3115. The Health and Safety Plan specifies procedures to monitor the excavation for methane and soil-vapor gas. OSHA 3115 added additional protective regulations for underground construction to increase worker protection in underground construction activities. OSHA defines an excavation as any man-made cut, cavity, trench, or depression in the earth's surface formed by earth removal. A trench refers to a narrow excavation made below the surface of the ground in which the depth is greater than the width and the width does not exceed 15 feet. OSHA rules for trench safety and excavation are defined in 29 CFR 1926.650-652. During excavation, a confined space atmospheric testing program should be implemented using oxygen and combustible gas meters.

Before an employee is permitted to enter an excavation, a person who has taken and passed excavation safety training must test any excavation deeper than 4 feet or where an oxygen deficiency or a hazardous atmosphere is present or could reasonably be expected. If a hazardous condition exists, proper controls, such as respiratory protection or ventilation, must be provided. In addition, controls should be regularly checked to ensure reduction of atmospheric contaminants to acceptable levels. Hazardous atmospheres include oxygen deficient environments, flammable/combustible/explosive environment, and toxic environments. An oxygen-deficient environment means that there is not enough oxygen in the space (levels below 19.5 percent).

OSHA 3115 describes gassy operations as occurring when air monitoring discloses 10 percent or more of the LEL in an underground work area for three consecutive days; or there has been an ignition of methane or other flammable gases emanating from the strata; or the operation is connected to a gassy operation. Potentially gassy operations, such as an unexpected pocket of gas, occur when air monitoring shows 10 percent or more of the LEL for more than a 24-hour period, or the past experience indicates that 10 percent or more of the LEL for methane or other flammable gases is likely to be encountered in underground operations. Gassy operations require a manual gas monitor and a manual electrical shut down control (OSHA 3115). Both gassy and potentially gassy operations require special air monitoring actions under the guidance of a "competent person," including testing for oxygen and flammable gas content in the affected underground work areas.

Preventative measures are needed to ensure that tools that could spark and serve as an ignition source are not introduced into hazardous atmospheres where the fuel mixture is above the LEL and below the UEL. Intrinsically safe electrical equipment and spark-proof tools are available that are explosion-proof and spark-proof for use in hazardous atmospheres (American Federation of State, County and Municipal Employees, 2006). Precautions include worker respiratory protection or ventilation systems. Controls to prevent ignition include equipping earth-moving equipment with non-sparking buckets,

periodically wetting or foaming the active work area with water or foam fire suppressant, and conducting area monitoring when airborne concentrations are greater than 10-percent LEL. The OSHA standard prohibits employees from working without adequate protection in excavations where water has accumulated or is accumulating. When 10-percent LEL for methane or other flammable gases is detected where welding, cutting, or other "hot" work is being performed, work should be suspended until the concentration is reduced to less than 10-percent LEL. The appropriate compliance with an approved Health and Safety Plan will also reduce the potential for a small flash fire or explosion to occur.

D.3.6.3 Design of Methane Mitigation Systems

Many developments have been constructed on land with soil-gas methane. In some cases, particularly where there was significant methane generation, mitigation systems have been installed. The design of methane mitigation systems is typically specific to individual developments due to various factors determined through site investigations (i.e., contamination present, site-specific geology, chemical and physical properties of the contamination, and the extent and depth of the contamination). No construction literature was found specifically describing methane mitigation systems and efficiency to control methane gas generation from anaerobic biodegradation of petroleum hydrocarbons.

Gas protection methods are described in the documents listed below and a summary of methane mitigation methods described in those documents is provided below.

- Construction Industry Research and Information Association developed protective measures for methane concentrations above 20-percent LEL (Construction Industry Research and Information Association [CIRIA], 1993, 1995, and 1997).
- *Approved Document C2 of The Building Regulations (*Department of Energy, 1992).
- Guidance provided by the BRE, the Department of Transport & the Regions, and the Department of the Environment (BRE, 1991, 2002).
- Los Angeles Mitigation Standards (City of Los Angeles, 1994) and (www.ladbs.org) describe methods of gas protection.

The following is a summary of widely used construction mitigation methods described in these documents.

Methane mitigation systems can be either passive or active. Passive systems allow for the passive ventilation of subsurface gases to the atmosphere without mechanical means such as fans to drive the gases through vent piping. Active systems incorporate a fan or pump to extract or flush gases from the subsurface of the atmosphere.

Passive gas protective measures are extensively used in construction. These systems consist of individual elements that combine to form an integrated gas protective system. Ground-floor construction techniques such as suspended *in-situ* concrete slabs supported on load-bearing walls and *in-situ* raft foundations are designed to allow gas to disperse with passive venting. Open voids beneath the ground floor allow cross ventilation through the internal and external walls, and granular blankets reduce gas ingress combined with gas-resistant membranes installed on top of the floors or beneath floors. Passive systems include vent risers to direct gases to the atmosphere above the roofline, trench dams

including impermeable backfill in utility trenches to prevent gas migration, and electrical conduit seals to preclude gas migration. Membranes are sometimes installed within a building or structure to provide a low-permeability barrier against the ingress of gas from the ground into the building (see Table D-3 for examples of types and materials used for form in-ground barriers). Other subsurface ventilating systems include perforated horizontal pipes surrounded by impervious membranes installed beneath the building slab, dewatering systems to maintain water below the sub-slab vent system, and surface or subsurface monitoring points.

Active venting requires mechanical pumping of gas from a collection system. Forced ventilation systems are necessary to maintain steady flow to treatment systems. The methane gas is collected in pipe wells or trenches. Examples of active methane migration systems include mechanical extraction systems such as fans or pumps to move gases from the subsurface through the vent piping. Other active systems are gas sensor systems to measure methane gas concentrations, trigger alarms, and mechanical extraction systems and pressure sensors to measure subsurface gas pressure and trigger mechanical extraction systems.

Methane mitigation systems have been installed in hospitals, schools, libraries, high-rise commercial and residential buildings, single-family housing developments, and public works projects. For example, the Playa Vista Development in Los Angeles County, California, spanning more than 1,000 acres and planned to include housing, retail shops, and office space, is designed with a methane gas barrier system using the LIQUID BOOT® membrane along with a gas collection system to protect buildings against methane gas intrusion. The Los Angeles Unified School District, meanwhile, has coordinated with the California DTSC to install methane mitigation systems in schools using a combination strategy, including an impermeable membrane along with a passive venting system to prevent accumulation of methane gas beneath site structures. The school district monitors concentrations of methane beneath the building within the vent risers and the classrooms.

D.4 Methane Monitoring Program Results

Honeywell has collected methane results in subsurface utility vaults and soil-vapor monitoring points since 2005. Samples were collected before and during the 2006 air injection pilot test. Frequent (first monthly, then quarterly) methane monitoring has occurred since completion of the air injection pilot test.

D.4.1 Air Injection Monitoring Program

An extensive monitoring program was conducted as part of the air injection pilot test (see Tables D-4 and D-5). The objectives of the pilot test were to obtain site-specific data to update the air flow model, and to evaluate methane and VOC vapor migration and intrusion from air injection. The results of the pilot test were used to refine the BSVE basis of design presented in the *BSVE Recovery System, Design Basis Report, Honeywell International 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2007).

Baseline monitoring was conducted during July-August 2005 and December 2005-February 2006 prior to air injection. During air injection, monitoring occurred approximately daily for the first 2 weeks and twice weekly for the remainder of the injection

period. After shutdown of air injection, respiration testing was then conducted. Frequent monitoring was initially undertaken, but the frequency was subsequently reduced according to oxygen readings to ensure the test plan objectives were met. The monitoring program is summarized in Table D-4, and the monitoring points are listed in Table D-5.

Before the air injection pilot test began on February 27, 2006, an investigation was conducted at both PSHIA and the Facility to identify potentially at-risk subsurface structures. As a result of that survey, 37 utility vaults on the Facility and 13 utility vaults on PSHIA property in the LUST AOI (ELE-VLT-01 through ELE-VLT-10, and FBO-VLT-01 through FBO-VLT-03) were identified for monitoring. Depending on field conditions, the vaults were monitored once or twice per week during the pilot test for oxygen, CO_2, methane, and percent LEL using field instruments.

On February 27, 2006, air injection was initiated into three injection wells: a monitoring well on the Facility several hundred feet north of PSHIA (ASE-41A) and two monitoring wells (ASE-92A and ASE-108A) located on the Facility but in proximity to the boundary with PSHIA (less than 50 feet). The original intent was to inject 100 cubic feet per minute (cfm) of air into each well but, as a result of factory flow instrument calibration problems, the initial air injection rate was actually about 200 cfm per well. The flow instrument calibration problem was resolved on March 7, 2006, and the injection rate into each well was adjusted to 100 cfm per well, as specified in the *Final Air Injection Pilot Test Work Plan* (Final Pilot Test Work Plan), *Honeywell 34th Street Facility and Phoenix Sky Harbor International Airport North Airfield, Phoenix, Arizona* (CH2M HILL and HydroGeoChem, Inc. [HGC], 2005). A complete presentation of air injection pilot test results is presented in Attachment A and discussed below. Air injection at two injection wells (ASE-92A and ASE-108A) was shut down on March 9, 2006, because of confirmed readings of percent LEL above the trigger level of 20-percent LEL in one electrical vault (ELE-VLT-03) located on PSHIA property north of the northern runway (see Figure D-5 for PSHIA vault locations). After shutdown of the air injection, two additional subsurface utility vaults (ELE-VLT-06 and FBO-VLT-01) on PSHIA property, also located north of the northern runway, were monitored with readings above the trigger level of 20-percent LEL. Since March 10, 2006, after air injection was stopped at ASE-92A and ASE-108A, methane concentrations and percent LEL at PSHIA subsurface utility vaults have remained at zero-percent LEL or non-detect (less than 0.1 percent LEL) [Table A-4 in Attachment A]. More detailed information on the pilot test is found in the *Final Air Injection Pilot Test Report* (Final Pilot Test Report), *Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15*. (CH2M HILL, 2006).

This program was jointly developed with the COP and its consultants, and is described in the jointly developed Final Pilot Test Work Plan (CH2M HILL and HGC, 2005). The monitoring program was developed based on the recognition of potential hazards associated with methane gas concentrations in the subsurface. The network monitored the potential migration into vaults or structures in the possible area of influence of the injection wells. The monitoring program included baseline monitoring prior to injection, process monitoring, well field monitoring, and vapor intrusion monitoring, as well as trigger points and contingency actions. The discussion in this section focuses on monitoring relative to methane.

To assess potential contaminant spreading, 14 sentinel soil-vapor monitoring points (Table D-5) were monitored at both shallow, intermediate, and deep intervals to assess the potential of methane spreading into the residential areas located west and northwest of the Facility. The shallow soil depth is less than 9 feet bgs, the intermediate soil depth is greater than 9 feet to less than 30 feet bgs, and the deep soil depth is greater than 30 feet bgs.

Twelve shallow and intermediate soil vapor monitoring points near buildings and vaults (Table D-5) were monitored to assess the potential for methane intrusion into buildings and vaults at the Facility. In addition, key indoor air exposure points were also monitored. Ten sub-slab soil-vapor monitoring points inside Buildings 102, 202, 230, and 301 were monitored as part of the air injection monitoring program (Table D-5).

Figure D-5 shows the location of the monitoring locations within a 500-foot radius around the air injection wells. Although the estimated radius of influence of air injection was expected to be less than 500 feet, this distance was selected as a conservative criterion based on the air flux modeling performed. In addition to monitoring injection flow, pressure, and temperature before, during, and after air injection tests, 36 monitoring points were monitored for methane, percent LEL, oxygen, CO_2, and organic vapor (i.e., total petroleum hydrocarbons [TPH]).

Samples collected were analyzed as described in the work plan (CH2M HILL and HGC, 2005) and the Final Pilot Test Report (CH2M HILL, 2006) with field instruments such as the GEM 2000. Most analyses for methane, oxygen, CO_2, LEL, and TPH were conducted in the field. Methane and LEL samples were collected both with and without a carbon filter. During the baseline events and the first week of the pilot test, the GEM 2000 was used to measure the methane concentrations without a filter to try to achieve conservative measurements; however, the impact of the non-methane hydrocarbons was greater than anticipated. Because the extent of the impact of the other hydrocarbons on the sensor could not be determined, the use of an inline filter prior to the GEM was evaluated on March 6, 2006. After this date, the measurements were taken both with and without the carbon filter to achieve more accurate readings of the methane concentrations.

The GEM 2000 is calibrated using certified methane mixtures, and will give correct readings provided there are no other hydrocarbon gases present within the sample. If there are other hydrocarbons present, the methane reading will be higher than actual methane concentrations being monitored. The extent to which the methane reading is affected depends upon the concentration of the methane in the sample and the concentration of the other hydrocarbons. The effect is non-linear and difficult to predict. A carbon filter will remove most non-methane hydrocarbons, and the sensors in these detectors will respond to any hydrocarbon; therefore, a sample with and without a carbon filter allows an estimate to be made of the relative contribution of methane versus non-methane hydrocarbons to TPH, LEL, and methane measurements. LEL readings without the filter take into account all possible explosive gases and are more conservative; therefore, these readings were used to judge against the safety goals for the pilot test. Honeywell will continue to expand the data set for methane with a filter to obtain a clearer picture of which gases are truly methane and which are fuel hydrocarbons.

During the baseline sampling at the Facility before the start of the air injection pilot test, three utility vaults (1164, B102-N-1, and B102-N-4) had LEL readings greater than

non-detect. Honeywell staff began a separate investigation to determine the source of the elevated readings. During this investigation, air samples were collected from the vaults and were submitted to a laboratory for analysis. The results indicated that methane and components of natural gas were present in the sample collected from vault B102-N-4. Consequently, Honeywell shut down the natural gas pipeline located near these vaults and abandoned the failed section of the pipeline in early March. Subsequent vault monitoring at these vaults showed that the LEL readings decreased to zero percent. On March 3, 2006, monitoring was conducted in 10 utility vaults in the airfield north of the northern runway. The monitoring results showed non-detects for methane and percent LEL. Oxygen concentrations ranged from 11.3 to 20.7 percent, and CO_2 ranged from zero to 3.9 percent. Consequently, it was assumed that methane encountered in the Honeywell subsurface utility vaults was due to a natural gas leak at the Facility and not from migration of methane from the free-product plume.

Twenty-six subsurface utility vaults were monitored on PSHIA property during the air injection pilot test. Confirmed readings above 20-percent LEL were detected on March 9, 2006 (after less than 2 weeks of air injection), in one electrical vault (ELE-VLT-03) located on PSHIA property north of the northern runway. Air injection operations at ASE-92A and ASE-108A were shut down due to their proximity to ELE-VLT-03. Two days later, two additional vaults on PSHIA property (ELE-VLT-06 and FBO-VLT-01, also located north of the northern runway) were discovered to have readings above 20-percent LEL (without the carbon filter). As required by the Final Pilot Test Report (CH2M HILL, 2006), the vault lids were opened to induce passive ventilation. After the atmosphere in the vaults was mitigated, the lids were closed and the vaults were monitored at frequencies ranging from daily to twice a week, depending on field measurements. Monitored methane concentrations have remained at zero percent since March 15, 2006. Concerns about air injection without extraction resulted in a decision not to conduct a second air injection test at ASE-41A. The vault monitoring frequency continued monthly through 2006 and was reduced to quarterly beginning in 2007.

Figure D-6 shows the methane concentrations at utility vault ELE-VLT-03 during air injection; Figure D-7 shows the methane concentrations at utility vault ELE-VLT- 06; and Figure D-8 shows the methane concentrations at utility vault FBO-VLT-01. Methane increased in the vaults after 9 days of air injection. After corrective measures were taken in the vaults (opening the lids) and the air injection was terminated in ASE-92A and ASE-108A, methane readings rapidly decreased to zero percent and have remained there.

Based on the results of the pilot test, the following changes were made:

- Air injection was shut down at monitoring wells ASE-92A and AS E-108A.
- No second air injection test was conducted at ASE-41A.
- Long-term air injection-pilot testing was postponed at PSHIA.

Based on the results of the pilot test findings, as well as discussions with the COP, the following modifications were made to the monitoring program:

- Samples from sub-slab points inside buildings at the Facility were collected at the same frequency (once every 2 weeks) as the shallow monitoring points outside the buildings.

- Instrument reliability was improved by placing soil-vapor samples collected with field instruments directly into Tedlar bags, using a high-volume syringe for dilutions of soil vapor with low oxygen, increasing calibration frequency, using dedicated in-line carbon filters at each sample location, and carbon break-through testing.
- Underground vaults at the Facility and PSHIA were monitored twice a week through March 2006. Monitored methane concentrations in subsurface utility vaults have remained at less than 0.1 percent since March 15, 2006. The subsurface utility vault monitoring frequency at PSHIA and at the Facility has been reduced to quarterly.
- Additional monitoring points were installed in Spring 2008 to monitor methane and subsurface heterogeneity during BSVE operations. Honeywell has developed a monitoring program system in conjunction with the *Operation and Maintenance Manual for the Biologically-enhanced Soil Vapor Extraction System, Honeywell 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File No. 0393.02-.10, .15-.20*. (CH2M HILL, 2008). A baseline Non-Process Soil Vapor Monitoring Plan was implemented prior to BSVE operations (CH2M HILL, 2007).

D.4.1.1 Temporary Vault Mitigation Measures Implemented during the Air Injection Pilot Test

Vault mitigation was originally required after methane levels greater than 20-percent LEL in vault atmosphere were confirmed from three samples collected during the same monitoring visit. Such levels did occur and the prescribed vault mitigation was performed; vaults were temporarily opened to ventilate and injection was terminated in ASE-108A and ASE-92A. Since March 10, 2006, no methane has been measured in any of the 13 monitored vaults at PSHIA, and methane did not reach the LEL during monitoring. Passive mitigation was successfully accomplished by opening the vault lids and shutting down injection at ASE-41A and ASE-108A, which has thus far prevented the reoccurrence of methane in the vaults. To be conservative, the vault mitigation and notification trigger levels were later changed.

On April 4 and April 11, 2006, Honeywell conducted an inspection of utility vaults located on the north airfield of PSHIA and tested various sensors and transmitters. The purpose of this inspection was to evaluate vault mitigation options and to place remote LEL sensors inside vaults on the Facility and PSHIA property. Additional vault methane mitigation methods were evaluated and discussed with COP to reduce the buildup of methane in the vaults to allow the air injection pilot test to re-commence. Based on verbal feedback from COP and FAA personnel in attendance during the vault inspections and sensor testing, a reasonable mitigation option did not exist within the timeframe of the pilot test that would allow for injection only, without coincidental extraction, for the multiple weeks needed for the pilot test at ASE-92A or ASE-108A. Therefore, no further pilot testing was performed using injection at ASE-92A or ASE-108A.

D.4.1.2 Permanent Vault Mitigation Measures

Table D-6 summarizes the permanent mitigation methods evaluated during the 2006 air injection pilot text. As shown on this table, no feasible vault mitigation option was identified that could be implemented within the timeframe of the pilot test to allow injection only. In addition to vault mitigation, the feasibility of installing stand-alone (solar-powered), remote LEL sensors in PSHIA utility vaults was also evaluated. Prototypes of sensors and wireless

communication devices were also tested at the airfield. It does not appear that solar-powered, wireless LEL sensors are feasible and will require, at a minimum, another vault to store the ancillary instrumentation required. Further evaluations are being conducted of permanent vault mitigation options that could be performed as part of the full-scale BSVE construction.

None of the measures has been implemented to date; however, a combination of Options 4 and 5 (discussed in Table D-6) is currently being proposed to the COP to be used on select vaults during the operation of the BSVE system.

D.4.2 Results of the Methane Monitoring Program Since 2005

Figure D-9 presents the most recent shallow and intermediate monitoring well field measurement results collected in September and October 2008. Figure D-10 presents the deep monitoring well field measurement results collected in September and October 2008. Figure D-11 presents the vault field measurement results collected in September and October 2008. Tables D-7 through D-10 contain weekly methane readings collected between July 7, 2008, and December 30, 2008, from two vaults at the Honeywell facility - VLT-2145 and VLT-1156. Attachment A contains a complete data set of the methane gas field measurement data collected from the soil-vapor monitoring points and subsurface utility vaults since 2005:

- Table A-1 presents the static methane, oxygen, CO_2, percent LEL, and flame ionization detector (FID) soil-gas field measurement results from monitoring points (July 2005 through February 2006) and the post-injection test data (April 2006). Together, this is the static monitoring well data.
- Table A-2 presents the baseline methane, oxygen, CO_2, and percent LEL field measurement results from Honeywell and PSHIA subsurface utility vaults (August 2005 and February 2006).
- Table A-3 presents wellhead pressure measurements taken during December 2005 and January 2006 before the air injection pilot test and in April 2006 after the test concluded.
- Table A-4 presents the static methane, oxygen, CO_2, percent LEL, and FID soil-gas field measurement results collected up to October 2008 from underground utility vaults on PSHIA property and on the Facility.
- Table A-5 presents the static methane, oxygen, CO_2, percent LEL, and FID soil-gas field measurement results collected up to October 2008 from the shallow and intermediate monitoring points up to 30 feet bgs.
- Table A-6 presents the static methane, oxygen, CO_2, percent LEL, and FID soil-gas field measurement results collected up to October 2008 from the deep monitoring points greater than 30 feet bgs.

The tables present methane readings with and without the carbon filter. Although use of this mixed data is not ideal, it still presents useful information on the conceptual model for methane. Presenting the mixed data is a conservative approach because the data without the filter will tend to show higher concentrations of methane in view of the fact that it also includes other hydrocarbons. Additional vapor data will continue to be collected, and

readings will be taken both with and without the filter. It should also be noted that there are a few methane readings with the carbon filter that show over 100-percent methane. This is not an accurate reading and is likely the result of being outside of the calibration range (the highest calibration standard used was 50-percent methane). Because it is likely that the methane concentrations were high at these locations, the tables and figures may reflect greater than 100-percent values.

D.4.2.1 Monitoring Honeywell Subsurface Utility Vaults

Fifty-three subsurface utility vaults are monitored on the Facility (Table A-4 in Attachment A). Readings of greater than or equal to 15-percent LEL were measured in eight of the subsurface utility vaults. Six of the eight high LEL readings occurred in February and March 2006, and the remaining two (VLT-1156 and VLT-2145) occurred in July and August 2008. When a reading greater than 15-percent LEL was measured, the vault atmosphere was mitigated by clearing debris from the existing vent holes in the vault lid and using a small blower to ventilate the vaults. After mitigation, the vault atmosphere was monitored on a variety of frequencies, from daily to twice each week, depending on field measurements. In the most recent sampling event (October 2008), methane was detected at 0.1- or 1-percent LEL in eight Honeywell vaults. At VLT-2046, methane was detected at 0.2- and 4-percent LEL on September 30, 2008. The vaults are currently monitored quarterly, except for VLT-1156 and VLT-2145, which are monitored weekly.

Two vaults at the Facility, with LEL detections in July 2008 (VLT-2145 and VLT-1156), are being monitored weekly. The LEL detections in these two vaults are attributed to the installation of BSVE system (non-process and process) wells between April and June 2008 using a Becker-hammer drill rig. Since September 10, 2008, for VLT-2145 and since October 10, 2008, for VLT-1156, the LEL readings with a filter and methane readings without a filter have mostly been below detection limits with a few exceptions (see Tables D-7 and D-9). During the week of November 24, 2008, holes were drilled in the lid of VLT-2145, and the small exhaust blower was turned off. The cracks and inlet conduits to VLT-1156 were also sealed at the same time. At VLT-1156, at small exhaust blower was used as a temporary mitigation method.

Surrounding structures continue to have no methane or LEL detections. Buildings 214, 225, and 253 and vaults VLT-2144 and VLT-3053, in proximity to VLT-2145, were sampled in November and December 2008 with readings below the detection limits for LEL with a filter and methane with a filter (TableD-8). VLT-1154 and Building 101, in proximity to VLT-1156, were sampled in November and December 2008 with readings below the detection limits for LEL with a filter and methane with a filter (Table D-10).

These locations will continue to be monitored frequently during the initial operation phase of the BSVE system. The monitoring results will continue to be provided to the Honeywell Facility operations team. Employees and contractors at the Honeywell Facility are required to follow the updated confined space entry procedures (AMEC Earth and Environmental, 2006).

D.4.2.2 Monitoring Phoenix Sky Harbor International Airport Subsurface Utility Vaults

Twenty-four subsurface utility vaults located at PSHIA have been monitored since March 2006 (Table A-4 in Attachment A). Monitored methane concentrations in the PSHIA

subsurface utility vaults have remained at zero percent or non-detect (less than 0.1 percent LEL) since March 15, 2006.

D.4.2.3 Monitoring Deep Soil-vapor Monitoring Points

One hundred thirty-five deep monitoring points have been sampled for methane at depths greater than 30 feet bgs since 2005. In the most recent sampling event at each location, 14 monitoring points have elevated methane levels (greater than 30 percent). Forty-five monitoring points have methane levels between 5 and 30 percent. These monitoring points also have high FID readings, suggesting that there are also high levels of petroleum hydrocarbons that are supporting biological methane production.

D.4.2.4 Monitoring Shallow and Intermediate Soil-vapor Monitoring Points

Ninety-five shallow and intermediate monitoring points have been sampled for methane at depths less than 30 feet bgs since 2005. In the most recent sampling event at each location, 10 monitoring points have elevated methane levels (greater than 5 percent) and 20 monitoring points have methane levels between 1 and 5 percent. The range of detected methane levels is from 0.1 to 27.5 percent. Measuring less methane in the shallow and intermediate monitoring points than the deep monitoring points is likely the result of aerobic biodegradation of the methane in the shallow zones and gas exchange with the atmosphere. Oxygen concentrations are also generally higher in the shallow and intermediate monitoring points, further supporting the gas exchange with the atmosphere and the possibility of aerobic biodegradation of methane to CO_2 and water.

D.5 Conceptual Site Model for Methane

This section presents a discussion of the CSM for methane during current-static conditions (prior to and after the air injection pilot test), during the air injection pilot test, during construction activities, during future BSVE operations, and future conditions after the BSVE system operation is complete. The BSVE system will dramatically change the oxygen content in deeper soil and create an aerobic environment and enhance biodegradation of the existing methane and mitigate future generation of methane during its operation. This section also presents a discussion of the fate and transport of methane gas.

D.5.1 Current Static Conceptual Site Model

Static data (data not impacted by the pilot test) are used to help understand the CSM and the fate and transport of methane at the site under undisturbed conditions. These data are presented in Section D.4. Figure D-12 provides an illustration of the CSM of methane at the site under static conditions (not impacted by the air injection pilot test). Methane is generated in the anaerobic portions of the site where mobile or residual free-product petroleum hydrocarbon is present. The methane could be generated in the vadose zone around residual free product, at the fringes of the free-product pool, in pore water within the free product pool, and in contaminated material below the water table.

Methane can be transported either advectively or diffusively. Advection can be driven by pressure gradients developed as the result of the methane gas generation or barometric pressure fluctuation, active air injection, or active air extraction. At landfill sites where

methane is produced at higher rates, methane production can create pressure gradients, and advective transport driven by methane production can become important. However, at hydrocarbon sites where methane generation rates are much lower, advective transport driven by methane generation will be less significant. Other processes, such as molecular diffusion, advection driven by barometric pressure fluctuations, or active air injection/ extraction, are more likely to drive methane transport. For example, a barometric pressure drop of 0.1 inch of mercury over 6 hours, which is common in Phoenix in the afternoon, has the potential to create a ground surface discharge of as much as 280 cfm on a 50-acre site with a depth to groundwater of 70 feet.[1]

Because the LUST AOI is largely paved, the actual surface discharge will probably be less than in an unpaved area, but when compared to the 4-scfm generation rate calculated in Section D.2.2 for a hydrocarbon contamination site, it is still likely to be important in driving gas flow. Methane is rapidly biodegraded under aerobic conditions. Therefore, the spread of methane is likely to be limited as it enters clean, aerobic zones because of this biodegradation. When large amounts of methane are produced, there may not be sufficient oxygen present to continue aerobic biodegradation unless there is rapid exchange of soil gas with the atmosphere. This is likely the case in the core of the petroleum hydrocarbon plume on the site, but aerobic conditions do exist further away from the petroleum hydrocarbon plume.

Density also is not a significant factor in migration. Methane is lighter than air, and pure methane has a tendency to rise. CO_2, by contrast, is heavier than air, and pure CO_2 tends to sink. The density of a biogenic gas is dependent on the relative methane and CO_2 content, and at the 50/50 mix, biogenic gas approaches the same density as air.

Figure D-13 shows the site utilities including: water systems, drains; compressed air; telecommunications; electrical, and water lines; drains, fuel lines, utility vaults; and the locations of the pilot test monitoring network. At this site, methane will migrate both horizontally and vertically from the source (primarily in deeper hydrocarbon-contaminated soils). In the native soil, diffusive transport will be more or less radial. Advective transport may be impacted to a greater extent by lower-permeability and higher-permeability layers. Some of the methane that reaches the shallow and intermediate soils will enter man-made conduits (Figure D-13), such as gravel bedding in trenches and conduits. These can be more permeable than the soils and may create preferential migration pathways. It is uncertain how significant this effect will be because the site soil has naturally high permeability, and the pipe or conduit bedding may not be significantly more permeable.

In the high-permeability soils of the site and possible conduits, preferential flow pathways can be generated by very small pressure differentials, are difficult to identify, and may vary

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[1] Q = (A * D * R * dP/P)/T

Where,

Q = Flow rate (cfm)
A = Area = 50 acres * 43,560 ft2/acre = 2,163,000 ft2
D = Depth = 70 feet
R = total air filled porosity, assume 0.2
dP = change in pressure = 0.1 inches of mercury
P = absolute pressure, assume 30 inches of mercury
T = time = 6 hours = 360 min
Q = 280 cfm

with changing meteorological or soil venting conditions. The exact migration pathways at this site are unknown and may vary with time; nevertheless, it is important to understand that these pathways can exist. Appropriate action trigger levels were designed with this in mind, as well as the full-scale BSVE monitoring program.

The pavement that exists across most of the impacted area likely restricts free exchange of soil gas with the atmosphere. The infield immediately north of the northern runway is currently unpaved (consisting of compacted gravel) and, therefore, more gas exchange may occur at this location. The vaults and manholes that exist in the impacted area (Figure D-5) may also exchange gases with the atmosphere to some extent, but it is not clear to what degree the compacted gravel layer or the vaults affect gas migration.

D.5.2 Conceptual Site Model during Air Injection Pilot Test

Air injection, such as occurred during the pilot test, can result in pressure differences and the migration of soil gas. The Final Pilot Test Report (CH2M HILL, 2006) provides additional information on the pressure responses observed during the pilot test, as well as the distribution of injected oxygen. The air injection also appeared to push soil gas with high methane out in front of the fresh air. Figure D-14 illustrates the CSM of air flow during the air injection. The soil gas may have traveled through the bulk of the soil and/or along utility conduits. It appears that the injection of air pushed out the soil gas, which eventually reached three of the utility vaults on PSHIA. Increased methane levels in Airport vaults were likely caused by pressure created by air injection and have not been seen since the injection was stopped. No explosive levels were ever encountered in the PSHIA vaults. After air injection stopped, methane levels returned to non-detect levels. Temporary passive ventilation performed by opening the vault lids was effective in mitigating the vault atmosphere and will eliminate risk to airport workers required to periodically enter these vaults to conduct maintenance.

D.5.3 Conceptual Site Model during Construction Activities

During construction activities, such as modifications to the storm sewer system or taxiway reconstruction, it is likely that excavation down into the subsurface soils will be required. Excavations are anticipated to be less than 12 feet bgs for this type of work. There is the potential that excavations may intercept soils with high soil-gas methane concentrations. As discussed previously, explosions cannot occur within the soil. However, if high methane levels exist in the soil gas and enter the excavation, there could be the potential for the right mixture of methane and atmospheric oxygen to result in explosive conditions or a flash fire. A flash fire could result if a backhoe were to generate a spark. As discussed previously, the chance of methane mixing with air to create these conditions is expected to be extremely low. There is little driving force (pressure gradient) to drive the soil gas out into the excavation. In addition, dilution with the atmospheric air is likely to be very rapid so that methane levels will quickly drop below the LEL. Because methane is lighter than air, it tends to rise, and there is little potential for the methane to accumulate in an excavation.

D.5.4 Conceptual Site Model during BSVE Operations

The BSVE system will include a combination of vapor extraction and air injection. During startup of the system, vapor extraction will create vacuums (negative pressures) and will

draw the soil gas to the extraction wells. As part of the BSVE operation, much of the methane currently in the soil gas will be extracted, and the subsurface will be aerated. Because methane cannot be generated under aerobic conditions, methane generation should be effectively eliminated or greatly reduced. It is anticipated that elevated levels of methane in soil gas will be eliminated within several months of startup.

Figure D-15 illustrates the CSM during BSVE operation with air extraction only. After a period with air extraction only, methane levels should be below the LEL, at which time, limited air injection will be initiated. When both injection and extraction are used, the flow rates will be balanced to greatly reduce the potential for the injected air to push soil gas to the surface. Figure D-16 shows the CSM during full-scale BSVE operation with combined injection and extraction.

The air injection and extraction of the BSVE system will greatly expand the extent of the aerobic zone in the subsurface and will virtually eliminate the production of methane. The operation of the BSVE system will be optimized such that all of the areas will have greater than 5 percent oxygen. There may still be a small amount of methane produced at or below the water table where petroleum hydrocarbons exist. As the methane is released to the vadose zone, it will be quickly biodegraded. Thus, there should be little or no risk from methane during BSVE operation.

D.5.5 Conceptual Site Model during Future Post-BSVE Operations

After the BSVE system is completed, it is anticipated that much of the petroleum hydrocarbons will have been removed from the vadose zone. What is left is likely to be the "heavy-end" hydrocarbons that are not easily biodegraded aerobically. These heavy-end hydrocarbons will also be very slowly degraded anaerobically, so the rate of methane production from them will be very low. There may also be pockets of hydrocarbons that are treated to a lesser degree because they are in lower-permeability layers or they are at or below the water table. Methane may be produced from these hydrocarbons once the BSVE system is turned off. This methane is not likely to be problematic because it should aerobically biodegrade once it comes into contact with the oxygen that should be present in the majority of the vadose zone. This oxygen will enter the vadose zone via passive diffusion from the atmosphere and by barometric pumping. Figure D-17 depicts the CSM after completion of full-scale BSVE operation.

If the water table does not drop sufficiently to expose all of the petroleum hydrocarbons during BSVE, there may be some residual petroleum hydrocarbon trapped below the water table. These hydrocarbons will continue to naturally biodegrade aerobically and anaerobically. Aerobic biodegradation will occur on the fringes of the hydrocarbon plume as fresh, oxygen-rich water migrates into the region. Anaerobic biodegradation will continue where oxygen is not present and will likely result in the production of some methane. This methane will dissolve in the groundwater and, if sufficient quantities are produced, it may form gas-phase methane that could migrate up to the water table. At the water table, this methane could be released into the vadose zone. As discussed previously, when BSVE is implemented, the vadose zone should be predominantly aerobic, so that the methane should biodegrade prior to accumulating to high concentrations.

An APM is planned and is currently under design for PSHIA, although the excavation depths are not yet known. Figure D-17 shows the conceptual location of the APM, which is more than 1,000 feet south of the furthest southern extent of the Honeywell petroleum hydrocarbon plume. Consequently, there is little or no chance that methane from the Honeywell plume could affect the construction of the APM. In addition, construction of Stage 1 of the APM is anticipated to be complete by 2013, and Stage 2 of the APM will start in 2016 and is not planned to be finished until 2020, at which time the BSVE system operations should be complete.

D.6 Summary and Conclusions

The subsurface methane evaluation includes an overview of the hazards associated with methane, a review of methane gas safety goals and standards, an evaluation of the pilot test monitoring program, and the conceptual site model for methane based on the data from the completed pilot test.

D.6.1 Nature and Extent of Methane

The nature and extent of methane are discussed in Sections D.2 and D.4, respectively, and several key points are presented below:

- Biogenic methane is formed from anaerobic bacterial decomposition of organic material, including hydrocarbon-contaminated soils and groundwater.
- Methane, generated from the degradation of petroleum hydrocarbons, has been found in vaults and within shallow vapor monitoring probes
- The air injection pilot test enhanced the migration of methane gas and resulted in the detection of methane in three electrical vaults on PSHIA. No explosive levels of methane were ever encountered in any vault. Methane levels in the vaults returned to non-detect levels after abatement measures were taken and air injection was shut off in the southernmost soil-vapor test monitoring points.
- Methane is rapidly biodegraded under aerobic conditions. Therefore, the spread of methane is likely to be limited as it enters clean, aerobic zones because of this biodegradation.
- The operation of the BSVE system will increase oxygen concentrations in the subsurface soil creating an aerobic environment.

Key points regarding the extent of methane include:

- The extent of the methane contour within the LUST AOI, with concentrations of methane above 5 percent, is shown in various figures in this appendix. The methane plume approximately corresponds to the historical extent of the free product (and the BSVE target treatment area) as shown in these figures.
- Wellhead pressures were generally at or below 0.2 inch of water, which is relatively low. As a result of the low-pressure buildup, there is little chance for the methane to migrate significantly via advective transport under these conditions.

- The soil-vapor monitoring points with methane concentrations greater than 10 percent are generally within the area of petroleum hydrocarbon contamination. The area with methane concentrations between 1 and 10 percent extends outside the area of known petroleum hydrocarbons by several hundred feet. This migration is likely the result of diffusion and advection.
- There are a few soil vapor monitoring points (deeper than 30 feet bgs) with methane concentrations greater than 30 percent. Most of these soil-vapor monitoring points are in the center of the LUST AOI (north of Building 102), but one well (P-24) is located on PSHIA property. These soil-vapor monitoring points also have high FID readings, suggesting that there are also high levels of petroleum hydrocarbons that are supporting biological methane production. In addition, many of these high readings were collected without the filter on the field instrument, so they actually represent both methane and non-methane hydrocarbons.
- Ninety-five shallow and intermediate soil-vapor monitoring points have been sampled for methane since 2006. In the most recent sampling event at each location, 10 soil-vapor monitoring points have elevated methane levels (greater than 5 percent) and 20 soil-vapor monitoring points have methane levels between 1 and 5 percent. The range of methane levels is from 0.1 to 27.5 percent.
- One hundred and thirty-five deep soil-vapor monitoring points have been sampled for methane since 2006. In the most recent sampling event at each location, 14 soil-vapor monitoring points had elevated methane levels (greater than 30 percent) and 45 soil-vapor monitoring points had methane levels between 5 and 30 percent. The highest methane measurement was greater than 100 percent at monitoring well ASE-56A. These soil-vapor monitoring points also have high FID readings, suggesting that there are also high levels of petroleum hydrocarbons that are supporting biological methane production.
- Measuring less methane in the shallow and intermediate soil-vapor monitoring points than the deep soil-vapor monitoring points is likely the result of aerobic biodegradation of the methane in the shallow zones and gas exchange with the atmosphere. Oxygen concentrations are also generally higher in the shallow and intermediate soil-vapor monitoring points, further supporting the gas exchange with the atmosphere and the possibility of aerobic biodegradation of methane to CO_2 and water.

D.6.2 Methane Sources, Generation, and Hazards

Methane sources, generation, and hazards are discussed in Section D.2. Several key points regarding sources, generation, and hazards are presented below:

- Biogenic methane is formed from anaerobic bacterial decomposition of organic material and can be found in settings such as wastewater treatment plants, landfills, sewer systems, septic systems, anaerobic digesters, swamps, cattle farms, animal feedlots, and hydrocarbon-contaminated sites. It is anticipated that the methane generated from the petroleum hydrocarbons in the LUST AOI is at a lower rate and in smaller quantities than from landfills because petroleum hydrocarbons are not as easily biodegraded as municipal solid waste.

- Methane is not considered toxic but poses an asphyxiation hazard if it collects in a poorly ventilated, enclosed, or confined space at concentrations high enough to displace existing air and create an oxygen-deficient environment. A confined space might be a manhole, subsurface utility vault, or basement. The normal oxygen level in air is 21 percent, and significant physiological effects can occur when oxygen levels fall to within 14 to 16 percent in air. Methane acts as a simple asphyxiant by causing oxygen deprivation at very high concentrations in air (above 500,000 ppmv or 10 times the LEL).
- Methane is flammable or explosive at concentrations that range from 5 to 15 percent methane by volume in air. The LEL of methane corresponds to 5 percent methane per volume of air. At concentrations below the LEL, the methane is too dilute to ignite. Any concentration in air between the LEL and the UEL of methane (15 percent methane per volume of air) has the right combination of methane and oxygen to cause combustion of the gas if a source of ignition is available. Methane concentrations above the UEL are too rich to support combustion. To sustain a flame or explosion, oxygen levels have to be at or above 12 percent. As a safety precaution, LEL measurements are reported as if sufficient oxygen is present, even if the oxygen level is too low to be flammable or explosive.
- There is no risk of a methane ignition or explosion in soil because the flame cannot propagate even where soil-gas methane levels in soil are present between LEL and UEL. However, if high methane levels exist in the soil gas and enter an excavation or confined spaces such as a utility vault, there could be the potential for the right mixture of methane and atmospheric oxygen to result in flammable conditions. This could result in a flash if a backhoe was to generate a spark. Preventative measures may be needed to ventilate the excavation or ensure that tools that could spark and serve as an ignition source are not introduced into potentially hazardous environments. Intrinsically safe electrical equipment is available that is spark-proof for use in hazardous atmospheres.
- There is little risk of an explosion above ground in non-confined areas because the quantities of methane would be limited, and dilution would quickly reduce levels below the LEL.
- Vaults and utility corridors are confined spaces and, therefore, may have the potential for explosive conditions. Vaults and utility corridors are the only current facilities on PSHIA within the footprint of hydrocarbons with the potential for explosive conditions if the right combination of methane and oxygen accumulates and an ignition source is present.
- While methane is not the only combustible gas found, it represents the primary concern for utility vaults and structures at the Honeywell facility and PSHIA. Although other hydrocarbons such as JP-4 fuel are potentially flammable, these hydrocarbons are generally found at greater depths and, therefore, are of less concern. However, as a safety precaution, LEL measurements include all flammable gases in shallow soil gas or vaults. Combustible gases may also be found in other locations at PSHIA, primarily near fueling facilities.

D.6.3 Methane Safety Considerations and Goals

Section D.3 summarizes key methane safety goals that have been published by local, state, and federal governments and occupational safety and health organizations. An approved Health and Safety Plan has been implemented during construction activities (e.g., excavation, drilling, etc.) to ensure that the potential for exposure of construction workers, workers on nearby sites, and others in the area to any hazards on the site is minimized. The Health and Safety Plan defines worker safety training and monitoring procedures, personal protective equipment, air monitoring equipment, action levels, and appropriate protective measures during excavation and as part of the Confined Space Entry program for both the Honeywell facility and PSHIA.

The Health and Safety Plan specifies procedures to monitor the excavation for methane and soil vapor gas. Confined space entry procedures meeting the intent of OSHA 910.146 should preclude methane from being a health concern in vaults. The Health and Safety Plan for the Honeywell facility and PSHIA include specific monitoring, ventilation, worker supervision, entry and rescue procedures, employee training, and a written permit as required under OSHA 1910.146. The OSHA 1910.146 requirements have also been integrated into the health and safety plans for future monitoring and the installation and operation of the BSVE system.

D.6.4 Methane Monitoring Program

Section D.4 describes the extensive methane monitoring program conducted at the LUST AOI since 2006. Several key points from this section are presented below:

- Methane monitoring of subsurface utility vaults was conducted during the air injection pilot test conducted in 2006. Air injection-enhanced migration of methane gas has resulted in detectable concentrations in vaults at the Facility and PSHIA. Methane levels above 0.1 percent have not been recorded in PSHIA vaults since the injection was stopped. No explosive levels were encountered in PSHIA vaults during the air injection testing. Twenty-four subsurface utility vaults located at PSHIA have been monitored since March 2006. Monitored methane concentrations in the PSHIA subsurface utility vaults have remained at zero percent or non-detect (less than 0.1 percent LEL) since March 15, 2006.

- Fifty-three subsurface utility vaults are monitored on the Honeywell facility. Readings of greater than or equal to 15-percent LEL were measured in eight of the subsurface utility vaults. Six of the eight high LEL readings occurred in February and March 2006, and the remaining two (VLT-1156 and VLT-2145) occurred in July and August 2008. Since August 2008, VLT-1156 and VLT-2145 have been monitored more frequently. Temporary mitigation measures were implemented to reduce the methane level in these two vaults. By December 2008, methane concentrations have remained non-detect (less than 0.1 percent LEL).

- Ninety-five shallow and intermediate soil-vapor monitoring points (less than 30 feet bgs) have been sampled for methane since 2006. In the most recent sampling event at each location, 10 soil-vapor monitoring points have elevated methane levels (greater than 5 percent) and 20 soil-vapor monitoring points have methane levels between 1 and 5 percent. The range of methane levels is from 0.1 to 27.5 percent.

- One hundred thirty-five deep soil-vapor monitoring points (greater than 30 feet bgs) have been sampled for methane since 2006. In the most recent sampling event at each location, 14 soil-vapor monitoring points had elevated methane levels (greater than 30 percent) and 45 soil-vapor monitoring points had methane levels between 5 and 30 percent. The highest methane measurement was greater than 100 percent at monitoring well ASE-56A. These soil-vapor monitoring points also have high FID readings, suggesting that there are also high levels of petroleum hydrocarbons that are supporting biological methane production.

D.6.5 Conceptual Site Model for Methane in the Subsurface

Section D.5 presents a discussion and figures showing the conceptual site model for methane in the subsurface, including the fate and transport of methane during current and future conditions. The BSVE system will dramatically change the oxygen content in deeper soil and create an aerobic environment and enhance biodegradation of the existing methane and mitigate future generation of methane during its operation. Several key points from this section are presented below:

- The methane generated from the petroleum hydrocarbons has migrated vertically to the surface and, to a limited extent, horizontally. It appears that the horizontal methane migration is limited to a few hundred feet away from the areas of known residual or mobile free product.
- Increased methane levels observed in PSHIA vaults during the air injection pilot test were likely caused by pressure created by air injection. Methane levels above 0.1 percent have not been recorded in PSHIA vaults since the injection was stopped. No explosive levels were ever encountered in PSHIA vaults during the air injection testing. The detected methane concentrations rapidly decreased to non-detect once the vault lids were opened and injection was discontinued. After air injection stopped, methane levels returned to non-detect levels. During the pilot test, no spreading of VOCs or methane beyond the LUST AOI was observed and no exposure to hazardous conditions resulted. Temporary passive ventilation performed by opening the vault lids was effective in mitigating the vault atmosphere and will eliminate risk to airport workers required to periodically enter these vaults to conduct maintenance.
- Appropriate monitoring as part of a Health and Safety Program will further reduce the potential for any problems.
- Methane migration should not occur during full-scale BSVE operation because vapor extraction will be used exclusively during startup when methane levels are high and, consequently, methane will be removed and will not migrate into subsurface structures.
- In the future, after operation of the BSVE system is completed, some petroleum hydrocarbons may remain in the subsurface. Some methane production may be possible from the anaerobic biodegradation of these hydrocarbons, but it is anticipated that with the increased oxygen introduced into the subsurface during BSVE system operation the majority of the methane produced will be aerobically biodegraded in the vadose zone.

D.7 References

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Tables

TABLE D-1
Methane Health Effects Safety Goals
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Source	Chemical Information	Reference
ACGIH - Threshold Limits Values - Time Weighted Averages (TLV-TWA)	1000 ppm TWA (listed under Aliphatic hydrocarbon gases alkane C1-C4) TLV basis : cardiac sensitivity, Central Nervous System impairment	American Conference of Governmental Industrial Hygienists (ACGIH) 2006. Page 36.
Argentina - Occupational Exposure Limits	Simple asphyxiant	Argentina Government (Oxygen minimum 18 percent by volume) LOLI
Australia - Occupational Exposure Standards	Asphyxiant at < 18% oxygen by volume; explosion hazard	LOLI
Belgium - Occupational Exposure Limits	Simple asphyxiant	Belgian government oxygen 18 percent overwrites EU limits (LOLI)
Brazil - Occupational Exposure Limits	Simple asphyxiant	Brazil Annex 11 Regulatory Norm 15 (LOLI)
Bulgaria - Occupational Exposure Limits	500.0 mg/m^3 TWA	Published in the Bulgarian State Newspaper January 30, 2004 and later part of Regulation 13 (LOLI)
Canada - Alberta - Occupational Exposure Limits	Simple asphyxiant	Occupational Health and Safety Code April 30, 2004 oxygen 19.5 % to 23 percent by volume (LOLI)
Canada - British Columbia - Occupational Exposure Limits - TWA	1000 ppm TWA	Based on latest version of ACGIH (2006)
Canada - Manitoba - Occupational Exposure Limits	Simple asphyxiant	Provincial Government adopted 1987-1988 ACGIH standards
Canada - New Brunswick - Occupational Exposure Limits	Simple asphyxiant	Provincial Government adopted 1997 ACGIH standards
Canada - Nova Scotia - Occupational Exposure Limits - TWA	1000 ppm TWA (listed under Aliphatic hydrocarbon gases alkane C1-C4)	Nova Scotia Occupational Health Act and Regulations based on AGIH 2006 (LOLI)
Canada - Ontario - Occupational Exposure Limits - TWAEVs	1000 ppm TWAEV	Ontario Occupational Health and Safety act time-weighted exposure value (LOLI)
Canada - Quebec - Occupational Exposure Limits	Simple asphyxiant	Occupational Health and Safety Act (LOLI)
Canada - Yukon - Occupational Exposure Limits	Simple asphyxiant	Yukon Territory Exposure Limits (18 percent oxygen must be present) LOLI
Indonesia - Occupational Exposure Limits	Simple asphyxiant	National Standards for Permissible Levels (LOLI)
Ireland - Occupational Exposure Limits	Simple asphyxiant	Ireland National Health and Safety Authority Code of Practice
Israel - Occupational Exposure Limits - Action Levels	500 ppm Action Level (listed under Aliphatic hydrocarbon gases alkane C1-C4)	Ministry of Labor and Welfare defines Action Levels (LOLI)
Israel - Occupational Exposure Limits - TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases alkane C1-C4)	Uses TLVs in the current edition of ACGIH (LOLI)
Mexico - Occupational Exposure Limits	Simple asphyxiant	LOLI
Minnesota - Hazardous Substance List	Simple asphyxiant	OSHA approved State job safety and health program uses ACGIH 1992-1993, NIOSH 1988, OSHA Subpart Z 1990 (LOLI)
New Zealand - Workplace Exposure Limits	simple asphyxiant	LOLI
Oregon - Permissible Exposure Limits - TWAs	1000 ppm TWA	Oregon Administrative Rules Chapter 437
Portugal - Occupational Exposure Limits	Simple asphyxiant	Portugal Occupational Exposure Limits based on 2002 ACGIH TLVs (LOLI)
Romania - Occupational Exposure Limits - STELs	1500 mg/m3 Short Term Exposure Limit (STEL) 15 minutes	Romania OELs/STELS Norms published 1996
Romania - Occupational Exposure Limits - TWAs	1200 mg/m3 TWA	Romania OELs/TWAs published 1996
Russia - Occupational Exposure Limits - MACs	7000 mg/m3 MAC (vapor)	Hygienic Standards MACs 2003 (LOLI)

TABLE D-1
Methane Health Effects Safety Goals
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Honeywell 34th Street Facility, Phoenix, Arizona

Source	Chemical Information	Reference
Spain - Occupational Exposure Limits - TWAs (VLA-ED)	1000 ppm VLA-ED (listed under Aliphatic hydrocarbon gases and mixtures alkanes C1-C4)	LOLI
Switzerland - Occupational Exposure Limits - MAKs	10000 ppm MAK; 6700 mg/m3 MAK	LOLI
Texas - Effects Screening Levels - Short Term	Simple asphyxiant	Texas Effects Screening Levels Texas Commission of Env Quality Web Site (LOLI)
Venezuela - Occupational Exposure Limits	Simple asphyxiant	Standard (Covenin 225) establishes permissible environmental concentrations (LOLI)
Washington - Permissible Exposure Limits	Simple asphyxiant	Chapter 2986 Occupation Health S+C16tandards (minimum oxygen standard 19 %)

Notes:
STEL: Short-Term Exposure Limit
MAC: Maximum Allowable Concentration
CHIP: Chemical Hazard Information Profile
TWA: Time-Weighted Average
MAK: Maximal Admissible Concentration
EV: Exposure Value
LOLI: List of Lists

TABLE D-2

Methane Explosion Limits

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Jurisdiction	Methane Concentration Limit	Location	Applicable Condition(s)	Required Action if Limit Exceeded	Regulation/Guideline
Alabama Department of Environmental Management Land Division- Solid Waste Program	Explosive gases cannot exceed 25 % LEL in a facility structure except for gas control or recovery system components	Structure	In, under and around the structure.	Facility structures will be designed and constructed so explosive gases do not collect in, under or around structures	ADEM Administration Code R. 335-13, Revised December 12, 2005
City of Alberta, Canada	50 percent LEL	Subsurface	Subsurface at property boundary	Implement Contingency Plan	Standards for Landfills In Alberta , May 2004
	20 percent LEL	Enclosed Structure	On-site building or enclosed structure or area immediately outside	Implement Contingency Plan	
	1 percent LEL	Enclosed Structure	Off-site building or enclosed structure or area immediately surrounding	Implement Contingency Plan	
Arizona Department of Environmental Quality-Solid Waste Management	Prohibits concentrations greater than 25 percent LEL in municipal solid waste landfill facility structures (excluding gas control or recovery system components) and sewage units.	Structure	Structures on a landfill and sewage units	Prohibits concentrations greater than 25 percent LEL in municipal solid waste landfill facility structures (excluding gas control or recovery system components) and sewage units.	ADEQ (A.R.S. § 49-761(A)) and ADEQ (A.A.C. R18-9-1002 (F)(1)
British Protection Standards	>2500 ppm (5% LEL)	Occupied Structure	Air surrounding a building envelope	Requires methane protective measures	Construction Industry Research and Information Association (CIRIA) Report t No. 149
British Columbia, Canada	10,000 ppm (20% LEL)	Occupied Structure	Onsite or offsite buildings. Requires a distance of a minimum of 300 meters between a landfill and nearest facility i.e residence, school, hotel, restaurant, well, park etc.	Approved monitoring program required	Landfill Criteria for Municipal Solid Waste (June 1993)
California, Department of Toxic Substances	Methane detection of 1,000 ppmv	Occupied Structure	Methane in the subsurface immediately beneath the footprint of an existing or proposed school building	Further investigation is recommended to determine extent of methane in subsurface soil	Advisory on Methane and Common Remedies at School Sites, School Property Evaluation and Cleanup Division, Department of Toxic Substances Control
	Methane detection of 5,000 ppmv (10% of LEL)			Further response action needed (e.g., periodic monitoring, removal action)	
	Methane pressure of 0.1 psi, 2.8 inches of water, or 0.2 inches of mercury			Further investigation recommended to determine extent of methane in subsurface soil	
	Methane pressure of 0.5 psi, 13.9 inches of water, or 1 inch of mercury			Further response action needed (e.g., periodic monitoring, removal action)	
Occupational Safety and Health Program	Flammable gases	Confined Spaces and workplace standards	Hazardous atmosphere in confined spaces. FAA requires ACGIH Threshold Limit Values OSHA and NIOSH recommended exposure limits in the workplace, whichever is more stringent	10 percent LEL for confined spaces Exceedances of NIOSH, OSHA, or ACGIH standards require evacuation or personal protective equipment and implementation of a hazard control program	FAA Order 2900.19B (April 29, 1999 updated on April 1, 2005)
International Code Council (ICC) International Fire Code	12,500 ppm (25% LEL)	Occupied Structure	Inside buildings	Evacuation	IFC 2702.1
London Waste Regulatory Authority	1000 to 5000 ppm (5 to 10% LEL)	Structure	Landfill gas	Submit for review if local Building Controls are not met	CIRIA Report 152 table 4.1. British Waste Management Paper 27
	>5000 ppm (10% LEL)	Structure	Landfill gas	Consultation with LWRA required	
Los Angeles Municipal Code	12,500 ppm (25% LEL)	Occupied Structure	Existing buildings	Requires mitigation measures	Ordinance No. 175790, Los Angeles Department of Building and Safety
	All	Occupied Structure	New buildings and paved areas in Methane Zone or Methane Buffer Zone	Requires mitigation measures	
National Fire Protection Association (NFPA)	12,500 ppm (25% LEL)	Occupied Structure	Inside general structures	Mitigation measures	NFPA 1, 30
	5,000 ppm (10% LEL)	Occupied Structure	Inside wastewater facilities	Evacuation	
National Institute for Occupational Safety and Health (NIOSH)	5,000 ppm (10 percent LEL) ; oxygen levels between 19.5 and 21 percent	Confined Space	Immediately dangerous to life or health (IDLH) in permitted confined spaces for flammable vapor gases including methane	Simple asphyxiant-requires monitoring and respirator and evacuation for IDLH in confined spaces	A guide to Safety in Confined Spaces NIOSH Publication 87-113, 80-106 and NIOSH PB-94-195047

TABLE D-2

Methane Explosion Limits

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Jurisdiction	Methane Concentration Limit	Location	Applicable Condition(s)	Required Action if Limit Exceeded	Regulation/Guideline
New Jersey	12,500 ppm (25% LEL)	Occupied Structure	Inside buildings	Induced draft or active ventilating system must be installed	Solid and Hazardous Waste Management Regulations, Title 7
Occupational Safety and Health Administration (OSHA)	5,000 ppm (10% LEL)	Confined Space	Permit-required confined space	Evacuation	29 CFR 1910.146 and 1926..800 (h) (1) 91)
Occupational Safety and Health Administration (OSHA)	10,000 ppm (20% LEL)	Other	Excavations	Evacuation	29 CFR 1926.651
Ontario, Canada	10,000 ppm (20% LEL)	Occupied Structure	In an on-site building or in the area immediately outside the building foundation at Landfill site	Methane monitoring and migration control	New Standards for Landfill Sites Proposed Regulatory Standards for New Landfilling Sites Accepting Non-Hazardous Waste (June 1996)
	5,000 ppm (10% LEL)	Other	Hazardous conditions are considered to be presented on a landfill, or on the property near a landfill	Methane monitoring	Procedure D-4-1 : Assessing Methane Hazards from Landfill Sites
Phoenix Fire Department	5,000 ppm (10% LEL)	Occupied Structure	Occupied structures	Reevaluate hazards and evacuation if required	Phoenix Fire Department SOPs Volume 2 provide generic criteria and fire department practice requires evaluation of hazards at 10 percent LEL
Quebec, Canada	12,500 ppm (25% LEL)	Occupied Structure	Buildings on or near a landfill	Approved monitoring program required	Project de regiement sure les dechets solids, March 1994
	10,000 ppm (20 %LEL)	Occupied Structure	Methane mitigation measures in place		
Seattle Action Plan	0 to 50 ppm	Occupied Structure	Indoor air in homes and businesses	Considered normal ambient air	CIRIA Report 152 table 4.2
	50 to 100 ppm		Indoor air in homes and businesses	Monitor as frequently as staff size permits	
	100 to 500 ppm		Indoor air in homes and businesses	Monitor daily	
	500 ppm		Indoor air in homes and businesses	Monitor daily, seal cracks, install alarm, fan, notify fire and health department	
	10,000 ppm (20% LEL)		Indoor air in homes and businesses	Verify with 2nd meter, monitor daily, seal cracks, install alarm, fan, notify fire and health department	
	>50,000 ppm (100% LEL)		Indoor air in homes and businesses	Evacuate, call emergency services	
	>100,000 ppm (200% LEL)		In wall or small confined space	Evacuate, call emergency services	
U.S. Environmental Protection Agency (USEPA)	12,500 ppm (25% LEL)	Occupied Structure	Structures on a landfill	Must ensure a monitoring program is implemented and performed quarterly	40 CFR 258, RCRA, Subtitle D (October 1991)
U.S. Environmental Protection Agency (USEPA)	12,500 ppm (25% LEL)	Other	Environmental response	Evacuation	EPS Standard Operating Safety Guides June 1992
Washington	12,500 ppm (25% LEL)	On Landfill	Facility structures at municipal solid waste landfill	Notify health department. Implement gas control measures	Washington Administrative Code (WAC) 173-351-200. Operating criteria
	50,000 ppm (100% LEL)	Other	Facility property boundary at municipal solid waste landfill	Notify health department. Monitor off-site structures. Implement gas control measures.	WAC 173-351-200. Operating criteria.
	100 ppmv	Occupied Structure	Off-Site Structures (municipal solid waste landfill)	Notify health department. Implement gas control measures	WAC 173-351-200. Operating criteria.
Winnipeg, Canada	2,500 ppm (5% LEL)	Occupied Structure	Mid-air level in a portion of a building	Alarm situation, advise occupants of building to vacated	Standards and Guidelines for Mitigation of Methane Gas at Buildings and Utilities (May 1997)
	10,000 ppm (20% LEL)	Occupied Structure	Exceedance on a consistent basis (i.e. monthly during a year)	Mitigation measures to limit gas infiltration	

Notes:
TWA = Time-Weighted Average
LEL = Lower Explosion (or Explosive) Limit
IDLH = Immediately Dangerous to Life or Health

TABLE D-3
Types and Materials Used to Form In-ground Barriers
Focused Human Health Risk Assessment Report, Honeywell 34th Street Facility, Phoenix, Arizona

Type	Position	Natural Clay	Synthetic Liner	Admixed Materials	Mass Reinforced Concrete	Steel Piles
Horizontal Prevents gas migration directly beneath the development.	At surface	Prepared formation place and compact The most common natural materials used in the United Kingdom to form in-ground barriers are remolded clay and soil/bentonite mixtures. Both horizontal and vertical barriers can be formed using these materials.	Prepared formation place and roll Synthetic barriers, also known as flexible membrane liners or synthetic liners, are used predominantly for the containment of landfill sites to control both leachate and landfill gas migration. Material used for liners include PVC, neoprene, LDPE, and HDPE.	Not appropriate	Prepared formation	Not appropriate
	Underseal at depth	Not appropriate	Not appropriate	Grouting techniques Three grouting techniques are used: grout injection, jet grouting, and vibrated beam grout injection.	Not appropriate	Not appropriate
Vertical Forms a cut-off against lateral gas migration towards a development.	Depth up to 8 meters	Backfilled trench or open excavation	Backfilled trench or open excavation In the majority of situations, there is limited land available to create an open excavation either because of existing development or because of other physical site constraints. In these circumstances, the synthetic liner is installed within a trench excavation.	Backfilled trench or open excavation	Backfilled trench, secant piles Secant piles are often used to provide structural cut-off walls. “Soft” primary piles are formed using bentonite/cement hardened slurry.	Driven sheet piles Driven steel or concrete elements may have applications in situations where barriers are required to provide both pollution control and provide some mechanical support to a substructure development.
	Depth greater than 8 meters	Not appropriate	Slurry trench cutoff There are a number of different types of slurry trench cut-off barriers including soil/bentonite, bentonite/cement, bentonite/ cement/aggregate, and synthetic liner cut-offs. Most slurry based cut-off materials have relatively high water content. If this water is lost, they may shrink and crack and become gas permeable.	Slurry trench cutoff, grouting	Diaphragm wall, secant piles	Not appropriate

Table reproduced from: *Protective Development from Methane*. CIRIA Report 149 (CIRIA, 1997).

TABLE D-4
Monitoring Program Summary
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Phase of Testing	Parameter	Location	Test Method	Frequency	Trigger	Action
Process Monitoring						
All phases except for respiration tests when the blowers are off	Flow, pressure, temperature, hours of operation	Blower system	Direct gauge readings	Daily for the first 14 days of injection, weekly thereafter	Not applicable	Not applicable
Pressure vs. flow test	Pressure/vacuum	Injection wells	Magnehelic gauge	Every 5 minutes	Not applicable	Not applicable
Well Field Monitoring						
Pressure vs. flow test	No Monitoring	Monitoring wells			Not applicable	Not applicable
Soil Hydraulic Properties Test	Pressure/ vacuum	Monitoring wells	Magnehelic gauge	Every 10 minutes	Not applicable	Not applicable
Air Injection	Pressure/ vacuum	Monitoring wells	Magnehelic gauge	Initial sampling round, daily for first 2 weeks, twice weekly thereafter	Not applicable	Not applicable
Air Injection	Oxygen, TPH, Explosivity (%LEL), Methane	Monitoring wells	Operate TVA-1000 and GEM 2000 in accordance with instrument operating manual and Sampling and Analysis Plan	Initial sampling round, daily for first 2 weeks of injection, twice weekly thereafter	• Confirmed readings in vaults greater than 10 percent LEL require notification of City of Phoenix and Honeywell Facility Operations; and • Confirmed readings in vaults greater than 20 percent LEL require notification of City of Phoenix and Honeywell Facility Operation, as well as mitigation (by ventilation) of vault atmosphere. • A trigger or action level of 10 percent LEL has been used in Building 102 atmosphere (at 3 feet above grade), above which notification and shutdown of air injection will be initiated. This trigger level will remain unchanged.	
Respiration tests	Oxygen, Carbon Dioxide, TPH, Explosivity (%LEL), Methane	Monitoring wells	Operate TVA-1000 and GEM 2000 in accordance with instrument operating manual and Sampling and Analysis Plan	Initial sampling round, daily for first 2 weeks of injection, twice weekly thereafter for as long as is needed to develop useable oxygen utilization curves. At the beginning of the respiration tests, oxygen and carbon dioxide every hour during first 4 hours and daily for the remainder of the first week. The respiration data collection may be more frequent to assure sufficient data are collected		
Vapor intrusion monitoring						
All phases except for respiration test	EPA Method TO-15, Oxygen, Carbon Dioxide, TPH, Explosivity (%LEL), Methane	Shallow soil vapor monitoring points	GEM 2000, TVA 1000, USEPA Method TO-15	Initial sampling round. Field parameters daily for first 2 weeks of injection, weekly thereafter. Lab analysis initially and then every two weeks. If field TPH, methane or LEL increase significantly samples will be collected immediately for rapid turnaround lab VOC analysis	• Confirmed readings in vaults greater than 10 percent LEL require notification of City of Phoenix and Honeywell Facility Operations; and • Confirmed readings in vaults greater than 20 percent LEL require notification of City of Phoenix and Honeywell Facility Operation, as well as mitigation (by ventilation) of vault atmosphere. • A trigger or action level of 10 percent LEL has been used in Building 102 atmosphere (at 3 feet above grade), above which notification and shutdown of air injection will be initiated. This trigger level will remain unchanged. During the pilot test, the VOC (TO-15) monitoring results from the shallow soil vapor monitoring points will be evaluated against pre-established Tier 1 and 2 pilot test Vapor Action Levels (VALs) for vapor intrusion: • Non-Detections or < Tier 1: No Further Action is warranted. Continue pilot test and continue to collect soil vapor samples at shallow soil vapor monitoring points. • > Tier 1 and < Tier 2: Continue pilot test and continue to collect soil vapor samples at shallow monitoring probes, collect subslab samples inside and a	
		Sentinel Wells	GEM 2000, TVA 1000, USEPA Method TO-15	Initial sampling round. Field parameters daily for first 2 weeks of injection, weekly thereafter. Lab analysis initially and then every two weeks. If field TPH, methane or LEL increase significantly samples will be collected immediately for rapid turnaround lab VOC analysis		
		Subsurface structures	GEM2000	Initial sampling round and then monitor according to Soil Vapor Monitoring Program		
		Subslab soil vapor monitoring points	GEM 2000, TVA 1000, USEPA Method TO-15	Initial sampling round and then monitor according to Soil Vapor Monitoring Program		

TABLE D-5
2006 Air Injection Pilot Test Monitoring Points
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Monitoring Well	Screened Interval (feet below ground surface)	Approximate Distance from Injection Well (feet)
Injection Well Monitoring : Vapor Intrusion Monitoring: To Assess Contaminant Spreading Potential		
ASE-41A (screened interval: 60 to 90)		
P-1	5.9-8.9 (upper) 25.7-30.7 (middle) 50-55 (lower)	382
P-4	6-9 (upper) 25-30 (middle) 50-55 (lower)	211
P-17	20-25 (upper) 38-43 (middle) 56-66 (lower)	257
P-20	22-27 (upper) 39-44 (middle) 56-66 (lower)	168
BV-4	46 to 66	192
SVE-1	34 to 54	332
ASE-46A	54.7 to 79.7	346
ASE-56A	55.4 to 80.4	396
ASE-57A	55.1 to 80.1	246
ASE-68A	66 to 96	359
ASE-92A (screened interval: 72 to 102)		
P-16	12-17 (upper) 35-40 (middle) 55-65 (lower)	41
P-24	7-12 (upper) 53-58 (middle) 68-118 (lower)	203
P-17	20-25 (upper) 38-43 (middle) 56-66 (lower)	268
P-27	6-11 (upper) 19-24 (upper-middle) 55-60 (middle) 70-100 (lower)	138
ASE-89A	75.5 to 95.5	358
ASE-90A	75 to 105	336
ASE-91A	73 to 103	204
ASE-102A (screened interval: 80 to 125)		
ASE-96A	80 to 110	388
ASE-101A	80 to 100	301
ASE-106A	78.5 to 123.5	237
ASE-114A (screened interval: 80 to 125)		
ASE-107A	79 to 124	73
ASE-109A	80 to 125	402
ASE-112A	68 to 93	399
ASE-113A	66 to 121	214
ASE-108A (screened interval: 65 to 100)		
P-1	5.9-8.9 (upper) 25.7-30.7 (middle) 50-55 (lower)	350
P-2	6.3-9.3 (upper) 25.1-30.1 (middle) 51.8-56.8 (lower)	278
P-14	12-17 (upper) 29-34 (middle) 57-67 (lower)	63
P-15	17-22 (upper) 35-40(middle) 58-68 (lower)	103
P-25	7-12 (upper) 53-58 (middle) 70-105 (lower)	457
BC-8B	51 to 96	354
ASE-55A	53.9 to 78.9	141
ASE-62A	63 to 93	227
ASE-91A	73 to 103	297
ASE-97A	51 to 111	408
PL-105A	39 to 79	40
PL-201A	40 to 80	335
Vapor Intrusion Monitoring: To Assess Contaminant Spreading Potential into Residential Areas Located NE and NW of the Facility : Sentinel Monitoring Points (14 points)		
P-23	16-21 (upper) 32-37 (middle) 50-60 (lower)	1,045 feet from ASE-41A; between ASE-41A and N-NE site boundary
P-28	6-11 (upper) 43-48 (middle) 58-78 (lower)	824 feet from ASE-92A; between ASE-92A and East site boundary
P-29	6-11 (upper) 50-55 (middle) 60-90 (lower)	986 feet from ASE-41A; between ASE-41A and N-NE site boundary

TABLE D-5
2006 Air Injection Pilot Test Monitoring Points
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Monitoring Well	Screened Interval (feet below ground surface)	Approximate Distance from Injection Well (feet)
P-30	6-11 (upper) 50-55 (middle) 60-90 (lower)	966 feet from ASE-41A; between ASE-41A and N-NW site boundary
P-46	6-11 (upper) 57-92 (middle) 45-50 (lower)	749 feet from ASE-41A; Leading to NW site boundary
P-47	6-11	749 feet from ASE-41A; on NW site boundary
PL-2102	35 to 75	1,048 feet from ASE-41A; on NW site boundary
ASE-54A	55.5 to 80.5	850 feet from ASE-41A; between ASE-41A and NW site boundary
PL-103A	39 to 79	1,293 feet from ASE-41A; on W-NW site boundary
ASE-25C	75 to 95	1,076 feet from ASE-108A; between ASE-108A and W-NW site boundary
ASE-42C	76 to 91	1,469 feet from ASE-108A, between ASE-108A and West boundary
ASE-69A	60 to 90	1,568 feet from ASE-41A; on North site boundary
PL-102A	37 to 77	1,407 feet from ASE-41A; on N-NE site boundary
ASE-60A	61 to 91	999 feet from ASE-41A; NE site boundary
Vapor Intrusion Monitoring: To Assess Vapor Intrusion Potential into Buildings 101, 102, 202, 230, and 301 : Shallow Soil Vapor Monitoring Points near Buildings and Injection Wells (12 points)		
P-1-U	5.9-8.9	350 feet from ASE-108A
P-2-U	6.3-9.3	278 feet from ASE-108A
P-3-U	6.1-9.1	409 feet from ASE-108A
P-4-U	6-9	450 feet from ASE-108A
P-14-U	12-17	63 feet from ASE-108A
P-15-U	17-22	103 feet from ASE-108A
P-16-U	12-17	41 feet from ASE-92A
P-18-U	15-20	484 feet from ASE-41A
P-20-U	22-27	168 feet from ASE-41A
P-21-U	15-20	377 feet from ASE-41A
P-27	6-11 (upper) 19-24 (upper-middle) 55-60 (middle) 70-100 (lower)	138 feet from ASE-41A
P-40	5.5 to 6	505 feet from ASE-41A; East, outside Building 101
Vapor Intrusion Monitoring: Subslab Soil Vapor Monitoring Points in Buildings 102, 202, 230 and 301 (10 points)		
P-31	5.5 to 6	572 feet from ASE-41A; Inside Building 202
P-32	5.5 to 6	442 feet from ASE-41A;Inside Building 202
P-33	5.5 to 6	98 feet from ASE-41A; Inside Building 102
P-34	5.5 to 6	264 feet from ASE-41A;Inside Building 102
P-35	5.5 to 6	188 feet from ASE-41A;Inside Building 102
P-36	5.5 to 6	447 feet from ASE-41A; Inside Building 202
P-37	5.5 to 6	112 feet from ASE-41A; Inside Building 102
P-38	5.5 to 6	228 feet from ASE-41A;Inside Building 102
P-39	5.5 to 6	578 feet from ASE-41A; Inside Building 230
P-41	5.5 to 6	990 feet from ASE-41A; Inside Building 301

TABLE D-6
Evaluation of Permanent Vault Mitigation Options
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Mitigation Type	Description	Issues/Concerns
Isolation plus LEL monitoring in vaults	OPTION 1 - Seal off vapor entry points into vaults (conduits, cracks in concrete, knock outs, drains, etc.).	Drains in the floors of the vaults make this impractical. Conduits cannot be sealed.
	A LEL sensor would be placed in the vault. LEL readings will be transmitted via a wireless transmitter to a receiver located inside Honeywell facility.	Solar-powered, wireless transmitting LEL sensors are not practical given ancillary equipment that is needed. A separate vault would be needed for this equipment.
Passive Ventilation	OPTION 2 - Install a flexible or crushable device to slightly prop up the vault hatch to promote ventilation of trapped gas.	May need barricades around vaults. Not acceptable to airport operations for long term.
	OPTION 3 - Drill holes in vault hatch to promote ventilation of trapped gas.	Drilling holes in the hatches is not acceptable to airport operations due to structural integrity and water infiltration concerns. Hatch may not be replaceable without replacing the whole hatch unit. Inland Foundry hatch units have been discontinued. Neenah Foundry hatches are replaceable but may need to cut out vault concrete and re-cemented back in place.
	OPTION 4 - Utilize unused knockouts on side of vaults to create an exit for trapped gas and backfill with gravel to create a ventilation pathway.	Modifying the vaults by removing the knockouts may not be acceptable to airport operations due to structural concerns. This option is currently under consideration.
	OPTION 5 - Install passive vent wells adjacent to vaults to a depth 2 feet or more below the bottom of vaults/dig trenches along duct bank to intercept and divert gas away.	The efficacy of this method is unknown until after re-start of air injection (may require 2-3 weeks).
	OPTION 6 - Install passive barrier around vault using gravel.	Possibly more effective than wells; but also more disruptive. Obtain adequate airport access likely to be very difficult.
Force Ventilation	OPTION 7 - Drill holes in vault hatch and use an explosion proof blower to evacuate vault atmosphere.	Same issue with drilling holes in vault hatch as noted above. Getting sufficient power to the blower is an issue. Will need 12 air exchange per hour per NEC specifications, solar power alone may not work or require numerous panels. Access to airfield power is not an option.
	OPTION 8 - Drill holes in vault hatch and install an explosion proof fan at an unused knockout at side of vault.	

TABLE D-6
Evaluation of Permanent Vault Mitigation Options
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Mitigation Type	Description	Issues/Concerns
	OPTION 9 - Install a shallow SVE system adjacent to vaults explosion proof fan at an unused knockout at side of vault.	Air permitting is an issue; it may be difficult to do this all subsurface. Power source to run the soil vapor extraction may be significant and it is questionable if power is available.
	OPTION 10 - Use radon type of blowers on vent wells adjacent to the vaults.	Same power and air permitting issue as above.
	OPTION 11 - Install radon/vapor intrusion type extraction system in vaults.	Same issues with power, air permitting and the need to cut holes in the vault lid discussed above.

TABLE D-7

BSVE Project Non-process Soil-vapor Monitoring (2008 Baseline Event) - Field Parameters Summary for VLT-2145, East of Building 225 and South of Building 30

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location	Date	Time	O_2-WO (% V/V)	CO_2-WO (% V/V)	Methane-W (% V/V)	Methane-WO (% V/V)	LEL-W (%)	LEL-WO (%)	Comments
VLT-2145	07/07/08	14:34	17.3	0.6	< 0.1	0.5	<1	9	
VLT-2145	07/17/08	PM	19.5	0.5	0.2	0.5	3	9	FID w/filter = 5410 ppm, FID w/o filter = 7419 ppm
VLT-2145	07/18/08	9:30	20.8	0.2		0.1		2	
VLT-2145	07/18/08	9:40	20.6	0.1	0.1	1.8	1	35	FID w/filter = 500.1 ppm, FID w/o filter = 499.7 ppm
VLT-2145									Removed lid and will remain off until 1 p.m.
VLT-2145	07/18/08	15:44						9	Estimated values based on notes.
VLT-2145	07/18/08	16:00						10	Estimated values based on notes.
VLT-2145	07/21/08	9:30	20.8	< 0.1	< 0.1	< 0.1	<1	<1	Vault lid was open during monitoring.
VLT-2145	07/21/08	14:30	18.4	1.1	0.8	1.1	15	22	
VLT-2145	07/22/08	16:10	18.4	1.0	0.9	1.1	18	20	FID w/filter = 8324 ppm, FID w/o filter = 8800 ppm
VLT-2145	07/23/08	9:15	20.3	0.1	< 0.1	< 0.1	<1	<1	FID w/filter = 296 ppm, FID w/o filter = 272.1 ppm
VLT-2145									Ventilation fan was started around 11 a.m.
VLT-2145	07/23/08	14:20	17.8	0.5	0.1	0.6	2	11	FID w/filter = 14,885 ppm, FID w/o filter = 16,874 ppm
VLT-2145	07/24/08	13:55	19.6	0.4	< 0.1	< 0.1	<1	<1	FID w/filter = 3,180 ppm, FID w/o filter = 3,180 ppm
VLT-2145	07/25/08	14:15	19.3	0.5	< 0.1	0.3	<1	5	See Note 3 below.
VLT-2145	07/28/08	13:10	20.3	0.3	< 0.1	< 0.1	<1	<1	FID w/filter = 378 ppm, FID w/o filter = 688 ppm
VLT-2145	08/04/08	14:44	18.5	1.2	0.4	0.6	7	12	FID w/filter = 7,571 ppm, FID w/o filter = 8,275 ppm
VLT-2145									Measurements taken with lid closed. See Note 4.
VLT-2145									FID w/filter = 110 ppm, FID w/o filter = 100 ppm
VLT-2145									Measurements taken with lid open; lid was opened
VLT-2145	08/04/08	16:15	20.6	< 0.1	< 0.1	< 0.1	<1	<1	at 14:54. Summa canister samples were obtained
VLT-2145									with lid closed and open; will be analyzed via TO-15.
VLT-2145									The lid was closed at 16:20 and the blower was
VLT-2145									turned on.
VLT-2145	08/06/08	14:05	20.9	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = 62.8 ppm, FID w/o filter = 64.1 ppm
VLT-2145									Blower was operational during measurements.
VLT-2145	08/14/08	17:50	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = 89.9 ppm, FID w/o filter = 90.2 ppm
VLT-2145									Blower was operational during measurements.
VLT-2145	08/21/08	14:56	18.7	1.2	0.7	1.1	14	22	FID w/filter = 10058 ppm, FID w/o filter = 9802 ppm
VLT-2145	08/28/08	13:00	19.1	0.6	1	1.1	20	22	FID w/filter = 9,200 ppm, FID w/o filter = 9,570 ppm
VLT-2145									Ventilation blower broken. Replaced at 14:40 and
VLT-2145									turned on.

TABLE D-7

BSVE Project Non-process Soil-vapor Monitoring (2008 Baseline Event) - Field Parameters Summary for VLT-2145, East of Building 225 and South of Building 30

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location	Date	Time	O_2-WO (% V/V)	CO_2-WO (% V/V)	Methane-W (% V/V)	Methane-WO (% V/V)	LEL-W (%)	LEL-WO (%)	Comments
VLT-2145	09/05/08	14:36	20.4	< 0.1	0.1	0.1	2	2	FID w/filter = 990 ppm, FID w/o filter = 1,031 ppm
VLT-2145									Changed ventilation blower from extracting air out of
VLT-2145									vault to blowing fresh air into vault
VLT-2145	09/10/08	14:18	21.2	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = 11.1 ppm, FID w/o filter = 12.1 ppm
VLT-2145	09/19/08	13:51	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = 77.9 ppm, FID w/o filter = 76.5 ppm
VLT-2145	09/24/08	15:00	21.0	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = 71.0 ppm, FID w/o filter = 19.7 ppm
VLT-2145	10/02/08	13:41	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT-2145	10/06/08	15:15	20.0	0.4	0.4	0.4	5	8	FID w/filter = 1441 ppm, FID w/o filter = 1982 ppm
VLT-2145	10/10/08	15:42	20.3	<0.1	<0.1	<0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT-2145	10/17/08	13:57	19.1	0.3	0.1	0.1	1	1	FID w/filter = 17.6 ppm, FID w/o filter = 17.6 ppm
VLT-2145	10/24/08	14:18	20.5	0.2	0.1	0.2	4	4	FID w/filter = 2,498 ppm, FID w/o filter = 2,808 ppm
VLT-2145	10/31/08	14:50	19.9	0.2	0.1	0.2	<1	4	FID w/filter = 1,107 ppm, FID w/o filter = 1,282 ppm
VLT-2145	11/06/08	13:47	19.3	0.8	0.3	0.9	6	18	FID w/filter = 5,958 ppm, FID w/o filter = 6,660 ppm
VLT-2145	11/15/08	13:32	20.9	<0.1	<0.1	<0.1	<1	<1	FID w/filter = 91.7 ppm, FID w/o filter = 265.5 ppm
VLT-2145	11/19/08	15:15	18.7	1.1	0.3	1.1	6	23	FID w/filter = 11,248 ppm, FID w/o filter = 12,077 ppm
VLT-2145	11/25/08	14:04	19.8	0.5	<0.1	0.4	<1	8	FID w/o filter = 3,485 ppm; FID w/filter = 3,701 ppm
VLT-2145	12/05/08	14:20	20.5	0.4	<0.1	0.3	<1	5	FID w/o filter = 1,625 ppm; FID w/filter = 1,524 ppm
VLT-2145	12/12/08	14:10	19.7	0.5	<0.1	0.4	<1	8	FID w/o filter = 4,300 ppm; FID w/filter = 2,430 ppm
VLT-2145	12/19/08	14:20	19.8	0.4	0.2	0.4	4	8	FID w/o filter = 529 ppm; FID w/filter = 226 ppm
VLT-2145	12/26/08	13:35	20.3	0.1	<0.1	<0.1	<1	<1	FID w/o filter = 1,364 ppm; FID w/filter = 610 ppm
VLT-2145	12/30/08	12:35	20.6	0.1	<0.1	<0.1	<1	<1	FID w/o filter = 121.2 ppm; FID w/filter = 119.1 ppm

Notes:

1. Results were collected with lid closed unless otherwise noted in the "Comments" section.
2. Data in the above table are estimates based on notes from site visits and phone calls.
3. No flame ionization detector (FID) readings were taken on 7/25/08 since the flame would burn-out on each unit frequently.
4. Upon arriving at VLT-2145 on 8/4/08, the blower was not on although it was operational. The exhaust hose was not in the vault and upon opening the lid, it was noticed that a section of the tube fell inside the vault (due to high temperatures?) and the other section was laying on the ground outside the vault.

TABLE D-8

BSVE Project Non-process Soil-vapor Monitoring (November 25,2008) - Field Parameters Summary for Structures Near VLT-2145

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location	Date	Time	O_2-WO (% V/V)	CO_2-WO (% V/V)	Methane-W (% V/V)	Methane-WO (% V/V)	LEL-W (%)	LEL-WO (%)	Comments
Bldg 253	11/25/08	14:32	20.9	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
Bldg 225	11/25/08	14:26	20.9	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
Bldg 214	11/25/08	14:29	20.9	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT - 2144	11/25/08	14:04	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT- 3053	11/25/08	14:20	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = < 0.5 ppm, FID w/o filter = < 0.5 ppm
Bldg 253	12/26/08	14:00	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
Bldg 225	12/26/08	13:50	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
Bldg 214	12/26/08	13:54	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT - 2144	12/26/08	13:44	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT- 3053	12/26/08	13:45	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = < 0.5 ppm, FID w/o filter = < 0.5 ppm
Bldg 253	12/30/08	12:57	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
Bldg 225	12/30/08	12:47	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
Bldg 214	12/30/08	12:52	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT - 2144	12/30/08	12:40	20.7	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = <0.5 ppm, FID w/o filter = <0.5 ppm
VLT- 3053	12/30/08	13:05	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/filter = < 0.5 ppm, FID w/o filter = < 0.5 ppm

TABLE D-9

BSVE Project Non-process Soil-vapor Monitoring (2008 Baseline Event) - Field Parameters Summary for VLT-1156, Southeast of Building 102, near Fence Line with PSHIA

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location	Date	Time	O_2-WO (% V/V)	CO_2-WO (% V/V)	Methane-W (% V/V)	Methane-WO (% V/V)	LEL-W (%)	LEL-WO (%)	Comments
VLT 1156	07/07/08	13:37	16.5	2.5	< 0.1	0.1	<1	3	
VLT 1156	07/17/08	PM			< 0.1	< 0.1	<1	<1	
VLT 1156	07/18/08	16:35						35	Had problems w/FID, used GEM unit only.
VLT 1156	07/18/08	16:45						45	Had problems w/FID, used GEM unit only.
VLT 1156	07/21/08	9:30	20.5	< 0.1	< 0.1	< 0.1	<1	<1	
VLT 1156	07/21/08	14:30	8	7.8	0.7	0.9	14	17	
VLT 1156	07/22/08	16:24	2.3	10.1	1.6	2.1	31	40	Had problems w/FID, used GEM unit only.
VLT 1156	07/23/08	9:35	20.9	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter = 70.1 ppm, FID w/filter = 68.3 ppm
VLT 1156									Ventilation fan was started around 10:30 a.m.
VLT 1156	07/23/08	14:50	15.0	3.1	0.6	0.6	11	11	FID w/o filter = 9,907 ppm; FID w/filter = 8,360 ppm
VLT 1156	07/24/08	14:35	14.6	2.7	0.4	0.8	8	13	FID w/o filter = 9,325 ppm; FID w/filter = 9,450 ppm
VLT 1156	07/25/08	14:40	19.3	0.6	< 0.1	< 0.1	<1	<1	See Note 3 below.
VLT 1156	07/28/08	13:40	18.9	0.8	< 0.1	< 0.1	<1	<1	FID w/o filter = 14.7 ppm; FID w/filter = 14.3 ppm
VLT 1156	08/04/08	15:46	15.8	5.0	< 0.1	< 0.1	<1	<1	FID w/o filter = < 0.5 ppm; FID w/filter = < 0.5 ppm
VLT 1156									See Note 4 below.
VLT 1156	08/06/08	14:50	2.5	10.3	0.9	0.9	17	18	FID w/o filter = 97.6 ppm; FID w/filter = 97.6 ppm
VLT 1156									Blower was not operational during measurements.
VLT 1156	08/14/08	18:25	5.2	10.0	< 0.1	0.3	<1	6	FID w/o filter = 99.7 ppm; FID w/filter = 100.1 ppm
VLT 1156	08/21/08	15:42	7.9	8.6	< 0.1	0.1	<1	2	FID w/o filter = 136.5 ppm; FID w/filter = 141.5 ppm
VLT 1156	08/28/08	12:38	17.5	1.4	< 0.1	< 0.1	<1	<1	FID w/o filter = 970 ppm; FID w/filter = 850 ppm
VLT 1156									Ventilation blower turned on
VLT 1156	09/05/08	14:20	17.2	1.8	0.1	0.2	2	4	FID w/o filter = 1,891 ppm; FID w/filter = 1,848 ppm
VLT 1156									Changed ventilation blower from extracting air out of vault
VLT 1156									to blowing fresh air into vault
VLT 1156	09/10/08	15:09	16.0	2.6	0.1	0.1	2	2.4	FID w/o filter = 10,921 ppm; FID w/filter = 10,872 ppm
VLT 1156	09/19/08	14:30	17.9	1.5	<0.1	0.1	<1	2	FID w/o filter = 4,530 ppm; FID w/filter = 4,508 ppm
VLT 1156	09/24/08	15:45	15.8	2.9	0.4	0.5	8	10	FID w/o filter = 11,516 ppm; FID w/filter = 11,380 ppm
VLT 1156	10/02/08	14:00	14.1	0.8	0.1	0.3	3	8	FID w/o filter = 15,130 ppm; FID w/filter =9,060 ppm
VLT 1156	10/10/08	15:57	19.8	0.4	<0.1	0.1	<1	2	FID w/o filter = 2,574 ppm; FID w/filter =2,152 ppm
VLT 1156	10/17/08	13:32	18.6	1.2	<0.1	<0.1	<1	<1	FID w/o filter = < 0.5 ppm; FID w/filter = < 0.5 ppm
VLT 1156	10/24/08	15:06	20.2	0.6	<0.1	<0.1	<1	<1	FID w/o filter = 178.7 ppm; FID w/filter = 66.2 ppm
VLT 1156	10/31/08	15:50	19.0	0.9	<0.1	<0.1	<1	<1	FID w/o filter = 20.7 ppm; FID w/filter = 16.8 ppm
VLT 1156	11/06/08	14:40	20.4	0.9	<0.1	<0.1	<1	<1	FID w/o filter = 20.7 ppm; FID w/filter = 16.8 ppm
VLT 1156	11/15/08	14:10	20.5	<0.1	<0.1	<0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm

TABLE D-9

BSVE Project Non-process Soil-vapor Monitoring (2008 Baseline Event) - Field Parameters Summary for VLT-1156, Southeast of Building 102, near Fence Line with PSHIA

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location	Date	Time	O_2-WO (% V/V)	CO_2-WO (% V/V)	Methane-W (% V/V)	Methane-WO (% V/V)	LEL-W (%)	LEL-WO (%)	Comments
VLT 1156	11/19/08	15:58	12.3	4.7	<0.1	0.1	1	3	FID w/o filter = 5,123 ppm; FID w/filter = 5,121 ppm
VLT 1156	11/25/08	14:50	17.7	1.9	<0.1	<0.1	<1	<1	FID w/o filter = 532.6 ppm; FID w/filter = 548.4 ppm
VLT 1156	12/05/08	15:30	20.8	<0.5	<0.1	<0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm
VLT 1156	12/12/08	15:20	14.7	3.3	0.1	0.2	3	3	FID w/o filter = 3200 ppm; FID w/filter = 2888 ppm
VLT 1156	12/19/08	15:30	20.5	<0.5	<0.1	<0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm
VLT 1156	12/26/08	14:28	20.7	0.1	<0.1	<0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm
VLT 1156	12/30/08	13:25	20.7	0.1	<0.1	<0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm

Notes:

1. All results were collected with lid closed unless otherwise noted in the "Comments" section.
2. Data in the above table are estimates based on notes from site visits and phone calls.
3. No flame ionization detector (FID) readings were taken on 7/25/08 since the flame would burn-out on each unit frequently.
4. It was noticed the blower at VLT-1156 was not working during a site visit on 8/1/08. Because the methane and LEL readings were below detection limits, the blower was removed.

TABLE D-10

BSVE Project Non-Process Soil Vapor Monitoring (November 25, 2008) - Field Parameters Summary for VLT-1154 and Building 101

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

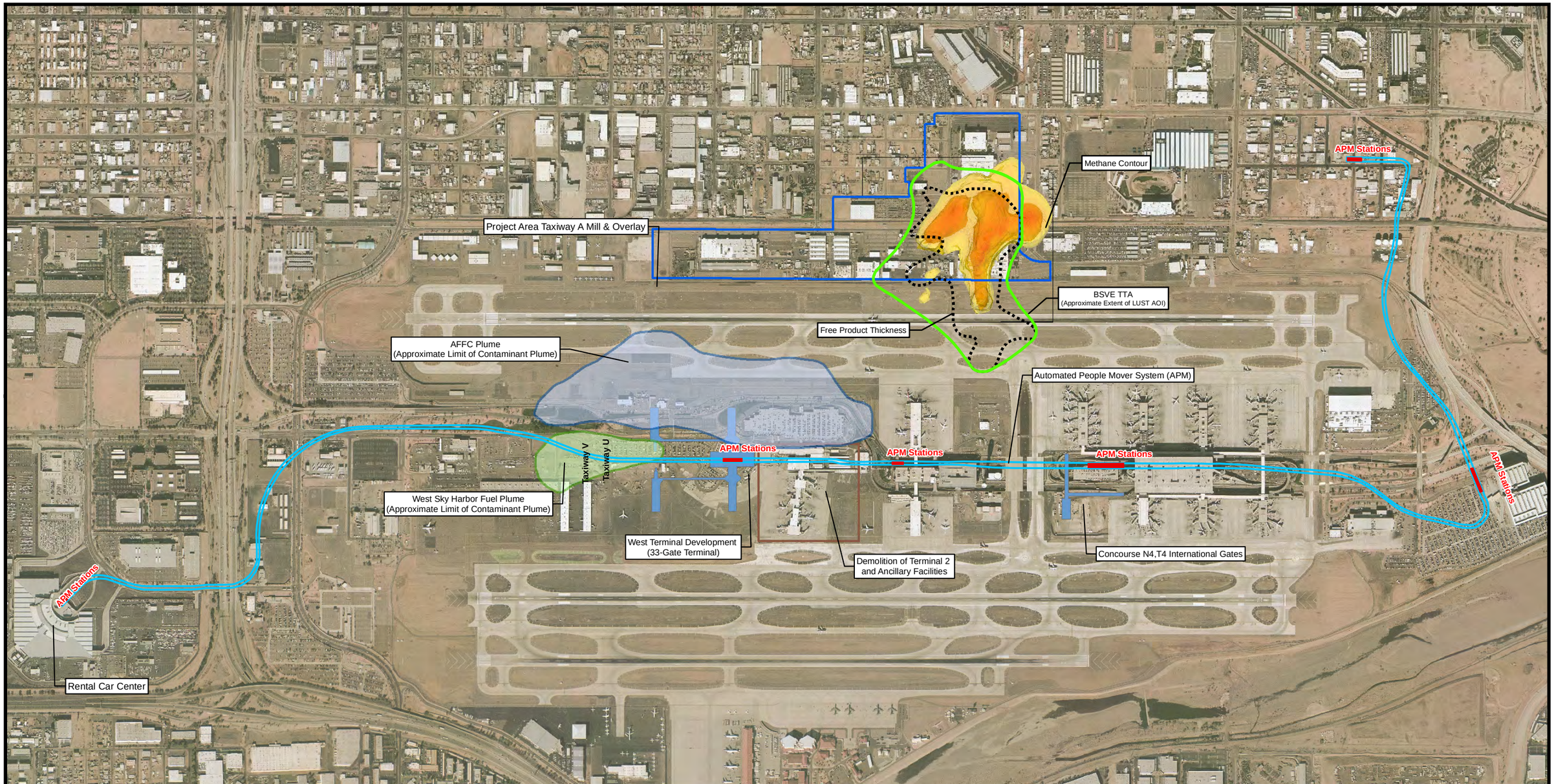
Location	Date	Time	O_2-WO (% V/V)	CO_2-WO (% V/V)	Methane-W (% V/V)	Methane-WO (% V/V)	LEL-W (%)	LEL-WO (%)	Comments
VLT 1154[a]	11/25/08	15:00	20.6	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm
Bldg 101[b]	11/25/08	15:08	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter =<0.5 ppm; FID w/filter = <0.5 ppm
VLT 1154[a]	12/26/08	14:36	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm
Bldg 101[b]	12/26/08	14:05	20.9	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter =<0.5 ppm; FID w/filter = <0.5 ppm
VLT 1154[a]	12/30/08	13:35	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter = <0.5 ppm; FID w/filter = <0.5 ppm
Bldg 101[b]	12/30/08	13:42	20.8	< 0.1	< 0.1	< 0.1	<1	<1	FID w/o filter =<0.5 ppm; FID w/filter = <0.5 ppm

Notes:

a: VLT-1153/1154/1155 is a 3-chamber interceptor just to the north of VLT-1156. Sampled VLT-1154 (middle) chamber only.

b: The sample inside Building 101 was taken in the conference room that was sampled previously. If you enter the door on the south side of Building 101, around the corner from VLT-1156, the conference room is the first room on the left.

Figures



Legend

- BSVE Target Treatment Area (TTA)
- Automated People Mover System (APM)
- APM Stations
- Demolition of Terminal 2 and Ancillary Facilities
- West Terminal Development (33-gate terminal)
- Concourse N4 International Gates
- Phoenix Sky Harbor Taxiway
- West Sky Harbor Fuel Plume
- AFFC Plume
- Free Product Thickness (as of September 2008)
- Honeywell Site Boundary

Methane Contour

- 5% Methane
- 15% Methane

N
W E
S

0 625 1,250 2,500 Feet

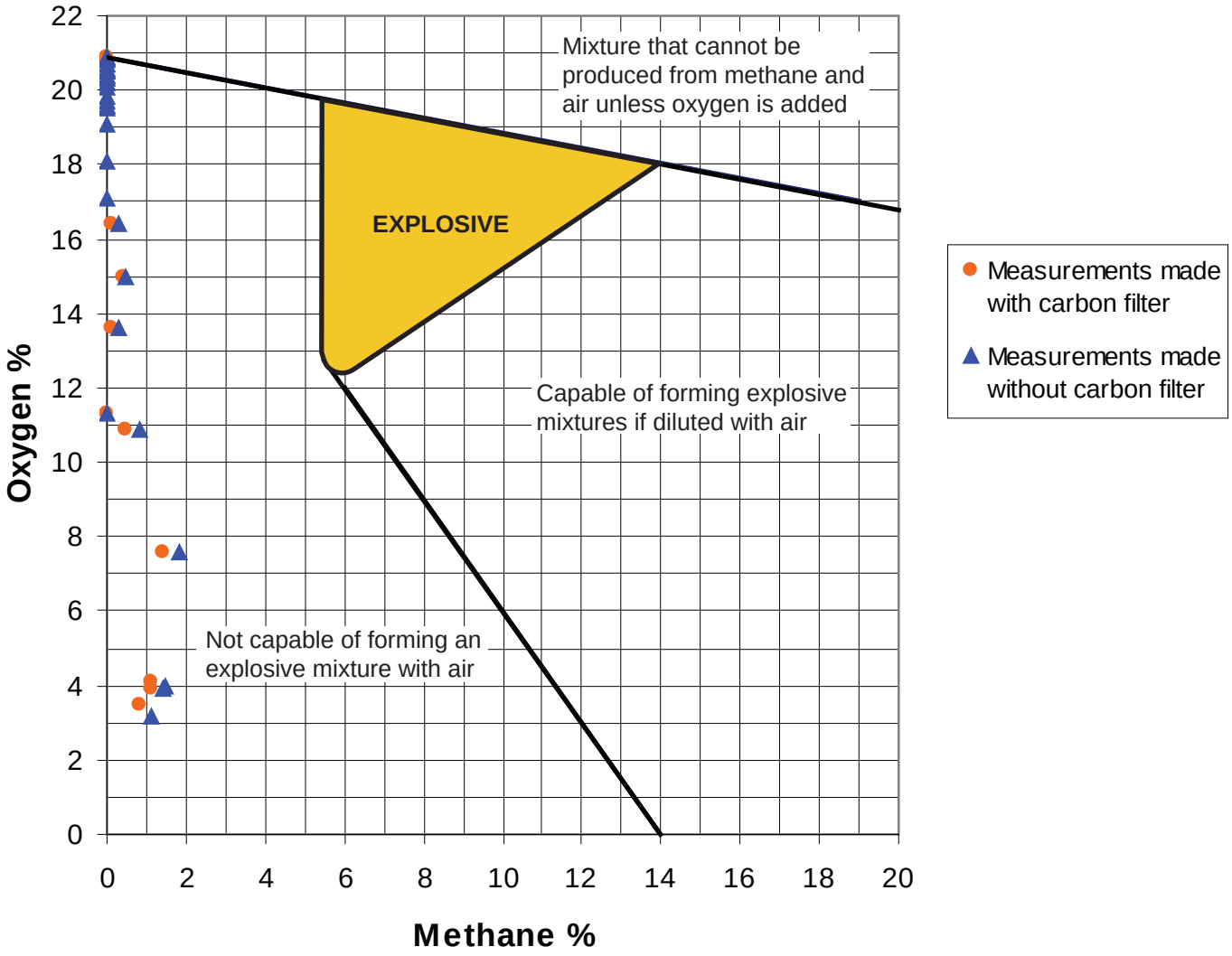
Notes:
1. Soil gas methane concentrations (5 and 15 percent contours) during static conditions 2005/2006.
2. Aerial Image Flight Date: January 2007.

FIGURE D-1
PLANNED CONSTRUCTION IN THE SITE VICINITY (CONCEPTUAL)

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

UNK \\MADISON\GROUPS\EMS\GIS_LIBRARY\HONEYWELL\34TH_STREET_FACILITY\COMMON_DATA\FIGURES\2011\FHHRA\FIGURED-1.MXD AOMALLEY 3/3/2011 11:19:53



Notes:

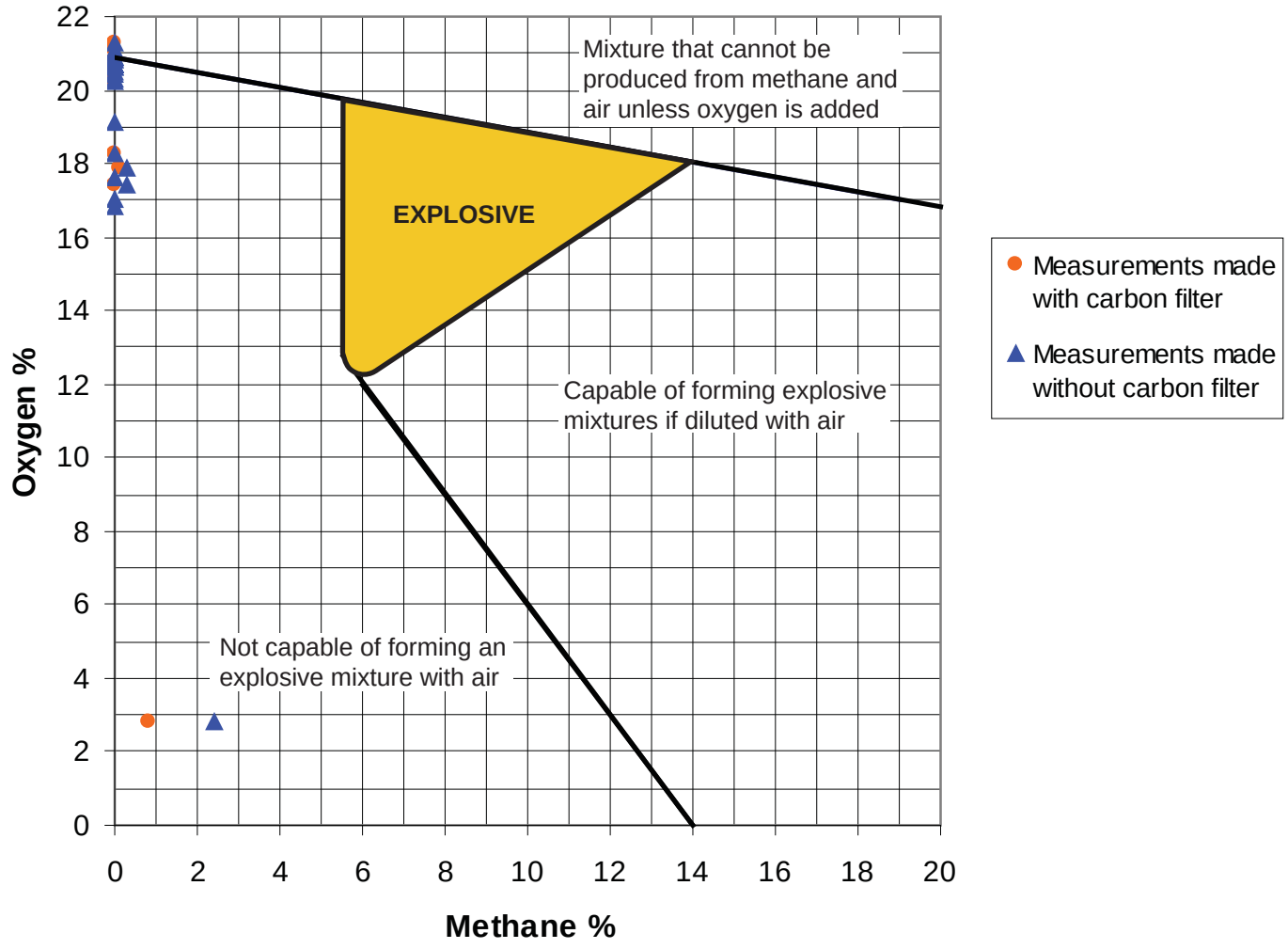
1. Methane and oxygen data collected from utility vaults is presented in Attachment 2, Table 2 of the Methane Technical Memorandum (CH2M HILL, 2006c).
2. In the event methane readings were collected and indicated zero methane present without a carbon filter, readings of methane with a carbon filter were typically not subsequently collected because the first reading (without a carbon filter) indicated that there were no contaminants present to filter with activated carbon.
3. The explosive limits of methane - Coward's Triangle - as presented above was reported in "Spacecraft Maximum Allowable Concentrations for Selected Airborne Contaminants, Volume 1, pg. 147 (NAS, 1994)"

FIGURE D-2
OXYGEN AND METHANE FIELD MEASUREMENTS AT UTILITY VAULT ELE-VLT-03 COMPARED TO THE EXPLOSIVE LIMITS OF METHANE

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-2(12/08)



Notes:

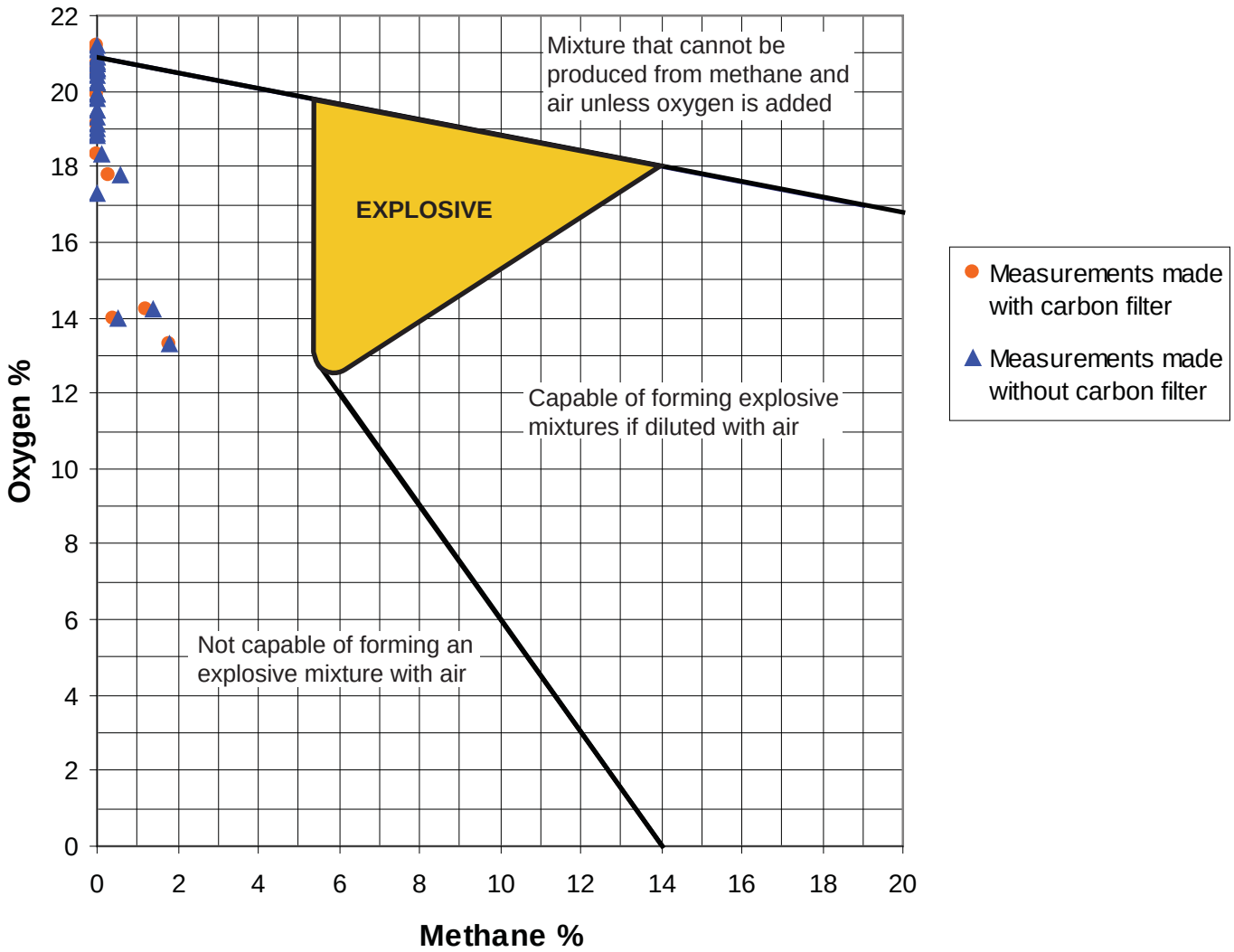
1. Methane and oxygen data collected from utility vaults is presented in Attachment 2, Table 2 of the Methane Technical Memorandum (CH2M HILL, 2006c).
2. In the event methane readings were collected and indicated zero methane present without a carbon filter, readings of methane with a carbon filter were typically not subsequently collected because the first reading (without a carbon filter) indicated that there were no contaminants present to filter with activated carbon.
3. The explosive limits of methane - Coward's Triangle - as presented above was reported in "Spacecraft Maximum Allowable Concentrations for Selected Airborne Contaminants, Volume 1, pg. 147 (NAS, 1994)"

FIGURE D-3
OXYGEN AND METHANE FIELD MEASUREMENTS AT UTILITY VAULT ELE-VLT-06 COMPARED TO THE EXPLOSIVE LIMITS OF METHANE

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-3(12/08)



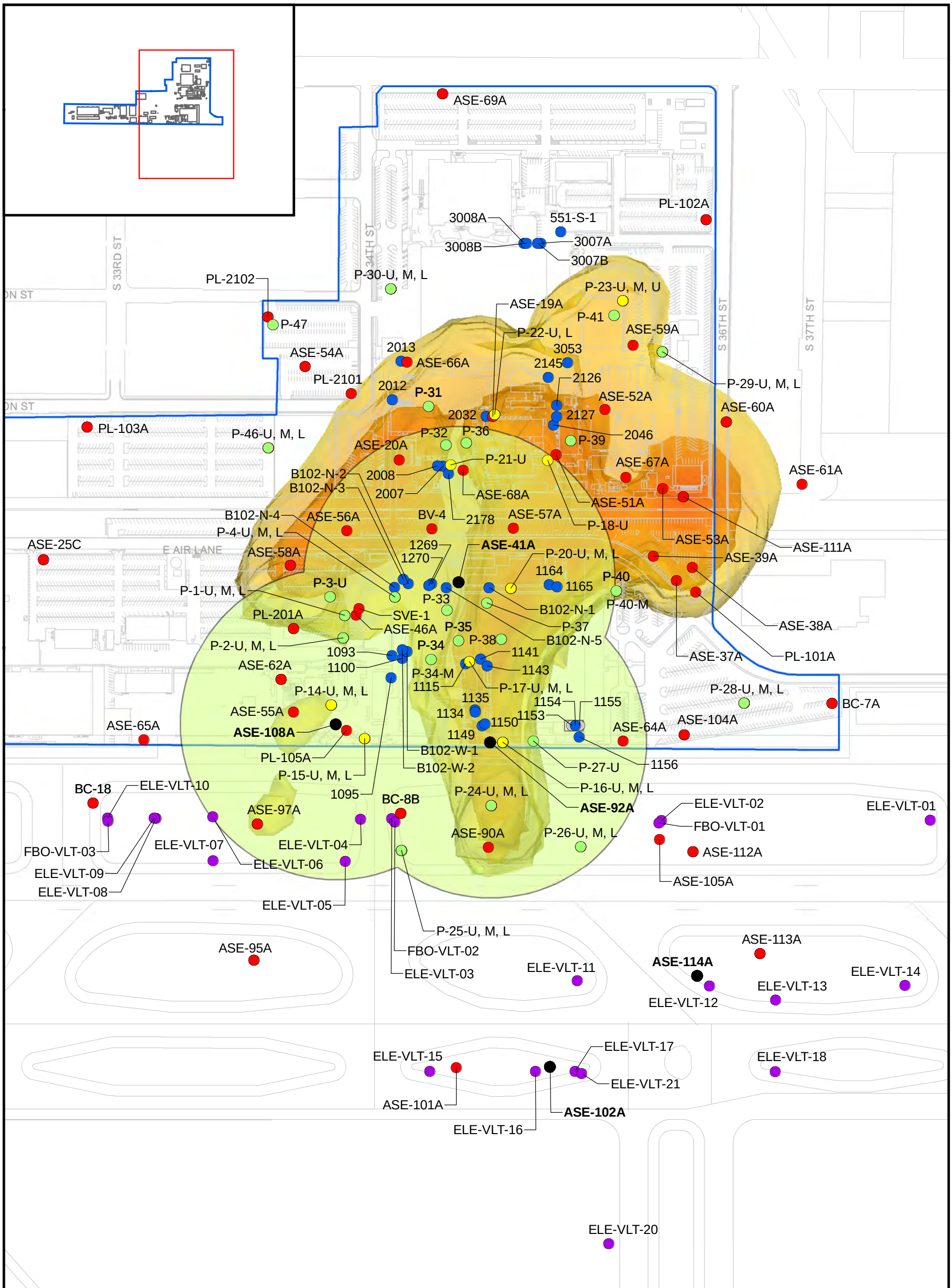
Notes:

1. Methane and oxygen data collected from utility vaults is presented in Attachment 2, Table 2 of the Methane Technical Memorandum (CH2M HILL, 2006c).
2. In the event methane readings were collected and indicated zero methane present without a carbon filter, readings of methane with a carbon filter were typically not subsequently collected because the first reading (without a carbon filter) indicated that there were no contaminants present to filter with activated carbon.
3. The explosive limits of methane - Coward's Triangle - as presented above was reported in "Spacecraft Maximum Allowable Concentrations for Selected Airborne Contaminants, Volume 1, pg. 147 (NAS, 1994)"

FIGURE D-4
OXYGEN AND METHANE FIELD MEASUREMENTS AT UTILITY VAULT FBO-VLT-01 COMPARED TO THE EXPLOSIVE LIMITS OF METHANE
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-4 (12/08)



Legend

- Air Injection Wells
- Soil-Vapor Monitoring Well - Shallow
- Soil-Vapor Monitoring Well - Intermediate
- Soil-Vapor Monitoring Well - Deep
- Honeywell Vaults Data collected in February 2006
- PSHIA Vaults Data collected in August 2005
- Streets and Airport Features
- Honeywell Buildings
- Honeywell Facility
- 500' Air Injection Radius

Methane Contour

- 5% Methane
- 15% Methane

N W E S

0 150 300 600 Feet

Notes:
1. Soil gas methane concentrations (5 and 15 percent contours) during static conditions 2005/2006.
2. ASE-102A and ASE-114A are proposed air injection well locations. Air was not injected into these wells during the air injection pilot test (February 2006 - May 2006).

FIGURE D-5
500-FOOT RADIUS AROUND AIR INJECTION WELLS
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\HONEYWELL PROJECTS\354596.SH.50.52.RA\MAPFILES\FIGURE6-5_500FTRADIUS.MXD CVF 12/30/2008 11:58:12

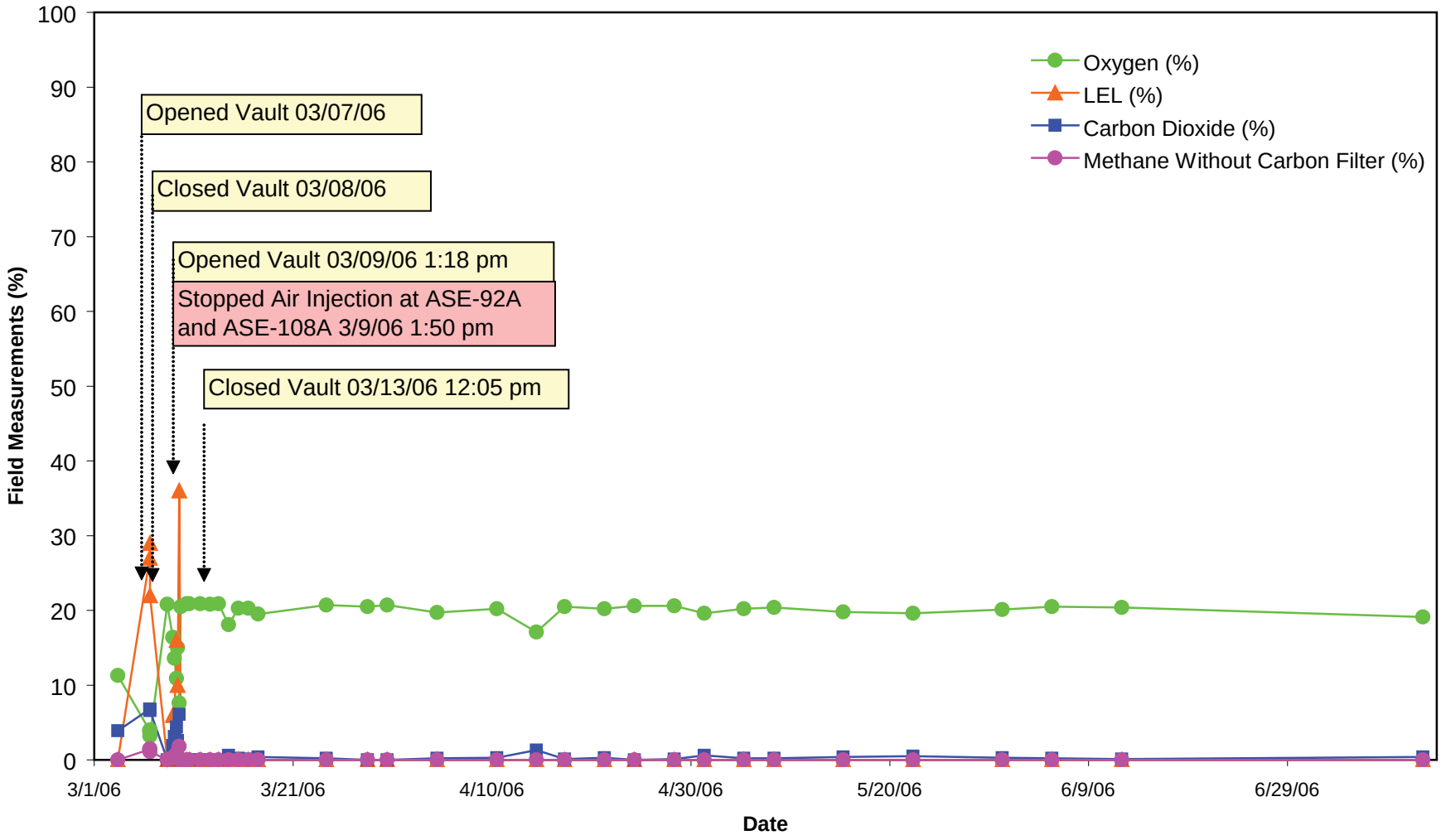


FIGURE D-6
METHANE CONCENTRATIONS AT UTILITY VAULT ELE-VLT-03 DURING AIR INJECTION PILOT STUDY

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-6methane (12/08)

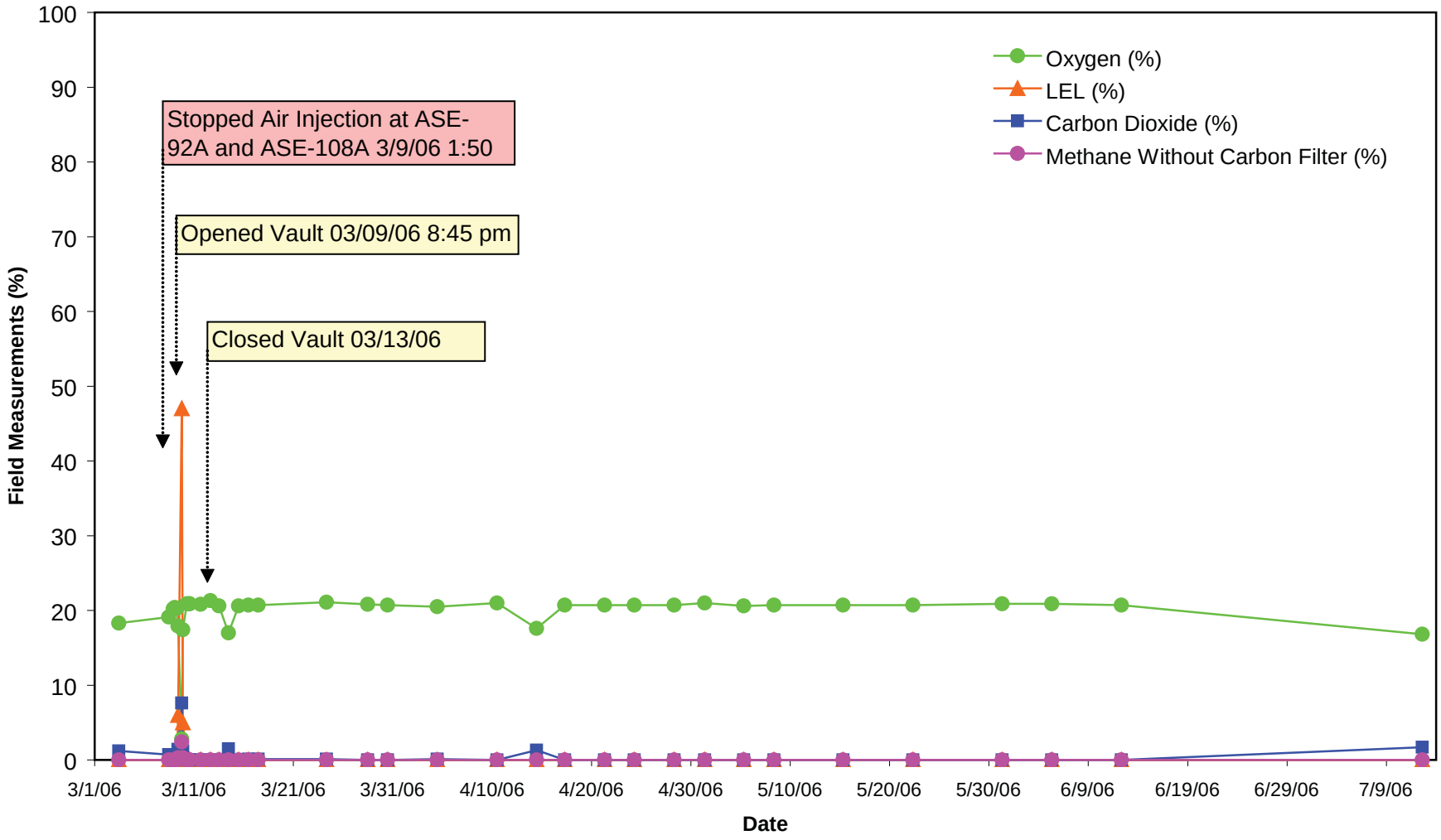


FIGURE D-7
METHANE CONCENTRATIONS AT UTILITY VAULT ELE-VLT-06
DURING AIR INJECTION PILOT STUDY

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-7methane (12/08)

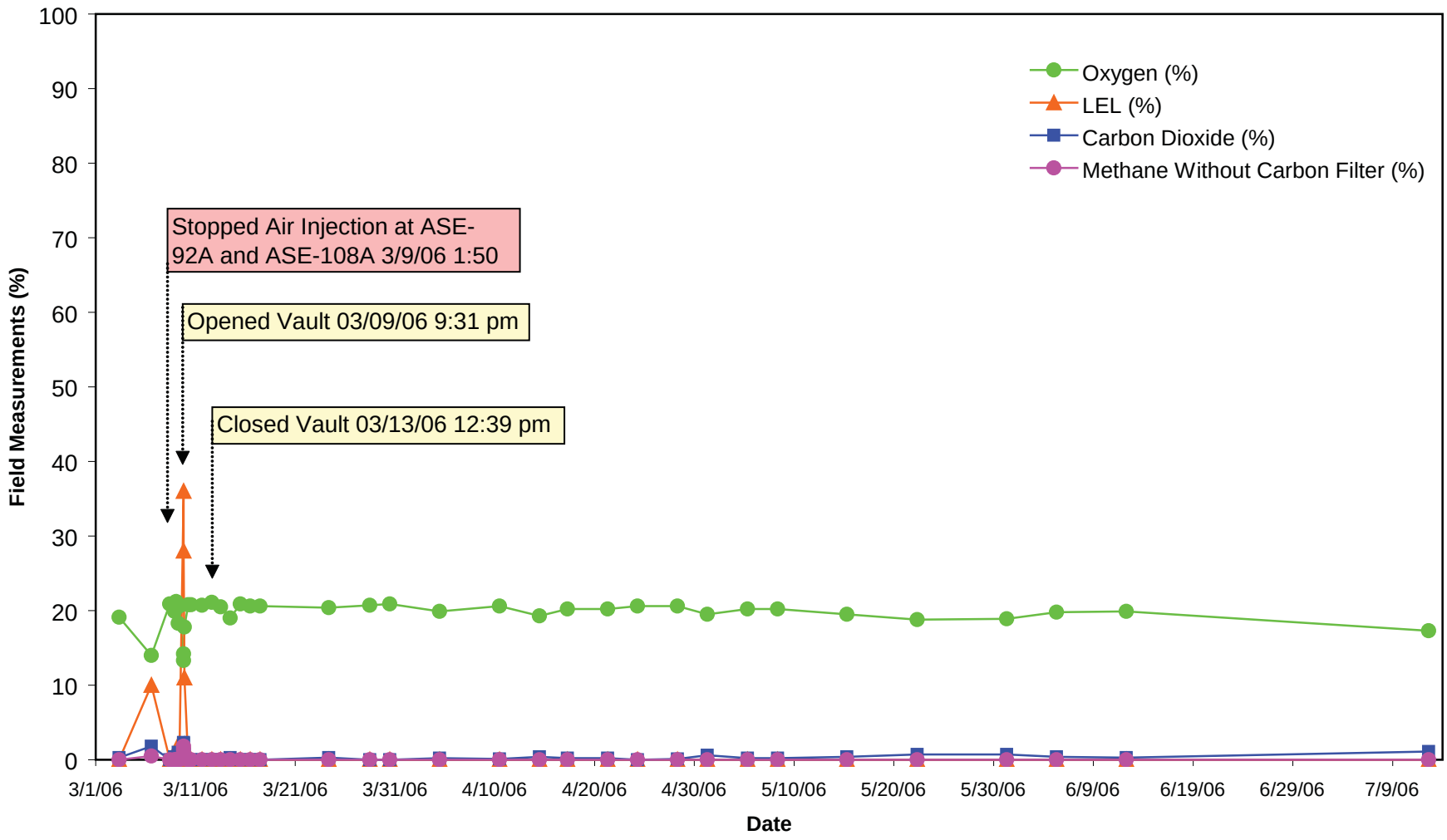
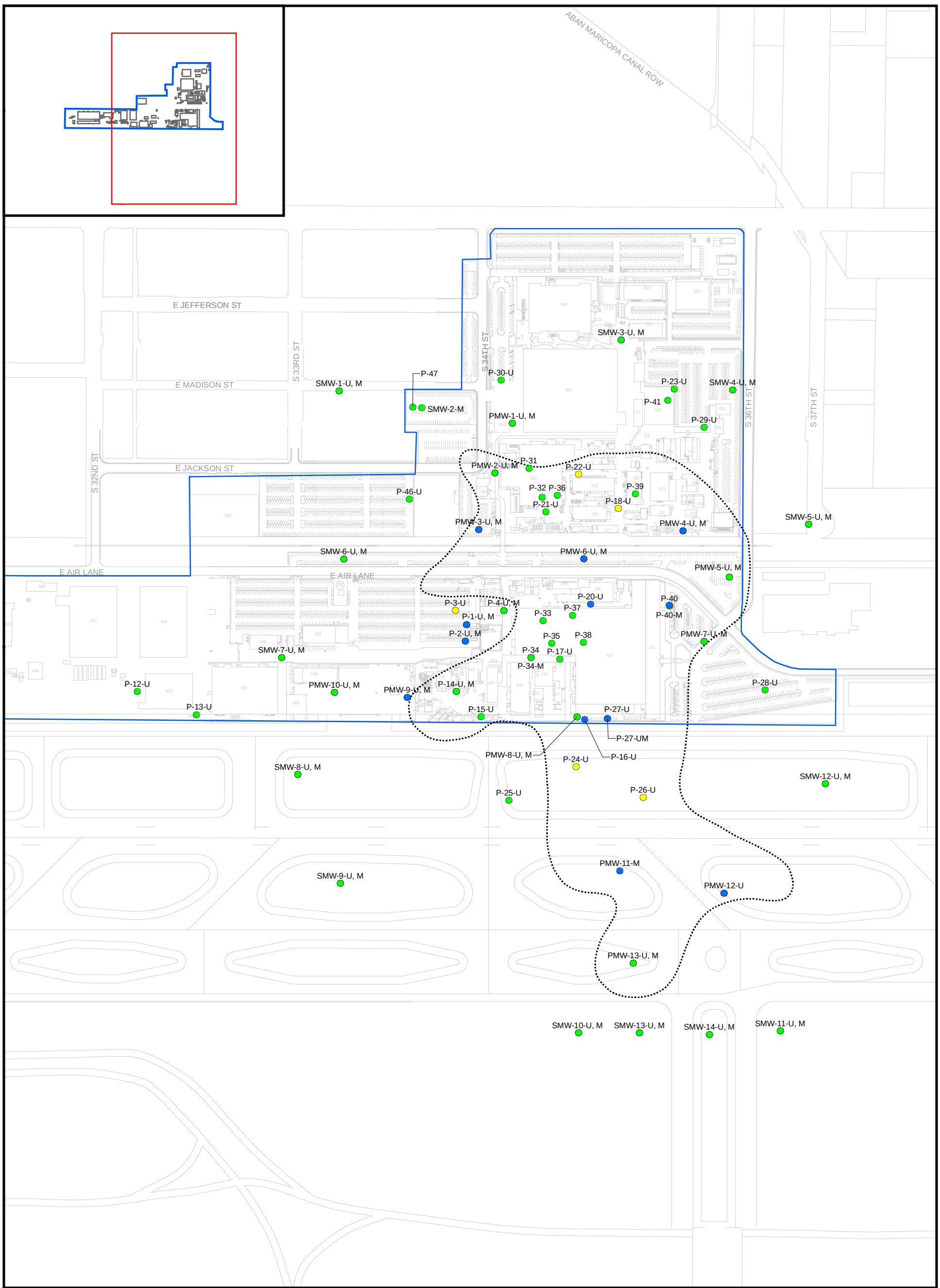


FIGURE D-8
METHANE CONCENTRATIONS AT UTILITY VAULT FBO-VLT-01
DURING AIR INJECTION PILOT STUDY

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-8methane (12/08)



Legend

- Methane Levels <0.5% (10% LEL)
- Methane Levels >0.5%and<10%
- Methane Levels >10%
- Streets and Airport Features
- Historical Free Product Extent (as of September 2008)
- Honeywell Facility

N W E S

0 200 400 800 Feet

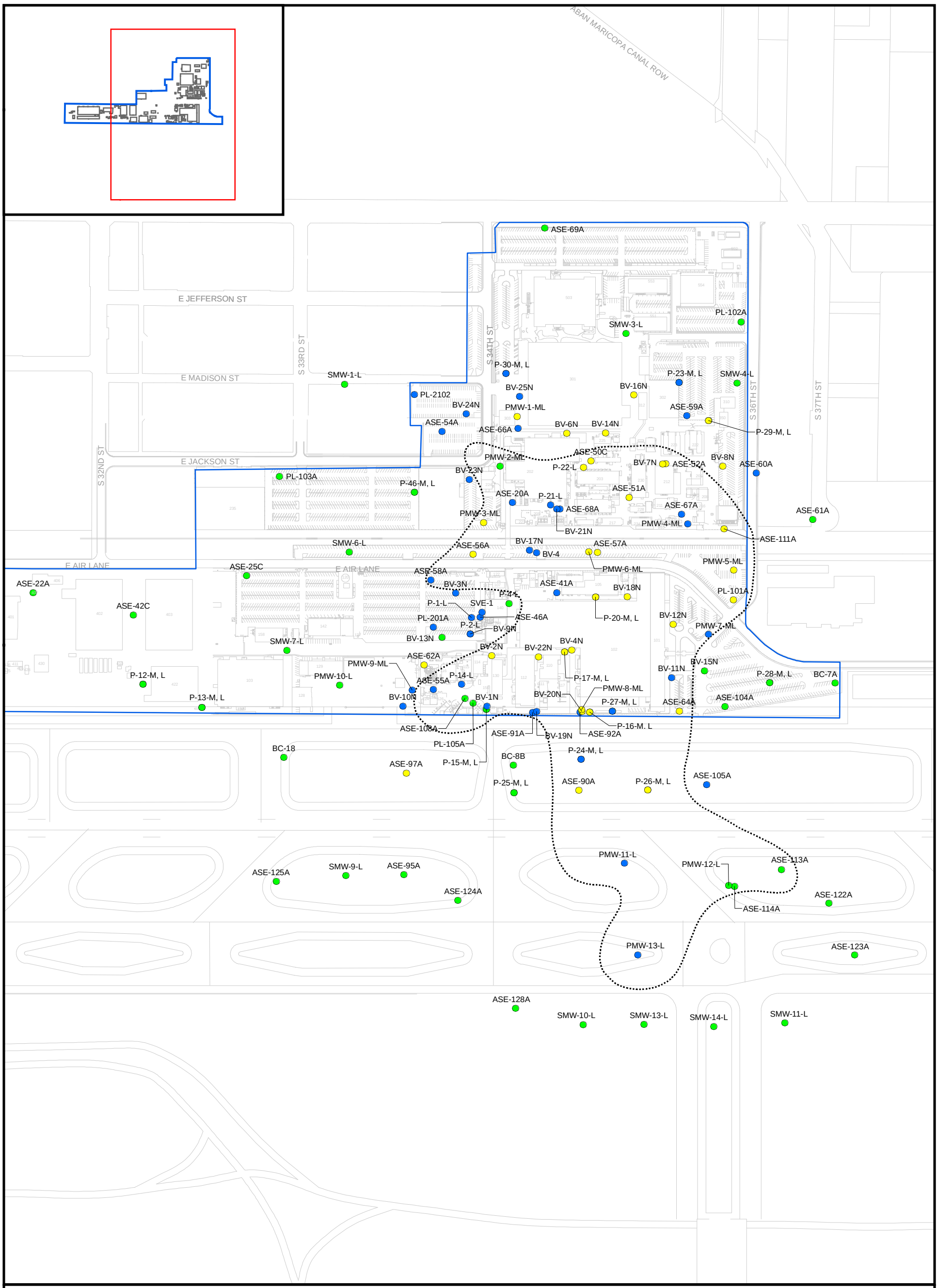
Note:
1. Lower Explosive Limit.

FIGURE D-9
METHANE LEVELS: SHALLOW AND INTERMEDIATE (<30 FEET, SEPTEMBER 2008 AND OCTOBER 2008 SAMPLING EVENT)

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\HONEYWELL PROJECTS\354596.SH.50.52.RA\MAPFILES\FIGURE6-9_SV-FIELDMEASUREMENTS_SHALLOW.MXD CVF 12/30/2008 12:03:33



Legend

- Methane Levels <0.5%
- Methane Levels >0.5%and<10%
- Methane Levels >10%
- Streets and Airport Features
- Historical Free Product Extent (as of September 2008)
- Honeywell Facility

N W E S

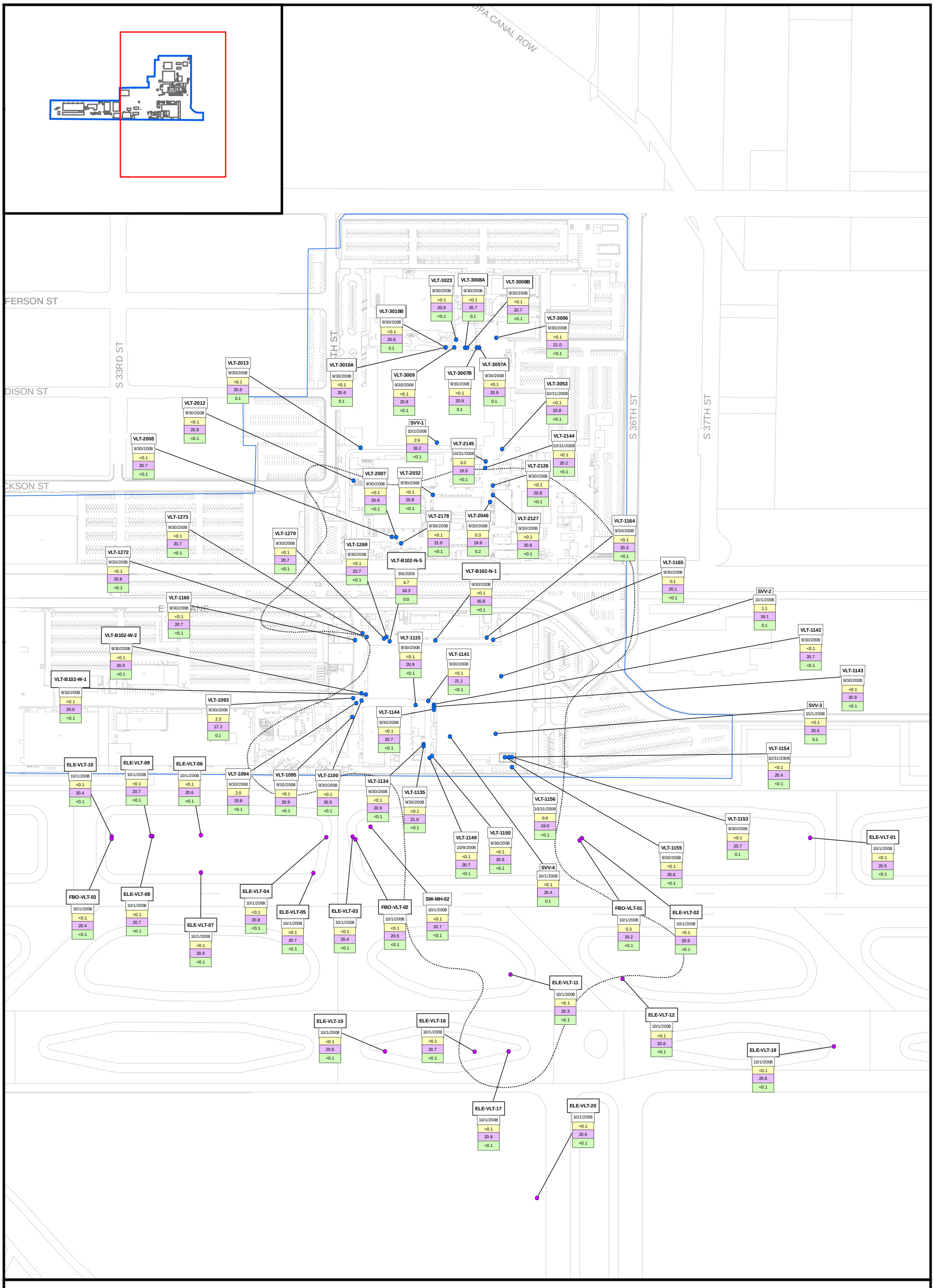
0 200 400 800 Feet

FIGURE D-10
SOIL VAPOR FIELD PARAMETERS: DEEP (>30 FEET, SEPTEMBER 2008 AND OCTOBER 2008 SAMPLING EVENT)

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\HONEYWELL PROJECTS\354596.SH.50.52.RA\MAPFILES\FIGURE6-10_SV-FIELDMEASUREMENTS_DEEP.MXD CVF 12/30/2008 12:06:53



Legend

- HW Vaults
- PSHIA Vaults
- Streets and Airport Features
- Historical Free Product Extent (as of September 2008)
- Honeywell Facility

Parameters

- CO2 (%)
- O2 (%)
- Methane

N W E S

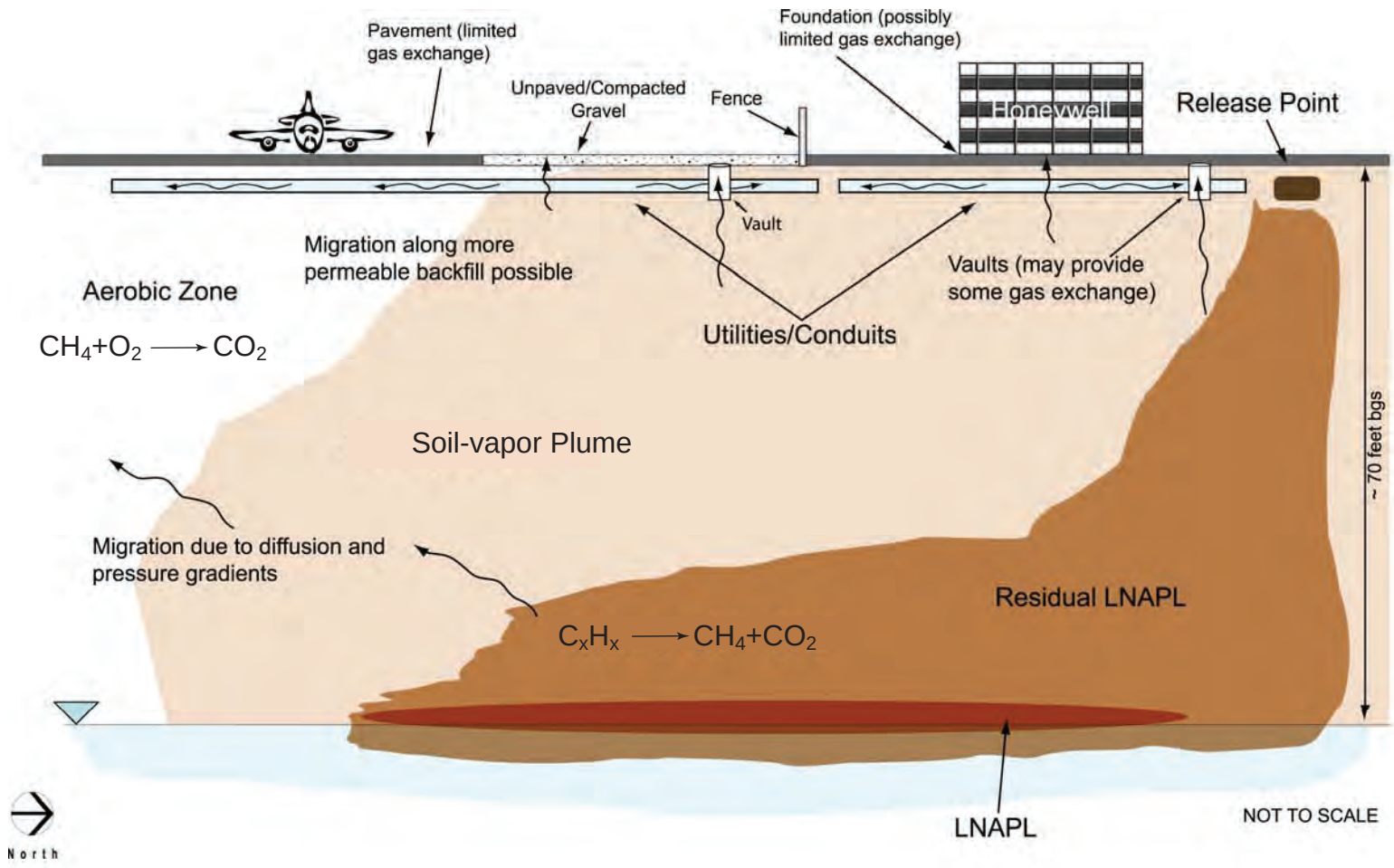
0 175 350 700 Feet

FIGURE D-11
SOIL-VAPOR FIELD PARAMETERS: VAULTS (SEPTEMBER 2008 AND OCTOBER 2008 SAMPLING EVENT)

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\HONEYWELL PROJECTS\354596.SH.50.52.RA\MAPFILES\FIGURE6-11_SV-FIELDMEASUREMENTS_VAULTS.MXD CVF 12/30/2008 12:10:33



NOTES:

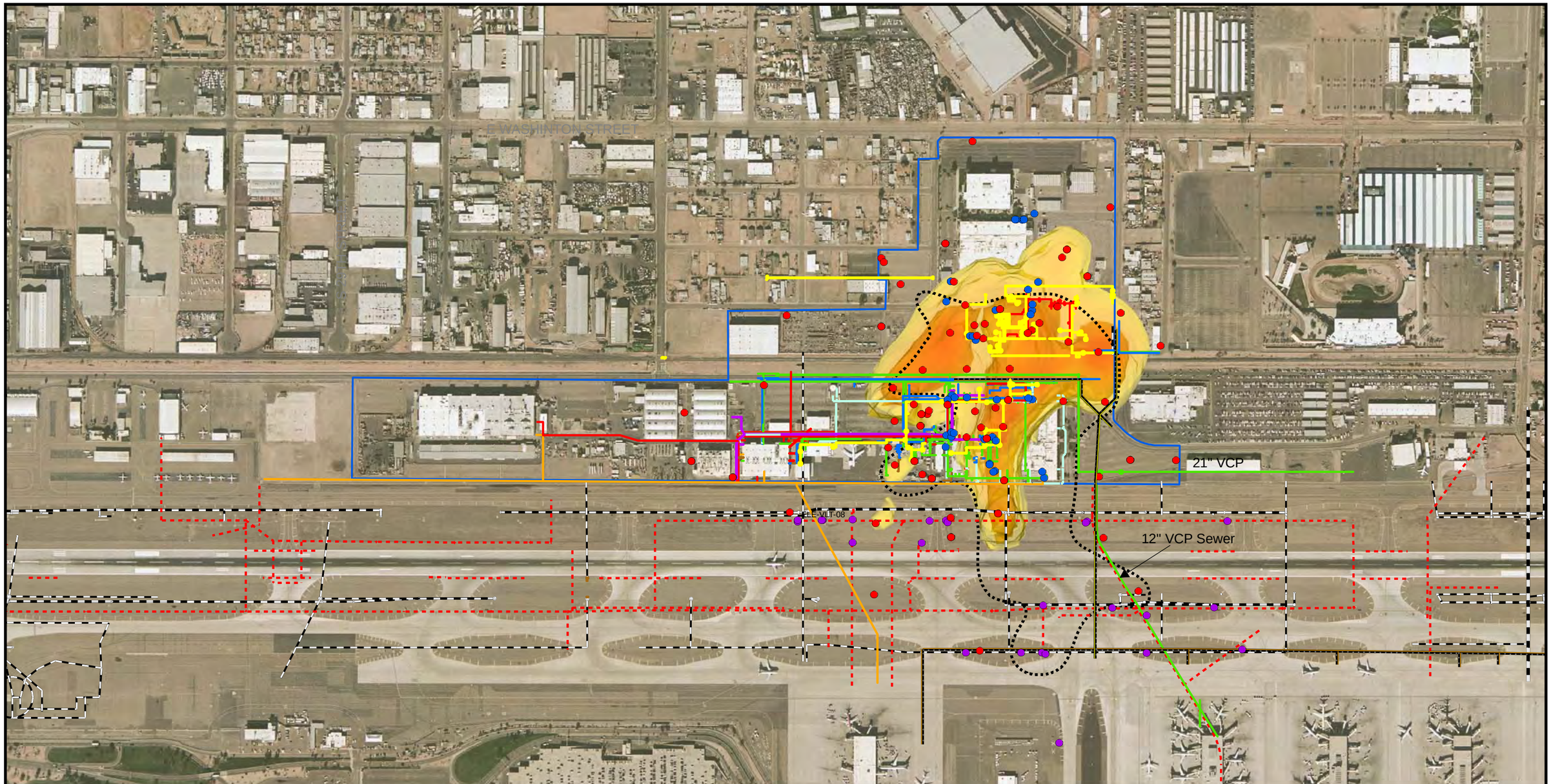
1. Diffusive transport is likely significant.
2. Methane migration is limited by aerobic biodegradation.
3. There are no measurable pressure increases due to methane production.
4. Advective transport is likely driven by barometric pressure.
5. Pavement may reduce the free exchange of soil gas with the atmosphere, except for unpaved gravel locations and other features.

C_xH_x: Petroleum hydrocarbons with varying numbers of carbon (C) and hydrogen (H) atoms

FIGURE D-12
CONCEPTUAL SITE MODEL DURING STATIC CONDITIONS
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-12 (12/08)



Legend

Utilities
- Compressed Air
- COP Electrical
- Sewer, Drains
- Water
- Telecommunications
- Electrical
- Fire Hydrants and Water Line
- Waste Drains and Vaults

- Soil-Vapor Monitoring Wells
- Honeywell Subsurface Utility Vaults
- PSHIA Subsurface Utility Vaults
- Storm Sewer Lines
- Historical Free Product Extent (as of September 2008)
- Honeywell Facility

Southwest Gas and Fuel
- COP Fuel
- Soutwest Gas

Honeywell Gas
- Underground Gas Line
- Aboveground Gas Line

Methane Contour
- 5% Methane
- 15% Methane

N
W E
S

0 300 600 1,200 Feet

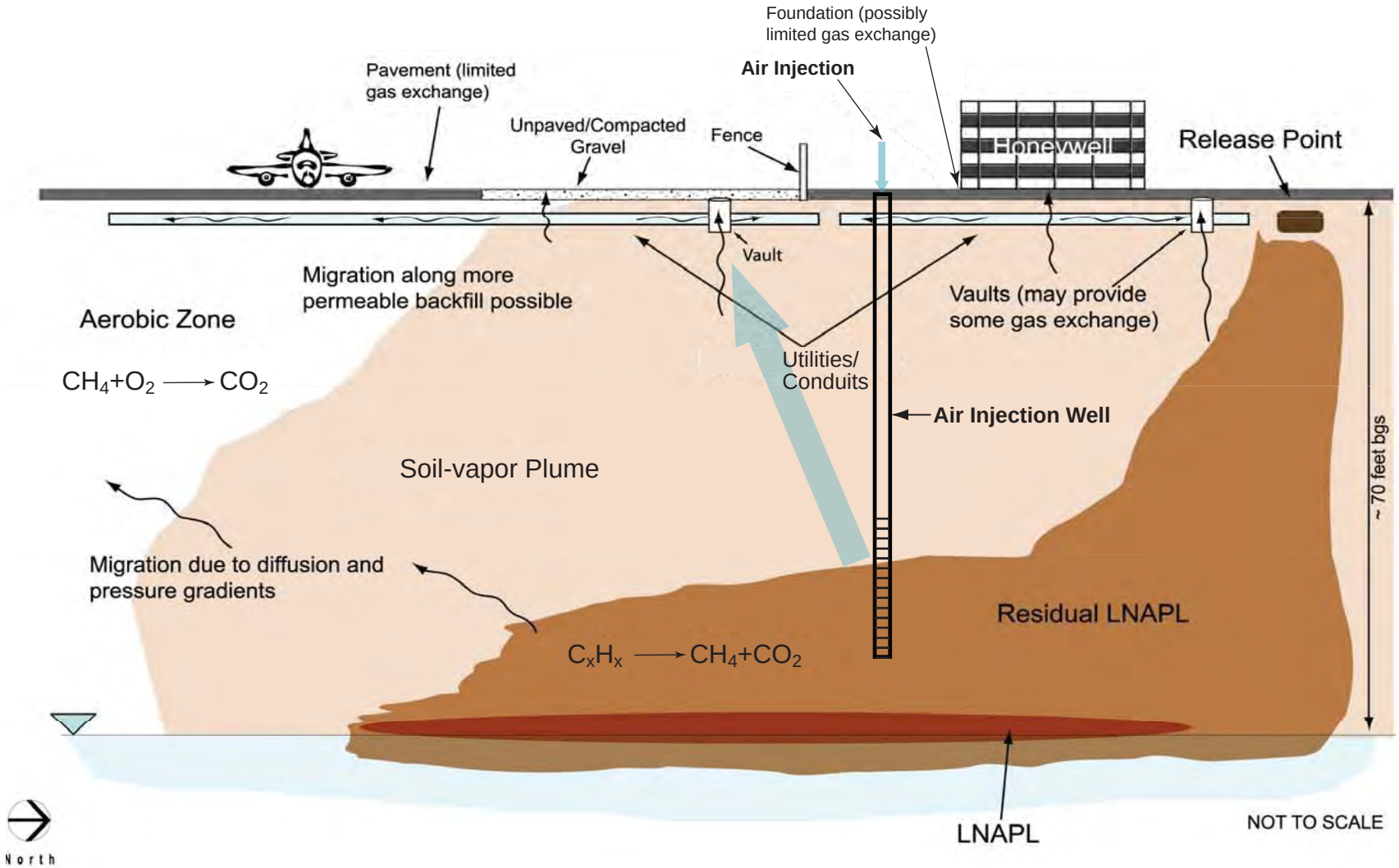
Notes:
1. Soil gas methane concentrations (5 and 15 percent contours) during static conditions 2005/2006.
2. Aerial Image Flight Date: January 2007.

FIGURE D-13
COMPOSITE UTILITIES

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\HONEYWELL PROJECTS\354596.SH.50.52.RA\MAPFILES\FIGURE6-13_COMPOSITEUTILITIES.MXD CVF 12/30/2008 11:40:33



LEGEND

Direction of airflow

C_xH_x Petroleum hydrocarbons with varying numbers of carbon (C) and hydrogen (H) atoms

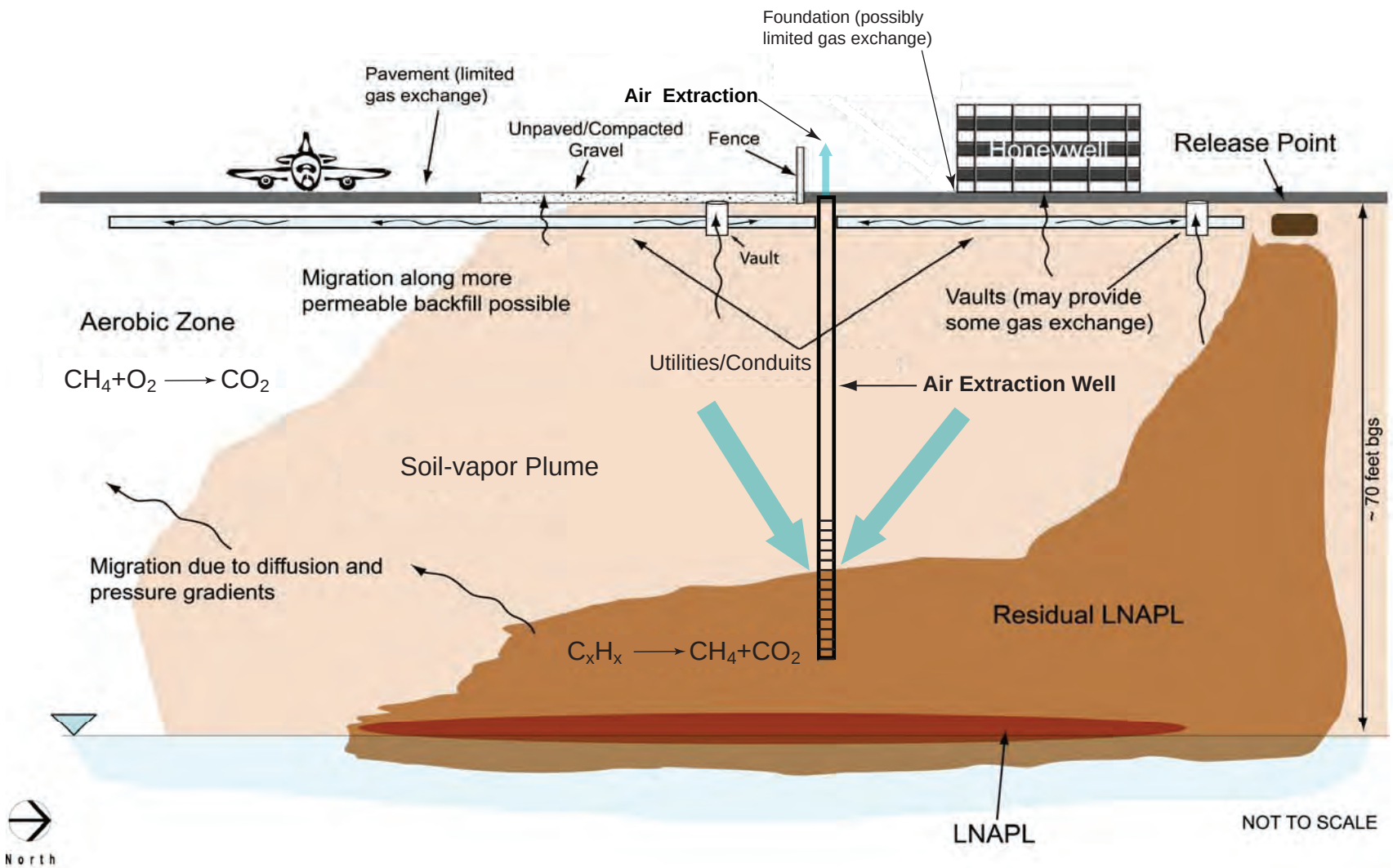
NOTES:

1. Air injection may have pushed methane into vaults or conduits.
2. Conduits may be a possible preferential pathway.

FIGURE D-14
CONCEPTUAL SITE MODEL
DURING PILOT STUDY AIR INJECTION
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-14 (12/08)



LEGEND

Direction of airflow

C_xH_x Petroleum hydrocarbons with varying numbers of carbon (C) and hydrogen (H) atoms

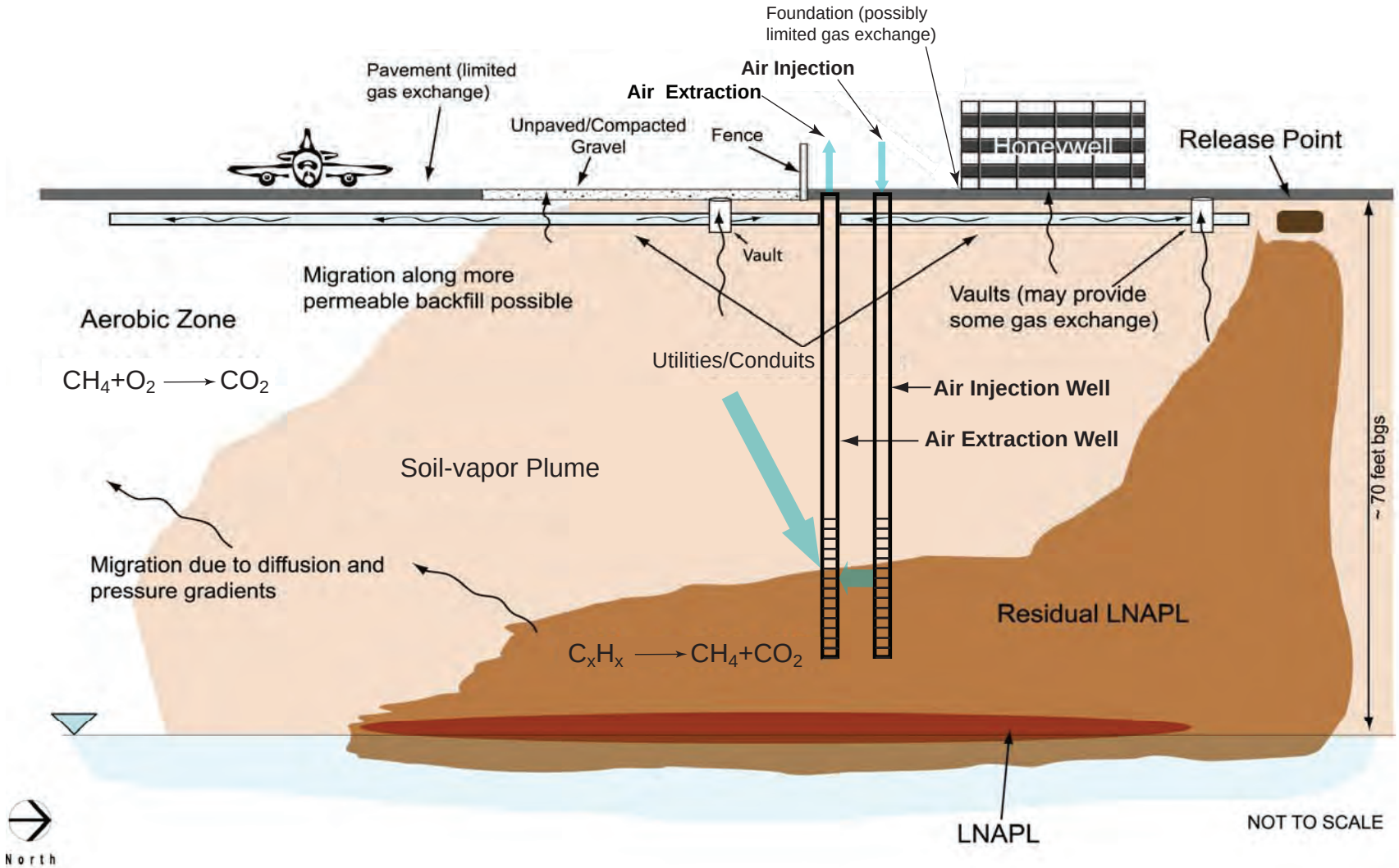
NOTES:

1. Air extraction will reduce potential for methane migration.

FIGURE D-15
CONCEPTUAL SITE MODEL
DURING FULL-SCALE BSVE WITH EXTRACTION ONLY
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-15 (12/08)



LEGEND

Direction of airflow

C_xH_x Petroleum hydrocarbons with varying numbers of carbon (C) and hydrogen (H) atoms

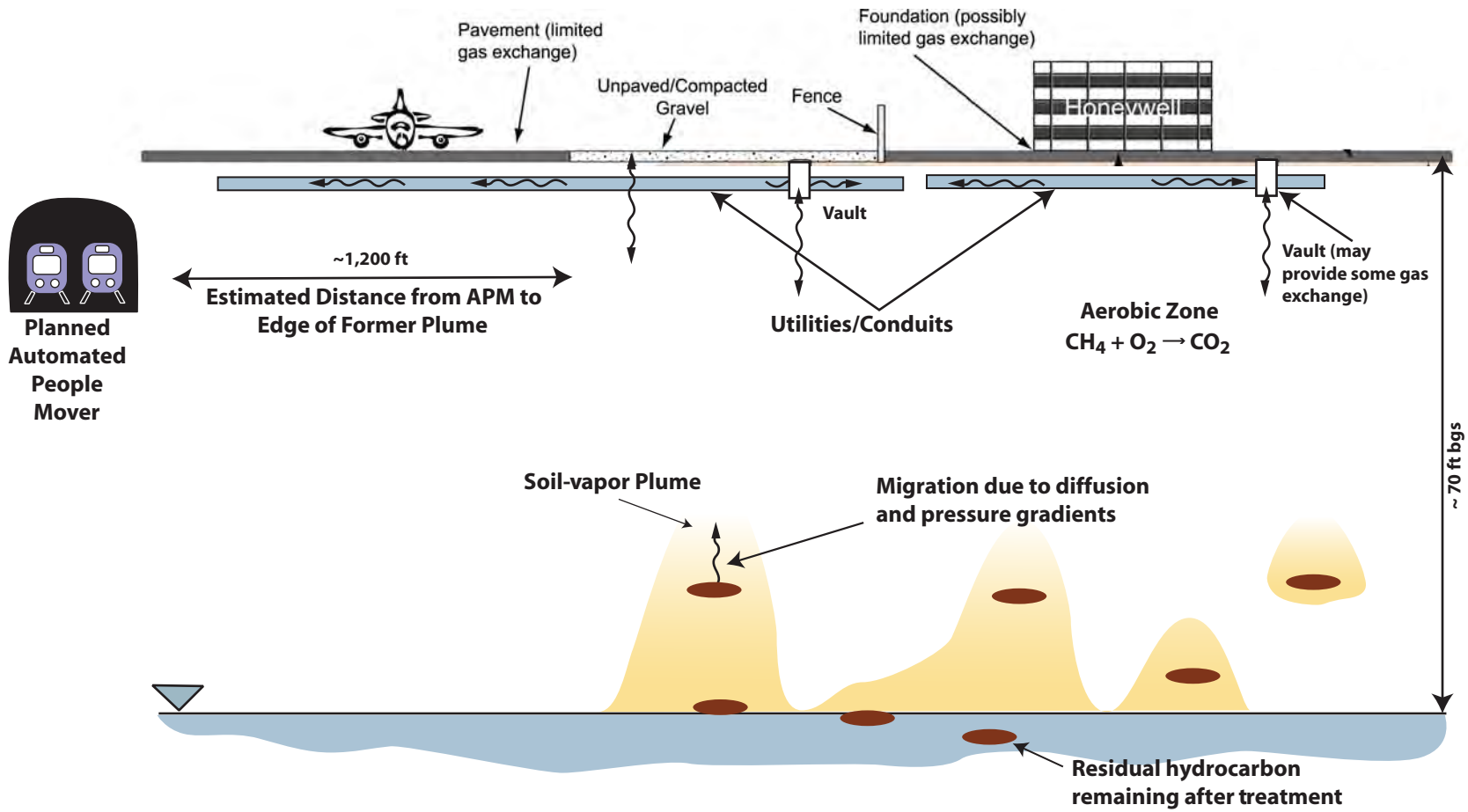
NOTES:

1. Air extraction and injection will be balanced to reduce potential for methane migration.

FIGURE D-16
CONCEPTUAL SITE MODEL DURING FULL-SCALE BSVE WITH COMBINED INJECTION AND EXTRACTION
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-16 (12/08)



NOTES:

1. Methane generation will be limited to pockets of untreated residual hydrocarbon.
2. Diffusive transport is likely significant.
3. Methane migration is limited by aerobic biodegradation.

FIGURE D-17
CONCEPTUAL SITE MODEL
AFTER COMPLETION OF FULL-SCALE BSVE
Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

ES082006001PHX_6-17 (12/08)

Attachment A
Monitoring Data Used in the Methane Evaluation

ATTACHMENT A

Monitoring Data Used in the Methane Evaluation

The results of the monitoring program described in Appendix C are presented here. The tables presented in this attachment contains the complete data set of the methane gas field measurement data collected from the soil vapor monitoring wells and subsurface utility vaults since 2005:

- Table A-1 presents the static methane, oxygen, carbon dioxide, percent lower explosive level (LEL), and flame ionization detector (FID) soil gas field measurement results from monitoring wells (July 2005 through February 2006) and the post-injection test data (April 2006). Together, this is the static monitoring well data.
- Table A-2 presents the baseline methane, oxygen, carbon dioxide, and percent LEL field measurement results from Honeywell and Phoenix Sky Harbor International Airport (PSHIA) subsurface utility vaults (August 2005 and February 2006).
- Table A-3 presents wellhead pressure measurements taken during December 2005 and January 2006 before the air injection pilot test and in April 2006 after the test concluded.
- Table A-4 presents the static methane, oxygen, carbon dioxide, percent LEL, and FID soil-gas field measurement results collected from underground utility vaults on PSHIA property and on the Facility.
- Table A-5 presents the static methane, oxygen, carbon dioxide, percent LEL, and FID soil-gas field measurement results collected from the shallow and intermediate monitoring wells up to 30 feet bgs.
- Table A-6 presents the static methane, oxygen, carbon dioxide, percent LEL, and FID soil-gas field measurement results collected from the deep monitoring wells greater than 30 feet bgs.

Table A-1
Static Methane, Oxygen, Carbon Dioxide, and Percent LEL Field Measurements Results from Honeywell and PSHIA Subsurface Utility Vaults (August 2005 and February 2006)
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Closest Injection Well	Proximity to Closest Injection Well (ft)	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)
1093	2/10/06 12:08 PM	ASE-108A	284	-	20.0	-	0.0	-	0.0	-	0.0
1093	2/13/06 4:25 PM	ASE-108A	284	-	19.9	-	0.0	-	0.0	-	0.0
1093	2/21/06 2:31 PM	ASE-108A	284	-	19.5	-	0.0	-	0.0	-	0.0
1095	2/13/06 4:20 PM	ASE-108A	231	-	20.1	-	0.1	-	0.0	-	0.0
1095	2/21/06 2:26 PM	ASE-108A	231	20.4	20.3	0.0	0.1	0.1	0.2	2.0	3.0
1100	2/10/06 12:11 PM	ASE-108A	299	-	20.6	-	0.0	-	0.0	-	0.0
1100	2/13/06 4:21 PM	ASE-108A	299	-	20.7	-	0.0	-	0.0	-	0.0
1100	2/21/06 2:24 PM	ASE-108A	299	-	21.4	-	0.0	-	0.0	-	0.0
1115	2/10/06 12:17 PM	ASE-41A	263	-	20.5	-	0.0	-	0.0	-	0.0
1115	2/13/06 4:08 PM	ASE-41A	263	-	20.6	-	0.0	-	0.0	-	0.0
1115	2/21/06 2:21 PM	ASE-41A	263	-	21.0	-	0.0	-	0.0	-	0.0
1134	2/10/06 12:27 PM	ASE-92A	115	-	20.7	-	0.0	-	0.0	-	0.0
1134	2/13/06 4:10 PM	ASE-92A	115	-	21.0	-	0.0	-	0.0	-	0.0
1134	2/21/06 2:14 PM	ASE-92A	115	-	21.2	-	0.0	-	0.0	-	0.0
1135	2/10/06 12:27 PM	ASE-92A	109	-	20.7	-	0.0	-	0.0	-	0.0
1135	2/13/06 4:11 PM	ASE-92A	109	-	21.1	-	0.0	-	0.0	-	0.0
1135	2/21/06 2:16 PM	ASE-92A	109	-	21.5	-	0.0	-	0.0	-	0.0
1141	2/10/06 12:19 PM	ASE-41A	256	-	20.6	-	0.0	-	0.0	-	0.0
1141	2/13/06 4:06 PM	ASE-41A	256	-	20.7	-	0.0	-	0.0	-	0.0
1141	2/21/06 2:19 PM	ASE-41A	256	-	21.4	-	0.0	-	0.0	-	0.0
1143	2/10/06 12:22 PM	ASE-92A	245	-	20.7	-	0.0	-	0.0	-	0.0
1143	2/13/06 4:07 PM	ASE-92A	245	-	21.1	-	0.0	-	0.0	-	0.0
1143	2/21/06 2:17 PM	ASE-92A	245	-	21.4	-	0.0	-	0.0	-	0.0
1149	2/10/06 12:30 PM	ASE-92A	59	-	20.7	-	0.0	-	0.0	-	0.0
1149	2/13/06 4:12 PM	ASE-92A	59	-	21.0	-	0.0	-	0.0	-	0.0
1149	2/21/06 2:11 PM	ASE-92A	59	-	21.1	-	0.0	-	0.0	-	0.0
1150	2/10/06 12:31 PM	ASE-92A	62	-	20.7	-	0.0	-	0.0	-	0.0
1150	2/13/06 4:13 PM	ASE-92A	62	-	20.5	-	0.1	-	0.0	-	0.0
1150	2/21/06 2:09 PM	ASE-92A	62	-	21.3	-	0.0	-	0.0	-	0.0
1156	2/10/06 12:33 PM	ASE-92A	286	-	20.6	-	0.0	-	0.0	-	0.0
1156	2/13/06 4:14 PM	ASE-92A	286	-	20.2	-	0.3	-	0.0	-	0.0
1156	2/21/06 2:02 PM	ASE-92A	286	20.4	-	0.1	-	0.0	NM	0.0	NM
1164	2/10/06 11:00 AM	ASE-41A	290	-	17.7	-	1.6	-	0.2	-	3.0
1164	2/13/06 4:00 PM	ASE-41A	290	17.3	17.3	1.5	1.6	0.1	0.1	3.0	3.0
1164	2/21/06 1:55 PM	ASE-41A	290	20.0	-	0.3	-	0.0	NM	0.0	NM
1164	2/22/06 4:20 PM	ASE-41A	290	-	20.8	-	0.0	0.0	0.0	0.0	0.0
1269	2/10/06 11:58 AM	ASE-41A	88	-	20.9	-	0.0	-	0.0	-	0.0
1269	2/13/06 3:55 PM	ASE-41A	88	-	21.0	-	0.0	-	0.0	-	0.0
1269	2/21/06 1:20 PM	ASE-41A	88	-	20.6	-	0.0	-	0.0	-	0.0

See last page for notes

Table A-1
Static Methane, Oxygen, Carbon Dioxide, and Percent LEL Field Measurements Results from Honeywell and PSHIA Subsurface Utility Vaults (August 2005 and February 2006)
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Closest Injection Well	Proximity to Closest Injection Well (ft)	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)
1270[a]	2/10/06 11:59 AM	ASE-41A	97	-	20.5	-	0.0	-	0.0	-	0.0
1270[a]	2/21/06 1:23 PM	ASE-41A	97	-	20.6	-	0.0	-	0.0	-	0.0
2007	2/10/06 2:57 PM	ASE-41A	375	-	21.1	-	0.0	-	0.0	-	0.0
2007	2/13/06 5:04 PM	ASE-41A	375	-	21.1	-	0.0	-	0.0	-	0.0
2008	2/10/06 2:56 PM	ASE-41A	379	-	21.3	-	0.0	-	0.0	-	0.0
2008	2/13/06 5:03 PM	ASE-41A	379	-	21.0	-	0.0	-	0.0	-	0.0
2008	2/21/06 2:50 PM	ASE-41A	379	-	21.1	-	0.0	-	0.0	-	0.0
2012	2/10/06 3:08 PM	ASE-41A	623	-	21.0	-	0.0	-	0.0	-	0.0
2012	2/13/06 5:07 PM	ASE-41A	623	-	21.1	-	0.0	-	0.0	-	0.0
2012	2/21/06 3:27 PM	ASE-41A	623	-	21.2	-	0.0	-	0.0	-	0.0
2013	2/10/06 3:36 PM	ASE-41A	733	-	21.3	-	0.0	-	0.0	-	0.0
2013	2/13/06 5:08 PM	ASE-41A	733	-	21.2	-	0.0	-	0.0	-	0.0
2013	2/21/06 3:25 PM	ASE-41A	733	-	21.1	-	0.0	-	0.0	-	0.0
2032	2/10/06 3:02 PM	ASE-41A	539	-	20.9	-	0.0	-	0.0	-	0.0
2032	2/13/06 5:16 PM	ASE-41A	539	-	20.6	-	0.0	-	0.0	-	0.0
2032	2/21/06 2:58 PM	ASE-41A	539	-	20.8	-	0.0	-	0.0	-	0.0
2046	2/10/06 3:16 PM	ASE-41A	588	-	20.8	-	0.0	-	0.0	-	0.0
2046	2/13/06 5:14 PM	ASE-41A	588	-	20.3	-	0.1	-	0.0	-	0.0
2046	2/21/06 3:01 PM	ASE-41A	588	-	20.6	-	0.1	-	0.0	-	0.0
2126	2/10/06 3:13 PM	ASE-41A	648	-	21.0	-	0.0	-	0.0	-	0.0
2126	2/13/06 5:11 PM	ASE-41A	648	-	21.2	-	0.0	-	0.0	-	0.0
2126	2/21/06 3:05 PM	ASE-41A	648	-	21.2	-	0.0	-	0.0	-	0.0
2127	2/10/06 3:15 PM	ASE-41A	616	-	21.1	-	0.0	-	0.0	-	0.0
2127	2/13/06 5:13 PM	ASE-41A	616	-	21.0	-	0.0	-	0.0	-	0.0
2127	2/21/06 3:03 PM	ASE-41A	616	-	21.1	-	0.0	-	0.0	-	0.0
2145	2/10/06 3:23 PM	ASE-41A	717	-	19.5	-	0.5	-	0.0	-	0.0
2145	2/13/06 5:12 PM	ASE-41A	717	-	20.8	-	0.0	-	0.0	-	0.0
2145	2/21/06 3:07 PM	ASE-41A	717	-	20.4	-	0.1	-	0.0	-	0.0
2178	2/10/06 2:59 PM	ASE-41A	350	-	21.1	-	0.0	-	0.0	-	0.0
2178	2/13/06 5:05 PM	ASE-41A	350	-	21.1	-	0.0	-	0.0	-	0.0
2178	2/21/06 2:56 PM	ASE-41A	350	-	21.0	-	0.0	-	0.0	-	0.0
3007	2/10/06 3:30 PM	ASE-41A	1118	-	21.1	-	0.0	-	0.0	-	0.0
3007	2/13/06 5:22 PM	ASE-41A	1116	-	20.8	-	0.0	-	0.0	-	0.0
3007A	2/21/06 3:12 PM	ASE-41A	1118	-	21.2	-	0.0	-	0.0	-	0.0
3007B	2/21/06 3:13 PM	ASE-41A	1116	-	21.2	-	0.0	-	0.0	-	0.0
3008	2/10/06 3:30 PM	ASE-41A	1107	-	21.2	-	0.0	-	0.0	-	0.0
3008	2/13/06 5:23 PM	ASE-41A	1108	-	20.7	-	0.0	-	0.0	-	0.0
3008A	2/21/06 3:17 PM	ASE-41A	1107	-	21.3	-	0.0	-	0.0	-	0.0
3008B	2/21/06 3:15 PM	ASE-41A	1108	-	21.2	-	0.0	-	0.0	-	0.0

See last page for notes

Table A-1
Static Methane, Oxygen, Carbon Dioxide, and Percent LEL Field Measurements Results from Honeywell and PSHIA Subsurface Utility Vaults (August 2005 and February 2006)
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Closest Injection Well	Proximity to Closest Injection Well (ft)	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)
3053	2/10/06 3:21 PM	ASE-41A	786	-	21.0	-	0.0	-	0.0	-	0.0
3053	2/13/06 5:18 PM	ASE-41A	786	-	20.9	-	0.0	-	0.0	-	0.0
3053	2/21/06 3:09 PM	ASE-41A	786	-	21.1	-	0.0	-	0.0	-	0.0
551-S-1	2/10/06 3:32 PM	ASE-41A	1170	-	21.3	-	0.0	-	0.0	-	0.0
551-S-1	2/13/06 5:24 PM	ASE-41A	1170	-	20.6	-	0.0	-	0.0	-	0.0
B102-N-1	2/10/06 11:04 AM	ASE-41A	99	-	18.4	-	1.1	-	0.6	-	12.0
B102-N-1	2/13/06 3:57 PM	ASE-41A	99	16.4	16.3	1.2	1.8	0.7	0.9	14.0	18.0
B102-N-1	2/21/06 1:48 PM	ASE-41A	99	-	20.1	-	0.3	-	0.3	-	5.0
B102-N-1	2/22/06 4:14 PM	ASE-41A	99	-	20.4	-	0.1	0.2	0.2	4.0	4.0
B102-N-2	2/10/06 12:01 PM	ASE-41A	163	-	20.8	-	0.0	-	0.0	-	0.0
B102-N-2	2/13/06 3:51 PM	ASE-41A	163	-	20.8	-	0.0	-	0.0	-	0.0
B102-N-2	2/21/06 1:25 PM	ASE-41A	163	-	20.7	-	0.0	-	0.0	-	0.0
B102-N-3	2/10/06 12:02 PM	ASE-41A	179	-	20.1	-	0.3	-	0.0	-	0.0
B102-N-3	2/13/06 3:50 PM	ASE-41A	179	-	19.6	-	0.6	-	0.0	-	0.0
B102-N-4	2/10/06 12:06 PM	ASE-41A	207	-	18.7	-	0.8	-	1.2	-	24.0
B102-N-4	2/10/06 1:03 PM	ASE-41A	207	-	17.3	-	1.3	-	1.6	-	32.0
B102-N-4	2/13/06 3:10 PM	ASE-41A	207	16.7	16.4	0.5	1.1	1.4	1.8	27.0	35.0
B102-N-4	2/13/06 3:14 PM	ASE-41A	207	17.2	17.2	1.0	1.1	1.6	1.8	31.0	35.0
B102-N-4	2/21/06 1:32 PM	ASE-41A	207	-	19.5	-	0.3	-	1.3	-	25.0
B102-N-4	2/21/06 2:39 PM	ASE-41A	207	19.4	-	0.3	-	1.3	-	25.0	-
B102-N-4	2/21/06 3:31 PM	ASE-41A	207	20.4	19.9	0.0	0.2	0.4	0.9	8.0	17.0
B102-N-4	2/22/06 4:01 PM	ASE-41A	207	-	19.2	-	0.0	0.6	0.6	14.0	14.0
B102-N-4	2/22/06 5:20 PM	ASE-41A	207	-	19.8	-	0.0	0.6	0.5	12.0	11.0
B102-W-1 (1158)[b]	2/10/06 12:13 PM	ASE-41A	278	-	20.8	-	0.0	-	0.0	-	0.0
B102-W-1 (1158)[b]	2/13/06 4:23 PM	ASE-41A	278	-	20.8	-	0.0	-	0.0	-	0.0
B102-W-1 (1158)[b]	2/21/06 2:35 PM	ASE-41A	278	-	21.0	-	0.0	-	0.0	-	0.0
B102-W-2 (1157)[c]	2/10/06 12:14 PM	ASE-41A	283	-	20.6	-	0.0	-	0.0	-	0.0
B102-W-2 (1157)[c]	2/13/06 4:22 PM	ASE-41A	283	-	19.9	-	0.0	-	0.0	-	0.0
B102-W-2 (1157)[c]	2/21/06 2:33 PM	ASE-41A	283	-	20.7	-	0.0	-	0.0	-	0.0
ELE-VLT-01	8/18/05 10:06	ASE-92A	1433	-	19.8	-	0	-	0	-	0
ELE-VLT-02	8/18/05 10:27	ASE-92A	604	-	21.6	-	0	-	0	-	0
ELE-VLT-03	8/18/05 10:45	ASE-108A	352	-	19.3	-	0.5	-	0	-	0
ELE-VLT-04	8/18/05 10:55	ASE-108A	316	-	21.5	-	0	-	0	-	0
ELE-VLT-05	8/18/05 11:00	ASE-108A	442	-	21.1	-	0	-	0	-	0
ELE-VLT-06	8/18/05 11:03	ASE-108A	494	-	21.7	-	0	-	0	-	0
ELE-VLT-07	8/18/05 11:08	ASE-108A	589	-	22.1	-	0	-	0	-	0
ELE-VLT-08	8/18/05 11:12	ASE-108A	651	-	21.8	-	0	-	0	-	0
ELE-VLT-09	8/18/05 11:14	ASE-108A	656	-	22	-	0	-	0	-	0
ELE-VLT-10	8/18/05 11:16	ASE-108A	791	-	21.6	-	0	-	0	-	0
ELE-VLT-11	8/18/05 11:45	ASE-92A	814	-	22.6	-	0	-	0	-	0
ELE-VLT-12	8/18/05 11:53	ASE-92A	1051	-	22	-	0	-	0	-	0

See last page for notes

Table A-1
Static Methane, Oxygen, Carbon Dioxide, and Percent LEL Field Measurements Results from Honeywell and PSHIA Subsurface Utility Vaults (August 2005 and February 2006)
Focused Human Health Risk Assessment Report
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Closest Injection Well	Proximity to Closest Injection Well (ft)	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)
ELE-VLT-13	8/18/05 11:58	ASE-92A	1234	-	21.7	-	0	-	0	-	0
ELE-VLT-14	8/18/05 12:01	ASE-92A	1542	-	21.6	-	0	-	0	-	0
ELE-VLT-15	8/18/05 13:20	ASE-92A	1073	-	22.4	-	0	-	0	-	0
ELE-VLT-16	8/18/05 13:25	ASE-92A	1066	-	22.5	-	0	-	0	-	0
ELE-VLT-17	8/18/05 13:28	ASE-92A	1090	-	22	-	0	-	0	-	0
ELE-VLT-18	8/18/05 13:41	ASE-92A	1397	-	22.1	-	0	-	0	-	0
ELE-VLT-19	8/18/05 13:50	ASE-92A	1824	-	21.8	-	0	-	0	-	0
ELE-VLT-20	8/18/05 13:55	ASE-92A	1653	-	22.4	-	0	-	0	-	0
ELE-VLT-21	8/18/05 13:30	ASE-92A	1103	-	22.1	-	0	-	0	-	0
FBO-VLT-01	8/18/05 10:32	ASE-92A	600	-	21.3	-	0	-	0	-	0
FBO-VLT-02	8/18/05 10:50	ASE-108A	367	-	21	-	0	-	0	-	0
FBO-VLT-03	8/18/05 11:18	ASE-108A	795	-	21.6	-	0	-	0	-	0

Notes:
-W = measurement taken with a carbon filter
-WO = measurement taken without a carbon filter
ELE - airport electrical vaults
FBO - FAA fiber optic vaults
NM = Not Measured
ft = feet
% V/V = percent volume per volume
LEL = Lower Explosive Limit
[a]Vault No. 1270 was monitored twice before the startup of the air injection system. However, this vault was later determined to be a sewer manhole and was removed from the monitoring program.
[b]Honeywell vault no. B102-W-1 did not have a Honeywell designation at the beginning of the monitoring program and was labeled vault no. B102-W-1. On or around May 27, 2006, Honeywell labeled this vault as vault no.1158. For consistency, B102-W-1 will continue to be used as the vault identifier.
[c]Honeywell vault no. B102-W-2 did not have a Honeywell designation at the beginning of the monitoring program and was labeled vault no. B102-W-2. On or around May 27, 2006, Honeywell labeled this vault as vault no.1157. For consistency, B102-W-2 will continue to be used as the vault identifier.

See last page for notes

Table A-2

Static Methane, Oxygen, Carbon Dioxide, Percent LEL, and FID Soil Gas Field Measurements Results from Monitor Wells (July 2005 through February 2006 and April 2006[a])

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Screen Interval Start Depth (ft bgs)	Screen Interval End Depth (ft bgs)	Well Classification	Closest Injection Well	Proximity to Closest Injection Well (ft)	Date	Time	Oxygen-W (% V/V)	Oxygen-WO (% V/V)	Carbon Dioxide-W (% V/V)	Carbon Dioxide-WO (% V/V)	Methane-W[b] (% V/V)	Methane-WO[b] (% V/V)	% LEL-W (%)	% LEL-WO (%)	FID-W (ppm)	FID-WO (ppm)
ASE-101A	80	100	SV-Deep	ASE-92A	1050	1/19/2006	NA	-	NM	-	NM	-	NM	-	NM	-	NM
ASE-104A	64.5	74.5	SV-Deep	ASE-92A	623	7/19/2005	7:48	-	13.7	-	2.1	-	0	-	0	31.28	24.92
ASE-104A	64.5	74.5	SV-Deep	ASE-92A	623	8/3/2005	9:22	-	5.1	-	4.7	-	0.1	-	1	-	-
ASE-104A	64.5	74.5	SV-Deep	ASE-92A	623	8/3/2005	9:28	-	-	-	-	-	-	-	-	0	1.87
ASE-105A	70	105	SV-Deep	ASE-92A	627	7/27/2005	15:55	-	6.1	-	4	-	0	-	0	-	-
ASE-105A	70	105	SV-Deep	ASE-92A	627	7/27/2005	16:01	-	-	-	-	-	-	-	-	0	0
ASE-108A	65	100	SV-Deep	ASE-108A	0	7/21/2005	12:25	-	0	-	11.6	-	35.5	-	>100	86000	90900
ASE-111A	59.5	124.5	SV-Deep	ASE-41A	770	8/5/2005	12:54	-	0	-	15.8	-	>100	-	>100	449900	895400
ASE-112A	68	93	SV-Deep	ASE-92A	739	7/27/2005	14:42	-	9	-	4	-	0	-	0	-	-
ASE-112A	68	93	SV-Deep	ASE-92A	739	7/27/2005	14:46	-	-	-	-	-	-	-	-	23.64	25.14
ASE-112A	68	93	SV-Deep	ASE-92A	739	1/19/2006	11:13	-	7.8	-	5.1	-	0.1	-	2	0	22
ASE-113A	66	121	SV-Deep	ASE-92A	1099	7/28/2005	16:59	-	16.4	-	0.5	-	0.5	-	10	2.84	3.71
ASE-113A	66	121	SV-Deep	ASE-92A	1099	1/19/2006	14:44	-	11.3	-	3	-	0.2	-	3	690	808
ASE-114A	66	116	SV-Deep	ASE-92A	1001	7/28/2005	16:06	-	16.7	-	0.4	-	0.5	-	9	-1.29	0
ASE-19A	51.5	71.5	SV-Deep	ASE-41A	542	7/29/2005	8:40	-	0	-	13.1	-	83.9	-	>100	-	-
ASE-19A	51.5	71.5	SV-Deep	ASE-41A	542	7/29/2005	8:45	-	-	-	-	-	-	-	-	235400	256300
ASE-20A	61	81	SV-Deep	ASE-41A	436	7/25/2005	8:14	-	0	-	12.7	-	99.9	-	>100	-	-
ASE-20A	61	81	SV-Deep	ASE-41A	436	7/25/2005	8:16	-	-	-	-	-	-	-	-	7012	32800
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/24/2005	9:59	-	20.7	-	-	-	-	-	-	-	-
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/25/2005	10:59	-	-	-	0	-	-	-	-	-	-
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/26/2005	11:59	-	-	-	-	-	0.1	-	-	-	-
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/27/2005	12:59	-	-	-	-	-	-	-	2	-	-
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/28/2005	13:59	-	-	-	-	-	-	-	-	-	5.36
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/29/2005	14:59	-	-	-	-	-	-	-	-	3.13	-
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/30/2005	15:59	-	-	-	-	-	-	-	-	-	-99
ASE-25C	75	95	SV-Deep	ASE-108A	1076	12/31/2005	16:59	-	-	-	-	-	-	-	-	-99	-
ASE-25C	75	95	SV-Deep	ASE-108A	1076	2/17/2006	10:10	-	21.3	-	0	-	0	-	0	-	-
ASE-37A	62	111	SV-Deep	ASE-41A	698	8/3/2005	13:23	-	0	-	11.4	-	>100	-	>100	-	-
ASE-37A	62	111	SV-Deep	ASE-41A	698	8/3/2005	13:30	-	-	-	-	-	-	-	-	174.35	993.52
ASE-39A	55	105	SV-Deep	ASE-41A	629	8/4/2005	14:15	-	0	-	10.3	-	>100	-	<100	-	-
ASE-39A	55	105	SV-Deep	ASE-41A	629	8/4/2005	14:22	-	-	-	-	-	-	-	-	150700	237600
ASE-41A	60	90	SV-Deep	ASE-41A	0	7/20/2005	12:44	-	0.6	-	13.1	-	0.6	-	12	28.24	105.76
ASE-42C	76	91	SV-Deep	ASE-108A	1469	7/29/2005	10:45	-	20	-	0.2	-	0.2	-	3	13.24	53.92
ASE-42C	76	91	SV-Deep	ASE-108A	1469	12/21/2005	14:06	-	21.6	-	0	-	0.2	-	3	0.51	23.1
ASE-42C	76	91	SV-Deep	ASE-108A	1469	1/17/2006	10:27	-	22.1	-	0	-	0	-	0	3.94	20.83
ASE-46A	54.7	79.7	SV-Deep	ASE-41A	346	7/22/2005	8:18	-	10.6	-	5	-	0	-	0	42.03	84.84
ASE-46A	54.7	79.7	SV-Deep	ASE-41A	346	12/23/2005	13:33	-	0	-	12.4	-	3	-	65	18887	19151
ASE-46A	54.7	79.7	SV-Deep	ASE-41A	346	1/13/2006	10:31	-	0	-	11.6	-	3.9	-	78	37250	38660
ASE-46A	54.7	79.7	SV-Deep	ASE-41A	346	2/3/2006	17:20	-	0.8	-	-	-	-	-	-	-	-
ASE-51A	55.6	80.6	SV-Deep	ASE-41A	514	7/25/2005	14:26	-	0	-	15.4	-	97.7	-	>100	-	-
ASE-51A	55.6	80.6	SV-Deep	ASE-41A	514	7/25/2005	14:28	-	-	-	-	-	-	-	-	985600	992200
ASE-52A	56.5	81.5	SV-Deep	ASE-41A	725	7/26/2005	9:45	-	0	-	10.9	-	>100	-	>100	-	-
ASE-52A	56.5	81.5	SV-Deep	ASE-41A	725	7/26/2005	9:47	-	-	-	-	-	-	-	-	101500	75200

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Table A-2

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Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Screen Interval Start Depth (ft bgs)	Screen Interval End Depth (ft bgs)	Well Classification	Closest Injection Well	Proximity to Closest Injection Well (ft)	Date	Time	Oxygen-W (% V/V)	Oxygen-WO (% V/V)	Carbon Dioxide-W (% V/V)	Carbon Dioxide-WO (% V/V)	Methane-W[b] (% V/V)	Methane-WO[b] (% V/V)	% LEL-W (%)	% LEL-WO (%)	FID-W (ppm)	FID-WO (ppm)
ASE-53A	53.8	78.8	SV-Deep	ASE-41A	719	8/5/2005	8:14	-	0	-	14.3	-	>100	-	>100	-	-
ASE-53A	53.8	78.8	SV-Deep	ASE-41A	719	8/5/2005	8:21	-	-	-	-	-	-	-	-	3795	6798
ASE-54A	55.5	80.5	SV-Deep	ASE-41A	850	7/19/2005	13:58	-	0.8	-	6.2	-	3	-	61	1324	2324
ASE-54A	55.5	80.5	SV-Deep	ASE-41A	850	8/4/2005	11:00	-	0	-	7.1	-	1.8	-	36	-	-
ASE-54A	55.5	80.5	SV-Deep	ASE-41A	850	8/4/2005	11:05	-	-	-	-	-	-	-	-	3861	4279
ASE-54A	55.5	80.5	SV-Deep	ASE-41A	850	12/20/2005	13:07	-	0.5	-	5.7	-	0.7	-	13	2680	4430
ASE-55A	53.9	78.9	SV-Deep	ASE-108A	141	8/1/2005	13:35	-	0	-	15.3	-	56.2	-	>100	-	-
ASE-55A	53.9	78.9	SV-Deep	ASE-108A	141	8/1/2005	13:37	-	-	-	-	-	-	-	-	264000	276000
ASE-55A	53.9	78.9	SV-Deep	ASE-108A	141	1/9/2006	12:07	-	0	-	12.8	-	18.8	-	>100	99750	106000
ASE-56A	55.4	80.4	SV-Deep	ASE-41A	396	12/20/2005	15:09	-	0	-	9.6	-	34.6	-	>100	16700	297000
ASE-56A	55.4	80.4	SV-Deep	ASE-41A	396	1/12/2006	11:15	-	0	-	9.5	-	36.2	-	>100	507000	855000
ASE-57A	55.1	80.1	SV-Deep	ASE-41A	246	7/20/2005	11:46	-	0.4	-	15.4	-	>100	-	>100	71600	79200
ASE-57A	55.1	80.1	SV-Deep	ASE-41A	246	1/9/2006	14:11	-	0	-	14.9	-	35.6	-	>100	260000	300000
ASE-58A	62	92	SV-Deep	ASE-108A	530	7/27/2005	12:46	-	4.1	-	4.8	-	0	-	0	-	-
ASE-58A	62	92	SV-Deep	ASE-108A	530	7/27/2005	12:50	-	-	-	-	-	-	-	-	51.81	73.81
ASE-59A	61	91	SV-Deep	ASE-41A	944	7/19/2005	11:58	-	1	-	8.6	-	23.1	-	>100	3228	3932
ASE-59A	61	91	SV-Deep	ASE-41A	944	8/5/2005	10:49	-	0	-	10.9	-	27.4	-	>100	-	-
ASE-59A	61	91	SV-Deep	ASE-41A	944	8/5/2005	10:55	-	-	-	-	-	-	-	-	11000	16800
ASE-60A	61	91	SV-Deep	ASE-41A	999	8/5/2005	11:51	-	0	-	6.7	-	13.4	-	>100	-	-
ASE-60A	61	91	SV-Deep	ASE-41A	999	8/5/2005	11:57	-	-	-	-	-	-	-	-	42300	46600
ASE-60A	61	91	SV-Deep	ASE-41A	999	12/21/2005	12:28	-	0	-	6	-	6.7	-	>100	35420	47707
ASE-60A	61	91	SV-Deep	ASE-41A	999	1/12/2006	9:20	-	0	-	6.1	-	7	-	>100	57080	61120
ASE-61A	60.5	90.5	SV-Deep	ASE-41A	1145	7/19/2005	10:51	-	1.4	-	4.5	-	18.1	-	>100	6896	10040
ASE-62A	63	93	SV-Deep	ASE-108A	227	7/29/2005	12:52	-	0	-	11.4	-	30.3	-	>100	-	-
ASE-62A	63	93	SV-Deep	ASE-108A	227	7/29/2005	12:57	-	-	-	-	-	-	-	-	78800	87400
ASE-62A	63	93	SV-Deep	ASE-108A	227	1/9/2006	13:11	-	18.8	-	0	-	0.2	-	3	40	98
ASE-62A	63	93	SV-Deep	ASE-108A	227	2/3/2006	17:30	-	0.4	-	-	-	-	-	-	-	-
ASE-63A	61	91	SV-Deep	ASE-41A	586	7/19/2005	9:46	-	1.1	-	7.6	-	>100	-	>100	238800	450400
ASE-64A	65	90	SV-Deep	ASE-92A	426	7/19/2005	8:53	-	10.3	-	4.4	-	0.2	-	4	7968	7384
ASE-64A	65	90	SV-Deep	ASE-92A	426	8/3/2005	10:29	-	0	-	10.3	-	1.6	-	30	-	-
ASE-64A	65	90	SV-Deep	ASE-92A	426	8/3/2005	10:36	-	-	-	-	-	-	-	-	5291	5324
ASE-65A	69	99	SV-Deep	ASE-108A	618	7/29/2005	11:43	-	0	-	10.3	-	0.1	-	2	-	-
ASE-65A	69	99	SV-Deep	ASE-108A	618	7/29/2005	12:52	-	-	-	-	-	-	-	-	0	0
ASE-66A	60.5	90.5	SV-Deep	ASE-41A	725	7/25/2005	11:18	-	0	-	9	-	18.7	-	>100	70800	60300
ASE-67A	61	91	SV-Deep	ASE-41A	632	7/26/2005	8:22	-	0	-	13.2	-	99.4	-	>100	-	-
ASE-67A	61	91	SV-Deep	ASE-41A	632	7/26/2005	8:26	-	-	-	-	-	-	-	-	106700	88000
ASE-68A	66	96	SV-Deep	ASE-41A	359	7/25/2005	9:15	-	0	-	13.7	-	>100	-	>100	-	-
ASE-68A	66	96	SV-Deep	ASE-41A	359	7/25/2005	9:19	-	-	-	-	-	-	-	-	14200	23600
ASE-68A	66	96	SV-Deep	ASE-41A	359	12/23/2005	11:34	-	0	-	12.6	-	4.7	-	95	23210	38742
ASE-68A	66	96	SV-Deep	ASE-41A	359	1/16/2006	10:55	-	0	-	13.8	-	4.8	-	96	38200	67500
ASE-69A	60	90	SV-Deep	ASE-41A	1568	8/4/2005	8:00	-	14.6	-	3.2	-	0	-	0	1.2	1.87
ASE-69A	60	90	SV-Deep	ASE-41A	1568	12/21/2005	11:01	-	15.8	-	4.2	-	0.1	-	2	15000	18.55
ASE-69A	60	90	SV-Deep	ASE-41A	1568	2/17/2006	10:53	-	17.2	-	3.4	-	0	-	0	-	-

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Focused Human Health Risk Assessment Report

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Location ID	Screen Interval Start Depth (ft bgs)	Screen Interval End Depth (ft bgs)	Well Classification	Closest Injection Well	Proximity to Closest Injection Well (ft)	Date	Time	Oxygen-W (% V/V)	Oxygen-WO (% V/V)	Carbon Dioxide-W (% V/V)	Carbon Dioxide-WO (% V/V)	Methane-W[b] (% V/V)	Methane-WO[b] (% V/V)	% LEL-W (%)	% LEL-WO (%)	FID-W (ppm)	FID-WO (ppm)
ASE-90A	75	105	SV-Deep	ASE-92A	336	7/28/2005	10:38	-	0	-	8.4	-	80.5	-	>100	-	-
ASE-90A	75	105	SV-Deep	ASE-92A	336	7/28/2005	10:45	-	-	-	-	-	-	-	-	114400	129800
ASE-92A	72	102	SV-Deep	ASE-92A	0	8/1/2005	10:20	-	15.1	-	4	-	28	-	>100	-	-
ASE-92A	72	102	SV-Deep	ASE-92A	0	8/1/2005	10:24	-	-	-	-	-	-	-	-	196900	225500
ASE-95A	81	121	SV-Deep	ASE-108A	802	7/28/2005	14:59	-	9.1	-	3.5	-	1	-	20	-	-
ASE-95A	81	121	SV-Deep	ASE-108A	802	7/28/2005	15:03	-	-	-	-	-	-	-	-	54.45	81.95
ASE-97A	51	111	SV-Deep	ASE-108A	408	7/27/2005	10:54	-	0	-	6.3	-	61.7	-	>100	-	-
ASE-97A	51	111	SV-Deep	ASE-108A	408	7/27/2005	10:59	-	-	-	-	-	-	-	-	89400	93200
ASE-97A	51	111	SV-Deep	ASE-108A	408	1/19/2006	12:35	-	1.4	-	6.4	-	12.9	-	>100	119000	128000
BC-18	60	80	SV-Deep	ASE-108A	819	7/27/2005	8:25	-	21	-	0	-	0	-	0	3.95	3.97
BC-7A	39	76	SV-Deep	ASE-92A	1103	8/3/2005	8:09	-	6.4	-	5.2	-	0.1	-	2	-	-
BC-7A	39	76	SV-Deep	ASE-92A	1103	8/3/2005	8:20	-	-	-	-	-	-	-	-	2.48	1.08
BC-8B	51	96	SV-Deep	ASE-108A	354	7/27/2005	9:38	-	0	-	10.4	-	1.3	-	24	6450	6570
BC-8B	51	96	SV-Deep	ASE-108A	354	1/18/2006	16:08	-	0	-	10.6	-	0.5	-	10	3530	3810
BV-1	47	67	SV-Deep	ASE-41A	545	7/25/2005	12:34	-	0	-	11.9	-	97.3	-	>100	426800	369600
BV-2	46	66	SV-Deep	ASE-41A	516	7/26/2005	10:25	-	0	-	12.7	-	77.3	-	>100	-	-
BV-2	46	66	SV-Deep	ASE-41A	516	7/26/2005	10:30	-	-	-	-	-	-	-	-	441100	410300
BV-3	45.5	65.5	SV-Deep	ASE-41A	479	7/26/2005	11:33	-	1	-	12.9	-	86	-	>100	-	-
BV-3	45.5	65.5	SV-Deep	ASE-41A	479	7/26/2005	11:35	-	-	-	-	-	-	-	-	293300	274400
BV-4	46	66	SV-Deep	ASE-41A	192	7/20/2005	10:43	-	5.8	-	8.8	-	8.6	-	>100	3576	4416
BV-4	46	66	SV-Deep	ASE-41A	192	1/9/2006	14:41	-	0.6	-	11	-	4.3	-	85	32270	38310
BV-4	46	66	SV-Deep	ASE-41A	192	1/9/2006	14:42	-	0.2	-	11.3	-	4.4	-	88	32300	37920
BV-4	46	66	SV-Deep	ASE-41A	192	2/3/2006	11:41	-	4	-	-	-	-	-	-	-	-
P-11-L	66	76	SV-Deep	ASE-108A	1534	8/2/2005	11:39	-	14.9	-	3.4	-	0	-	0	-	-
P-11-L	66	76	SV-Deep	ASE-108A	1534	8/2/2005	11:41	-	-	-	-	-	-	-	-	16.52	24.08
P-11-M	36	41	SV-Deep	ASE-108A	1534	8/2/2005	11:07	-	20	-	0.3	-	0	-	0	15.74	16.95
P-11-U	16	21	SV-Middle	ASE-108A	1534	8/2/2005	10:55	-	18.7	-	0.9	-	0	-	0	10.57	11.71
P-12-L	66	76	SV-Deep	ASE-108A	1385	8/2/2005	10:38	-	12.6	-	4.3	-	0	-	0	-	-
P-12-L	66	76	SV-Deep	ASE-108A	1385	8/2/2005	10:40	-	-	-	-	-	-	-	-	7.42	10.92
P-12-M	42	47	SV-Deep	ASE-108A	1385	8/2/2005	10:06	-	19	-	1.4	-	0	-	0	10.84	11.72
P-12-U	24	29	SV-Middle	ASE-108A	1385	8/2/2005	9:54	-	-	-	-	-	-	-	-	10.32	-
P-12-U	24	29	SV-Middle	ASE-108A	1385	8/2/2005	9:56	-	18.4	-	1.6	-	0	-	0	-	25.64
P-13-L	64	74	SV-Deep	ASE-108A	1131	8/2/2005	9:36	-	10.9	-	4.7	-	0	-	0	-	-
P-13-L	64	74	SV-Deep	ASE-108A	1131	8/2/2005	9:39	-	-	-	-	-	-	-	-	45.96	52.26
P-13-M	43	48	SV-Deep	ASE-108A	1131	8/2/2005	8:59	-	17.6	-	1	-	0	-	0	19.74	27.2
P-13-U	23	28	SV-Middle	ASE-108A	1131	8/2/2005	9:44	-	17.7	-	1.1	-	0	-	0	12.54	30.09
P-14-L	57	67	SV-Deep	ASE-108A	63	7/21/2005	14:48	-	0	-	14.6	-	9.7	-	>100	52300	52200
P-14-L	57	67	SV-Deep	ASE-108A	63	8/1/2005	12:34	-	0	-	16.7	-	12	-	>100	-	-
P-14-L	57	67	SV-Deep	ASE-108A	63	8/1/2005	12:38	-	-	-	-	-	-	-	-	27000	29200
P-14-L	57	67	SV-Deep	ASE-108A	63	1/11/2006	16:01	-	0	-	13.3	-	6.7	-	>100	62130	65010
P-14-L	57	67	SV-Deep	ASE-108A	63	1/11/2006	16:02	-	0	-	13	-	6.6	-	>100	60070	62560
P-14-M	29	34	SV-Middle	ASE-108A	63	7/21/2005	14:14	-	20.8	-	0	-	0.1	-	1	6.32	34.87
P-14-M	29	34	SV-Middle	ASE-108A	63	8/1/2005	12:01	-	-	-	-	-	-	-	-	-	33.71

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P-14-M	29	34	SV-Middle	ASE-108A	63	8/1/2005	12:03	-	20.8	-	0	-	0	-	0	13.09	-
P-14-M	29	34	SV-Middle	ASE-108A	63	12/28/2005	12:05	-	18.7	-	0	-	0	-	0	20.9	72.6
P-14-M	29	34	SV-Middle	ASE-108A	63	1/11/2006	15:32	-	20.6	-	0	-	0	-	0	22.12	458
P-14-U	12	17	SV-Middle	ASE-108A	63	7/21/2005	13:56	-	20.4	-	0	-	0.1	-	2	18.46	11.38
P-14-U	12	17	SV-Middle	ASE-108A	63	8/1/2005	11:43	-	-	-	-	-	-	-	-	11.72	-
P-14-U	12	17	SV-Middle	ASE-108A	63	8/1/2005	11:45	-	20.9	-	0	-	0	-	0	-	31.12
P-14-U	12	17	SV-Middle	ASE-108A	63	12/28/2005	11:06	-	18.9	-	0	-	0	-	0	26.4	70.8
P-14-U	12	17	SV-Middle	ASE-108A	63	1/11/2006	15:13	-	20.8	-	0	-	0	-	0	8.75	440
P-15-L	58	68	SV-Deep	ASE-108A	103	8/1/2005	11:24	-	3.5	-	13.1	-	0	-	0	82.39	87.78
P-15-L	58	68	SV-Deep	ASE-108A	103	1/12/2006	14:20	-	3.1	-	10.6	-	0.3	-	5	1240	1330
P-15-M	35	40	SV-Deep	ASE-108A	103	8/1/2005	10:55	-	18.1	-	1.2	-	0	-	0	10.63	28.92
P-15-M	35	40	SV-Deep	ASE-108A	103	12/28/2005	13:56	-	16.7	-	1.9	-	0	-	0	13.31	44.55
P-15-M	35	40	SV-Deep	ASE-108A	103	1/12/2006	13:36	-	12.3	-	4.5	-	0.4	-	7	1950	3440
P-15-U	17	22	SV-Middle	ASE-108A	103	8/1/2005	10:38	-	-	-	-	-	-	-	-	9.92	-
P-15-U	17	22	SV-Middle	ASE-108A	103	8/1/2005	10:40	-	20.4	-	0.1	-	0.3	-	4	-	49.02
P-15-U	17	22	SV-Middle	ASE-108A	103	12/28/2005	13:10	-	18.9	-	0.2	-	0.5	-	3	7.59	55
P-15-U	17	22	SV-Middle	ASE-108A	103	1/12/2006	13:06	-	18.8	-	1	-	0.4	-	8	8460	10600
P-16-L	55	65	SV-Deep	ASE-92A	41	8/1/2005	9:20	-	0	-	16.4	-	>100	-	>100	-	-
P-16-L	55	65	SV-Deep	ASE-92A	41	8/1/2005	9:26	-	-	-	-	-	-	-	-	431200	459800
P-16-L	55	65	SV-Deep	ASE-92A	41	1/12/2006	12:41	-	0	-	13.9	-	21.3	-	>100	221000	238000
P-16-L	55	65	SV-Deep	ASE-92A	41	1/12/2006	12:42	-	0.1	-	13.6	-	20.9	-	>100	219000	232000
P-16-L	55	65	SV-Deep	ASE-92A	41	2/3/2006	10:21	-	<0	-	-	-	-	-	-	-	-
P-16-L	55	65	SV-Deep	ASE-92A	41	2/3/2006	10:22	-	0.3	-	-	-	-	-	-	-	-
P-16-M	35	40	SV-Deep	ASE-92A	41	8/1/2005	8:36	-	17.1	-	1.7	-	0.7	-	13	10.46	13.02
P-16-M	35	40	SV-Deep	ASE-92A	41	12/28/2005	10:14	-	16.5	-	2.5	-	0.5	-	9	1940	2060
P-16-M	35	40	SV-Deep	ASE-92A	41	1/12/2006	12:12	-	8.5	-	7.6	-	1.4	-	27	1578	1626
P-16-M	35	40	SV-Deep	ASE-92A	41	2/3/2006	9:41	-	<0	-	-	-	-	-	-	-	-
P-16-M	35	40	SV-Deep	ASE-92A	41	2/3/2006	9:42	-	0.3	-	-	-	-	-	-	-	-
P-16-U	12	17	SV-Middle	ASE-92A	41	8/1/2005	8:25	-	-	-	-	-	-	-	-	8.4	-
P-16-U	12	17	SV-Middle	ASE-92A	41	8/1/2005	8:26	-	16.3	-	2.7	-	2.3	-	45	-	7.69
P-16-U	12	17	SV-Middle	ASE-92A	41	12/28/2005	9:30	-	16.1	-	2.4	-	0.6	-	10	3135	3447
P-16-U	12	17	SV-Middle	ASE-92A	41	1/12/2006	11:46	-	1	-	10.5	-	3.7	-	74	29670	33180
P-16-U	12	17	SV-Middle	ASE-92A	41	2/3/2006	9:43	-	0	-	-	-	-	-	-	-	-
P-16-U	12	17	SV-Middle	ASE-92A	41	2/3/2006	9:44	-	0.4	-	-	-	-	-	-	-	-
P-17-L	56	66	SV-Deep	ASE-41A	257	7/22/2005	13:24	-	0.02	-	9.4	-	>100	-	>100	55200	84800
P-17-L	56	66	SV-Deep	ASE-41A	257	1/17/2006	11:54	-	0.2	-	10.9	-	14.6	-	>100	107000	135000
P-17-L	56	66	SV-Deep	ASE-41A	257	2/3/2006	9:25	-	0	-	-	-	-	-	-	-	-
P-17-L	56	66	SV-Deep	ASE-41A	257	2/3/2006	9:26	-	0.6	-	-	-	-	-	-	-	-
P-17-M	38	43	SV-Deep	ASE-41A	257	7/22/2005	12:52	-	3.7	-	8.2	-	24.5	-	>100	-	-
P-17-M	38	43	SV-Deep	ASE-41A	257	7/22/2005	12:53	-	-	-	-	-	-	-	-	46100	49100
P-17-M	38	43	SV-Deep	ASE-41A	257	1/17/2006	11:29	-	1.2	-	11.3	-	10.1	-	>100	81220	91430
P-17-M	38	43	SV-Deep	ASE-41A	257	2/3/2006	8:55	-	<0.0	-	-	-	-	-	-	-	-
P-17-M	38	43	SV-Deep	ASE-41A	257	2/3/2006	8:56	-	0	-	-	-	-	-	-	-	-

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Table A-2

Static Methane, Oxygen, Carbon Dioxide, Percent LEL, and FID Soil Gas Field Measurements Results from Monitor Wells (July 2005 through February 2006 and April 2006[a])

Focused Human Health Risk Assessment Report

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Location ID	Screen Interval Start Depth (ft bgs)	Screen Interval End Depth (ft bgs)	Well Classification	Closest Injection Well	Proximity to Closest Injection Well (ft)	Date	Time	Oxygen-W (% V/V)	Oxygen-WO (% V/V)	Carbon Dioxide-W (% V/V)	Carbon Dioxide-WO (% V/V)	Methane-W[b] (% V/V)	Methane-WO[b] (% V/V)	% LEL-W (%)	% LEL-WO (%)	FID-W (ppm)	FID-WO (ppm)
P-17-U	20	25	SV-Middle	ASE-41A	257	7/22/2005	12:35	-	6.4	-	7	-	6.4	-	>100	-	-
P-17-U	20	25	SV-Middle	ASE-41A	257	7/22/2005	12:36	-	-	-	-	-	-	-	-	22400	24600
P-17-U	20	25	SV-Middle	ASE-41A	257	1/17/2006	11:03	-	1.3	-	11.3	-	5	-	99	41630	44120
P-17-U	20	25	SV-Middle	ASE-41A	257	2/3/2006	8:39	-	0	-	-	-	-	-	-	-	-
P-17-U	20	25	SV-Middle	ASE-41A	257	2/3/2006	8:40	-	0	-	-	-	-	-	-	-	-
P-18-L	33	38	SV-Deep	ASE-41A	484	7/26/2005	10:59	-	0	-	11.5	-	66	-	>100	-	-
P-18-L	33	38	SV-Deep	ASE-41A	484	7/26/2005	11:02	-	-	-	-	-	-	-	-	20.35	19.36
P-18-U	15	20	SV-Middle	ASE-41A	484	7/26/2005	10:45	-	0	-	12.3	-	62.9	-	>100	-	-
P-18-U	15	20	SV-Middle	ASE-41A	484	7/26/2005	10:47	-	-	-	-	-	-	-	-	228800	212300
P-18-U	15	20	SV-Middle	ASE-41A	484	1/11/2006	10:01	-	0.9	-	10.5	-	12.9	-	>100	120000	126000
P-1-L	50	55	SV-Deep	ASE-108A	350	7/22/2005	10:01	-	13.3	-	3.5	-	2.6	-	52	4746	7104
P-1-L	50	55	SV-Deep	ASE-108A	350	12/21/2005	15:49	-	0	-	9.5	-	2.6	-	51	20526	29865
P-1-L	50	55	SV-Deep	ASE-108A	350	1/13/2006	11:37	-	1.7	-	9.6	-	2.6	-	51	23730	25860
P-1-L	50	55	SV-Deep	ASE-108A	350	2/2/2006	15:42	-	0	-	-	-	-	-	-	-	-
P-1-L	50	55	SV-Deep	ASE-108A	350	2/2/2006	15:43	-	3.1	-	-	-	-	-	-	-	-
P-1-M	25.7	30.7	SV-Middle	ASE-108A	350	7/22/2005	9:05	-	11.9	-	3.6	-	2.5	-	50	-	-
P-1-M	25.7	30.7	SV-Middle	ASE-108A	350	7/22/2005	9:28	-	-	-	-	-	-	-	-	26100	28600
P-1-M	25.7	30.7	SV-Middle	ASE-108A	350	12/21/2005	15:18	-	0	-	8.5	-	2.6	-	52	18458	27005
P-1-M	25.7	30.7	SV-Middle	ASE-108A	350	1/13/2006	11:14	-	1	-	9.7	-	2	-	59	25140	26240
P-1-M	25.7	30.7	SV-Middle	ASE-108A	350	2/2/2006	15:34	-	0	-	-	-	-	-	-	-	-
P-1-M	25.7	30.7	SV-Middle	ASE-108A	350	2/2/2006	15:35	-	5.5	-	-	-	-	-	-	-	-
P-1-U	5.9	8.9	SV-Shallow	ASE-108A	350	7/22/2005	8:13	-	14.7	-	2.5	-	4	-	86	-	-
P-1-U	5.9	8.9	SV-Shallow	ASE-108A	350	7/22/2005	8:30	-	-	-	-	-	-	-	-	8816	9600
P-1-U	5.9	8.9	SV-Shallow	ASE-108A	350	12/21/2005	14:51	-	0.6	-	4.6	-	3.8	-	75	17710	27808
P-1-U	5.9	8.9	SV-Shallow	ASE-108A	350	1/13/2006	10:56	-	3	-	5.1	-	3.9	-	55	28360	32500
P-1-U	5.9	8.9	SV-Shallow	ASE-108A	350	2/2/2006	15:44	-	0	-	-	-	-	-	-	-	-
P-1-U	5.9	8.9	SV-Shallow	ASE-108A	350	2/2/2006	15:45	-	3.3	-	-	-	-	-	-	-	-
P-20-L	56	66	SV-Deep	ASE-41A	168	7/20/2005	14:19	-	0.5	-	17	-	>100	-	>100	955900	1000000
P-20-L	56	66	SV-Deep	ASE-41A	168	1/11/2006	12:09	-	0.9	-	15.7	-	46.4	-	>100	1200000	1357000
P-20-L	56	66	SV-Deep	ASE-41A	168	1/20/2006	14:42	-	0	-	18.1	-	55.2	-	>100	-99	-99
P-20-L	56	66	SV-Deep	ASE-41A	168	2/3/2006	11:38	-	<0	-	-	-	-	-	-	-	-
P-20-L	56	66	SV-Deep	ASE-41A	168	2/3/2006	11:39	-	0.4	-	-	-	-	-	-	-	-
P-20-M	39	44	SV-Deep	ASE-41A	168	7/20/2005	13:42	-	10.2	-	6.8	-	25.2	-	>100	673200	678600
P-20-M	39	44	SV-Deep	ASE-41A	168	12/29/2005	14:06	-	11.3	-	7.9	-	19.3	-	>100	114400	125400
P-20-M	39	44	SV-Deep	ASE-41A	168	1/11/2006	11:37	-	0.1	-	14.6	-	28.4	-	>100	384000	402000
P-20-M	39	44	SV-Deep	ASE-41A	168	1/20/2006	14:35	-	0	-	16.4	-	33.8	-	>100	-99	-99
P-20-M	39	44	SV-Deep	ASE-41A	168	2/3/2006	11:09	-	<0	-	-	-	-	-	-	-	-
P-20-M	39	44	SV-Deep	ASE-41A	168	2/3/2006	11:10	-	0.4	-	-	-	-	-	-	-	-
P-20-U	22	27	SV-Middle	ASE-41A	168	7/20/2005	13:12	-	12	-	4.9	-	16.1	-	>100	-	-
P-20-U	22	27	SV-Middle	ASE-41A	168	7/20/2005	13:50	-	-	-	-	-	-	-	-	330300	342900
P-20-U	22	27	SV-Middle	ASE-41A	168	12/29/2005	13:38	-	16.1	-	4	-	6.2	-	>100	34650	36080
P-20-U	22	27	SV-Middle	ASE-41A	168	1/11/2006	11:16	-	2.9	-	11.9	-	17.4	-	>100	181000	194000
P-20-U	22	27	SV-Middle	ASE-41A	168	1/20/2006	14:33	-	0.2	-	12.9	-	22.2	-	>100	-99	-99

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Focused Human Health Risk Assessment Report

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P-20-U	22	27	SV-Middle	ASE-41A	168	2/3/2006	10:57	-	0	-	-	-	-	-	-	-	-
P-20-U	22	27	SV-Middle	ASE-41A	168	2/3/2006	10:58	-	0.6	-	-	-	-	-	-	-	-
P-21-L	53	63	SV-Deep	ASE-41A	377	7/25/2005	9:38	-	0	-	13.8	-	>100	-	>100	48100	88000
P-21-M	34	39	SV-Deep	ASE-41A	377	7/25/2005	9:09	-	15.7	-	3.2	-	4.6	-	92	40300	5407
P-21-U	15	20	SV-Middle	ASE-41A	377	7/25/2005	8:55	-	19.8	-	0.7	-	0.3	-	5	10.26	15.03
P-21-U	15	20	SV-Middle	ASE-41A	377	1/11/2006	10:45	-	17.9	-	2.1	-	0.2	-	3	1334	1616
P-22-L	34	39	SV-Deep	ASE-41A	550	7/25/2005	12:02	-	1.7	-	9.9	-	23.4	-	>100	253000	244200
P-22-U	16	21	SV-Middle	ASE-41A	550	7/25/2005	11:48	-	1.1	-	11	-	25.1	-	>100	243100	234300
P-23-L	50	60	SV-Deep	ASE-41A	1045	8/5/2005	9:31	-	0	-	12.2	-	22.2	-	>100	-	-
P-23-L	50	60	SV-Deep	ASE-41A	1045	8/5/2005	9:36	-	-	-	-	-	-	-	-	68500	80900
P-23-L	50	60	SV-Deep	ASE-41A	1045	12/23/2005	10:36	-	2.6	-	9.8	-	7.1	-	>100	37136	41063
P-23-L	50	60	SV-Deep	ASE-41A	1045	1/10/2006	14:56	-	0	-	10.8	-	8.5	-	>100	82500	93700
P-23-L	50	60	SV-Deep	ASE-41A	1045	2/6/2006	10:33	-	0	-	-	-	-	-	-	-	-
P-23-M	32	37	SV-Deep	ASE-41A	1045	8/5/2005	9:01	-	20.2	-	0.3	-	0.9	-	18	72	186
P-23-M	32	37	SV-Deep	ASE-41A	1045	1/10/2006	14:27	-	6.6	-	6	-	0.1	-	2	3	92
P-23-M	32	37	SV-Deep	ASE-41A	1045	2/6/2006	10:11	-	8.8	-	-	-	-	-	-	-	-
P-23-U	16	21	SV-Middle	ASE-41A	1045	8/5/2005	8:47	-	20.6	-	0.2	-	1.4	-	28	91	320
P-23-U	16	21	SV-Middle	ASE-41A	1045	1/10/2006	14:04	-	13.2	-	3.2	-	0.2	-	2	36	495
P-23-U	16	21	SV-Middle	ASE-41A	1045	2/6/2006	10:00	-	12.9	-	-	-	-	-	-	-	-
P-24-L	68	118	SV-Deep	ASE-92A	203	7/28/2005	13:33	-	0	-	11.9	-	>100	-	>100	-	-
P-24-L	68	118	SV-Deep	ASE-92A	203	7/28/2005	13:37	-	-	-	-	-	-	-	-	325600	379500
P-24-L	68	118	SV-Deep	ASE-92A	203	1/18/2006	14:48	-	0.2	-	12.4	-	35.4	-	>100	545000	653000
P-24-M	53	58	SV-Deep	ASE-92A	203	7/28/2005	12:40	-	14.9	-	2.4	-	18.4	-	>100	-	-
P-24-M	53	58	SV-Deep	ASE-92A	203	7/28/2005	12:43	-	-	-	-	-	-	-	-	256800	289600
P-24-M	53	58	SV-Deep	ASE-92A	203	8/19/2005	8:47	-	12.1	-	4.3	-	35.9	-	>100	0	0
P-24-M	53	58	SV-Deep	ASE-92A	203	1/18/2006	13:54	-	0.8	-	11.4	-	30.8	-	>100	415000	480000
P-24-U	7	12	SV-Shallow	ASE-92A	203	7/28/2005	12:21	-	17.3	-	0.9	-	4.7	-	94	8.01	35.88
P-24-U	7	12	SV-Shallow	ASE-92A	203	8/19/2005	8:47	-	8.8	-	5.2	-	25.2	-	>100	28.48	20.25
P-24-U	7	12	SV-Shallow	ASE-92A	203	1/18/2006	13:39	-	1.4	-	7.6	-	20.2	-	>100	251000	278000
P-25-L	70	105	SV-Deep	ASE-92A	449	7/28/2005	12:01	-	0	-	6.6	-	0.7	-	13	-	-
P-25-L	70	105	SV-Deep	ASE-92A	449	7/28/2005	12:04	-	-	-	-	-	-	-	-	96.48	112.38
P-25-L	70	105	SV-Deep	ASE-92A	449	1/19/2006	10:12	-	1	-	7.6	-	0.2	-	4	16	96
P-25-M	53	58	SV-Deep	ASE-92A	449	7/28/2005	11:15	-	7.1	-	4.7	-	0.9	-	17	-	-
P-25-M	53	58	SV-Deep	ASE-92A	449	7/28/2005	11:17	-	-	-	-	-	-	-	-	124.19	347.82
P-25-M	53	58	SV-Deep	ASE-92A	449	8/19/2005	8:47	-	14.1	-	2.5	-	0	-	0	10.42	42.89
P-25-M	53	58	SV-Deep	ASE-92A	449	1/19/2006	9:34	-	19.5	-	1	-	0.2	-	3	12	479
P-25-U	7	12	SV-Shallow	ASE-92A	449	7/28/2005	0:00	-	-	-	-	-	-	-	-	0	0
P-25-U	7	12	SV-Shallow	ASE-92A	449	7/28/2005	10:58	-	0.4	-	9.6	-	2.9	-	57	-	-
P-25-U	7	12	SV-Shallow	ASE-92A	449	8/19/2005	10:32	-	20.4	-	6	-	0.9	-	18	1522	1200
P-25-U	7	12	SV-Shallow	ASE-92A	449	1/19/2006	9:00	-	4.8	-	6.3	-	0.2	-	2	56	229
P-25-U	7	12	SV-Shallow	ASE-92A	449	1/19/2006	9:01	-	5.1	-	6.1	-	0.2	-	3	55	227.5
P-26-L	68	118	SV-Deep	ASE-92A	443	7/28/2005	9:25	-	12.7	-	2.1	-	0.4	-	7	-	-
P-26-L	68	118	SV-Deep	ASE-92A	443	7/28/2005	9:28	-	-	-	-	-	-	-	-	1104	1206

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P-26-M	53	58	SV-Deep	ASE-92A	443	7/28/2005	8:31	-	17.1	-	0.4	-	0.6	-	12	29600	30400
P-26-M	53	58	SV-Deep	ASE-92A	443	8/19/2005	8:47	-	16.8	-	0.9	-	1.1	-	21	7280	7041
P-26-U	5.25	10.25	SV-Shallow	ASE-92A	443	7/28/2005	8:13	-	17.4	-	0.7	-	2.8	-	56	12.9	22.92
P-26-U	5.25	10.25	SV-Shallow	ASE-92A	443	8/19/2005	8:47	-	14.7	-	0.4	-	8.5	-	>100	231000	246400
P-27-L	70	100	SV-Deep	ASE-92A	138	2/2/2006	18:15	-	<0	-	-	-	-	-	-	-	-
P-27-L	70	100	SV-Deep	ASE-92A	138	2/2/2006	18:16	-	0.7	-	-	-	-	-	-	-	-
P-27-M	55	60	SV-Deep	ASE-92A	138	2/2/2006	17:36	-	0	-	-	-	-	-	-	-	-
P-27-M	55	60	SV-Deep	ASE-92A	138	2/2/2006	17:37	-	0.7	-	-	-	-	-	-	-	-
P-27-U	6	11	SV-Shallow	ASE-92A	138	2/2/2006	17:15	-	0	-	-	-	-	-	-	-	-
P-27-U	6	11	SV-Shallow	ASE-92A	138	2/2/2006	17:16	-	1	-	-	-	-	-	-	-	-
P-27-U	6	11	SV-Shallow	ASE-92A	138	2/23/2006	12:10	-	0	-	10.7	-	2.3	-	45	-	-
P-27-UM	19	24	SV-Middle	ASE-92A	138	2/2/2006	17:26	-	0	-	-	-	-	-	-	-	-
P-27-UM	19	24	SV-Middle	ASE-92A	138	2/2/2006	17:27	-	0.9	-	-	-	-	-	-	-	-
P-28-L	58	78	SV-Deep	ASE-92A	824	1/11/2006	14:46	-	14.5	-	3.3	-	0.1	-	2	51	70
P-28-L	58	78	SV-Deep	ASE-92A	824	2/3/2006	15:47	-	11.7	-	-	-	-	-	-	-	-
P-28-M	43	48	SV-Deep	ASE-92A	824	1/11/2006	14:15	-	11.7	-	5.1	-	0.6	-	1	47	350
P-28-M	43	48	SV-Deep	ASE-92A	824	2/3/2006	15:17	-	10.7	-	-	-	-	-	-	-	-
P-28-U	6	11	SV-Shallow	ASE-92A	824	1/11/2006	13:45	-	12.3	-	4.2	-	0	-	0	411	1550
P-28-U	6	11	SV-Shallow	ASE-92A	824	2/3/2006	15:08	-	11.6	-	-	-	-	-	-	-	-
P-29-L	60	90	SV-Deep	ASE-41A	986	1/20/2006	14:09	-	0	-	10	-	2.6	-	55	22100	25600
P-29-L	60	90	SV-Deep	ASE-41A	986	2/3/2006	11:38	-	0	-	-	-	-	-	-	-	-
P-29-M	50	55	SV-Deep	ASE-41A	986	1/20/2006	13:34	-	2.9	-	8.8	-	6	-	>100	46000	52500
P-29-M	50	55	SV-Deep	ASE-41A	986	2/3/2006	11:18	-	0	-	-	-	-	-	-	-	-
P-29-U	6	11	SV-Shallow	ASE-41A	986	1/20/2006	13:00	-	18.9	-	1	-	0	-	0	225	585
P-29-U	6	11	SV-Shallow	ASE-41A	986	2/3/2006	11:03	-	17.8	-	-	-	-	-	-	-	-
P-2-L	51.8	56.8	SV-Deep	ASE-108A	278	7/22/2005	11:09	-	12.2	-	4.1	-	4	-	80	-	-
P-2-L	51.8	56.8	SV-Deep	ASE-108A	278	7/22/2005	11:10	-	-	-	-	-	-	-	-	25900	28400
P-2-L	51.8	56.8	SV-Deep	ASE-108A	278	12/23/2005	12:41	-	11.9	-	4.3	-	2	-	39	12914	14762
P-2-L	51.8	56.8	SV-Deep	ASE-108A	278	1/13/2006	12:52	-	1.8	-	10.1	-	6	-	>100	53460	56250
P-2-L	51.8	56.8	SV-Deep	ASE-108A	278	2/2/2006	16:25	-	0	-	-	-	-	-	-	-	-
P-2-L	51.8	56.8	SV-Deep	ASE-108A	278	2/2/2006	16:26	-	0.8	-	-	-	-	-	-	-	-
P-2-M	25.1	30.1	SV-Middle	ASE-108A	278	7/22/2005	10:45	-	11.9	-	3.8	-	8.1	-	>100	-	-
P-2-M	25.1	30.1	SV-Middle	ASE-108A	278	7/22/2005	10:46	-	-	-	-	-	-	-	-	93800	61200
P-2-M	25.1	30.1	SV-Middle	ASE-108A	278	12/23/2005	12:11	-	6.2	-	6.8	-	2.1	-	41	13893	15774
P-2-M	25.1	30.1	SV-Middle	ASE-108A	278	1/13/2006	12:31	-	0.1	-	9.4	-	3.5	-	72	34200	35700
P-2-M	25.1	30.1	SV-Middle	ASE-108A	278	2/2/2006	16:13	-	0	-	-	-	-	-	-	-	-
P-2-M	25.1	30.1	SV-Middle	ASE-108A	278	2/2/2006	16:14	-	0.9	-	-	-	-	-	-	-	-
P-2-U	6.3	9.3	SV-Shallow	ASE-108A	278	7/22/2005	10:26	-	0	-	11.4	-	26.2	-	>100	-	-
P-2-U	6.3	9.3	SV-Shallow	ASE-108A	278	7/22/2005	10:29	-	-	-	-	-	-	-	-	3.83	3.89
P-2-U	6.3	9.3	SV-Shallow	ASE-108A	278	12/28/2005	15:17	-	14.4	-	2.1	-	1.6	-	32	12254	13662
P-2-U	6.3	9.3	SV-Shallow	ASE-108A	278	1/13/2006	12:06	-	2.6	-	7.5	-	15.8	-	>100	59960	62650
P-2-U	6.3	9.3	SV-Shallow	ASE-108A	278	2/2/2006	16:04	-	0	-	-	-	-	-	-	-	-
P-2-U	6.3	9.3	SV-Shallow	ASE-108A	278	2/2/2006	16:05	-	1.1	-	-	-	-	-	-	-	-

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Table A-2

Static Methane, Oxygen, Carbon Dioxide, Percent LEL, and FID Soil Gas Field Measurements Results from Monitor Wells (July 2005 through February 2006 and April 2006[a])

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

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P-30-L	60	90	SV-Deep	ASE-41A	966	1/20/2006	12:22	-	0.9	-	6.8	-	1.1	-	22	8550	9600
P-30-L	60	90	SV-Deep	ASE-41A	966	2/3/2006	14:18	-	0	-	-	-	-	-	-	-	-
P-30-M	50	55	SV-Deep	ASE-41A	966	1/20/2006	11:37	-	1.7	-	5.7	-	3.8	-	75	34700	38200
P-30-M	50	55	SV-Deep	ASE-41A	966	2/3/2006	13:57	-	0	-	-	-	-	-	-	-	-
P-30-U	6	11	SV-Shallow	ASE-41A	966	1/20/2006	11:08	-	16.4	-	1.3	-	0	-	0	8.5	335
P-30-U	6	11	SV-Shallow	ASE-41A	966	2/3/2006	13:48	-	15.7	-	-	-	-	-	-	-	-
P-31	5.5	6	SV-Shallow	ASE-41A	572	1/16/2006	12:19	-	17.2	-	1.7	-	0	-	0	37.9	952
P-31	5.5	6	SV-Shallow	ASE-41A	572	2/3/2006	10:09	-	18.4	-	-	-	-	-	-	-	-
P-32	5.5	6	SV-Shallow	ASE-41A	442	1/16/2006	9:36	-	15.2	-	2.7	-	0.1	-	2	280	530
P-32	5.5	6	SV-Shallow	ASE-41A	442	2/3/2006	9:50	-	14.3	-	-	-	-	-	-	-	-
P-33	5.5	6	SV-Shallow	ASE-41A	98	2/3/2006	8:49	-	15.7	-	-	-	-	-	-	-	-
P-33	5.5	6	SV-Shallow	ASE-41A	98	2/13/2006	16:35	12.8	-	5.8	-	0	-	0	-	-	-
P-33	5.5	6	SV-Shallow	ASE-41A	98	2/13/2006	16:38	-	12.5	-	5.1	-	0	-	0	-	-
P-33	5.5	6	SV-Shallow	ASE-41A	98	2/17/2006	12:31	-	17.6	-	2.7	-	0	-	0	-	-
P-34	5.5	6	SV-Shallow	ASE-41A	264	12/29/2005	10:12	-	20.6	-	0.4	-	0.2	-	2	209.55	277.75
P-34	5.5	6	SV-Shallow	ASE-41A	264	2/3/2006	16:06	-	18.1	-	-	-	-	-	-	-	-
P-34	5.5	6	SV-Shallow	ASE-41A	264	2/17/2006	11:22	-	19.2	-	0.9	-	0	-	0	-	-
P-34	5.5	6	SV-Shallow	ASE-41A	264	2/23/2006	11:40	-	17.1	-	1.5	-	0	-	0	-	-
P-34-M	20	25	SV-Middle	ASE-41A	264	2/2/2006	18:32	-	15.9	-	-	-	-	-	-	-	-
P-34-M	20	25	SV-Middle	ASE-41A	264	2/2/2006	18:33	-	16.5	-	-	-	-	-	-	-	-
P-34-M	20	25	SV-Middle	ASE-41A	264	2/17/2006	13:06	-	16.9	-	2.2	-	0	-	0	-	-
P-34-M	20	25	SV-Middle	ASE-41A	264	2/23/2006	11:30	-	14.9	-	2.7	-	0	-	0	-	-
P-35	5.5	6	SV-Shallow	ASE-41A	188	2/3/2006	8:33	-	8.9	-	-	-	-	-	-	-	-
P-35	5.5	6	SV-Shallow	ASE-41A	188	2/13/2006	16:56	-	4.4	-	8.8	-	0	-	0	-	-
P-35	5.5	6	SV-Shallow	ASE-41A	188	2/17/2006	12:05	-	12.5	-	5.1	-	0	-	0	-	-
P-36	5.5	6	SV-Shallow	ASE-41A	447	1/16/2006	11:44	-	8.2	-	6.6	-	0	-	0	650	2440
P-36	5.5	6	SV-Shallow	ASE-41A	447	2/3/2006	9:34	-	7.1	-	-	-	-	-	-	-	-
P-37	5.5	6	SV-Shallow	ASE-41A	112	2/3/2006	8:08	-	0	-	-	-	-	-	-	-	-
P-37	5.5	6	SV-Shallow	ASE-41A	112	2/13/2006	16:42	-	0	-	12.7	-	15.7	-	>100	-	-
P-37	5.5	6	SV-Shallow	ASE-41A	112	2/13/2006	16:44	0	-	12.6	-	6.5	-	>100	-	-	-
P-37	5.5	6	SV-Shallow	ASE-41A	112	2/17/2006	11:20	-	8.5	-	7.7	-	2.8	-	54	-	-
P-38	5.5	6	SV-Shallow	ASE-41A	228	2/3/2006	8:18	-	0.3	-	-	-	-	-	-	-	-
P-38	5.5	6	SV-Shallow	ASE-41A	228	2/13/2006	16:46	0	-	12.9	-	10	-	>100	-	-	-
P-38	5.5	6	SV-Shallow	ASE-41A	228	2/13/2006	16:49	-	0	-	12.7	-	19.6	-	>100	-	-
P-38	5.5	6	SV-Shallow	ASE-41A	228	2/17/2006	11:44	-	6.6	-	9	-	7.6	-	>100	-	-
P-39	5.5	6	SV-Shallow	ASE-41A	578	1/16/2006	13:35	-	14.5	-	3.5	-	0	-	0	65	606
P-39	5.5	6	SV-Shallow	ASE-41A	578	2/3/2006	10:31	-	16.6	-	-	-	-	-	-	-	-
P-3-L	50	55	SV-Deep	ASE-108A	409	7/22/2005	12:03	-	4.7	-	4.8	-	39.8	-	>100	-	-
P-3-L	50	55	SV-Deep	ASE-108A	409	7/22/2005	12:05	-	-	-	-	-	-	-	-	18900	24700
P-3-M	22.2	27.2	SV-Middle	ASE-108A	409	7/22/2005	11:45	-	13.6	-	2.4	-	10.4	-	>100	-	-
P-3-M	22.2	27.2	SV-Middle	ASE-108A	409	7/22/2005	11:46	-	-	-	-	-	-	-	-	23200	33100
P-3-U	6.1	9.1	SV-Shallow	ASE-108A	409	7/22/2005	11:30	-	13.4	-	2.9	-	14.7	-	>100	-	-
P-3-U	6.1	9.1	SV-Shallow	ASE-108A	409	7/22/2005	11:31	-	-	-	-	-	-	-	-	44300	50100

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Table A-2

Static Methane, Oxygen, Carbon Dioxide, Percent LEL, and FID Soil Gas Field Measurements Results from Monitor Wells (July 2005 through February 2006 and April 2006[a])

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Screen Interval Start Depth (ft bgs)	Screen Interval End Depth (ft bgs)	Well Classification	Closest Injection Well	Proximity to Closest Injection Well (ft)	Date	Time	Oxygen-W (% V/V)	Oxygen-WO (% V/V)	Carbon Dioxide-W (% V/V)	Carbon Dioxide-WO (% V/V)	Methane-W[b] (% V/V)	Methane-WO[b] (% V/V)	% LEL-W (%)	% LEL-WO (%)	FID-W (ppm)	FID-WO (ppm)
P-3-U	6.1	9.1	SV-Shallow	ASE-108A	409	12/29/2005	8:42	-	15.9	-	2	-	1.8	-	36	14740	18095
P-3-U	6.1	9.1	SV-Shallow	ASE-108A	409	1/13/2006	13:24	-	0	-	6	-	9.4	-	>100	68100	82730
P-3-U	6.1	9.1	SV-Shallow	ASE-108A	409	2/2/2006	16:46	-	0	-	-	-	-	-	-	-	-
P-3-U	6.1	9.1	SV-Shallow	ASE-108A	409	2/2/2006	16:47	-	1.3	-	-	-	-	-	-	-	-
P-40	5.5	6	SV-Shallow	ASE-41A	510	12/29/2005	15:03	-	19.6	-	1.4	-	0.4	-	7	1628	1749
P-40	5.5	6	SV-Shallow	ASE-41A	510	1/11/2006	12:38	-	12.9	-	4	-	3.1	-	62	32290	34250
P-40-M	20	25	SV-Middle	ASE-41A	504	2/2/2006	18:49	-	9.3	-	-	-	-	-	-	-	-
P-40-M	20	25	SV-Middle	ASE-41A	504	2/2/2006	18:50	-	4.7	-	-	-	-	-	-	-	-
P-40-M	20	25	SV-Middle	ASE-41A	504	2/23/2006	10:39	-	6.9	-	7.6	-	0	-	0	-	-
P-41	5.5	6	SV-Shallow	ASE-41A	990	1/16/2006	14:25	-	9.9	-	2.1	-	0	-	0	56.5	252
P-41	5.5	6	SV-Shallow	ASE-41A	990	2/3/2006	13:30	-	9.7	-	-	-	-	-	-	-	-
P-46-L	45	50	SV-Deep	ASE-41A	749	1/10/2006	11:19	-	16.1	-	2.1	-	0.1	-	1	110	115
P-46-L	45	50	SV-Deep	ASE-41A	749	2/3/2006	15:42	-	0	-	-	-	-	-	-	-	-
P-46-M	57	92	SV-Deep	ASE-41A	749	1/10/2006	10:42	-	3	-	3.4	-	0.2	-	3	1580	1580
P-46-M	57	92	SV-Deep	ASE-41A	749	2/3/2006	15:21	-	0	-	-	-	-	-	-	-	-
P-46-U	6	11	SV-Shallow	ASE-41A	749	1/10/2006	10:09	-	15.1	-	1.1	-	0	-	0	43	185
P-46-U	6	11	SV-Shallow	ASE-41A	749	2/3/2006	15:12	-	14.1	-	-	-	-	-	-	-	-
P-47	6	11	SV-Shallow	ASE-41A	995	12/20/2005	11:57	-	20.2	-	0.3	-	0	-	0	-99	416
P-47	6	11	SV-Shallow	ASE-41A	995	1/13/2006	9:22	-	17.8	-	1.2	-	0.1	-	1	19	260
P-47	6	11	SV-Shallow	ASE-41A	995	2/23/2006	17:18	-	19.4	-	0.5	-	0.2	-	3	-	-
P-4-L	50	55	SV-Deep	ASE-41A	211	8/1/2005	8:07	-	18.8	-	0.9	-	0.1	-	1	8.68	9.31
P-4-L	50	55	SV-Deep	ASE-41A	211	12/29/2005	11:51	-	15.8	-	2.9	-	0.3	-	5	354.75	426.25
P-4-L	50	55	SV-Deep	ASE-41A	211	1/17/2006	13:17	-	2.9	-	9.7	-	0.2	-	3	1000	1250
P-4-M	25	30	SV-Middle	ASE-41A	211	8/1/2005	7:50	-	18.6	-	1.2	-	0	-	0	7.19	8.46
P-4-M	25	30	SV-Middle	ASE-41A	211	12/29/2005	11:26	-	17.7	-	2.2	-	0.1	-	2	13.2	48.4
P-4-M	25	30	SV-Middle	ASE-41A	211	1/17/2006	12:55	-	1.9	-	10.4	-	0	-	0	244.5	612.7
P-4-U	6	9	SV-Shallow	ASE-41A	211	8/1/2005	7:38	-	-	-	-	-	-	-	-	9.43	-
P-4-U	6	9	SV-Shallow	ASE-41A	211	8/1/2005	7:39	-	17.5	-	2.3	-	0	-	0	-	25.3
P-4-U	6	9	SV-Shallow	ASE-41A	211	12/29/2005	11:00	-	17.1	-	2.3	-	0.1	-	2	18.15	41.8
P-4-U	6	9	SV-Shallow	ASE-41A	211	1/17/2006	12:36	-	2.1	-	8.5	-	1.1	-	22	8450	11500
P-4-U	6	9	SV-Shallow	ASE-41A	211	1/20/2006	14:48	-	0.6	-	10	-	0.1	-	1	-99	-99
P-4-U	6	9	SV-Shallow	ASE-41A	211	2/3/2006	9:06	-	0.4	-	-	-	-	-	-	-	-
PL-101A	35	75	SV-Deep	ASE-41A	761	8/3/2005	11:41	-	0	-	10.1	-	>100	-	>100	-	-
PL-101A	35	75	SV-Deep	ASE-41A	761	8/3/2005	11:43	-	-	-	-	-	-	-	-	123200	155100
PL-102A	37	77	SV-Deep	ASE-41A	1407	1/10/2006	13:29	-	0	-	5.7	-	0.2	-	5	15120	1560
PL-103A	39	79	SV-Deep	ASE-108A	1244	8/4/2005	13:16	-	6.7	-	6	-	0	-	0	-	-
PL-103A	39	79	SV-Deep	ASE-108A	1244	8/4/2005	13:18	-	-	-	-	-	-	-	-	91.08	97.79
PL-103A	39	79	SV-Deep	ASE-108A	1244	12/20/2005	14:02	-	11.4	-	4.4	-	0.3	-	6	1.1	4.1
PL-103A	39	79	SV-Deep	ASE-108A	1244	1/13/2006	8:38	-	9.5	-	5.8	-	0.1	-	1	18.5	28.2
PL-105A	39	79	SV-Deep	ASE-108A	40	7/21/2005	11:21	-	3.4	-	9.2	-	0.2	-	3	22.96	20.6
PL-105A	39	79	SV-Deep	ASE-108A	40	1/12/2006	15:19	-	4.5	-	9.1	-	0.2	-	4	1.7	4.32
PL-105A	39	79	SV-Deep	ASE-108A	40	2/3/2006	18:37	-	6.3	-	-	-	-	-	-	-	-
PL-201A	40	80	SV-Deep	ASE-108A	335	8/2/2005	8:10	-	0	-	10.8	-	2.6	-	51	-	-

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PL-201A	40	80	SV-Deep	ASE-108A	335	8/2/2005	8:19	-	-	-	-	-	-	-	-	36200	35000
PL-201A	40	80	SV-Deep	ASE-108A	335	1/9/2006	11:10	-	0	-	10.4	-	4.8	-	96	34460	33870
PL-2101	47.5	87.5	SV-Deep	ASE-41A	697	8/4/2005	12:03	-	0	-	9.9	-	2.6	-	52	-	-
PL-2101	47.5	87.5	SV-Deep	ASE-41A	697	8/4/2005	12:13	-	-	-	-	-	-	-	-	9878	10600
PL-2102	35	75	SV-Deep	ASE-41A	1048	7/19/2005	12:54	-	0.3	-	6.9	-	6.8	-	>100	15136	14936
PL-2102	35	75	SV-Deep	ASE-41A	1048	8/4/2005	9:13	-	0	-	8.2	-	10.2	-	>100	-	-
PL-2102	35	75	SV-Deep	ASE-41A	1048	8/4/2005	9:21	-	-	-	-	-	-	-	-	37700	41000
PL-2102	35	75	SV-Deep	ASE-41A	1048	12/20/2005	9:49	-	1.4	-	7.1	-	4.1	-	82	22390	28660
PL-2102	35	75	SV-Deep	ASE-41A	1048	1/10/2006	12:27	-	0	-	7.6	-	4.5	-	89	28860	30190
PL-2102	35	75	SV-Deep	ASE-41A	1048	2/23/2006	16:50	-	0	-	7.1	-	6.9	-	>100	-	-
P-33 (PSI-092)	5.5	6	SV-Shallow	ASE-41A	98	7/26/2005	14:10	-	21.6	-	0	-	0	-	0	-	-
P-32 (PSI-104)	5.5	6	SV-Shallow	ASE-41A	442	7/26/2005	13:11	-	21.6	-	0	-	0	-	0	-	-
P-35 (PSI-115)	5.5	6	SV-Shallow	ASE-41A	188	8/2/2005	13:35	-	14.9	-	3.8	-	0	-	0	-	-
P-36 (PSI-118)	5.5	6	SV-Shallow	ASE-41A	447	7/26/2005	12:42	-	19.8	-	1.2	-	0	-	0	-	-
P-37 (PSI-129)	5.5	6	SV-Shallow	ASE-41A	112	8/2/2005	12:18	-	14.7	-	3.8	-	6.8	-	>100	-	-
P-38 (PSI-136)	5.5	6	SV-Shallow	ASE-41A	228	8/2/2005	12:53	-	13.9	-	4.1	-	6.9	-	>100	-	-
P-41 (PSI-172)	5.5	6	SV-Shallow	ASE-41A	990	8/3/2005	14:06	-	20	-	0	-	1.2	-	21	-	-
SVE-1	34	54	SV-Deep	ASE-41A	332	7/22/2005	9:14	-	0	-	9.4	-	4.9	-	98	-	-
SVE-1	34	54	SV-Deep	ASE-41A	332	7/22/2005	9:17	-	-	-	-	-	-	-	-	9656	9392
SVE-1	34	54	SV-Deep	ASE-41A	332	1/9/2006	9:54	-	4.7	-	7.2	-	1.2	-	19	11930	13950
SVE-1	34	54	SV-Deep	ASE-41A	332	2/3/2006	14:53	-	0.2	-	-	-	-	-	-	-	-
ASE-104A	64.5	74.5	SV-Deep	ASE-92A	623	4/21/2006	9:42	-	1.9	-	5.1	0	0	0	0	64	320
ASE-104A	64.5	74.5	SV-Deep	ASE-92A	623	4/21/2006	9:43	-	1.9	-	5.1	0	0	0	0	64	352
ASE-111A	59.5	124.5	SV-Deep	ASE-41A	770	4/25/2006	2:50	-	0	-	19.4	>100	>100	>100	>100	824000	1448000
ASE-114A	66	116	SV-Deep	ASE-92A	1001	4/25/2006	1:06	-	12.3	-	1.9	0	0	0	0	20	24
ASE-20A	61	81	SV-Deep	ASE-41A	436	4/25/2006	4:30	-	0	-	12	>100	>100	>100	>100	110720	163200
ASE-51A	55.6	80.6	SV-Deep	ASE-41A	514	4/25/2006	9:08	-	0	-	14.7	38.2	73	>100	>100	347200	416000
ASE-51A	55.6	80.6	SV-Deep	ASE-41A	514	4/25/2006	9:09	-	0	-	14.5	39.4	73.6	>100	>100	385600	464000
ASE-52A	56.5	81.5	SV-Deep	ASE-41A	725	4/25/2006	8:24	-	0	-	11.8	13.8	>100	>100	>100	114880	156000
ASE-54A	55.5	80.5	SV-Deep	ASE-41A	850	4/21/2006	10:48	-	0.2	-	7.3	0.6	2.4	12	46	4720	6640
ASE-58A	62	92	SV-Deep	ASE-108A	530	4/25/2006	3:42	-	0	-	7.9	47.5	29.4	>100	>100	106400	123520
ASE-61A	60.5	90.5	SV-Deep	ASE-41A	1145	4/21/2006	8:50	-	0	-	6.3	2.7	27	55	>100	23040	31040
ASE-66A	60.5	90.5	SV-Deep	ASE-41A	725	4/25/2006	7:04	-	0	-	11	5.2	14.6	>100	>100	39840	48240
ASE-67A	61	91	SV-Deep	ASE-41A	632	4/21/2006	12:28	-	0.4	-	15.3	7.7	84	>100	>100	63200	81120
ASE-69A	60	90	SV-Deep	ASE-41A	1568	4/21/2006	11:30	-	14.9	-	4.3	0	0.1	0	2	NA	NA
ASE-95A	81	121	SV-Deep	ASE-108A	802	4/24/2006	23:50	-	4.4	-	6.3	0	0	0	0	64	1216
BC-18	60	80	SV-Deep	ASE-108A	819	4/24/2006	9:16	-	14.3	-	2.6	0	0	0	0	0	50
BC-7A	39	76	SV-Deep	ASE-92A	1103	4/21/2006	6:36	-	6.3	-	5.9	0	0	0	0	0	120
P-12-L	66	76	SV-Deep	ASE-108A	1385	4/24/2006	19:47	-	12.2	-	4.7	0	0	0	0	3450	4330
P-12-L	66	76	SV-Deep	ASE-108A	1385	4/24/2006	19:48	-	11.8	-	4.9	0	0	0	0	2	7
P-12-M	42	47	SV-Deep	ASE-108A	1385	4/24/2006	19:34	-	14.3	-	3.2	0	0	0	0	38	68
P-12-U	24	29	SV-Middle	ASE-108A	1385	4/24/2006	19:21	-	14.1	-	3.1	0	0	0	0	2	9
P-13-L	64	74	SV-Deep	ASE-108A	1131	4/24/2006	18:56	-	9.8	-	5.5	0	0.1	0	2	550	1150
P-13-M	43	48	SV-Deep	ASE-108A	1131	4/24/2006	18:44	-	9.2	-	6.8	0	0	0	0	20	80

See last page for notes

Table A-2

Static Methane, Oxygen, Carbon Dioxide, Percent LEL, and FID Soil Gas Field Measurements Results from Monitor Wells (July 2005 through February 2006 and April 2006[a])

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Screen Interval Start Depth (ft bgs)	Screen Interval End Depth (ft bgs)	Well Classification	Closest Injection Well	Proximity to Closest Injection Well (ft)	Date	Time	Oxygen-W (% V/V)	Oxygen-WO (% V/V)	Carbon Dioxide-W (% V/V)	Carbon Dioxide-WO (% V/V)	Methane-W[b] (% V/V)	Methane-WO[b] (% V/V)	% LEL-W (%)	% LEL-WO (%)	FID-W (ppm)	FID-WO (ppm)
P-13-U	23	28	SV-Middle	ASE-108A	1131	4/24/2006	18:25	-	13.9	-	2.7	0	0	0	0	3	18
P-22-L	34	39	SV-Deep	ASE-41A	550	4/25/2006	7:43	-	0	-	13.5	13.6	32	>100	>100	105280	123520
P-22-U	16	21	SV-Middle	ASE-41A	550	4/25/2006	7:30	-	0	-	12.4	12	22.8	>100	>100	105600	123040
PL-101A	35	75	SV-Deep	ASE-41A	761	4/21/2006	7:17	-	0	-	10.2	14.9	>100	>100	>100	142400	182400

Notes:

[a]Results from the April 21 through April 25, 2006 were collected more than six weeks after air injection and from locations not impacted by air injection.

[b]Methane with filter (Methane-w) concentrations greater than 100 percent are suspect because of either carbon breakthrough or because the concentrations are outside of instrument calibration range.
Methane without filter (Methane-wo) concentrations greater than 100 are suspect because the concentrations are outside of the instrument calibration range.

bgs = below ground surface
-W = with carbon filter
-WO = without carbon filter
SV = soil vapor
FID = Flame Ionization Detector
ft = feet
% V/V = percent volume per volume
bgs = below ground surface
> = greater than
ppm = parts per million

See last page for notes

Table A-3

Static Wellhead Pressure Results

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Sample ID	Sampling Interval Start (feet bgs)	Sampling Interval End (feet bgs)	Proximity to Nearest Air Injection Well (feet)	Nearest Air Injection Well	Date	Static Wellhead Pressure [inches H2O]
ASE-101A	80	100	#N/A	#N/A	1/19/2006	0
ASE-104A	64.5	74.5	623	ASE-92A	4/21/2006	-0.05
ASE-111A	59.5	124.5	770	ASE-41A	4/25/2006	0.06
ASE-112A	68	93	399	ASE-114A	1/19/2006	0.13
ASE-113A	66	121	214	ASE-114A	1/19/2006	0.06
ASE-114A	66	116	0	ASE-114A	4/25/2006	-0.025
ASE-20A	61	81	436	ASE-41A	4/25/2006	0.005
ASE-25C	75	95	1076	ASE-108A	12/23/2005	0
ASE-42C	76	91	1469	ASE-108A	12/20/2005	0
ASE-42C	76	91	1469	ASE-108A	1/17/2006	0.005
ASE-46A	54.7	79.7	346	ASE-41A	12/23/2005	0.1
ASE-51A	55.6	80.6	514	ASE-41A	4/25/2006	0.055
ASE-52A	56.5	81.5	725	ASE-41A	4/25/2006	0.001
ASE-54A	55.5	80.5	850	ASE-41A	12/20/2005	0
ASE-54A	55.5	80.5	850	ASE-41A	1/12/2006	0.05
ASE-54A	55.5	80.5	850	ASE-41A	1/13/2006	0.02
ASE-54A	55.5	80.5	850	ASE-41A	4/21/2006	0.06
ASE-55A	53.9	78.9	141	ASE-108A	1/9/2006	0.085
ASE-56A	55.4	80.4	396	ASE-41A	12/20/2005	0.15
ASE-56A	55.4	80.4	396	ASE-41A	1/12/2006	0.06
ASE-58A	62	92	530	ASE-108A	4/25/2006	0.02
ASE-60A	61	91	999	ASE-41A	12/20/2005	Not Measured
ASE-60A	61	91	999	ASE-41A	1/12/2006	nd
ASE-61A	60.5	90.5	1145	ASE-41A	4/21/2006	0.01
ASE-62A	63	93	227	ASE-108A	1/9/2006	0.04
ASE-66A	60.5	90.5	725	ASE-41A	4/25/2006	-0.005
ASE-67A	61	91	632	ASE-41A	4/21/2006	0.02
ASE-68A	66	96	359	ASE-41A	12/23/2005	0.13
ASE-68A	66	96	359	ASE-41A	1/16/2006	Not Measured
ASE-69A	60	90	1568	ASE-41A	1/12/2006	0.01
ASE-69A	60	90	1568	ASE-41A	1/13/2006	0.02
ASE-69A	60	90	1568	ASE-41A	4/21/2006	0.06
ASE-95A	81	121	802	ASE-108A	4/24/2006	0.005
ASE-97A	51	111	408	ASE-108A	1/19/2006	0.13
BV-4	46	66	192	ASE-41A	1/9/2006	0.06
P-14-L	57	67	63	ASE-108A	1/11/2006	0.04
P-14-M	29	34	63	ASE-108A	12/28/2005	0.12
P-14-M	29	34	63	ASE-108A	1/11/2006	0.02
P-14-U	12	17	63	ASE-108A	12/28/2005	0.07
P-14-U	12	17	63	ASE-108A	1/11/2006	0.05
P-15-L	58	68	103	ASE-108A	1/12/2006	0.11
P-15-M	35	40	103	ASE-108A	12/28/2005	0.13
P-15-M	35	40	103	ASE-108A	1/12/2006	0.07
P-15-U	17	22	103	ASE-108A	12/28/2005	0.13
P-15-U	17	22	103	ASE-108A	1/12/2006	0.09
P-16-L	55	65	41	ASE-92A	1/12/2006	0.16

Table A-3

Static Wellhead Pressure Results

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Sample ID	Sampling Interval Start (feet bgs)	Sampling Interval End (feet bgs)	Proximity to Nearest Air Injection Well (feet)	Nearest Air Injection Well	Date	Static Wellhead Pressure [inches H2O]
P-16-M	35	40	41	ASE-92A	12/28/2005	0
P-16-M	35	40	41	ASE-92A	1/12/2006	0.01
P-16-U	12	17	41	ASE-92A	12/28/2005	0.025
P-16-U	12	17	41	ASE-92A	1/12/2006	0.06
P-17-L	56	66	257	ASE-41A	1/17/2006	0.18
P-17-M	38	43	257	ASE-41A	1/17/2006	0.07
P-17-U	20	25	257	ASE-41A	1/17/2006	0.04
P-18-U	15	20	484	ASE-41A	1/11/2006	0
P-1-L	50	55	350	ASE-108A	12/20/2005	Not Measured
P-1-L	50	55	350	ASE-108A	1/13/2006	0.05
P-1-M	25.7	30.7	350	ASE-108A	12/20/2005	Not Measured
P-1-M	25.7	30.7	350	ASE-108A	1/13/2006	0.02
P-1-U	5.9	8.9	350	ASE-108A	12/20/2005	Not Measured
P-1-U	5.9	8.9	350	ASE-108A	1/13/2006	0
P-20-L	56	66	168	ASE-41A	1/11/2006	0.2
P-20-L	56	66	168	ASE-41A	1/20/2006	0
P-20-M	39	44	168	ASE-41A	12/29/2005	0.08
P-20-M	39	44	168	ASE-41A	1/11/2006	0.01
P-20-M	39	44	168	ASE-41A	1/20/2006	0.01
P-20-U	22	27	168	ASE-41A	12/29/2005	0.04
P-20-U	22	27	168	ASE-41A	1/11/2006	0.06
P-20-U	22	27	168	ASE-41A	1/20/2006	0
P-21-U	15	20	377	ASE-41A	1/11/2006	0.01
P-23-L	50	60	1045	ASE-41A	12/23/2005	0.02
P-23-L	50	60	1045	ASE-41A	1/10/2006	0.06
P-23-M	32	37	1045	ASE-41A	1/10/2006	0.025
P-23-U	16	21	1045	ASE-41A	1/10/2006	0.01
P-24-L	68	118	203	ASE-92A	1/18/2006	0.19
P-24-M	53	58	203	ASE-92A	1/18/2006	0.2
P-24-U	7	12	203	ASE-92A	1/18/2006	0.06
P-25-L	70	105	449	ASE-92A	1/19/2006	0.115
P-25-M	53	58	449	ASE-92A	1/19/2006	0.1
P-25-U	7	12	449	ASE-92A	1/19/2006	0.1
P-28-L	58	78	824	ASE-92A	1/11/2006	0.4
P-28-M	43	48	824	ASE-92A	1/11/2006	0.08
P-28-U	6	11	824	ASE-92A	1/11/2006	0.09
P-29-L	60	90	986	ASE-41A	1/20/2006	0
P-29-M	50	55	986	ASE-41A	1/20/2006	0.06
P-29-U	6	11	986	ASE-41A	1/20/2006	0.03
P-2-L	51.8	56.8	278	ASE-108A	12/23/2005	0.1
P-2-L	51.8	56.8	278	ASE-108A	1/13/2006	0.11
P-2-M	25.1	30.1	278	ASE-108A	12/23/2005	0.05
P-2-M	25.1	30.1	278	ASE-108A	1/13/2006	0.04
P-2-U	6.3	9.3	278	ASE-108A	12/28/2005	0
P-2-U	6.3	9.3	278	ASE-108A	1/13/2006	0.02
P-30-L	60	90	966	ASE-41A	1/20/2006	0.035

Table A-3

Static Wellhead Pressure Results

Focused Human Health Risk Assessment Report

Honeywell 34th Street Facility, Phoenix, Arizona

Sample ID	Sampling Interval Start (feet bgs)	Sampling Interval End (feet bgs)	Proximity to Nearest Air Injection Well (feet)	Nearest Air Injection Well	Date	Static Wellhead Pressure [inches H2O]
P-30-M	50	55	966	ASE-41A	1/20/2006	0.04
P-30-U	6	11	966	ASE-41A	1/20/2006	0
P-31	5.5	6	572	ASE-41A	1/16/2006	0.02
P-32	5.5	6	442	ASE-41A	1/16/2006	Not Measured
P-33	5.5	6	98	ASE-41A	1/16/2006	0.03
P-33	5.5	6	98	ASE-41A	1/17/2006	0.03
P-34	5.5	6	264	ASE-41A	12/29/2005	0
P-35	5.5	6	188	ASE-41A	1/17/2006	0.01
P-36	5.5	6	447	ASE-41A	1/16/2006	0.015
P-37	5.5	6	112	ASE-41A	1/16/2006	0.035
P-37	5.5	6	112	ASE-41A	1/17/2006	0.035
P-38	5.5	6	228	ASE-41A	1/16/2006	0.04
P-39	5.5	6	578	ASE-41A	1/16/2006	0.01
P-3-U	6.1	9.1	409	ASE-108A	12/29/2005	0
P-3-U	6.1	9.1	409	ASE-108A	1/13/2006	0.11
P-40	5.5	6	510	ASE-41A	12/29/2005	0.03
P-40	5.5	6	510	ASE-41A	1/11/2006	0.025
P-40	5.5	6	510	ASE-41A	1/17/2006	0
P-41	5.5	6	990	ASE-41A	1/16/2006	0.05
P-46-L	70	100	749	ASE-41A	1/10/2006	0.06
P-46-M	55	60	749	ASE-41A	1/10/2006	0.06
P-46-U	6	11	749	ASE-41A	1/10/2006	0
P-47	6	11	995	ASE-41A	12/20/2005	0
P-47	6	11	995	ASE-41A	1/13/2006	0.02
P-4-L	50	55	211	ASE-41A	12/29/2005	0.01
P-4-L	50	55	211	ASE-41A	1/17/2006	Not Measured
P-4-M	25	30	211	ASE-41A	12/29/2005	0.02
P-4-M	25	30	211	ASE-41A	1/17/2006	0.06
P-4-U	6	9	211	ASE-41A	12/29/2005	0.02
P-4-U	6	9	211	ASE-41A	1/20/2006	0
PL-102A	37	77	1407	ASE-41A	1/10/2006	0.06
PL-103A	39	79	1244	ASE-108A	1/13/2006	0
PL-103A	39	79	1244	ASE-108A	12/20/2005	0
PL-105A	39	79	40	ASE-108A	1/12/2006	0.04
PL-201A	40	80	335	ASE-108A	1/9/2006	0.04
PL-2102	35	75	1048	ASE-41A	12/20/2005	Not Measured
PL-2102	35	75	1048	ASE-41A	1/10/2006	0.08
SVE-1	34	54	332	ASE-41A	1/9/2006	0

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-01	3/6/2006 14:01	--	19.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/8/2006 10:05	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/8/2006 21:38	--	20.9	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/9/2006 1:16	--	20.9	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/9/2006 17:50	--	20.2	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/9/2006 6:27	--	20.6	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/9/2006 9:15	--	21.2	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/10/2006 13:27	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/10/2006 6:33	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/11/2006 15:32	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/12/2006 15:10	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/13/2006 12:33	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/14/2006 11:51	--	19.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/15/2006 11:55	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/16/2006 11:32	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/17/2006 11:26	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/24/2006 8:29	--	21.3	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-01	3/28/2006 11:20	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/30/2006 11:07	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/4/2006 11:07	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/10/2006 11:25	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/14/2006 11:26	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/17/2006 7:03	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/21/2006 7:25	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/24/2006 7:17	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	4/28/2006 7:24	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	5/1/2006 7:34	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	5/5/2006 7:44	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	5/8/2006 8:40	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	5/15/2006 7:09	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	5/22/2006 8:06	--	20.4	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	5/31/2006 7:20	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	6/5/2006 7:25	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	6/12/2006 7:31	--	20.9	--	0.0	--	0.0	--	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-01	7/12/2006 14:38	--	19.4	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-01	8/8/2006 5:37	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	9/14/2006 7:40	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	10/10/2006 7:10	--	20.7	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-01	11/9/2006 11:57	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	12/15/2006 7:14	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/14/2007 11:10	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	6/18/2007 11:03	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	1/23/2008 8:49	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	3/18/2008 7:21	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-01	7/8/2008 07:22	--	21.0	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-01	10/1/2008 7:32	--	20.5	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-02	3/3/2006 8:17	--	20.6	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/6/2006 14:07	--	9.5	--	3.3	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/8/2006 10:00	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/8/2006 21:41	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/9/2006 1:19	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/9/2006 17:43	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/9/2006 6:32	--	20.8	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/9/2006 9:21	--	21.4	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/10/2006 13:22	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/10/2006 6:38	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/11/2006 15:33	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/12/2006 15:12	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/13/2006 12:36	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/14/2006 11:47	--	19.4	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-02	3/15/2006 11:51	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/16/2006 11:29	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/17/2006 11:22	--	20.4	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-02	3/24/2006 8:32	--	21.2	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-02	3/28/2006 11:23	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/30/2006 11:10	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	4/4/2006 11:10	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	4/10/2006 11:27	--	21.2	--	0.0	--	0.0	--	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-02	4/14/2006 11:23	--	20.3	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-02	4/17/2006 7:05	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	4/21/2006 7:27	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	4/24/2006 7:19	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	4/28/2006 7:26	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	5/1/2006 7:36	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	5/5/2006 7:46	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	5/8/2006 8:42	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	5/15/2006 7:11	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	5/22/2006 8:08	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	5/31/2006 7:22	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	6/5/2006 7:27	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	6/12/2006 7:33	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	7/12/2006 14:40	--	17.2	--	1.2	--	0.0	--	0.0	--	--
ELE-VLT-02	8/8/2006 5:39	--	21.2	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	9/14/2006 7:42	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	10/10/2006 7:12	--	20.9	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-02	11/9/2006 12:00	--	20.3	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-02	12/15/2006 7:16	--	21.1	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/14/2007 11:12	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	6/18/2007 11:05	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	1/23/2008 8:46	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	3/18/2008 7:19	--	20.2	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-02	7/8/2008 07:25	--	21.0	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-02	10/1/2008 7:35	--	20.6	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-03	3/3/2006 8:56	--	11.3	--	3.9	0.0	0.0	0.0	0.0	--	--
ELE-VLT-03	3/6/2006 14:15	--	3.9	--	6.8	1.1	1.4	21.0	27.0	--	--
ELE-VLT-03	3/6/2006 14:25	4.1	4.0	6.6	6.8	1.1	1.5	22.0	29.0	--	--
ELE-VLT-03	3/6/2006 14:45	3.5	3.2	6.8	6.6	0.8	1.1	18.0	22.0	--	--
ELE-VLT-03	3/8/2006 21:48	--	16.4	--	1.9	0.1	0.3	2.0	6.0	--	--
ELE-VLT-03	3/8/2006 8:30	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-03	3/9/2006 1:26	--	13.6	--	3.1	0.1	0.3	2.0	6.0	--	--
ELE-VLT-03	3/9/2006 13:18	--	7.6	--	6.1	1.4	1.8	27.0	36.0	--	--
ELE-VLT-03	3/9/2006 17:12	--	20.5	--	0.0	--	0.0	--	0.0	--	--

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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-03	3/9/2006 6:39	--	10.9	--	4.4	0.5	0.8	11.0	16.0	--	--
ELE-VLT-03	3/9/2006 9:25	--	15.0	--	2.6	0.4	0.5	8.0	10.0	--	--
ELE-VLT-03	3/10/2006 13:09	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	3/10/2006 7:17	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	3/11/2006 15:37	--	20.9	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-03	3/12/2006 15:16	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-03	3/13/2006 12:05	--	20.9	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-03	3/14/2006 12:03	--	18.1	--	0.6	--	0.0	--	0.0	--	--
ELE-VLT-03	3/15/2006 12:08	--	20.3	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-03	3/16/2006 11:43	--	20.3	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-03	3/17/2006 11:36	--	19.5	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-03	3/24/2006 8:10	--	20.7	--	0.2	0.0	0.0	0.0	0.0	--	--
ELE-VLT-03	3/28/2006 11:29	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	3/30/2006 11:15	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	4/4/2006 11:14	--	19.7	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-03	4/10/2006 11:32	--	20.2	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-03	4/14/2006 11:19	--	17.1	--	1.3	--	0.0	--	0.0	--	--
ELE-VLT-03	4/17/2006 7:08	--	20.5	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-03	4/21/2006 7:31	--	20.2	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-03	4/24/2006 7:23	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	4/28/2006 7:33	--	20.6	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-03	5/1/2006 8:03	--	19.6	--	0.6	--	0.0	--	0.0	--	--
ELE-VLT-03	5/5/2006 7:49	--	20.2	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-03	5/8/2006 8:49	--	20.4	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-03	5/15/2006 7:15	--	19.8	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-03	5/22/2006 8:12	--	19.6	--	0.5	--	0.0	--	0.0	--	--
ELE-VLT-03	5/31/2006 7:27	--	20.1	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-03	6/5/2006 7:31	--	20.5	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-03	6/12/2006 7:37	--	20.4	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-03	7/12/2006 14:45	--	19.1	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-03	8/8/2006 5:44	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	9/14/2006 7:46	--	19.7	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-03	10/10/2006 7:18	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	11/9/2006 12:04	--	20.5	--	0.2	--	0.0	--	0.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-03	12/15/2006 7:20	--	20.5	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-03	3/14/2007 11:16	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	6/18/2007 11:11	--	20.1	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-03	1/23/2008 8:30	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	3/18/2008 7:15	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-03	7/8/2008 07:30	--	20.6	--	0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-03	10/1/2008 7:43	--	20.4	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-04	3/3/2006 9:07	--	19.7	--	0.6	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/6/2006 14:21	--	13.5	--	2.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/8/2006 10:45	--	20.1	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-04	3/8/2006 21:58	--	21.1	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/9/2006 1:30	--	21.1	--	0.2	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/9/2006 18:12	--	18.8	--	0.6	--	0.0	--	0.0	--	--
ELE-VLT-04	3/9/2006 6:45	--	18.7	--	0.9	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/9/2006 9:28	--	20.8	--	0.2	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/10/2006 12:57	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/10/2006 7:02	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/11/2006 15:39	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/12/2006 15:18	--	20.7	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/13/2006 12:11	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/14/2006 11:33	--	19.7	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-04	3/15/2006 11:33	--	20.4	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/16/2006 11:23	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/17/2006 11:17	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/24/2006 8:21	--	21.3	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-04	3/28/2006 11:32	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/30/2006 11:20	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	4/4/2006 11:17	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	4/10/2006 11:34	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	4/14/2006 11:16	--	19.5	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-04	4/17/2006 7:12	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	4/21/2006 7:34	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	4/24/2006 7:25	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	4/28/2006 7:34	--	20.8	--	0.0	--	0.0	--	0.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-04	5/1/2006 8:08	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	5/5/2006 7:51	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	5/8/2006 8:51	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	5/15/2006 7:28	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	5/22/2006 8:14	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	5/31/2006 7:30	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	6/5/2006 7:33	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	6/12/2006 7:39	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	7/12/2006 14:48	--	18.8	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-04	8/8/2006 5:46	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	9/14/2006 7:53	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	10/10/2006 7:20	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	11/9/2006 12:06	--	20.4	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-04	12/15/2006 7:22	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/14/2007 11:18	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	6/18/2007 11:13	--	20.4	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	1/23/2008 8:33	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	3/18/2008 7:13	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-04	7/8/2008 07:37	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-04	10/1/2008 7:53	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-05	3/8/2006 21:55	--	20.1	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/9/2006 1:32	--	20.1	--	0.3	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/9/2006 18:19	--	20.2	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	3/9/2006 6:21	--	20.4	--	0.3	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/9/2006 9:13	--	21.1	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/10/2006 13:01	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	3/10/2006 7:00	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	3/11/2006 15:40	--	20.7	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/12/2006 15:22	--	20.9	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/13/2006 12:13	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/14/2006 11:36	--	19.2	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-05	3/15/2006 11:42	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	3/16/2006 11:25	--	20.4	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-05	3/17/2006 11:18	--	20.3	--	0.2	--	0.0	--	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-05	3/24/2006 8:22	--	21.3	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-05	3/30/2006 11:21	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	4/14/2006 11:14	--	20.2	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-05	4/21/2006 7:36	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	4/24/2006 7:27	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	4/28/2006 7:36	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	5/1/2006 8:06	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	5/8/2006 8:54	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	5/15/2006 7:27	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	5/22/2006 8:16	--	20.4	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	5/31/2006 7:29	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	6/5/2006 7:36	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	6/12/2006 7:43	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	7/12/2006 14:50	--	18.0	--	0.6	--	0.0	--	0.0	--	--
ELE-VLT-05	8/8/2006 5:48	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	9/14/2006 7:51	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	10/10/2006 7:22	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	11/9/2006 12:08	--	20.2	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-05	12/15/2006 7:24	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	3/14/2007 11:21	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	6/18/2007 11:15	--	20.4	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	1/23/2008 8:35	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	3/18/2008 7:12	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-05	7/8/2008 07:40	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-05	10/1/2008 7:56	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-06	3/3/2006 10:27	--	18.3	--	1.2	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/8/2006 11:03	--	19.1	--	0.7	--	0.0	--	0.0	--	--
ELE-VLT-06	3/8/2006 22:02	--	20.2	--	0.5	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/9/2006 1:35	--	20.4	--	0.7	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/9/2006 18:24	--	2.8	--	7.6	0.8	2.4	15.0	47.0	--	--
ELE-VLT-06	3/9/2006 20:44	17.6	17.4	1.1	1.2	0.0	0.3	0.0	5.0	--	--
ELE-VLT-06	3/9/2006 6:48	--	20.3	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/9/2006 9:31	--	17.9	--	1.4	0.1	0.3	2.0	6.0	--	--
ELE-VLT-06	3/10/2006 12:46	--	20.9	--	0.0	--	0.0	--	0.0	--	--

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Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-06	3/10/2006 12:50	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	3/10/2006 6:48	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	3/11/2006 15:43	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/12/2006 15:24	--	21.3	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/13/2006 12:18	--	20.6	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/14/2006 11:23	--	17.0	--	1.5	--	0.0	--	0.0	--	--
ELE-VLT-06	3/15/2006 11:22	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	3/16/2006 11:14	--	20.7	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-06	3/17/2006 11:13	--	20.7	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-06	3/24/2006 8:15	--	21.1	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-06	3/28/2006 11:35	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	3/30/2006 11:24	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	4/4/2006 11:20	--	20.5	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-06	4/10/2006 11:36	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	4/14/2006 11:12	--	17.6	--	1.3	--	0.0	--	0.0	--	--
ELE-VLT-06	4/17/2006 7:17	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	4/21/2006 7:38	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	4/24/2006 7:29	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	4/28/2006 7:38	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	5/1/2006 9:09	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	5/5/2006 7:53	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	5/8/2006 8:56	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	5/15/2006 7:31	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	5/22/2006 8:18	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	5/31/2006 7:33	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	6/5/2006 7:38	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	6/12/2006 7:45	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	7/12/2006 14:52	--	16.8	--	1.7	--	0.0	--	0.0	--	--
ELE-VLT-06	8/8/2006 5:50	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	9/14/2006 7:55	--	20.2	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-06	10/10/2006 7:24	--	20.9	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-06	11/9/2006 12:10	--	19.7	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-06	12/15/2006 7:26	--	20.2	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-06	3/14/2007 11:23	--	20.8	--	0.0	--	0.0	--	0.0	--	--

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Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-06	6/18/2007 11:22	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	1/23/2008 8:37	--	20.2	--	0.3	--	0.0	--	0.0	--	--
ELE-VLT-06	3/18/2008 7:10	--	20.1	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-06	7/8/2008 07:42	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-06	10/1/2008 7:59	--	20.6	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-07	3/8/2006 22:25	--	21.1	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/9/2006 1:37	--	21.1	--	0.2	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/9/2006 19:00	--	19.6	--	0.4	--	0.0	--	0.0	--	--
ELE-VLT-07	3/9/2006 6:24	--	18.3	--	1.3	0.0	0.1	0.0	3.0	--	--
ELE-VLT-07	3/9/2006 9:10	--	20.7	--	0.3	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/10/2006 12:52	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	3/10/2006 6:55	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	3/11/2006 15:46	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/12/2006 15:27	--	21.1	--	0.2	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/13/2006 12:20	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/14/2006 11:28	--	19.0	--	0.5	--	0.0	--	0.0	--	--
ELE-VLT-07	3/15/2006 11:28	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	3/16/2006 11:18	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	3/17/2006 11:14	--	20.6	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-07	3/24/2006 8:17	--	21.2	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-07	3/30/2006 11:26	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	4/14/2006 11:10	--	15.9	--	1.8	--	0.0	--	0.0	--	--
ELE-VLT-07	4/21/2006 7:46	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	4/24/2006 7:31	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	4/28/2006 7:40	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	5/1/2006 9:11	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	5/8/2006 8:59	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	5/15/2006 7:30	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	5/22/2006 8:20	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	5/31/2006 7:37	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	6/5/2006 7:40	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	6/12/2006 7:48	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	7/12/2006 14:54	--	18.0	--	0.9	--	0.0	--	0.0	--	--
ELE-VLT-07	8/8/2006 5:52	--	21.1	--	0.0	--	0.0	--	0.0	--	--

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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-07	9/14/2006 7:57	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	10/10/2006 7:26	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	11/9/2006 12:12	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	12/15/2006 7:28	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	3/14/2007 11:30	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	6/18/2007 11:43	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	1/23/2008 8:38	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	3/18/2008 7:09	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-07	7/8/2008 07:46	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-07	10/1/2008 8:02	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-08	3/3/2006 10:32	--	20.6	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/8/2006 11:06	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/8/2006 22:10	--	21.4	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/9/2006 1:39	--	21.1	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/9/2006 19:16	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/9/2006 6:54	--	20.9	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/9/2006 9:31	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/10/2006 12:40	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/10/2006 7:04	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/11/2006 15:52	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/12/2006 15:31	--	20.6	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/13/2006 12:22	--	20.6	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/14/2006 11:19	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/15/2006 11:20	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/16/2006 11:12	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/17/2006 11:11	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/24/2006 8:13	--	21.4	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-08	3/28/2006 11:37	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/30/2006 11:28	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	4/4/2006 11:21	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	4/10/2006 11:37	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	4/14/2006 11:08	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	4/17/2006 7:15	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	4/21/2006 7:48	--	20.6	--	0.0	--	0.0	--	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-08	4/24/2006 7:35	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	4/28/2006 7:42	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	5/1/2006 9:03	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	5/5/2006 7:54	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	5/8/2006 9:01	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	5/15/2006 7:32	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	5/22/2006 8:22	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	5/31/2006 7:39	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	6/5/2006 7:42	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	6/12/2006 7:50	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	7/12/2006 14:56	--	20.3	--	0.1	--	0.0	--	0.0	--	--
ELE-VLT-08	8/8/2006 5:55	--	21.1	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	9/14/2006 7:59	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	10/10/2006 7:28	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	11/9/2006 12:14	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	12/15/2006 7:30	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/14/2007 11:32	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	6/18/2007 11:18	--	20.2	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	1/23/2008 8:40	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	3/18/2008 7:07	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-08	7/8/2008 07:56	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-08	10/1/2008 8:23	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-09	3/3/2006 10:33	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/8/2006 11:08	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/8/2006 22:13	--	21.1	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/9/2006 1:41	--	21.1	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/9/2006 19:18	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/9/2006 6:57	--	20.8	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/9/2006 9:34	--	21.5	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/10/2006 12:38	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/10/2006 7:06	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/11/2006 15:53	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/12/2006 15:35	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/13/2006 12:24	--	20.6	--	0.0	0.0	0.0	0.0	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-09	3/14/2006 11:17	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/15/2006 11:18	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/16/2006 11:11	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/17/2006 11:10	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/24/2006 8:12	--	21.4	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-09	3/28/2006 11:38	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/30/2006 11:29	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/4/2006 11:22	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/10/2006 11:38	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/14/2006 11:07	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/17/2006 7:16	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/21/2006 7:50	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/24/2006 7:36	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	4/28/2006 7:43	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	5/1/2006 9:04	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	5/5/2006 7:55	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	5/8/2006 9:03	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	5/15/2006 7:33	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	5/22/2006 8:23	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	5/31/2006 7:40	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	6/5/2006 7:43	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	6/12/2006 7:51	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	7/12/2006 14:57	--	19.7	--	0.2	--	0.0	--	0.0	--	--
ELE-VLT-09	8/8/2006 5:54	--	21.1	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	9/14/2006 8:00	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	10/10/2006 7:29	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	11/9/2006 12:15	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	12/15/2006 7:31	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/14/2007 11:33	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	6/18/2007 11:17	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	1/23/2008 8:41	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	3/18/2008 7:07	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-09	7/8/2008 07:57	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-09	10/1/2008 8:25	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--

Table A-4
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Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-10	3/8/2006 11:10	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/8/2006 22:21	--	20.8	--	0.5	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/9/2006 1:45	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/9/2006 19:20	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/9/2006 7:02	--	21.0	--	0.1	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/9/2006 9:37	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/10/2006 12:35	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/10/2006 7:08	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/11/2006 15:48	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/12/2006 15:40	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/13/2006 12:29	--	20.6	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/14/2006 11:15	--	20.4	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/15/2006 11:15	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/16/2006 11:09	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/17/2006 11:08	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/24/2006 8:09	--	21.4	--	0.0	0.0	0.0	0.0	0.0	--	--
ELE-VLT-10	3/28/2006 11:40	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/30/2006 11:31	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/4/2006 11:24	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/10/2006 11:39	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/14/2006 11:05	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/17/2006 7:19	--	20.7	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/21/2006 7:52	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/24/2006 7:40	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	4/28/2006 7:46	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	5/1/2006 9:07	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	5/5/2006 7:56	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	5/8/2006 9:06	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	5/15/2006 7:36	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	5/22/2006 8:27	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	5/31/2006 7:43	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	6/5/2006 7:46	--	20.6	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	6/12/2006 7:55	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	7/12/2006 14:59	--	20.3	--	0.0	--	0.0	--	0.0	--	--

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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-10	8/8/2006 5:58	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	9/14/2006 8:03	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	10/10/2006 7:32	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	11/9/2006 12:18	--	20.5	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	12/15/2006 7:34	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/14/2007 11:36	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	6/18/2007 11:21	--	20.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	1/23/2008 8:42	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	3/18/2008 7:05	--	20.3	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-10	7/8/2008 07:58	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-10	10/1/2008 8:28	--	20.4	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-11	3/10/2006 6:05	--	20.2	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-11	7/8/2008 08:40	--	20.5	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-11	10/1/2008 9:02	--	20.3	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-12	3/10/2006 6:09	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-12	7/8/2008 08:43	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-12	10/1/2008 8:57	--	20.6	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-13	3/10/2006 6:11	--	21.0	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-14	3/10/2006 6:14	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-15	3/10/2006 5:50	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-15	7/8/2008 08:25	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-15	10/1/2008 9:25	--	20.6	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-16	3/10/2006 5:55	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-16	7/8/2008 08:27	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-16	10/1/2008 9:07	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-17	3/10/2006 6:00	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-17	7/8/2008 08:29	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-17	10/1/2008 9:04	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-18	3/10/2006 6:23	--	20.9	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-19	3/10/2006 6:19	--	20.8	--	0.0	--	0.0	--	0.0	--	--
ELE-VLT-19	7/8/2008 08:45	--	20.4	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-19	10/1/2008 8:38	--	20.6	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-20	7/8/2008 08:55	--	20.3	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
ELE-VLT-20	10/1/2008 9:21	--	20.6	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--

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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ELE-VLT-21	3/10/2006 6:02	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/3/2006 8:25	--	19.1	--	0.3	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/6/2006 14:05	--	14.0	--	1.8	0.4	0.5	7.0	10.0	--	--
FBO-VLT-01	3/8/2006 21:46	--	19.9	--	0.4	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/8/2006 9:55	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/9/2006 1:21	--	21.2	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/9/2006 19:30	--	13.3	--	2.3	1.8	1.8	36.0	36.0	--	--
FBO-VLT-01	3/9/2006 19:36	14.2	--	2.2	--	1.2	1.4	25.0	28.0	--	--
FBO-VLT-01	3/9/2006 21:30	18.0	17.8	0.6	0.7	0.3	0.6	6.0	11.0	--	--
FBO-VLT-01	3/9/2006 6:32	--	18.3	--	1.0	0.0	0.1	0.0	2.0	--	--
FBO-VLT-01	3/9/2006 9:23	--	20.6	--	0.2	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/10/2006 13:19	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/10/2006 6:40	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/11/2006 15:34	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/12/2006 15:14	--	21.1	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/13/2006 12:39	--	20.5	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/14/2006 11:44	--	19.0	--	0.3	--	0.0	--	0.0	--	--
FBO-VLT-01	3/15/2006 11:48	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/16/2006 11:28	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/17/2006 11:21	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/24/2006 8:33	--	20.4	--	0.3	0.0	0.0	0.0	0.0	--	--
FBO-VLT-01	3/28/2006 11:24	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	3/30/2006 11:11	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	4/4/2006 11:10	--	19.9	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	4/10/2006 11:28	--	20.6	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-01	4/14/2006 11:22	--	19.3	--	0.4	--	0.0	--	0.0	--	--
FBO-VLT-01	4/17/2006 7:06	--	20.2	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	4/21/2006 7:28	--	20.2	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	4/24/2006 7:20	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	4/28/2006 7:28	--	20.6	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-01	5/1/2006 7:37	--	19.5	--	0.6	--	0.0	--	0.0	--	--
FBO-VLT-01	5/5/2006 7:47	--	20.2	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	5/8/2006 8:44	--	20.2	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	5/15/2006 7:12	--	19.5	--	0.4	--	0.0	--	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
FBO-VLT-01	5/22/2006 8:09	--	18.8	--	0.7	--	0.0	--	0.0	--	--
FBO-VLT-01	5/31/2006 7:24	--	18.9	--	0.7	--	0.0	--	0.0	--	--
FBO-VLT-01	6/5/2006 7:28	--	19.8	--	0.4	--	0.0	--	0.0	--	--
FBO-VLT-01	6/12/2006 7:34	--	19.9	--	0.3	--	0.0	--	0.0	--	--
FBO-VLT-01	7/12/2006 14:41	--	17.3	--	1.1	--	0.0	--	0.0	--	--
FBO-VLT-01	8/8/2006 5:40	--	20.4	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-01	9/14/2006 7:43	--	20.3	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	10/10/2006 7:14	--	20.7	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-01	11/9/2006 12:01	--	20.6	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-01	12/15/2006 7:17	--	20.4	--	0.3	--	0.0	--	0.0	--	--
FBO-VLT-01	3/14/2007 11:13	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	6/18/2007 11:06	--	20.3	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-01	1/23/2008 8:45	--	20.2	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-01	3/18/2008 7:18	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-01	7/8/2008 07:27	--	20.5	--	0.1	<0.1	<0.1	<1.0	<1.0	--	--
FBO-VLT-01	10/1/2008 7:37	--	19.2	--	0.3	<0.1	<0.1	<1.0	<1.0	--	--
FBO-VLT-02	3/3/2006 9:03	--	19.9	--	0.6	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/6/2006 14:09	--	16.9	--	1.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/8/2006 21:51	--	20.1	--	0.4	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/8/2006 8:30	--	20.8	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/9/2006 1:24	--	19.9	--	0.4	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/9/2006 17:49	--	17.6	--	1.1	--	0.0	--	0.0	--	--
FBO-VLT-02	3/9/2006 6:41	--	19.6	--	0.6	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/9/2006 9:26	--	20.6	--	0.1	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/10/2006 13:06	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	3/10/2006 7:15	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	3/11/2006 15:38	--	20.9	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/12/2006 15:20	--	21.1	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/13/2006 12:07	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-02	3/14/2006 12:05	--	19.7	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-02	3/15/2006 12:10	--	20.5	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	3/16/2006 11:45	--	20.5	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	3/17/2006 11:38	--	20.3	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	3/24/2006 8:26	--	21.0	--	0.1	0.0	0.0	0.0	0.0	--	--

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Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
FBO-VLT-02	3/28/2006 11:28	--	20.5	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	3/30/2006 11:14	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	4/4/2006 11:15	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	4/10/2006 11:31	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	4/14/2006 11:20	--	20.0	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-02	4/17/2006 7:09	--	20.1	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-02	4/21/2006 7:30	--	20.7	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	4/24/2006 7:22	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	4/28/2006 7:32	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	5/1/2006 8:02	--	20.5	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	5/5/2006 7:50	--	20.6	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	5/8/2006 8:47	--	20.5	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	5/15/2006 7:14	--	20.4	--	0.3	--	0.0	--	0.0	--	--
FBO-VLT-02	5/22/2006 8:11	--	20.2	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-02	5/31/2006 7:26	--	20.5	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	6/5/2006 7:30	--	20.6	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	6/12/2006 7:36	--	20.0	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-02	7/12/2006 14:44	--	19.7	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	8/8/2006 5:43	--	21.0	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	9/14/2006 7:48	--	20.0	--	0.2	--	0.0	--	0.0	--	--
FBO-VLT-02	10/10/2006 7:17	--	20.7	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	11/9/2006 12:03	--	20.7	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	12/15/2006 7:19	--	20.9	--	0.1	--	0.0	--	0.0	--	--
FBO-VLT-02	3/14/2007 11:15	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	6/18/2007 11:10	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	1/23/2008 8:29	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	3/18/2008 7:16	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-02	7/8/2008 07:29	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
FBO-VLT-02	10/1/2008 7:41	--	20.5	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
FBO-VLT-03	3/3/2006 10:34	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/8/2006 11:12	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/8/2006 22:17	--	20.5	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/9/2006 1:44	--	21.2	--	0.1	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/9/2006 19:21	--	20.8	--	0.0	--	0.0	--	0.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
FBO-VLT-03	3/9/2006 7:11	--	20.2	--	0.5	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/9/2006 9:36	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/10/2006 12:30	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/10/2006 7:10	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/11/2006 15:50	--	21.0	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/12/2006 15:42	--	21.1	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/13/2006 12:27	--	20.7	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/14/2006 11:13	--	20.4	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/15/2006 11:10	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/16/2006 11:08	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/17/2006 11:07	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/24/2006 8:10	--	21.4	--	0.0	0.0	0.0	0.0	0.0	--	--
FBO-VLT-03	3/28/2006 11:41	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/30/2006 11:30	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/4/2006 11:25	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/10/2006 11:40	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/14/2006 11:04	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/17/2006 7:20	--	20.5	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/21/2006 7:51	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/24/2006 7:38	--	20.5	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	4/28/2006 7:45	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	5/1/2006 9:06	--	20.9	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	5/5/2006 7:57	--	20.6	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	5/8/2006 9:05	--	20.4	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	5/15/2006 7:35	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	5/22/2006 8:25	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	5/31/2006 7:42	--	20.7	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	6/5/2006 7:45	--	20.5	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	6/12/2006 7:53	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	7/12/2006 15:00	--	20.0	--	0.0	--	0.0	--	--	--	--
FBO-VLT-03	8/8/2006 5:56	--	21.0	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	9/14/2006 8:02	--	20.5	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	10/10/2006 7:31	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	11/9/2006 12:17	--	20.4	--	0.0	--	0.0	--	0.0	--	--

Table A-4
Soil Vapor Vault Field Measurements in Subsurface Utility Vaults, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
FBO-VLT-03	12/15/2006 7:33	--	21.0	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/14/2007 11:35	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	6/18/2007 11:20	--	19.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	1/23/2008 8:43	--	20.8	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	3/18/2008 7:05	--	20.3	--	0.0	--	0.0	--	0.0	--	--
FBO-VLT-03	7/8/2008 08:00	--	20.7	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
FBO-VLT-03	10/1/2008 8:27	--	20.4	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-12-U	4/24/2006 19:21	--	14.1	--	3.1	0.0	0.0	0.0	0.0	2.0	9.0
P-13-U	4/24/2006 18:25	--	13.9	--	2.7	0.0	0.0	0.0	0.0	3.0	18.0
P-14-M	2/27/2006 14:43	--	20.2	--	0.0	--	0.0	--	0.0	16.0	68.7
P-14-M	3/1/2006 9:28	--	19.1	--	1.4	--	0.0	--	0.0	--	--
P-14-M	3/3/2006 14:03	19.9	--	1.5	--	0.0	--	0.0	--	--	--
P-14-M	3/8/2006 12:41	19.7	19.7	0.7	0.9	0.0	0.0	0.0	0.0	--	--
P-14-M	7/6/2006 13:37	20.3	--	0.0	--	0.0	--	0.0	--	--	--
P-14-U	2/27/2006 14:32	--	20.1	--	0.0	--	0.0	--	0.0	3.1	9.3
P-14-U	3/1/2006 9:21	--	20.6	--	0.1	--	0.0	--	0.0	--	--
P-14-U	3/3/2006 13:56	20.7	--	0.0	--	0.0	--	0.0	--	--	--
P-14-U	3/6/2006 9:28	21.2	21.1	0.0	0.0	0.0	0.0	0.0	0.0	--	--
P-14-U	3/8/2006 12:13	20.4	20.4	0.0	0.0	0.0	0.0	0.0	0.0	--	--
P-14-U	3/15/2006 10:40	21.0	21.1	0.0	0.0	0.0	0.0	0.0	0.0	3.0	57.0
P-14-U	3/22/2006 13:26	21.4	21.4	0.0	0.0	0.0	0.0	0.0	0.0	--	--
P-14-U	3/22/2006 13:27	21.4	21.4	0.0	0.0	0.0	0.0	0.0	0.0	--	--
P-14-U	3/29/2006 14:40	20.7	20.7	0.0	0.0	0.0	0.0	0.0	0.0	1.5	16.0
P-14-U	4/5/2006 14:18	19.5	19.3	0.0	0.0	0.0	0.0	0.0	0.0	3.0	370.0
P-14-U	4/5/2006 14:19	--	--	--	--	--	--	--	--	7.0	375.0
P-14-U	4/12/2006 14:27	20.6	20.3	0.0	0.0	0.0	0.0	0.0	0.0	4.0	36.0
P-14-U	7/4/2006 14:43	21.0	--	0.0	--	0.0	--	0.0	--	--	--
P-14-U	7/12/2006 10:45	20.4	--	0.0	--	0.0	--	0.0	--	--	--
P-14-U	10/10/2006 9:53	--	20.5	--	0.0	0.0	0.0	0.0	0.0	--	--
P-15-U	2/27/2006 13:48	--	18.5	--	1.7	--	0.0	--	0.0	5.0	0.9
P-15-U	3/1/2006 8:21	--	14.0	--	3.5	--	0.0	--	0.0	--	--
P-15-U	3/3/2006 9:41	17.5	--	4.9	--	0.3	--	6.0	--	--	--
P-15-U	3/6/2006 8:53	19.3	19.1	3.9	4.0	0.0	0.0	0.0	0.0	--	--
P-15-U	3/8/2006 13:17	19.4	19.3	2.5	2.7	0.0	0.0	0.0	0.0	--	--
P-15-U	3/8/2006 13:18	19.2	19.3	2.9	2.8	0.0	0.0	0.0	0.0	--	--
P-15-U	3/9/2006 17:01	19.3	--	2.5	--	0.0	--	0.0	--	--	--
P-15-U	3/9/2006 17:02	19.1	--	2.7	--	0.0	--	0.0	--	--	--
P-15-U	3/9/2006 17:04	--	19.1	--	2.8	--	0.0	--	0.0	--	--
P-15-U	3/9/2006 21:54	19.2	19.1	2.9	3.1	0.0	0.0	0.0	0.0	0.6	404.0

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-15-U	3/9/2006 21:55	19.1	19.0	3.1	3.1	0.0	0.0	0.0	0.0	--	--
P-15-U	3/10/2006 8:28	19.3	19.2	3.1	3.4	0.0	0.0	0.0	0.0	--	--
P-15-U	3/15/2006 10:04	19.5	19.4	2.3	2.5	0.0	0.0	0.0	0.0	1.7	90.0
P-15-U	7/12/2006 8:57	16.4	--	2.3	--	0.0	--	0.0	--	--	--
P-16-U	2/3/2006 9:43	--	0.0	--	--	--	--	--	--	--	--
P-16-U	2/3/2006 9:44	--	0.4	--	--	--	--	--	--	--	--
P-16-U	2/27/2006 17:17	--	0.0	--	11.4	--	8.2	--	>100.0	--	--
P-16-U	3/1/2006 16:11	--	0.5	--	12.1	--	7.0	--	--	--	--
P-16-U	3/3/2006 13:32	--	0.5	--	11.1	--	11.0	--	>100.0	--	--
P-16-U	3/4/2006 14:10	1.2	--	14.2	14.5	1.0	5.3	19.0	>100.0	--	--
P-16-U	3/7/2006 17:31	10.0	9.3	11.3	13.9	0.0	0.9	0.0	18.0	6,260.0	6,985.0
P-16-U	3/9/2006 10:38	10.5	10.5	12.7	12.9	0.0	0.4	0.0	9.0	--	--
P-16-U	3/10/2006 12:38	0.6	1.1	13.4	13.3	2.6	6.2	52.0	>100.0	--	--
P-16-U	3/13/2006 8:09	8.6	7.8	6.3	8.3	0.4	0.8	8.0	17.0	2,825.0	3,080.0
P-16-U	3/14/2006 15:51	1.3	1.3	15.5	15.5	0.0	0.5	0.0	10.0	--	--
P-16-U	3/15/2006 7:46	0.0	0.0	13.9	13.9	1.4	2.2	29.0	45.0	--	--
P-16-U	3/15/2006 7:47	0.0	0.0	14.0	13.9	1.5	2.3	30.0	45.0	--	--
P-16-U	3/16/2006 8:13	0.0	0.0	13.9	14.3	0.9	1.6	19.0	33.0	9,440.0	9,920.0
P-16-U	3/17/2006 8:30	0.0	0.0	14.4	14.5	1.3	2.0	26.0	41.0	--	--
P-16-U	7/4/2006 10:30	0.0	--	18.2	--	1.3	--	24.0	--	--	--
P-16-U	9/29/2006 13:52	--	0.0	--	16.0	0.9	2.6	18.0	50.0	--	--
P-17-U	2/3/2006 8:39	--	0.0	--	--	--	--	--	--	--	--
P-17-U	2/3/2006 8:40	--	0.0	--	--	--	--	--	--	--	--
P-17-U	2/28/2006 13:02	--	0.0	--	12.6	--	5.8	--	>100.0	--	--
P-17-U	3/2/2006 16:06	--	0.3	--	11.8	--	13.5	--	>100.0	--	--
P-17-U	3/6/2006 17:39	0.5	0.5	13.6	13.5	2.6	16.5	52.0	>100.0	--	--
P-17-U	3/10/2006 11:50	0.3	0.4	12.6	12.4	4.0	18.1	80.0	>100.0	--	--
P-17-U	3/13/2006 16:22	0.4	0.4	11.9	11.8	1.2	14.9	24.0	>100.0	--	--
P-17-U	3/21/2006 9:38	3.9	3.8	11.9	12.3	0.0	6.8	0.0	>100.0	550.0	4,950.0
P-17-U	3/23/2006 16:11	9.8	9.7	10.8	11.3	0.0	7.0	0.0	>100.0	--	--
P-17-U	3/24/2006 14:37	10.8	11.0	10.5	10.5	0.0	5.8	0.0	>100.0	--	--
P-17-U	3/28/2006 13:12	11.9	11.9	10.3	10.4	0.0	5.3	0.0	>100.0	<2.0	8,400.0

Table A-5
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Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-17-U	3/31/2006 9:43	12.0	11.8	9.8	10.1	0.0	4.3	0.0	86.0	--	--
P-17-U	4/3/2006 9:51	13.3	13.3	8.9	8.8	0.0	3.8	0.0	77.0	33.0	5,950.0
P-17-U	4/7/2006 12:13	15.7	16.8	5.4	4.0	0.0	2.0	0.0	39.0	--	--
P-17-U	4/10/2006 16:41	15.5	15.4	6.1	5.9	0.0	3.1	0.0	64.0	18.0	3,250.0
P-17-U	4/14/2006 9:42	15.4	15.1	5.5	5.6	0.0	4.3	0.0	85.0	--	--
P-17-U	4/17/2006 14:13	15.9	15.7	5.3	5.3	0.0	4.0	0.0	81.0	9.0	3,325.0
P-17-U	4/17/2006 14:14	16.0	15.7	5.2	5.3	0.0	4.5	0.0	90.0	8.0	3,310.0
P-17-U	4/18/2006 10:05	--	15.2	--	5.7	0.0	1.5	0.0	30.0	1.0	1,530.0
P-17-U	4/18/2006 10:06	--	15.3	--	5.6	0.0	1.5	0.0	29.0	2.0	1,410.0
P-17-U	4/19/2006 14:13	--	14.9	--	5.1	0.0	0.6	0.0	12.0	0.0	1,375.0
P-17-U	4/19/2006 23:59	--	15.2	--	6.2	0.0	1.0	0.0	20.0	18.1	1,022.0
P-17-U	4/20/2006 9:22	--	15.1	--	5.9	0.0	0.5	0.0	8.0	3.0	840.0
P-17-U	4/21/2006 10:19	--	14.6	--	5.8	0.0	0.1	0.0	1.0	0.0	631.0
P-17-U	4/21/2006 10:20	--	14.7	--	5.9	0.0	0.1	0.0	1.0	0.0	630.5
P-17-U	5/12/2006 10:35	--	10.3	--	7.7	0.0	0.1	0.0	2.0	5.0	160.0
P-17-U	5/12/2006 10:51	--	10.3	--	7.8	0.1	0.1	2.0	2.0	0.0	75.0
P-17-U	6/27/2006 7:39	8.1	--	10.7	--	0.0	--	0.0	--	--	--
P-17-U	9/29/2006 11:34	--	7.3	--	11.8	0.0	0.0	0.0	0.0	--	--
P-17-U	11/14/2006 11:25	8.8	--	11.0	--	0.0	--	0.0	--	--	--
P-18-U	2/27/2006 15:39	--	0.3	--	11.6	--	20.1	--	>100.0	--	--
P-18-U	3/1/2006 8:59	--	0.2	--	11.9	--	18.2	--	>100.0	--	--
P-18-U	3/2/2006 17:36	--	0.4	--	11.7	--	21.0	--	>100.0	--	--
P-18-U	3/2/2006 17:37	--	0.5	--	11.7	--	21.3	--	--	--	--
P-18-U	3/3/2006 15:27	0.0	0.0	11.5	11.4	10.7	20.5	>100.0	--	--	--
P-18-U	3/4/2006 10:10	--	0.2	--	10.7	--	18.9	--	>100.0	--	--
P-18-U	3/4/2006 10:11	0.2	--	10.6	--	10.9	--	>100.0	--	--	--
P-18-U	3/7/2006 11:29	0.0	0.0	10.9	11.0	10.2	15.5	>100.0	>100.0	--	--
P-18-U	3/14/2006 10:24	0.0	0.0	10.9	11.3	9.4	13.3	>100.0	>100.0	92,496.0	87,632.0
P-18-U	3/14/2006 10:25	0.0	0.0	11.1	11.2	9.5	13.1	>100.0	>100.0	--	--
P-18-U	3/24/2006 12:47	0.5	0.5	11.1	11.0	9.1	16.5	>100.0	>100.0	--	--
P-18-U	3/28/2006 8:37	0.0	0.0	11.7	11.7	8.5	13.9	>100.0	>100.0	82,400.0	94,080.0
P-18-U	4/5/2006 14:06	0.5	0.3	11.1	10.9	7.6	23.5	>100.0	>100.0	78,400.0	75,200.0

Table A-5
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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-18-U	4/14/2006 7:16	0.0	0.0	11.5	11.4	7.5	18.8	>100.0	>100.0	49,440.0	80,000.0
P-18-U	9/15/2006 14:44	--	0.0	--	14.0	13.9	22.0	>100.0	>100.0	--	--
P-1-M	2/2/2006 15:34	--	0.0	--	--	--	--	--	--	--	--
P-1-M	2/2/2006 15:35	--	5.5	--	--	--	--	--	--	--	--
P-1-M	2/28/2006 17:16	0.0	0.0	11.0	11.2	1.7	2.9	35.0	59.0	--	--
P-1-M	3/1/2006 11:50	--	0.0	--	11.6	--	1.3	--	26.0	--	--
P-1-M	3/3/2006 15:28	0.0	--	12.2	--	1.8	--	36.0	--	--	--
P-1-M	3/6/2006 17:39	0.0	0.0	11.9	11.7	5.2	7.2	>100.0	>100.0	--	--
P-1-M	3/7/2006 9:17	0.0	0.0	13.1	13.3	6.5	8.8	>100.0	>100.0	--	--
P-1-M	3/14/2006 8:55	0.0	0.0	13.3	12.9	9.4	9.5	>100.0	>100.0	66,688.0	64,064.0
P-1-M	3/16/2006 8:46	0.0	0.0	12.2	12.2	8.2	10.8	>100.0	>100.0	--	--
P-1-M	3/16/2006 8:47	0.0	0.0	12.2	12.5	8.6	10.9	>100.0	>100.0	--	--
P-1-M	3/21/2006 11:08	0.0	--	12.8	--	7.8	11.5	>100.0	>100.0	--	--
P-1-M	3/23/2006 10:14	0.0	0.0	12.1	12.1	8.1	11.4	>100.0	>100.0	--	--
P-1-M	3/28/2006 12:52	0.0	0.0	12.1	12.4	6.8	13.3	>100.0	>100.0	68,640.0	63,840.0
P-1-M	3/30/2006 12:43	0.0	0.0	11.7	12.2	6.7	12.9	>100.0	>100.0	--	--
P-1-M	3/30/2006 12:44	0.0	0.0	11.8	12.2	6.9	13.4	>100.0	>100.0	--	--
P-1-M	4/3/2006 13:13	0.2	0.2	12.4	12.3	6.0	11.3	>100.0	>100.0	56,000.0	57,600.0
P-1-M	4/3/2006 13:14	0.2	0.2	12.4	12.2	6.1	11.4	>100.0	>100.0	--	--
P-1-M	4/7/2006 11:17	0.0	0.0	12.3	12.4	5.6	10.9	>100.0	>100.0	--	--
P-1-M	4/10/2006 15:31	0.7	0.7	11.5	11.4	3.8	10.7	77.0	>100.0	2,260.0	2,030.0
P-1-M	4/10/2006 15:32	--	--	--	--	--	--	--	--	2,200.0	--
P-1-M	4/13/2006 10:34	0.0	0.0	12.3	12.0	4.2	10.8	84.0	>100.0	--	--
P-1-U	2/2/2006 15:44	--	0.0	--	--	--	--	--	--	--	--
P-1-U	2/2/2006 15:45	--	3.3	--	--	--	--	--	--	--	--
P-1-U	2/27/2006 17:30	--	0.0	--	7.3	--	17.6	--	>100.0	27,888.0	33,040.0
P-1-U	2/28/2006 17:05	0.0	0.0	6.5	6.7	4.6	23.6	93.0	>100.0	--	--
P-1-U	3/1/2006 11:43	--	0.0	--	6.7	--	3.6	--	72.0	--	--
P-1-U	3/3/2006 15:23	0.0	--	6.8	--	4.5	--	91.0	--	--	--
P-1-U	3/4/2006 15:32	0.5	--	6.7	--	4.3	21.7	85.0	>100.0	38,500.0	44,858.0
P-1-U	3/4/2006 15:33	--	--	--	--	--	--	--	--	37,510.0	44,594.0
P-1-U	3/6/2006 17:30	0.3	0.3	6.9	6.9	4.3	4.4	86.0	89.0	--	--

Table A-5
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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-1-U	3/7/2006 9:02	0.0	0.0	7.6	7.8	4.7	30.6	95.0	>100.0	--	--
P-1-U	3/7/2006 9:03	0.0	0.0	7.9	7.8	5.4	31.2	>100.0	>100.0	--	--
P-1-U	3/9/2006 9:30	0.0	0.0	7.8	7.9	4.1	26.9	83.0	>100.0	60,176.0	158,304.0
P-1-U	3/14/2006 8:43	0.0	0.0	8.5	8.6	6.5	18.8	>100.0	>100.0	28,000.0	30,400.0
P-1-U	3/16/2006 8:29	0.0	0.0	8.1	8.1	4.0	21.6	81.0	>100.0	--	--
P-1-U	3/21/2006 10:52	0.0	--	8.1	--	2.7	17.8	54.0	>100.0	--	--
P-1-U	3/23/2006 10:07	0.0	0.0	8.1	8.3	3.0	16.1	59.0	>100.0	--	--
P-1-U	3/28/2006 12:45	0.0	0.0	8.4	7.9	2.8	19.1	56.0	>100.0	27,520.0	29,440.0
P-1-U	3/30/2006 12:36	1.6	1.0	6.9	7.2	2.5	12.8	50.0	>100.0	--	--
P-1-U	4/3/2006 13:00	0.2	0.1	8.5	8.3	3.3	12.8	67.0	>100.0	31,440.0	33,600.0
P-1-U	4/6/2006 15:07	0.0	0.0	9.0	9.0	4.8	11.9	96.0	>100.0	--	--
P-1-U	4/10/2006 15:15	0.8	0.7	8.2	8.2	3.1	16.6	62.0	>100.0	23,840.0	30,240.0
P-1-U	4/13/2006 10:25	0.0	0.0	9.0	8.9	3.3	17.9	66.0	>100.0	--	--
P-1-U	9/14/2006 12:32	--	0.0	--	11.2	2.1	6.6	41.0	>100.0	--	--
P-20-U	2/3/2006 10:57	--	0.0	--	--	--	--	--	--	--	--
P-20-U	2/3/2006 10:58	--	0.6	--	--	--	--	--	--	--	--
P-20-U	2/27/2006 16:19	--	0.0	--	13.8	--	21.4	--	>100.0	--	--
P-20-U	2/28/2006 11:55	--	0.0	--	13.2	--	42.0	--	>100.0	--	--
P-20-U	3/2/2006 12:39	--	6.6	--	10.9	--	5.9	--	>100.0	--	--
P-20-U	3/4/2006 9:48	10.7	--	10.7	--	5.4	--	>100.0	--	--	--
P-20-U	3/6/2006 14:30	12.6	12.1	7.1	7.3	0.0	9.6	0.0	>100.0	--	--
P-20-U	3/8/2006 16:01	14.0	13.9	6.8	6.8	0.0	12.4	0.0	>100.0	--	--
P-20-U	3/8/2006 16:02	13.9	13.8	6.8	6.8	0.0	12.6	0.0	>100.0	--	--
P-20-U	3/10/2006 15:27	14.1	13.9	6.4	6.4	0.0	6.3	0.0	--	--	--
P-20-U	3/14/2006 10:27	13.8	13.8	6.1	6.2	0.0	3.5	0.0	71.0	20.0	2,580.0
P-20-U	3/16/2006 10:14	13.8	13.9	6.0	5.9	0.0	2.4	0.0	49.0	--	--
P-20-U	3/21/2006 12:38	13.8	--	5.0	--	0.0	1.1	0.0	23.0	--	--
P-20-U	3/22/2006 14:09	14.4	14.4	4.8	5.0	0.0	0.7	0.0	14.0	8.0	12.4
P-20-U	3/27/2006 10:38	15.0	--	4.1	--	0.0	--	0.0	--	--	--
P-20-U	3/30/2006 13:29	13.9	13.7	4.4	4.5	0.0	0.5	0.0	10.0	5.0	750.0
P-20-U	4/5/2006 12:43	14.7	14.7	4.5	4.4	0.0	0.0	0.0	0.0	25.0	660.0
P-20-U	4/7/2006 9:51	15.4	15.5	4.1	4.1	0.0	0.5	0.0	10.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-20-U	4/11/2006 10:56	14.7	14.7	4.2	4.2	0.0	0.2	0.0	4.0	15.0	550.0
P-20-U	4/13/2006 12:28	14.5	14.3	4.1	4.0	0.0	0.6	0.0	12.0	--	--
P-20-U	4/17/2006 16:20	15.0	14.7	3.9	3.9	0.0	0.5	0.0	9.0	40.0	855.0
P-20-U	4/18/2006 13:01	--	16.1	--	3.2	0.0	0.0	0.0	0.0	0.0	215.0
P-20-U	4/18/2006 20:43	--	16.7	--	3.4	0.0	0.0	0.0	1.0	41.0	144.0
P-20-U	4/18/2006 22:03	--	16.8	--	3.3	0.0	0.0	0.0	0.0	<2.0	78.0
P-20-U	4/18/2006 9:07	--	17.0	--	2.8	0.0	0.3	0.0	6.0	25.0	925.0
P-20-U	4/19/2006 12:00	--	16.8	--	3.3	0.0	0.0	0.0	0.0	<4.0	60.0
P-20-U	4/19/2006 15:46	--	15.3	--	3.1	0.1	0.0	2.0	0.0	0.0	135.0
P-20-U	4/19/2006 15:47	--	15.8	--	3.0	0.1	0.0	2.0	0.0	0.0	137.0
P-20-U	4/19/2006 2:20	--	16.8	--	3.5	0.0	0.0	0.0	0.0	<20.0	58.0
P-20-U	4/19/2006 5:04	--	16.8	--	3.5	0.0	0.0	0.0	0.0	16.0	45.0
P-20-U	4/20/2006 14:11	--	16.9	--	2.3	0.0	0.0	0.0	0.0	0.0	75.0
P-20-U	4/21/2006 14:08	--	16.4	--	2.8	0.0	0.0	0.0	0.0	0.8	58.0
P-20-U	4/28/2006 12:15	--	13.5	--	4.3	0.0	0.0	0.0	0.0	18.6	230.5
P-20-U	4/28/2006 12:16	--	13.5	--	4.2	0.0	0.0	0.0	0.0	0.0	110.5
P-20-U	5/12/2006 11:24	--	8.6	--	5.4	0.1	0.2	1.0	3.0	20.0	120.0
P-20-U	5/12/2006 11:34	--	8.7	--	5.4	0.1	0.1	2.0	2.0	30.0	310.0
P-20-U	9/18/2006 6:57	--	0.0	--	14.3	9.6	13.8	>100.0	>100.0	--	--
P-21-U	2/27/2006 13:41	--	17.2	--	2.6	--	0.0	--	0.0	--	--
P-21-U	3/1/2006 9:17	--	18.1	--	3.3	--	0.0	--	0.0	--	--
P-21-U	3/2/2006 17:18	--	16.8	--	3.7	--	0.0	--	0.0	--	--
P-21-U	3/3/2006 15:59	16.7	16.5	3.7	3.7	0.0	0.0	0.0	0.0	--	--
P-21-U	3/4/2006 10:43	--	16.6	--	3.5	--	0.0	--	0.0	--	--
P-21-U	3/4/2006 10:44	16.8	--	3.4	--	0.0	--	0.0	--	--	--
P-21-U	3/7/2006 7:23	16.5	16.4	4.2	4.3	0.0	0.0	0.0	0.0	--	--
P-21-U	3/7/2006 7:24	16.5	16.6	4.2	4.2	0.0	0.0	0.0	0.0	--	--
P-21-U	3/10/2006 9:53	17.2	17.1	3.2	3.3	0.0	0.0	0.0	0.0	--	--
P-21-U	3/16/2006 10:34	14.9	14.8	3.9	3.9	0.0	0.0	0.0	0.0	0.0	75.0
P-21-U	3/24/2006 13:18	14.1	14.0	3.3	3.3	0.0	0.0	0.0	0.0	--	--
P-21-U	3/28/2006 11:03	13.3	13.3	3.8	3.9	0.0	0.0	0.0	0.0	15.0	90.0
P-21-U	4/5/2006 11:50	12.8	12.8	4.1	3.8	0.0	0.0	0.0	0.0	0.0	75.0

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-21-U	4/13/2006 12:27	10.8	10.6	4.4	4.4	0.0	0.0	0.0	0.0	5.0	95.0
P-21-U	9/22/2006 12:45	--	15.5	--	2.9	0.0	0.0	0.0	0.0	--	--
P-21-U	11/14/2006 13:40	15.8	--	2.4	--	0.2	--	4.0	--	--	--
P-22-U	4/25/2006 7:30	--	0.0	--	12.4	12.0	22.8	>100.0	>100.0	105,600.0	123,040.0
P-23-U	2/6/2006 10:00	--	12.9	--	--	--	--	--	--	--	--
P-23-U	3/1/2006 7:32	--	13.2	--	3.7	--	0.0	--	0.0	--	--
P-23-U	3/2/2006 14:40	--	12.9	--	3.6	--	0.0	--	0.0	--	--
P-23-U	3/3/2006 17:35	12.7	12.6	3.7	3.6	0.0	0.1	1.0	2.0	--	--
P-23-U	3/4/2006 11:12	--	13.0	--	3.4	--	0.0	--	0.0	--	--
P-23-U	3/4/2006 11:13	--	13.1	--	3.3	--	0.0	--	0.0	--	--
P-23-U	3/8/2006 13:22	12.0	12.0	3.8	3.9	0.0	0.0	0.0	0.0	--	--
P-23-U	3/16/2006 10:13	12.9	12.8	3.4	3.4	0.0	0.0	0.0	0.0	5.0	65.0
P-23-U	3/24/2006 9:51	12.3	12.4	3.8	3.8	0.0	0.0	0.0	0.0	--	--
P-23-U	3/30/2006 9:03	13.0	12.8	3.5	3.7	0.0	0.0	0.0	0.0	0.0	150.0
P-23-U	4/6/2006 16:41	12.1	12.1	4.2	3.9	0.0	0.0	0.0	0.0	0.0	15.0
P-23-U	4/13/2006 14:15	12.7	12.5	3.3	3.4	0.0	0.0	0.0	0.0	0.0	85.0
P-23-U	9/18/2006 10:42	--	11.2	--	4.5	0.0	0.0	0.0	0.0	--	--
P-23-U	11/14/2006 15:20	9.9	--	4.9	--	0.0	--	0.0	--	--	--
P-23-U	10/14/2008 9:53	--	14.0	--	4.0	0.2	0.2	4.0	4.0	<0.5	<0.5
P-24-U	2/27/2006 10:52	--	0.0	--	8.3	--	65.5	--	>100.0	--	--
P-24-U	2/28/2006 9:49	--	0.8	--	9.4	--	55.5	--	>100.0	--	--
P-24-U	3/2/2006 8:21	--	0.0	--	8.6	--	47.4	--	>100.0	--	--
P-24-U	3/3/2006 7:49	0.1	--	8.7	--	51.0	--	>100.0	--	--	--
P-24-U	3/6/2006 14:00	2.0	1.9	7.8	7.9	19.7	47.7	>100.0	>100.0	--	--
P-24-U	3/8/2006 7:25	0.0	0.0	9.2	9.3	21.3	42.3	>100.0	>100.0	--	--
P-24-U	3/8/2006 7:26	0.0	0.0	9.1	9.3	22.6	42.5	>100.0	>100.0	--	--
P-24-U	3/24/2006 10:47	1.6	0.6	7.9	8.0	20.6	52.1	>100.0	>100.0	--	--
P-24-U	8/8/2006 5:23	--	0.0	--	8.8	10.7	16.5	>100.0	>100.0	--	--
P-24-U	9/28/2006 6:13	--	0.0	--	9.3	10.3	20.7	>100.0	>100.0	--	--
P-25-U	2/27/2006 12:30	--	1.5	--	8.0	--	0.0	--	0.0	--	--
P-25-U	2/28/2006 8:26	--	2.6	--	8.3	--	0.9	--	18.0	--	--
P-25-U	3/2/2006 10:03	--	2.2	--	7.7	--	0.5	--	10.0	--	--

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-25-U	3/3/2006 9:45	--	1.7	--	7.8	--	0.0	--	0.0	--	--
P-25-U	3/30/2006 12:11	0.6	0.7	7.9	8.2	0.0	0.0	0.0	0.0	<1.0	<1.0
P-25-U	9/20/2006 4:26	--	0.5	--	11.1	0.0	0.0	0.0	0.0	--	--
P-25-U	9/28/2006 5:14	--	0.3	--	11.2	0.0	0.0	0.0	0.0	--	--
P-26-U	3/24/2006 9:15	3.0	1.2	4.7	5.4	14.9	28.1	>100.0	>100.0	--	--
P-26-U	9/20/2006 4:03	--	0.0	--	7.6	19.5	39.0	>100.0	>100.0	--	--
P-27-UM	2/2/2006 17:26	--	0.0	--	--	--	--	--	--	--	--
P-27-UM	2/2/2006 17:27	--	0.9	--	--	--	--	--	--	--	--
P-27-UM	2/27/2006 18:06	--	0.0	--	11.5	--	8.9	--	>100.0	--	--
P-27-UM	3/1/2006 16:28	--	0.7	--	11.3	--	0.8	--	16.0	--	--
P-27-UM	3/3/2006 12:39	--	0.0	--	12.1	--	5.1	--	>100.0	--	--
P-27-UM	3/4/2006 13:46	0.5	--	13.7	--	0.5	2.5	10.0	51.0	--	--
P-27-UM	3/7/2006 15:28	8.4	8.4	12.3	12.4	0.0	1.8	0.0	38.0	--	--
P-27-UM	3/9/2006 8:59	10.3	9.9	9.5	12.3	0.0	1.3	0.0	26.0	157.0	4,305.0
P-27-UM	3/9/2006 9:00	10.1	9.7	12.2	12.4	0.2	1.2	4.0	25.0	250.5	4,010.0
P-27-UM	3/13/2006 9:51	6.0	7.0	10.9	9.6	0.0	0.3	1.0	7.0	--	--
P-27-U	2/2/2006 17:15	--	0.0	--	--	--	--	--	--	--	--
P-27-U	2/2/2006 17:16	--	1.0	--	--	--	--	--	--	--	--
P-27-U	2/23/2006 12:10	--	0.0	--	10.7	--	2.3	--	45.0	--	--
P-27-U	2/27/2006 17:53	--	0.0	--	11.3	--	8.5	--	>100.0	--	--
P-27-U	3/1/2006 15:59	--	--	10.3	--	4.1	--	82.0	--	--	--
P-27-U	3/1/2006 16:00	--	--	10.4	--	4.2	--	85.0	--	--	--
P-27-U	3/1/2006 16:02	--	--	--	10.3	--	7.9	--	>100.0	--	--
P-27-U	3/3/2006 12:38	--	0.3	--	10.5	--	10.8	--	>100.0	--	--
P-27-U	3/4/2006 13:36	5.3	--	9.4	--	5.2	--	>100.0	--	--	--
P-27-U	3/7/2006 15:20	1.0	0.9	11.6	11.9	2.7	6.0	55.0	>100.0	--	--
P-27-U	3/9/2006 9:53	0.3	0.3	12.1	12.1	3.9	7.7	78.0	>100.0	--	--
P-27-U	3/13/2006 9:43	7.9	7.5	5.0	7.0	0.9	1.4	19.0	20.0	--	--
P-27-U	9/22/2006 7:19	--	0.0	--	17.0	0.6	1.8	12.0	36.0	--	--
P-28-U	2/3/2006 15:08	--	11.6	--	--	--	--	--	--	--	--
P-28-U	3/3/2006 18:35	12.9	11.4	4.5	5.2	0.0	0.0	0.0	0.0	--	--
P-28-U	3/5/2006 16:01	--	11.3	--	4.9	--	0.0	--	0.0	--	--

Table A-5
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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-28-U	3/5/2006 16:04	--	11.3	--	5.0	--	0.0	--	0.0	--	--
P-28-U	3/6/2006 8:20	12.2	--	5.3	--	0.0	--	0.0	--	--	--
P-28-U	3/7/2006 14:12	11.8	11.6	4.8	5.1	0.0	0.0	0.0	0.0	--	--
P-28-U	3/9/2006 11:58	11.9	11.9	4.9	5.0	0.0	0.0	0.0	0.0	--	--
P-28-U	3/16/2006 16:01	11.4	11.3	4.6	4.6	0.0	0.0	0.0	0.0	10.5	55.0
P-28-U	3/20/2006 10:02	13.4	13.5	4.3	4.3	0.0	0.0	0.0	0.0	--	--
P-28-U	3/29/2006 9:51	11.6	12.5	4.8	4.4	0.0	0.0	0.0	0.0	2.0	23.0
P-28-U	3/29/2006 9:52	13.1	12.6	4.2	4.3	0.0	0.0	0.0	0.0	--	--
P-28-U	4/4/2006 13:10	11.2	11.5	4.6	4.4	0.0	0.0	0.0	0.0	--	13.0
P-28-U	4/10/2006 12:23	12.2	12.4	4.7	4.4	0.0	0.0	0.0	0.0	2.0	3.0
P-28-U	9/21/2006 12:00	--	6.8	--	7.7	0.0	--	0.0	--	--	--
P-28-U	11/15/2006 10:31	7.4	--	7.3	--	0.0	--	0.0	--	--	--
P-28-U	7/11/2008 10:46	--	7.9	--	7.3	<0.1	<0.1	<1.0	<1.0	16.7	16.7
P-28-U	10/7/2008 7:53	--	6.5	--	8.7	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-29-U	2/3/2006 11:03	--	17.8	--	--	--	--	--	--	--	--
P-29-U	2/28/2006 16:01	--	17.5	--	1.0	--	0.0	--	0.0	--	--
P-29-U	3/1/2006 11:37	--	18.4	--	1.2	--	0.0	--	0.0	210.0	259.0
P-29-U	3/1/2006 11:38	--	18.4	--	1.2	--	0.0	--	0.0	210.0	264.0
P-29-U	3/2/2006 13:43	--	18.4	--	1.0	--	0.0	--	0.0	--	--
P-29-U	3/3/2006 16:54	--	18.4	--	1.1	--	0.0	--	0.0	--	--
P-29-U	3/4/2006 15:08	--	18.3	--	1.0	--	0.0	--	0.0	--	--
P-29-U	3/4/2006 15:09	18.6	--	0.9	--	0.0	--	0.0	--	--	--
P-29-U	3/8/2006 14:35	18.3	18.2	1.0	1.2	0.0	0.0	0.0	0.0	--	--
P-29-U	3/9/2006 13:44	18.5	18.2	1.0	1.1	0.0	0.0	0.0	0.0	--	--
P-29-U	3/14/2006 9:22	18.0	18.0	0.4	0.5	0.0	0.0	0.0	0.0	7.6	98.0
P-29-U	3/22/2006 9:57	18.3	18.3	1.1	1.1	0.0	0.0	0.0	0.0	--	--
P-29-U	3/30/2006 9:39	18.7	18.6	1.1	1.1	0.0	0.0	0.0	0.0	25.0	195.0
P-29-U	4/6/2006 15:37	19.1	19.0	1.0	1.1	0.0	0.0	0.0	0.0	14.0	21.0
P-29-U	4/14/2006 12:29	18.7	18.4	0.9	1.0	0.0	0.0	0.0	0.0	2.0	206.0
P-29-U	9/15/2006 12:25	--	18.8	--	1.6	0.0	0.0	0.0	0.0	--	--
P-2-M	2/2/2006 16:13	--	0.0	--	--	--	--	--	--	--	--
P-2-M	2/2/2006 16:14	--	0.9	--	--	--	--	--	--	--	--

Table A-5
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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-2-M	2/27/2006 16:41	--	0.1	--	12.2	--	7.3	--	>100.0	28,204.0	30,540.0
P-2-M	3/1/2006 12:40	--	0.0	--	12.1	--	4.8	--	96.0	--	--
P-2-M	3/3/2006 16:13	0.0	--	12.3	--	7.8	--	>100.0	--	--	--
P-2-M	3/7/2006 7:43	1.0	0.0	12.3	12.6	9.8	47.5	--	--	--	--
P-2-M	4/28/2006 12:18	--	1.3	--	12.8	0.0	0.0	0.0	0.0	--	--
P-2-M	4/28/2006 12:33	--	2.7	--	12.0	0.0	0.0	0.0	0.0	--	--
P-2-M	4/28/2006 12:48	--	3.0	--	11.8	0.0	0.0	0.0	0.0	--	--
P-2-M	4/28/2006 13:03	--	3.1	--	11.6	0.0	0.0	0.0	0.0	--	--
P-2-M	4/28/2006 13:18	--	3.1	--	11.6	0.0	0.0	0.0	0.0	0.0	0.0
P-2-U	2/2/2006 16:04	--	0.0	--	--	--	--	--	--	--	--
P-2-U	2/2/2006 16:05	--	1.1	--	--	--	--	--	--	--	--
P-2-U	2/27/2006 16:29	--	0.1	--	9.6	--	15.5	--	>100.0	64,448.0	85,168.0
P-2-U	3/1/2006 12:31	--	0.0	--	9.0	--	7.7	--	>100.0	--	--
P-2-U	3/3/2006 16:07	0.0	--	9.2	--	9.4	--	>100.0	--	--	--
P-2-U	3/4/2006 15:06	0.7	--	9.2	--	9.1	16.1	>100.0	>100.0	--	--
P-2-U	3/7/2006 7:25	0.0	0.0	10.1	10.4	11.0	26.1	>100.0	--	--	--
P-2-U	3/9/2006 9:49	0.0	0.0	10.7	10.7	9.6	26.3	>100.0	>100.0	--	--
P-2-U	3/9/2006 9:50	0.0	0.0	10.6	10.6	9.7	26.2	>100.0	>100.0	--	--
P-2-U	3/15/2006 8:08	0.0	0.0	10.6	10.6	7.5	24.6	>100.0	>100.0	68,224.0	67,936.0
P-2-U	3/23/2006 8:29	0.5	0.4	10.9	10.1	5.8	19.1	>100.0	>100.0	--	--
P-2-U	3/29/2006 13:34	1.7	0.0	8.6	9.9	6.0	31.2	>100.0	>100.0	46,880.0	48,160.0
P-2-U	4/5/2006 14:39	0.1	0.1	10.7	10.7	5.0	13.9	>100.0	>100.0	47,040.0	49,600.0
P-2-U	4/12/2006 15:35	0.0	0.0	10.5	10.6	3.8	18.3	76.0	>100.0	2,530.0	2,590.0
P-2-U	9/14/2006 12:05	--	0.0	--	12.1	8.4	18.6	>100.0	>100.0	--	--
P-30-U	2/3/2006 13:48	--	15.7	--	--	--	--	--	--	--	--
P-30-U	2/28/2006 12:46	--	15.0	--	1.5	--	0.0	--	0.0	--	--
P-30-U	3/2/2006 11:41	--	15.7	--	1.6	--	0.0	--	0.0	--	--
P-30-U	3/4/2006 13:50	--	15.3	--	1.6	--	0.1	--	3.0	--	--
P-30-U	3/4/2006 13:51	15.3	--	1.5	--	0.0	--	1.0	--	--	--
P-30-U	3/5/2006 8:30	--	15.6	--	1.8	--	0.0	--	0.0	--	--
P-30-U	3/5/2006 8:31	15.7	--	1.7	--	0.0	--	0.0	--	--	--
P-30-U	3/6/2006 11:58	15.4	15.4	1.6	1.7	0.0	0.0	0.0	0.0	--	--

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-30-U	3/9/2006 12:10	14.9	14.8	1.7	1.8	0.0	0.0	0.0	0.0	--	--
P-30-U	3/17/2006 8:21	15.5	15.6	1.7	1.8	0.0	0.0	0.0	0.0	0.0	33.0
P-30-U	3/17/2006 8:22	15.5	15.5	1.8	1.8	0.0	0.0	0.0	0.0	--	--
P-30-U	3/21/2006 14:23	15.5	15.5	1.7	1.8	0.0	0.0	0.0	0.0	--	--
P-30-U	3/29/2006 12:20	14.6	14.5	1.6	1.7	0.0	0.0	0.0	0.0	15.0	100.0
P-30-U	4/6/2006 14:28	13.9	14.0	1.8	1.7	0.0	0.0	0.0	0.0	50.0	50.0
P-30-U	4/12/2006 8:19	13.7	13.6	1.8	1.9	0.0	0.3	0.0	5.0	30.0	725.0
P-30-U	9/15/2006 13:48	--	17.7	--	1.5	0.1	0.1	1.0	1.0	--	--
P-30-U	7/11/2008 14:06	--	15.3	--	2.4	<0.1	<0.1	<1.0	<1.0	6.6	6.6
P-30-U	10/7/2008 11:43	--	15.8	--	1.9	<0.1	0.1	<1.0	3.0	<0.5	<0.5
P-31	2/3/2006 10:09	--	18.4	--	--	--	--	--	--	--	--
P-31	2/27/2006 15:10	--	17.1	--	1.7	--	0.0	--	0.0	--	--
P-31	3/1/2006 9:47	--	--	--	2.0	--	0.0	--	0.0	--	--
P-31	3/1/2006 9:48	--	17.6	--	2.1	--	0.0	--	0.0	--	--
P-31	3/2/2006 17:02	--	17.5	--	1.6	--	0.0	--	0.0	--	--
P-31	3/3/2006 16:39	--	17.0	--	1.9	--	0.0	--	0.0	--	--
P-31	3/7/2006 9:18	16.6	16.5	1.9	2.0	0.0	0.0	0.0	0.0	2.0	9.0
P-31	3/7/2006 9:19	--	--	--	--	--	--	--	--	1.0	8.0
P-31	3/10/2006 10:51	17.0	16.9	1.9	2.0	0.0	0.0	0.0	0.0	--	--
P-31	3/16/2006 16:30	16.3	16.2	1.9	2.0	0.0	0.0	0.0	0.0	7.0	50.0
P-31	3/22/2006 12:27	16.0	16.0	1.9	2.0	0.0	0.0	0.0	0.0	--	--
P-31	3/28/2006 10:38	16.3	16.2	1.7	2.0	0.0	0.0	0.0	0.0	14.0	155.0
P-31	4/5/2006 13:29	15.6	15.5	2.0	2.1	0.0	0.0	0.0	0.0	3.4	32.0
P-31	4/13/2006 13:34	14.9	14.9	1.9	1.9	0.0	0.0	0.0	0.0	1.0	20.0
P-31	9/25/2006 12:30	--	18.2	--	1.7	0.0	0.0	0.0	0.0	--	--
P-31	7/22/2008 06:47	--	19.7	--	1.0	<0.1	<0.1	<1.0	<1.0	6.5	6.5
P-31	10/2/2008 06:55	--	20.1	--	0.8	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-31	10/2/2008 6:41	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-32	2/3/2006 9:50	--	14.3	--	--	--	--	--	--	--	--
P-32	2/27/2006 14:45	--	14.2	--	3.5	--	0.0	--	0.0	63.0	82.5
P-32	3/1/2006 10:08	--	14.9	--	3.8	--	0.0	--	0.0	--	--
P-32	3/2/2006 16:32	--	14.7	--	3.7	--	0.0	--	0.0	52.5	63.0

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-32	3/3/2006 16:15	14.4	14.2	3.7	3.7	0.0	0.0	0.0	0.0	--	--
P-32	3/7/2006 8:45	13.8	13.7	3.9	3.9	0.0	0.0	0.0	0.0	--	--
P-32	3/7/2006 8:46	13.8	13.9	3.8	3.9	0.0	0.0	0.0	0.0	--	--
P-32	3/10/2006 10:32	14.0	13.9	3.8	3.9	0.0	0.0	0.0	0.0	--	--
P-32	3/10/2006 10:33	14.0	13.9	3.9	3.9	0.0	0.0	0.0	0.0	--	--
P-32	3/16/2006 16:02	13.7	13.6	3.7	3.7	0.0	0.0	0.0	0.0	0.0	30.0
P-32	3/22/2006 11:46	13.0	13.0	4.0	3.9	0.0	0.0	0.0	0.0	--	--
P-32	3/28/2006 9:57	13.2	13.1	4.0	4.2	0.0	0.0	0.0	0.0	20.0	110.0
P-32	4/5/2006 13:08	13.5	13.1	3.2	4.0	0.0	0.0	0.0	0.0	5.0	85.0
P-32	4/13/2006 13:13	12.9	12.8	3.7	3.8	0.0	0.0	0.0	0.0	0.0	70.0
P-32	9/22/2006 13:38	--	18.5	--	2.7	0.0	0.0	0.0	0.0	--	--
P-32	7/16/2008 11:28	--	18.9	--	1.8	<0.1	<0.1	<1.0	<1.0	1.0	1.0
P-32	10/2/2008 10:08	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-32	10/2/2008 10:32	--	19.5	--	1.8	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-33	2/3/2006 8:49	--	15.7	--	--	--	--	--	--	--	--
P-33	2/13/2006 16:35	12.8	--	5.8	--	0.0	--	0.0	--	--	--
P-33	2/13/2006 16:38	--	12.5	--	5.1	--	0.0	--	0.0	--	--
P-33	2/17/2006 12:31	--	17.6	--	2.7	--	0.0	--	0.0	--	--
P-33	2/27/2006 17:25	--	12.1	--	6.8	--	0.0	--	0.0	--	--
P-33	2/28/2006 16:06	--	9.6	--	7.7	--	0.0	--	0.0	--	--
P-33	3/1/2006 17:27	--	10.0	--	8.3	--	0.0	--	0.0	--	--
P-33	3/2/2006 14:34	--	10.1	--	7.8	--	0.0	--	0.0	416.0	576.0
P-33	3/3/2006 15:59	--	19.2	--	0.2	--	0.0	--	0.0	--	--
P-33	3/4/2006 10:43	7.5	--	9.8	--	3.3	--	66.0	--	--	--
P-33	3/6/2006 18:31	11.9	11.8	8.8	8.8	0.2	0.2	4.0	5.0	--	--
P-33	3/7/2006 9:07	12.5	12.6	8.9	8.7	0.0	0.0	0.0	0.0	--	--
P-33	3/10/2006 10:33	13.5	13.4	8.1	8.0	0.0	0.0	0.0	0.0	--	--
P-33	3/13/2006 14:47	14.6	14.5	7.0	7.0	0.0	0.0	0.0	0.0	--	--
P-33	3/20/2006 14:17	16.2	16.2	6.5	6.7	0.0	0.0	0.0	0.0	0.0	42.9
P-33	3/29/2006 13:13	17.8	17.6	5.4	5.6	0.0	0.0	0.0	1.0	<2.0	>25.0
P-33	4/6/2006 9:12	18.5	18.4	5.3	5.4	0.0	0.0	0.0	0.0	--	16.0
P-33	4/11/2006 9:24	18.5	18.3	5.2	5.2	0.0	0.0	0.0	0.0	--	18.0

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-33	9/19/2006 10:38	--	14.3	--	3.9	0.0	0.0	0.0	0.0	--	--
P-33	7/22/2008 07:20	--	13.9	--	5.5	<0.1	<0.1	<1.0	<1.0	7.7	7.7
P-33	10/1/2008 09:41	--	14.6	--	4.8	<0.1	0.1	1.0	2.0	35.5	38.7
P-33	10/2/2008 8:56	--	21.0	--	<0.1	<0.1	<0.1	1.0	1.0	--	--
P-34	2/3/2006 16:06	--	18.1	--	--	--	--	--	--	--	--
P-34	2/17/2006 11:22	--	19.2	--	0.9	--	0.0	--	0.0	--	--
P-34	2/23/2006 11:40	--	17.1	--	1.5	--	0.0	--	0.0	--	--
P-34	2/27/2006 18:16	--	17.7	--	1.8	--	0.0	--	0.0	2.0	79.1
P-34	3/2/2006 15:32	--	12.2	--	2.9	--	1.1	--	23.0	--	--
P-34	3/4/2006 11:40	7.8	--	3.6	--	0.0	--	0.0	--	--	--
P-34	3/5/2006 17:29	--	5.8	--	4.3	--	0.0	--	0.0	--	--
P-34	3/6/2006 17:44	6.2	6.2	5.1	5.2	0.0	0.0	0.0	0.0	--	--
P-34	3/7/2006 9:44	6.6	6.7	5.5	5.8	0.0	0.0	0.0	0.0	--	--
P-34	3/10/2006 11:19	8.9	8.8	5.4	5.8	0.0	0.0	0.0	0.0	--	--
P-34	3/13/2006 15:39	9.0	9.0	4.9	5.4	0.0	0.0	0.0	0.0	--	--
P-34	3/20/2006 14:04	11.2	11.2	5.3	5.3	0.0	0.1	0.0	2.0	605.0	640.0
P-34	3/20/2006 14:05	11.4	11.2	5.1	5.0	0.0	0.0	0.0	0.0	580.0	610.0
P-34	3/29/2006 14:36	14.1	13.9	4.7	4.9	0.0	0.0	0.0	0.0	<2.0	>30.0
P-34	4/6/2006 7:40	16.8	16.2	4.8	4.3	0.0	0.0	0.0	0.0	--	21.0
P-34	4/11/2006 10:08	15.6	15.7	4.5	4.5	0.0	0.0	0.0	0.0	--	19.0
P-34	9/25/2006 10:20	--	16.5	--	2.6	0.0	0.0	0.0	0.0	--	--
P-34-M	2/2/2006 18:32	--	15.9	--	--	--	--	--	--	--	--
P-34-M	2/2/2006 18:33	--	16.5	--	--	--	--	--	--	--	--
P-34-M	2/17/2006 13:06	--	16.9	--	2.2	--	0.0	--	0.0	--	--
P-34-M	2/23/2006 11:30	--	14.9	--	2.7	--	0.0	--	0.0	--	--
P-34-M	2/27/2006 18:23	--	11.0	--	5.0	--	0.0	--	0.0	1.6	344.0
P-34-M	3/2/2006 15:46	--	1.1	--	10.8	--	0.1	--	2.0	--	--
P-34-M	3/4/2006 12:29	4.8	--	12.1	--	0.0	--	0.0	--	--	--
P-34-M	3/5/2006 17:20	--	6.8	--	10.2	--	0.0	--	0.0	--	--
P-34-M	3/6/2006 17:55	8.9	8.8	9.4	9.5	0.0	0.0	0.0	0.0	--	--
P-34-M	3/7/2006 10:09	10.9	10.9	8.6	8.8	0.0	0.0	0.0	0.0	--	--
P-34-M	3/10/2006 11:29	11.9	11.8	7.2	7.4	0.0	0.0	0.0	0.0	--	--

Table A-5
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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-34-M	3/13/2006 15:50	12.5	12.5	6.1	6.1	0.0	0.0	0.0	0.0	--	--
P-34-M	3/14/2006 14:15	12.1	12.0	6.6	6.6	0.0	0.0	0.0	0.0	22.0	115.0
P-34-M	3/20/2006 14:30	14.7	14.6	5.8	5.9	0.0	0.0	0.0	0.0	1.5	13.3
P-34-M	3/29/2006 14:47	16.4	16.3	4.5	4.6	0.0	0.0	0.0	1.0	<2.0	730.0
P-34-M	4/6/2006 7:52	17.5	17.4	3.9	3.8	0.0	0.0	0.0	0.0	6.0	36.0
P-34-M	4/11/2006 10:16	16.5	16.6	3.5	3.4	0.0	0.0	0.0	0.0	--	16.0
P-34-M	9/29/2006 12:47	--	15.4	--	1.8	0.0	0.0	0.0	0.0	--	--
P-35	2/3/2006 8:33	--	8.9	--	--	--	--	--	--	--	--
P-35	2/13/2006 16:56	--	4.4	--	8.8	--	0.0	--	0.0	--	--
P-35	2/17/2006 12:05	--	12.5	--	5.1	--	0.0	--	0.0	--	--
P-35	2/27/2006 17:39	--	5.6	--	9.4	--	0.0	--	0.0	--	--
P-35	2/28/2006 15:48	--	2.6	--	9.7	--	0.2	--	3.0	--	--
P-35	2/28/2006 15:49	--	2.6	--	9.6	--	0.2	--	4.0	--	--
P-35	3/1/2006 17:30	--	0.5	--	11.2	--	0.0	--	0.0	--	--
P-35	3/2/2006 14:56	--	0.6	--	10.8	--	0.2	--	4.0	--	--
P-35	3/3/2006 16:18	--	0.6	--	11.5	--	0.6	--	12.0	--	--
P-35	3/4/2006 11:02	0.5	--	13.1	--	0.5	--	11.0	--	--	--
P-35	3/6/2006 12:23	6.9	6.7	9.4	10.5	0.0	0.1	0.0	3.0	892.0	1,534.0
P-35	3/7/2006 8:37	4.2	4.7	13.4	13.1	0.5	0.2	11.0	4.0	--	--
P-35	3/10/2006 10:19	5.9	5.9	11.6	11.7	0.0	0.0	0.0	0.0	110.0	3,160.0
P-35	3/13/2006 14:31	4.7	5.3	11.8	11.4	0.0	0.0	0.0	0.0	--	--
P-35	3/14/2006 14:52	5.2	5.1	12.9	13.1	0.0	0.0	0.0	0.0	24.0	85.0
P-35	3/20/2006 14:49	5.6	5.7	11.7	11.9	0.0	0.0	0.0	0.0	78.0	730.0
P-35	3/29/2006 13:40	7.0	6.9	11.1	11.1	0.0	0.0	0.0	0.0	10.0	20.0
P-35	4/6/2006 9:45	7.9	8.0	11.1	11.0	0.0	0.0	0.0	0.0	--	150.0
P-35	4/6/2006 9:46	8.0	8.0	10.8	10.8	0.0	0.0	0.0	0.0	--	120.0
P-35	4/11/2006 9:39	7.9	8.1	10.9	10.7	0.0	0.0	0.0	0.0	--	40.0
P-35	9/18/2006 15:23	--	12.6	--	5.6	0.0	0.0	0.0	0.0	--	--
P-35	7/16/2008 13:26	--	9.8	--	6.9	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0
P-35	10/1/2008 10:20	--	7.7	--	8.3	<0.1	<0.1	1.0	1.0	<0.5	6.9
P-35	10/1/2008 9:56	--	20.8	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-36	2/3/2006 9:34	--	7.1	--	--	--	--	--	--	--	--

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P-36	2/27/2006 14:08	--	7.1	--	7.7	--	0.0	--	0.0	--	--
P-36	3/1/2006 10:24	--	7.6	--	7.9	--	0.0	--	0.0	--	--
P-36	3/2/2006 16:50	--	7.2	--	8.1	--	0.0	--	0.0	--	--
P-36	3/3/2006 16:27	--	7.0	--	7.9	--	0.0	--	0.0	--	--
P-36	3/7/2006 8:15	6.6	6.5	8.4	8.5	0.0	0.0	0.0	0.0	20.0	60.0
P-36	3/7/2006 8:16	--	--	--	--	--	--	--	--	20.0	70.0
P-36	3/10/2006 10:15	8.4	8.1	6.7	7.1	0.0	0.0	0.0	0.0	--	--
P-36	3/16/2006 16:16	6.6	6.4	8.2	8.1	0.0	0.0	0.0	0.0	--	--
P-36	3/22/2006 12:07	6.4	6.3	8.4	8.4	0.0	0.0	0.0	0.0	--	--
P-36	3/28/2006 10:13	7.0	6.9	8.4	8.5	0.0	0.0	0.0	0.0	20.0	140.0
P-36	4/5/2006 12:43	7.8	7.9	8.4	8.2	0.0	0.0	0.0	0.0	0.0	30.0
P-36	4/13/2006 12:53	8.0	7.9	7.5	7.6	0.0	0.0	0.0	0.0	0.0	100.0
P-36	9/25/2006 13:49	--	15.1	--	4.1	0.0	0.0	0.0	0.0	--	--
P-36	7/16/2008 11:00	--	17.5	--	3.5	<0.1	<0.1	<1.0	<1.0	5.5	5.5
P-36	10/2/2008 07:27	--	18.6	--	2.5	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-36	10/2/2008 7:13	--	21.1	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-37	2/3/2006 8:08	--	0.0	--	--	--	--	--	--	--	--
P-37	2/13/2006 16:42	--	0.0	--	12.7	--	15.7	--	>100.0	--	--
P-37	2/13/2006 16:44	0.0	--	12.6	--	6.5	--	>100.0	--	--	--
P-37	2/17/2006 11:20	--	8.5	--	7.7	--	2.8	--	54.0	--	--
P-37	2/27/2006 16:08	--	0.5	--	13.7	--	20.8	--	>100.0	--	--
P-37	2/28/2006 14:57	--	0.0	--	12.7	--	34.9	--	>100.0	--	--
P-37	3/1/2006 17:13	--	1.6	--	12.9	--	38.0	--	>100.0	--	--
P-37	3/2/2006 14:10	--	0.4	--	11.7	--	31.1	--	>100.0	--	--
P-37	3/3/2006 17:09	0.9	--	11.7	--	34.0	--	>100.0	--	--	--
P-37	3/4/2006 10:07	0.0	--	13.8	--	26.1	--	>100.0	--	--	--
P-37	3/6/2006 11:06	1.5	1.5	13.9	13.9	0.9	5.6	19.0	>100.0	--	--
P-37	3/6/2006 11:07	0.7	0.7	14.8	14.6	1.1	6.5	20.0	>100.0	--	--
P-37	3/7/2006 8:04	2.6	2.5	14.7	15.0	0.2	2.6	4.0	58.0	--	--
P-37	3/9/2006 14:14	3.8	3.8	14.3	13.8	1.1	3.2	23.0	64.0	--	--
P-37	3/9/2006 14:15	4.3	4.2	14.1	14.2	0.9	2.7	19.0	54.0	--	--
P-37	3/10/2006 10:48	2.6	2.5	12.9	13.7	0.0	1.4	0.0	28.0	1,328.0	3,504.0

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-37	3/10/2006 10:49	2.5	2.5	13.4	13.8	0.1	1.4	2.0	29.0	832.0	2,848.0
P-37	3/13/2006 15:05	5.3	5.3	12.4	12.6	0.0	0.1	0.0	3.0	15.2	970.0
P-37	3/13/2006 15:06	5.3	5.3	12.3	12.4	0.0	0.1	0.0	3.0	36.8	760.0
P-37	3/20/2006 15:38	8.4	8.3	10.8	11.1	0.0	0.0	0.0	0.0	0.2	32.0
P-37	3/20/2006 15:41	8.3	8.1	11.1	11.0	0.0	0.0	0.0	0.0	0.9	32.0
P-37	3/29/2006 14:11	11.3	11.4	10.8	9.1	0.0	0.0	0.0	1.0	2.0	23.0
P-37	3/29/2006 14:12	11.7	11.4	8.8	9.0	0.0	0.0	0.0	1.0	1.0	25.0
P-37	4/6/2006 10:29	12.9	12.8	8.6	8.5	0.0	0.0	0.0	0.0	1.0	30.0
P-37	4/6/2006 10:30	12.9	12.9	8.4	8.3	0.0	0.0	0.0	0.0	--	--
P-37	4/11/2006 11:10	13.8	13.6	7.7	7.8	0.0	0.0	0.0	0.0	--	24.0
P-37	4/11/2006 11:11	13.9	13.6	7.6	7.7	0.0	0.0	0.0	0.0	--	22.0
P-37	9/18/2006 12:43	16.5	--	4.2	--	0.0	--	0.0	--	--	--
P-37	9/18/2006 12:48	--	16.4	--	4.3	0.0	0.0	0.0	0.0	--	--
P-37	7/16/2008 12:59	--	13.3	--	5.2	<0.1	<0.1	<1.0	<1.0	<0.6	<0.6
P-37	10/1/2008 08:36	--	18.1	--	1.8	<0.1	0.1	1.0	1.0	34.3	36.7
P-37	10/1/2008 7:30	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-38	2/3/2006 8:18	--	0.3	--	--	--	--	--	--	--	--
P-38	2/13/2006 16:46	0.0	--	12.9	--	10.0	--	>100.0	--	--	--
P-38	2/13/2006 16:49	--	0.0	--	12.7	--	19.6	--	>100.0	--	--
P-38	2/17/2006 11:44	--	6.6	--	9.0	--	7.6	--	>100.0	--	--
P-38	2/27/2006 17:53	--	0.0	--	13.6	--	20.2	--	>100.0	--	--
P-38	2/28/2006 15:28	--	0.0	--	12.6	--	28.6	--	>100.0	--	--
P-38	3/1/2006 17:43	--	0.0	--	13.4	--	8.1	--	>100.0	6,043.0	6,359.0
P-38	3/2/2006 15:11	--	0.2	--	11.9	--	26.8	--	>100.0	--	--
P-38	3/3/2006 16:33	0.3	--	11.7	--	35.3	--	>100.0	--	--	--
P-38	3/4/2006 10:26	0.0	--	13.6	--	33.6	--	>100.0	--	2.6	7,570.0
P-38	3/4/2006 10:27	0.0	--	13.6	--	33.8	--	>100.0	--	2.6	7,620.0
P-38	3/6/2006 11:56	0.3	0.2	12.5	12.7	10.1	24.7	>100.0	>100.0	--	--
P-38	3/10/2006 9:54	0.6	0.5	12.0	12.7	5.9	16.4	>100.0	>100.0	--	--
P-38	3/13/2006 14:11	0.2	0.2	12.2	12.3	4.4	13.6	88.0	>100.0	--	--
P-38	3/13/2006 14:12	0.4	0.5	12.2	12.2	4.6	13.7	90.0	>100.0	--	--
P-38	3/20/2006 15:18	0.1	0.1	13.3	13.3	0.0	2.5	0.0	52.0	820.0	3,250.0

Table A-5
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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-38	3/29/2006 13:59	5.4	5.4	13.4	13.3	0.0	0.0	0.0	0.0	10.0	120.0
P-38	4/6/2006 10:03	8.5	8.5	12.7	12.8	0.0	0.0	0.0	0.0	--	80.0
P-38	4/11/2006 10:34	9.1	9.1	11.9	12.2	0.0	0.0	0.0	0.0	--	20.0
P-38	9/18/2006 13:37	9.0	10.1	11.0	10.0	0.0	0.0	0.0	0.0	--	--
P-38	7/16/2008 12:32	--	11.9	--	5.5	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0
P-38	10/1/2008 14:15	--	19.6	--	0.3	<0.1	<0.1	1.0	1.0	--	--
P-38	10/1/2008 14:33	--	15.5	--	3.0	<0.1	<0.1	<1.0	1.0	<0.5	<0.5
P-39	2/3/2006 10:31	--	16.6	--	--	--	--	--	--	--	--
P-39	2/27/2006 13:57	--	15.9	--	2.8	--	0.0	--	0.0	--	--
P-39	2/27/2006 13:58	--	15.7	--	2.9	--	0.0	--	0.0	--	--
P-39	3/1/2006 10:53	--	14.7	--	3.8	--	0.0	--	0.0	--	--
P-39	3/2/2006 16:10	--	13.8	--	3.9	--	0.0	--	0.0	--	--
P-39	3/7/2006 9:47	13.8	13.9	4.2	3.9	0.0	0.0	0.0	0.0	--	--
P-39	3/17/2006 9:26	12.3	12.3	4.0	4.0	0.0	0.0	0.0	0.0	15.0	90.0
P-39	3/17/2006 9:27	12.3	12.3	3.9	3.9	0.0	0.0	0.0	0.0	5.0	80.0
P-39	3/22/2006 13:12	12.3	12.2	3.6	3.7	0.0	0.0	0.0	0.0	--	--
P-39	3/28/2006 9:00	12.9	12.8	3.5	3.6	0.0	0.0	0.0	0.0	300.0	950.0
P-39	4/5/2006 14:32	10.6	10.5	3.8	3.8	0.0	0.0	0.0	0.0	20.0	50.0
P-39	4/13/2006 15:50	9.5	9.4	3.8	3.9	0.0	0.0	0.0	0.0	0.0	19.0
P-39	9/25/2006 15:09	--	17.6	--	2.3	0.0	0.0	0.0	0.0	--	--
P-39	7/22/2008 06:21	--	18.5	--	2.2	<0.1	<0.1	<1.0	<1.0	6.3	6.3
P-39	10/2/2008 08:06	--	18.7	--	2.0	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-39	10/2/2008 7:50	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-3-U	2/2/2006 16:46	--	0.0	--	--	--	--	--	--	--	--
P-3-U	2/2/2006 16:47	--	1.3	--	--	--	--	--	--	--	--
P-3-U	2/27/2006 17:17	--	0.0	--	7.3	--	49.5	--	>100.0	6,600.0	7,800.0
P-3-U	2/28/2006 17:50	0.0	0.0	5.6	6.7	7.9	56.1	>100.0	>100.0	--	--
P-3-U	3/1/2006 13:40	0.1	--	6.8	--	7.6	--	>100.0	--	--	--
P-3-U	3/1/2006 13:41	0.0	--	6.9	--	8.2	--	>100.0	--	--	--
P-3-U	3/1/2006 13:43	--	0.1	--	6.6	--	50.4	--	>100.0	65,712.0	74,752.0
P-3-U	3/3/2006 16:37	0.4	--	6.7	--	7.4	--	>100.0	--	--	--
P-3-U	3/4/2006 17:54	0.3	--	7.3	--	7.1	45.5	>100.0	>100.0	--	--

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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-3-U	3/6/2006 17:01	0.0	0.0	7.3	7.3	7.6	50.7	>100.0	>100.0	--	--
P-3-U	3/7/2006 9:47	0.0	0.0	7.9	7.7	7.3	52.7	--	--	--	--
P-3-U	3/9/2006 10:18	0.0	0.0	8.2	8.0	6.6	46.5	>100.0	>100.0	--	--
P-3-U	3/15/2006 7:42	0.0	0.0	8.2	8.3	5.5	43.5	>100.0	>100.0	41,120.0	44,096.0
P-3-U	3/15/2006 7:43	0.0	0.0	8.4	8.1	5.6	43.9	>100.0	>100.0	47,936.0	43,920.0
P-3-U	3/23/2006 8:00	0.2	0.2	7.9	7.9	4.8	34.9	97.0	>100.0	--	--
P-3-U	3/29/2006 15:14	2.2	0.0	6.5	7.7	4.2	41.4	84.0	>100.0	44,640.0	48,160.0
P-3-U	4/5/2006 15:04	0.1	0.1	8.6	8.5	5.5	29.1	>100.0	>100.0	81,600.0	97,120.0
P-3-U	4/12/2006 15:51	0.0	0.0	8.7	8.5	4.9	46.0	99.0	>100.0	47,360.0	51,840.0
P-3-U	9/14/2006 12:56	--	0.0	--	11.8	2.2	14.8	47.0	>100.0	--	--
P-3-U	9/14/2006 12:57	--	0.0	--	11.2	2.9	15.0	58.0	>100.0	--	--
P-3-U	9/14/2006 12:58	--	0.0	--	5.2	27.5	1.3	21.0	0.0	--	--
P-40	2/27/2006 18:27	--	13.4	--	4.3	--	0.0	--	0.0	--	--
P-40	2/27/2006 18:28	--	13.7	--	4.3	--	0.0	--	0.0	--	--
P-40	3/5/2006 16:50	--	13.1	--	4.4	--	0.0	--	0.0	--	--
P-40	3/6/2006 10:02	13.7	--	4.1	--	0.0	--	0.0	--	--	--
P-40	3/7/2006 13:37	13.3	13.7	4.5	4.6	0.0	0.0	0.0	0.0	105.0	362.0
P-40	3/7/2006 13:38	13.5	13.5	4.3	5.1	0.0	0.0	0.0	0.0	92.0	401.0
P-40	3/9/2006 13:43	12.5	12.4	4.6	4.8	1.4	1.0	29.0	21.0	--	--
P-40	3/16/2006 15:20	12.0	12.3	3.7	4.0	0.0	0.0	0.0	0.0	2.0	64.0
P-40	3/20/2006 9:00	12.0	11.8	4.1	4.9	0.0	0.0	0.0	0.0	--	--
P-40	3/29/2006 11:42	9.9	9.9	4.8	4.8	0.0	0.0	0.0	0.0	0.0	20.0
P-40	4/4/2006 14:43	5.3	5.3	4.9	4.9	0.0	0.0	0.0	0.0	--	90.0
P-40	4/10/2006 9:36	9.0	8.9	5.6	5.5	0.0	0.0	0.0	0.0	10.0	65.0
P-40	9/21/2006 10:42	--	8.1	--	6.7	0.0	0.0	0.0	0.0	--	--
P-40-M	2/2/2006 18:49	--	9.3	--	--	--	--	--	--	--	--
P-40-M	2/2/2006 18:50	--	4.7	--	--	--	--	--	--	--	--
P-40-M	2/23/2006 10:39	--	6.9	--	7.6	--	0.0	--	0.0	--	--
P-40-M	2/27/2006 18:18	--	5.7	--	9.0	--	0.1	--	1.0	--	--
P-40-M	3/5/2006 17:00	--	4.1	--	9.1	--	0.0	--	0.0	--	--
P-40-M	3/6/2006 9:44	6.0	--	8.3	--	0.0	--	0.0	--	--	--
P-40-M	3/7/2006 13:52	3.7	3.7	9.7	10.2	0.0	0.0	0.0	0.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-40-M	3/9/2006 13:35	3.2	3.2	10.1	10.1	0.9	1.0	19.0	21.0	58.0	920.0
P-40-M	3/16/2006 13:36	3.0	3.0	9.5	9.6	0.0	0.0	0.0	0.0	4.8	57.6
P-40-M	3/20/2006 8:29	4.8	4.6	8.4	9.1	0.0	0.0	0.0	0.0	--	--
P-40-M	3/29/2006 11:08	5.5	5.5	8.5	8.5	0.0	0.0	0.0	0.0	16.0	26.0
P-40-M	4/4/2006 14:28	3.5	3.5	8.1	8.0	0.0	0.0	0.0	0.0	10.0	20.0
P-40-M	4/10/2006 10:29	6.9	6.8	7.8	7.8	0.0	0.0	0.0	0.0	--	10.0
P-40-M	9/21/2006 9:46	--	0.0	--	9.7	9.4	23.0	>100.0	>100.0	--	--
P-41	2/3/2006 13:30	--	9.7	--	--	--	--	--	--	--	--
P-41	2/27/2006 16:26	--	9.4	--	3.6	--	0.0	--	0.0	--	--
P-41	3/1/2006 11:08	--	9.9	--	3.9	--	0.0	--	0.0	--	--
P-41	3/2/2006 15:56	--	9.7	--	3.9	--	0.0	--	0.0	--	--
P-41	3/7/2006 10:29	9.6	9.5	3.9	4.0	0.0	0.0	0.0	0.0	--	--
P-41	3/10/2006 11:07	10.2	10.1	3.9	3.9	0.0	0.0	0.0	0.0	--	--
P-41	3/17/2006 9:08	10.3	10.0	3.9	4.0	0.0	0.0	0.0	0.0	15.0	55.0
P-41	3/22/2006 12:53	10.0	9.9	4.0	4.0	0.0	0.0	0.0	0.0	--	--
P-41	3/28/2006 9:24	10.1	10.0	4.1	4.2	0.0	0.0	0.0	0.0	240.0	530.0
P-41	4/5/2006 15:09	11.8	11.8	3.8	3.6	0.0	0.0	0.0	0.0	32.0	50.0
P-41	4/5/2006 15:10	12.0	12.0	3.3	3.4	0.0	0.0	0.0	0.0	--	52.0
P-41	4/13/2006 15:27	11.5	11.2	3.6	3.8	0.0	0.0	0.0	0.0	265.0	285.0
P-41	9/27/2006 9:13	--	10.8	--	4.9	0.0	0.0	0.0	0.0	--	--
P-41	7/22/2008 05:56	--	15.6	--	3.3	<0.1	<0.1	<1.0	<1.0	15.1	15.1
P-41	7/24/2008 13:30	--	16.4	--	3.1	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-41	10/2/2008 11:07	--	20.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	--	--
P-41	10/2/2008 11:27	--	16.1	--	3.1	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-46-U	2/3/2006 15:12	--	14.1	--	--	--	--	--	--	--	--
P-46-U	2/28/2006 8:18	--	14.4	--	3.1	--	0.0	--	0.0	--	--
P-46-U	3/2/2006 9:25	--	13.4	--	3.3	--	0.0	--	0.0	--	--
P-46-U	3/4/2006 16:32	--	12.4	--	3.3	--	0.0	--	0.0	--	--
P-46-U	3/4/2006 16:33	12.5	--	3.3	--	0.0	--	0.0	--	--	--
P-46-U	3/5/2006 9:29	--	12.9	--	3.2	--	0.0	--	0.0	--	--
P-46-U	3/6/2006 9:31	11.8	11.7	3.6	3.6	0.0	0.0	0.0	0.0	--	--
P-46-U	3/7/2006 16:25	11.2	11.2	3.7	3.9	0.0	0.0	0.0	0.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-46-U	3/9/2006 11:19	11.2	11.1	3.8	4.0	0.0	0.0	0.0	0.0	--	--
P-46-U	3/13/2006 10:02	12.5	12.5	3.5	3.6	0.0	0.0	0.0	0.0	--	--
P-46-U	3/21/2006 9:55	11.0	10.9	3.8	3.9	0.0	0.0	0.0	0.0	--	--
P-46-U	3/29/2006 10:21	9.1	9.1	4.2	4.3	0.0	0.0	0.0	0.0	45.0	60.0
P-46-U	4/6/2006 12:19	9.8	9.7	4.1	4.2	0.0	0.0	0.0	0.0	75.0	135.0
P-46-U	4/12/2006 13:42	9.2	9.2	4.1	4.1	0.0	0.0	0.0	0.0	15.0	80.0
P-46-U	9/22/2006 8:28	--	12.0	--	5.3	0.0	0.0	0.0	0.0	--	--
P-46-U	7/14/2008 07:52	--	16.0	--	3.8	<0.1	<0.1	<1.0	<1.0	2.8	3.4
P-46-U	10/8/2008 7:41	--	15.4	--	4.0	<0.1	<0.1	<1.0	<1.0	30.2	30.8
P-47	2/23/2006 17:18	--	19.4	--	0.5	--	0.2	--	3.0	--	--
P-47	2/28/2006 11:22	--	18.3	--	1.4	--	0.2	--	4.0	9.0	115.0
P-47	3/2/2006 11:22	--	18.3	--	1.4	--	0.0	--	0.0	--	--
P-47	3/4/2006 17:55	--	17.5	--	1.6	--	0.2	--	4.0	--	--
P-47	3/4/2006 17:56	17.7	--	1.4	--	0.1	--	3.0	--	--	--
P-47	3/5/2006 10:33	--	17.3	--	1.6	--	0.0	--	0.0	--	--
P-47	3/5/2006 10:34	17.5	--	1.5	--	0.0	--	0.0	--	--	--
P-47	3/5/2006 14:07	--	--	--	--	--	--	--	--	--	26.0
P-47	3/5/2006 14:55	--	--	--	--	--	--	--	--	4.2	--
P-47	3/6/2006 14:16	17.5	17.5	1.4	1.4	0.0	0.0	0.0	0.0	--	--
P-47	3/6/2006 14:17	17.5	17.5	1.4	1.4	0.0	0.0	0.0	0.0	--	--
P-47	3/7/2006 14:22	17.5	17.5	1.6	1.6	0.0	0.0	0.0	0.0	--	--
P-47	3/9/2006 9:04	17.1	17.1	1.8	1.9	0.0	0.0	0.0	0.0	--	--
P-47	3/13/2006 10:57	17.8	17.7	1.7	1.8	0.0	0.0	0.0	0.0	--	--
P-47	3/21/2006 11:02	17.3	17.1	1.5	1.8	0.0	0.0	0.0	0.0	--	--
P-47	3/28/2006 12:11	18.9	18.8	0.7	0.8	0.0	0.0	0.0	0.0	5.0	290.0
P-47	4/5/2006 9:07	18.0	17.7	1.5	1.6	0.0	0.0	0.0	0.0	3.0	30.0
P-47	4/13/2006 11:16	17.3	16.8	1.2	1.5	0.0	0.0	0.0	0.0	65.0	240.0
P-47	9/25/2006 11:29	--	13.0	--	3.1	0.0	0.0	0.0	0.0	--	--
P-47	11/15/2006 8:59	16.2	--	3.1	--	0.0	--	0.0	--	--	--
P-47	7/14/2008 10:02	--	17.1	--	2.6	<0.1	<0.1	<1.0	<1.0	5.8	7.2
P-47	10/8/2008 10:36	--	20.2	--	0.4	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-4-M	2/28/2006 13:29	--	5.7	--	10.0	--	0.0	--	0.0	--	--

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-4-M	3/1/2006 10:52	--	5.0	--	8.8	--	0.0	--	0.0	--	--
P-4-M	3/3/2006 14:43	5.6	--	10.1	--	2.4	15.7	48.0	>100.0	--	--
P-4-M	3/8/2006 15:16	4.5	4.5	9.6	9.7	1.5	26.1	29.0	>100.0	--	--
P-4-M	3/10/2006 10:26	8.6	8.3	8.5	9.2	0.0	2.7	0.0	55.0	2,280.0	330.0
P-4-M	3/14/2006 12:53	11.5	11.4	7.7	7.8	0.0	0.0	0.0	0.0	38.5	48.5
P-4-M	3/14/2006 12:54	11.4	11.4	7.7	7.5	0.0	0.0	0.0	0.0	37.5	45.0
P-4-M	3/16/2006 11:53	13.1	13.1	7.0	6.9	0.0	0.0	0.0	0.0	--	--
P-4-M	3/21/2006 14:09	14.5	--	5.8	--	0.0	0.0	0.0	0.0	--	--
P-4-M	3/23/2006 15:18	14.6	14.5	5.3	5.4	0.0	0.0	0.0	0.0	--	--
P-4-M	3/27/2006 12:01	15.9	15.7	4.3	4.6	0.0	0.2	0.0	5.0	0.0	550.0
P-4-M	3/30/2006 14:43	15.3	15.2	4.2	4.2	0.0	0.0	0.0	1.0	--	--
P-4-M	4/3/2006 14:36	15.5	15.4	4.0	4.2	0.0	0.0	0.0	0.0	0.0	512.0
P-4-M	4/7/2006 12:27	16.6	16.4	3.7	3.6	0.1	0.2	2.0	4.0	--	--
P-4-M	4/11/2006 11:57	16.7	16.6	3.2	3.2	0.0	0.0	0.0	0.0	0.0	410.0
P-4-M	4/13/2006 13:50	17.0	16.8	3.1	3.2	0.0	0.0	0.0	0.0	--	--
P-4-M	4/17/2006 15:34	17.8	17.7	2.9	3.0	0.0	0.0	0.0	0.0	13.0	170.0
P-4-M	4/18/2006 10:15	--	17.7	--	2.5	0.0	0.0	0.0	0.0	9.0	315.0
P-4-M	4/18/2006 12:40	--	16.9	--	2.9	0.0	0.0	0.0	0.0	0.0	125.0
P-4-M	4/18/2006 21:10	--	17.1	--	3.0	0.0	0.1	0.0	2.0	171.0	595.0
P-4-M	4/18/2006 23:24	--	17.5	--	2.9	0.0	0.0	0.0	0.0	27.4	495.0
P-4-M	4/19/2006 1:22	--	17.8	--	2.7	0.0	0.0	0.0	0.0	44.0	428.0
P-4-M	4/19/2006 15:12	--	17.1	--	2.5	0.0	0.0	0.0	0.0	0.0	49.0
P-4-M	4/19/2006 23:18	--	17.8	--	2.9	0.0	0.0	0.0	0.0	2.4	79.0
P-4-M	4/19/2006 5:26	--	17.5	--	3.0	0.0	0.1	0.0	2.0	42.5	645.0
P-4-M	4/20/2006 10:13	--	18.4	--	2.3	0.0	0.0	0.0	0.0	1.0	32.0
P-4-M	4/21/2006 9:22	--	17.3	--	2.7	0.0	0.0	0.0	0.0	0.0	26.3
P-4-M	4/21/2006 9:23	--	17.2	--	2.8	0.0	0.0	0.0	0.0	0.0	24.5
P-4-M	4/24/2006 13:25	--	15.6	--	3.1	0.0	0.0	0.0	0.0	0.0	50.0
P-4-M	5/1/2006 7:42	--	13.7	--	4.6	0.0	0.0	0.0	0.0	10.7	61.5
P-4-M	5/1/2006 7:57	--	13.7	--	4.5	0.0	0.2	0.0	3.0	3.3	169.0
P-4-M	5/1/2006 7:58	--	13.7	--	4.5	0.0	0.1	0.0	2.0	17.5	198.6
P-4-M	5/1/2006 8:12	--	13.6	--	4.5	0.0	0.0	0.0	0.0	0.0	14.1

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-4-M	5/1/2006 8:27	--	13.4	--	4.6	0.0	0.0	0.0	0.0	0.0	5.2
P-4-M	5/1/2006 8:28	--	13.4	--	4.7	0.0	0.0	0.0	0.0	0.5	6.9
P-4-M	5/1/2006 8:42	--	13.5	--	4.5	0.0	0.0	0.0	0.0	2.9	59.0
P-4-M	5/1/2006 8:57	--	13.3	--	4.6	0.0	0.1	0.0	2.0	100.5	285.5
P-4-M	5/1/2006 9:12	--	13.4	--	4.4	0.0	0.0	0.0	0.0	0.0	32.3
P-4-M	5/1/2006 9:27	--	13.1	--	4.5	0.0	0.0	0.0	0.0	0.0	59.5
P-4-M	5/3/2006 10:10	--	12.4	--	4.1	0.0	0.0	0.0	0.0	3.5	128.5
P-4-M	5/3/2006 10:11	--	12.3	--	4.0	0.0	0.0	0.0	0.0	0.0	66.5
P-4-M	5/3/2006 10:25	--	12.1	--	3.9	0.0	0.0	0.0	0.0	0.0	68.0
P-4-M	5/3/2006 10:40	--	11.8	--	4.1	0.0	0.0	0.0	0.0	19.0	229.5
P-4-M	5/3/2006 10:55	--	11.7	--	4.0	0.0	0.0	0.0	0.0	13.5	178.0
P-4-M	5/3/2006 11:10	--	11.6	--	3.8	0.0	0.0	0.0	1.0	23.0	260.0
P-4-M	5/3/2006 11:25	--	11.6	--	4.0	0.0	0.0	0.0	0.0	21.5	209.5
P-4-M	5/3/2006 11:40	--	11.6	--	4.0	0.0	0.0	0.0	0.0	16.0	183.5
P-4-M	5/3/2006 9:55	--	12.6	--	14.1	0.0	0.0	0.0	0.0	0.0	74.0
P-4-M	5/5/2006 10:11	--	12.2	--	4.6	0.0	0.1	0.0	2.0	27.0	197.0
P-4-M	5/5/2006 8:26	--	12.4	--	5.1	0.0	0.0	0.0	0.0	21.5	267.5
P-4-M	5/5/2006 8:27	--	12.4	--	5.0	0.0	0.0	0.0	0.0	--	--
P-4-M	5/5/2006 8:41	--	12.8	--	4.8	0.0	0.0	0.0	0.0	10.5	86.0
P-4-M	5/5/2006 8:56	--	12.6	--	4.9	0.0	0.0	0.0	0.0	6.5	91.0
P-4-M	5/5/2006 9:11	--	12.3	--	4.9	0.0	0.0	0.0	0.0	35.0	304.5
P-4-M	5/5/2006 9:26	--	12.1	--	4.8	0.0	0.0	0.0	0.0	13.0	140.0
P-4-M	5/5/2006 9:41	--	12.1	--	4.7	0.0	0.0	0.0	3.0	46.0	38.5
P-4-M	5/5/2006 9:56	--	12.1	--	4.7	0.0	0.0	0.0	0.0	14.5	94.5
P-4-M	5/12/2006 8:40	--	11.9	--	4.9	0.0	0.0	0.0	0.0	5.0	85.0
P-4-M	5/12/2006 8:48	--	11.6	--	5.0	0.0	0.0	0.0	0.0	5.0	110.0
P-4-M	5/12/2006 9:00	--	11.6	--	5.1	0.0	0.0	0.0	0.0	5.0	80.0
P-4-U	2/3/2006 9:06	--	0.4	--	--	--	--	--	--	--	--
P-4-U	2/27/2006 17:56	--	1.1	--	10.7	--	0.0	--	0.0	21.2	268.1
P-4-U	2/27/2006 17:57	--	1.3	--	10.5	--	0.0	--	0.0	16.4	161.0
P-4-U	2/28/2006 13:17	--	13.2	--	4.1	--	0.0	--	>100.0	--	--
P-4-U	3/1/2006 10:44	--	5.0	--	8.9	--	0.0	--	0.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-4-U	3/3/2006 14:38	6.6	--	8.9	--	0.0	--	0.0	--	--	--
P-4-U	3/6/2006 10:43	12.6	12.3	8.5	9.0	0.0	0.0	0.0	0.0	--	--
P-4-U	3/8/2006 15:04	15.4	15.4	6.8	6.8	0.0	0.0	0.0	0.0	6.5	119.5
P-4-U	3/8/2006 15:05	15.5	15.3	6.6	6.8	0.0	0.0	0.0	0.0	5.5	129.0
P-4-U	3/10/2006 10:17	16.6	16.6	6.3	6.2	0.0	0.0	0.0	0.0	--	--
P-4-U	3/14/2006 12:43	16.0	15.9	5.4	5.5	0.0	0.0	0.0	0.0	3.0	139.0
P-4-U	3/14/2006 12:44	16.0	15.9	5.5	5.5	0.0	0.0	0.0	0.0	--	151.0
P-4-U	3/16/2006 11:46	16.5	16.5	5.1	5.1	0.1	0.0	2.0	1.0	--	--
P-4-U	3/21/2006 13:53	17.7	--	4.4	--	0.0	0.0	0.0	0.0	--	--
P-4-U	3/23/2006 11:38	17.4	17.2	3.7	3.9	0.0	0.0	0.0	0.0	--	--
P-4-U	3/27/2006 11:52	18.2	18.0	3.2	3.5	0.0	0.0	0.0	0.0	0.0	150.0
P-4-U	3/27/2006 11:53	18.2	18.1	3.3	3.4	0.0	0.0	0.0	0.0	--	150.0
P-4-U	3/27/2006 11:54	--	--	--	--	--	--	--	0.0	--	--
P-4-U	3/30/2006 14:16	18.5	18.3	2.5	3.1	0.0	0.0	0.0	0.0	--	--
P-4-U	4/3/2006 14:27	18.4	18.2	3.0	3.0	0.0	0.0	0.0	0.0	285.0	405.0
P-4-U	4/6/2006 15:27	18.4	18.3	2.9	2.9	0.0	0.0	0.0	0.0	--	--
P-4-U	4/11/2006 11:50	18.5	18.4	2.4	2.4	0.0	0.0	0.0	0.0	3.0	86.0
P-4-U	4/13/2006 13:40	19.1	18.7	2.0	2.3	0.0	0.0	0.0	0.0	--	--
P-4-U	4/13/2006 13:41	18.9	18.7	2.2	2.3	0.0	0.0	0.0	0.0	--	--
P-4-U	4/17/2006 15:25	19.7	19.5	1.9	2.1	0.0	0.0	0.0	0.0	12.0	225.0
P-4-U	4/18/2006 12:30	--	18.2	--	2.1	0.0	0.0	0.0	0.0	0.0	127.0
P-4-U	4/18/2006 12:31	--	18.1	--	2.1	0.0	0.0	0.0	0.0	0.0	178.0
P-4-U	4/18/2006 9:59	--	19.0	--	2.1	0.0	0.0	0.0	0.0	6.0	385.0
P-4-U	4/19/2006 16:23	--	19.1	--	2.0	0.0	0.0	0.0	0.0	0.0	63.0
P-4-U	4/19/2006 23:03	--	19.3	--	2.4	0.1	0.2	3.0	5.0	2.8	135.0
P-4-U	4/20/2006 10:03	--	19.6	--	2.2	0.0	0.0	0.0	0.0	0.0	51.0
P-4-U	4/21/2006 9:02	--	19.4	--	2.3	0.0	0.0	0.0	0.0	2.5	91.0
P-4-U	4/24/2006 13:10	--	18.1	--	2.3	0.0	0.0	0.0	0.0	0.0	45.0
P-4-U	5/12/2006 8:21	--	16.2	--	3.5	0.0	0.0	0.0	0.0	6.0	0.0
P-4-U	5/12/2006 8:29	--	16.2	--	3.5	0.0	0.0	0.0	0.0	5.0	0.0
P-4-U	9/15/2006 11:20	--	10.6	--	4.7	0.0	0.0	0.0	0.0	--	--
PMW-10-M	7/30/2008 09:35	--	10.2	--	3.6	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
PMW-10-M	10/13/2008 13:27	--	10.7	--	4.4	<0.1	<0.1	<1.0	<1.0	1.9	1.9
PMW-10-U	7/30/2008 09:20	--	11.6	--	3.2	<0.1	<0.1	<1.0	<1.0	<0.8	<0.8
PMW-10-U	10/13/2008 13:01	--	11.9	--	3.5	0.1	0.1	3.0	3.0	97.6	97.6
PMW-11-M	7/2/2008 0:40	--	<0.1	--	2.4	2.8	5.8	56.0	116.0	38,041.4	63,981.5
PMW-11-M	7/16/2008 00:20	--	<0.1	--	4.4	7.6	11.5	>100.0	>100.0	56,828.7	117,128.1
PMW-11-M	10/16/2008 00:11	--	<0.1	--	6.3	9.0	10.0	>100.0	>100.0	165,920.7	166,250.0
PMW-11-U	7/1/2008 23:55	--	<0.1	--	4.8	9.4	15.7	>100.0	>100.0	721.1	1,650.6
PMW-11-U	7/15/2008 23:42	--	<0.1	--	5.7	8.6	16.1	>100.0	>100.0	94,705.8	130,026.3
PMW-11-U	10/15/2008 23:51	--	<0.1	--	6.4	11.8	13.2	>100.0	>100.0	162,184.0	175,993.5
PMW-12-M	7/2/2008 3:20	--	<0.1	--	6.9	0.1	0.8	2.0	16.0	1,148.9	2,835.4
PMW-12-M	10/7/2008 11:06	--	<0.1	--	7.5	3.1	3.2	62.0	64.0	55,610.1	58,648.6
PMW-12-U	7/2/2008 2:45	--	3.2	--	5.0	<0.1	0.1	<1.0	2.0	16.3	36.9
PMW-12-U	10/7/2008 10:45	--	<0.1	--	7.6	1.2	1.2	24.0	24.0	22,107.6	26,245.0
PMW-13-M	6/26/2008 1:35	--	6.1	--	3.3	<0.1	<0.1	<1.0	<1.0	16.0	20.0
PMW-13-M	10/7/2008 8:52	--	3.6	--	5.4	<0.1	<0.1	<1.0	<1.0	<1.9	<1.9
PMW-13-U	6/26/2008 0:35	--	9.1	--	1.4	<0.1	<0.1	<1.0	<1.0	43.0	43.0
PMW-13-U	10/7/2008 8:34	--	6.0	--	2.6	<0.1	<0.1	<1.0	<1.0	<1.6	<1.6
PMW-1-M	7/29/2008 05:57	--	15.3	--	2.8	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
PMW-1-M	10/8/2008 12:58	--	14.0	--	3.3	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
PMW-1-U	7/29/2008 05:43	--	15.5	--	2.1	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
PMW-1-U	10/8/2008 12:27	--	19.9	--	<0.1	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
PMW-2-M	7/28/2008 12:29	--	18.4	--	1.6	0.1	0.1	1.0	1.0	7.8	7.8
PMW-2-M	10/9/2008 7:21	--	20.1	--	1.6	<0.1	<0.1	<1.0	<1.0	24.6	24.6
PMW-2-U	7/28/2008 12:14	--	17.2	--	2.4	0.2	0.2	3.0	3.0	8.7	8.7
PMW-2-U	10/8/2008 6:56	--	19.0	--	2.3	<0.1	<0.1	<1.0	<1.0	10.2	10.2
PMW-3-M	7/29/2008 07:54	--	<0.1	--	10.9	3.5	8.3	69.0	>100.0	19,563.3	87,087.2
PMW-3-M	10/9/2008 9:45	--	<0.1	--	11.9	0.9	4.8	20.0	98.0	7,585.3	21,054.9
PMW-3-U	7/29/2008 07:37	--	<0.1	--	11.1	9.4	43.4	>100.0	>100.0	77,578.4	127,135.0
PMW-3-U	10/9/2008 9:16	--	<0.1	--	10.3	3.2	19.0	64.0	100.0	38,866.8	55,082.3
PMW-4-M	7/28/2008 10:43	--	<0.1	--	10.8	2.7	10.2	54.0	>100.0	NM	NM
PMW-4-M	10/9/2008 13:47	--	<0.1	--	11.4	0.6	8.4	12.0	100.0	47,268.8	103,455.0
PMW-4-U	7/28/2008 10:29	--	0.5	--	11.0	0.3	0.7	6.0	15.0	NM	NM

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
PMW-4-U	10/9/2008 13:23	--	0.4	--	10.6	0.6	1.4	13.0	31.0	10,264.1	12,645.5
PMW-5-M	7/30/2008 07:07	--	<0.1	--	12.4	0.6	1.7	12.0	33.0	11,635.0	12,501.0
PMW-5-M	10/13/2008 10:21	--	<0.1	--	13.6	0.5	1.9	11.0	38.0	10,670.2	14,312.8
PMW-5-U	7/30/2008 06:50	--	<0.1	--	13.2	0.2	0.2	4.0	4.0	548.0	641.6
PMW-5-U	10/13/2008 9:48	--	<0.1	--	13.4	0.3	0.4	6.0	8.0	176.1	176.1
PMW-6-M	7/30/2008 08:14	--	<0.1	--	14.1	4.0	8.7	79.0	>100.0	74,266.8	76,274.6
PMW-6-M	10/13/2008 7:46	--	<0.1	--	15.5	3.1	4.2	<62.0	<76.0	71,247.4	82,281.1
PMW-6-U	7/30/2008 07:59	--	3.3	--	12.3	<0.1	<0.1	<1.0	<1.0	<2.0	<2.0
PMW-6-U	10/13/2008 7:16	--	0.9	--	12.8	<0.1	<0.1	<1.0	<1.0	7.3	9.0
PMW-7-M	7/30/2008 06:01	--	12.4	--	6.3	<0.1	<0.1	<1.0	<1.0	<0.8	<0.8
PMW-7-M	10/10/2008 14:07	--	10.4	--	7.3	0.1	0.1	2.0	3.0	12.9	15.1
PMW-7-U	7/30/2008 05:46	--	13.2	--	6.7	<0.1	<0.1	<1.0	<1.0	<0.6	<0.6
PMW-7-U	10/10/2008 13:24	--	11.3	--	7.0	0.2	0.3	4.0	7.0	58.2	58.2
PMW-8-M	7/28/2008 13:46	--	5.8	--	6.5	<0.1	<0.1	<1.0	<1.0	22.0	22.0
PMW-8-U	7/28/2008 13:29	--	2.9	--	9.0	<0.1	<0.1	<1.0	<1.0	13.1	13.1
PMW-9-M	7/29/2008 12:20	--	<0.1	--	8.3	7.5	9.0	>100.0	>100.0	91,530.9	100,104.1
PMW-9-M	10/14/2008 8:10	--	<0.1	--	9.6	3.9	7.6	73.0	>100.0	76,329.0	90,189.0
PMW-9-U	7/29/2008 12:05	--	<0.1	--	9.6	3.9	4.3	77.0	86.0	31,095.6	35,589.0
PMW-9-U	10/14/2008 7:38	--	<0.1	--	9.8	1.4	4.2	26.0	94.0	62,786.1	72,096.8
SMW-10-M	6/11/2008 3:22	--	12.5	--	3.8	<0.1	<0.1	<1.0	<1.0	<0.7	<0.7
SMW-10-M	10/14/2008 22:57	--	10.2	--	6.2	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
SMW-10-U	6/11/2008 2:50	--	12.3	--	2.4	<0.1	<0.1	<1.0	<1.0	<0.8	<0.8
SMW-10-U	10/14/2008 22:39	--	11.7	--	6.6	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
SMW-11-M	6/19/2008 4:27	--	13.1	--	2.0	<0.1	<0.1	<1.0	<1.0	<0.7	<0.7
SMW-11-M	10/15/2008 01:23	--	4.6	--	7.4	<0.1	<0.1	<1.0	<1.0	<1.4	<1.4
SMW-11-U	6/19/2008 3:45	--	8.6	--	2.8	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
SMW-11-U	10/15/2008 01:05	--	1.7	--	9.6	<0.1	<0.1	<1.0	<1.0	<1.7	<1.7
SMW-12-M	7/10/2008 01:30	--	13.0	--	4.9	<0.1	<0.1	<1.0	<1.0	25.4	25.1
SMW-12-M	10/6/2008 8:14	--	12.1	--	5.7	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
SMW-12-U	7/10/2008 01:05	--	15.2	--	3.4	<0.1	<0.1	<1.0	<1.0	16.9	17.0
SMW-12-U	10/6/2008 7:48	--	13.5	--	4.4	0.1	0.1	2.0	2.0	22.5	22.5
SMW-13-M	6/11/2008 1:20	--	10.0	--	3.7	<0.1	<0.1	<1.0	<1.0	<1.4	<1.4

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
SMW-13-M	10/15/2008 00:09	--	9.4	--	6.1	<0.1	<0.1	<1.0	<1.0	<1.2	<1.2
SMW-13-U	6/10/2008 23:35	--	8.8	--	4.8	<0.1	<0.1	<1.0	<1.0	<1.4	<1.4
SMW-13-U	10/14/2008 23:51	--	8.1	--	6.6	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
SMW-14-M	7/16/2008 02:35	--	11.6	--	3.1	0.1	0.1	2.0	2.0	<0.8	<0.8
SMW-14-M	10/6/2008 13:26	--	9.9	--	3.9	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
SMW-14-U	7/16/2008 02:05	--	12.6	--	2.8	0.2	0.2	4.0	4.0	<0.9	<0.9
SMW-14-U	10/6/2008 13:06	--	11.6	--	3.8	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
SMW-1-M	7/9/2008 08:45	--	13.7	--	3.4	<0.1	<0.1	<1.0	<1.0	155.4	155.4
SMW-1-M	10/3/2008 8:18	--	11.5	--	4.3	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-1-U	7/9/2008 07:50	--	18.5	--	1.6	<0.1	<0.1	<1.0	<1.0	60.1	66.2
SMW-1-U	10/3/2008 7:51	--	16.8	--	1.9	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-2-M	7/11/2008 09:42	--	10.1	--	5.7	<0.1	<0.1	<1.0	<1.0	36.6	40.3
SMW-2-M	10/7/2008 6:41	--	5.0	--	8.4	<0.1	<0.1	<1.0	<1.0	210.3	282.3
SMW-3-M	7/9/2008 12:12	--	19.4	--	0.3	0.1	0.2	2.0	4.0	101.2	117.4
SMW-3-M	10/3/2008 10:46	--	19.0	--	0.5	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-3-U	7/9/2008 11:37	--	19.9	--	0.2	0.1	0.2	2.0	3.0	138.5	138.5
SMW-3-U	10/3/2008 10:17	--	19.5	--	0.5	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-4-M	7/10/2008 08:07	--	13.6	--	4.0	<0.1	<0.1	<1.0	<1.0	105.2	116.3
SMW-4-M	10/6/2008 9:25	--	12.1	--	5.3	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-4-U	7/10/2008 07:37	--	13.5	--	4.9	<0.1	<0.1	<1.0	<1.0	72.7	81.9
SMW-4-U	10/6/2008 8:57	--	11.3	--	6.0	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-5-M	7/10/2008 10:22	--	18.4	--	1.6	<0.1	<0.1	<1.0	<1.0	NM	21.7
SMW-5-M	10/6/2008 7:53	--	16.6	--	2.4	<0.1	<0.1	<1.0	<1.0	2.2	1.4
SMW-5-U	7/10/2008 09:41	--	19.5	--	1.4	<0.1	<0.1	<1.0	<1.0	39.4	39.4
SMW-5-U	10/6/2008 7:25	--	18.3	--	1.9	<0.1	<0.1	<1.0	<1.0	4.5	6.6
SMW-6-M	7/10/2008 11:48	--	16.0	--	3.1	<0.1	<0.1	<1.0	<1.0	43.3	45.5
SMW-6-M	10/3/2008 14:11	--	12.8	--	3.6	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-6-U	7/10/2008 11:16	--	17.8	--	2.5	<0.1	<0.1	<1.0	<1.0	37.7	37.7
SMW-6-U	10/3/2008 13:43	--	15.8	--	2.5	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-7-M	7/11/2008 07:41	--	15.5	--	0.3	<0.1	<0.1	<1.0	<1.0	10.8	16.4
SMW-7-M	10/6/2008 13:41	--	10.9	--	1.4	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-7-U	7/11/2008 07:11	--	19.3	--	0.3	<0.1	<0.1	<1.0	<1.0	7.5	10.2

Table A-5
Soil Vapor Field Measurements from Wells Less Than 30 ft, February 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
SMW-7-U	10/6/2008 13:25	--	17.1	--	0.3	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-8-M	7/10/2008 00:20	--	9.5	--	4.1	<0.1	<0.1	<1.0	<1.0	44.6	46.0
SMW-8-M	10/7/2008 13:57	--	7.1	--	4.9	<0.1	<0.1	<1.0	<1.0	<1.2	<1.2
SMW-8-U	7/9/2008 23:45	--	9.9	--	1.2	<0.1	<0.1	<1.0	<1.0	24.7	25.1
SMW-8-U	10/7/2008 13:33	--	6.9	--	2.2	<0.1	<0.1	<1.0	<1.0	<1.6	<1.6
SMW-9-M	6/19/2008 0:55	--	15.5	--	1.6	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-9-M	10/15/2008 02:47	--	13.8	--	4.4	<0.1	<0.1	<1.0	<1.0	<0.7	<0.7
SMW-9-U	6/18/2008 23:50	--	15.0	--	1.5	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-9-U	10/15/2008 02:31	--	13.8	--	3.9	<0.1	<0.1	<1.0	<1.0	<0.7	<0.7

Notes:
-- = no value recorded
-W = measurement taken with a carbon filter
-WO = measurement taken without a carbon filter
%V/V = percent volume per volume
% = percent
CO_2 = carbon dioxide
FID = flame ionization detector
LEL = lower explosive limit
O_2 = oxygen
ppm = parts per million
NM = not measured
< or 0.0 = non-detect
> = Greater than

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-104A	4/21/2006 9:42	--	1.9	--	5.1	0	0	0	0	64	320
ASE-104A	4/21/2006 9:43	--	1.9	--	5.1	0	0	0	0	64	352
ASE-104A	9/21/2006 7:03	--	0.0	--	6.5	0.1	0	2	0	--	--
ASE-105A	1/23/2008 5:50	--	0.0	--	6.0	3.2	3.2	64	64	55,099.00	55,458.00
ASE-108A	2/27/2006 11:45	--	12.1	--	0.5	--	0.3	--	6	--	--
ASE-108A	3/9/2006 18:06	21.1	21.1	0.0	0.0	0	0	0	0	--	--
ASE-108A	3/9/2006 19:55	20.6	20.7	0.0	0.0	0	0	0	0	--	--
ASE-108A	3/10/2006 9:46	20.7	20.7	0.0	0.0	0	0	0	0	--	--
ASE-108A	3/13/2006 16:12	18.6	18.5	0.0	0.0	0	0	0	0	--	--
ASE-108A	3/14/2006 12:10	15.7	15.6	0.0	0.1	0	0	0	0	28.5	160.5
ASE-108A	3/15/2006 14:51	14.6	14.6	0.1	0.1	0	0	0	0	--	--
ASE-108A	3/16/2006 15:12	14.9	14.8	0.1	0.1	0	0	0	0	25	135
ASE-108A	3/17/2006 7:52	13.6	13.6	0.2	0.2	0	0	0	0	--	--
ASE-108A	3/17/2006 7:53	13.7	13.6	0.2	0.2	0	0	0	0	--	--
ASE-108A	5/1/2006 13:25	--	0.0	--	1.7	0	0	0	0	768	1,040.00
ASE-108A	5/1/2006 13:40	--	0.0	--	1.7	0	0	0	0	1,136.00	1,568.00
ASE-108A	5/3/2006 11:10	--	0.0	--	1.8	0.2	0.2	4	4	1,840.00	2,400.00
ASE-108A	5/3/2006 11:11	--	0.0	--	1.8	0.2	0.3	4	6	1,760.00	2,240.00
ASE-108A	5/5/2006 9:45	--	0.1	--	1.9	0.2	0.5	11	4	2,368.00	3,008.00
ASE-111A	4/25/2006 2:50	--	0.0	--	19.4	>100.0	>100.0	>100.0	>100.0	824,000.00	1,448,000.00
ASE-111A	10/5/2006 12:43	--	0.0	--	14.7	>100.0	>100.0	>100.0	>100.0	--	--
ASE-111A	10/10/2006 11:02	--	0.0	--	17.6	68.6	>100.0	>100.0	>100.0	--	--
ASE-112A	9/20/2006 0:51	--	1.8	--	6.4	0	0	0	0	--	--
ASE-112A	9/28/2006 3:39	--	0.5	--	7.2	0	0	0	0	--	--
ASE-112A	7/4/2007 4:18	--	1.0	--	6.4	0.1	--	2	--	938	963
ASE-112A	1/23/2008 5:10	--	0.0	--	6.3	1.7	1.7	34	34	32,213.00	35,418.00
ASE-112A	4/23/2008 4:04	--	<0.1	--	6.9	NM	2.4	NM	48	10,369.60	NM
ASE-113A	9/20/2006 2:51	--	9.0	--	3.7	0	0	0	0	--	--
ASE-113A	6/12/2007 1:09	--	12.2	--	3.3	0	0	0	0	7.4	8.4
ASE-113A	6/12/2007 1:10	--	11.9	--	3.3	0	0	0	0	7.8	9.2
ASE-113A	7/4/2007 5:58	--	8.4	--	4.3	0	0	0	0	13.4	13.6
ASE-113A	1/23/2008 3:55	--	10.6	--	2.6	0	0	0	0	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-113A	4/23/2008 3:25	--	11.5	--	3.0	<0.1	<0.1	<0.0	<0.0	<0.5	<0.5
ASE-113A	7/24/2008 02:00	--	12.8	--	2.4	<0.1	<0.1	<1.0	<1.0	11.1	8.8
ASE-114A	4/25/2006 1:06	--	12.3	--	1.9	0	0	0	0	20	24
ASE-114A	9/28/2006 2:48	--	9.5	--	2.6	0	0	0	0	--	--
ASE-114A	7/4/2007 5:34	--	10.8	--	2.3	0	0	0	0	27	28
ASE-114A	1/23/2008 4:34	--	12.4	--	2.2	0.1	0.1	2	2	--	--
ASE-114A	4/23/2008 2:57	--	6.4	--	3.8	<0.1	<0.1	<0.0	<0.0	NM	46.1
ASE-114A	7/24/2008 01:20	--	7.7	--	3.3	<0.1	<0.1	<1.0	<1.0	138.8	161.1
ASE-114A	10/7/2008 10:30	--	6.9	--	3.5	<0.1	<0.1	<1.0	<1.0	27.7	27.7
ASE-122A	5/2/2008 7:38	--	11.9	--	2.7	<0.1	<0.1	<0.0	<0.0	NM	68.3
ASE-122A	7/8/2008 10:52	--	10.0	--	2.8	0.1	0.1	2	2	53.5	53.5
ASE-122A	10/6/2008 11:29	--	11.9	--	2.5	<0.1	<0.1	<1.0	<1.0	<0.8	<0.8
ASE-123A	5/2/2008 8:03	--	18.0	--	1.0	<0.1	<0.1	<0.0	<0.0	NM	49.1
ASE-123A	7/8/2008 12:43	--	11.8	--	1.5	0.3	0.3	6	6	48.5	48.5
ASE-123A	10/6/2008 12:45	--	13.9	--	1.6	<0.1	<0.1	<1.0	<1.0	<0.6	<0.6
ASE-124A	4/30/2008 4:44	--	9.6	--	5.6	<0.1	<0.1	<0.0	<0.0	<1.2	<1.2
ASE-124A	7/17/2008 03:05	--	9.4	--	5.3	<0.1	<0.1	<1.0	<1.0	NM	20.1
ASE-124A	10/6/2008 10:11	--	8.6	--	5.3	<0.1	<0.1	<1.0	<1.0	<1.2	<1.2
ASE-125A	4/30/2008 3:43	--	10.5	--	3.3	<0.1	<0.1	<0.0	<0.0	<0.9	<0.9
ASE-125A	7/17/2008 01:20	--	15.6	--	1.7	0.1	0.1	2	2	<0.5	<0.5
ASE-125A	10/15/2008 23:13	--	12.2	--	3.4	<0.1	<0.1	<1.0	<1.0	<0.7	<0.7
ASE-128A	4/30/2008 4:15	--	10.9	--	4.5	<0.1	<0.1	<0.0	<0.0	<1.4	<1.4
ASE-128A	7/17/2008 02:20	--	11.6	--	4.5	<0.1	<0.1	<1.0	<1.0	<0.8	<0.8
ASE-128A	10/15/2008 22:32	--	12.8	--	4.7	<0.1	<0.1	<1.0	<1.0	<0.8	<0.8
ASE-20A	4/25/2006 4:30	--	0.0	--	12.0	>100.0	>100.0	>100.0	>100.0	110,720.00	163,200.00
ASE-20A	10/10/2006 11:49	--	0.0	--	12.5	5	87	>100.0	>100.0	--	--
ASE-20A	3/8/2007 16:22	--	--	--	--	--	--	--	--	16,756.00	--
ASE-22A	7/17/2008 08:52	--	19.2	--	0.7	<0.1	<0.1	<1.0	<1.0	8.5	8.5
ASE-22A	10/2/2008 10:38	--	18.7	--	1.0	<0.1	<0.1	<1.0	<1.0	3.6	3.6
ASE-25C	2/17/2006 10:10	--	21.3	--	0.0	--	0	--	NM	--	--
ASE-25C	2/27/2006 16:14	--	20.9	--	0.0	--	0	--	0	--	--
ASE-25C	3/2/2006 9:56	--	21.0	--	0.0	--	0	--	0	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-25C	3/5/2006 12:43	--	20.9	--	0.0	--	0	--	0	--	--
ASE-25C	3/6/2006 13:12	19.7	19.8	0.0	0.0	0	0	0	0	--	--
ASE-25C	3/8/2006 10:00	21.0	21.1	0.0	0.0	0	0	0	0	6.3	187
ASE-25C	3/9/2006 11:10	20.9	20.9	0.0	0.0	0	0	0	0	--	--
ASE-25C	3/15/2006 8:50	20.6	20.5	0.0	0.0	0	0	0	0	22.4	47.9
ASE-25C	3/22/2006 12:56	20.9	20.9	0.0	0.0	0	0	0	0	--	--
ASE-25C	3/29/2006 12:24	20.4	20.5	0.0	0.0	0	0	0	0	4.8	9
ASE-25C	4/5/2006 12:00	19.8	19.8	0.0	0.0	0	0	0	0	3	32
ASE-25C	4/12/2006 14:02	20.3	20.5	0.0	0.0	0	0	0	0	9	38
ASE-41A	2/27/2006 10:40	--	8.1	--	5.3	--	0	--	0	--	--
ASE-41A	4/19/2006 17:09	--	19.4	--	0.0	0.1	0	1	0	140	200
ASE-41A	4/19/2006 17:10	--	19.5	--	0.0	0	0	0	0	135	197
ASE-41A	4/20/2006 12:48	--	19.4	--	0.0	0	0	0	0	158	185
ASE-41A	4/21/2006 1:40	--	17.7	--	0.0	0	0	0	0	981	1,050.00
ASE-41A	4/22/2006 11:06	--	18.3	--	0.0	0	0	0	0	246	307
ASE-41A	4/22/2006 11:07	--	18.4	--	0.2	0	0	0	0	237	310
ASE-41A	4/24/2006 12:39	--	15.8	--	0.4	0	0	0	0	605	670
ASE-41A	4/24/2006 12:40	--	15.9	--	0.4	0	0	0	0	615	670
ASE-41A	4/25/2006 13:38	--	9.3	--	0.4	0	0	0	0	1,350.00	1,880.00
ASE-41A	4/25/2006 14:04	--	10.7	--	0.4	0	0	0	0	1,150.00	1,580.00
ASE-41A	4/25/2006 14:27	--	9.3	--	0.5	0	0	0	0	1,275.00	1,375.00
ASE-41A	4/25/2006 14:50	--	9.4	--	0.5	0	0	0	0	1,400.00	1,540.00
ASE-41A	4/25/2006 15:11	--	10.9	--	0.5	0	0	0	0	630	735
ASE-41A	4/25/2006 15:52	--	11.8	--	0.6	0	0	0	0	--	--
ASE-41A	4/25/2006 15:53	--	11.8	--	0.6	0	0	0	0	--	--
ASE-41A	4/25/2006 16:15	--	10.4	--	0.6	0	0	0	0	1,015.00	1,200.00
ASE-41A	4/25/2006 16:47	--	9.5	--	0.7	0	0	0	0	1,140.00	1,260.00
ASE-41A	4/26/2006 14:01	--	4.8	--	0.8	0	0	0	0	1,130.00	2,570.00
ASE-41A	4/26/2006 14:26	--	7.4	--	0.8	0	0	0	0	1,640.00	1,750.00
ASE-41A	4/26/2006 14:55	--	4.6	--	1.0	0	0	0	0	2,100.00	2,380.00
ASE-41A	4/26/2006 14:56	--	4.6	--	1.0	0	0	0	0	--	--
ASE-41A	4/26/2006 15:41	--	4.4	--	1.1	0	0	0	0	1,930.00	2,080.00

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-41A	4/27/2006 9:19	--	14.4	--	1.1	0	0	0	0	325	675
ASE-41A	4/27/2006 9:20	--	14.4	--	1.1	0	0	0	0	--	--
ASE-41A	4/28/2006 10:07	--	14.1	--	1.2	0.1	0	1	0	--	--
ASE-41A	4/28/2006 10:22	--	14.3	--	1.2	0	0	0	0	--	--
ASE-41A	4/28/2006 8:37	--	13.4	--	1.3	0	0.1	0	1	--	--
ASE-41A	4/28/2006 8:52	--	14.3	--	1.3	0	0	0	0	--	--
ASE-41A	4/28/2006 9:07	--	14.4	--	1.3	0	0	0	0	--	--
ASE-41A	4/28/2006 9:22	--	14.6	--	1.3	0	0	0	0	--	--
ASE-41A	4/28/2006 9:39	--	14.0	--	1.3	0	0	0	0	--	--
ASE-41A	4/28/2006 9:52	--	14.0	--	1.3	0	0.1	0	0	--	--
ASE-41A	5/1/2006 15:37	--	4.5	--	2.1	0.3	0.4	7	8	2,050.00	2,200.00
ASE-41A	5/1/2006 16:07	--	5.2	--	2.0	0.3	0.3	7	6	1,550.00	1,700.00
ASE-41A	5/3/2006 5:50	--	8.4	--	2.3	0.1	0.1	3	3	1,450.00	1,600.00
ASE-41A	5/3/2006 6:20	--	9.0	--	2.2	0.1	0.1	3	2	930	1,000.00
ASE-41A	5/3/2006 6:50	--	9.1	--	2.2	0.1	0.1	3	2	980	1,000.00
ASE-41A	5/3/2006 7:20	--	8.6	--	2.3	0.2	0.2	4	4	800	940
ASE-41A	5/3/2006 7:50	--	8.7	--	2.3	0.2	0.2	4	4	1,130.00	1,550.00
ASE-41A	5/5/2006 14:00	--	4.9	--	2.6	0.1	0.1	3	3	2,880.00	3,232.00
ASE-41A	5/5/2006 14:30	--	5.1	--	2.6	0.1	0.1	3	3	2,560.00	2,720.00
ASE-41A	5/12/2006 13:00	--	1.7	--	3.4	0.8	0.8	17	17	5,680.00	6,368.00
ASE-41A	5/12/2006 13:45	--	1.8	--	3.4	0.8	0.8	15	15	6,320.00	6,960.00
ASE-41A	7/12/2006 11:05	9.9	--	3.1	--	0	--	0	--	--	--
ASE-41A	7/12/2006 13:05	10.4	--	4.6	--	0.5	--	9	--	--	--
ASE-41A	9/29/2006 7:02	--	0.6	--	10.6	0.6	0.6	12	11	--	--
ASE-41A	3/8/2007 15:10	--	--	--	--	--	--	--	--	2,063.00	--
ASE-42C	2/27/2006 15:45	--	21.1	--	0.0	--	0	--	0	--	--
ASE-42C	3/1/2006 7:51	--	20.8	--	0.0	--	0	--	0	2.4	11.4
ASE-42C	3/3/2006 13:36	20.8	--	0.0	--	0	--	0	--	--	--
ASE-42C	3/5/2006 14:05	--	20.6	--	0.0	--	0	--	0	--	--
ASE-42C	3/6/2006 8:22	21.2	21.2	0.0	0.0	0	0	0	0	4.6	4.5
ASE-42C	3/6/2006 8:23	21.2	21.2	0.0	0.0	0	0	0	0	4.6	4.7
ASE-42C	3/8/2006 10:53	20.8	20.9	0.0	0.0	0	0	0	0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-42C	3/9/2006 12:51	21.0	21.0	0.0	0.0	0	0	0	0	--	--
ASE-42C	3/15/2006 9:45	21.0	21.0	0.0	0.0	0	0	0	0	4.1	28.9
ASE-42C	3/23/2006 11:16	21.2	21.2	0.0	0.0	0	0	0	0	--	--
ASE-42C	3/29/2006 14:21	20.7	20.8	0.0	0.0	0	0	0	0	4.4	10
ASE-42C	4/5/2006 10:30	20.6	20.5	0.0	0.0	0	0	0	0	3	73
ASE-42C	4/12/2006 15:08	20.7	20.8	0.0	0.0	0	0	0	0	0	1
ASE-46A	2/3/2006 17:20	--	0.8	--	--	--	--	--	--	--	--
ASE-46A	2/28/2006 8:13	--	0.0	--	12.9	--	4.1	--	82	--	--
ASE-46A	2/28/2006 8:14	0.0	--	11.8	--	2.3	--	47	--	--	--
ASE-46A	3/2/2006 7:58	0.0	--	13.6	--	--	--	56	--	--	--
ASE-46A	3/2/2006 7:59	0.0	--	12.8	--	--	--	55	--	--	--
ASE-46A	3/2/2006 8:01	--	0.0	--	13.5	--	--	--	87	11,360.00	12,672.00
ASE-46A	3/7/2006 16:24	0.0	0.0	11.5	11.5	7.1	14	--	--	--	--
ASE-46A	3/10/2006 13:27	0.0	0.0	12.3	12.4	6.8	13.9	>100.0	>100.0	--	--
ASE-46A	3/14/2006 8:26	0.0	0.0	13.2	13.1	6.9	15.2	>100.0	>100.0	49,296.00	49,088.00
ASE-46A	3/14/2006 8:27	--	--	--	--	--	--	--	--	--	49,024.00
ASE-46A	3/16/2006 8:08	0.0	0.0	11.8	11.9	6.5	15.2	--	--	--	--
ASE-46A	3/16/2006 8:09	0.0	0.0	11.9	11.7	6.6	15.6	--	--	--	--
ASE-46A	3/21/2006 9:57	0.0	--	11.6	--	3.6	14.2	72	>100.0	--	--
ASE-46A	3/21/2006 9:58	0.0	--	12.0	--	4.1	14	81	>100.0	--	--
ASE-46A	3/23/2006 9:11	0.0	0.0	11.3	11.3	3.4	12.7	69	>100.0	--	--
ASE-46A	3/27/2006 16:18	0.0	0.0	10.7	10.8	3.4	14.2	68	>100.0	24,480.00	27,840.00
ASE-46A	3/30/2006 12:11	0.0	0.0	10.2	10.7	2.3	17.9	46	>100.0	--	--
ASE-46A	3/30/2006 12:12	0.0	--	10.2	--	--	--	--	--	--	--
ASE-46A	4/3/2006 11:50	0.0	0.0	10.8	10.7	2.9	11.6	59	>100.0	28,720.00	33,600.00
ASE-46A	4/7/2006 11:02	0.0	0.0	10.1	10.1	1.5	6.5	30	>100.0	--	--
ASE-46A	4/7/2006 11:03	0.0	0.0	10.2	10.1	1.6	6.6	32	>100.0	--	--
ASE-46A	4/10/2006 14:42	0.0	0.0	10.4	10.5	2.2	17	45	>100.0	21,440.00	24,000.00
ASE-46A	4/13/2006 10:07	0.0	0.0	10.3	10.2	2.4	18.4	48	>100.0	--	--
ASE-46A	4/28/2006 9:47	--	0.1	--	10.7	3.9	11.8	78	>100.0	33,600.00	37,760.00
ASE-46A	3/7/2007 10:54	--	--	--	--	--	--	--	--	2,085.00	--
ASE-46A	3/7/2007 11:04	--	--	--	--	--	--	--	--	2,047.00	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-46A	3/7/2007 11:15	--	--	--	--	--	--	--	--	6,037.00	--
ASE-46A	3/7/2007 11:24	--	--	--	--	--	--	--	--	7,518.00	--
ASE-46A	3/7/2007 11:25	--	--	--	--	--	--	--	--	14,150.00	--
ASE-46A	3/7/2007 11:34	--	--	--	--	--	--	--	--	14,567.00	--
ASE-50C	3/23/2006 12:23	0.0	0.0	11.1	10.7	36	100	>100.0	>100.0	--	--
ASE-51A	4/25/2006 9:08	--	0.0	--	14.7	38.2	73	>100.0	>100.0	347,200.00	416,000.00
ASE-51A	4/25/2006 9:09	--	0.0	--	14.5	39.4	73.6	>100.0	>100.0	385,600.00	464,000.00
ASE-51A	3/9/2007 4:12	--	--	--	--	--	--	--	--	7,650.00	--
ASE-52A	4/25/2006 8:24	--	0.0	--	11.8	13.8	>100.0	>100.0	>100.0	114,880.00	156,000.00
ASE-53A	3/9/2007 4:45	--	--	--	--	--	--	--	--	48,500.00	--
ASE-54A	2/28/2006 10:55	--	0.8	--	7.8	--	2.4	--	48	--	--
ASE-54A	3/2/2006 10:27	--	0.3	--	7.9	--	4	--	80	--	--
ASE-54A	3/4/2006 17:39	--	0.0	--	7.5	--	1.7	--	35	--	--
ASE-54A	3/4/2006 17:40	0.0	--	7.4	--	1.3	--	27	--	--	--
ASE-54A	3/5/2006 11:50	--	0.0	--	7.4	--	1.5	--	30	--	--
ASE-54A	3/5/2006 11:51	0.0	--	7.4	--	1.1	--	21	--	--	--
ASE-54A	3/6/2006 11:30	0.0	0.0	7.7	7.8	0.3	0.6	6	13	--	--
ASE-54A	3/7/2006 15:58	0.0	0.0	7.4	7.3	0.3	0.6	5	13	--	--
ASE-54A	3/8/2006 17:41	0.0	0.0	7.9	7.9	0.1	0.3	2	7	--	--
ASE-54A	3/9/2006 8:42	0.0	0.0	8.0	8.2	0.1	0.5	2	10	--	--
ASE-54A	3/10/2006 17:07	0.0	0.0	8.0	8.0	0.2	0.4	4	8	--	--
ASE-54A	3/13/2006 9:32	0.0	0.0	7.9	8.3	0.2	0.3	4	7	--	--
ASE-54A	3/13/2006 9:33	0.0	0.0	8.0	8.0	0.3	0.4	6	8	--	--
ASE-54A	3/21/2006 9:25	0.1	0.0	7.6	7.9	0	0.3	0	6	--	--
ASE-54A	3/29/2006 11:34	0.0	0.0	7.6	7.6	0	0.4	1	9	2,880.00	4,160.00
ASE-54A	4/6/2006 11:38	0.0	0.0	7.7	7.8	0.1	0.4	2	9	3,040.00	4,320.00
ASE-54A	4/12/2006 12:07	0.0	0.0	7.3	7.2	0.3	2.7	5	54	2,960.00	5,200.00
ASE-54A	4/12/2006 12:08	0.0	0.0	7.3	7.1	0.3	2.5	6	50	2,720.00	5,120.00
ASE-54A	4/21/2006 10:48	--	0.2	--	7.3	0.6	2.4	12	46	4,720.00	6,640.00
ASE-54A	9/26/2006 13:03	--	0.2	--	7.2	3.2	3.4	66	68	--	--
ASE-54A	9/26/2006 13:04	--	0.0	--	7.3	0.7	3.5	13	68	--	--
ASE-54A	9/26/2006 13:05	--	0.2	--	1.4	128.2	2.9	134.2	0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-54A	7/17/2008 06:47	--	<0.1	--	8.5	0.6	4.9	12	99	67.5	67.5
ASE-54A	10/3/2008 11:23	--	<0.1	--	8.1	1.8	6.2	36	>100.0	15,098.40	21,397.30
ASE-55A	2/28/2006 10:41	--	5.2	--	8.1	--	2.8	--	56	--	--
ASE-55A	2/28/2006 10:43	--	8.6	--	6.2	--	2	--	41	--	--
ASE-55A	3/2/2006 13:22	--	10.8	--	4.4	--	0.5	--	10	--	--
ASE-55A	3/6/2006 10:23	11.2	11.1	4.3	4.5	0	10.6	0	>100.0	--	--
ASE-55A	3/7/2006 11:39	11.7	11.6	3.9	4.1	0	9.6	0	>100.0	--	--
ASE-55A	3/7/2006 11:40	11.5	--	4.2	--	0	--	0	--	--	--
ASE-55A	3/9/2006 16:05	9.8	9.6	5.1	5.2	0	8.5	0	>100.0	--	--
ASE-55A	3/9/2006 18:47	9.8	9.7	5.2	5.3	0	5.9	0	>100.0	--	--
ASE-55A	3/9/2006 20:32	9.7	9.5	5.2	5.3	0	5.6	0	>100.0	--	--
ASE-55A	3/13/2006 13:59	0.0	0.0	8.0	8.1	1.7	2.4	35	48	--	--
ASE-55A	3/14/2006 10:00	0.0	0.0	7.9	8.0	0.5	5.4	11	>100.0	3,600.00	6,784.00
ASE-55A	3/15/2006 11:22	0.0	0.0	7.7	7.7	0	6	0	>100.0	--	--
ASE-55A	3/16/2006 14:22	0.0	0.0	7.6	7.5	2.2	7.4	44	>100.0	--	--
ASE-55A	3/17/2006 10:19	6.3	6.4	5.8	5.7	0	2.3	0	47	--	--
ASE-55A	7/6/2006 11:20	0.0	--	12.2	--	1.6	--	31	--	--	--
ASE-55A	9/29/2006 9:44	--	0.0	--	15.7	2.9	10.4	57	>100.0	--	--
ASE-56A	2/28/2006 15:23	0.0	0.0	9.2	9.5	51.4	100	>100.0	>100.0	--	--
ASE-56A	3/2/2006 11:02	--	0.0	--	10.7	--	>100.0	--	>100.0	--	--
ASE-56A	3/7/2006 15:40	0.0	0.0	11.2	10.7	35.9	100	>100.0	>100.0	379,000.00	466,000.00
ASE-56A	3/10/2006 12:44	0.0	0.0	11.6	11.5	35.4	100	>100.0	>100.0	--	--
ASE-56A	3/10/2006 12:45	0.0	0.0	11.6	10.5	39.6	100	>100.0	>100.0	--	--
ASE-56A	3/14/2006 15:00	0.0	0.0	11.3	11.0	40	100	>100.0	>100.0	379,000.00	446,000.00
ASE-56A	3/16/2006 13:41	0.0	0.0	11.3	10.4	42.3	100	>100.0	>100.0	--	--
ASE-56A	3/21/2006 16:44	0.0	--	12.0	--	36.9	100	>100.0	>100.0	--	--
ASE-56A	3/28/2006 15:08	0.0	0.0	11.5	10.2	35.7	100	>100.0	>100.0	381,000.00	451,000.00
ASE-56A	3/31/2006 9:24	0.0	0.0	11.4	11.1	33.2	>100.0	>100.0	>100.0	--	--
ASE-56A	4/3/2006 11:08	0.0	0.0	11.6	11.1	35.7	>100.0	>100.0	>100.0	384,000.00	475,000.00
ASE-56A	4/7/2006 9:40	0.0	0.0	11.5	11.4	32.5	>100.0	>100.0	>100.0	--	--
ASE-56A	4/10/2006 16:38	6.3	6.1	7.0	6.7	20.4	100	>100.0	>100.0	3,170.00	1.1
ASE-56A	4/13/2006 15:40	0.0	0.0	10.3	9.6	38.2	100	>100.0	>100.0	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-56A	4/28/2006 12:15	--	0.3	--	10.9	>100.0	>100.0	>100.0	>100.0	234,000.00	248,000.00
ASE-56A	4/28/2006 12:16	--	0.2	--	11.0	>100.0	>100.0	>100.0	>100.0	243,000.00	264,000.00
ASE-56A	3/9/2007 5:16	--	--	--	--	--	--	--	--	36,230.00	--
ASE-57A	2/28/2006 14:43	0.0	0.0	15.6	16.0	34.6	>100.0	>100.0	>100.0	381,000.00	410,000.00
ASE-57A	3/1/2006 15:07	0.0	0.0	16.4	15.9	43	>100.0	>100.0	>100.0	--	--
ASE-57A	3/7/2006 14:12	0.0	0.0	16.8	16.7	40.7	100	--	--	--	--
ASE-57A	3/10/2006 11:19	0.0	0.0	16.9	16.3	30.2	100	>100.0	>100.0	--	--
ASE-57A	3/14/2006 13:59	0.0	0.0	16.9	16.4	24.4	100	>100.0	>100.0	251,000.00	259,000.00
ASE-57A	3/16/2006 12:43	0.0	0.0	16.4	16.5	23	100	>100.0	>100.0	--	--
ASE-57A	3/21/2006 15:43	0.0	--	17.0	--	14.6	100	>100.0	>100.0	--	--
ASE-57A	3/24/2006 11:41	0.0	0.0	16.6	16.1	13.1	83.9	>100.0	>100.0	--	--
ASE-57A	3/24/2006 11:42	0.0	0.0	16.2	16.2	12.9	>100.0	>100.0	>100.0	--	--
ASE-57A	3/28/2006 13:56	0.0	0.0	16.3	15.9	10.4	100	>100.0	>100.0	95,840.00	107,680.00
ASE-57A	3/31/2006 8:15	0.0	0.0	15.3	15.5	9.5	>100.0	>100.0	>100.0	--	--
ASE-57A	4/3/2006 10:06	0.0	0.0	15.9	15.6	9.5	84.2	>100.0	>100.0	86,400.00	96,000.00
ASE-57A	4/7/2006 8:18	0.0	0.0	15.8	14.9	10.5	74.5	>100.0	>100.0	--	--
ASE-57A	4/11/2006 9:25	0.2	0.1	13.9	13.7	9	100	>100.0	>100.0	5,100.00	5,980.00
ASE-57A	4/13/2006 11:28	0.4	0.4	14.0	13.6	11.4	100	>100.0	>100.0	--	--
ASE-57A	4/17/2006 13:24	0.0	0.0	14.6	14.4	9.8	100	>100.0	>100.0	71,200.00	148,320.00
ASE-57A	4/17/2006 13:25	0.0	0.0	14.7	14.4	10.3	100	>100.0	>100.0	67,840.00	145,600.00
ASE-57A	4/28/2006 12:57	--	0.6	--	14.3	68.4	85.1	>100.0	>100.0	84,000.00	105,280.00
ASE-57A	3/9/2007 5:40	--	--	--	--	--	--	--	--	14,215.00	--
ASE-58A	4/25/2006 3:42	--	0.0	--	7.9	47.5	29.4	>100.0	>100.0	106,400.00	123,520.00
ASE-58A	9/26/2006 13:49	--	0.0	--	6.7	3.3	7.2	65	>100.0	--	--
ASE-59A	9/19/2006 8:35	--	0.0	--	11.3	5.5	20.4	>100.0	>100.0	--	--
ASE-59A	3/9/2007 3:09	--	--	--	--	--	--	--	--	6,054.00	--
ASE-59A	10/9/2008 10:01	--	<0.1	--	13.0	7.3	46.1	>100.0	>100.0	69,332.80	83,221.40
ASE-60A	2/28/2006 16:40	0.0	0.0	5.7	5.6	6.6	10.8	>100.0	>100.0	51,296.00	58,112.00
ASE-60A	3/1/2006 14:27	0.2	0.1	5.5	5.5	7.2	9.4	>100.0	>100.0	--	--
ASE-60A	3/3/2006 12:41	0.0	--	5.8	--	8.9	--	>100.0	--	--	--
ASE-60A	3/5/2006 14:47	--	0.0	--	5.7	--	10.1	--	>100.0	--	--
ASE-60A	3/5/2006 14:48	0.0	--	5.6	--	8.9	--	>100.0	--	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-60A	3/5/2006 15:30	--	--	--	--	--	--	--	--	45,920.00	50,560.00
ASE-60A	3/5/2006 15:40	--	--	--	--	--	--	--	--	55,100.00	59,400.00
ASE-60A	3/6/2006 11:57	0.2	0.0	6.1	6.0	7.2	11.8	--	--	--	--
ASE-60A	3/8/2006 9:17	0.4	0.1	6.1	6.3	7.4	17.2	--	--	--	--
ASE-60A	3/9/2006 11:50	0.5	0.5	5.8	5.9	6.9	9.4	>100.0	>100.0	--	--
ASE-60A	3/15/2006 12:15	0.0	0.0	6.0	5.9	6.5	8.9	>100.0	>100.0	54,176.00	52,448.00
ASE-60A	3/15/2006 12:16	0.0	0.0	6.0	5.9	6.7	9.9	>100.0	>100.0	59,168.00	52,608.00
ASE-60A	3/22/2006 12:06	0.0	0.0	5.9	6.1	6.3	8.6	>100.0	>100.0	67,360.00	65,600.00
ASE-60A	3/22/2006 12:07	--	--	--	--	--	--	--	--	--	65,120.00
ASE-60A	3/29/2006 13:02	0.0	0.0	6.1	6.1	6.4	8.9	>100.0	>100.0	49,760.00	48,000.00
ASE-60A	4/5/2006 9:15	0.0	0.0	6.4	6.5	6.4	9.8	>100.0	>100.0	54,080.00	58,400.00
ASE-60A	4/12/2006 13:18	0.0	0.0	6.3	6.3	6.4	18.6	>100.0	>100.0	67,520.00	66,880.00
ASE-60A	4/12/2006 13:19	0.0	0.0	6.3	6.2	6.8	19.1	>100.0	>100.0	67,840.00	65,920.00
ASE-60A	4/12/2006 13:20	--	--	--	--	--	--	--	--	7.5	--
ASE-60A	7/16/2008 13:41	--	<0.1	--	7.2	2.2	15.8	44	>100.0	3,791.70	3,791.70
ASE-60A	10/2/2008 13:28	--	<0.1	--	7.4	9.3	20.1	>100.0	>100.0	31,756.40	34,874.00
ASE-61A	4/21/2006 8:50	--	0.0	--	6.3	2.7	27	55	>100.0	23,040.00	31,040.00
ASE-61A	7/16/2008 12:12	--	1.1	--	8.6	<0.1	<0.1	<1.0	<1.0	34.8	34.8
ASE-61A	10/3/2008 9:46	--	1.5	--	8.4	<0.1	<0.1	<1.0	<1.0	438.5	457.5
ASE-62A	2/3/2006 17:30	--	0.4	--	--	--	--	--	--	--	--
ASE-62A	2/28/2006 11:23	3.4	3.2	8.4	9.3	14.3	46.7	>100.0	>100.0	133,792.00	149,648.00
ASE-62A	3/2/2006 13:58	--	1.7	--	8.9	--	32.4	--	>100.0	--	--
ASE-62A	3/8/2006 14:42	2.9	2.4	8.7	9.0	11.9	88.2	>100.0	>100.0	--	--
ASE-62A	3/9/2006 16:41	6.7	6.7	7.1	6.9	6.7	39.9	>100.0	>100.0	--	--
ASE-62A	3/9/2006 21:16	0.7	0.8	10.4	10.4	9.3	64.3	>100.0	>100.0	--	--
ASE-62A	9/29/2006 10:10	--	0.0	--	9.4	20.6	96.6	>100.0	>100.0	--	--
ASE-64A	9/21/2006 11:24	--	0.0	--	11.0	4.2	6.9	83	>100.0	--	--
ASE-64A	9/26/2006 11:10	--	0.0	--	9.1	20.4	88.6	>100.0	>100.0	--	--
ASE-64A	3/8/2007 14:34	--	--	--	--	--	--	--	--	3,110.00	--
ASE-66A	4/25/2006 7:04	--	0.0	--	11.0	5.2	14.6	>100.0	>100.0	39,840.00	48,240.00
ASE-66A	3/9/2007 3:40	--	--	--	--	--	--	--	--	19,425.00	--
ASE-67A	4/21/2006 12:28	--	0.4	--	15.3	7.7	84	>100.0	>100.0	63,200.00	81,120.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-68A	2/28/2006 18:34	--	0.0	--	13.9	--	>100.0	--	>100.0	--	--
ASE-68A	3/2/2006 18:21	--	3.2	--	11.3	--	>100.0	--	>100.0	--	--
ASE-68A	3/13/2006 14:57	0.0	0.0	13.7	13.4	5.3	>100.0	>100.0	>100.0	46,400.00	69,280.00
ASE-68A	3/13/2006 14:58	--	--	--	--	--	--	--	--	46,880.00	67,200.00
ASE-68A	3/16/2006 13:52	0.0	0.0	13.4	13.2	5.3	87	>100.0	>100.0	--	--
ASE-68A	3/16/2006 13:53	0.0	0.0	13.3	13.0	5.6	86.8	>100.0	>100.0	--	--
ASE-68A	3/21/2006 16:17	0.0	0.0	13.5	13.7	5.1	>100.0	>100.0	--	--	--
ASE-68A	3/24/2006 14:04	0.0	0.0	13.2	13.3	8.6	>100.0	>100.0	>100.0	--	--
ASE-68A	3/28/2006 7:50	0.0	0.0	14.1	13.9	5.2	86.1	>100.0	>100.0	32,800.00	76,480.00
ASE-68A	3/30/2006 12:26	0.0	0.0	13.5	13.4	5.4	100	>100.0	>100.0	--	--
ASE-68A	4/5/2006 11:21	0.3	0.0	13.9	13.1	5	100	100	>100.0	52,800.00	74,400.00
ASE-68A	4/7/2006 10:20	0.0	0.0	14.3	14.2	6.4	>100.0	>100.0	>100.0	--	--
ASE-68A	4/12/2006 16:40	0.0	0.0	13.7	13.6	6.2	100	>100.0	>100.0	31,200.00	81,280.00
ASE-68A	4/14/2006 7:56	0.0	0.0	14.1	13.7	5.9	100	>100.0	>100.0	39,680.00	84,800.00
ASE-68A	4/28/2006 11:11	--	0.9	--	12.5	6.5	>100.0	>100.0	>100.0	57,920.00	87,200.00
ASE-68A	3/8/2007 15:48	--	--	--	--	--	--	--	--	3,585.00	--
ASE-69A	2/17/2006 10:53	--	17.2	--	3.4	--	0	--	0	--	--
ASE-69A	2/28/2006 14:31	--	15.3	--	4.5	--	0	--	0	--	--
ASE-69A	3/2/2006 12:39	--	15.9	--	4.2	--	0	--	0	--	--
ASE-69A	3/2/2006 12:40	--	16.0	--	4.2	--	0	--	0	--	--
ASE-69A	3/4/2006 20:04	--	18.0	--	2.5	--	0	--	0	--	--
ASE-69A	3/4/2006 20:05	18.2	--	2.4	--	0	--	0	--	--	--
ASE-69A	3/6/2006 15:08	16.3	16.2	3.6	3.6	0	0	0	0	--	--
ASE-69A	3/6/2006 15:09	16.4	16.3	3.6	3.6	0	0	0	0	--	--
ASE-69A	3/9/2006 10:53	15.4	15.4	4.7	4.8	0	0	0	0	--	--
ASE-69A	3/9/2006 10:54	15.4	15.4	4.8	4.8	0	0	0	0	--	--
ASE-69A	3/17/2006 7:23	16.0	16.2	4.7	4.5	0	0	0	0	1.1	6.6
ASE-69A	3/22/2006 9:26	14.6	14.6	4.9	4.9	0	0	0	0	--	--
ASE-69A	3/29/2006 13:28	14.1	13.9	4.4	4.4	0	0	0	0	5	30
ASE-69A	4/5/2006 7:43	15.9	15.7	4.8	4.8	0	0	0	0	0	0
ASE-69A	4/5/2006 7:44	15.9	15.7	4.6	4.6	0	0	0	0	0	0
ASE-69A	4/13/2006 12:02	15.0	14.9	4.1	4.1	0	0	0	0	160	430

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-69A	4/21/2006 11:30	--	14.9	--	4.3	0	0.1	0	2	--	--
ASE-69A	9/27/2006 7:58	--	14.8	--	4.6	0	0	0	0	--	--
ASE-89A	2/27/2006 13:55	--	12.6	--	1.7	--	12.8	--	>100.0	--	--
ASE-90A	2/27/2006 10:22	--	0.0	--	9.2	--	90.6	--	>100.0	--	--
ASE-90A	2/27/2006 10:23	--	0.0	--	9.2	--	92.1	--	>100.0	--	--
ASE-90A	2/28/2006 9:27	--	1.0	--	9.7	--	70.3	--	>100.0	--	--
ASE-90A	3/2/2006 9:07	--	0.8	--	8.4	--	72.3	--	>100.0	--	--
ASE-90A	3/3/2006 8:47	--	0.4	--	8.8	--	62.2	--	>100.0	--	--
ASE-90A	3/6/2006 13:09	0.8	0.8	8.6	8.6	22	65.2	--	--	--	--
ASE-90A	3/8/2006 9:39	0.0	0.0	9.1	9.4	18.8	42.5	>100.0	>100.0	--	--
ASE-90A	4/6/2006 1:32	0.0	0.0	8.9	4.2	27.7	58.1	>100.0	>100.0	336,000.00	368,000.00
ASE-90A	5/2/2006 2:29	--	0.0	--	10.0	27.3	78.5	>100.0	>100.0	258,000.00	344,000.00
ASE-90A	1/23/2008 6:27	--	4.7	--	7.5	29.6	84.8	>100.0	>100.0	--	--
ASE-91A	2/28/2006 12:33	3.0	3.5	10.0	9.9	11	25.9	>100.0	>100.0	--	--
ASE-91A	3/2/2006 11:59	--	0.0	--	11.4	--	15.3	--	>100.0	--	--
ASE-91A	3/7/2006 10:54	0.0	0.0	11.5	11.4	12.8	44	>100.0	--	--	--
ASE-91A	3/9/2006 14:03	0.0	0.0	9.6	9.6	6	39.2	>100.0	>100.0	--	--
ASE-92A	2/27/2006 12:58	--	8.7	--	1.3	--	0.7	--	13	2,760.00	2,960.00
ASE-92A	3/9/2006 17:45	21.1	21.1	0.0	0.0	0.9	0.9	18	18	--	--
ASE-92A	3/9/2006 17:46	--	20.9	--	0.0	--	0.1	--	2	--	--
ASE-92A	3/9/2006 20:34	20.6	20.7	0.0	0.0	0	0	0	0	--	--
ASE-92A	3/13/2006 12:53	20.9	20.9	0.0	0.0	0	0	0	0	--	--
ASE-92A	3/14/2006 8:43	18.9	18.9	0.1	0.1	0	0	0	0	--	--
ASE-92A	3/15/2006 10:40	20.0	20.1	0.0	0.0	0	0	0	0	--	--
ASE-92A	3/16/2006 9:36	19.6	19.6	0.0	0.0	0	0	0	0	220	160
ASE-92A	3/17/2006 9:41	19.9	19.8	0.0	0.0	0	0	0	0	--	--
ASE-92A	5/1/2006 10:15	--	20.1	--	0.0	0	0	0	0	300	450
ASE-92A	5/1/2006 10:30	--	6.1	--	1.3	2.5	2.7	50	54	21,120.00	26,800.00
ASE-92A	5/1/2006 10:45	--	1.9	--	2.0	3.2	3.3	64	67	21,280.00	35,200.00
ASE-92A	5/1/2006 11:00	--	0.0	--	2.0	3.7	3.8	74	76	33,280.00	37,920.00
ASE-92A	5/1/2006 11:15	--	0.0	--	2.1	3.9	4.2	78	84	32,400.00	38,080.00
ASE-92A	5/3/2006 10:20	--	0.0	--	2.5	6.3	6.7	>100.0	>100.0	39,840.00	40,800.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
ASE-92A	5/3/2006 9:20	--	5.2	--	2.0	4	4	80	81	29,200.00	30,500.00
ASE-92A	5/3/2006 9:50	--	0.5	--	2.5	5.5	5.8	>100.0	>100.0	45,280.00	47,360.00
ASE-92A	5/5/2006 6:17	--	3.6	--	2.4	4.6	4.7	93	95	30,560.00	31,200.00
ASE-92A	5/5/2006 7:12	--	0.0	--	2.7	5.8	6.2	>100.0	>100.0	41,280.00	43,520.00
ASE-95A	4/24/2006 23:50	--	4.4	--	6.3	0	0	0	0	64	1,216.00
ASE-97A	2/27/2006 14:27	--	0.0	--	7.1	--	45.5	--	>100.0	--	--
ASE-97A	2/27/2006 14:28	--	0.0	--	6.8	--	51.4	--	>100.0	--	--
ASE-97A	3/1/2006 8:00	--	0.2	--	6.7	--	22.2	--	--	--	--
ASE-97A	3/3/2006 10:50	--	0.1	--	6.6	--	16.8	--	>100.0	--	--
ASE-97A	4/6/2006 3:15	0.0	0.0	6.5	6.6	11.8	21.5	>100.0	>100.0	131,200.00	140,800.00
ASE-97A	8/8/2006 2:42	--	0.0	--	6.7	14	20.9	>100.0	>100.0	--	--
ASE-97A	3/9/2007 2:39	--	--	--	--	--	--	--	--	3,210.00	--
BC-18	4/24/2006 9:16	--	14.3	--	2.6	0	0	0	0	0	50
BC-18	10/5/2006 2:04	--	10.4	--	4.9	0	0	0	0	--	--
BC-18	7/16/2008 23:55	--	9.1	--	4.4	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
BC-18	10/7/2008 13:01	--	12.4	--	3.2	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
BC-7A	4/21/2006 6:36	--	6.3	--	5.9	0	0	0	0	0	120
BC-7A	9/21/2006 8:49	--	5.7	--	6.7	0	0	0	0	--	--
BC-7A	7/16/2008 15:11	--	5.5	--	6.3	<0.1	<0.1	<1.0	<1.0	54.4	54.4
BC-7A	10/3/2008 12:46	--	4.9	--	6.4	<0.1	<0.1	<1.0	<1.0	35.3	35.3
BC-8B	2/27/2006 9:10	--	6.3	--	7.9	--	0	--	0	--	--
BC-8B	3/2/2006 9:43	--	15.8	--	5.7	--	1.5	--	31	--	--
BC-8B	3/3/2006 9:30	16.2	--	4.7	--	0.1	--	4	--	--	--
BC-8B	3/3/2006 9:31	16.1	--	4.8	--	0.1	--	2	--	--	--
BC-8B	3/6/2006 15:53	17.3	17.0	2.9	3.1	0	0.1	0	3	341	422
BC-8B	3/6/2006 15:54	17.4	17.1	2.7	3.1	0	0.1	0	3	--	--
BC-8B	3/8/2006 10:49	16.2	16.1	2.9	3.0	0	0	0	0	--	--
BC-8B	3/9/2006 17:59	15.6	15.5	3.4	3.6	0	0	0	0	--	--
BC-8B	3/10/2006 14:23	14.3	14.3	3.6	3.6	0	0	0	0	--	--
BC-8B	3/10/2006 8:15	14.2	14.0	3.9	3.9	0	0	0	0	--	--
BC-8B	3/13/2006 11:55	14.0	14.0	3.4	3.0	0	0	0	0	--	--
BC-8B	3/14/2006 12:37	13.3	13.3	4.1	4.1	0	0	0	0	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
BC-8B	3/15/2006 12:40	12.4	12.3	4.1	4.1	0	0	0	0	--	--
BC-8B	3/16/2006 12:16	11.5	11.6	4.4	4.3	0	0	0	0	0	15
BC-8B	3/17/2006 12:13	10.9	10.8	4.6	4.9	0.4	15.9	9	>100.0	--	--
BC-8B	4/6/2006 2:26	3.7	3.9	5.8	6.0	0	0	0	0	--	32
BC-8B	6/13/2007 2:02	--	0.0	--	10.5	0	0	0	0	715	717
BC-8B	1/23/2008 8:15	--	0.0	--	11.3	0	0	0	0	3,016.00	2,808.00
BC-8B	4/23/2008 5:07	--	2.7	--	10.7	<0.1	<0.1	<0.0	<0.0	NM	179
BC-8B	7/24/2008 00:25	--	2.4	--	10.0	<0.1	<0.1	<1.0	<1.0	291.5	291.5
BC-8B	10/6/2008 9:28	--	2.1	--	10.1	<0.1	<0.1	<1.0	<1.0	<2.0	<2.0
BV-10N	7/30/2008 11:35	--	<0.1	--	3.7	4.8	13.9	96	>100.0	59,738.30	67,482.50
BV-10N	10/10/2008 11:01	--	<0.1	--	5.1	5.5	12.4	>100.0	>100.0	69,641.30	73,783.30
BV-11N	7/30/2008 15:15	--	<0.1	--	7.9	4.9	5.8	96	>100.0	58,128.50	62,566.80
BV-11N	10/10/2008 6:26	--	<0.1	--	8.8	7.8	8.3	>100.0	>100.0	114,869.60	116,597.90
BV-12N	7/30/2008 13:22	--	<0.1	--	9.3	17.4	98.2	>100.0	>100.0	37,245.70	42,484.70
BV-12N	10/10/2008 7:46	--	<0.1	--	10.1	19.3	72.2	>100.0	>100.0	109,421.40	113,698.70
BV-13N	7/29/2008 10:02	--	2.6	--	7.9	<0.1	<0.1	<1.0	<1.0	37.8	37.8
BV-13N	10/16/2008 08:46	--	3.4	--	8.2	<0.1	0.1	<1.0	2	138.5	202.2
BV-14N	7/24/2008 08:22	--	<0.1	--	13.7	28.7	60.5	>100.0	>100.0	71,758.10	>181,390.4
BV-14N	10/2/2008 12:24	--	0.1	--	14.7	33	64.5	>100.0	>100.0	283,600.70	296,902.90
BV-15N	7/25/2008 08:02	--	3.6	--	4.8	<0.1	<0.1	<1.0	<1.0	135.3	135.3
BV-15N	10/10/2008 9:01	--	0.8	--	7.0	0.3	0.6	7	13	2,490.00	2,815.00
BV-16N	7/24/2008 10:11	--	<0.1	--	9.8	20.2	51.9	>100.0	>100.0	>254,309.6	>254,309.6
BV-16N	10/2/2008 11:29	--	<0.1	--	11.1	34.5	63.5	>100.0	>100.0	249,767.30	259,098.50
BV-17N	7/31/2008 07:02	--	<0.1	--	13.1	7.4	37.5	>100.0	>100.0	106,422.80	125,047.20
BV-17N	10/16/2008 06:36	--	<0.1	--	13.8	9.6	36.4	>100.0	>100.0	102,404.40	118,785.40
BV-18N	7/22/2008 15:17	--	<0.1	--	12.0	27.2	61.9	>100.0	>100.0	158,338.20	165,936.80
BV-18N	10/15/2008 07:11	--	<0.1	--	13.1	22.3	50.8	>100.0	>100.0	NM	NM
BV-19N	7/28/2008 09:52	--	<0.1	--	11.3	9.6	90.2	>100.0	>100.0	>5,188.6	>5,188.6
BV-1N	7/30/2008 09:45	--	<0.1	--	13.5	0.8	2.6	16	51	3,147.60	3,755.00
BV-1N	10/9/2008 11:21	--	<0.1	--	14.1	1.2	2.1	24	45	7,543.40	6,838.70
BV-20N	7/29/2008 11:15	--	<0.1	--	15.9	23.6	30.3	>100.0	>100.0	>253,595.1	>253,595.1
BV-21N	7/25/2008 10:52	--	<0.1	--	11.3	7.4	NM	>100.0	>100.0	90,193.80	150,474.00

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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
BV-22N	7/29/2008 08:42	--	<0.1	--	13.0	41.4	NM	>100.0	>100.0	NM	NM
BV-22N	10/13/2008 12:56	--	0.1	--	13.9	35.8	NM	>100.0	>100.0	NM	>50,000.0
BV-22N	10/17/2008 07:36	--	<0.1	--	14.1	31.4	NM	>100.0	>100.0	NM	532,903.60
BV-23N	7/25/2008 12:42	--	1.9	--	7.8	2.4	48.6	47	>100.0	10,466.70	13,400.50
BV-23N	10/14/2008 8:11	--	<0.1	--	9.4	1.8	35.5	37	>100.0	15,598.50	16,658.80
BV-24N	7/28/2008 06:45	--	<0.1	--	8.9	0.7	20.7	15	>100.0	74,358.50	79,911.60
BV-24N	10/15/2008 13:06	--	<7.5	--	6.2	2.1	7.2	42	>100.0	43,665.30	48,059.30
BV-25N	7/30/2008 06:05	--	<0.1	--	9.7	6.3	17.2	>100.0	>100.0	74,230.60	83,495.70
BV-25N	10/14/2008 7:01	--	<0.1	--	12.4	6.9	13.9	>100.0	>100.0	85,857.20	94,123.20
BV-2N	7/28/2008 11:26	--	<0.1	--	14.3	60.8	NM	>100.0	>100.0	23	23
BV-2N	10/10/2008 12:46	--	<0.1	--	15.7	52.1	NM	>100.0	>100.0	164,713.80	205,155.30
BV-3N	7/28/2008 08:12	--	<0.1	--	8.0	1.5	7.5	30	>100.0	97,702.10	99,182.20
BV-3N	10/10/2008 15:01	--	<0.1	--	8.0	3.6	5.4	72	>100.0	31,997.90	27,713.40
BV-4	2/3/2006 11:41	--	4.0	--	--	--	--	--	--	--	--
BV-4	2/28/2006 16:00	9.5	9.2	5.5	5.9	3.6	5.6	73	>100.0	--	--
BV-4	3/2/2006 10:20	--	13.2	--	3.9	--	28.8	--	>100.0	--	--
BV-4	3/7/2006 15:01	16.3	16.0	2.1	2.4	2.9	>100.0	58	>100.0	30,300.00	5,800.0
BV-4	3/10/2006 11:57	14.8	14.5	2.2	2.7	0	100	0	>100.0	--	--
BV-4	3/14/2006 14:24	14.3	14.3	3.3	3.3	3.8	100	77	>100.0	32,180.00	5,700.0
BV-4	3/16/2006 13:05	14.7	14.7	3.1	3.0	3.1	100	62	>100.0	--	--
BV-4	3/21/2006 16:05	15.9	--	2.9	--	0.8	100	16	>100.0	--	--
BV-4	3/23/2006 12:58	15.2	15.0	2.8	2.8	1.4	100	28	>100.0	--	--
BV-4	3/28/2006 14:19	15.0	15.0	2.9	2.9	0.9	100	19	>100.0	14,150.00	40,100.00
BV-4	3/28/2006 14:20	15.1	15.0	2.9	3.0	1.1	100	22	>100.0	--	40,200.00
BV-4	3/31/2006 8:36	16.5	16.2	2.5	2.7	0	50.9	0	>100.0	--	--
BV-4	4/3/2006 10:30	16.3	16.4	2.4	2.4	0	61	0	>100.0	65,000.00	6.5
BV-4	4/7/2006 8:53	16.7	16.5	2.5	2.6	0	50.3	0	>100.0	--	--
BV-4	4/11/2006 10:04	16.8	16.5	2.2	2.3	0	100	0	>100.0	620	5,300.0
BV-4	4/11/2006 10:05	16.8	16.5	2.3	2.3	0	100	0	>100.0	800	5,300.0
BV-4	4/13/2006 11:48	15.9	15.8	2.3	2.5	1	100	20	>100.0	--	--
BV-4	4/17/2006 13:52	16.5	16.4	2.6	2.5	0.3	100	6	>100.0	5,100.00	6,100.0
BV-4	4/18/2006 11:58	--	14.6	--	2.6	0	100	0	>100.0	3,400.00	25,650.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
BV-4	4/18/2006 13:58	--	15.0	--	3.0	0.2	100	5	>100.0	1,200.0	133,000.0
BV-4	4/18/2006 16:13	--	13.7	--	3.7	1.5	100	30	>100.0	25,350.00	5,600.0
BV-4	4/18/2006 19:05	--	12.9	--	4.3	2.7	100	54	>100.0	21,500.00	5,900.0
BV-4	4/18/2006 22:45	--	14.9	--	3.2	2.7	86.9	54	>100.0	3,900.00	26,460.00
BV-4	4/18/2006 7:03	--	17.2	--	2.6	0	100	0	>100.0	610	7,400.0
BV-4	4/18/2006 7:04	--	16.7	--	2.7	0	100	0	>100.0	540	7,700.0
BV-4	4/18/2006 8:03	--	16.5	--	2.9	0	100	0	>100.0	490	7,300.0
BV-4	4/18/2006 8:23	--	15.1	--	3.3	0.3	97.9	6	>100.0	11,500.00	28,750.00
BV-4	4/18/2006 8:24	--	15.0	--	3.2	0.6	96.2	12	>100.0	--	--
BV-4	4/18/2006 9:03	--	16.2	--	2.7	0	100	0	>100.0	1,170.00	7,500.0
BV-4	4/18/2006 9:59	--	15.6	--	2.7	0	100	0	>100.0	890	7,600.0
BV-4	4/19/2006 11:29	--	14.1	--	3.0	0.8	100	17	>100.0	9,125.00	31,250.00
BV-4	4/19/2006 12:20	--	14.8	--	3.3	0.3	81.4	6	>100.0	5,450.00	26,750.00
BV-4	4/19/2006 2:27	--	14.9	--	3.3	0.5	84	10	>100.0	5,050.00	25,600.00
BV-4	4/19/2006 22:32	--	13.8	--	4.0	1.1	54	23	>100.0	9,400.00	28,000.00
BV-4	4/19/2006 4:22	--	14.6	--	3.6	0.4	93.5	8	>100.0	5,900.00	24,750.00
BV-4	4/19/2006 8:38	--	16.1	--	2.7	0	72.4	0	>100.0	2,525.00	6,100.0
BV-4	4/20/2006 15:28	--	11.8	--	3.6	1.1	100	22	>100.0	8,235.00	26,000.00
BV-4	4/20/2006 8:36	--	13.7	--	3.7	0	67.2	0	>100.0	1,750.00	14,875.00
BV-4	4/21/2006 8:12	--	12.1	--	4.2	0	72.2	0	>100.0	5,100.00	23,500.00
BV-4	4/22/2006 11:32	--	11.4	--	4.3	0.3	99.9	6	>100.0	7,100.00	22,650.00
BV-4	4/24/2006 14:25	--	8.0	--	5.1	0.2	86.8	5	>100.0	13,900.00	30,150.00
BV-4	4/25/2006 10:25	--	7.5	--	4.9	0	>100.0	0	>100.0	9,700.00	27,100.00
BV-4	4/25/2006 10:45	--	7.5	--	4.7	0	>100.0	0	>100.0	8,750.00	25,100.00
BV-4	4/25/2006 11:18	--	7.6	--	4.6	0	>100.0	0	>100.0	962	26,550.00
BV-4	4/25/2006 11:44	--	7.7	--	4.5	0	87.7	0	>100.0	8,400.00	21,150.00
BV-4	4/25/2006 11:45	--	7.7	--	4.5	0	87.4	0	>100.0	8,000.00	24,000.00
BV-4	4/25/2006 8:23	--	6.1	--	6.1	0	>100.0	0	>100.0	12,980.00	31,450.00
BV-4	4/25/2006 8:24	--	6.2	--	6.1	0	>100.0	0	>100.0	13,220.00	31,780.00
BV-4	4/25/2006 8:52	--	6.8	--	5.4	0	87.6	0	>100.0	10,500.00	25,700.00
BV-4	4/25/2006 9:16	--	6.9	--	5.2	0	>100.0	0	>100.0	9,500.00	23,600.00
BV-4	4/25/2006 9:36	--	6.6	--	5.2	0	87.7	0	>100.0	9,400.00	23,150.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
BV-4	4/25/2006 9:56	--	7.5	--	4.9	0	>100.0	0	>100.0	8,300.00	24,200.00
BV-4	4/27/2006 7:17	--	5.6	--	6.5	0	87.6	0	>100.0	16,000.00	42,400.00
BV-4	4/28/2006 13:56	--	3.4	--	6.2	0.8	56.7	17	>100.0	9,340.00	23,000.00
BV-4	5/3/2006 12:40	--	1.0	--	7.4	1.8	69.5	36	>100.0	13,760.00	31,680.00
BV-4	5/5/2006 17:13	--	0.5	--	8.6	5.1	>100.0	99	>100.0	49,696.00	80,096.00
BV-4	6/30/2006 15:50	0.0	--	9.3	--	4.6	--	91	--	--	--
BV-4	9/29/2006 7:44	--	0.0	--	12.9	4.1	31.6	81	>100.0	--	--
BV-4N	7/30/2008 08:25	--	<0.1	--	15.9	52.5	NM	>100.0	>100.0	182,307.20	>244,918.0
BV-4N	10/14/2008 13:21	--	<0.1	--	14.6	36.8	NM	>100.0	>100.0	NM	>50,000.0
BV-4N	10/17/2008 07:36	--	--	--	16.2	31.9	NM	>100.0	>100.0	479,529.60	413,360.20
BV-4N	10/17/2008 08:41	--	<0.1	--	--	--	--	--	--	--	--
BV-5	3/8/2007 14:02	--	--	--	--	--	--	--	--	14,068.00	--
BV-6N	7/22/2008 11:00	--	<0.1	--	10.2	34	62.6	>100.0	>100.0	24.1	513.9
BV-6N	10/13/2008 9:21	--	<0.1	--	13.6	25.1	53.6	>100.0	>100.0	>50,000.0	>50,000.0
BV-6N	10/17/2008 05:46	--	<0.1	--	13.8	22.5	50.8	>100.0	>100.0	346.1	382,773.10
BV-7N	7/25/2008 09:21	--	<0.1	--	10.1	21.2	NM	>100.0	>100.0	155,425.80	186,547.60
BV-7N	10/9/2008 12:32	--	<0.1	--	12.0	62.6	NM	>100.0	>100.0	>50,000.0	--
BV-7N	10/9/2008 12:56	--	--	--	--	--	--	--	--	--	>50,000.0
BV-7N	10/17/2008 06:41	--	<0.1	--	11.8	19.8	NM	>100.0	>100.0	201,852.20	239,123.90
BV-8N	7/22/2008 13:37	--	<0.1	--	12.1	10	40.7	>100.0	>100.0	3,884.60	3,884.60
BV-8N	10/13/2008 7:26	--	0.5	--	13.8	14.7	24.6	NM	NM	NM	NM
BV-9N	7/30/2008 07:20	--	<0.1	--	10.2	3.9	15.7	78	>100.0	61,467.80	68,781.20
P-12-L	4/24/2006 19:47	--	12.2	--	4.7	0	0	0	0	3,450.00	4,330.00
P-12-L	4/24/2006 19:48	--	11.8	--	4.9	0	0	0	0	2	7
P-12-M	4/24/2006 19:34	--	14.3	--	3.2	0	0	0	0	38	68
P-13-L	4/24/2006 18:56	--	9.8	--	5.5	0	0.1	0	2	550	1,150.00
P-13-M	4/24/2006 18:44	--	9.2	--	6.8	0	0	0	0	20	80
P-14-L	2/27/2006 14:54	--	9.7	--	7.8	--	9.4	--	>100.0	3,000.0	3,400.0
P-14-L	3/1/2006 9:36	--	18.9	--	0.5	--	0	--	0	--	--
P-14-L	3/3/2006 14:13	19.7	--	0.2	--	0	--	0	--	--	--
P-14-L	3/8/2006 17:23	20.2	20.1	0.2	0.2	0	8	0	>100.0	--	--
P-14-L	5/1/2006 6:03	--	0.0	--	6.6	1.2	3.4	24	68	7,200.00	14,400.00

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-14-L	5/1/2006 6:04	--	0.0	--	6.7	1.3	3.6	26	72	6,880.00	14,000.00
P-15-L	2/27/2006 14:13	--	5.2	--	10.9	--	1.9	--	44	10,839.00	12,414.00
P-15-L	2/27/2006 14:14	--	5.2	--	10.8	--	2.2	--	44	10,116.00	11,100.00
P-15-L	3/1/2006 8:47	--	9.9	--	6.1	--	0	--	0	3,320.00	4,390.00
P-15-L	3/1/2006 8:48	--	10.0	--	6.1	--	0	--	0	3,150.00	4,270.00
P-15-L	3/3/2006 10:04	11.5	--	3.2	--	0.1	--	3	--	--	--
P-15-L	3/8/2006 16:58	14.5	14.4	1.5	1.5	0.7	0.9	13	17	--	--
P-15-L	3/9/2006 17:23	14.5	14.5	1.8	1.8	0	0	0	0	--	--
P-15-L	3/9/2006 19:13	15.0	14.9	1.8	1.8	0	0	0	0	--	--
P-15-L	3/9/2006 22:16	15.4	15.4	1.8	1.8	0	0	0	0	--	--
P-15-L	3/10/2006 8:54	16.7	16.7	2.0	2.0	0	0	0	0	--	--
P-15-L	3/15/2006 10:26	13.7	13.7	2.5	2.5	0	0	0	0	135	335
P-15-M	2/27/2006 14:00	--	9.2	--	7.7	--	0.2	--	3	6.3	75
P-15-M	3/1/2006 8:33	--	16.0	--	4.8	--	0	--	0	--	--
P-15-M	3/3/2006 9:49	18.6	--	3.4	--	0	--	0	--	79	17
P-15-M	3/3/2006 9:50	18.6	--	3.4	--	0	--	0	--	--	--
P-15-M	3/8/2006 13:28	19.7	19.6	1.2	1.3	0	0	0	0	--	--
P-15-M	3/9/2006 17:11	19.0	19.0	1.2	1.3	0	0	0	0	--	--
P-15-M	3/9/2006 22:04	18.9	18.8	1.4	1.6	0	0	0	0	4.4	171
P-15-M	3/10/2006 8:40	16.9	16.9	2.5	2.5	0	0	0	0	--	--
P-15-M	3/15/2006 10:13	6.1	6.2	7.4	7.4	0	0	0	0	46	122
P-15-M	7/6/2006 15:50	10.5	--	5.7	--	0	--	0	--	--	--
P-16-L	2/3/2006 10:21	--	<0.0	--	--	--	--	--	--	--	--
P-16-L	2/3/2006 10:22	--	0.3	--	--	--	--	--	--	--	--
P-16-L	3/1/2006 16:34	--	21.0	--	0.0	--	4.9	--	98	--	5,100.00
P-16-L	3/1/2006 16:35	--	--	--	0.1	--	5	--	100	--	--
P-16-L	3/3/2006 14:09	--	13.2	--	0.0	--	4.7	--	92	--	--
P-16-L	3/4/2006 14:52	19.9	--	0.2	--	0	1.2	0	23	--	--
P-16-L	3/7/2006 18:05	21.1	20.8	0.0	0.1	0	0.6	0	13	--	--
P-16-L	3/9/2006 11:06	21.4	21.4	0.1	0.1	0	0	0.2	5	--	--
P-16-L	3/9/2006 16:01	20.6	20.5	0.1	1.4	0.9	28	18	--	--	--
P-16-L	3/9/2006 18:41	20.7	20.6	0.1	0.1	0	0.1	0	3	--	--

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Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-16-L	3/9/2006 18:42	20.5	20.4	0.1	0.1	0.1	0.3	3	5	--	--
P-16-L	3/9/2006 22:51	18.9	18.7	0.2	0.2	0	0.2	0	4	--	--
P-16-L	3/9/2006 22:52	18.9	18.8	0.2	0.2	0	0.2	1	5	--	--
P-16-L	3/10/2006 13:03	16.6	16.6	0.3	0.2	0.1	0.3	1	7	--	--
P-16-L	3/13/2006 8:44	9.7	9.8	1.5	1.6	0	0.2	0.1	5	--	--
P-16-L	3/14/2006 16:23	7.7	7.7	1.5	1.5	0	0	0	0	--	--
P-16-L	3/15/2006 8:22	5.9	6.0	2.3	2.4	0	0	0	0	--	--
P-16-L	3/16/2006 8:38	4.7	4.8	2.8	2.7	0	0	0	0	--	--
P-16-L	3/17/2006 8:51	3.2	3.1	2.9	3.0	0	0	0	0	--	--
P-16-L	5/1/2006 5:34	--	0.0	--	3.4	3.4	6.5	67	>100.0	17,760.00	32,960.00
P-16-L	5/1/2006 5:35	--	0.0	--	3.3	3.5	6.5	69	>100.0	16,960.00	31,600.00
P-16-L	9/18/2006 9:28	--	0.0	--	9.7	16.5	24.8	>100.0	>100.0	--	--
P-16-M	2/3/2006 9:41	--	<0.0	--	--	--	--	--	--	--	--
P-16-M	2/3/2006 9:42	--	0.3	--	--	--	--	--	--	--	--
P-16-M	3/1/2006 16:20	--	12.4	--	6.5	--	5.5	--	>100.0	--	--
P-16-M	3/3/2006 13:52	--	10.2	--	4.0	--	3.1	--	67	--	--
P-16-M	3/4/2006 14:29	15.6	--	3.3	--	0	1	0	20	--	--
P-16-M	3/7/2006 17:41	17.4	16.9	2.0	3.1	0	0.5	0	11	--	--
P-16-M	3/9/2006 10:54	17.0	16.9	3.2	3.2	0	0	0	0	--	--
P-16-M	3/9/2006 16:22	16.3	16.2	3.2	3.3	0.9	1.3	18	26	--	--
P-16-M	3/9/2006 18:56	15.9	15.9	3.4	3.4	0	0.3	1	7	--	--
P-16-M	3/9/2006 23:07	16.0	16.0	3.3	3.2	0	0.1	0	1	--	--
P-16-M	3/10/2006 12:50	16.0	16.5	3.2	3.1	0	0.2	0	5	--	--
P-16-M	3/13/2006 8:18	16.5	16.9	4.0	3.7	0	0	0	1	--	--
P-16-M	3/14/2006 16:05	13.0	13.0	5.6	5.6	0	0	0	0	--	--
P-16-M	3/15/2006 8:01	13.9	13.8	5.9	6.0	0	0	0	0	--	--
P-16-M	3/16/2006 8:22	13.8	13.7	5.8	5.9	0	0	0	0	0	125
P-16-M	3/17/2006 8:40	13.4	13.4	5.9	5.9	0	0	0	0	--	--
P-16-M	9/18/2006 8:51	--	1.5	--	11.9	0	0	0	0	--	--
P-17-L	2/3/2006 9:25	--	0.0	--	--	--	--	--	--	--	--
P-17-L	2/3/2006 9:26	--	0.6	--	--	--	--	--	--	--	--
P-17-L	2/28/2006 13:28	--	0.0	--	11.4	--	>100.0	--	>100.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-17-L	2/28/2006 13:29	--	0.0	--	11.2	--	>100.0	--	>100.0	--	--
P-17-L	3/2/2006 16:18	--	0.2	--	10.7	--	89	--	>100.0	--	--
P-17-L	3/6/2006 18:05	3.5	3.5	5.0	4.9	2.1	44.2	42	>100.0	--	--
P-17-L	3/10/2006 12:12	0.6	0.7	4.7	4.8	1.5	48.8	30	>100.0	--	--
P-17-L	3/10/2006 12:13	0.7	0.7	4.9	5.1	1.8	51.2	36	>100.0	--	--
P-17-L	3/13/2006 16:48	0.4	0.4	5.1	5.1	3.6	49.1	72	>100.0	--	--
P-17-L	3/21/2006 18:01	0.0	0.1	7.2	7.0	9.1	79.3	>100.0	--	89,760.00	100,160.00
P-17-L	3/21/2006 18:02	0.1	0.1	6.7	6.7	13.4	79.8	>100.0	--	--	102,560.00
P-17-L	3/23/2006 16:29	0.0	0.0	7.3	7.4	7.9	85.5	>100.0	>100.0	--	--
P-17-L	3/24/2006 15:08	0.0	0.0	8.1	7.9	8.5	56	>100.0	>100.0	--	--
P-17-L	3/28/2006 13:39	0.0	0.0	8.2	8.0	5.4	61.5	>100.0	>100.0	>15,865.0	1,920.00
P-17-L	3/28/2006 13:40	0.0	0.1	8.1	7.7	6	61	>100.0	>100.0	--	--
P-17-L	3/31/2006 10:13	0.0	0.0	8.1	8.2	4.3	50.9	87	>100.0	--	--
P-17-L	4/3/2006 10:14	0.9	1.8	8.4	7.6	3.9	48.5	79	>100.0	144	192
P-17-L	4/7/2006 12:41	1.6	3.8	6.1	7.3	3.8	43.8	75	>100.0	--	--
P-17-L	4/10/2006 17:09	0.0	0.0	9.0	8.7	3.9	58.2	76	>100.0	33,920.00	42,720.00
P-17-L	4/10/2006 17:10	0.6	3.5	8.8	7.3	3.7	40.9	71	>100.0	20,480.00	26,080.00
P-17-L	4/14/2006 10:03	0.0	0.0	9.1	9.0	3.8	89.4	76	>100.0	--	--
P-17-L	4/17/2006 14:34	0.0	0.0	8.7	8.5	3.3	80	65	>100.0	22,880.00	50,080.00
P-17-L	4/18/2006 10:25	--	0.0	--	8.6	2.8	77.2	56	>100.0	16,000.00	37,760.00
P-17-L	4/18/2006 7:14	--	0.0	--	9.3	3	68.5	59	>100.0	22,720.00	40,480.00
P-17-L	4/18/2006 8:16	--	0.0	--	9.3	3	75.3	60	>100.0	29,600.00	55,520.00
P-17-L	4/18/2006 9:15	--	0.0	--	8.7	2.8	75.6	56	>100.0	22,640.00	40,800.00
P-17-L	4/18/2006 9:16	--	0.0	--	8.8	3.2	76.6	63	>100.0	21,600.00	38,720.00
P-17-L	4/21/2006 11:30	--	0.0	--	8.0	0	86.6	0	>100.0	25,920.00	37,680.00
P-17-L	4/22/2006 8:44	--	0.2	--	8.7	2.4	69.5	47	>100.0	26,240.00	35,520.00
P-17-L	4/24/2006 11:52	--	0.0	--	9.0	6.7	71.9	75	>100.0	27,200.00	40,480.00
P-17-L	5/1/2006 8:39	--	0.0	--	9.6	6.4	56.5	>100.0	>100.0	24,640.00	35,680.00
P-17-L	6/27/2006 10:31	0.0	--	8.9	--	11	--	>100.0	--	--	--
P-17-L	9/29/2006 12:05	--	0.0	--	9.2	15.4	>100.0	>100.0	>100.0	--	--
P-17-M	2/3/2006 8:55	--	<0.0	--	--	--	--	--	--	--	--
P-17-M	2/3/2006 8:56	--	0.0	--	--	--	--	--	--	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-17-M	2/28/2006 13:16	--	2.2	--	10.2	--	43.1	--	>100.0	--	--
P-17-M	3/2/2006 16:29	--	12.6	--	5.4	--	19.1	--	>100.0	16,120.00	20,630.00
P-17-M	3/6/2006 17:52	14.8	14.7	3.7	3.7	0	5.9	0	>100.0	--	--
P-17-M	3/10/2006 12:01	13.8	13.8	5.7	5.7	0	4.2	0	87	--	--
P-17-M	3/13/2006 16:37	17.4	17.4	3.0	3.2	0	1.6	0	33	--	--
P-17-M	3/21/2006 9:48	12.5	17.5	2.3	2.4	0	2.1	0	43	5.2	2,560.00
P-17-M	3/23/2006 16:19	17.6	17.5	2.1	2.2	0	2	0	40	--	--
P-17-M	3/24/2006 14:49	9.8	9.7	5.0	4.9	0	10.5	0	>100.0	--	--
P-17-M	3/28/2006 13:25	13.6	13.6	3.9	4.0	0	7.1	0	>100.0	<1.0	3,200.00
P-17-M	3/31/2006 9:56	17.9	17.8	1.7	1.8	0	1.8	0	37	--	--
P-17-M	3/31/2006 9:57	17.9	17.8	1.7	1.8	0	1.7	0	34	--	--
P-17-M	4/3/2006 10:00	18.2	18.2	1.9	1.7	0	2.5	0	52	4	1,680.00
P-17-M	4/7/2006 12:28	18.8	18.7	1.2	1.2	0	2.1	0	43	--	--
P-17-M	4/7/2006 12:29	18.9	18.8	1.3	1.1	0	2.1	0	42	--	--
P-17-M	4/10/2006 16:51	16.5	16.3	2.1	2.1	0	3	0	61	27	2,453.00
P-17-M	4/10/2006 16:52	16.4	16.3	2.1	2.1	0	2.9	0	59	--	--
P-17-M	4/14/2006 9:50	17.8	17.6	1.4	1.5	0	2.9	0	58	--	--
P-17-M	4/17/2006 14:21	18.8	18.6	1.3	1.3	0	1.8	0	36	20	2,190.00
P-17-M	4/18/2006 10:13	--	17.1	--	1.5	0	2.4	0	47	2	2,275.00
P-17-M	4/18/2006 10:20	--	11.3	--	4.7	0	7.6	0	>100.0	<2.0	4,350.00
P-17-M	4/18/2006 12:03	--	12.6	--	3.1	0	10	0	>100.0	35	4,125.00
P-17-M	4/18/2006 12:22	--	12.4	--	3.3	0	10.6	0	>100.0	140	4,025.00
P-17-M	4/18/2006 14:03	--	12.0	--	3.8	0	12	0	>100.0	0	4,325.00
P-17-M	4/18/2006 16:03	--	10.7	--	4.5	0	11.9	0	>100.0	20	4,450.00
P-17-M	4/18/2006 18:03	--	10.4	--	4.7	0	10.9	0	>100.0	10	5,750.00
P-17-M	4/18/2006 7:02	--	18.3	--	1.6	0	1.2	0	24	3	355
P-17-M	4/18/2006 8:02	--	18.0	--	1.5	0	1.4	0	28	4	200
P-17-M	4/18/2006 9:01	--	11.0	--	4.9	0	7.6	0	>100.0	360	5,600.00
P-17-M	4/18/2006 9:02	--	17.9	--	1.3	0	1.2	0	24	5	350
P-17-M	4/18/2006 9:03	--	17.7	--	1.4	0	1.5	0	29	6	385
P-17-M	4/18/2006 9:33	--	11.2	--	4.0	0	8.2	0	>100.0	25	4,425.00
P-17-M	4/19/2006 12:06	--	12.6	--	4.1	0	4.1	0	83	8.6	3,664.00

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P-17-M	4/19/2006 12:22	--	11.0	--	4.9	0	7.8	0	>100.0	280	4,800.00
P-17-M	4/19/2006 14:35	--	8.6	--	5.3	0	9.4	0	>100.0	10	4,850.00
P-17-M	4/19/2006 2:38	--	10.5	--	5.4	0	6.8	0	>100.0	<2.0	470
P-17-M	4/19/2006 2:39	--	10.5	--	5.3	0	6.2	0	>100.0	<2.0	490
P-17-M	4/19/2006 5:21	--	10.4	--	5.4	0	6.8	0	>100.0	<8.0	4,500.00
P-17-M	4/20/2006 15:45	--	6.9	--	5.8	0	7.7	0	>100.0	13	3,910.00
P-17-M	4/20/2006 9:36	--	14.5	--	2.9	0	2.5	0	48	5	2,125.00
P-17-M	4/21/2006 10:42	--	7.7	--	5.2	0	5.9	0	>100.0	0	2,870.00
P-17-M	4/21/2006 10:43	--	7.4	--	5.4	0	6.1	0	>100.0	0	2,930.00
P-17-M	4/22/2006 9:09	--	11.8	--	4.4	0	2.9	0	57	155	2,075.00
P-17-M	4/22/2006 9:24	--	11.5	--	4.3	0	1.8	0	35	180	2,310.00
P-17-M	4/22/2006 9:39	--	10.2	--	4.8	0	2.7	0	54	0	2,135.00
P-17-M	4/22/2006 9:54	--	9.3	--	5.1	0	3.4	0	68	0	2,450.00
P-17-M	4/24/2006 10:06	--	10.3	--	4.4	0	1.5	0	30	0	1,425.00
P-17-M	4/24/2006 10:21	--	8.1	--	5.3	0	2.3	0	47	0	1,980.00
P-17-M	4/24/2006 10:31	--	6.0	--	6.0	0	2.8	0	56	0	2,030.00
P-17-M	4/24/2006 10:36	--	6.0	--	6.0	0	2.8	0	56	0	2,030.00
P-17-M	4/24/2006 10:51	--	4.2	--	6.6	0	3.9	0	79	0	2,240.00
P-17-M	4/24/2006 11:06	--	6.2	--	5.8	0	3	0	61	0	2,210.00
P-17-M	4/24/2006 11:21	--	4.0	--	6.8	0	4.3	0	86	NM	NM
P-17-M	4/24/2006 11:36	--	3.8	--	7.0	0	4.5	0	90	0	2,570.00
P-17-M	4/24/2006 9:51	--	12.0	--	3.9	0	0.8	0	15	0	1,095.00
P-17-M	4/26/2006 14:06	--	1.4	--	9.3	0	4.9	0	99	0	2,544.00
P-17-M	4/26/2006 14:20	--	1.4	--	9.1	0	4.7	0	94	0	2,656.00
P-17-M	4/26/2006 14:35	--	1.4	--	9.3	0	4.9	0	99	0	2,656.00
P-17-M	4/26/2006 14:51	--	1.6	--	9.4	0	5	0	100	0	2,608.00
P-17-M	4/26/2006 15:04	--	1.5	--	9.5	0	4.7	0	95	0	2,832.00
P-17-M	4/26/2006 15:21	--	1.5	--	9.3	0	4.9	0	98	0	2,848.00
P-17-M	4/26/2006 15:34	--	1.4	--	9.4	0	5.2	0	>100.0	4.8	2,960.00
P-17-M	4/26/2006 15:51	--	1.6	--	9.3	0	4.8	0	96	0	2,976.00
P-17-M	4/26/2006 16:06	--	1.3	--	9.6	0	5.2	0	>100.0	25	3,024.00
P-17-M	4/26/2006 16:21	--	1.3	--	9.5	0	5.1	0	>100.0	0	3,088.00

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-17-M	4/26/2006 16:36	--	1.1	--	9.7	0	5.2	0	>100.0	48	2,912.00
P-17-M	4/26/2006 16:51	--	1.1	--	9.8	0	5	0	100	--	--
P-17-M	4/27/2006 10:14	--	7.3	--	5.3	0	1.6	0	33	61.4	705
P-17-M	5/1/2006 10:20	--	4.8	--	6.5	0.2	2.8	4	55	--	--
P-17-M	5/1/2006 11:10	--	4.4	--	6.6	0.4	3.6	9	74	--	--
P-17-M	5/1/2006 12:00	--	2.7	--	6.9	0	3.5	1	67	--	--
P-17-M	5/1/2006 12:30	--	1.5	--	7.8	0	4.7	1	95	--	--
P-17-M	5/1/2006 13:00	--	0.6	--	8.6	0	5.6	1	>100.0	768	1,632.00
P-17-M	5/1/2006 9:30	--	6.7	--	6.0	1.9	1.4	37	29	--	--
P-17-M	5/1/2006 9:50	--	5.3	--	6.5	0.1	2.4	3	50	--	--
P-17-M	6/27/2006 9:27	0.9	--	9.0	--	0.6	--	12	--	--	--
P-17-M	9/29/2006 11:50	--	0.0	--	12.3	14.2	35.5	>100.0	>100.0	--	--
P-17-M	10/18/2006 9:02	0.0	0.0	13.9	14.0	3.5	6	69	>100.0	--	--
P-17-M	11/14/2006 10:20	0.0	--	13.1	--	10.5	--	>100.0	--	--	--
P-17-M	11/27/2006 16:44	0.0	--	13.8	--	15.1	48.5	>100.0	>100.0	--	--
P-17-M	11/27/2006 19:09	0.0	--	15.1	--	6.5	13.5	>100.0	>100.0	--	--
P-17-M	11/27/2006 23:22	0.0	--	15.4	--	6	13.8	>100.0	>100.0	--	--
P-17-M	11/28/2006 10:30	0.0	--	13.2	--	5.1	14.4	>100.0	>100.0	--	--
P-17-M	11/28/2006 11:56	0.0	--	11.7	--	13.8	--	>100.0	--	--	--
P-17-M	11/28/2006 3:20	0.0	--	15.5	--	6.2	11	>100.0	>100.0	--	--
P-17-M	11/28/2006 5:24	0.0	--	15.7	--	6.1	11.9	>100.0	>100.0	--	--
P-17-M	11/28/2006 6:04	0.0	--	15.7	--	5.6	11.4	>100.0	>100.0	--	--
P-17-M	11/28/2006 9:10	0.0	--	14.3	--	5.2	7.8	>100.0	>100.0	--	--
P-1-L	2/2/2006 15:42	--	0.0	--	--	--	--	--	--	--	--
P-1-L	2/2/2006 15:43	--	3.1	--	--	--	--	--	--	--	--
P-1-L	2/28/2006 17:28	0.1	0.0	11.6	12.1	2.5	5.5	51	>100.0	--	--
P-1-L	3/1/2006 12:02	--	0.0	--	12.3	--	2	--	39	--	--
P-1-L	3/3/2006 15:45	0.0	--	12.6	--	2.1	--	43	--	--	--
P-1-L	3/6/2006 17:48	0.0	0.0	12.0	12.2	4.2	7.4	85	--	--	--
P-1-L	3/6/2006 17:49	0.0	0.0	12.2	12.3	3.9	6.8	79	--	--	--
P-1-L	3/7/2006 9:25	0.0	0.0	13.3	13.5	4.6	8.4	93	>100.0	--	--
P-1-L	3/14/2006 9:08	0.0	0.0	12.9	12.8	7.8	10.5	>100.0	>100.0	64,736.00	62,784.00

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-1-L	3/16/2006 8:59	4.6	4.5	8.8	9.0	5.1	9.2	--	--	--	--
P-1-L	3/16/2006 9:00	4.6	4.8	9.0	9.0	5.3	9.5	--	--	--	--
P-1-L	3/21/2006 11:19	0.0	--	11.1	--	4.7	8.9	95	>100.0	--	--
P-1-L	3/23/2006 10:21	0.0	0.0	11.6	11.5	4.8	8.8	98	>100.0	--	--
P-1-L	3/28/2006 12:59	0.0	0.0	11.0	11.6	3.7	7.7	74	>100.0	36,800.00	36,320.00
P-1-L	3/30/2006 12:53	0.0	0.0	10.9	11.1	3.1	12.5	63	>100.0	--	--
P-1-L	3/30/2006 12:54	0.0	0.0	10.8	11.4	3.4	13	68	>100.0	--	--
P-1-L	4/3/2006 13:30	0.0	0.0	11.5	11.3	3.2	7	63	>100.0	27,360.00	28,640.00
P-1-L	4/7/2006 11:28	0.0	0.0	11.3	11.4	2.5	5.4	51	>100.0	--	--
P-1-L	4/10/2006 15:44	1.5	1.2	9.7	9.7	2	9.5	39	>100.0	950	1,180.00
P-1-L	4/13/2006 10:42	0.0	0.0	10.7	10.7	3.6	10.5	73	>100.0	--	--
P-20-L	2/3/2006 11:38	--	<0.0	--	--	--	--	--	--	--	--
P-20-L	2/3/2006 11:39	--	0.4	--	--	--	--	--	--	--	--
P-20-L	2/27/2006 16:54	--	0.0	--	16.5	--	>100.0	--	>100.0	--	--
P-20-L	2/28/2006 12:12	--	0.0	--	15.5	--	>100.0	--	>100.0	--	--
P-20-L	3/2/2006 13:24	--	0.6	--	10.6	--	59.9	--	>100.0	--	--
P-20-L	3/6/2006 16:34	0.0	0.0	3.6	3.9	0.6	53.9	12	--	--	--
P-20-L	3/6/2006 16:35	0.0	0.0	3.7	3.9	0.8	55.8	17	--	--	--
P-20-L	3/8/2006 16:27	0.2	0.2	4.0	4.0	0.9	73	17	>100.0	--	--
P-20-L	3/10/2006 15:47	0.0	0.0	4.4	4.7	0.6	51.8	13	>100.0	--	--
P-20-L	3/14/2006 10:52	0.5	0.4	6.1	6.0	2.1	56	43	>100.0	12,784.00	22,192.00
P-20-L	3/16/2006 10:34	0.7	0.7	6.7	6.6	1.5	63.1	30	>100.0	--	--
P-20-L	3/21/2006 13:01	0.9	--	7.9	--	1.1	55.7	22	>100.0	--	--
P-20-L	3/23/2006 13:39	0.9	0.9	8.0	7.9	1.1	56.5	22	>100.0	--	--
P-20-L	3/27/2006 10:58	1.8	1.3	8.7	9.0	1.1	48.5	22	>100.0	11,840.00	22,080.00
P-20-L	3/30/2006 13:44	0.6	0.0	9.1	9.3	0.8	83.9	16	>100.0	--	--
P-20-L	4/5/2006 13:23	1.4	1.3	10.5	10.4	0.8	39.4	16	>100.0	11,200.00	21,280.00
P-20-L	4/7/2006 10:20	1.3	1.4	9.8	9.3	1.1	55.5	22	>100.0	--	--
P-20-L	4/11/2006 11:17	0.1	0.0	11.2	10.8	0.7	80.3	14	>100.0	9,920.00	20,160.00
P-20-L	4/13/2006 13:09	0.2	0.2	10.2	10.1	1	75.3	21	>100.0	--	--
P-20-L	4/17/2006 16:42	0.0	0.0	12.0	12.1	0.9	69.4	16	>100.0	8,160.00	24,080.00
P-20-L	4/18/2006 10:04	--	0.8	--	11.4	0.4	56.9	8	>100.0	6,464.00	14,160.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-20-L	4/18/2006 11:21	--	1.2	--	11.4	0.4	56.8	9	>100.0	545	1,390.00
P-20-L	4/18/2006 11:22	--	1.1	--	11.4	0.4	57.7	9	>100.0	560	1,410.00
P-20-L	4/18/2006 13:22	--	0.1	--	11.5	0.8	75.9	15	>100.0	5,920.00	20,160.00
P-20-L	4/18/2006 14:51	--	0.1	--	11.3	0.6	79.3	12	>100.0	5,200.00	18,560.00
P-20-L	4/18/2006 16:25	--	0.1	--	11.6	0.6	69.3	11	>100.0	5,120.00	18,080.00
P-20-L	4/18/2006 18:31	--	0.2	--	11.6	1.1	68.6	20	>100.0	6,880.00	19,680.00
P-20-L	4/18/2006 7:44	--	0.6	--	12.1	1.3	48	27	>100.0	14,992.00	45,056.00
P-20-L	4/18/2006 8:58	--	0.8	--	11.5	1.5	58.5	30	>100.0	16,128.00	32,656.00
P-20-L	4/19/2006 16:04	--	0.3	--	11.0	0.4	69.5	8	>100.0	6,640.00	16,960.00
P-20-L	4/20/2006 13:57	--	0.0	--	11.8	0.6	77	11	>100.0	6,240.00	17,280.00
P-20-L	4/21/2006 14:39	--	0.0	--	11.3	0	63.3	0	71	8,448.00	21,248.00
P-20-L	4/28/2006 12:40	--	0.8	--	12.6	1.5	72.5	30	>100.0	12,272.00	23,216.00
P-20-L	9/18/2006 7:30	--	0.0	--	15.7	16	95.7	>100.0	>100.0	--	--
P-20-M	2/3/2006 11:09	--	<0.0	--	--	--	--	--	--	--	--
P-20-M	2/3/2006 11:10	--	0.4	--	--	--	--	--	--	--	--
P-20-M	2/27/2006 16:33	--	0.0	--	15.7	--	80.4	--	>100.0	--	--
P-20-M	2/28/2006 11:54	--	0.0	--	15.9	--	75.2	--	>100.0	--	--
P-20-M	3/2/2006 12:59	--	0.5	--	13.7	--	30.4	--	>100.0	--	--
P-20-M	3/6/2006 14:53	0.7	0.2	6.9	7.3	0.5	15.6	10	>100.0	5,616.00	10,640.00
P-20-M	3/6/2006 14:54	0.6	0.2	7.3	7.4	0.6	15.2	12	>100.0	5,648.00	10,544.00
P-20-M	3/8/2006 16:15	0.5	0.5	6.4	6.2	0.2	18.3	4	>100.0	--	--
P-20-M	3/10/2006 15:35	0.0	0.0	5.9	5.8	0.3	15	6	>100.0	--	--
P-20-M	3/14/2006 10:37	0.1	0.0	5.1	5.1	0.6	13.9	13	>100.0	2,880.00	7,680.00
P-20-M	3/16/2006 10:22	0.3	0.4	5.0	5.0	0.1	14.5	2	>100.0	--	--
P-20-M	3/21/2006 12:48	0.4	--	5.3	--	0	13	0	>100.0	--	--
P-20-M	3/23/2006 13:29	0.8	0.7	5.6	5.6	0	12.1	0	>100.0	--	--
P-20-M	3/27/2006 10:45	1.6	0.6	6.9	7.4	0	13.9	0	>100.0	224	5,280.00
P-20-M	3/27/2006 10:46	1.3	0.6	7.1	7.4	0	13.5	0	>100.0	208	5,440.00
P-20-M	3/30/2006 13:35	1.2	0.0	7.5	8.1	0	15.7	0	>100.0	--	--
P-20-M	4/5/2006 13:00	1.1	1.0	10.9	10.8	0	9.1	0	>100.0	160	5,408.00
P-20-M	4/5/2006 13:01	1.0	1.0	11.0	10.9	0	9.3	0	>100.0	--	--
P-20-M	4/7/2006 10:05	4.4	4.8	8.4	8.2	0	9.6	0	>100.0	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-20-M	4/11/2006 11:05	0.0	0.0	13.0	12.5	0	14.8	0	>100.0	96	4,640.00
P-20-M	4/13/2006 12:57	0.3	0.3	11.9	11.6	0	15.7	0	>100.0	--	--
P-20-M	4/17/2006 16:28	1.0	1.1	13.1	13.0	0	13.9	0	>100.0	256	6,576.00
P-20-M	4/18/2006 11:03	--	0.3	--	12.7	0	9.3	0	>100.0	3.3	301
P-20-M	4/18/2006 13:08	--	0.0	--	12.6	0	12.5	0	>100.0	128	4,752.00
P-20-M	4/18/2006 14:37	--	0.0	--	12.7	0	13.3	0	>100.0	80	5,040.00
P-20-M	4/18/2006 7:23	--	0.7	--	13.2	0	10.9	0	>100.0	0	8,611.20
P-20-M	4/18/2006 8:47	--	0.3	--	12.9	0.2	13.7	4	>100.0	291	5,296.00
P-20-M	4/18/2006 9:51	--	0.1	--	13.0	0	10.9	0	>100.0	11	320
P-20-M	4/20/2006 13:32	--	0.0	--	11.4	0	10.9	0	>100.0	480	5,280.00
P-20-M	4/21/2006 14:21	--	0.9	--	10.1	0	8.9	0	>100.0	3,200.00	8,640.00
P-20-M	4/28/2006 12:25	--	0.8	--	12.4	0.1	5.3	1	>100.0	1,244.80	4,816.00
P-20-M	9/18/2006 7:17	--	0.0	--	11.7	19.1	43.2	>100.0	>100.0	--	--
P-21-L	10/10/2006 12:45	--	0.0	--	14.1	5.8	96	>100.0	>100.0	--	--
P-22-L	4/25/2006 7:43	--	0.0	--	13.5	13.6	32	>100.0	>100.0	105,280.00	123,520.00
P-23-L	2/6/2006 10:33	--	0.0	--	--	--	--	--	--	--	--
P-23-L	3/1/2006 8:01	--	0.1	--	11.8	--	18.3	--	>100.0	--	--
P-23-L	3/2/2006 14:59	--	0.2	--	11.7	--	26.4	--	>100.0	--	--
P-23-L	3/3/2006 18:06	0.0	0.0	11.5	11.5	10.4	20.9	>100.0	>100.0	--	--
P-23-L	3/4/2006 11:42	--	0.0	--	10.9	--	22	--	>100.0	--	--
P-23-L	3/4/2006 11:43	0.0	--	10.7	--	10	--	>100.0	--	5,600.00	6,040.00
P-23-L	3/4/2006 11:44	--	--	--	--	--	--	--	--	5,050.00	5,250.00
P-23-L	3/8/2006 14:09	0.0	0.0	11.3	11.3	7.2	10.7	>100.0	--	--	--
P-23-L	3/16/2006 10:29	0.0	0.0	11.4	11.4	8	11.8	>100.0	>100.0	60,800.00	65,600.00
P-23-L	3/16/2006 10:30	0.0	0.0	11.5	11.4	7.9	11.9	>100.0	>100.0	--	--
P-23-L	3/24/2006 10:29	0.0	0.0	11.3	11.2	7.8	12	>100.0	>100.0	--	--
P-23-L	3/30/2006 9:25	0.0	0.0	11.6	11.5	7.6	10.8	>100.0	>100.0	70,400.00	73,280.00
P-23-L	4/6/2006 17:02	0.0	0.0	11.0	11.0	7.2	25.8	>100.0	>100.0	64,160.00	70,560.00
P-23-L	4/13/2006 15:00	0.0	0.0	11.0	10.9	7.6	21.4	>100.0	>100.0	47,600.00	77,760.00
P-23-L	9/18/2006 11:43	--	0.0	--	10.7	9	20.8	>100.0	>100.0	--	--
P-23-L	10/14/2008 10:43	--	<0.1	--	10.6	9.8	15.6	>100.0	>100.0	124,242.00	144,344.60
P-23-M	2/6/2006 10:11	--	8.8	--	--	--	--	--	--	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-23-M	3/1/2006 7:44	--	9.0	--	6.2	--	0	--	0	--	--
P-23-M	3/2/2006 14:48	--	8.7	--	6.4	--	0	--	0	--	--
P-23-M	3/3/2006 17:46	8.7	8.7	5.8	6.2	0	0	0	0	--	--
P-23-M	3/3/2006 17:47	8.7	8.8	6.1	6.2	0	0	0	0	--	--
P-23-M	3/4/2006 11:27	--	9.0	--	5.7	--	0	--	0	--	--
P-23-M	3/8/2006 13:47	8.3	8.3	6.3	6.3	0	0	0	0	--	--
P-23-M	3/16/2006 10:02	8.7	8.6	5.9	6.0	0	0	0	0	0	70
P-23-M	3/24/2006 10:05	8.7	8.6	6.2	6.3	0	0	0	0	--	--
P-23-M	3/30/2006 9:10	9.3	9.1	6.1	6.2	0	0	0	0	320	400
P-23-M	4/6/2006 16:50	9.1	9.4	6.5	6.1	0	0	0	0	220	220
P-23-M	4/13/2006 14:44	9.9	9.9	5.4	5.4	0	0	0	0	70	175
P-23-M	9/18/2006 11:32	8.0	--	7.1	--	0	--	0	--	--	--
P-23-M	9/18/2006 11:35	--	8.6	--	6.6	0	0	0	0	--	--
P-23-M	10/14/2008 10:19	--	11.5	--	5.8	0.5	0.5	3	3	<1.0	<1.0
P-24-L	2/27/2006 11:25	--	0.0	--	12.3	--	>100.0	--	>100.0	--	--
P-24-L	2/28/2006 10:12	--	0.7	--	14.5	--	>100.0	--	>100.0	--	--
P-24-L	3/2/2006 8:42	--	0.0	--	10.0	--	>100.0	--	>100.0	--	--
P-24-L	3/3/2006 8:10	--	0.0	--	8.7	--	91.9	--	>100.0	--	--
P-24-L	3/6/2006 14:34	0.3	0.3	5.6	5.6	4.1	83.2	79	>100.0	--	--
P-24-L	3/8/2006 8:11	0.0	0.0	6.7	6.7	5.6	66.8	>100.0	--	--	--
P-24-L	3/10/2006 8:44	0.0	0.0	7.4	7.3	4.5	70	90	>100.0	--	--
P-24-L	3/24/2006 11:11	1.5	0.4	7.2	7.8	8.8	91.7	>100.0	>100.0	--	--
P-24-L	5/1/2006 7:56	--	0.0	--	9.4	6.3	83	>100.0	>100.0	51,360.00	83,200.00
P-24-L	8/8/2006 3:43	--	0.0	--	8.7	8.9	70.1	>100.0	>100.0	--	--
P-24-M	2/27/2006 11:08	--	0.0	--	12.1	--	>100.0	--	>100.0	--	--
P-24-M	2/28/2006 8:00	--	0.5	--	13.8	--	>100.0	--	>100.0	--	--
P-24-M	3/2/2006 8:30	--	0.1	--	11.9	--	>100.0	--	>100.0	--	--
P-24-M	3/3/2006 7:58	0.5	--	11.9	--	>100.0	--	--	--	--	--
P-24-M	3/6/2006 14:16	0.2	0.2	11.5	12.0	12.9	86.2	>100.0	--	--	--
P-24-M	3/8/2006 7:45	0.0	0.0	12.0	12.1	6.6	48	>100.0	>100.0	--	--
P-24-M	3/24/2006 11:28	1.1	0.3	8.5	8.5	1.7	26.2	34	>100.0	--	--
P-24-M	8/8/2006 4:40	--	0.0	--	8.6	3.9	7.8	77	>100.0	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-24-M	9/28/2006 6:26	--	0.0	--	8.2	1.1	3.7	20	72	--	--
P-25-L	2/27/2006 12:55	--	0.0	--	8.0	--	0.2	--	3	--	--
P-25-L	2/28/2006 8:51	--	0.8	--	8.3	--	0.3	--	6	--	--
P-25-L	3/2/2006 10:26	--	0.3	--	7.1	--	2.5	--	51	--	--
P-25-L	3/3/2006 10:08	--	0.0	--	7.3	--	1.9	--	39	--	--
P-25-L	3/29/2006 12:50	0.0	0.0	7.2	7.4	1.4	2.6	28	52	6,720.00	14,480.00
P-25-L	5/2/2006 1:45	--	0.0	--	8.2	0.5	1.1	10	22	5,600.00	7,840.00
P-25-M	2/27/2006 12:42	--	2.6	--	8.8	--	0.1	--	2	--	--
P-25-M	2/28/2006 8:36	--	3.5	--	9.3	--	1.5	--	30	--	--
P-25-M	3/2/2006 10:15	--	1.4	--	8.3	--	0.3	--	6	--	--
P-25-M	3/3/2006 9:57	--	1.3	--	8.6	--	0	--	0	--	--
P-25-M	3/30/2006 12:30	0.8	0.2	10.1	10.2	0	0	0	0	<2.0	67.2
P-25-M	9/20/2006 5:20	--	2.6	--	8.9	0	0	0	0	--	--
P-25-M	9/28/2006 5:51	--	2.7	--	9.0	0	0	0	0	--	--
P-26-L	3/24/2006 9:50	4.0	1.7	5.7	6.7	7	26.2	>100.0	>100.0	--	--
P-26-L	3/24/2006 9:51	5.2	1.7	5.7	6.7	7	26.2	>100.0	>100.0	--	--
P-26-L	9/20/2006 3:33	--	0.0	--	9.0	25.3	71.5	>100.0	>100.0	--	--
P-26-M	3/24/2006 9:31	3.5	0.6	5.5	6.5	11.4	22.4	>100.0	>100.0	--	--
P-26-M	9/20/2006 3:50	--	0.0	--	6.8	20.1	40.3	>100.0	>100.0	--	--
P-27-L	2/2/2006 18:15	--	<0.0	--	--	--	--	--	--	--	--
P-27-L	2/2/2006 18:16	--	0.7	--	--	--	--	--	--	--	--
P-27-L	2/27/2006 18:35	--	0.0	--	13.4	--	>100.0	--	>100.0	--	--
P-27-L	2/27/2006 18:36	--	0.0	--	13.1	--	98.3	--	>100.0	--	--
P-27-L	3/1/2006 16:57	0.0	0.0	12.5	12.4	1.6	28.8	33	>100.0	--	--
P-27-L	3/3/2006 13:02	--	0.3	--	6.9	--	23.9	--	>100.0	--	--
P-27-L	3/7/2006 16:15	6.5	6.3	0.0	2.1	0	11.1	0	>100.0	--	--
P-27-L	3/9/2006 16:44	5.4	5.6	2.1	2.1	1.4	3	29	61	--	--
P-27-L	3/9/2006 19:19	3.1	3.0	2.2	2.2	0.7	12.2	15	>100.0	--	--
P-27-L	3/9/2006 21:56	4.0	4.2	2.4	2.5	0.5	9.8	10	>100.0	--	--
P-27-L	3/9/2006 9:33	4.4	4.4	1.4	2.1	0.5	9.8	10	>100.0	--	--
P-27-L	3/13/2006 10:18	0.1	0.1	3.5	3.8	0.3	9	6	>100.0	--	--
P-27-L	3/14/2006 7:51	0.0	0.0	4.4	4.4	0	3.7	1	74	--	--

Table A-6
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Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-27-L	3/15/2006 7:24	0.0	0.0	4.4	4.4	0.1	6	3	>100.0	--	--
P-27-L	3/16/2006 7:53	0.0	0.0	4.6	4.7	0.1	3.5	2	70	4,400.00	7,680.00
P-27-L	3/17/2006 8:15	0.0	0.0	4.7	4.8	0.3	4.1	6	82	--	--
P-27-L	5/1/2006 5:14	--	0.0	--	6.6	4.4	24.5	89	>100.0	25,280.00	47,520.00
P-27-M	2/2/2006 17:36	--	0.0	--	--	--	--	--	--	--	--
P-27-M	2/2/2006 17:37	--	0.7	--	--	--	--	--	--	--	--
P-27-M	2/27/2006 18:21	--	0.0	--	13.2	--	51.3	--	>100.0	--	--
P-27-M	3/1/2006 16:40	--	6.9	--	3.5	--	0	--	0	--	--
P-27-M	3/3/2006 12:50	--	9.4	--	2.3	--	13.1	--	>100.0	--	--
P-27-M	3/7/2006 15:37	15.3	15.2	1.9	2.0	0.2	2.4	4	50	--	--
P-27-M	3/9/2006 16:58	10.7	10.6	2.8	3.0	0.9	4.2	17	85	--	--
P-27-M	3/9/2006 20:01	10.9	10.5	2.8	3.1	0.2	2.8	4	58	--	--
P-27-M	3/9/2006 22:18	14.3	16.1	2.1	1.4	0	1	0	21	--	--
P-27-M	3/9/2006 9:14	14.3	14.5	1.3	2.3	0	1.6	0	32	--	--
P-27-M	3/13/2006 10:05	10.2	10.5	4.0	3.8	0	1.2	0	24	--	--
P-28-L	3/3/2006 19:05	--	10.5	--	5.8	--	0	--	0	--	--
P-28-L	3/5/2006 16:24	--	10.3	--	5.2	--	0	--	0	--	--
P-28-L	3/6/2006 8:52	10.7	--	5.7	--	0	--	0	--	--	--
P-28-L	3/7/2006 14:48	10.2	10.4	5.4	5.4	0	0	0	0	--	--
P-28-L	3/9/2006 12:22	10.4	10.3	5.2	5.5	0	0	0	0	--	--
P-28-L	3/16/2006 16:20	9.2	9.2	5.3	5.2	0	0	0	0	0	42
P-28-L	3/20/2006 10:32	10.1	10.1	5.6	5.6	0	0	0	0	--	--
P-28-L	3/29/2006 10:21	8.9	8.8	5.5	5.4	0	0	0	0	<4.0	11
P-28-L	4/4/2006 13:41	--	--	--	--	--	--	--	--	120	120
P-28-L	4/4/2006 13:42	5.6	5.6	5.3	5.3	0	0	0	0	--	--
P-28-L	4/4/2006 13:43	5.7	5.7	5.2	5.1	0	0	0	0	--	--
P-28-L	4/10/2006 12:45	8.9	9.2	5.4	5.1	0	0	0	0	--	<2.0
P-28-L	9/21/2006 14:25	--	4.8	--	5.7	0	0	0	0	--	--
P-28-L	11/15/2006 13:31	4.9	--	5.9	--	0.1	--	1	--	--	--
P-28-L	7/11/2008 12:46	--	<0.1	--	6.3	<0.1	0.1	<1.0	2	113	125.5
P-28-L	10/7/2008 9:06	--	<0.1	--	6.7	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
P-28-M	2/3/2006 15:17	--	10.7	--	--	--	--	--	--	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-28-M	3/3/2006 18:45	--	10.6	--	6.3	--	0	--	0	--	--
P-28-M	3/5/2006 16:12	--	10.3	--	6.0	--	0	--	0	--	--
P-28-M	3/6/2006 8:40	10.4	--	5.2	--	0	--	0	--	--	--
P-28-M	3/9/2006 12:09	11.1	11.1	6.4	6.2	0	0	0	0	--	--
P-28-M	3/10/2006 14:23	11.1	10.9	6.1	6.1	0	0	0	0	--	--
P-28-M	3/10/2006 14:24	10.8	10.8	6.3	6.1	0	0	0	0	--	--
P-28-M	3/16/2006 16:10	9.8	9.9	5.9	5.8	0	0	0	0	17	46
P-28-M	3/20/2006 10:16	10.2	10.2	5.7	5.9	0	0	0	0	0.6	8
P-28-M	3/29/2006 10:08	9.6	9.7	5.8	5.8	0	0	0	0	60	90
P-28-M	4/4/2006 13:28	6.8	6.8	5.8	5.7	0	0	0	0	--	220
P-28-M	4/10/2006 12:35	9.6	9.6	6.0	5.8	0	0	0	0	<3.0	4
P-28-M	9/21/2006 13:00	--	5.8	--	5.9	0	0	0	0	--	--
P-28-M	11/15/2006 11:28	1.8	--	7.4	--	0	--	0	--	--	--
P-28-M	7/11/2008 11:31	--	3.4	--	7.2	<0.1	<0.1	<1.0	<1.0	19.6	19.6
P-28-M	10/7/2008 7:53	--	--	--	--	--	--	--	--	<0.5	<0.5
P-28-M	10/7/2008 8:27	--	3.4	--	7.7	<0.1	<0.1	<1.0	<1.0	--	--
P-29-L	2/3/2006 11:38	--	0.0	--	--	--	--	--	--	--	--
P-29-L	2/28/2006 16:51	--	0.0	--	11.0	--	19.9	--	>100.0	--	--
P-29-L	3/1/2006 12:18	--	0.2	--	10.9	--	23	--	>100.0	--	--
P-29-L	3/2/2006 14:07	--	0.3	--	10.8	--	29.8	--	>100.0	--	--
P-29-L	3/3/2006 17:19	0.0	0.0	10.8	11.0	7.5	23	>100.0	>100.0	--	--
P-29-L	3/4/2006 15:41	--	0.2	--	10.2	--	17.1	--	>100.0	--	--
P-29-L	3/4/2006 15:42	0.2	--	10.2	--	8.2	--	>100.0	--	--	--
P-29-L	3/8/2006 15:12	0.0	0.0	11.0	11.1	5.3	13.1	>100.0	>100.0	40,000.00	50,400.00
P-29-L	3/8/2006 15:13	--	--	--	--	--	--	--	--	38,560.00	53,920.00
P-29-L	3/9/2006 16:15	0.0	0.0	11.2	11.3	5.8	13.1	>100.0	>100.0	--	--
P-29-L	3/14/2006 9:56	0.0	0.0	10.9	11.2	5.7	13.5	>100.0	>100.0	52,736.00	53,632.00
P-29-L	3/22/2006 10:39	0.0	0.0	11.4	11.5	6.7	15.6	>100.0	>100.0	--	--
P-29-L	3/30/2006 10:20	0.0	0.0	11.3	11.3	6	13	>100.0	>100.0	56,000.00	58,080.00
P-29-L	4/6/2006 16:05	0.0	0.0	11.6	11.5	5.8	31.7	>100.0	>100.0	50,560.00	55,040.00
P-29-L	4/14/2006 13:11	0.0	0.0	11.4	11.4	6.1	27.5	>100.0	>100.0	49,760.00	67,200.00
P-29-M	2/3/2006 11:18	--	0.0	--	--	--	--	--	--	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-29-M	2/28/2006 16:29	--	0.0	--	12.8	--	20.5	--	>100.0	--	--
P-29-M	3/1/2006 11:52	--	0.6	--	12.4	--	21	--	>100.0	--	--
P-29-M	3/2/2006 13:53	--	0.5	--	12.6	--	27	--	>100.0	--	--
P-29-M	3/3/2006 17:02	0.0	0.0	12.2	12.3	10.9	23.7	>100.0	>100.0	--	--
P-29-M	3/4/2006 15:24	--	0.1	--	11.8	--	17.6	--	>100.0	2,500.00	2,650.00
P-29-M	3/4/2006 15:25	0.0	--	11.7	--	11.8	--	>100.0	--	2,450.00	2,640.00
P-29-M	3/8/2006 14:48	0.0	0.0	12.7	12.5	8.9	15.4	>100.0	>100.0	80,800.00	82,720.00
P-29-M	3/8/2006 14:49	--	--	--	--	--	--	--	--	79,520.00	84,800.00
P-29-M	3/9/2006 15:54	0.0	0.0	12.3	12.3	8.5	16.1	>100.0	>100.0	--	--
P-29-M	3/14/2006 9:34	0.0	0.0	13.2	13.5	10.4	15.4	>100.0	>100.0	100,224.00	95,360.00
P-29-M	3/14/2006 9:35	--	--	--	--	--	--	--	--	--	96,160.00
P-29-M	3/22/2006 10:12	0.0	0.0	14.0	13.8	12	17.7	>100.0	>100.0	--	--
P-29-M	3/22/2006 10:13	0.0	0.0	13.9	13.8	12.9	17.7	>100.0	>100.0	--	--
P-29-M	3/30/2006 9:48	0.0	0.0	14.1	14.1	11.3	17	>100.0	>100.0	108,800.00	112,000.00
P-29-M	3/30/2006 9:49	0.0	0.0	13.9	13.9	11.4	17.5	>100.0	>100.0	--	--
P-29-M	4/6/2006 15:49	0.0	0.0	13.6	13.8	11.2	37.1	>100.0	>100.0	104,800.00	115,360.00
P-29-M	4/14/2006 12:50	0.0	0.0	13.5	13.4	10.6	28.7	>100.0	>100.0	86,560.00	109,280.00
P-29-M	9/15/2006 12:34	--	0.0	--	14.5	12	34.3	>100.0	>100.0	--	--
P-29-M	9/15/2006 12:35	--	0.0	--	14.9	12.4	30.9	>100.0	>100.0	--	--
P-29-M	9/15/2006 12:36	--	0.0	--	2.7	3.3	10.4	0	0	--	--
P-2-L	2/2/2006 16:25	--	0.0	--	--	--	--	--	--	--	--
P-2-L	2/2/2006 16:26	--	0.8	--	--	--	--	--	--	--	--
P-2-L	2/27/2006 16:56	--	0.0	--	12.6	--	16.1	--	>100.0	5,500.0	6,000.0
P-2-L	3/1/2006 12:57	0.0	0.0	12.2	12.3	15.7	40.5	>100.0	>100.0	--	--
P-2-L	3/3/2006 16:18	0.0	--	11.9	--	25.7	--	>100.0	--	--	--
P-2-L	3/7/2006 8:22	0.0	0.0	12.6	12.4	39.9	>100.0	>100.0	--	459,000.0	450,000.0
P-2-L	3/7/2006 8:23	0.0	0.0	12.4	12.3	42.9	>100.0	--	>100.0	474,000.0	472,000.0
P-2-L	3/7/2006 8:24	--	--	--	--	--	--	>100.0	>100.0	--	--
P-2-L	4/28/2006 13:36	--	0.0	--	11.3	4.7	13.5	95	>100.0	46,336.00	50,080.00
P-30-L	2/3/2006 14:18	--	0.0	--	--	--	--	--	--	--	--
P-30-L	2/28/2006 13:25	--	0.0	--	6.7	--	2	--	40	--	--
P-30-L	2/28/2006 13:26	--	0.4	--	6.6	--	2	--	40	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-30-L	3/2/2006 12:02	--	0.4	--	6.9	--	3.2	--	65	15,216.00	15,968.00
P-30-L	3/4/2006 14:33	0.6	--	6.2	--	2.5	--	51	--	--	--
P-30-L	3/4/2006 14:34	0.7	--	6.2	--	2.4	--	49	--	--	--
P-30-L	3/5/2006 8:57	--	0.0	--	6.8	--	2.6	--	52	--	--
P-30-L	3/5/2006 8:58	<0.0	--	6.7	--	2.5	--	50	--	--	--
P-30-L	3/6/2006 12:43	0.2	0.1	6.5	6.6	2.3	2.5	46	51	985	1,043.00
P-30-L	3/6/2006 12:44	--	--	--	--	--	--	--	--	1,010.00	1,080.00
P-30-L	3/9/2006 12:45	0.0	0.0	6.7	6.8	2.1	2.1	42	42	--	--
P-30-L	3/17/2006 8:41	0.0	0.0	6.9	6.8	1.7	1.7	34	35	21,600.00	20,320.00
P-30-L	3/17/2006 8:42	0.0	0.0	6.8	6.8	1.8	1.8	36	36	21,760.00	20,480.00
P-30-L	3/21/2006 15:07	0.0	0.0	6.8	6.7	1.8	1.7	35	35	--	--
P-30-L	3/29/2006 12:42	0.0	0.0	6.6	6.6	1.9	1.9	37	39	20,160.00	20,640.00
P-30-L	4/6/2006 14:50	0.0	0.0	6.3	6.3	1.6	2.4	33	48	19,584.00	22,096.00
P-30-L	4/6/2006 14:51	0.0	0.0	6.4	6.4	1.7	2.4	35	49	19,296.00	21,616.00
P-30-L	4/12/2006 8:43	0.0	0.0	6.3	6.4	1.9	2.8	38	55	18,400.00	26,560.00
P-30-L	9/15/2006 14:18	--	0.0	--	7.3	2.5	3.8	50	72	--	--
P-30-L	7/11/2008 15:27	--	<0.1	--	8.7	2	3	41	59	>121,897.9	>121,897.9
P-30-L	10/7/2008 12:47	--	<0.1	--	8.7	3.3	4	67	80	<0.5	38,672.90
P-30-M	2/3/2006 13:57	--	0.0	--	--	--	--	--	--	--	--
P-30-M	2/28/2006 13:09	--	0.2	--	7.3	--	5.4	--	>100.0	--	--
P-30-M	3/2/2006 11:49	--	0.5	--	7.5	--	7.9	--	>100.0	--	--
P-30-M	3/4/2006 14:16	--	0.0	--	7.0	--	9.5	--	>100.0	--	--
P-30-M	3/4/2006 14:18	0.0	--	7.0	--	4.3	--	87	--	--	--
P-30-M	3/5/2006 8:40	0.0	--	7.2	--	4.9	--	99	--	--	--
P-30-M	3/5/2006 8:41	0.0	--	7.0	--	4.5	--	90	--	--	--
P-30-M	3/6/2006 12:17	0.0	0.0	7.2	7.2	4	5.2	79	>100.0	--	--
P-30-M	3/9/2006 12:27	0.0	0.0	7.4	7.5	3.8	3.9	66	78	--	--
P-30-M	3/9/2006 12:28	0.0	0.0	7.4	7.5	3.9	4.1	69	83	--	--
P-30-M	3/17/2006 8:29	0.0	0.0	7.4	7.5	3.2	6.1	64	>100.0	37,280.00	38,240.00
P-30-M	3/17/2006 8:30	0.0	0.0	7.4	7.7	3.7	6.9	74	>100.0	36,960.00	37,440.00
P-30-M	3/21/2006 14:34	0.0	0.0	7.5	7.6	3.3	3.7	65	74	--	--
P-30-M	3/29/2006 11:27	0.0	0.0	7.6	7.6	3.8	4.6	75	92	38,880.00	40,800.00

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-30-M	4/6/2006 14:37	0.0	0.0	7.3	7.1	3.5	11.9	70	>100.0	27,568.00	30,528.00
P-30-M	4/12/2006 8:27	0.0	0.0	7.5	7.4	3.4	9.3	69	>100.0	26,560.00	39,200.00
P-30-M	9/15/2006 14:02	--	0.0	--	8.4	4	9.6	81	>100.0	--	--
P-30-M	7/11/2008 14:31	--	<0.1	--	9.7	0.6	12.4	20	>100.0	3,882.80	3,882.80
P-30-M	10/7/2008 12:09	--	<0.1	--	10.0	3.4	9.4	68	>100.0	52,973.50	65,537.00
P-46-L	2/3/2006 15:42	--	0.0	--	--	--	--	--	--	--	--
P-46-L	2/28/2006 8:52	--	1.8	--	7.8	--	0.1	--	2	--	--
P-46-L	3/2/2006 9:44	--	0.1	--	8.5	--	0.1	--	2	--	--
P-46-L	3/4/2006 16:58	--	0.0	--	8.0	--	0.1	--	2	--	--
P-46-L	3/4/2006 16:59	0.0	--	8.0	--	0	--	0	--	--	--
P-46-L	3/5/2006 14:55	--	--	--	--	--	--	--	--	2,000.00	2,560.00
P-46-L	3/5/2006 15:02	--	--	--	--	--	--	--	--	1,968.00	2,512.00
P-46-L	3/5/2006 9:54	--	0.0	--	7.9	--	0.8	--	16	--	--
P-46-L	3/5/2006 9:55	0.0	--	7.6	--	0.3	--	7	--	--	--
P-46-L	3/6/2006 10:20	0.0	0.0	8.3	8.4	0	0	0	0	--	--
P-46-L	3/7/2006 17:12	0.0	0.0	8.3	8.4	0	0.1	0	3	--	--
P-46-L	3/9/2006 11:46	0.0	0.0	8.4	8.6	0	0	0	0	--	--
P-46-L	3/13/2006 10:28	0.0	0.0	7.8	7.9	1.2	3.5	24	70	--	--
P-46-L	3/21/2006 10:32	0.0	0.0	7.9	8.2	0.5	1.9	10	39	--	--
P-46-L	3/29/2006 10:46	0.0	0.0	8.0	8.1	0.7	2.1	13	42	10,400.00	11,200.00
P-46-L	4/6/2006 13:10	0.0	0.0	8.1	8.0	0.9	2	19	40	14,240.00	26,720.00
P-46-L	4/12/2006 14:38	0.0	0.0	7.4	7.4	0.9	2.9	17	58	485	715
P-46-L	4/12/2006 14:39	0.0	0.0	7.5	7.4	0.8	3	16	61	480	750
P-46-L	9/22/2006 9:01	--	0.0	--	7.9	1.8	10.8	37	>100.0	--	--
P-46-L	7/14/2008 09:06	--	<0.1	--	10.3	<0.1	<0.1	<1.0	1	21.4	300.6
P-46-L	10/8/2008 8:56	--	<0.1	--	10.8	0.3	0.4	4	9	1,432.40	2,711.20
P-46-M	2/3/2006 15:21	--	0.0	--	--	--	--	--	--	--	--
P-46-M	2/28/2006 8:37	--	0.0	--	5.9	--	0.8	--	17	--	--
P-46-M	3/2/2006 9:31	--	1.9	--	5.4	--	0.8	--	16	--	--
P-46-M	3/2/2006 9:32	--	1.6	--	5.3	--	0.7	--	--	--	--
P-46-M	3/4/2006 16:44	--	0.0	--	5.5	--	1.5	--	31	--	--
P-46-M	3/4/2006 16:45	0.0	--	5.6	--	0.7	--	14	--	--	--

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-46-M	3/5/2006 9:38	--	0.0	--	5.4	--	1.5	--	29	--	--
P-46-M	3/5/2006 9:39	0.0	--	5.4	--	0.6	--	13	--	--	--
P-46-M	3/6/2006 9:56	0.0	0.0	5.8	5.8	0.5	1.6	11	33	--	--
P-46-M	3/7/2006 16:57	0.0	0.0	5.6	5.7	1	3.7	20	74	--	--
P-46-M	3/9/2006 11:29	0.0	0.0	5.9	5.9	1.4	4.6	29	92	40,160.00	56,000.00
P-46-M	3/13/2006 10:11	0.0	0.0	5.8	5.8	1.2	3.5	24	70	11,840.00	13,600.00
P-46-M	3/13/2006 10:12	--	--	--	--	--	--	--	--	11,520.00	13,280.00
P-46-M	3/21/2006 10:08	0.0	0.0	5.7	5.8	2.2	10.3	43	>100.0	--	--
P-46-M	3/29/2006 10:30	0.0	0.0	5.6	5.7	3.2	16	64	>100.0	24,800.00	47,520.00
P-46-M	3/29/2006 10:31	0.0	0.0	5.5	5.6	3.1	15.1	63	>100.0	--	--
P-46-M	4/6/2006 12:35	0.0	0.0	5.6	5.7	3.6	15.7	72	>100.0	20,640.00	25,520.00
P-46-M	4/6/2006 12:36	0.0	0.0	5.6	5.6	3.9	16	78	>100.0	20,400.00	25,760.00
P-46-M	4/12/2006 13:57	0.0	0.0	5.1	5.1	5.2	38.7	>100.0	>100.0	36,800.00	61,120.00
P-46-M	4/12/2006 13:58	0.0	0.0	5.1	5.1	5.7	40.7	>100.0	>100.0	36,000.00	61,920.00
P-46-M	9/22/2006 8:49	--	0.0	--	6.1	2.7	8.9	52	>100.0	--	--
P-46-M	7/14/2008 08:26	--	1.6	--	9.7	<0.1	<0.1	<1.0	<1.0	23.5	23.5
P-46-M	10/8/2008 8:12	--	2.2	--	9.8	<0.1	<0.1	<1.0	<1.0	213.9	214.9
P-4-L	2/28/2006 13:39	--	1.9	--	11.7	--	6.9	--	>100.0	--	--
P-4-L	3/1/2006 11:04	--	3.5	--	11.7	--	8.3	--	>100.0	--	--
P-4-L	3/3/2006 14:50	1.8	--	11.2	--	6.5	--	>100.0	--	54,528.00	74,752.00
P-4-L	3/3/2006 14:51	1.7	--	11.4	--	6.7	--	>100.0	--	--	--
P-4-L	3/8/2006 15:29	1.6	1.6	10.1	10.0	2.5	100	49	>100.0	--	--
P-4-L	3/8/2006 15:30	1.7	1.6	10.1	9.8	3	100	60	>100.0	--	--
P-4-L	3/10/2006 10:35	3.5	3.5	9.9	9.6	0.2	100	5	>100.0	--	--
P-4-L	3/14/2006 13:04	4.7	4.7	8.3	8.2	0.6	87.2	12	>100.0	--	--
P-4-L	3/16/2006 12:00	5.1	5.2	7.9	7.7	0.3	87.1	5	>100.0	--	--
P-4-L	3/17/2006 10:50	5.2	5.2	7.2	7.4	0	87.4	0	>100.0	3,040.00	21,020.00
P-4-L	3/21/2006 14:34	5.5	--	7.2	--	0	87.4	0	>100.0	--	--
P-4-L	3/23/2006 15:28	5.3	5.3	6.4	6.3	0	88.5	0	>100.0	--	--
P-4-L	3/27/2006 12:10	7.5	7.1	5.8	6.0	0	81.5	0	>100.0	67	17,000.00
P-4-L	3/30/2006 14:29	6.9	6.1	5.4	5.7	0	100	0	>100.0	--	--
P-4-L	4/3/2006 14:48	7.8	7.8	5.7	5.6	0	43	0	>100.0	210	13,200.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-4-L	4/7/2006 12:38	8.2	8.0	5.2	5.3	0	52.7	0	>100.0	--	--
P-4-L	4/11/2006 12:09	11.5	11.5	3.6	3.6	0	48.4	0	>100.0	330	10,550.00
P-4-L	4/13/2006 14:02	9.5	9.4	4.7	4.7	0	78.3	0	>100.0	--	--
P-4-L	4/17/2006 15:42	10.7	10.5	5.1	5.0	0	56.7	0	>100.0	205	14,400.00
P-4-L	4/18/2006 10:23	--	10.9	--	4.8	0	62.3	0	>100.0	0	14,200.00
P-4-L	4/18/2006 10:30	--	10.2	--	4.2	8.5	54.4	10	100	26.8	9,100.00
P-4-L	4/18/2006 12:53	--	9.8	--	4.7	0	64.4	0	>100.0	120	15,100.00
P-4-L	4/18/2006 14:48	--	9.9	--	4.9	0	64.9	0	100	20	15,700.00
P-4-L	4/18/2006 16:39	--	9.6	--	5.0	0	65.4	0	>100.0	0	3,440.00
P-4-L	4/18/2006 18:47	--	10.0	--	4.8	0	48.7	0	>100.0	60	13,350.00
P-4-L	4/18/2006 21:57	--	10.7	--	4.5	0.2	42.5	4	>100.0	305	11,900.00
P-4-L	4/18/2006 23:44	--	10.6	--	4.6	0.1	42.4	2	>100.0	197.5	12,500.00
P-4-L	4/18/2006 8:20	--	12.1	--	4.7	0	33.3	0	>100.0	--	--
P-4-L	4/18/2006 9:31	--	10.9	--	5.0	0	63.7	0	>100.0	0	14,200.00
P-4-L	4/19/2006 1:51	--	10.0	--	4.9	0.1	54.2	2	>100.0	510	12,450.00
P-4-L	4/19/2006 15:23	--	9.7	--	4.4	0	52.2	0	>100.0	70	11,750.00
P-4-L	4/19/2006 23:31	--	9.6	--	4.9	0	35.5	0	>100.0	5	860
P-4-L	4/19/2006 5:37	--	10.1	--	4.8	0.2	45.5	4	>100.0	155	14,500.00
P-4-L	4/20/2006 10:24	--	10.6	--	4.0	0	49.5	0	>100.0	25	9,350.00
P-4-L	4/20/2006 10:25	--	10.7	--	3.9	0	49.7	0	>100.0	30	9,900.00
P-4-L	4/20/2006 10:42	--	10.3	--	3.8	0	53.8	0	>100.0	75	9,625.00
P-4-L	4/20/2006 16:04	--	8.5	--	4.3	0	57.1	0	>100.0	150	11,000.00
P-4-L	4/21/2006 9:39	--	9.1	--	4.4	0	61.7	0	>100.0	270.5	13,525.00
P-4-L	4/22/2006 10:16	--	9.1	--	4.1	0	32.1	0	>100.0	34	10,500.00
P-4-L	4/24/2006 13:54	--	8.0	--	4.5	0	53.8	0	>100.0	300	12,100.00
P-4-L	4/24/2006 13:55	--	7.6	--	4.6	0	56.2	2	>100.0	350	12,600.00
P-4-L	4/27/2006 7:57	--	7.7	--	5.2	0	68.1	0	>100.0	620	16,500.00
P-4-L	4/28/2006 13:01	--	8.7	--	5.2	0	40	0	>100.0	975	13,200.00
P-4-L	5/1/2006 11:16	--	7.1	--	5.3	0.1	40.1	2	>100.0	842	9,450.00
P-4-L	5/1/2006 11:31	--	6.9	--	5.3	0.2	41.1	3	>100.0	907	9,740.00
P-4-L	5/1/2006 11:46	--	7.1	--	5.3	0.2	41.7	3	>100.0	940	9,680.00
P-4-L	5/1/2006 12:01	--	7.3	--	5.3	0.2	36.6	3	>100.0	967	8,920.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-4-L	5/1/2006 12:16	--	7.3	--	5.3	0.2	--	3	>100.0	1,000.00	9,500.00
P-4-L	5/1/2006 12:31	--	7.1	--	5.2	0.3	38.3	5	>100.0	1,030.00	9,670.00
P-4-L	5/1/2006 12:46	--	6.9	--	5.3	0.3	39.8	5	>100.0	1,050.00	9,500.00
P-4-L	5/1/2006 13:01	--	7.0	--	5.3	0.4	37.5	7	>100.0	7,120.00	9,450.00
P-4-L	5/1/2006 13:18	--	7.0	--	5.2	0.3	39.6	6	>100.0	946	8,560.00
P-4-L	5/1/2006 13:31	--	6.9	--	5.4	0.3	36	5	>100.0	1,180.00	9,840.00
P-4-L	5/1/2006 13:32	--	6.9	--	5.4	0.4	4.1	7	>100.0	1,130.00	9,490.00
P-4-L	5/1/2006 13:46	--	7.3	--	5.2	0.3	37.3	5	>100.0	--	--
P-4-L	5/1/2006 14:01	--	6.9	--	5.3	0.2	38.8	4	>100.0	1,150.00	9,420.00
P-4-L	5/3/2006 13:32	--	6.0	--	5.6	0.1	38.4	2	>100.0	1,100.00	10,090.00
P-4-L	5/3/2006 13:45	--	5.9	--	5.6	0.1	37.1	2	>100.0	1,130.00	9,980.00
P-4-L	5/3/2006 14:00	--	5.8	--	5.5	0.2	37.5	3	>100.0	1,280.00	10,020.00
P-4-L	5/3/2006 14:15	--	5.8	--	5.5	0.2	39.9	3	>100.0	1,310.00	10,360.00
P-4-L	5/3/2006 14:16	--	5.8	--	5.6	0.3	41.2	6	>100.0	1,350.00	10,800.00
P-4-L	5/3/2006 14:30	--	5.5	--	5.7	0.2	40.3	4	>100.0	1,340.00	10,160.00
P-4-L	5/3/2006 14:45	--	5.6	--	5.6	0.2	39.6	3	>100.0	1,270.00	10,300.00
P-4-L	5/3/2006 15:00	--	5.6	--	5.8	0.1	38.9	2	>100.0	1,340.00	9,880.00
P-4-L	5/3/2006 15:15	--	5.6	--	5.7	0.1	39.6	2	>100.0	1,390.00	10,140.00
P-4-L	5/5/2006 12:30	--	6.1	--	5.6	0.1	37.6	2	>100.0	4,310.00	10,120.00
P-4-L	5/5/2006 12:45	--	6.7	--	5.4	0	35.5	0	>100.0	1,140.00	9,300.00
P-4-L	5/5/2006 13:00	--	5.8	--	5.4	0.1	37.5	1	>100.0	1,320.00	10,300.00
P-4-L	5/5/2006 13:15	--	6.3	--	5.5	0.3	34.8	5	>100.0	1,320.00	9,710.00
P-4-L	5/5/2006 13:30	--	6.2	--	5.5	0.2	36.2	3	>100.0	1,320.00	9,870.00
P-4-L	5/5/2006 13:45	--	5.9	--	5.5	0.2	35.7	3	>100.0	1,650.00	11,380.00
P-4-L	5/5/2006 14:00	--	5.3	--	5.6	0.2	36.6	4	>100.0	1,290.00	9,690.00
P-4-L	5/5/2006 14:15	--	5.7	--	5.5	0	>100.0	0	0	1,650.00	12,320.00
P-4-L	5/5/2006 14:45	--	5.3	--	5.8	2	36.3	0.2	>100.0	1,500.00	10,210.00
P-4-L	5/5/2006 14:46	--	5.4	--	5.8	6	37.5	0.3	>100.0	--	--
P-4-L	5/5/2006 15:00	--	5.4	--	5.8	2	34.4	0.1	>100.0	1,470.00	10,730.00
P-4-L	5/5/2006 15:15	--	5.6	--	5.8	0.2	34.9	2	>100.0	1,560.00	10,450.00
P-4-L	5/5/2006 15:30	--	5.7	--	5.8	0.3	36.8	5	>100.0	1,510.00	10,590.00
P-4-L	5/12/2006 9:14	--	4.7	--	6.0	0.2	51.5	3	>100.0	1,300.00	11,200.00

Table A-6
Soil Vapor Field Measurements from Wells Greater Than 30 ft, 2006 to October 2008
Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
P-4-L	5/12/2006 9:31	--	4.3	--	6.0	0.1	55.2	2	>100.0	1,250.00	10,450.00
P-4-L	5/12/2006 9:55	--	4.6	--	5.8	0.2	44.5	3	>100.0	1,550.00	11,450.00
P-4-L	7/4/2006 9:10	3.0	--	6.9	--	0.5	--	10	--	--	--
PL-101A	4/21/2006 7:17	--	0.0	--	10.2	14.9	>100.0	>100.0	>100.0	142,400.00	182,400.00
PL-102A	2/28/2006 16:29	--	0.3	--	6.3	--	9.3	--	>100.0	--	--
PL-102A	3/2/2006 8:02	--	0.7	--	6.6	--	8.6	--	>100.0	480	3,088.00
PL-102A	3/3/2006 11:47	--	0.0	--	6.5	--	0.4	--	8	--	--
PL-102A	3/3/2006 8:15	--	6.3	--	5.0	--	5.1	--	>100.0	46	355
PL-102A	3/3/2006 8:16	--	2.0	--	6.4	--	7.9	--	>100.0	94	681
PL-102A	3/3/2006 9:15	--	0.2	--	6.4	--	6.2	--	>100.0	110	--
PL-102A	3/4/2006 19:08	--	0.2	--	6.4	--	3.3	--	67	--	--
PL-102A	3/4/2006 19:09	0.1	--	6.2	--	0.8	--	16	--	--	--
PL-102A	3/6/2006 17:01	0.0	0.0	6.3	6.3	0	5.8	0	>100.0	--	--
PL-102A	3/9/2006 14:40	0.0	0.0	5.9	5.8	0	32.8	0	>100.0	6,880.00	72,432.00
PL-102A	3/17/2006 7:56	0.0	0.0	6.5	6.3	0	14.4	0	>100.0	1,104.00	7,360.00
PL-102A	3/17/2006 7:57	0.0	0.0	6.5	6.3	0	14.4	0	>100.0	1,088.00	7,232.00
PL-102A	3/22/2006 8:16	0.0	0.0	7.0	7.0	0	2.3	0	46	--	--
PL-102A	3/30/2006 8:45	0.0	0.0	6.4	6.5	0	4.1	0	83	672	5,200.00
PL-102A	4/6/2006 16:22	0.0	0.0	5.9	6.0	0.5	11.3	10	>100.0	704	3,280.00
PL-102A	4/14/2006 6:55	0.0	0.0	5.6	5.6	0	35.6	0	>100.0	1,440.00	11,040.00
PL-102A	7/15/2008 08:02	--	4.7	--	7.8	<0.1	<0.1	<1.0	<1.0	64.5	64.5
PL-102A	10/3/2008 8:24	--	4.0	--	7.8	<0.1	<0.1	<1.0	<1.0	36.2	36.2
PL-103A	2/28/2006 9:50	--	9.8	--	6.5	--	0	--	0	--	--
PL-103A	3/2/2006 8:40	--	9.1	--	6.8	--	0	--	0	--	--
PL-103A	3/3/2006 15:00	--	8.9	--	6.5	--	0	--	0	--	--
PL-103A	3/6/2006 8:36	8.4	8.3	6.8	6.9	0	0	0	0	--	--
PL-103A	3/6/2006 8:37	8.5	8.4	6.6	6.9	0	0	0	0	--	--
PL-103A	3/7/2006 18:10	8.2	8.1	7.0	7.0	0	0	0	0	--	--
PL-103A	3/8/2006 16:46	8.0	7.9	6.8	6.9	0	0	0	0	--	--
PL-103A	3/8/2006 16:47	8.0	8.0	6.8	6.9	0	0	0	0	--	--
PL-103A	3/9/2006 7:52	8.2	8.1	7.4	7.5	0	0	0	0	--	--
PL-103A	3/10/2006 16:12	8.5	8.5	6.9	7.0	0	0	0	0	2	3

Table A-6
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Focused Human Health Risk Assessment
Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
PL-103A	3/10/2006 16:13	--	--	--	--	--	--	--	--	3	3
PL-103A	3/13/2006 8:38	8.8	8.8	7.2	7.3	0	0	0	0	--	--
PL-103A	3/21/2006 8:25	8.8	8.7	6.8	7.0	0	0	0	0	--	--
PL-103A	3/29/2006 9:59	8.8	8.7	6.3	6.5	0	0	0	0	0	10
PL-103A	4/6/2006 14:04	8.3	8.2	6.4	6.5	0	0	0	0	270	400
PL-103A	4/12/2006 13:03	8.7	8.6	5.9	5.8	0	0	0	0	30	140
PL-103A	4/12/2006 13:04	8.7	8.7	5.8	5.8	0	0	0	0	30	130
PL-103A	9/22/2006 11:54	--	7.8	--	7.5	0	0	0	0	--	--
PL-105A	2/3/2006 18:37	--	6.3	--	--	--	--	--	--	--	--
PL-105A	2/28/2006 9:50	--	20.6	--	0.0	--	0	--	0	--	--
PL-105A	3/2/2006 12:43	--	21.3	--	0.0	--	0	--	0	--	--
PL-105A	3/8/2006 11:53	20.2	20.2	0.0	0.0	0	0	0	0	--	--
PL-105A	3/9/2006 18:22	19.8	19.6	0.3	0.4	0	0	0	1	--	--
PL-105A	7/4/2006 12:48	6.2	--	4.0	--	0	--	0	--	--	--
PL-105A	9/29/2006 9:12	--	0.2	--	8.3	0.5	0.6	10	12	--	--
PL-201A	2/28/2006 9:02	0.0	0.0	11.7	11.7	5	7.6	100	--	--	--
PL-201A	3/2/2006 9:17	--	3.8	--	9.9	--	2.2	--	45	--	--
PL-201A	3/7/2006 17:42	0.3	0.3	10.7	10.7	0.6	4.6	12	92	--	--
PL-201A	3/10/2006 14:51	1.1	1.0	12.7	12.7	0	2.9	0	59	1,856.00	3,456.00
PL-201A	4/28/2006 10:30	--	0.9	--	10.7	6	10.6	>100.0	>100.0	60,000.00	64,960.00
PL-2102	2/23/2006 16:50	--	0.0	--	7.1	--	6.9	--	>100.0	--	--
PL-2102	2/28/2006 12:15	--	0.1	--	8.5	--	6.6	--	>100.0	29,760.00	31,680.00
PL-2102	3/2/2006 11:06	--	0.0	--	8.8	--	12.1	--	>100.0	--	--
PL-2102	3/4/2006 18:30	0.0	--	8.0	--	5.6	--	>100.0	--	--	--
PL-2102	3/4/2006 18:31	0.0	--	7.8	--	5.4	--	>100.0	--	--	--
PL-2102	3/5/2006 11:09	--	0.5	--	7.9	--	5.9	--	>100.0	--	--
PL-2102	3/5/2006 11:10	0.5	--	7.8	--	4.8	--	96	--	--	--
PL-2102	3/7/2006 15:10	0.0	0.0	7.6	7.7	3.9	5	78	>100.0	--	--
PL-2102	3/9/2006 9:50	0.0	0.0	8.3	8.3	3.8	4.1	76	82	--	--
PL-2102	3/9/2006 9:51	0.0	0.0	8.3	8.3	4	4.4	81	87	--	--
PL-2102	3/13/2006 11:41	0.0	0.0	8.6	8.6	3.8	4.2	76	85	--	--
PL-2102	3/13/2006 11:42	0.0	0.0	8.6	8.6	4	4.3	81	87	--	--

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
PL-2102	3/21/2006 11:50	0.0	0.0	8.1	8.0	3.3	4.1	66	83	--	--
PL-2102	3/21/2006 11:52	0.0	0.0	8.0	8.0	3.5	4	69	81	--	--
PL-2102	3/28/2006 11:55	0.0	0.0	8.4	8.6	3.7	4.3	74	86	38,720.00	--
PL-2102	3/28/2006 11:56	0.0	0.0	8.4	8.5	3.8	4.5	77	90	--	42,720.00
PL-2102	4/5/2006 8:32	0.0	0.0	7.8	7.9	3.5	10.2	7	>100.0	39,840.00	39,520.00
PL-2102	4/13/2006 10:58	0.0	0.0	7.3	7.3	3.3	8.3	66	>100.0	17,040.00	30,880.00
PL-2102	9/26/2006 12:34	--	0.0	--	7.4	4.6	9.9	89	>100.0	--	--
PL-2102	7/14/2008 12:22	--	<0.1	--	8.2	0.9	10.1	17	>100.0	4,171.60	4,171.60
PL-2102	10/3/2008 12:03	--	<0.1	--	8.1	6	12.6	>100.0	>100.0	67,742.10	84,719.60
PMW-10-L	7/30/2008 09:54	--	1.6	--	6.5	<0.1	<0.1	<1.0	<1.0	31.2	31.2
PMW-10-L	10/13/2008 13:46	--	0.6	--	7.2	<0.1	<0.1	<1.0	<2.0	27.1	27.1
PMW-11-L	7/2/2008 1:15	--	<0.1	--	4.8	1.4	4	28	80	3,559.70	21,823.40
PMW-11-L	7/16/2008 00:55	--	<0.1	--	6.5	3.9	4.7	78	94	31,036.40	44,113.90
PMW-11-L	10/16/2008 00:48	--	<0.1	--	7.2	1.8	2	37	40	39,390.80	41,450.40
PMW-12-L	7/2/2008 3:55	--	3.9	--	4.8	<0.1	0.1	<1.0	2	2.1	10.3
PMW-12-L	10/7/2008 11:24	--	1.3	--	6.3	<0.1	<0.1	<1.0	<1.0	23.8	23.8
PMW-13-L	6/26/2008 2:50	--	0.3	--	3.8	1.3	2	26	40	8,500.00	12,395.00
PMW-13-L	10/7/2008 9:20	--	<0.1	--	3.6	2.7	2.9	54	54	44,222.90	48,445.40
PMW-1-ML	7/29/2008 06:15	--	<0.1	--	10.1	15.3	34.8	>100.0	>100.0	>193,201.2	>193,201.2
PMW-1-ML	10/8/2008 13:25	--	<0.1	--	10.3	17.2	17.3	100	100	85,460.50	>50,000.0
PMW-1-ML	10/17/2008 09:41	--	<0.1	--	11.5	10.2	25.5	>100.0	>100.0	129,580.00	150,761.70
PMW-2-ML	7/28/2008 12:45	--	0.1	--	10.8	2	18.7	39	>100.0	131.1	14,218.90
PMW-2-ML	10/9/2008 8:05	--	<0.1	--	12.2	0.4	11.6	7	100	8,972.60	20,319.80
PMW-3-ML	7/29/2008 08:31	--	<0.1	--	10.2	35.6	NM	>100.0	>100.0	>182,879.3	>182,879.3
PMW-3-ML	10/9/2008 11:03	--	<0.1	--	10.4	60.4	100	100	100	35,137.70	54,090.70
PMW-4-ML	7/28/2008 11:02	--	0.1	--	12.9	16.2	80.1	>100.0	>100.0	NM	NM
PMW-4-ML	10/10/2008 11:54	--	<0.1	--	14.5	9.4	52.7	>100.0	>100.0	119,782.70	156,031.30
PMW-5-ML	7/30/2008 07:27	--	<0.1	--	8.7	42.3	NM	>100.0	>100.0	92,372.20	108,257.70
PMW-5-ML	10/13/2008 10:59	--	<0.1	--	9.7	33.1	>100.0	>100.0	>100.0	>50,000.0	>50,000.0
PMW-5-ML	10/17/2008 11:06	--	<0.1	--	7.6	37.8	NM	>100.0	>100.0	332,602.60	504,546.90
PMW-6-ML	7/30/2008 08:48	--	<0.1	--	15.7	50.1	NM	>100.0	>100.0	84,814.50	161,451.50
PMW-6-ML	10/13/2008 8:23	--	<0.1	--	16.9	39.6	>100.0	>100.0	>100.0	>50,000.0	>50,000.0

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
PMW-7-ML	7/30/2008 06:19	--	<0.1	--	10.7	14.9	66.5	>100.0	>100.0	81,815.90	115,792.10
PMW-7-ML	10/10/2008 14:41	--	<0.1	--	10.8	3.6	41.6	72	>100.0	51,461.00	93,767.90
PMW-8-ML	7/28/2008 13:58	--	0.3	--	12.4	30	30.1	>100.0	>100.0	>217,292.4	>217,292.4
PMW-9-ML	7/29/2008 12:38	--	0.1	--	5.4	10.7	19	>100.0	>100.0	83,065.90	92,483.40
PMW-9-ML	10/14/2008 8:51	--	<0.1	--	7.0	7.7	12.7	>100.0	>100.0	79,126.10	85,820.60
SMW-10-L	6/11/2008 4:10	--	10.9	--	4.9	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
SMW-10-L	10/14/2008 23:20	--	11.9	--	5.1	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
SMW-11-L	6/20/2008 0:00	--	13.2	--	3.1	0.1	0.1	2	2	43.1	71.7
SMW-11-L	10/15/2008 02:00	--	10.8	--	3.7	<0.1	<0.1	<1.0	<1.0	<0.9	<0.9
SMW-13-L	6/11/2008 2:12	--	6.8	--	3.2	<0.1	<0.1	<1.0	<1.0	<1.2	<1.2
SMW-13-L	10/15/2008 00:33	--	9.1	--	2.9	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
SMW-14-L	7/16/2008 03:05	--	8.5	--	2.8	0.1	0.1	2	2	<1.3	<1.3
SMW-14-L	10/6/2008 13:48	--	6.0	--	3.1	<0.1	<0.1	<1.0	<1.0	<1.4	<1.4
SMW-1-L	7/9/2008 09:55	--	<0.1	--	10.8	0.2	1.2	4	23	104.2	104.2
SMW-1-L	10/3/2008 8:53	--	<0.1	--	10.8	0.5	0.9	12	20	2,937.00	8,660.70
SMW-3-L	7/9/2008 13:02	--	6.5	--	5.1	0.1	0.1	2	2	89.7	100.2
SMW-3-L	10/3/2008 11:21	--	4.8	--	6.5	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-4-L	7/10/2008 08:49	--	<0.1	--	7.5	0.2	0.9	2	18	290.8	311.7
SMW-4-L	10/6/2008 9:59	--	<0.1	--	7.8	0.4	1.3	9	27	21,625.80	22,458.00
SMW-6-L	7/10/2008 12:28	--	3.7	--	7.1	<0.1	<0.1	<1.0	<1.0	95.8	103
SMW-6-L	10/3/2008 14:45	--	3.4	--	7.3	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-7-L	7/11/2008 08:41	--	8.7	--	5.9	<0.1	<0.1	<1.0	<1.0	27.8	27.8
SMW-7-L	10/6/2008 14:43	--	7.9	--	5.9	<0.1	<0.1	<1.0	<1.0	<0.5	<0.5
SMW-9-L	6/19/2008 1:50	--	11.8	--	3.2	<0.1	<0.1	<1.0	<1.0	<1.1	<1.1
SMW-9-L	10/15/2008 03:16	--	10.9	--	3.8	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0
SVE-1	2/3/2006 14:53	--	0.2	--	--	--	--	--	--	--	--
SVE-1	2/28/2006 7:30	--	0.0	--	13.1	--	3	--	61	7,584.00	8,768.00
SVE-1	2/28/2006 7:34	--	0.0	--	13.1	--	3	--	61	7,632.00	8,800.00
SVE-1	3/2/2006 8:27	--	0.0	--	13.7	--	0.8	--	15	--	--
SVE-1	3/7/2006 17:02	0.0	0.0	12.1	12.1	10.7	18.9	--	--	--	--
SVE-1	3/10/2006 14:09	0.9	0.7	11.3	11.7	8.2	16.6	>100.0	>100.0	69,760.00	66,720.00
SVE-1	3/14/2006 13:47	0.0	0.0	11.8	11.7	6.9	17.4	>100.0	>100.0	65,024.00	64,288.00

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Location ID	Date/Time	Oxygen-W (%V/V)	Oxygen-WO (%V/V)	Carbon Dioxide -W (%V/V)	Carbon Dioxide-WO (%V/V)	Methane-W (%V/V)	Methane-WO (%V/V)	LEL-W (%V/V)	LEL-WO (%V/V)	FID-W (ppm)	FID-WO (ppm)
SVE-1	3/16/2006 9:32	0.0	0.0	12.2	12.0	8.3	22	>100.0	>100.0	--	--
SVE-1	3/16/2006 9:33	0.0	0.0	11.8	11.8	8.4	22.3	>100.0	>100.0	--	--
SVE-1	3/21/2006 8:55	0.0	--	11.7	--	5.2	20	>100.0	>100.0	--	--
SVE-1	3/21/2006 8:56	0.0	--	11.8	--	5.4	20.4	>100.0	>100.0	--	--
SVE-1	3/23/2006 9:47	0.0	0.0	11.2	11.1	5.2	20.8	>100.0	>100.0	--	--
SVE-1	3/23/2006 9:48	0.0	0.0	11.1	11.2	5.3	20.9	>100.0	>100.0	--	--
SVE-1	3/28/2006 12:27	0.0	0.0	10.7	10.8	5.3	21.2	>100.0	>100.0	39,520.00	42,240.00
SVE-1	3/30/2006 11:26	0.0	0.0	9.8	10.7	3.3	24.5	66	>100.0	--	--
SVE-1	3/30/2006 11:27	0.0	0.0	10.1	10.4	3.2	24.4	64	>100.0	--	--
SVE-1	4/3/2006 12:16	0.1	0.2	9.7	9.6	2.4	14.8	49	>100.0	21,600.00	25,600.00
SVE-1	4/7/2006 12:09	0.0	0.0	10.0	10.1	2.6	16.5	53	>100.0	--	--
SVE-1	4/10/2006 13:44	0.0	0.0	9.8	9.7	1.3	21.9	26	>100.0	14,080.00	19,040.00
SVE-1	4/10/2006 13:45	0.0	0.0	10.0	9.7	1.3	21.6	27	>100.0	14,080.00	19,360.00
SVE-1	4/13/2006 9:30	0.0	0.0	9.7	10.0	1.3	24.4	27	>100.0	--	--
SVE-1	4/13/2006 9:31	0.0	0.0	9.6	9.9	1.4	24.3	28	>100.0	--	--
SVE-1	4/28/2006 11:33	--	0.0	--	11.0	1.4	12.3	28	>100.0	13,760.00	18,864.00

Notes:
-- = no value recorded
-W = measurement taken with a carbon filter
-WO = measurement taken without a carbon filter
%V/V = percent volume per volume
% = percent
CO_2 = carbon dioxide
FID = flame ionization detector
LEL = lower explosive limit
O_2 = oxygen
ppm = parts per million
NM = not measured
< or 0.0 = non-detect
> = Greater than