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June 2, 2010

VIA CERTIFIED AND ELECTRONIC MAIL
pwyels@waterboards.ca.gov

Philip G. Wyels
Assistant Chief Counsel
State Water Resources Control Board
Office of the Chief Counsel
1001 I Street, 22nd Floor
Sacramento, CA 95814

Re: **PETITION OF BELL INDUSTRIES, INC. (WATER CODE SECTION 13267 ORDER DATED MARCH 29, 2010, REQUIRING SUBMISSION OF A WORK PLAN AND CONSTRUCTING A GROUNDWATER INVESTIGATION AT THE FORMER BELL INDUSTRIES FACILITY AT 1831 RITCHEY STREET IN SANTA ANA, ORANGE COUNTY) SANTA ANA WATER BOARD: NO REVIEW OF PETITION**

Dear Mr. Wyels:

Receipt is acknowledged of your letter of May 25, 2010, for which we thank you. While we continue to believe that the captioned petition was filed in accordance with Water Code §13300, i.e., within thirty days of the March 29, 2010 Water Code §13267 order issued by the Santa Ana Regional Board, we are most appreciative of the opportunity to supplement that petition by briefly highlighting for the State Board what we believe are the compelling reasons that justify the State Board in reviewing this matter. At your request, this letter only highlights the reasons why Bell believes the State Board should grant it relief. The petition previously filed by Bell contains detailed support for the arguments made herein and reference to it should be made for evidentiary support for those arguments.

1. Background: Over $10 Million Invested, Closure on Soils, Installation of Expanded Remediation System, Substantial Reduction in Contaminant Levels

Bell Industries' facility at the subject site closed its doors in 1993 after 25 years of operations. Voluntary site remediation has been conducted since that time without the issuance of any orders of any kind either by the Regional Board or any other governmental agency prior to the March 29, 2010 §13267 order that is the subject of Bell's appeal to the State Board. To date, Bell has spent over $10 million on site remediation. Bell's business on the site closed in 1993 and Bell received a closure letter with respect to soils at the site in 1994; accordingly all sources of contamination have been removed for many years. Bell has made very substantial progress in remediation of groundwater. An expanded remediation system at the subject site began operating at the end of November, 2008 and has produced outstanding results. Since that time there has been an overall 60% reduction in 1,1 DCE and a 59% reduction in 1,4 Dioxane, the two chemicals of concern. With the exception of well GWX-6, concentrations of 1,1 DCE in individual extraction wells decreased by 59% to 89% while 1,4 Dioxane concentrations decreased by 26% to 84%. Concentrations in well GWX-6 remained relatively stable, which was expected since it is located at the downgradient edge of the plume and is extracting more highly impacted groundwater to the north, and potentially impacted groundwater from the Universal Circuits site to the south which is upgradient of GWX-6. Bell believes these data reflect outstanding results for a pump and treat system operating in difficult soil conditions. See the table at the end of this letter.

2. The Regional Board's Letter of April 2, 2009, Which is Attached to Its §13267 Order of March 29, 2010, Acknowledges the Effectiveness of Bell's Remediation System, but Nevertheless Requires the Installation of Additional Wells in Three Areas, as Follows:

a. Upgradient – Not Downgradient -- of GWX-6, Bell's Southernmost Well. This Portion of the Order is Unsupportable Because Water Cannot Flow Uphill

The portion of the Order requiring additional wells south of Bell's former site "in the shallow and intermediate zones along the nose of the plume, to define the extent of Bell's contamination beneath the AEW and ORCO properties [sic], as well as Newport Circle" would require Bell to install one or more wells within the contamination plume of Universal Circuits. The Universal Circuits plume is south of, but upgradient – not downgradient – of Bell's southernmost extraction well, GWX-6, which is already on the AEW property. (For the sake of accuracy, there is no "ORCO" property and there is no entity by the name of "ORCO." AEW is the owner of the property where Bell extraction well GWX-6 was installed and "OLEC," not "ORCO," was a former tenant of AEW). The only way any contamination located in the area described in this section of the Order could be "Bell's contamination" is if water flowed uphill.

Of course, the uphill flow of water is impossible. Accordingly this portion of the §13267 order is not supported by any evidence and is by definition arbitrary and capricious. Bell has written evidence in the form of a report to a U.S. District Court Judge that the Regional Board has told representatives of Universal Circuits that, but for the pendency of the lawsuit brought against 17 defendants (including both Universal Circuits and Bell) by the Orange County Water District, the Universal Circuits site would be appropriate for closure. If that is the case, there cannot be any reason for requiring Bell to investigate UCI's plume.

b. The Order Also Requires Installation of an Additional Well In the Area of Bell's Existing Well MW-4B In the Mistaken Belief That Area Was a Source Area of Contamination and Despite numerous CPT Borings that Have Failed to Reveal Any Substantial Amount of Contamination in the Local Deep Zone

The portion of the Order requiring installation of an additional well in the immediate vicinity of existing wells Mw-4/MW-4B is likewise misplaced, both because it is based on the false premise that such area was a source area of contamination and also because it ignores the results of several CPT and other borings conducted by Bell over a period of years. MW-4/MW-4B have experienced an 89% decrease in the level of 1,1 DCE and a 75% decrease in the level of 1,4 Dioxane in only eleven months of operation of Bell's expanded remediation system. Those are the facts. In light of those facts it simply makes no sense to believe that such area was a source area of contamination, which is the false premise on which the Regional Board has based this portion of its order. In this instance, the Regional Board's coupling of the lack of empirical evidence with a false premise results in the conclusion that additional characterization – which to the Board means an additional well – is required. This simply does not follow. This portion of the Order is an abuse of discretion because it is both factually and conceptually wrong.

c. Finally, the Order Requires Installation of One and Possibly Two Additional Wells At a Location the Regional Board Disapproved After Initially Approving Bell's Request that Wells Be Installed There and Instead Ordered the Relocation of Such Wells to the East; The Board Now Wants Bell to Spend an Additional $75,000 to $100,000 to Place Wells Where Bell Wanted to Install Them (and the Board Approved It) in the First Place

The portion of the Order requiring additional well installation "beneath and beyond (west) the [sic] Powerwave facility" is, if possible, even more arbitrary than the other parts of the Order. **In fact, Bell originally proposed installing two wells between 75 and 100 feet west of where wells 27 and 27B are now installed. The Regional Board approved and then, one week later, changed its mind and directed Bell to install those wells at their present location, to the east. At that time Bell reminded the Regional Board that it had approved the westerly location just a week before. Of course, this made no difference to**

the Regional Board, which in typical fashion acted without benefit of any empirical data at all and directed Bell to install the wells in their present location. No one ever contemplated that it was appropriate or necessary to install four wells on the Powerwave property, but that is what the Board's order would require. There is simply no evidence to support this; therefore, it constitutes an arbitrary and capricious action. As noted on the face of the Order, the capture zone of the existing wells is sufficient to draw in groundwater from the location where the Order would require that the new wells be installed.

3. THE REGIONAL BOARD'S ORDER IS A GROSS VIOLATION OF WATER CODE §13360.

Section 13360(a) of the Water Code provides in pertinent part:

> "No waste discharge requirement or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and the person so ordered shall be permitted to comply with the order in any lawful manner."

The Regional Board's March 29 §13267 Order violates virtually every phrase of the statute. It specifically requires the installation of wells. It requires Bell to provide the Board with "boring logs and well construction data [and] groundwater elevation data" which obviously could be supplied only if wells were to be installed. It purports to specify the locations where wells are to be installed. And of course it does all these things with complete disregard for the facts. To the extent the Regional Board's §13267 order violates Water Code §13360 it is simply contrary to law and cannot stand.

4. CONCLUSION:

Bell has been engaged in the voluntary remediation of the subject site since 1993. It has spent over $10 million in the process. Prior to the issuance of the subject March 29, 2010 order neither the Regional Board nor any other governmental agency had issued any orders or citations against Bell. Bell's remediation of the site is ongoing and is successful by any objective measure. Bell asks only that it be permitted to continue to remediate its former site, but without having to investigate anyone else's plume, or install wells where there is manifestly no need or justification for them, or install additional wells where the only reason is that the Regional Board arbitrarily changes its mind as to their optimal location.

When Bell began its remediation process it was a New York Stock Exchange listed company. It is now traded on the pink sheets and may soon be delisted from there. It is able to continue to operate its existing remediation system in the system's present form and size but is not able to afford the large additional expenditures necessitated by the Regional Board's March 29th Order. If Bell cannot obtain relief from the Regional Board's March 29th Order then it will not have sufficient resources to continue its longstanding and very successful remediation activities and the State of California, whether through the Water Board, the Department of Toxic Substances Control, or some other agency will have to assume the cost and make the effort to do what Bell is already successfully doing. It should require no extended discussion to demonstrate that such an outcome would be both unnecessary and extremely undesirable.

Based upon the foregoing, Bell Industries requests that the State Water Resources Control Board review the Santa Ana Regional Water Quality Control Board's March 29, 2010 Order to Bell. Thank you for your consideration.

Very truly yours,

Thomas F. Vandenburg of
DONGELL LAWRENCE FINNEY LLP

TFV:sd

cc: Gerald J. Thibeault – CA Reg. Water Control Board, GThibeault@waterboards.ca.gov
David Rice – Office of the Chief Counsel – SWRCB, DavidRice@waterboards.ca.gov
Charles Troy – Bell Industries, ctroy@bellind.com
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Sample	Date	Pre/Post Startup	1,1-DCE (ug/L)	1,4-Dioxane (ug/L)	1,1-DCE Percent Increase/Decrease Since System Startup	1,4-Dioxane Percent Increase/Decrease Since System Startup
System Influent	10/23/08	Baseline	2,000	290	-60%	-59%
	12/12/08	1 Month Post Startup	1,400	180		
	3/26/09	4 Months Post Startup	1,600	190		
	6/15/09	7 Months Post Startup	880	130		
	9/28/09	11 Months Post Startup	760	150		
	12/10/09	13 Months Post Startup	810	120		
MW-4B	9/22/08	Baseline	16,000	1,700	-89%	-75%
	12/12/08	1 Month Post Startup	3,700	540		
	3/26/09	4 Months Post Startup	2,700	100		
	6/15/09	7 Months Post Startup	1,800	400		
	9/28/09	11 Months Post Startup	1,700	420		
GWX-1	9/22/08	Baseline	7,300	1,200	-79%	-84%
	12/12/08	1 Month Post Startup	2,500	420		
	3/26/09	4 Months Post Startup	1,600	300		
	6/15/09	7 Months Post Startup	810	210		
	9/28/09	11 Months Post Startup	1,500	190		
MW-19B-P	9/23/08	Baseline	2,600	190	-70%	-26%
	12/12/08	1 Month Post Startup	1,100	120		
	3/26/09	4 Months Post Startup	1,100	140		
	6/15/09	7 Months Post Startup	920	100		
	9/28/09	11 Months Post Startup	790	140		
MW-26B	9/23/08	Baseline	5,400	650	-67%	-80%
	12/12/08	1 Month Post Startup	1,800	250		
	3/26/09	4 Months Post Startup	2,200	180		
	6/15/09	7 Months Post Startup	1,700	180		
	9/28/09	11 Months Post Startup	1,800	130		
OW-2B	9/23/08	Baseline	4,400	250	-75%	-52%
	12/12/08	1 Month Post Startup	2,400	51		
	3/26/09	4 Months Post Startup	2,000	170		
	6/15/09	7 Months Post Startup	1,100	130		
	9/28/09	11 Months Post Startup	1,100	120		
OW-3B	9/23/08	Baseline	1,800	110	-80%	-55%
	12/12/08	1 Month Post Startup	1,200	140		
	3/26/09	4 Months Post Startup	940	100		
	6/15/09	7 Months Post Startup	540	50		
	9/28/09	11 Months Post Startup	360	49		
MW-25C	9/22/08	Baseline	3,200	440	-59%	-70%
	12/19/08	1 Month Post Startup	1,700	150		
	3/26/09	4 Months Post Startup	2,200	170		
	6/15/09	7 Months Post Startup	1,200	120		
	9/28/09	11 Months Post Startup	1,300	130		
GWX-6	9/22/08	Baseline	400	68	50%	29%
	12/19/08	1 Month Post Startup	450	51		
	3/26/09	4 Months Post Startup	660	71		
	6/15/09	7 Months Post Startup	470	57		
	9/28/09	11 Months Post Startup	600	88		

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Re: **PETITION OF BELL INDUSTRIES, INC. (WATER CODE SECTION 13267 ORDER DATED MARCH 29, 2010, REQUIRING SUBMISSION OF A WORK PLAN AND CONSTRUCTING A GROUNDWATER INVESTIGATION AT THE FORMER BELL INDUSTRIES FACILITY AT 1831 RITCHEY STREET IN SANTA ANA, ORANGE COUNTY) SANTA ANA WATER BOARD: NO REVIEW OF PETITION**

Dear Mr. Wyels:

Receipt is acknowledged of your letter of March 29, 2010 regarding the appeal filed by Bell Industries, Inc.

Your letter concludes that the appeal filed by Bell was received at 6:12 PM on March 28, 2010 and that accordingly, pursuant to Title 23, §2050(b) of the California Code of Regulations the filing was 72 minutes late, thus automatically depriving the State Board of jurisdiction to consider the appeal. The authority cited for that proposition is Water Code §13320 and your letter describes the supposedly late filing as "jurisdictional."

We would appreciate your comments and the State Board's consideration. Thank you for your courtesy in this regard.

Very truly yours,

Thomas F. Vandenburg of
DONGELL LAWRENCE FINNEY LLP

TFV:sd

cc: Gerald J. Thibeault – CA Reg. Water Control Board – GThibeault@waterboards.ca.gov
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April 28, 2010

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State Water Resources Control Board
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Re: APPEAL OF MARCH 29, 2010 ORDER BY GERALD J. THIEBEAULT PURSUANT TO WATER CODE SECTION 13267 TO BELL INDUSTRIES REQUIRING IT TO SUBMIT A WORK PLAN AND CONDUCT A GROUNDWATER INVESTIGATION AT THE FORMER BELL INDUSTRIES FACILITY AT 1831 RITCHEY STREET IN SANTA ANA, CALIFORNIA, SLIC CASE NO. SLT8R110

Dear Ms. Bashaw:

Bell Industries, Inc. ("Bell") hereby petitions the State Water Resources Control Board to review the attached March 29, 2010 Order by Gerald J. Thibeault, Executive Officer, California Regional Water Quality Control Board, Santa Ana Region. Bell makes such petition because, as explained in detail below, Bell believes that significant technical evidence exists which contradicts (1) the information provided under "The Need for the Investigation" contained on page 4 of the March 29, 2010 Order, and (2) the "Evidence Supporting the Need for the Investigation" contained on page 4 of the March 29, 2010 Order. Bell requests that the State Water Resources Control Board issue an Order directing Mr. Thibeault to withdraw his March 29, 2010 Order to Bell. Bell has provided a copy of this petition to Mr. Thibeault at the Santa Ana Regional Water Quality Control Board.

In order to fully explain the technical bases for Bell's request for the State Water Resources Control Board to review the March 29, 2010 Order, Bell provides below (1) a summary of site investigation/remedial history; (2) the background to the March 29, 2010 Order; and (3) a detailed explanation of the technical bases for Bell's request. Technical data supporting these technical bases are provided in Attachment 1 – Figures, Attachment 2 – Tables, and Attachment 3 – Exhibits A-C.

1.0 Site Investigation/Remedial History

A. GROUNDWATER INVESTIGATION HISTORY

The first groundwater investigation at the former Bell facility located at 1831 Ritchey Street, Santa Ana, California ("Site") (Figure 1) occurred in late 1993 and early 1994. Eleven wells were installed at the Site, referred to as MW-1 through MW-12, with the exception of MW-5 (Figure 2). These initial 11 wells were located on the 1831 Ritchey Street parcel, the parking lot immediately to the east, in St. Andrew Place immediately north of Bell's former operations, or in Glenwood Place immediately south of Bell's former operations. The first 11 wells were all completed in the local shallow zone. Volatile organic compounds (VOCs), predominantly 1,1-dichloroethene (1,1-DCE), were present in all of the wells, including MW-1 and MW-2 on St. Andrew Place, and MW-4, MW-8, and MW-9 on Glenwood Place.

In 1997, additional investigation was conducted to further define the extent of VOC impacts and assist in the design of the initial remediation activity – operation of a multi-phase extraction (MPE) system that would remediate both shallow soil and shallow groundwater. Wells MW-5 and MW-13 through MW-17 were installed in the local shallow zone and wells MW-2B, MW-3B, MW-5B, and MW-13B were installed in the local intermediate zone. The additional wells installed in 1997 indicated the presence of VOCs on the parcel north of 1831 Ritchey Street (MW-16 and MW-17). VOCs were also detected in wells south of Glenwood Place (MW-13, MW-13B, and MW-14) located on the east side of the bakery immediately south of the Site (Figure 2).

In early 1999, seven additional monitoring wells were installed on the west and south sides of the bakery parcel. These wells included shallow and intermediate zone well pairs at the MW-19, MW-20, and MW-21 locations and a deep zone well at PDW-1. These seven wells were first sampled in March 1999, about the time the MPE system began operation. VOCs were detected in all of these wells.

Between May and December 2004, ten cone-penetrometer (CPT) borings (CPT-1 to CPT-10) and eight CPT/membrane interface probe (MIP) borings (MIP-1 to MIP-8) were completed to assess groundwater conditions south-southwest of the Site. Hydropunch™ groundwater samples were also collected at each of the ten CPT boring locations (CPT-1 to CPT-10). Analytical results from the Hydropunch™ groundwater samples collected on the south side of the bakery property (CPT-1 to CPT-7) indicated the presence of elevated VOCs and 1,4-dioxane similar to groundwater monitoring well results from this area. The VOC and 1,4-dioxane concentrations generally decreased with depth. The highest concentrations were found in the 36-foot deep sample from CPT-6 (1,1-DCE and 1,4-dioxane were detected at concentrations of 11,000 µg/L and 1,100 µg/L, respectively). The 70-foot bgs sample from CPT-6 contained only 3.9 µg/L 1,1-DCE while 1,4-dioxane was not detected. The furthest downgradient Hydropunch™ sampling point (CPT-8, located approximately 300 feet south-southwest of the southern side of the bakery) contained 1,1-DCE at a concentration of 3,200 µg/L and 1,4-dioxane at a concentration of 260 µg/L at 31 feet bgs. The 63-foot deep sample from CPT-8 contained 1,1-DCE at a concentration of 870 µg/L and 1,4-dioxane at a concentration of 72 µg/L.

In 2006, nine groundwater monitoring wells (MW-22, MW-22B, MW-23, MW-23B, MW-24, MW-24C, MW-25, MW-25B, and MW-25C) were installed south of the site in accordance with the RWQCB-approved Downgradient Groundwater Assessment Work Plan, dated June 30, 2006.

Well MW-26B was installed in October 2006, well MW-25D was installed in December 2006, wells MW-22C, MW-23C, MW-28, MW-28B, MW-29, and MW-29B were installed during the 2007 First Quarter, wells MW-30 and MW-30B were installed in June 2007, and wells MW-32 and MW-32B were installed in August 2007.

Additional details on the remedial responses that have already been conducted to-date based on the nature and extent of contamination and the current groundwater investigation activities are provided in the following sections.

B. PRIOR REMEDIAL ACTIONS ON OR ADJACENT TO THE SITE

Soil remediation activities at the Site included excavation of shallow impacted soils between approximately 1993 and 1995 (and issuance of a No Further Action letter for soil by the RWQCB dated April 13, 1994).

Soil vapor sampling to confirm that soil remediation activities conducted at the site in 1984 and 1993, along with soil vapor extraction conducted as part of remediation activities from 1999 to 2006, removed the bulk of the VOC mass from the vadose zone soils at the site such that residual VOCs do not exceed applicable screening-level values. Results of the soil vapor sampling were provided to the RWQCB under separate cover.

Remedial activities for deeper soil near the capillary fringe and shallow groundwater from approximately 15 to 30 feet below ground surface (bgs) have included MPE and groundwater extraction system operations starting in 1999 and continuing through 2006.

Intermediate groundwater zone remedial activities started in 1999 with the MPE system, continued in 2005 with the addition of groundwater extraction wells south of the Site on the downgradient side of the bakery parcel, and in 2007 with the preparation of a February 4, 2008 Remedial Action Plan (RAP) and installation of the full-scale groundwater extraction system and extraction wells. The full-scale system started operation in November 2008. Additional details on full-scale groundwater extraction system performance to-date are provided in Section 1G of this letter.

C. HISTORICAL MPE EXTRACTION OPERATIONS

In late 1997 and early 1998, an Interim Corrective Action Plan (ICAP, dated May 27, 1998) was prepared by the Park Corporation to address soil and groundwater contamination emanating from former Site operations. The ICAP was submitted to the RWQCB for approval. After receiving conditional approval from the RWQCB, a total of 54 wells for soil vapor and shallow groundwater extraction (EW-1 to EW-54) were installed and the MPE remediation system facilities were constructed in the parking lot to the east of the 1831 Ritchey Street building (Figure 3). These shallow extraction wells were generally screened from approximately 15 to 30 feet bgs. Six existing groundwater monitoring wells (MW-3B-P, MW-5-P, MW-5B-P, MW-13-P, MW-13B-P, and MW-14) were also connected to the MPE system to expand the soil vapor/groundwater extraction operations into the intermediate groundwater zone. The MPE system was operational by early 1999, but shut down in early 2001 when The Park Corporation went out of business. The exact date of the system shut down is not known.

From December 2001 to April 2002, URS tested a replacement MPE unit using granular activated carbon (GAC) for extracted vapor and liquid treatment and additional treatment modules for removing excess total suspended solids. On July 23, 2002, a Revised Remediation

and Site Closure Approach Report (URS, 2002b), which provided a summary of remedial system operations and a description of the revised treatment system, was submitted to the RWQCB. The revised treatment system in accordance with this report was installed in late August and September 2002 and operated until November 2003.

On November 24, 2003, the system was shut-down when laboratory results received from the November 14, 2003 sampling event showed that the effluent concentration of 1,4-dioxane had exceeded the newly established maximum daily discharge limit. From January to February 2004, URS tested and then installed an advanced oxidation technology treatment system (Applied Process Technology's HiPOx™) for the destruction of 1,4-dioxane. The HiPOx™ advanced oxidation technology mixes hydrogen peroxide and ozone to form hydroxyl radicals, an aggressive oxidant to destroy 1,4-dioxane and VOCs including TCE and 1,1-DCE.

The MPE system operated until August 8, 2005, at which time the system was shut down for a two-month period to upgrade the system to increase the groundwater extraction capabilities from the intermediate zone. The MPE system restarted operation in October 2005 and continued until June 2006 when the vapor phase portion of the system was shut down for rebound testing in preparation for a request for vapor phase system closure.

D. MPE VAPOR PHASE REBOUND AND SOIL CONFIRMATION TESTING FOR CLOSURE

In mid-2006, a vapor rebound test was conducted on the MPE portion of the remediation system, as agreed to by the RWQCB during a meeting on June 8, 2006. On June 27, 2006, vapor samples were collected from nine MPE wells (EW-1, EW-12, EW-13, EW-19, EW-22, EW-23, EW-40, EW-41, and EW-54). These wells are located throughout the area being remediated by the MPE system and were chosen to correspond with locations that have shown relatively elevated vapor and groundwater VOC and 1,4-dioxane concentrations in the past. The vapor phase portion of the MPE system was shut down on June 28, 2006 and remained down for approximately one month. Upon restarting the vapor phase portion of the MPE system on August 3, 2006, vapor samples were collected from the same nine wells. All samples were analyzed for VOCs and 1,4-dioxane by Environmental Protection Agency (EPA) Method TO-14A. In addition, during the second round of sampling (following the shut down period) vapor samples were collected from five MPE wells located on the outer edge of the extraction well field (EW-7, EW-30, EW-44, EW-48, and EW-51) where extraction has not occurred due to low VOC vapor concentrations in these areas. The samples were analyzed for VOCs and 1,4-dioxane

by EPA Method TO-14A to confirm the low concentrations in these areas. Analytical results from the vapor rebound test, provided in the Third Quarter 2006 report, indicated that while VOC concentrations rebounded in a limited number of wells, the remaining VOC mass in the unsaturated zone was too limited to be effectively extracted by the MPE system and that the vapor phase portion of the system was ready to be shutdown.

Based on discussions with the RWQCB during a meeting on September 21, 2006 and the electronic mail correspondence from the RWQCB dated December 12, 2006, collection and analysis of confirmation soil samples was required in the vicinity of extraction well EW-12 and cluster monitoring wells MW-2/MW-2B-P, MW-3/MW-3B-P, and MW-5-P/MW-5B-P for the RWQCB to approve vapor phase portion of the MPE system shutdown. The RWQCB correspondence required that the soil borings be advanced to 40 feet bgs to "verify current levels of contamination in deeper soil intervals." The correspondence further indicated that the shallow results (0 to 15 feet bgs) could be used to evaluate whether shutdown of the vapor phase portion of the MPE system is appropriate while the deeper data could be used to evaluate if additional remedial techniques may be required in the future. A description of a revised scope of work for the confirmation soil sampling was provided to the RWQCB in the URS letter dated December 21, 2006 (URS, 2006). The confirmation soil sampling program was approved by the RWQCB in the letter dated January 17, 2007.

The confirmation soil sampling program occurred on February 23, 2007. Analytical results from the confirmation soil sampling, provided in the 2007 First Quarter report (URS, 2007a), confirmed that residual concentrations of VOCs in shallow unsaturated soils (upper 15 feet) were very low. Within this depth interval, 1,1-DCE concentrations ranged from non-detect to 2.6 micrograms per kilogram (µg/kg), 1,1,1-trichloroethane (1,1,1-TCA) concentrations ranged from 0.54 (J) µg/kg to 6.2 µg/kg, and trichloroethene (TCE) concentrations ranged from non-detect to 7.5 µg/kg. The data demonstrated that the vapor phase portion of the MPE system was effective in removing the majority of the VOC mass from the shallow zone to approximately 30 feet bgs, and that there was not sufficient mass remaining to justify continued operation of the vapor phase portion of the MPE system, or to create any appreciable rebound. Therefore, permanent shut down and removal of the vapor phase portion of the MPE system was justified.

Based on these soil confirmation samples as well as results from groundwater sampling of the MPE wells in 2008, the RWQCB approved abandonment of 48 of the MPE equipment and 48 of the 54 associated MPE wells located on the Site and the adjacent property/City streets. The

six remaining MPE wells were left in place for potential future groundwater monitoring use. The equipment and well abandonment work was completed in 2009.

VOC concentrations in soil samples collected from the underlying saturated zone at 20 to 40 feet bgs were generally low, with the highest concentrations typically occurring at 40 feet bgs. Within this depth interval, 1,1-DCE, 1,1,1-TCA, and TCE were detected at concentrations up to 930 µg/kg, 7.9 µg/kg, and 860 µg/kg, respectively. Of the sixteen samples analyzed for 1,4-dioxane, only two contained detectable concentrations, with a maximum concentration of 0.75 milligrams per kilogram (mg/kg). These deeper saturated zone data demonstrated that no additional remedial activities beyond the proposed groundwater remedial actions discussed below would be necessary beneath the Site.

E. EXPANDED MPE AND INTERMEDIATE ZONE GROUNDWATER EXTRACTION OPERATIONS

The MPE system was shut-down on August 8, 2005 for a two-month period to upgrade the system to accommodate three new groundwater extraction wells installed at the Site (GWX-1 to GWX-3). The three wells, installed in April 2005 and screened from approximately 30 to 55 feet bgs, were installed along the south side of Glenwood Place (Figure 2). Pneumatic pumps were installed in each well and conveyance piping was installed to the existing MPE treatment system compound. The extracted groundwater was treated using the existing HiPOx™ advanced oxidation treatment system and two 1,000-pound, liquid-phase GAC vessels in series.

In preparation for the system upgrade, the existing National Pollutant Discharge Elimination System (NPDES permit) (Permit No. CAG918001) was revised with RWQCB approval on June 15, 2005, to allow for an increased discharge of 28,800 gallons per day (gpd). On September 16, 2005, the existing South Coast Air Quality Management District (SCAQMD) Contaminated Groundwater Treatment System Permit to Operate (PTO R-F65954) was revised with SCAQMD approval to increase the maximum allowable amount of treated groundwater to 28,800 gpd and the maximum allowable total VOC concentration in extracted groundwater to 15,000 µg/L.

The expanded groundwater extraction system was re-started on October 12, 2005. As of June 30, 2007, the MPE and groundwater extraction and treatment system had extracted, treated, and discharged approximately 12,870,000 gallons of groundwater into the nearby storm drain. Of this amount, approximately 10,400,000 gallons (approximately 81% of the total amount

removed since December 2001) were extracted and treated from the beginning of Fourth Quarter 2005 through the end of Second Quarter 2007 at an average rate of approximately 17 gallons per minute (gpm). The significant increase in extracted groundwater was the result of the three newly installed groundwater extraction wells (GWX-1, GWX-2, and GWX-3). This phase of the groundwater extraction system was stopped in April 2008, so that operations could be further expanded to the current full-scale system (Section 1F).

F. IMPLEMENTATION OF THE FULL-SCALE GROUNDWATER REMEDIATION SYSTEM IN ACCORDANCE WITH THE FEBRUARY 4, 2008 RAP

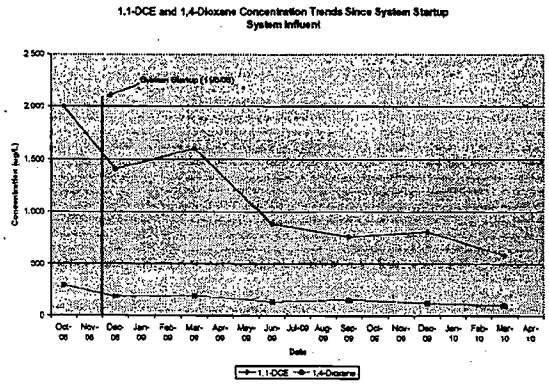
During the second and third quarters of 2008, work included construction of a new, full-scale, 50 gpm HiPOx™ advanced oxidation treatment system, submittal of a SCAQMD permit modification application, preparation of design drawings, procurement of a City of Santa Ana encroachment permit, and initiation of field activities, including trenching and piping installation and modifications to the treatment compound. Three new groundwater extraction wells (GWX-4, GWX-5, and GWX-6) were also added to the southern portion of the plume (Figure 2).

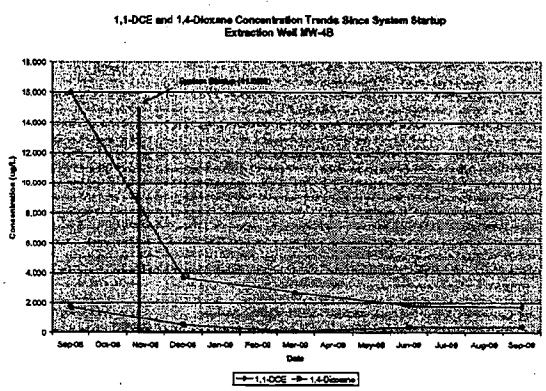
On November 5, 2008, an expanded groundwater extraction and treatment system began operating at the site. Groundwater is currently extracted from eight groundwater extraction wells (GWX-1, GWX-6, MW-4B, MW-19B-P, MW-25C, MW-26B, OW-2B, and OW-3B), conveyed to a treatment system located within an enclosure on the east side of the 1831 Ritchey Street parcel, treated by particulate filters, a HiPOx™ advanced oxidation treatment system, and two 1,000-pound, liquid-phase granular activated carbon (GAC) vessels in series, and discharged to the sanitary sewer under OCSD Special Purpose Discharge Permit No. 51-294. Details on system operation over the past 17 months is provided in Section 1G below.

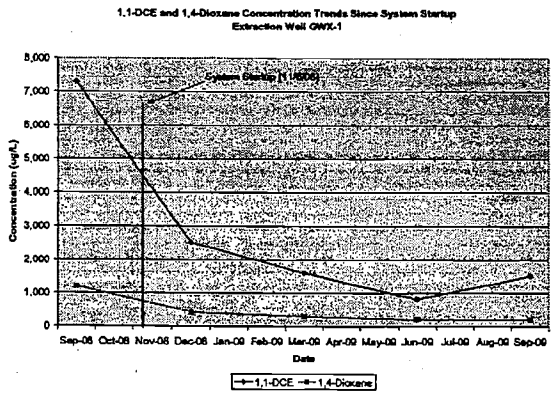
G. SUMMARY OF GROUNDWATER REMEDIATION RESULTS DURING FIRST 17 MONTHS OF FULL-SCALE SYSTEM OPERATIONS AND EFFECT ON THE PLUME CONDITIONS

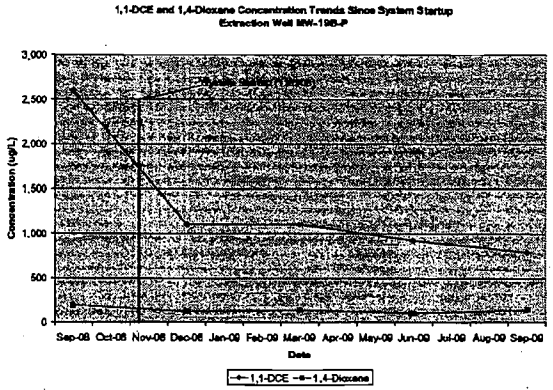
Since startup of the expanded full-scale groundwater extraction system on November 5, 2008, the system has been extracting groundwater at an overall extraction rate of approximately 45 gpm from eight groundwater extraction wells (GWX-1, GWX-6, MW-4B, MW-19B-P, MW-25C, MW-26B, OW-2B, and OW-3B) located along the length of the plume, from just south of the former Bell facility (extraction wells MW-4B and GWX-1) to the south end of the AEW property (extraction well GWX-6). The system has operated at an uptime of approximately 88%.

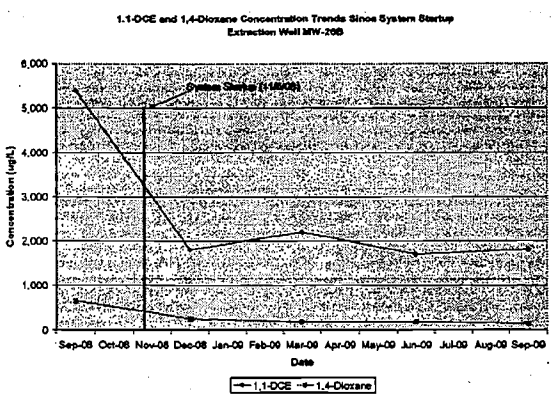
Since startup of the expanded system in November 2008, approximately 28,860,000 gallons have been extracted and treated, which is approximately 63% of the total amount of groundwater removed during remediation activities since 2001 (45,760,000 gallons). The system influent and individual extraction well analytical results demonstrate a significant decrease in VOC and 1,4-dioxane concentrations (71% and 66% reduction in the system influent, respectively) in the first 17 months of system operations, as summarized in the following charts:

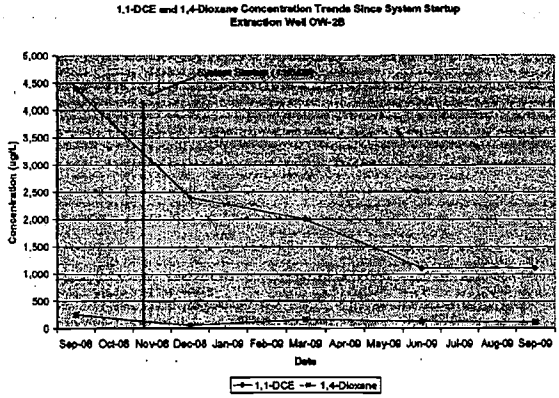


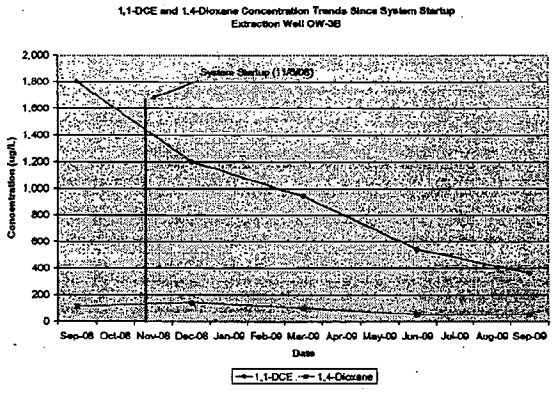


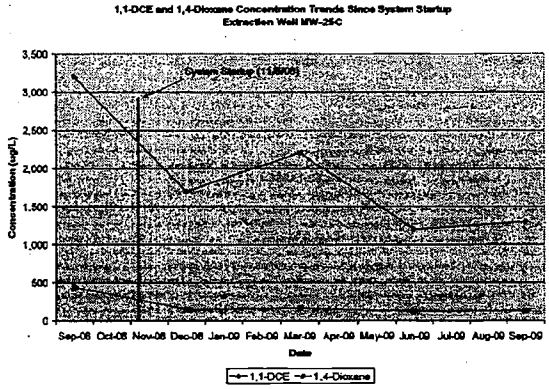


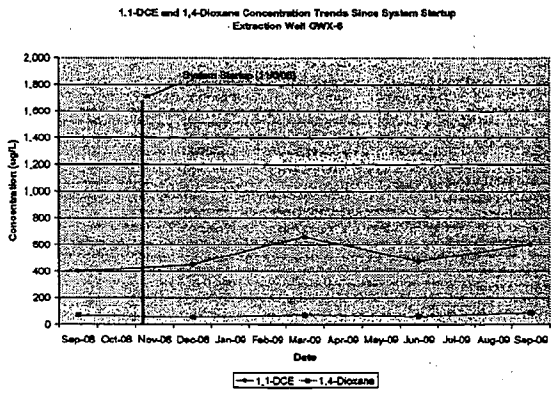






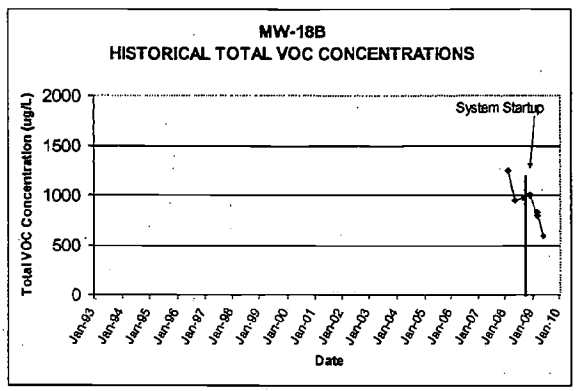


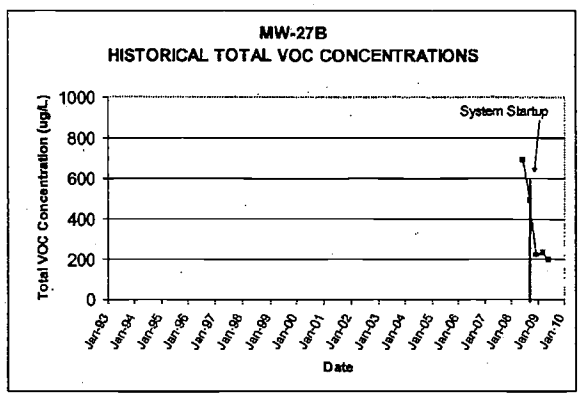


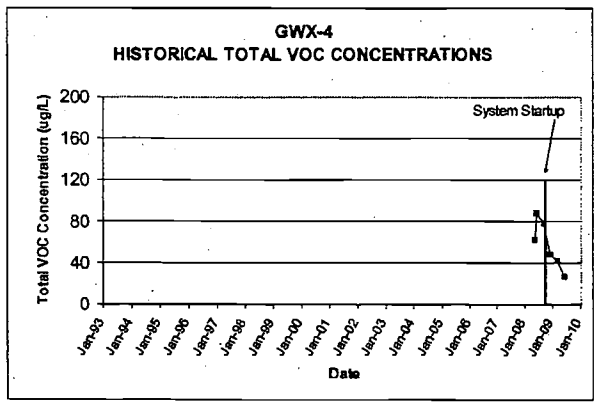


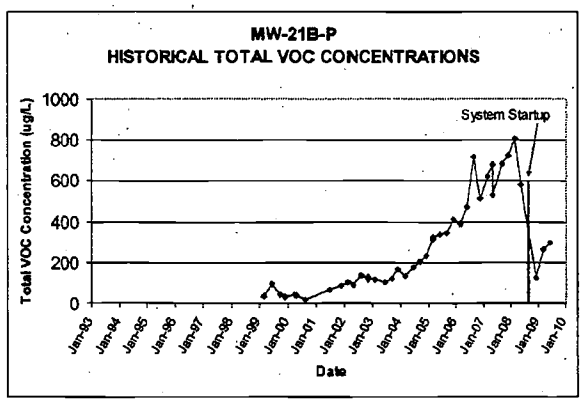
Not only has the expanded groundwater extraction and treatment system been very successful at reducing constituent concentrations along the central part of the plume, as summarized above, but it has also significantly reduced concentrations along the fringes of the plume, in the areas to the northwest (MW-18B and MW-27B), west (GWX-4), and east (MW-

21B-P). It is clear from the monitoring data that the expanded system is not only aggressively remediating the central core of the plume, from 1831 Ritchey Street to the AEW property, but that it is also containing and reducing concentrations in the fringe areas of the plume. Charts depicting contaminant trends in key periphery wells are provided below:









These data clearly support the capture zone analysis that was submitted in August 2009 and Bell's position that sufficient data exist to demonstrate that the remediation system is adequately addressing the impacted groundwater.

2.0 BACKGROUND OF THE WATER BOARD MARCH 29, 2010 ORDER

Bell Industries, Inc. (Bell) has received the California Regional Water Quality Control Board, Santa Ana Region (RWQCB) *Order Pursuant to Water Code Section 13267 to Submit a Work Plan and Conduct a Groundwater Investigation at the Former Bell Industries Facility at*

1831 Ritchey Street in Santa Ana, California, SLIC Case No. SLT8R110, dated March 29, 2010 (Order), which directs Bell to perform additional groundwater investigation. Specifically, the first paragraph of the section of the Order titled Requirement to Conduct Groundwater Investigation directs Bell to perform additional assessment in the following four areas:

- Area 1 "...additional characterization is necessary to define the vertical extent of groundwater contamination directly south of the site (e.g. MW-4C)..."
- Area 2 "Full lateral characterization is also necessary in the shallow and intermediate zones along the nose of the plume, to define the extent of Bell's contamination beneath the AEW and ORCO properties, as well as Newport Circle."
- Area 3 "...groundwater assessment is needed to delineate the extent of dissolved-phase contamination beneath and beyond (west) the (sic) Powerwave facility (e.g. MW-27C)"...
- Area 4 "...groundwater assessment is needed to delineate the extent of dissolved-phase contamination beneath and beyond (west) (sic) ...along St. Andrew Place (e.g. MW-24D)"

The evidence provided in the Order supporting the need for additional investigation consisted of a site vicinity map, the most recent groundwater plume maps submitted to the RWQCB in the *2009 Third Quarter Remediation Status and Groundwater Monitoring Report*, and a RWQCB correspondence dated April 2, 2009, that had previously requested additional groundwater investigation at two of the four areas described in the Order (Areas 1 and 2 above).

In response to the above-referenced April 2, 2009 correspondence, Bell submitted a letter to the RWQCB dated May 15, 2009, which provided a detailed technical analysis of data from the Bell site and the Universal Circuits, Inc. (UCI) site, located at 1720-1800 Newport Circle. Past releases from the UCI site have resulted in groundwater impacts of 1,1-DCE, 1,4-dioxane, and other related compounds, similar to the Bell site. The UCI plume is known to be present under Newport Circle and to the north of Newport Circle, based on historical sampling results from investigations and monitoring conducted by UCI. Bell has been directed by the RWQCB to perform additional assessment in this area. The May 15, 2009 correspondence submitted by Bell contained a detailed technical analysis of the available data supporting Bell's position that additional groundwater assessment was not warranted. Bell requested that, once the RWQCB

had an opportunity to review the May 15, 2009 correspondence, a meeting between Bell and the RWQCB be scheduled to discuss the issues. A response to the request for a meeting was not received from the RWQCB. It is Bell's position that the technical arguments previously provided to the RWQCB in the May 15, 2009 correspondence not only remain valid, but have been bolstered by data obtained since submittal of the May 15, 2009 correspondence. Provided herein is an updated detailed technical analysis supporting Bell's position that additional assessment directed in the Order is not warranted, especially given the significant reduction in groundwater concentrations that have occurred within the first 17 months of expanded full-scale groundwater extraction operations (Section 1G).

A. VERTICAL ASSESSMENT IN THE VICINITY OF EXISTING MONITORING WELL MW-4B IS UNNECESSARY

1. Vertical assessment in this area was already performed in 2004 through the use of CPT/MIP borings.

Vertical assessment in the vicinity of well MW-4B was already conducted in 2004. Two CPT/ MIP borings, denoted MIP-2 and MIP-3, were completed near MW-4B. MIP-2 was located approximately 30 feet southeast of MW-4B and MIP-3 was located approximately 60 feet southwest of MIP-3 (see Figure 2). The CPT/MIP borings were completed to a depth of approximately 68 feet bgs. At both locations, a sandy interval representing the local intermediate water-bearing zone was identified between approximately 50 to 52 ft bgs, and another sandy interval, representing the upper part of the local deep water-bearing zone, was identified below approximately 63 feet bgs.

The analytical detector logs for MIP-2 and MIP-3 indicate the presence of VOC impacts in groundwater within the local shallow and intermediate zones, where wells MW-4 and MW-4B are now installed (see data on the cross-section provided as Figure 4). The presence of VOCs is demonstrated on two of the three detectors and is consistent with the indication of VOCs on other MIP analytical detector logs that were used to evaluate the lateral and vertical extent of VOCs in the bakery area and south along Ritchey Street. The effectiveness of the MIP technique to identify the presence or absence of VOC impacts in groundwater at various depths was also confirmed with Hydropunch^{TM} groundwater samples in 2004 and subsequent well installation in the bakery area as part of the ChemOx pilot study and south along Ritchey Street. In contrast to the MIP results for the local shallow and intermediate zones in the vicinity of MW-4B, the data from MIP-2 and MIP-3 in the upper part of the local deep zone indicate the absence

of VOC contamination at depths below approximately 55 feet bgs (see data on attached cross-section provided as Figure 4).

2. **Investigative work throughout the length of the plume has demonstrated a significant reduction in VOC and 1,4-dioxane concentrations from the local intermediate zone to the local deep zone.**

The occurrence of 1,1-DCE concentrations in the range of several thousand micrograms per liter (µg/L) in the local intermediate zone, without appreciable impacts in the underlying local deep zone, has been demonstrated at several locations. For example, at the bakery area, 1,1-DCE was detected at 11,000 µg/L in a Hydropunch™ sample collected at a depth of 36 feet bgs at CPT-6. A deeper sample collected from 70 feet bgs at the same CPT-6 location, in the upper part of the local deep zone, contained 1,1-DCE at a concentration of only 3.9 µg/L. In local intermediate zone wells installed in the bakery area, relatively elevated levels of 1,1-DCE have been identified. Examples include:

- OW-1B – average approximately 6,000 µg/L;
- OW-2B – average approximately 4,000 µg/L;
- OW-3B – average approximately 2,000 µg/L;
- MW-20B – average approximately 6,000 µg/L; and
- MW-26B – average approximately 6,000 µg/L.

In contrast, well PDW-1, in the upper portion of the local deep zone, has an average 1,1-DCE concentration that is significantly less than 100 µg/L. Thus, there is substantial evidence that the local deep zone has not been substantially affected by VOCs present in the local intermediate zone in the vicinity of the former Bell facility and the bakery building.

The presence of 1,1-DCE and other constituents at elevated concentrations within the local deep zone only occurs in the area of the MW-22, MW-23, and MW-25 well clusters. In this area along Ritchey Street, the fine-grained silt/clay layer between the local intermediate zone and the uppermost sand in the local deep zone becomes very thin or may pinch out completely for short distances (see cross section provided as Figure 4). In contrast, in the area of MW-4B and the bakery, the intervening silt/clay layer between the local intermediate and deep zones is approximately 10 to 15 feet thick. Thus, the point at which the geology is conducive to commingling of groundwater between the local intermediate and local deep water-bearing zones

only occurs south of the bakery property, as demonstrated by the data from MIP-2, MIP-3, and PDW-1.

It should also be noted that the vertical extent of impacts along the length of the plume is well-defined. 1,1-DCE has not been detected above a concentration of 1.7 µg/L in the lower part of the local deep zone at MW-19C (located only 220 feet southwest of well MW-4B), MW-22C, MW-23C, and MW-25D. The existing monitoring data from these locations demonstrate that VOCs associated with the former Bell facility have not migrated vertically to depths that have the potential to pose a concern regarding the deeper regional aquifers.

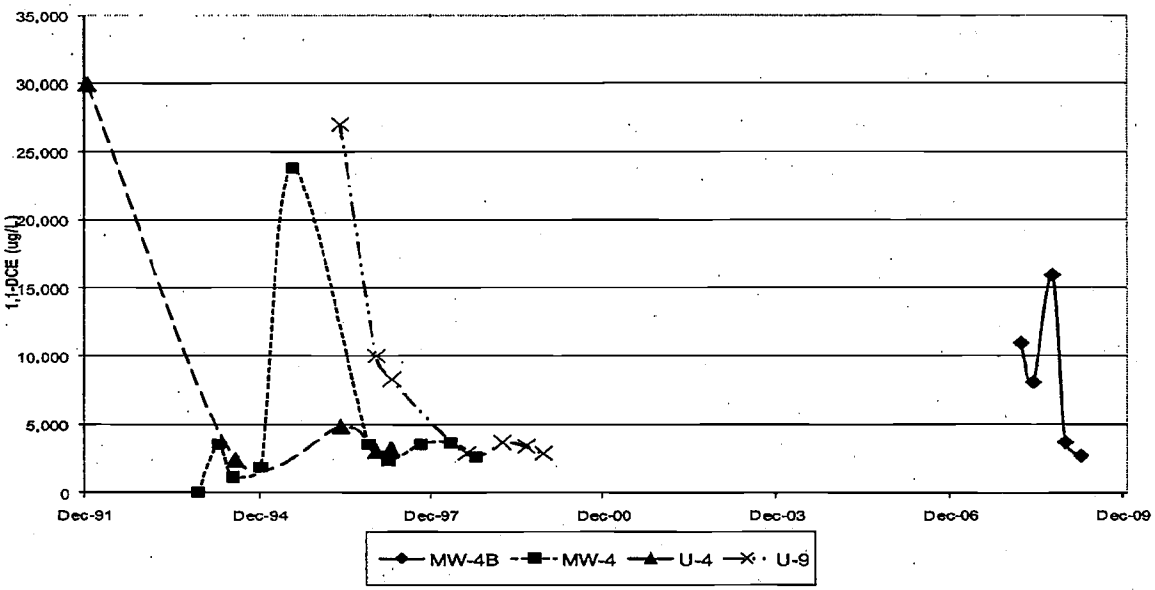
3. Initial concentrations in well MW-4B may have been anomalously high, similar to many other wells on both the Bell and UCI sites.

Well MW-4 was installed in the local shallow zone south of the former Bell facility building and first sampled in late 1993. The concentration of 1,1-DCE in groundwater samples collected from MW-4 varied significantly over the first two years of monitoring. Between November 1993 and November 1995, the 1,1-DCE concentration in MW-4 ranged from 94 µg/L to 23,800 µg/L. After this initial erratic period, 1,1-DCE concentrations stabilized in the range of approximately 3,000 µg/L (see Text Figure 1 below). As discussed in more detail below, anomalous sampling results have frequently been observed at various wells at the former Bell Industries site in the early stages of monitoring and treatment. Once equilibrium is reached, concentrations stabilize at levels that are only a small fraction of the isolated initial peaks or outliers.

Well MW-4B was installed adjacent to well MW-4 and was first sampled in March 2008. Between March 2008 and March 2009, the 1,1-DCE concentration in MW-4B ranged from 2,700 µg/L to 16,000 µg/L, but then stabilized at a level below 3,000 µg/L. However, following startup of the expanded groundwater extraction system in November 2008, the 1,1-DCE concentrations have since decreased to 1,700 µg/L (new data from 2009 Third Quarter). This behavior is similar to that observed for well MW-4, as discussed above. In fact, the occurrence of anomalous sampling results over the first 12 to 24 months of monitoring is relatively common in wells at the former Bell site and at the UCI site to the south. Examples are presented on Text Figure 1, below. The data from these wells, and others, demonstrate that initial concentrations are not typically representative and will stabilize, or reach equilibrium at appreciably lower values within one to two years after well installation. As shown on Text Figure 1 below, initial concentrations as high as 30,000 µg/L tend to decline and stabilize at

levels near approximately 3,000 µg/L. Therefore, the anomalous results of the initial samples from MW-4B were not indicative of the actual groundwater concentrations in the local intermediate zone at that location.

Figure 1. Early Concentration Data



4. Well MW-4B is Not Located Within a Source Area on the Former Bell Site.

The soil sampling and excavation work conducted in 1993 beneath and adjacent to the former Bell building did not indicate the presence of any persistent and substantial source area in the immediate vicinity of MW-4B, which is located on Glenwood Place south of the former Bell facility. The confirmation soil vapor testing conducted in May 2008 verified the earlier findings. Figure 5 depicts the location of the excavation areas and soil vapor confirmation sampling points in relation to well MW-4B and Table 1 summarizes the soil vapor confirmation sampling results. The closest soil vapor confirmation sampling point to well MW-4B (SV-5), contained the lowest concentration of both 1,1,1-TCA (the parent solvent used by Bell) and 1,1-DCE (abiotic degradation by-product of 1,1,1-TCA) of all the soil vapor confirmation sampling points (1.0 µg/L and 0.2 µg/L, respectively).

Furthermore, the 1,1-DCE concentrations in well MW-4B have significantly and consistently decreased in this well since initiation of groundwater extraction in November 2008. Concentrations of 1,1-DCE have been reduced to 1,700 µg/L (new data showing a 89% reduction) and 1,4-dioxane concentrations have been reduced to 420 µg/L (new data showing a 75% reduction). A consistent reduction of this magnitude would not be expected if an untreated surficial source area existed in the vicinity of well MW-4B.

5. Groundwater Concentrations Within the Bell Plume Do Not Support the Presence of a Highly Concentrated Source or Potential For DNAPL.

As noted above, the parent solvent used by Bell was 1,1,1-TCA. The primary VOC present in groundwater now is 1,1-DCE. The presence of 1,1-DCE is the result of a hydro-dehalogenation reaction of 1,1,1-TCA that occurs spontaneously in groundwater (Vogel, Criddle & McCarty, *Transformations of halogenated aliphatic compounds*, Environmental Science & Technology, Vol. 21, No. 8, 1987; Vogel & McCarty, *Rate of abiotic formation of 1,1-dichloroethylene from 1,1,1-trichloroethane in groundwater*, Journal of Contaminant Hydrology, Vol. 1, 1987). This is a strictly chemical reaction and not a result of biodegradation. The reaction only occurs to chemical mass that is present in the aqueous phase, and will not occur to 1,1,1-TCA present as a dense, non-aqueous phase liquid (DNAPL). Since the parent compound (1,1,1-TCA) is only altered in the aqueous phase, the daughter product (1,1-DCE) cannot be present as a non-aqueous phase, or DNAPL. Furthermore, even at the highest concentrations consistently measured at the Site, the presence of 1,1-DCE and other VOCs does not measurably affect the density of the groundwater. For example, if the total dissolved solids (TDS) level of the groundwater at the site averages 1,000 mg/L, a VOC concentration of 10,000 µg/L (i.e. 10 mg/L) will only change the mass of dissolved matter in the groundwater by one percent. Normal fluctuations in TDS, however, may be several tens of percent. Since the 1,1-DCE cannot be present as a DNAPL, and the mass contribution of the VOCs are nominal compared to the TDS, density-driven vertical migration of VOCs within the plume is not a viable fate and transport mechanism at this site.

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B. TECHNICAL ANALYSIS OPPOSING THE NEED FOR LATERAL ASSESSMENT AT THE NOSE OF THE PLUME (AREA 2) BECAUSE (1) THE SOUTHERN EXTENT OF BELL'S PLUME IS ALREADY DEFINED AND (2) CONTAMINANTS DETECTED IN THIS LOCATION RESULT FROM RELEASES AT THE UCI SITE

1. The Southern Extent of Impacts in the Local Shallow Zone and Local Deep Zone is Already Defined by Existing Monitoring Wells MW-32 and MW-32C.

Well cluster MW-32, MW-32B, and MW-32C, the farthest southerly multi-depth monitoring point of the Bell plume, was installed on the AEW property located at the southwest corner of Ritchey Street and St. Andrew place (see Figure 2). In the most recent samples collected (September 2009), the 1,1-DCE concentrations in local shallow zone well MW-32 and local deep zone well MW-32C were 27 µg/L and 41 µg/L, respectively, while 1,4-dioxane was only detected in well MW-32C, at the low concentration of 1.3 µg/L. These concentrations fall below the site characterization goals cited in the April 2, 2009 RWQCB correspondence (100 µg/L for 1,1-DCE and 50 µg/L for 1,4-dioxane). Therefore, based on the characterization goals alone, delineation of the southerly extent of the local shallow zone and the local deep zone is considered adequate and further assessment to the south is not warranted.

2. Based on Groundwater Elevations and Groundwater Monitoring Well Analytical Data on the UCI Site, Groundwater in the Local Shallow Zone Below Newport Circle and North of Newport Circle is Impacted by VOCs and 1,4-Dioxane From the UCI Site.

In the local shallow zone, the groundwater elevation in UCI well U-8, located on a property north of Newport Circle, has consistently been lower than shallow zone groundwater elevations on the UCI site since the well was installed through the most recent December 2009 data set (approximately one foot differential). Therefore, groundwater has been flowing from the UCI site to the north below Newport Circle towards and beyond local shallow zone well U-8 for multiple years (Figure 6). A second shallow zone well, U-4, was located on the northern portion of the UCI site and, prior to its abandonment, contained 1,1-DCE at concentrations ranging from 3,100 µg/L to 30,000 µg/L. Well U-4 was located only 100 feet upgradient of well U-8, and is a likely source of the 1,1-DCE detected at concentrations up to 270 µg/L in well U-8.

In addition, groundwater levels in the local shallow zone on the UCI site are approximately four to eight feet higher than the groundwater elevation in the local shallow zone in the Bell plume, which provides significant evidence that the Bell plume can not be contributing to the impacted groundwater at well U-8. This fact supports Bell's position, as discussed above, that the southerly extent of impacted groundwater in the local shallow zone associated with the Bell plume is defined by well MW-32, which contains only 27 µg/L of 1,1-DCE, significantly lower than the 1,1-DCE concentrations detected in UCI wells U-4 and U-8.

Based on the groundwater gradient in the local shallow zone on the UCI site, the groundwater elevation difference between the local shallow zone on the UCI site and the Bell site, and the fact that the Bell plume in the local shallow zone is delineated by well MW-32, any drilling performed on Newport Circle in the vicinity of well U-8 would encounter the UCI plume and any sampling of groundwater in the local shallow zone would result in detections of contaminants present within the UCI plume.

3. **Based on Groundwater Elevations and Groundwater Monitoring Well Analytical Data on the UCI Site, Groundwater in the Local Intermediate Zone Below Newport Circle is Likely Impacted By VOCs and 1,4-Dioxane From the UCI Site.**

The elevation of UCI intermediate zone well EX-6B has consistently been approximately one foot higher than the groundwater elevation in UCI intermediate zone wells EX-4B, EX-5B, and U-5B, all located north of well EX-6B. Although groundwater elevation contours for the local intermediate zone are typically not included in groundwater monitoring reports prepared for the UCI site, groundwater contours would clearly show groundwater flow to the north on the UCI site towards Newport Circle. In addition, the northerly or easterly extent of impacted groundwater in the intermediate zone has not been defined on the UCI site. Over the past 10 years, 1,1-DCE concentrations in well EX-4B has typically ranged from 180 µg/L to 430 µg/L and 1,1-DCE concentration in well U-5B have generally ranged from 260 µg/L to 400 µg/L, with occasional anomalously low results. As shown on the attached map (Attachment 1), the northerly or easterly extent of these impacts has not been defined.

The northerly groundwater flow in the intermediate zone will cause impacted groundwater from UCI site to flow to the north toward Newport Circle and Bell extraction well GWX-6. In addition, as a natural consequence of extraction well operation, GWX-6 will also be extracting water located on the southern side of the extraction well, which could potentially

further influence the northerly flow of groundwater in the local intermediate zone on the UCI site and potentially result in extraction of contaminants from the UCI site.

4. A revised calibrated capture zone analysis, submitted to the RWQCB on August 18, 2009, depicts the groundwater capture zone extending southward of extraction well GWX-6 to the UCI site.

A calibrated capture zone modeling report was submitted to the RWQCB on August 18, 2009. The model was calibrated using actual extraction rates for all groundwater extraction wells and current groundwater levels measured during groundwater extraction. The model also simulated the northerly groundwater flow on the UCI site as discussed in Note 3 above. A figure depicting the capture zone and its relation to the intermediate zone plume is provided in Figure 7. As shown on the figure, due to the northerly groundwater flow in the intermediate zone on the UCI site, the capture zone of well GWX-6 extends southward to the central portion of the UCI site. Based on the southerly extent of the capture zone, well GWX-6 will eventually (if not already occurring) begin extracting impacted groundwater from the UCI site. It should be noted that this extraction well was not intentionally designed to extract groundwater from this location. It was only after the analysis of the northerly groundwater gradient on the UCI site, that the potential for extraction from below Newport Circle and the UCI site was discovered.

5. Bell and UCI Summary.

The RWQCB Order states that "...at present, our agency is concerned with...the need for lateral delineation and downgradient delineation along the nose of Bell's plume...In order to expedite this phase of assessment, we recommend that the downgradient investigation be conducted in the public right-of-way area, along Ritchey Street and Newport Circle." The language in the Order *specifies the location in which compliance may be had with the Order* (emphasis added, see Water Code Section 13360(a)). The data presented below demonstrate that the Bell plume is, in fact, already fully characterized in the area along Ritchey Street and Newport Circle. The data demonstrate that there is, in fact, no evidence supporting the need for additional investigation in the areas explicitly specified in the Order. Even a cursory review of the available data in the area of Ritchey Street and Newport Circle, and adherence to the basic principle that water does not flow uphill, demonstrates that the Bell plume is adequately defined and that there is no evidence supporting the need for additional investigation in this area. The data discussed and evaluated for this assessment are readily available in consultant reports that have previously been submitted to RWQCB staff and cited in previous correspondence to

RWQCB staff. The RWQCB Order, however, does not cite or otherwise acknowledge any of the data or supporting documents listed below in the section of the Order entitled "Evidence Supporting the Need for the Investigation".

The evaluation and discussion below is based on the data and other information provided in the following documents:

- *Request for Closure Report, Former Universal Circuits/General Automation Facility, Santa Ana, California*, October 2008, Arcadis;
- *4th Quarter Groundwater Monitoring Report, Former Universal Circuits/Newport Circle Site, 1720-1800 Newport Circle, Santa Ana, CA*, March 8, 2010, Murex Environmental, Inc.;
- *2009 Third Quarter Remediation Status and Groundwater Monitoring Report, Bell Industries, Inc, Former Santa Ana Facility, 1831 Ritchey Street, Santa Ana, California*, October 29, 2009, URS;
- *Revised Calibrated Capture Zone Modeling Report, Former Bell Industries, Inc, Site, 1831 Ritchey Street, Santa Ana, California* August 18, 2009, URS;
- Letter from Charles S. Troy of Bell Industries, Inc. to Valerie Jahn-Bull of RWQCB, Subject: *Former Bell Industries, Inc. facility located at 1831 Ritchey Street, Santa Ana, California, RWQCB Letter of April 2, 2009 to Charles Troy of Bell Industries, Inc., Regional Board Case No. SLT8R110*, May 15, 2009;
- *Remedial Action Plan, Former Bell Industries Site, 1831 Ritchey Street – Santa Ana, California*, November 21, 2007, URS;

Bell has installed approximately 60 monitoring wells, 54 multi-phase extraction (MPE) wells, six groundwater extraction wells, and eight piezometers to investigate the lateral and vertical extent of its plume and remediate the groundwater. The investigations have identified three water-bearing zones in the shallow subsurface above a depth of approximately 100 feet to 120 feet below ground surface (ft bgs). These water-bearing zones have been designated as the local shallow, local intermediate, and local deep zones, respectively. The constituents of concern at the former Bell site are 1,1-dichloroethylene (1,1-DCE) and 1,4-dioxane. The primary solvent originally used at the site was 1,1,1-trichloroethane (1,1,1-TCA). 1,1-DCE is a breakdown product of 1,1,1-TCA that forms by a chemical (i.e. non-biological)

reaction in groundwater. 1,4-dioxane was a stabilizer added to 1,1,1-TCA by the solvent manufacturer or distributor.

Within the local shallow zone and local intermediate zone, the groundwater plume extends toward the southwest, as indicated on Exhibits A and B (Figures 5A and 5B, respectively, from the 2009 Third Quarter Remediation Status and Groundwater Monitoring Report). Within the local deep zone, 1,1-DCE has only been detected in three of seven wells and 1,4-dioxane has only been detected in two of seven wells, at relatively low concentrations.

To the southwest of the former Bell site is the former Universal Circuits, Inc. (UCI) site, at 1720 and 1800 Newport Circle. The former UCI site is located just west of Ritchey Street and south of Newport Circle, as shown on Exhibit C. Releases of 1,1,1-TCA, resulting in groundwater plumes containing 1,1-DCE and 1,4-dioxane, have also occurred at the former UCI site. The southernmost well installed by Bell (GWX-6) is approximately 200 feet north-northeast of the northernmost well installed by UCI (U-8). Therefore, it is imperative that the data from both the former Bell site and the former UCI site be carefully evaluated before a determination regarding the need for additional investigation in the area of Ritchey Street and Newport Circle be considered. The RWQCB Order does not cite any data, reports, or other evidence from the former UCI site, and therefore does not take all of the available information into consideration. In short, the RWQCB analysis is incomplete and misinformed.

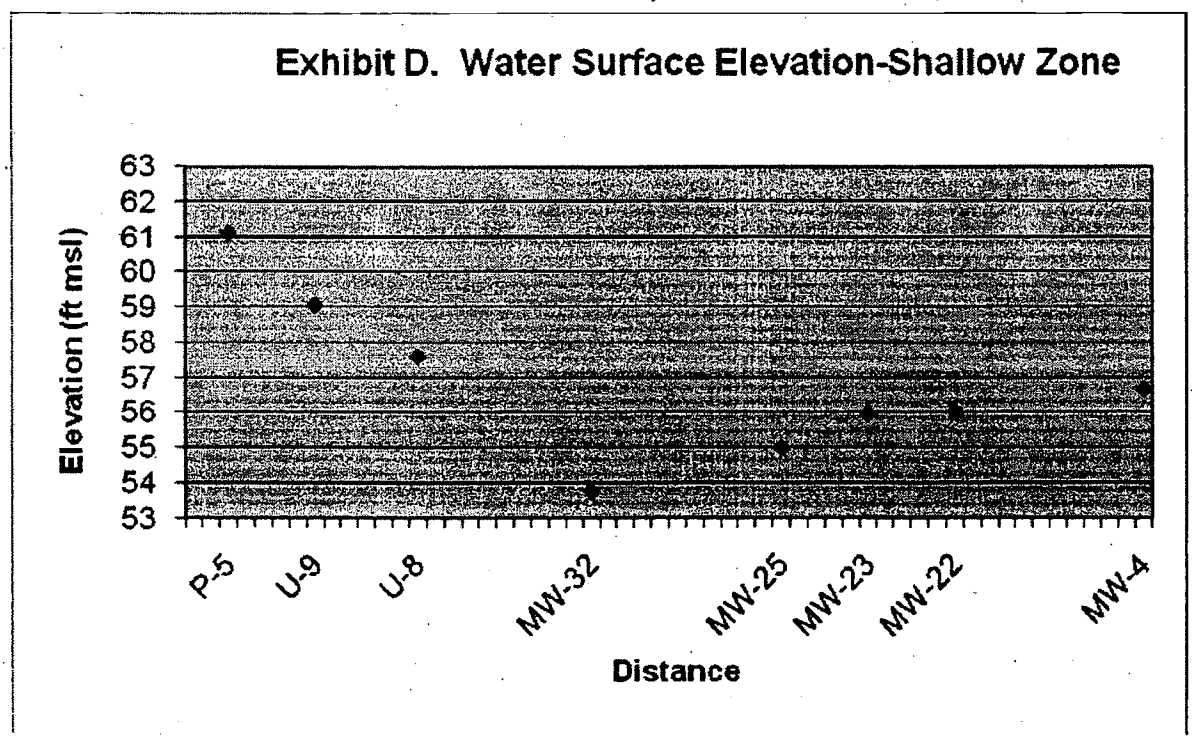
The discussion below presents a complete analysis of all available data, and explains why the Bell plume is adequately characterized in the area of Ritchey Street and Newport Circle. Separate evaluations are presented for the local shallow and local intermediate water-bearing zones.

Shallow Water-Bearing Zone

The discussion below addresses water levels in the UCI and Bell wells, and evaluates 1,1-DCE and 1,4-dioxane results in wells along and near Newport Circle and Ritchey Street. The data evaluation presented below clearly demonstrates that the water levels at Newport Circle and Ritchey Street are substantially higher than water levels within the entire offsite Bell plume (i.e. Newport Circle and Ritchey Street are upgradient, or "uphill", from the Bell plume). The data also demonstrate that existing local shallow zone wells along Newport Circle are impacted by 1,1-DCE and 1,4-dioxane at concentrations that are appreciably higher than those present in the southern end of the Bell plume.

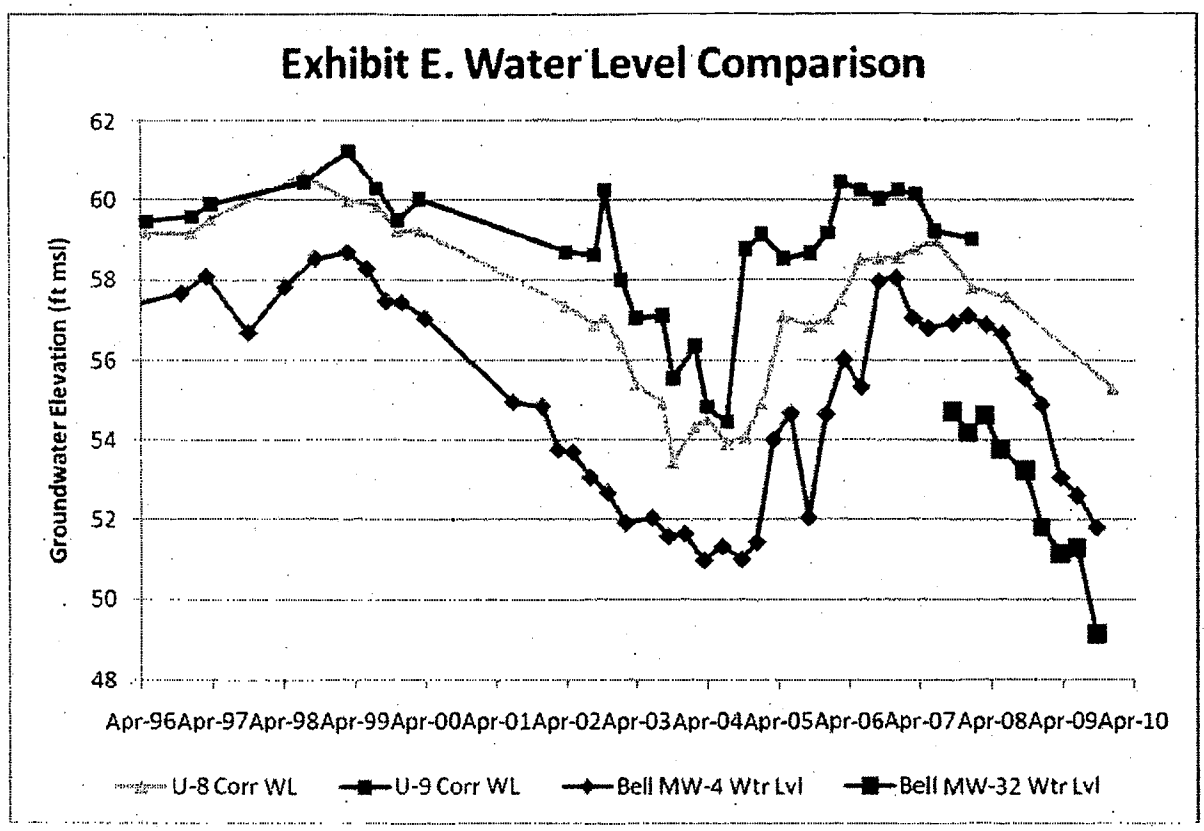
Water Levels

The southernmost well installed in the shallow water-bearing zone by Bell is well MW-32. The northernmost UCI shallow-zone well, well U-8, is located approximately 275 feet southwest of Bell well MW-32, on the north side of Newport Circle (see Exhibit C). UCI shallow zone well U-9 is located approximately 140 feet south-southwest of well U-8 and south of Newport Circle. UCI shallow zone piezometer P-5 is located approximately 150 feet south-southeast of well U-9. As shown on Exhibit D, the groundwater elevation decreases moderately from well MW-4 at the former Bell site toward the southwest to well MW-32. Over the approximately 800 feet between MW-4 and MW-32, the groundwater elevation decreases by 2.89 feet. Between well MW-32 and well U-8, however, the water level rises rapidly and continues to rise at approximately the same slope, or gradient, all the way to at least P-5. Over the approximately 500 feet between MW-32 and P-5, the groundwater elevation increases by 7.32 feet. Thus, not only is the groundwater surface trending uphill from MW-32 to Newport Circle and the UCI site, the slope is over four times steeper than the slope from the Bell site to MW-32.



88 datum are approximately 2.44 feet higher than elevations obtained using the NGVD datum, in the vicinity of the Bell and UCI sites. Therefore, to directly compare groundwater elevations from the UCI site with those from the Bell site, the UCI groundwater elevations reported in the Arcadis and Murex reports, cited above, have all been reduced by 2.44 feet.]

The data shown on Exhibit D are from the Second Quarter 2008, the most recent time period in which water levels were measured in all of the wells shown on the chart. Comparison of historical water levels from UCI wells U-9 and U-8, and Bell wells MW-4 and MW-32 is presented on Exhibit E. Exhibit E demonstrates that the groundwater elevation in well U-9 has consistently been higher than the groundwater elevation in U-8 (with one very minor exception in July 1998) since these two wells were installed in 1996. Exhibit E also demonstrates that the groundwater elevation in Bell well MW-32 has consistently been three to six feet below the water level in UCI well U-8 since MW-32 was installed in 2007. Finally, Exhibit E demonstrates that the water level in Bell well MW-4, located on the south side of the 1831 Ritchey Street property and almost 1,000 feet north of Newport Circle, has always been lower than the water level in UCI wells U-8 and U-9.



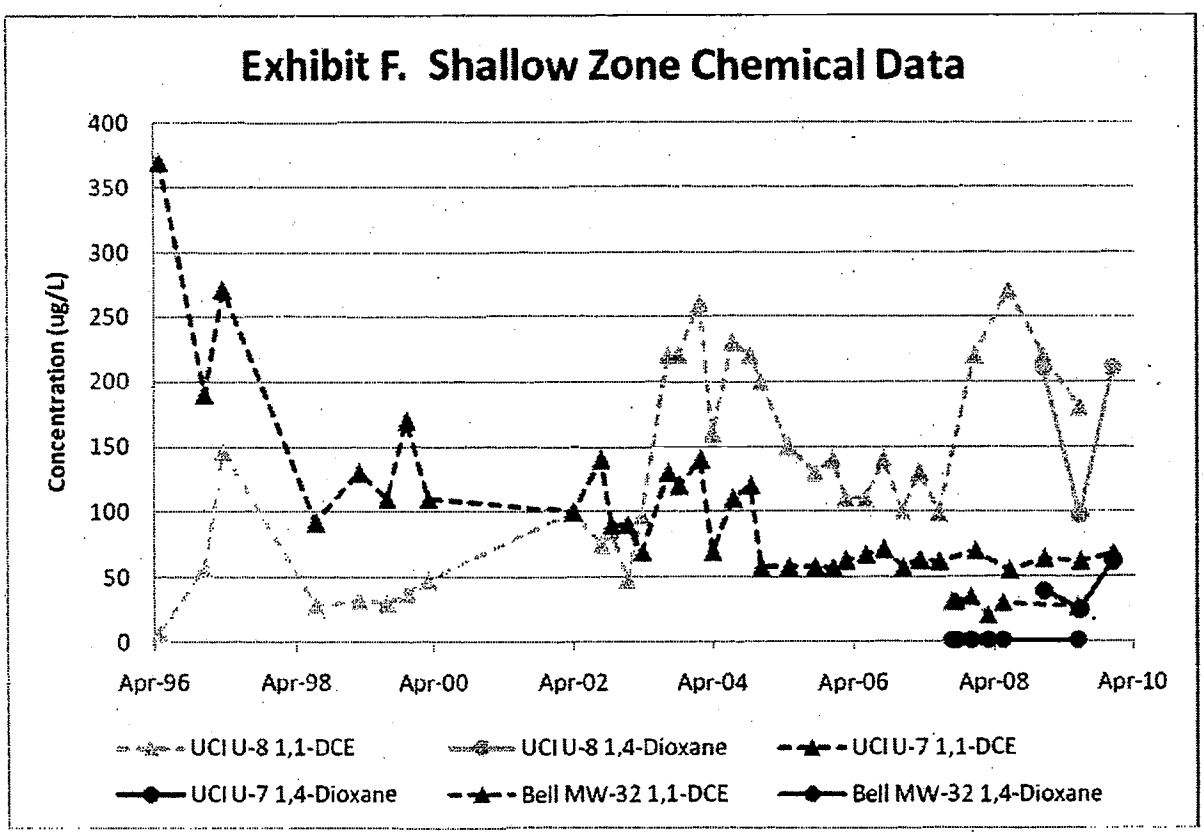
As shown on Exhibit C, UCI well MW-10 is located just south of Newport Circle near the intersection with Ritchey Street, and UCI well U-7 is located on the south side of Newport Circle, approximately 150 feet west of U-8. The groundwater elevations in MW-10 and U-7 are consistently higher than the groundwater elevations in U-8 (see Appendix C of Arcadis, 2008).

Based on the data and information presented above, the groundwater elevations along the length of Newport Circle are several feet higher than groundwater elevations at the southern end of the Bell plume within the local shallow zone. In fact, water levels in wells along Newport Circle have consistently been higher than the water level at the southern end of the former Bell facility at 1831 Ritchey Street, 1,000 feet north of Ritchey Street. In short, the water levels along Newport Circle are several feet uphill from the Bell plume. There is no basis in the evidence, no data, and no reasonable scientific principle to justify or support investigating the extent of the Bell plume along Ritchey Street and Newport Circle since the groundwater

elevation at these locations is up to six feet higher than the groundwater elevation in the farthest southerly Bell well (MW-32).

1,1-DCE and 1,4-Dioxane Concentrations

UCI wells U-7 and U-8 are located along Newport Circle to the southwest of Bell well MW-32 (see Exhibit C). As shown on Exhibit F, below, 1,1-DCE concentrations in UCI well U-7 have ranged from 370 micrograms per liter (µg/L) to 55 µg/L since the well was installed in 1996. Analysis for 1,4-dioxane was not conducted in UCI wells until 2008. Since that time, however, 1,4-dioxane concentrations ranging from 25 µg/L to 62 µg/L have been detected at U-7.



In UCI well U-8, the concentration of 1,1-DCE has ranged from 7.2 µg/L to 270 µg/L, with the lower concentrations within this range occurring prior to August 2003. Since August 2003, the concentration of 1,1-DCE at U-8 has generally been greater than 100 µg/L. The concentration spikes in well U-8 correspond to times when remediation activities were

occurring at the UCI site, including operation of the DPE system from 2003 to 2005 and injection of peroxide and ozone from June 2007 to July 2008. As discussed below, the UCI source area is located south and upgradient of U-8, so these remediation activities may have pushed additional contaminants toward U-8. Concentrations of 1,4-dioxane at U-8 have ranged from 97 µg/L to 210 µg/L.

Bell well MW-32 was installed in 2007. Since that time, 1,1-DCE concentrations have ranged from 20 µg/L to 35 µg/L. 1,4-dioxane has not been detected in well MW-32. It is clear from this discussion, and from Exhibit F, that concentrations of 1,1-DCE and 1,4-dioxane in UCI wells U-7 and U-8 along Newport Circle are much higher than those present at the south end of the Bell plume within the local shallow zone. In fact, 1,4-dioxane has not been detected at the south end of the Bell plume.

Former UCI well U-4 was installed in 1991 at the northeast corner of the 1800 Newport Circle building and subsequently destroyed in 1997 (see Exhibit C). Well U-4 is located to the south and upgradient of both U-7 and U-8. From 1991 to 1997, 1,1-DCE concentrations ranged from 3,100 µg/L to 30,000 µg/L at U-4, the highest concentrations reported for the UCI site. Well U-4 was never replaced, investigation of the deeper water-bearing zones was never conducted below U-4, and groundwater remediation has not been performed in this area of the UCI site. UCI well U-9 is located south of U-4 along the east side of the 1800 Newport Circle building. Concentrations of 1,1-DCE have been as high as 27,000 µg/L at U-9. Investigation of the deeper water-bearing zones has also never been conducted at the U-9 location.

UCI wells U-13 and MW-10 are located to the west of Newport Circle, and near the intersection of Newport Circle and Ritchey Street, respectively (see Exhibit C). Concentrations of 1,1-DCE generally have not exceeded 20 µg/L, and concentrations of 1,4-dioxane have not exceeded 2.9 µg/L, in wells U-13 and MW-10. These wells define the eastern and western limits of any shallow-zone impacts along Newport Circle.

The available data demonstrate that concentrations of 1,1-DCE in UCI wells U-4 and U-9, just south of Newport Circle, have been substantially higher than those in the offsite Bell plume. Concentrations of 1,1-DCE and, when measured, 1,4-dioxane in U-7 and U-8 are also higher than those at the south end of the Bell plume. Additional investigation in the shallow water-bearing zone along Newport Circle is not necessary to define the extent of impacts to groundwater. The lateral (west and east, respectively) extent is defined by wells U-13 and MW-

10. The impacts at U-7 and U-8 are appreciably greater than those at the south end of the Bell plume. Wells U-7 and U-8 are also very close to abandoned well U-4, which historically contained the highest 1,1-DCE concentrations measured at the UCI site and was never remediated.

Shallow Water-Bearing Zone Summary

The available evidence clearly demonstrates that groundwater impacts from the former Bell Industries facility at 1831 Ritchey Street cannot be present in the area of Newport Circle and Ritchey Street. The groundwater elevations at Newport Circle are several feet higher than the groundwater elevations at the south end of the Bell plume and are, in fact, higher than the groundwater elevations throughout the entire offsite Bell plume. There is no plausible scientific theory that would support the uphill flow of groundwater from the Bell plume to the Newport Circle and Ritchey Street area. In addition, concentrations of 1,1-DCE and 1,4-dioxane in existing wells along Newport Circle to the southwest of the Bell plume are notably higher than the concentrations at the south end of the Bell plume. The limit of impacts is also defined to the west and east by wells along Newport Circle and near the intersection of Newport Circle and Ritchey Street. Therefore, there are no data, technical studies, or other documentation that support the need to conduct additional investigation within the local shallow water-bearing zone near the nose of Bell's plume in the vicinity of Newport Circle and Ritchey Street.

Intermediate Water-Bearing Zone

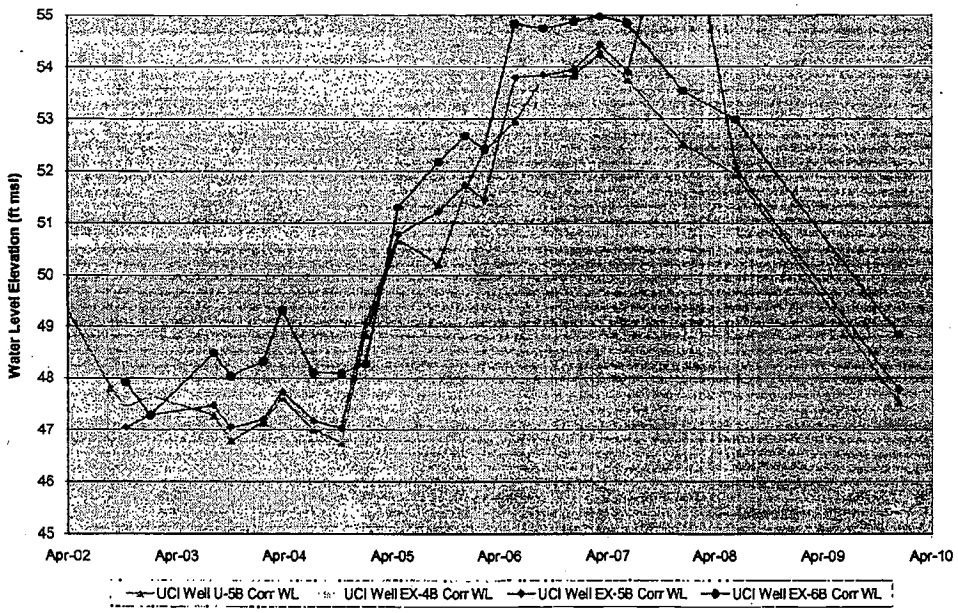
The discussion below addresses water levels in the UCI and Bell wells, and evaluates 1,1-DCE and 1,4-dioxane results in wells along and near Newport Circle and Ritchey Street within the local intermediate water-bearing zone. In reports prepared for the UCI site, this water-bearing interval is referred to as the "Lower Zone". As shown on Figure 4, the local intermediate zone designated by Bell and the lower zone designated for the UCI site occur at the same depth and are equivalent. In the discussion below, this water-bearing unit is referred to as the local intermediate zone for both Bell and UCI wells.

The data evaluation presented below demonstrates that the hydraulic gradient in the intermediate zone beneath the UCI site is toward the north. In addition, groundwater elevations in the intermediate zone beneath the UCI site are comparable to groundwater elevations near the toe of the Bell plume. Thus, groundwater cannot be flowing from the Bell plume upgradient, or "uphill" across the UCI site. Prior investigations at the UCI site demonstrate that 1,1-DCE is not present in the local intermediate zone along Newport Circle.

Water Levels

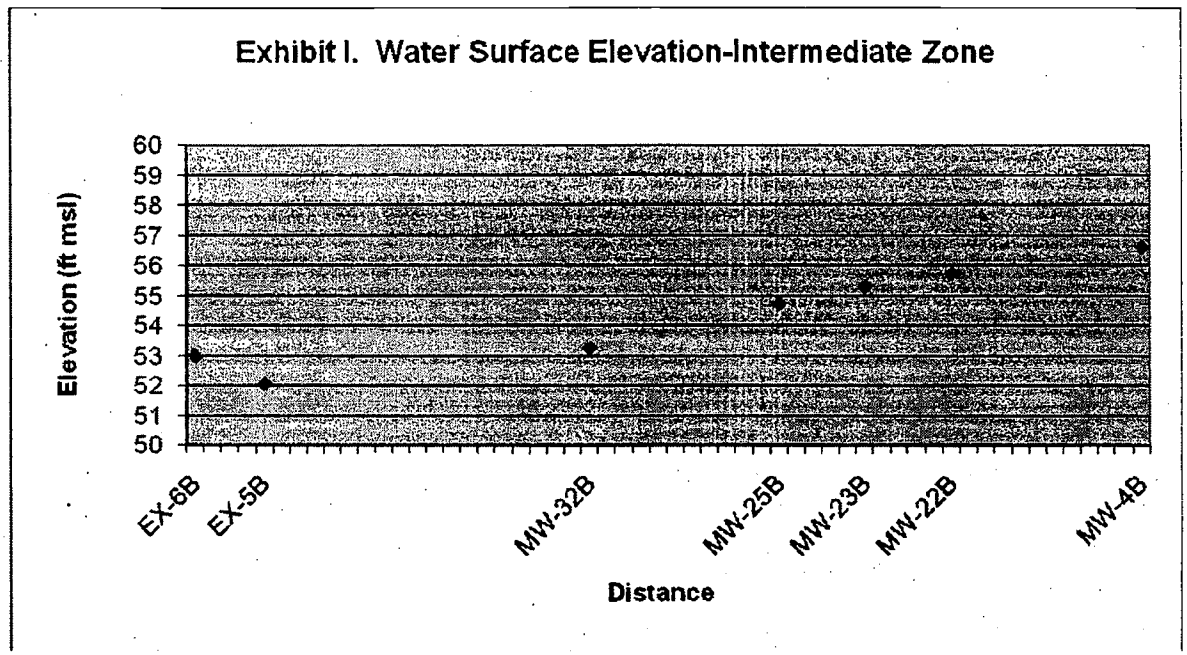
Exhibit H, below, shows the groundwater elevations measured in the UCI local intermediate zone wells since 2002. The hydrographs in Exhibit H show that the highest groundwater elevation in the local intermediate zone is typically in well EX-6B, located along the south edge of the UCI site. The available water-level data demonstrate that the hydraulic gradient within the local intermediate zone on the UCI site is oriented toward the north-northeast beneath the 1720 Newport Circle and 1800 Newport Circle sites.

Exhibit H. Universal Circuits Intermediate Zone Water Levels



Comparison of water levels from June 2008 at the UCI site and May 2008 from wells installed by Bell is shown on Exhibit I (below). The data shown on Exhibit I reveal that the water levels in wells completed in the local intermediate zone on the UCI site are comparable to or only slightly lower than the water level in well MW-32B on the AEW site. The wells along the southern side of the UCI site, however, have higher water-level elevations than the wells

farther to the north on the UCI site. Therefore, within the local intermediate zone, the southern part of the Bell plume is not upgradient of the source area at the UCI site and the plume from the Bell site cannot be migrating south of the AEW property, across Newport Circle, and across the UCI site because it would have to flow *uphill* to do so.



6. Inconsistency in the RWQCB Approach to Bell and UCI Sites

Available documentation in the record demonstrates that RWQCB is being arbitrary and capricious in its oversight and enforcement of the Bell site when compared to other nearby sites with impacted groundwater. For example, at the Bell site, RWQCB is requiring Bell to investigate deeper water-bearing zones in areas where the current 1,1-DCE concentration is 1700 µg/L, and the maximum 1,1-DCE concentration has been 16,000 µg/L. In contrast, at the UCI site, RWQCB staff allowed UCI to abandon well U-4 after only six years of monitoring, when the 1,1-DCE concentration was 3,280 µg/L and had been as high as 30,000 µg/L. RWQCB has never required the replacement of well U-4, vertical or lateral investigation in the vicinity of well U-4, or remediation of the groundwater in the vicinity of U-4. A similar situation exists at UCI well U-9, where RWQCB has never required vertical characterization at or downgradient of this well, even though it has contained up to 27,000 µg/L 1,1-DCE. In addition, RWQCB staff have ordered Bell to conduct additional lateral and downgradient

investigation adjacent to wells with 1,1-DCE concentrations ranging from 24 µg/L to 760 µg/L. In contrast, RWQCB staff have informed UCI representatives that "the [UCI] site is a good candidate for closure" (Remedial Counsel Committee's Status Report Regarding Efforts to Complete Site Work, United States District Court, Central District of California, Southern Division, Case No.: SACV 92-292-GLT (EEX), Document 267, filed 03/20/2010, page 7, line 28 and page 8, line 1), even though recent concentrations of 1,1-DCE as high as 2,500 µg/L have been reported from the UCI site. These examples clearly show the arbitrary and capricious nature of RWQCB enforcement with respect to the Bell site.

C. BELL INDUSTRIES SHOULD NOT BE REQUIRED TO CONDUCT LATERAL ASSESSMENT ON THE POWERWAVE PROPERTY BECAUSE CONTAMINANT CONCENTRATIONS ARE EITHER BELOW SITE CHARACTERIZATION GOALS OR APPROACHING THOSE GOALS

Concentrations in well MW-27 are below the site characterization goals cited in the April 2, 2009 RWQCB correspondence (100 µg/L for 1,1-DCE and 50 µg/L for 1,4-dioxane) and concentrations in well MW-27B are approaching these levels due to operation of the groundwater extraction system..

The RWQCB has requested vertical characterization at the MW-27/MW-27B well cluster. In the most recent sampling of wells MW-27 and MW-27B (September 2009), 1,1-DCE was detected at concentrations of 10 µg/L and 190 µg/L, respectively, and 1,4-dioxane was detected at concentrations of 3.1 µg/L and 32 µg/L, respectively. With the exception of the 1,1-DCE concentration in well MW-27B, these concentrations are below the site characterization goals cited in the April 2, 2009 RWQCB correspondence. As discussed above in the summary of remediation system operations, the VOC concentrations in well MW-27B continue to decline due to groundwater extraction in this area as clean water from the west is pulled toward groundwater extraction wells to the east. Wells MW-27/MW-27B are well within the modeled capture zone as shown on the attached capture zone map (Figure 7). Based on the decreasing concentrations in well MW-27B, it is anticipated that the 1,1-DCE concentration will continue to decline to levels below the RWQCB site characterization goals.

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D. BELL INDUSTRIES SHOULD NOT BE REQUIRED TO CONDUCT ADDITIONAL ASSESSMENT ALONG ST. ANDREW PLACE BECAUSE CONTAMINANT CONCENTRATIONS IN THAT AREA ARE BELOW SITE CHARACTERIZATION GOALS

1. Concentrations in Wells MW-24 and MW-24C are Below the Site Characterization Goals Cited in the April 2, 2009 RWQCB Correspondence (100 µg/L for 1,1-DCE and 50 µg/L for 1,4-dioxane).

The RWQCB has requested vertical characterization at the MW-24/MW-24C well cluster. In the most recent sampling of wells MW-24 and MW-24C (September 2009), 1,1-DCE was detected at concentrations of 4.8 µg/L and 91 µg/L, respectively, and 1,4-dioxane was detected at concentrations of 1.3 µg/L and 21 µg/L, respectively. Well MW-24 is screened from 26-41 feet bgs and well MW-24C is screened from 70-80 feet bgs. These concentrations are below the site characterization goals cited in the April 2, 2009 RWQCB correspondence. In addition, deep zone wells MW-19C, MW-22C, and MW-23C, screened at approximately 90-100 feet bgs, the same depth that a deeper well at the MW-24 cluster would likely be screened, are located between the former Bell facility and wells MW-24/MW-24C. None of these deep zone wells contained detectable concentrations of 1,1-DCE or 1,4-dioxane during the most recent sampling event (September 2009), indicating there is no evidence that lateral migration of impacted groundwater has occurred to the area below the current screened interval of well MW-24C. Wells MW-24/MW-24C are well within the modeled capture zone as shown on the attached capture zone map (Figure 7).

E. USE OF CPT BORINGS/HYDROPUNCH™ SAMPLING FOR GROUNDWATER ASSESSMENT

Concurrently with this Petition, and in response to the March 29, 2010 Order, Bell has provided its "Work Plan, Additional Groundwater Assessment, Former Bell Industries, Inc. Facility, 1831 Ritchey Street, Santa Ana, California." In that Work Plan, Bell sets forth its plan to utilize CPT Borings/Hydropunch Sampling for this groundwater assessment. Bell asserts, pursuant to Water Code Section 13360, its right to determine "...the design, location, type of construction, or particular manner..." in which compliance may be had with the March 29, 2010 Order. Bell's submission of its work plan is based upon that right, as codified in the California Water Code, and upon the technical support for use of those methods, as explained below.

The use of CPT borings and Hydropunch™ sampling is recommended for the investigation scope presented in this work plan for several reasons. These reasons include:

1. The stratigraphy in the areas to be investigated is variable and may contain more than one coarse-grained horizon within a broader water-bearing unit. For example, in the area of well MW-4B, lithologic data from previous nearby CPT borings MIP-2 and MIP-3 and groundwater monitoring wells MW-4B and MW-19C indicate that there may be sandy intervals from approximately 65-70 feet below ground surface (bgs) and from 90-100 feet bgs in the local deep zone aquifer. The location of these CPT borings and monitoring wells is provided on Figure 8 and a cross-section depicting the subsurface lithology in this area and target sample intervals is provided as Figure 4. The CPT logs for MIP-2 and MIP-3 and the boring logs for MW-4B and MW-19C are provided in Attachment 2. The proposed CPT boring at location HP-1 will define the exact vertical extent of these intervals near well MW-4B, and multiple Hydropunch™ samples can subsequently be collected.

2. Data obtained from previously completed CPT borings and associated Hydropunch™ groundwater sampling at the site demonstrate that this methodology provides reliable site assessment data. The *In-Situ Chemical Oxidation Pilot Study Work Plan* dated May 18, 2006, which was approved by the RWQCB on June 2, 2006, included data from CPT-1 through CPT-10. The evaluation presented below demonstrates that analytical results from the Hydropunch™ samples are consistent with concentrations detected in nearby monitoring wells during the approximate same time period. A map depicting 1,1-DCE concentrations in the Hydropunch™ samples and nearby monitoring wells is provided as Figure 8.

   a. Comparison of Hydropunch™ and monitoring well analytical results from the local shallow zone and local intermediate zone within the central portion of the plume:

   Within the central portion of the plume, Hydropunch™ samples collected from the local shallow zone and local intermediate zone (14 total

samples from CPT-1 to CPT-4, CPT-6, and CPT-8 to CPT-10) contained 1,1-dichloroethene (1,1-DCE) at concentrations ranging from 1,100 micrograms per liter (µg/L) to 11,000 µg/L. These concentrations are consistent with historical concentrations in local shallow zone and local intermediate zone monitoring wells located near the CPT/HP locations, as shown on Figure 8.

b. Comparison of historical Hydropunch™ and monitoring well analytical results from the local intermediate zone on the periphery of the plume:

Results from the local intermediate zone from the one CPT boring completed on the periphery of the plume (CPT-7, located southeast of the bakery property) are consistent with results from nearby monitoring well MW-21B-P. The 1,1-DCE concentration in the 55-foot bgs sample from CPT-7 was 130 µg/L (May 2004) while the 1,1-DCE concentration in monitoring well MW-21B-P, screened from 35-60 feet bgs, was 160 µg/L in June 2004.

c. Comparison of historical Hydropunch™ and monitoring well analytical results from the local deep zone:

Hydropunch™ samples were collected from the local deep zone (70 to 100 feet bgs) at five locations (CPT-2, CPT-3, and CPT-5 to CPT-7, all located on or adjacent to the bakery property). Samples collected at this depth contained 1,1-DCE at concentrations ranging from non-detect to 7.0 µg/L, similar to local deep zone monitoring wells screened from at least 70 feet bgs in this area (MW-19C and MW-22C). In these two wells, 1,1-DCE concentrations have historically ranged from non-detect to 1.1 µg/L.

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Based on the consistent correlation between CPT/Hydropunch™ boring groundwater analytical results and groundwater monitoring well analytical results, the use of CPT/Hydropunch™ borings is considered a reliable methodology for the additional site assessment scope of work provided herein.

3. CPT/Hydropunch™ is an established investigation technique which RWQCB has previously approved for use at numerous other sites in the area, including the Universal Circuits, Inc (UCI) site on Newport Circle. From 1990 to 1999, a total of 43 Hydropunch™ samples were collected at the UCI site, including multi-depth sampling at several locations. Data from these samples were used to assess the extent of VOC-impacted groundwater at the UCI site.

4. Cost-Effectiveness. The proposed scope of work provided herein can be accomplished using CPT/Hydropunch™ for an approximate cost of $25,000. Completion of the scope of work provided herein by installing and sampling groundwater monitoring wells would cost approximately $200,000.

As is set forth in great detail above, Bell Industries has spent significant time, money and effort to investigate and remediate subsurface conditions in and around the 1831 Ritchey Street Site. Bell Industries and its technical consultants have developed a detailed understanding of the subsurface conditions in the area, and have worked tirelessly to address numerous issues of joint concern to Bell Industries and the Staff of the Santa Ana Regional Water Quality Control Board. Bell Industries respectfully requests that the State Water Resources Control Board review the March 20, 2010 Order issued to Bell Industries by Gerard Thibeault. Bell Industries believes that its position with regard to the March 29, 2010 Order is strongly supported by the results of its past and ongoing subsurface investigation and by the results of its remediation activities at the 1831 Ritchey Street Site. Bell Industries respectfully requests that the State Water Resources Control Board examine the handling of the Bell Industries site versus the UCI site to determine if disparate treatment, which Bell Industries believes exists, is justified. Finally, Bell Industries encourages the State Water Resources Control Board to recognize the rights Bell Industries has pursuant to California Water Code

§13360 to determine the design, location, type of construction or particular manner of compliance with the March 29, 2010 Order.

Very truly yours,

Thomas F. Vandenburg of
DONGELL LAWRENCE FINNEY LLP

TFV:sd

Attachment 1 – March 29, 2010 Order
Attachment 2 Figures

Figure 1	Vicinity Map
Figure 2	Well Location Map with Location of Cross Section A-A
Figure 3	Former Multi-Phase Extraction Well Field Map
Figure 4	Cross Section A-A'
Figure 5	2008 Confirmation Soil Vapor Sampling Locations
Figure 6	Local Shallow Zone Groundwater Contour Map
Figure 7	Capture Zone Map
Figure 8	Prior CPT/Hydropunch Locations

Attachment 3 -Table

Table 1	Analytical Results – Confirmation Soil Vapor Sampling

Attachment 4 – Exhibits A-C

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Anthony Silva – The Brownfield Redelevopment Group Co., Asilva@tbrgco.com

California Regional Water Quality Control Board
Santa Ana Region

Linda S. Adams
Secretary for
Environmental Protection

3737 Main Street, Suite 500, Riverside, California 92501-3348
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Arnold Schwarzenegger
Governor

March 29, 2010

Charles Troy
Bell Industries, Inc.
8888 Keystone Crossing, Suite 1700
Indianapolis, IN 46240

ORDER PURSUANT TO WATER CODE SECTION 13267 TO SUBMIT A WORK PLAN AND CONDUCT A GROUNDWATER INVESTIGATION AT THE FORMER BELL INDUSTRIES FACILITY AT 1831 RITCHEY STREET IN SANTA ANA, CALIFORNIA, SLIC CASE NO. SLT8R110

Dear Mr. Troy:

As you are aware, results from previous subsurface investigations indicate that contaminant discharges from the former Bell Industries facility have impacted water quality beneath, adjacent and downgradient of the former circuit board manufacturing plant. This letter sets forth a requirement under California Water Code Section 13267 that Bell Industries conduct an investigation to define the full lateral and vertical extent of solvent/1, 4-dioxane impacts in groundwater. As required under Section 13267 of the Water Code, this letter contains an explanation of the need for the investigation and cites evidence supporting the requirement.

Background

Bell Industries Inc. (Bell) operated a circuit board manufacturing facility at 1831 Ritchey Street, in the City of Santa Ana and County of Orange, between the mid-1970's and 1993. Vostron Industries conducted similar operations at the site before being acquired by Bell.

In 1993, Regional Board staff became actively involved in the direction and oversight of soil and groundwater investigations at the site. Between 1993 and early-1994, several phases of remedial excavation were performed to mitigate soil impacts directly beneath and adjacent to former process areas, including etching/plating areas, a laboratory, dark room developing facilities, floor drains, chemical storage areas, and a clarifier and sump. Based on available information, chlorinated solvents and heavy metal impacts in soil were adequately removed, consistent with regulatory standards at the time. In addition, a sub-slab/shallow soil vapor survey was completed in May 2008 to address concerns regarding potential vapor exposure to building occupants overlying former source areas. Results from the study indicated that contaminant concentrations in soil vapor were non-detect or below California Human Health Screening Levels (CHHSL's) for

contaminants of concern. Based on these findings, no further source area reductions or mitigation measures were required to address vapor intrusion/human health concerns.

Results from various subsurface investigations and groundwater monitoring indicate that contaminant discharges from the Bell facility have impacted water quality beneath, adjacent to, and downgradient of the site. Based on recent assessment and monitoring results, a portion of Bell's groundwater plume has migrated beneath the intersection of Ritchey Street and St. Andrew Place, as well as the AEW property, which is located more than 1,500 feet southwest of the site. In addition, dissolved-phase chlorinated solvent contamination has migrated vertically to greater than 80 feet below ground surface (bgs) at PDW-1. To date, the full lateral and vertical extent of groundwater impacts associated with releases from the Bell facility have not been determined. A site vicinity map, depicting the location of the former Bell facility and surrounding areas, has been included as **Attachment 1.**

Groundwater remediation was initiated in 1999 to address elevated contaminant concentrations in groundwater in proximity to the former Bell facility. A multi-phase/dual-phase extraction system operated until June 2006. The remediation system was subsequently converted to a pump and treat strategy, designed to increase groundwater removal volumes. Although contaminant concentrations in shallow groundwater were significantly reduced from historical maximums, chlorinated solvents and/or 1, 4-dioxane levels continued to persist, particularly adjacent to and downgradient of the former Bell facility. As a result, Bell was directed to develop a comprehensive plan to capture and mitigate off-site dissolved-phase contamination that had migrated outside the influence of the on-site corrective action efforts. A remedial action plan (RAP) for expanded off-site groundwater extraction was submitted and conditionally approved by Regional Board staff. Large scale groundwater extraction was subsequently implemented in a two-phased approach. In December 2007, system modifications were completed to mitigate a portion of the off-site groundwater plume located beneath and adjacent to the downgradient bakery property. Additional system expansion was completed in November 2008 to address contamination beneath and adjacent to Ritchey Street and St. Andrew Place, as well as the Powerwave and AEW properties.

In August 2009, Bell updated their flow model and capture zone analysis, using actual system operational data, to verify aquifer design assumptions made in the RAP. Based on the recalibrated model, the capture zone along the west side of the groundwater plume is projected to extend 150 feet beyond MW-24C and MW-27C, while the east side of the capture zone is estimated to extend 400 feet east of GWX-5 and 500 feet east of MW-28B. Further, with all extraction wells online, the downgradient extent of capture from the associated pumping efforts is estimated to extend beyond GWX-6 and the public right-of-way along Newport Circle. Based on the revised flow modeling and capture zone analysis, observed groundwater gradients/flow direction and contaminant concentration trends, Bell concluded that the existing network of extraction wells is capturing the lateral extent of the plume. However, the Regional Board has withheld such a judgment or conclusion, believing the abovementioned extraction data only demonstrates capture based on the existing monitoring well network, which does not

define the full lateral extent of groundwater contamination. It should also be noted that Bell did not evaluate vertical capture near the source (e.g. MW-4B) or downgradient of the site, in impacted wells screened deeper than the extraction field (e.g. PDW-1, MW-24C, MW-32C).

Requirement to Conduct a Groundwater Investigation

As mentioned previously, the full lateral and vertical extent of groundwater contamination has not been defined. High concentrations of chlorinated solvents and 1, 4-dioxane contamination are present in the intermediate water-bearing zone directly south of the site. In addition, chlorinated solvent and 1, 4-dioxane impacts have migrated laterally and vertically in the shallow and intermediate water-bearing zone beneath Ritchey Street and the Powerwave and AEW properties. Based on our agency review, additional characterization is necessary to define the vertical extent of groundwater contamination directly south of the site (e.g. MW-4C). In addition, groundwater assessment is needed to delineate the extent of dissolved-phase contamination beneath and beyond (west) the Powerwave facility (e.g. MW-27C) and along St. Andrew Place (e.g. MW-24D). Full lateral characterization is also necessary in the shallow and intermediate zones along the nose of the plume, to define the extent of Bell's contamination beneath the AEW and ORCO properties, as well as Newport Circle. Figures, depicting the known distribution and extent of chlorinated solvents and 1, 4-dioxane contamination in the three identified water-bearing zones, are provided as **Attachments 2, 3 and 4**, respectively.

Regional Board staff has issued both oral and written directives requiring additional characterization, but Bell and their representatives continue to dispute the need for additional delineation of groundwater impacts associated with their operations. On February 26, 2009, our agency met with Bell representatives, their consultants and legal counsel to discuss site assessment and remediation efforts at the site. At that time, our agency indicated that additional characterization of groundwater was required, concurrent with ongoing groundwater remediation. In addition, Regional Board staff issued written correspondence (dated April 2, 2009), directing Bell to submit a work plan scope for the lateral and vertical extent of groundwater contamination. A copy of the abovementioned agency letter is provided as **Attachment 5**.

To date, the required work plan for additional groundwater characterization has not been submitted. On May 15, 2009, Bell instead submitted a narrative indicating that they did not feel the additional characterization was necessary. Regional Board staff does not consider site remediation to be an acceptable substitution for, or alternative to, adequate characterization. Therefore, agency enforcement is necessary to ensure compliance with regulatory directives. In accordance with California Water Code Section 13267, a work plan scope for additional delineation of groundwater impacts must be submitted, and once approved by this agency, must be completed in a timely manner. Information generated from the assessment will be used by this agency to determine additional requirements needed to protect groundwater resources for present and future beneficial use.

The Need for the Investigation

The Santa Ana Regional Water Quality Control Board is charged with the protection of water quality in this region. The Bell site and associated contamination are located in the Orange Groundwater Management Zone, which has beneficial uses that include municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply. Regional Board staff regards the subject site as a significant chlorinated solvent release, which has adversely impacted the area's underlying groundwater and potentially threatens the designated beneficial uses, including its use for municipal production.

Evidence Supporting the Need for the Investigation

Enclosed as attachments are the following documents:

Attachment 1 – Site Vicinity Map
Attachment 2 – Figure 5A, excerpt from 3rd Quarter 2009 Monitoring Report, showing extent of groundwater plume (shallow zone)
Attachment 3 – Figure 5B, excerpt from 3rd Quarter 2009 Monitoring Report, showing extent of groundwater plume (intermediate zone)
Attachment 4 – Figure 5C, excerpt from 3rd Quarter 2009 Monitoring Report, showing extent of groundwater plume (deep zone)
Attachment 5 – RWQCB letter dated April 2, 2009, requiring groundwater investigation

The evidence provided indicates that discharges from unauthorized releases at the former Bell facility have resulted in widespread groundwater contamination, which poses a significant threat to groundwater resources and/or designated beneficial uses. This evidence supports the need for further investigation, as defined in Section 13267(b)(1) of the California Water Code.

Deadlines

1. A work plan and time schedule for the delineation of chlorinated solvent and 1, 4-dioxane contamination in groundwater must be submitted by **April 28, 2010**. Although numerous additional monitoring wells will ultimately be required to achieve adequate delineation across the expanse of the plume, at present, our agency is concerned with the lack of adequate vertical characterization near source areas (e.g. MW-4C) and the need for lateral delineation and downgradient delineation along the nose of Bell's plume. As such, the proposal should focus on the two critical areas mentioned above, with the understanding that additional phases of work will be directed upon completion of this phase. In order to expedite this phase of assessment, we recommend that the downgradient investigation be conducted in the public right-of-way area, along Ritchey Street and Newport Circle.
2. The investigation must commence within 30 days of agency approval of the work plan scope.

3. A report of findings, including borings logs and well construction data, groundwater elevation data, and analytical results must be submitted to Regional Board staff within 30 days of completion of field work. The report must include recommendations for additional characterization, if the completed scope does not adequately delineate groundwater impacts.

Pursuant to Section 13268(a) and (b) of the California Water Code, failure to submit the requested information may subject you to administrative civil liability in the amount of up to $1,000 for each day the information is submitted past the compliance date.

Any person affected by this action may petition the State Water Resources Control Board (State Board) to review the Order in accordance with Section 13320 of the California Water Code. The petition must be received by the State Board within 30 days of the date of this Order. Detailed information regarding the petition process may be obtained from the State Board's website (http://www.waterboards.ca.gov/public notices/petitions/water quality/). In addition to filing a petition with the State Water Board, any person affected by this Order may request a hearing before the Regional Board, to reconsider this Order. To be timely, such a request must be received within 30 days of the date of this Order. Note that even if reconsideration by the Regional Board is sought, filing a timely petition with the State Board is also necessary to preserve the petitioner's legal rights. If you choose to appeal this Order, be advised that you must comply with the Order while your appeal is being considered.

If you have any questions, please do not hesitate to contact Valerie Jahn-Bull or Kenneth Williams at (951) 782-4903 or (951) 782-4496, respectively.

Sincerely,

Gerard J. Thibeault
Executive Officer

Addressee: Charles Troy – Bell Industries, ctroy@bellind.com

cc: David Rice – Office of Chief Counsel - SWRCB, DavidRice@waterboards.ca.gov
Robert Adelman – Adelman & Swartz, BAdelman@bellind.com
Jerome Zimmerle – URS Corporation, Jerome_Zimmerle@URSCorp.com
Kevin Russell – URS Corporation, Kevin_Russell@URSCorp.com
Andrew Kopania – EMKO Environmental, Inc., AKOPANIA@SBCGLOBAL.NET
Anthony Silva – The Brownfield Redevelopment Group Co., Asilva@tbrgco.com
David Bolin – Orange County Water District, dbolin@ocwd.org

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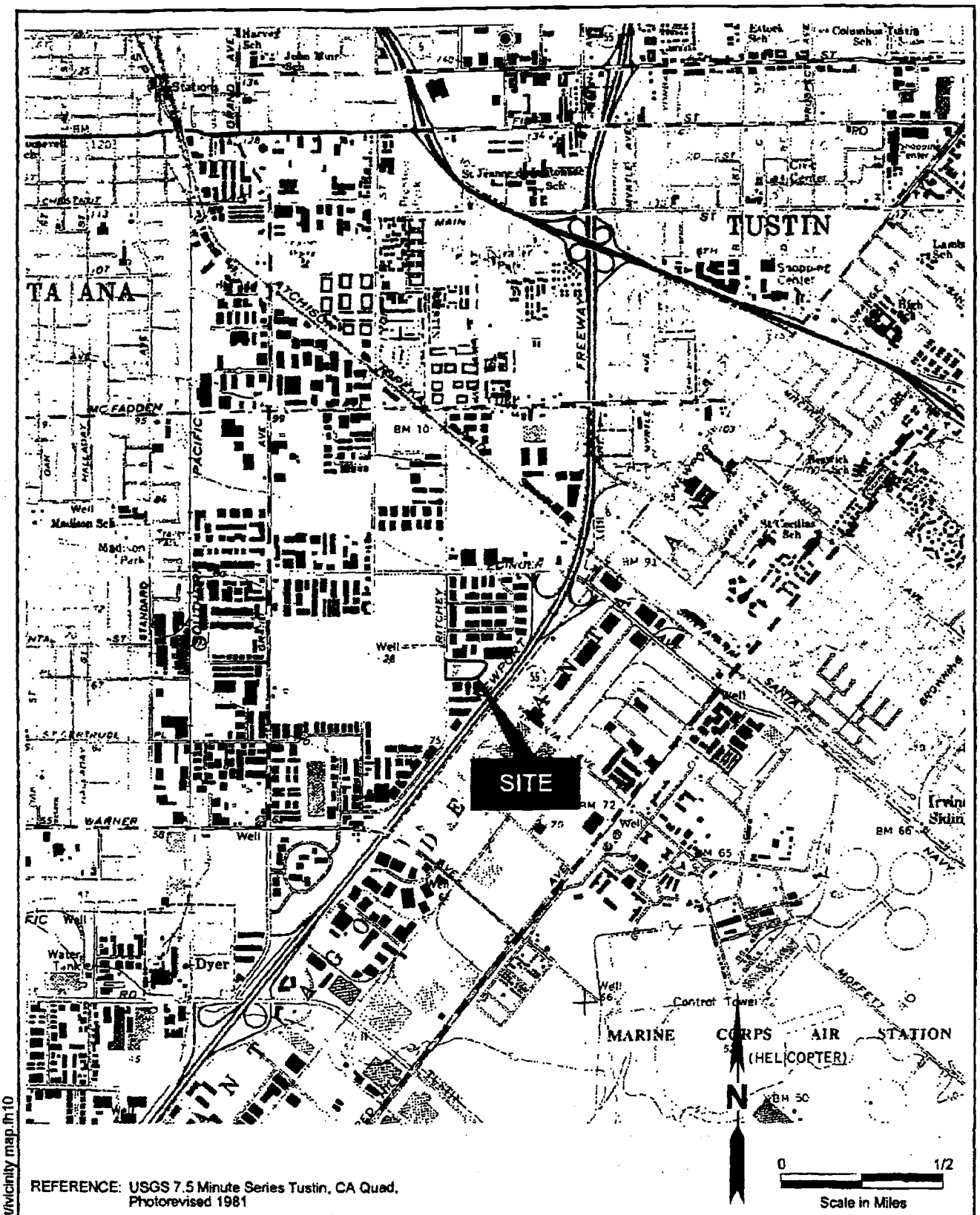

REFERENCE: USGS 7.5 Minute Series Tustin, CA Quad, Photorevised 1981

VICINITY MAP

Project No.: 29864254	Date: 2004	Project: FORMER BELL INDUSTRIES SITE	Figure 1

L:/bell indust/vicinity map.fh10

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California Regional Water Quality Control Board
Santa Ana Region

Linda S. Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

April 2, 2009

Charles Troy
Bell Industries, Inc.
8888 Keystone Crossing, Suite 1700
Indianapolis, IN 46240

SUBJECT: **FORMER BELL INDUSTRIES FACILITY**
1831 RITCHEY STREET, SANTA ANA, CALIFORNIA
REGIONAL BOARD CASE NO. SLT8R110

Dear Mr. Troy:

Our agency has reviewed your recent submittal, *2008 Fourth Quarter Remediation Status Report and Groundwater Monitoring, Bell Industries, Former Santa Ana Facility, 1831 Ritchey Street, Santa Ana, CA,* dated February 3, 2009. In addition, Regional Board staff met with you, your consultants and legal counsel on February 26, 2009, to discuss the status of the cleanup. Pursuant to these discussions, we have identified additional tasks, which are required in conjunction with the project.

ADDITIONAL GROUNDWATER CHARACTERIZATION

Based on recent monitoring data, the full extent of groundwater contamination associated with the former Bell Industries facility has not been adequately defined. For purposes of site characterization, 1,1-dichloroethene (1,1-DCE) and 1,4-dioxane must be defined to less than 100 micrograms per liter (µg/L) and 50 µg/L, respectively, in order for this agency to consider delineation of groundwater contamination complete. Installation of additional groundwater wells will be required to meet this objective and subsequent phases of investigation will be directed, as needed, to maintain this level of characterization across the expanse of the plume.

However, at this time, Regional Board staff is requiring additional groundwater characterization in two critical areas. As indicated during our recent meeting, further groundwater assessment is being required to delineate the vertical extent of dissolved-phase contamination in the vicinity of well MW-4B, where extremely elevated concentrations of chlorinated solvents and 1,4-dioxane are being observed during routine groundwater monitoring. The possibility of using this additional point as an extraction well is too high to go unexamined by empirical data. As a result, the assessment cannot be delayed. Groundwater assessment is also being required to investigate the full downgradient extent of the nose of the plume and monitor capture from pumping activities. In order to expedite this phase of assessment, the scope for downgradient investigation should be conducted in the public right-of-way along Ritchey Street and Newport Circle. **A brief work plan must be submitted by April 30, 2009, to**

outline the required groundwater characterization. Further, arrangements must be made to expedite completion of this investigation, such that analytical results are available for discussion during the next meeting, scheduled for July 9, 2009.

REMEDIATION MONITORING

Although initial drawdown measurements at monitoring/observation points suggest that the extraction network is influencing the subsurface/aquifer, additional data gathering and technical analysis is required to verify the realized capture of the groundwater extraction efforts. Regional Board staff is requiring that observed drawdown in peripheral observation wells be compared against the assumptions and modeling projections that were used to develop the remedial action plan (RAP) and extraction well network, in order to verify that current extraction activities are actually providing adequate capture. This effort should also result in the generation of updated modeling of your base option and downgradient well field capture zones and revised figures (e.g. Figures 9C and 9E of RAP). Detailed particle tracking analysis must also be completed for each well in the extraction network to verify that the remedial efforts are meeting a key project objective for plume capture/control. **Similar to the groundwater investigation, this remedial evaluation must also be completed in a timely matter, so that the data is available for the next stakeholder meeting, on July 9, 2009.**

Pursuant to our correspondence dated January 24, 2008, the remedial efforts must demonstrate comprehensive capture and mitigation (e.g. contaminant reduction) across the full expanse of the plume to be considered an appropriately-scaled corrective action response. Incorporation of additional extraction points will be required if capture zone modeling, groundwater monitoring or future assessment data indicate that the current extraction efforts are not capable of meeting these objectives.

If you have any questions, please do not hesitate to contact me at (951) 782-4903.

Sincerely,

Valerie Jahn-Bull

Valerie Jahn-Bull
Environmental Scientist
Underground Storage Tank Section

Addressee: Charles Troy – Bell Industries, ctroy@bellind.com

cc: Robert Adelman – Adelman & Swartz, BAdelman@bellind.com
Jerome Zimmerle – URS Corporation, Jerome_Zimmerle@URSCorp.com
Kevin Russell – URS Corporation, Kevin_Russell@URSCorp.com
Andrew Kopania – EMKO Environmental, Inc., AKOPANIA@SBCGLOBAL.NET
Anthony Silva – The Brownfield Redevelopment Group Co., Asilva@tbrgco.com
Rob Socci – Voit Company, rsocci@voitco.com
John Griffin – Voit Company, JGriffin@voitco.com

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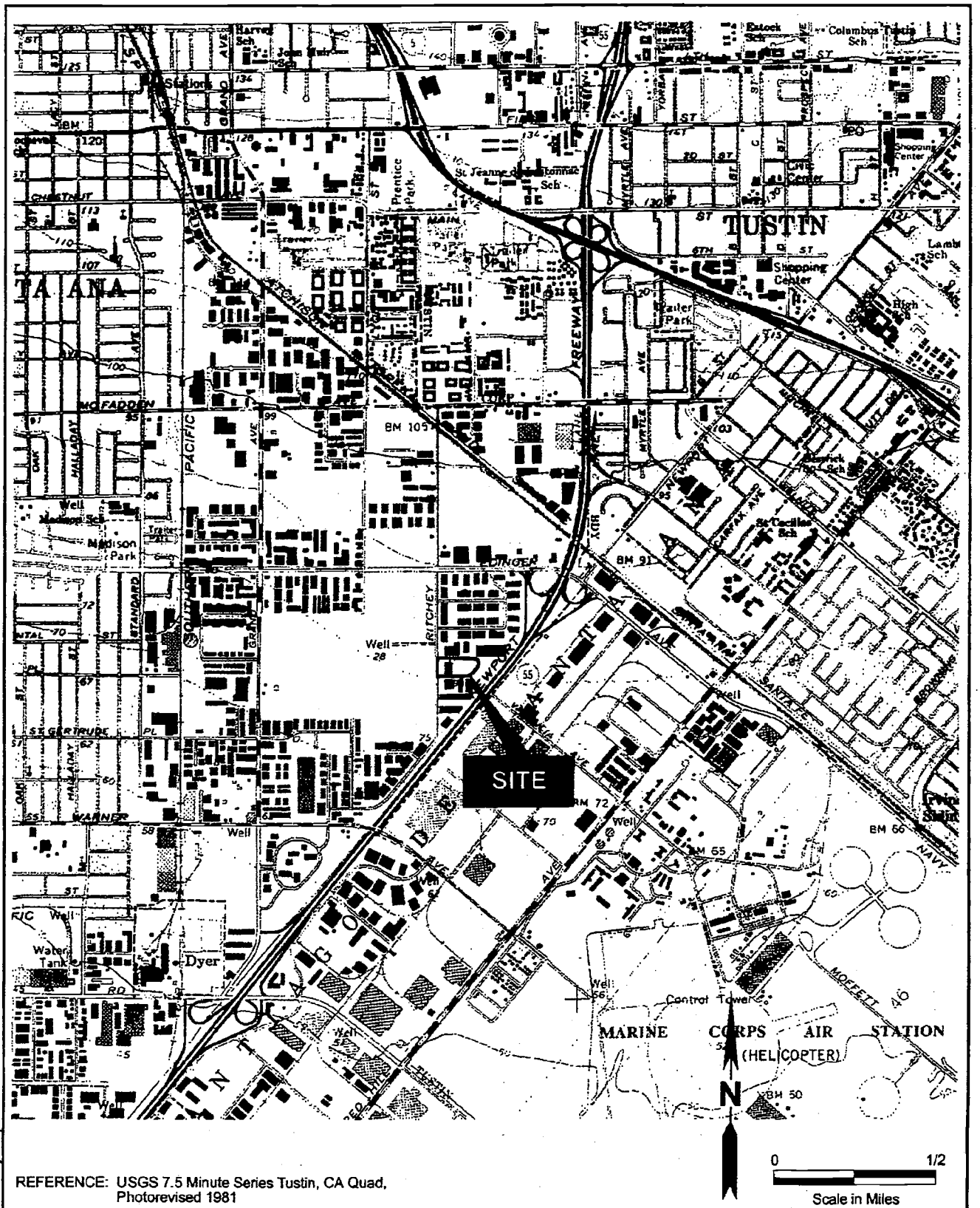

REFERENCE: USGS 7.5 Minute Series Tustin, CA Quad, Photorevised 1981

VICINITY MAP

Project No.: 29864254	Date: 2004	Project: FORMER BELL INDUSTRIES SITE	Figure 1

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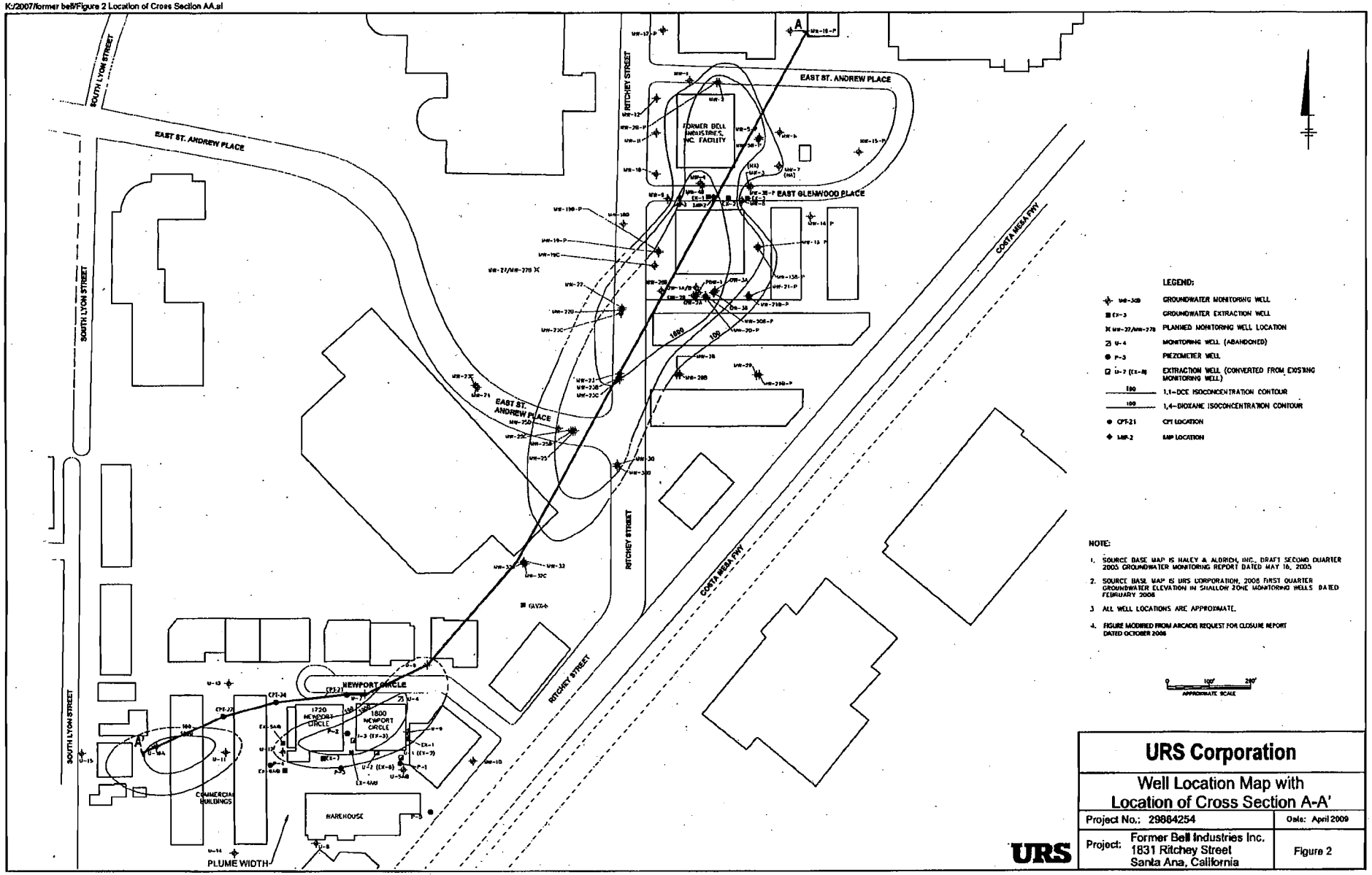
L:/bell indust/fvicinity map.fh10

K:/2007/former bell/Figure 2 Location of Cross Section AA.sl



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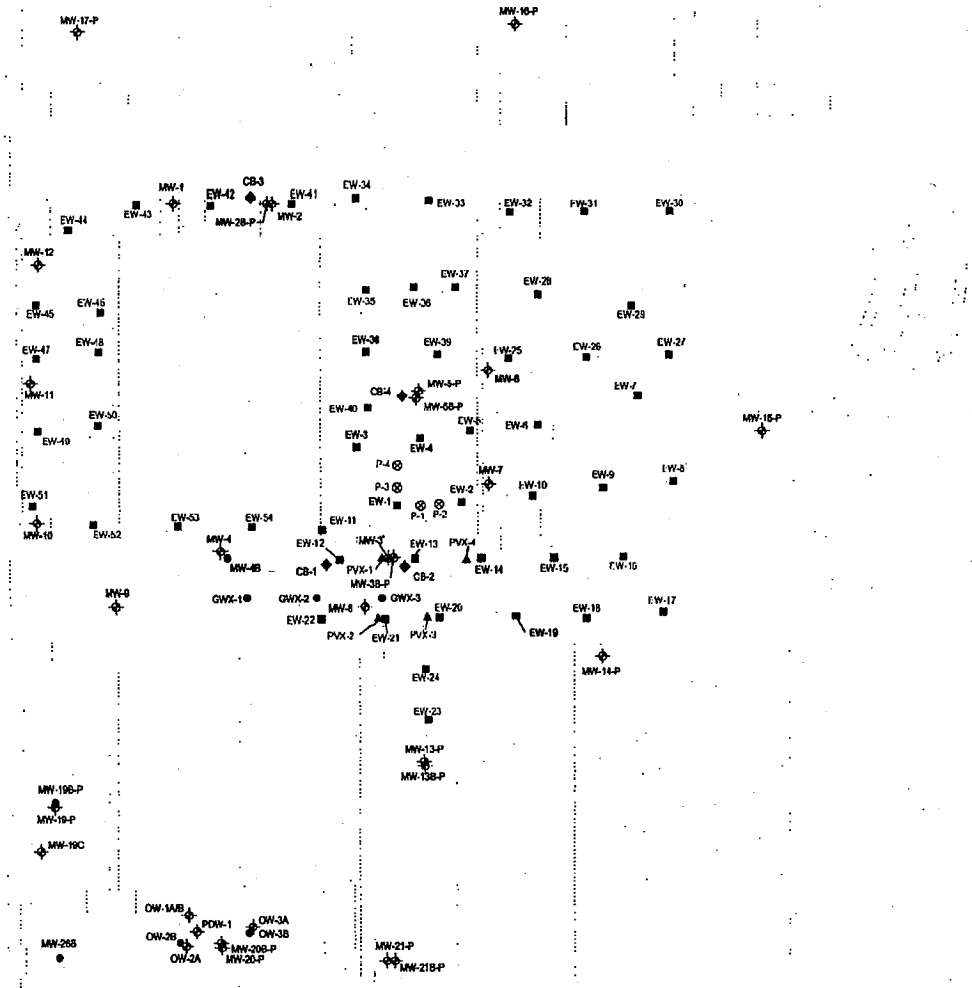
Well Location Map with Location of Cross Section A-A'

Project No.: 29864254	Date: April 2009
Project: Former Bell Industries Inc. 1831 Ritchey Street Santa Ana, California	Figure 2



EXPLANATION

- EW-4 ■ MULTI-PHASE EXTRACTION WELL
- EW-10 ■ DESTROYED MULTI-PHASE EXTRACTION WELL
- PVX-1 ▲ DESTROYED VAPOR EXTRACTION WELL
- P-1 ⊗ DESTROYED PIEZOMETER WELL
- MW-1 ⊕ GROUNDWATER MONITORING WELL
- GWX-1 ● GROUNDWATER EXTRACTION WELL
- CB-2 ◆ CONFIRMATION SOIL BORING

N

0 40 80

SCALE IN FEET

URS Corporation

Former Multi-Phase Extraction Well Field Map

Proj. No.: 29684254		Date:	OCT 2009
Project: BELL INDUSTRIES		Figure:	3
Drawn by: GN	Checked by: KR		

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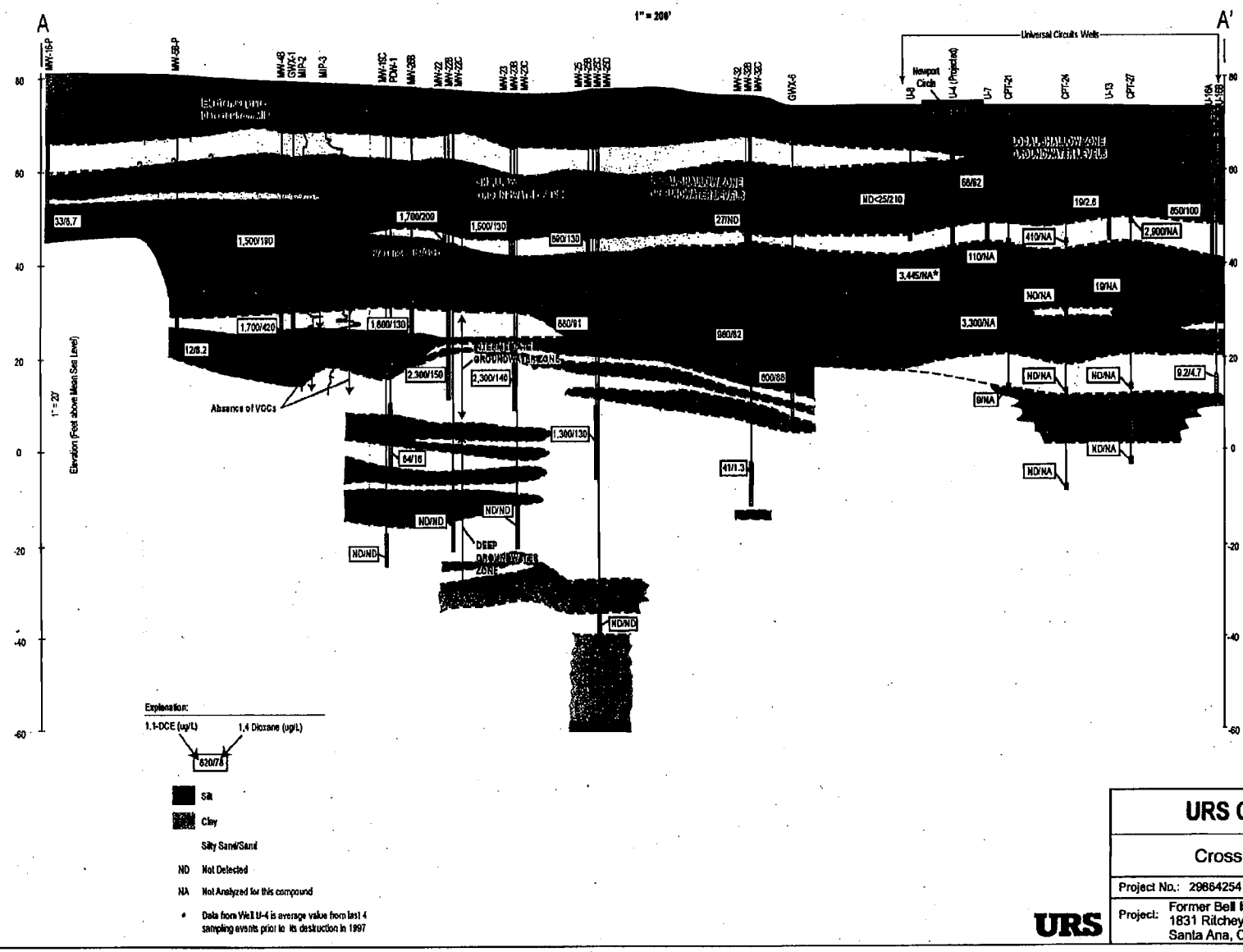
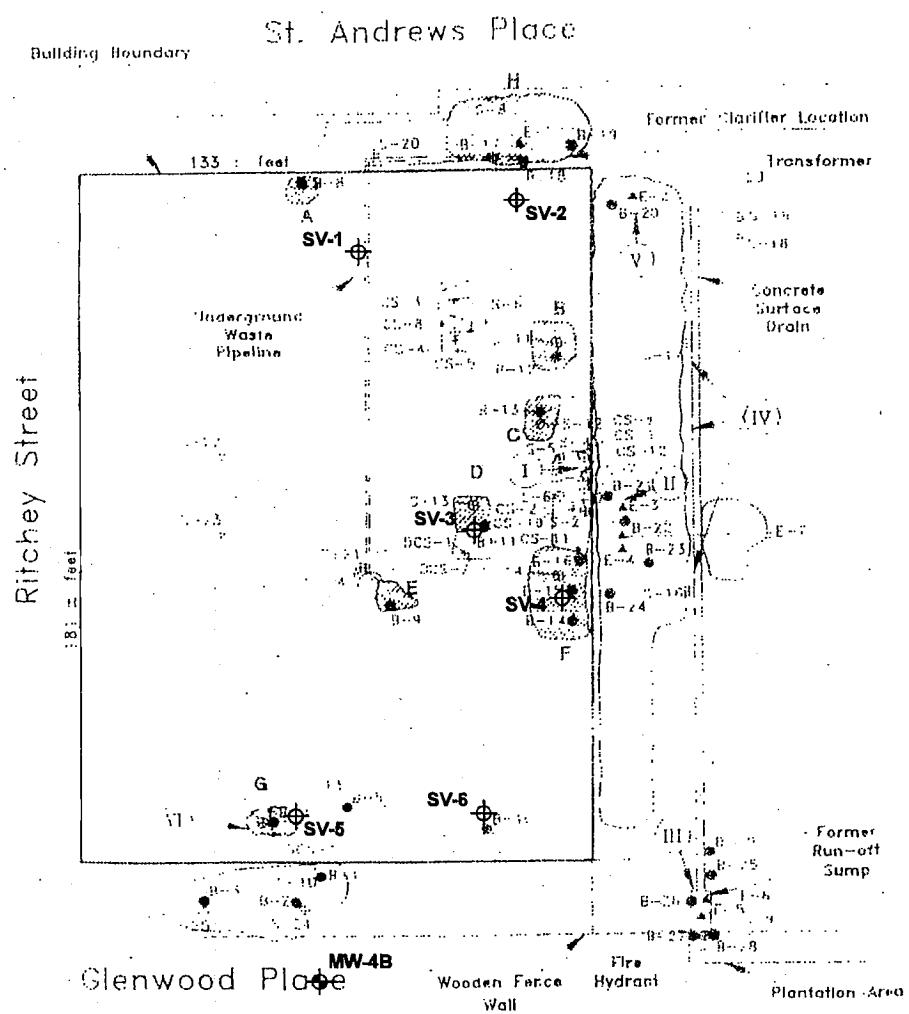
K:/2007/former bell/figure 4 Cross Section AA 1in=200ft.ai



URS Corporation	
Cross Section A-A'	
Project No.: 29864254	Date: July 2006
Project: Former Bell Industries Inc. 1831 Ritchey Street Santa Ana, California	Figure 4

URS



Explanation:

- SV-2 = Soil vapor sampling location.
- = Former area of removed pavement or slab.
- = Former excavation and designation.
- B-1 = CTL boring and number, 1993.
- E-1 = ENVIRON boring location and number, 1993.
- S-1 = ENVIRON shallow sample location and number, 1993.
- CS-1 = ENVIRON confirmation sample location and number, 1993.
- III = Remediation area and number.
- MW-4B = Groundwater Monitoring Well

0 30
Scale in Feet

(ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE)

Reference:
Environ, Report of
Soil Remediation and Groundwater Investigation,
Former Bell Industries Plant Site
Santa Ana, California, 1994

URS Corporation

2008 CONFIRMATION
SOIL VAPOR SAMPLING LOCATIONS

Project No.: 29864254	Date: MAY 2008
Project: FORMER BELL INDUSTRIES FACILITY 1831 RITCHEY STREET SANTA ANA, CALIFORNIA	Figure 5

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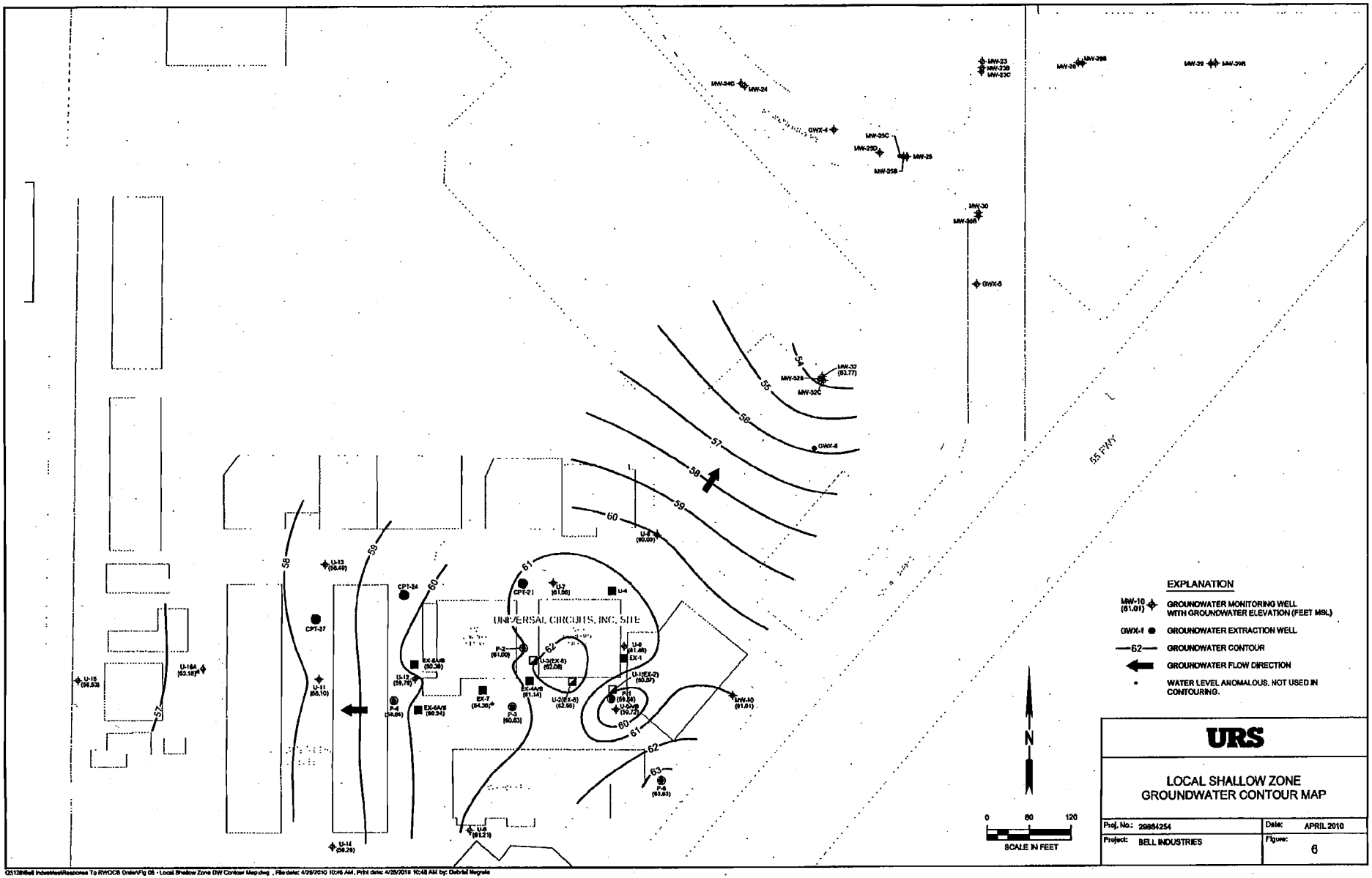
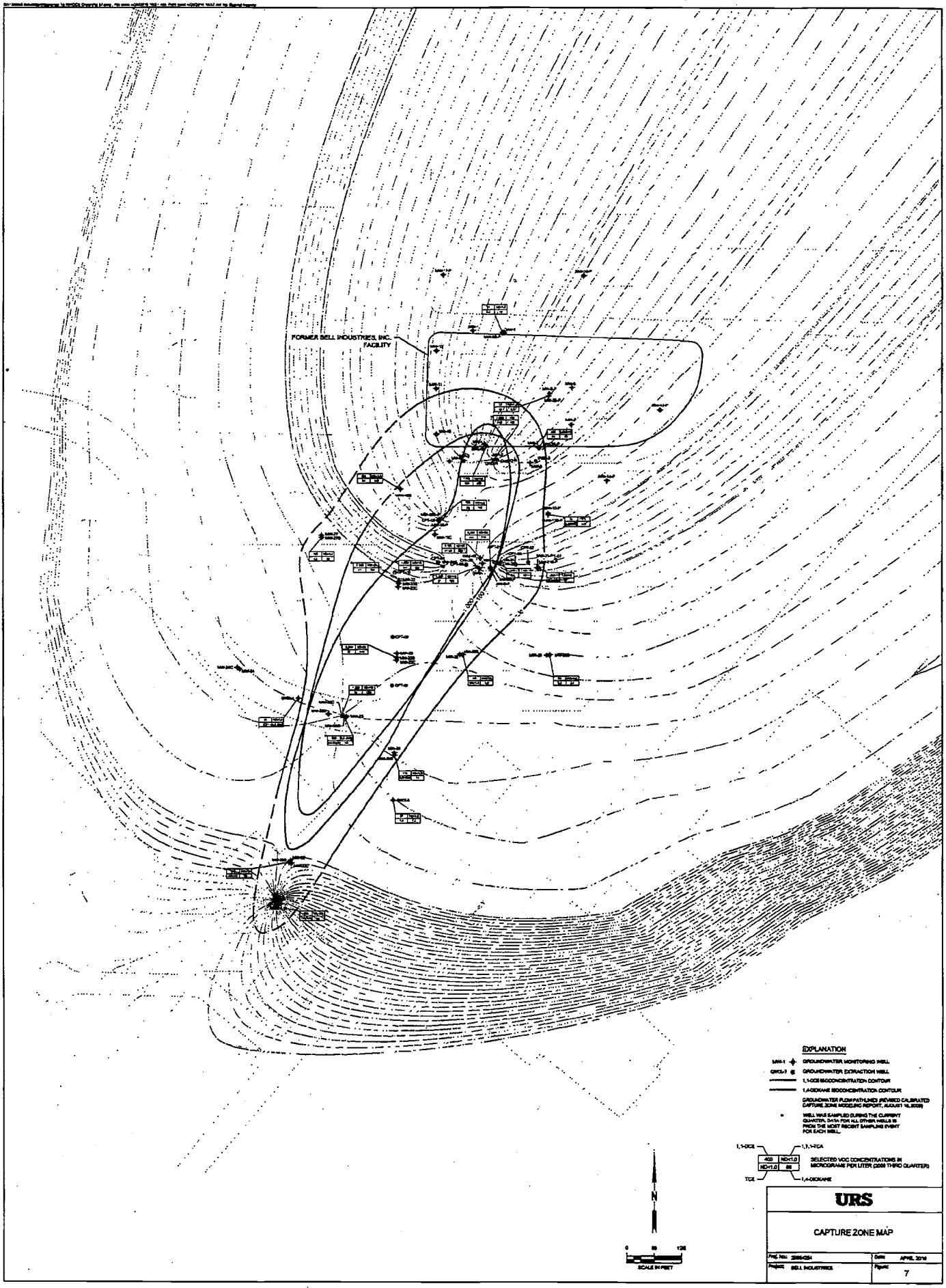

UNIVERSAL CIRCUITS, INC. SITE
55 FWY
EXPLANATION
MW-10 (61.01) GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION (FEET MSL)
GWX-1 GROUNDWATER EXTRACTION WELL
62 GROUNDWATER CONTOUR
GROUNDWATER FLOW DIRECTION
WATER LEVEL ANOMALOUS, NOT USED IN CONTOURING.
N
0 60 120
SCALE IN FEET
URS
LOCAL SHALLOW ZONE
GROUNDWATER CONTOUR MAP
Proj. No.: 29884254
Date: APRIL 2010
Project: BELL INDUSTRIES
Figure: 6


FORMER BELL INDUSTRIES, INC. FACILITY
EXPLANATION
MW-1 GROUNDWATER MONITORING WELL
GW3-7 GROUNDWATER EXTRACTION WELL
1,1-DCE ISOCONCENTRATION CONTOUR
1,4-DIOXANE ISOCONCENTRATION CONTOUR
GROUNDWATER FLOWPATHLINES (REVISED CALIBRATED CAPTURE ZONE MODELING REPORT, AUGUST 18, 2009)
WELL WAS SAMPLED DURING THE CURRENT QUARTER. DATA FOR ALL OTHER WELLS IS FROM THE MOST RECENT SAMPLING EVENT FOR EACH WELL.
1,1-DCE
1,1,1-TCA
TCE
1,4-DIOXANE
SELECTED VOC CONCENTRATIONS IN MICROGRAMS PER LITER, 2009 THIRD QUARTER)
N
SCALE IN FEET
URS
CAPTURE ZONE MAP
APRIL 2010
BELL INDUSTRIES
7

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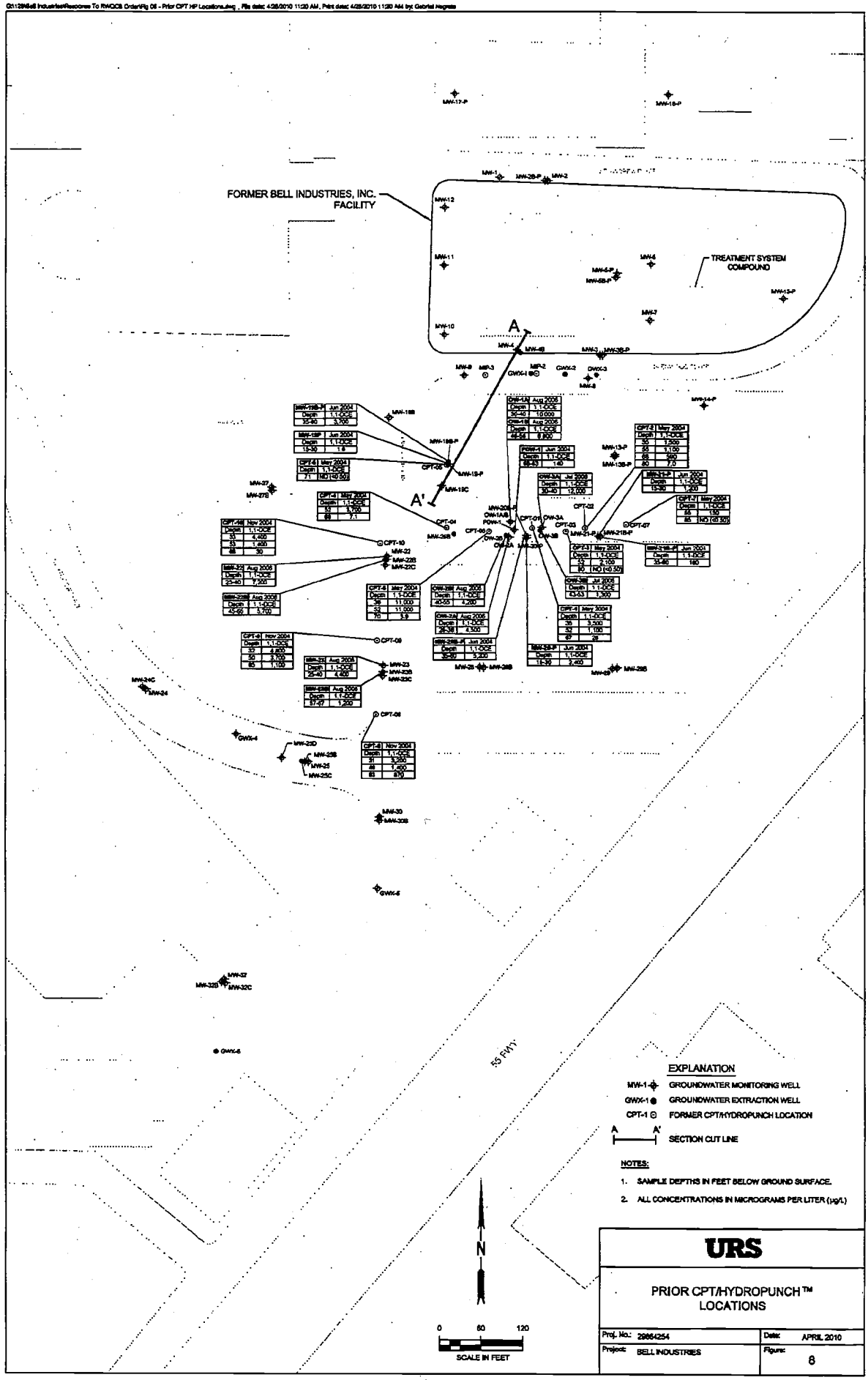

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PRIOR CPT/HYDROPUNCH™ LOCATIONS

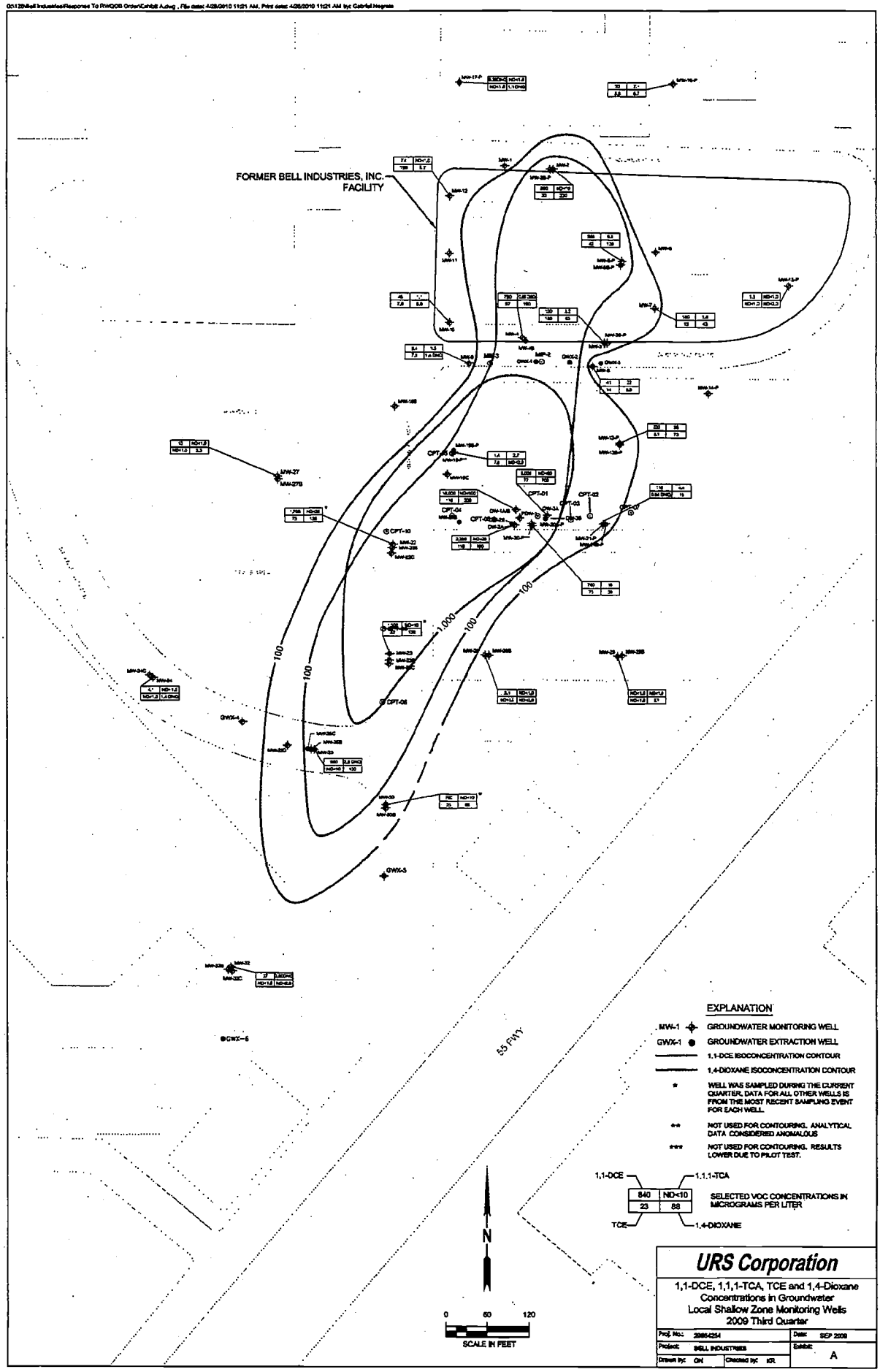
Proj. No.: 29564254	Date: APRIL 2010
Project: BELL INDUSTRIES	Figure: 8

TABLE 1
ANALYTICAL RESULTS - CONFIRMATION SOIL VAPOR SAMPLING

Former Bell Industries, Inc. Site
1831 Ritchey Street
Santa Ana, California
Page 1 of 1

Soil Vapor Sample Number	Sampling Date	Sample Depth (Feet)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)
SV-1	5/10/2008	5	1.8	0.4
SV-2	5/10/2008	5	2.1	0.2
SV-3	5/10/2008	5	3.7	0.8
SV-4 (1 Pore Volume)	5/10/2008	5	9.2	1.2
SV-4 (3 Pore Volume)	5/10/2008	5	9.7	1.3
SV-4 (7 Pore Volume)	5/10/2008	5	9.3	1.3
SV-5	5/10/2008	5	1.0	0.2
SV-6	5/10/2008	5	1.3	0.3
SV-6 (DUP)	5/10/2008	5	1.6	0.4
California Human Health Screening Levels (µg/L)		Residential	991	NA
		Commercial	2790	NA

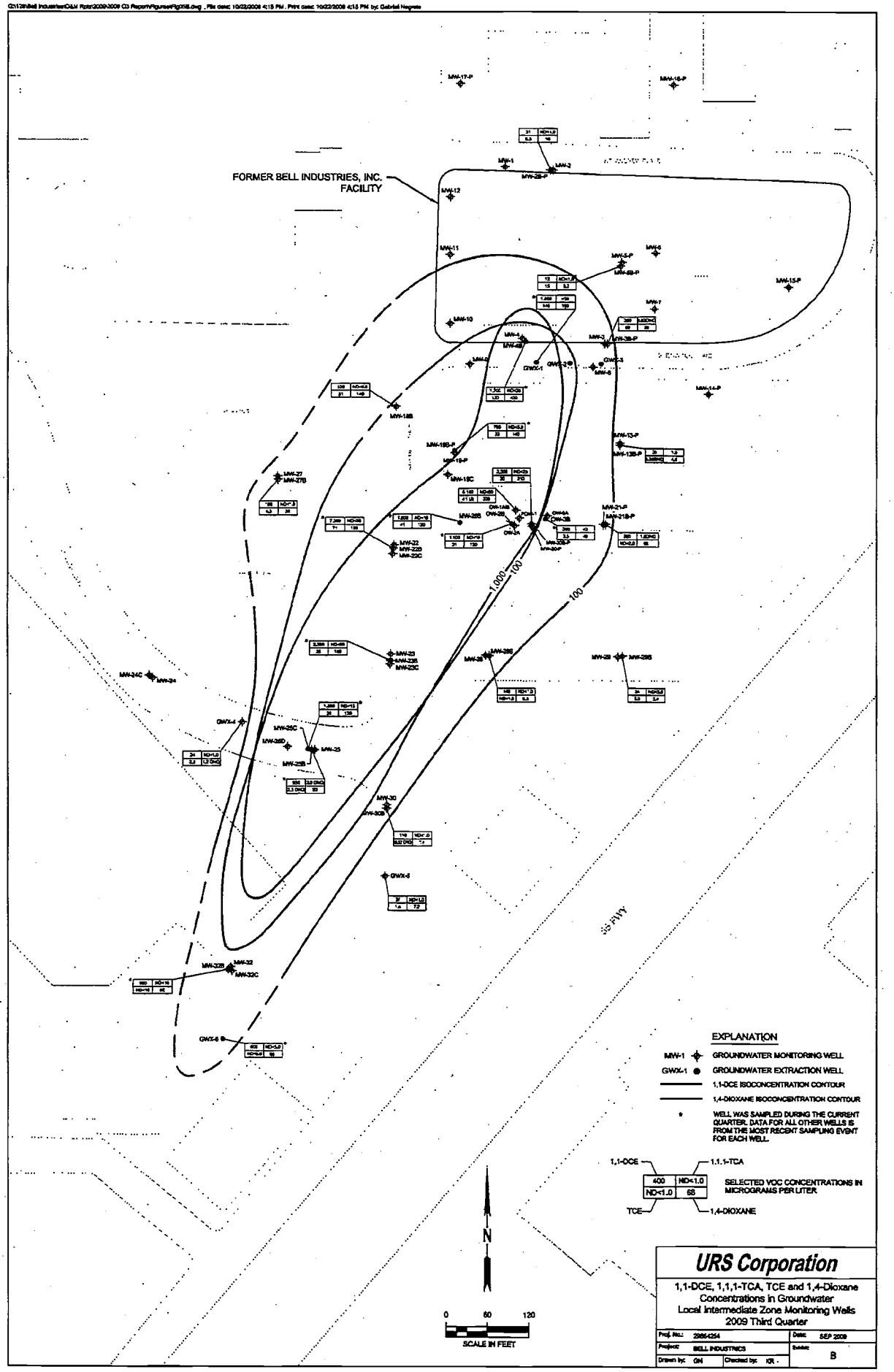
Notes:
Only detected VOC analytes are shown on this table. All other analytes were non-detect for all samples.
VOC analysis conducted by EPA Method 8260B
ug/L = micrograms per liter
1,1,1-TCA = 1,1,1-trichloroethane
1,1-DCE = 1,1-dichloroethene
NA = Not applicable - CHHSLs do not exist for this compound

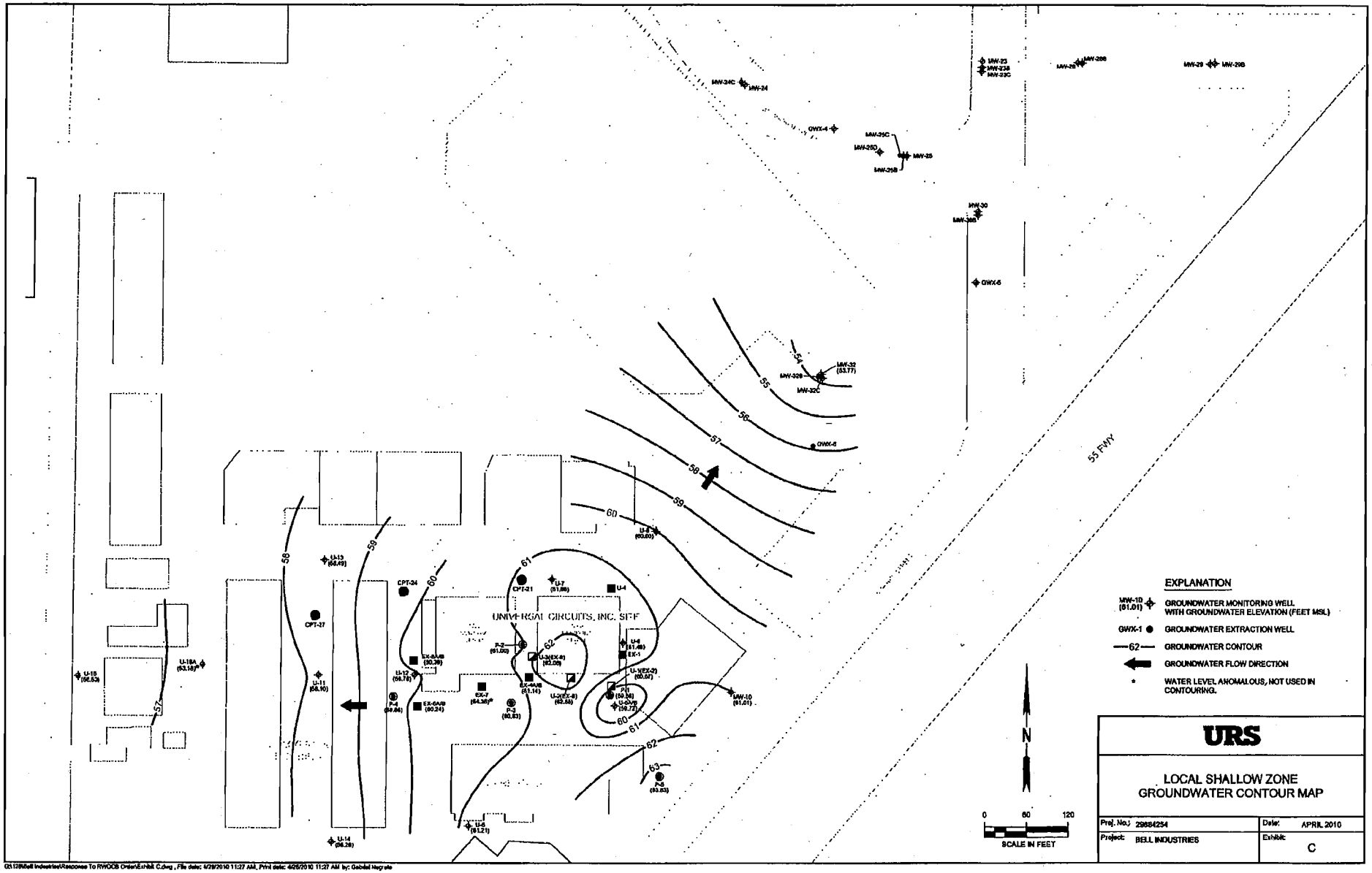


URS Corporation

1,1-DCE, 1,1,1-TCA, TCE and 1,4-Dioxane Concentrations in Groundwater
Local Shallow Zone Monitoring Wells
2009 Third Quarter

Proj. No.:	28664254	Date:	SEP 2009
Project:	BELL INDUSTRIES	Exhibit:	A
Drawn by:	GN	Checked by:	KR


FORMER BELL INDUSTRIES, INC. FACILITY
MW-17-P
MW-16-P
MW-1
MW-2
MW-28-P
MW-12
MW-11
MW-5-P
MW-6
MW-5B-P
MW-15-P
MW-7
MW-10
MW-3
MW-3B-P
MW-4
GWX-1
GWX-3B
GWX-3
MW-5
MW-14-P
MW-18B
MW-18B-P
MW-13-P
MW-13B-P
MW-12-P
MW-19C
MW-27
MW-27B
MW-21-P
MW-21B-P
MW-26B
MW-22
MW-22B
MW-22C
MW-23
MW-23B
MW-23C
MW-24C
MW-24
MW-28
MW-29B
MW-29
GWX-4
MW-25C
MW-26D
MW-25
MW-25B
MW-30
MW-30B
GWX-5
GWX-6
MW-32B
MW-32
MW-32C
1,000
100
100
I-5 FWY
EXPLANATION
MW-1 GROUNDWATER MONITORING WELL
GWX-1 GROUNDWATER EXTRACTION WELL
1,1-DCE ISOCONCENTRATION CONTOUR
1,4-DIOXANE ISOCONCENTRATION CONTOUR
WELL WAS SAMPLED DURING THE CURRENT QUARTER. DATA FOR ALL OTHER WELLS IS FROM THE MOST RECENT SAMPLING EVENT FOR EACH WELL.
1,1-DCE
1,1,1-TCA
400
ND<1.0
ND<1.0
68
TCE
1,4-DIOXANE
SELECTED VOC CONCENTRATIONS IN MICROGRAMS PER LITER
N
0
60
120
SCALE IN FEET
URS Corporation
1,1-DCE, 1,1,1-TCA, TCE and 1,4-Dioxane Concentrations in Groundwater
Local Intermediate Zone Monitoring Wells
2009 Third Quarter
Proj. No.: 2986-054
Date: SEP 2009
Project: BELL INDUSTRIES
Scale: B
Drawn by: GN
Checked by: KR



URS

LOCAL SHALLOW ZONE
GROUNDWATER CONTOUR MAP

Proj. No.: 29884254	Date: APRIL 2010
Project: BELL INDUSTRIES	Exhibit: C

G:\129\Bell Industries\Response To RWQCB Order\Exhibit C.dwg , File date: 4/29/2010 11:27 AM, Print date: 4/29/2010 11:27 AM by: Gabriel Negrete