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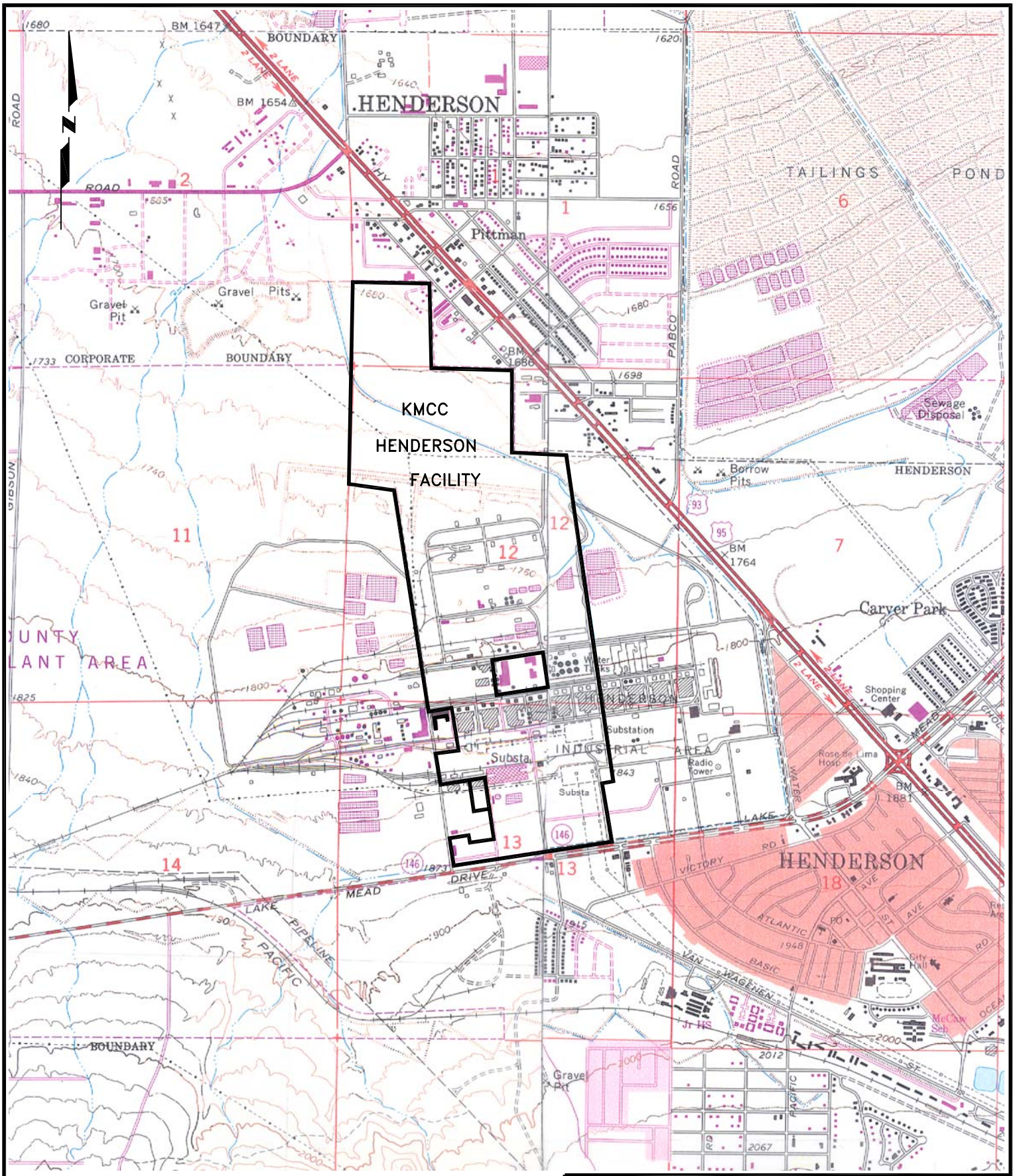


QUADRANGLE LOCATION

0 1000' 2000' 4000'

SCALE IN FEET

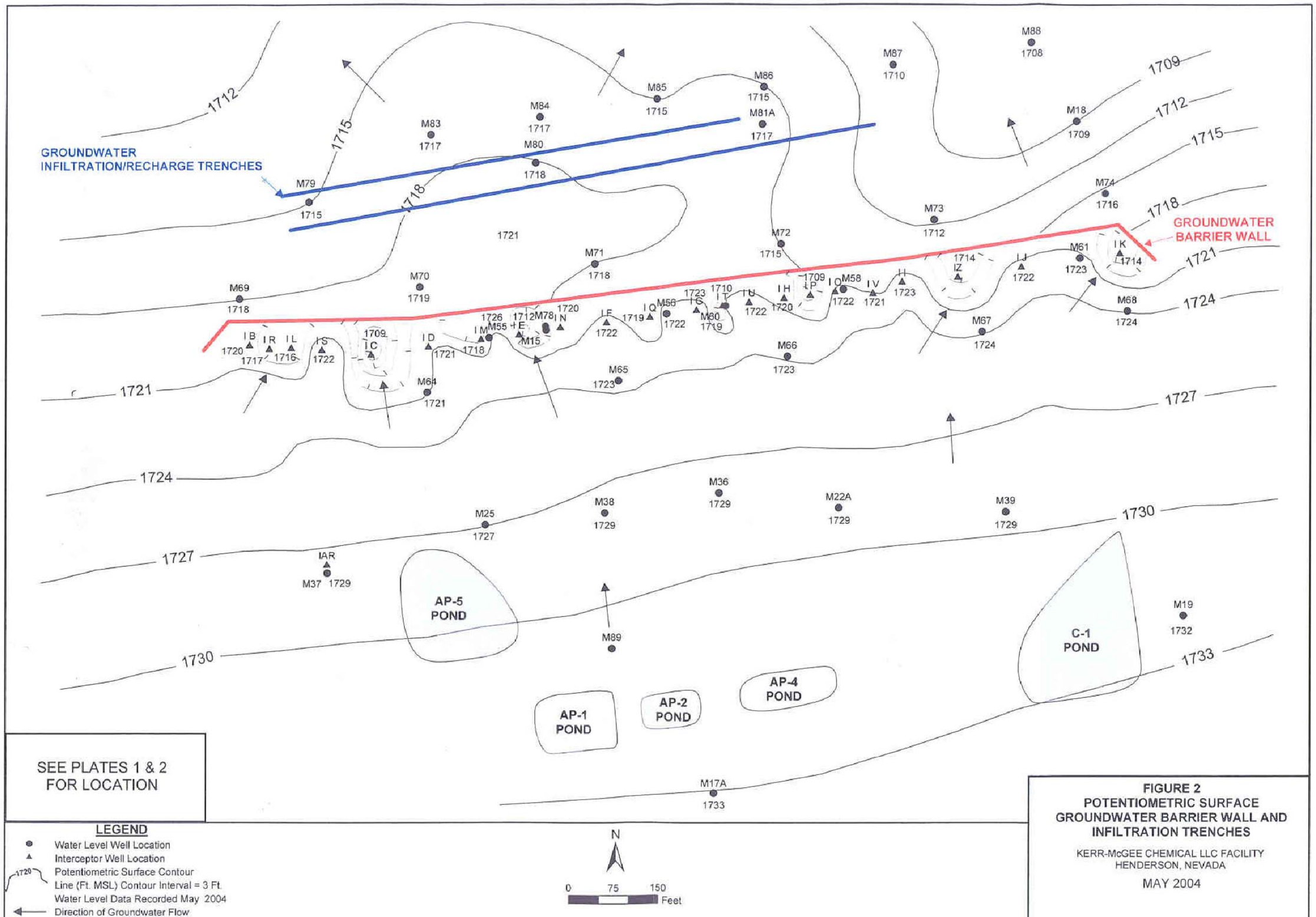
**SOURCE:** USGS 7.5 Minute Topographic Quadrangle, Las Vegas SE, Nevada, 1967, Photorevised 1984
Henderson, Nevada, 1970, Photorevised 1983

FIGURE 1

**SITE LOCATION MAP**

Kerr-McGee Chemical LLC Facility
Henderson, Nevada

| | | | |
|---|---|---|---|
| DRAWN: T. Burke | DATE: 01/10/2005 | PROJECT NO. 04020-023-100 | REV. 2 |
| FILE NO. SiteLoc2Map | CHK BY: R. Foxx | | |




SEE PLATES 1 & 2
FOR LOCATION

**LEGEND**

- Water Level Well Location
- Interceptor Well Location
- 1720 Potentiometric Surface Contour Line (Ft. MSL) Contour Interval = 3 Ft.
- Water Level Data Recorded May 2004
- Direction of Groundwater Flow

N

0 75 150 Feet

**FIGURE 2**
**POTENTIOMETRIC SURFACE**
**GROUNDWATER BARRIER WALL AND INFILTRATION TRENCHES**

KERR-McGEE CHEMICAL LLC FACILITY
HENDERSON, NEVADA

MAY 2004

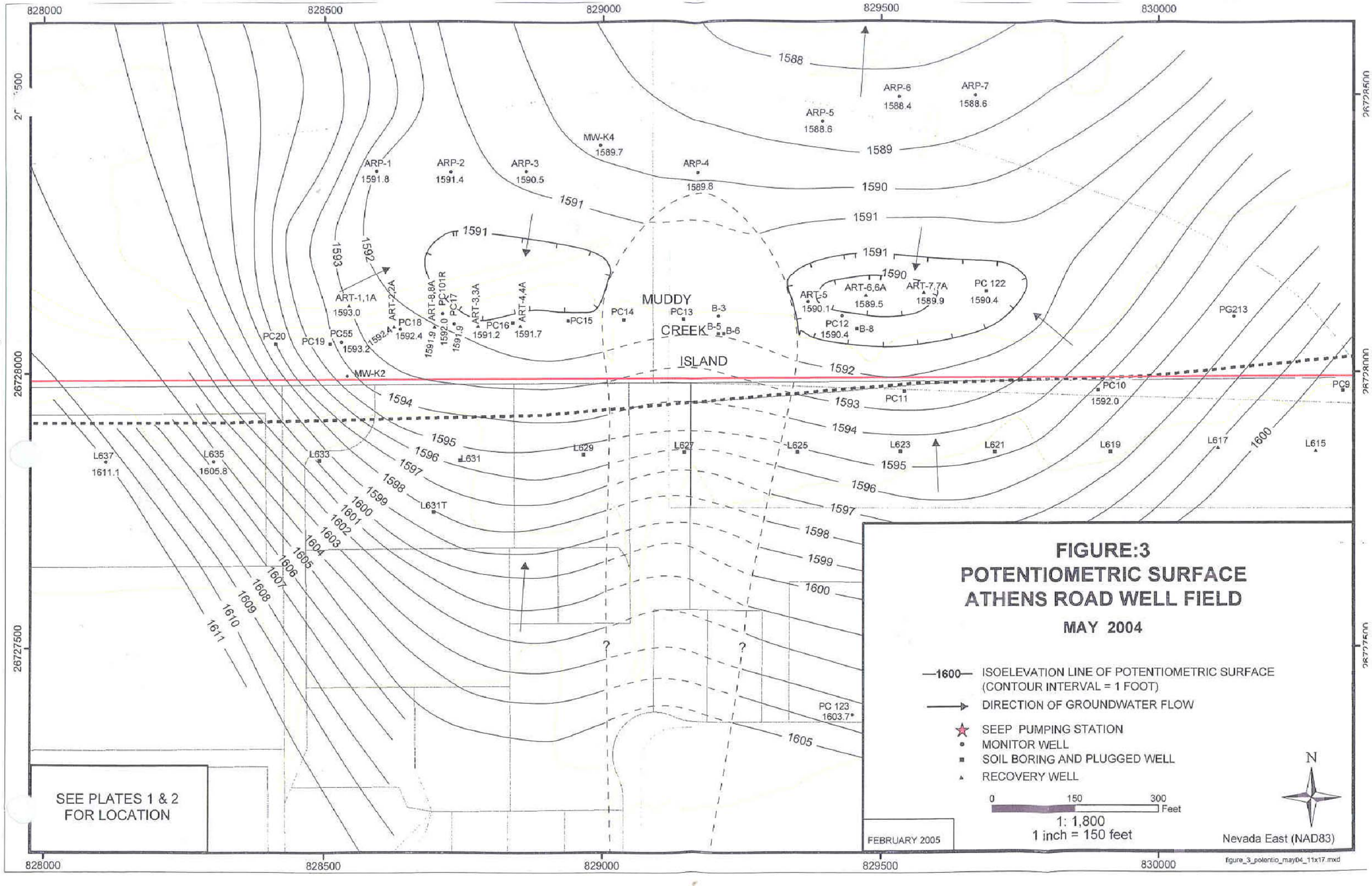


FIGURE:3
POTENTIOMETRIC SURFACE
ATHENS ROAD WELL FIELD
MAY 2004
—1600— ISOELEVATION LINE OF POTENTIOMETRIC SURFACE (CONTOUR INTERVAL = 1 FOOT)
DIRECTION OF GROUNDWATER FLOW
SEEP PUMPING STATION
MONITOR WELL
SOIL BORING AND PLUGGED WELL
RECOVERY WELL
0 150 300 Feet
1: 1,800
1 inch = 150 feet
N
Nevada East (NAD83)
FEBRUARY 2005
figure_3_potentio_may04_11x17.mxd
SEE PLATES 1 & 2 FOR LOCATION
MUDDY CREEK ISLAND
828000
828500
829000
829500
830000
2672500
2672000
2672750
ARP-1 1591.8
ARP-2 1591.4
ARP-3 1590.5
ARP-4 1589.8
ARP-5 1588.6
ARP-6 1588.4
ARP-7 1588.6
MW-K4 1589.7
MW-K2
ART-1,1A 1593.0
ART-2,2A 1592.4
ART-8,8A 1591.9
PC101R 1592.0
PC17 1591.9
ART-3,3A
ART-4,4A 1591.7
PC18 1592.4
PC16 1591.2
PC15
PC14
PC13
B-3
B-5
B-6
B-8
PC12 1590.4
ART-5 1590.1
ART-6,6A 1589.5
ART-7,7A 1589.9
PC 122 1590.4
PC20
PC19
PC55 1593.2
PC11
PC10 1592.0
PC9
PG213
L637 1611.1
L635 1605.8
L633
L631
L631T
L629
L627
L625
L623
L621
L619
L617
L615
PC 123 1603.7*
1588
1589
1590
1591
1592
1593
1594
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1600
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1602
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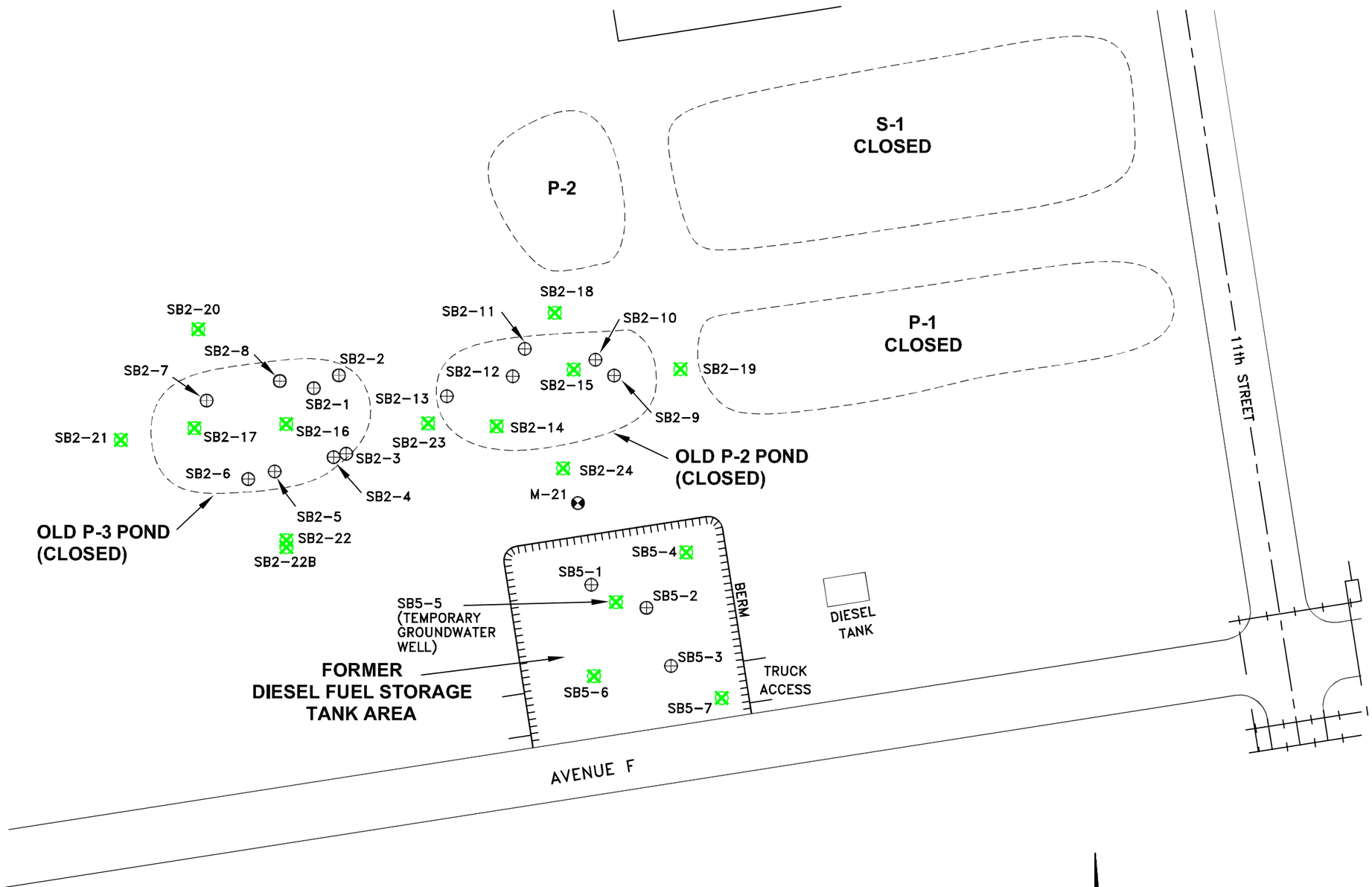
1610
1611




## LEGEND

- PHASE II SOIL SAMPLING LOCATION
- SUPPLEMENTAL PHASE II SOIL SAMPLING LOCATIONS
- GROUNDWATER MONITORING WELL
- OUTLINE OF FORMER POND
- EARTHEN BERM

N

0 40' 80' 160'

SCALE IN FEET

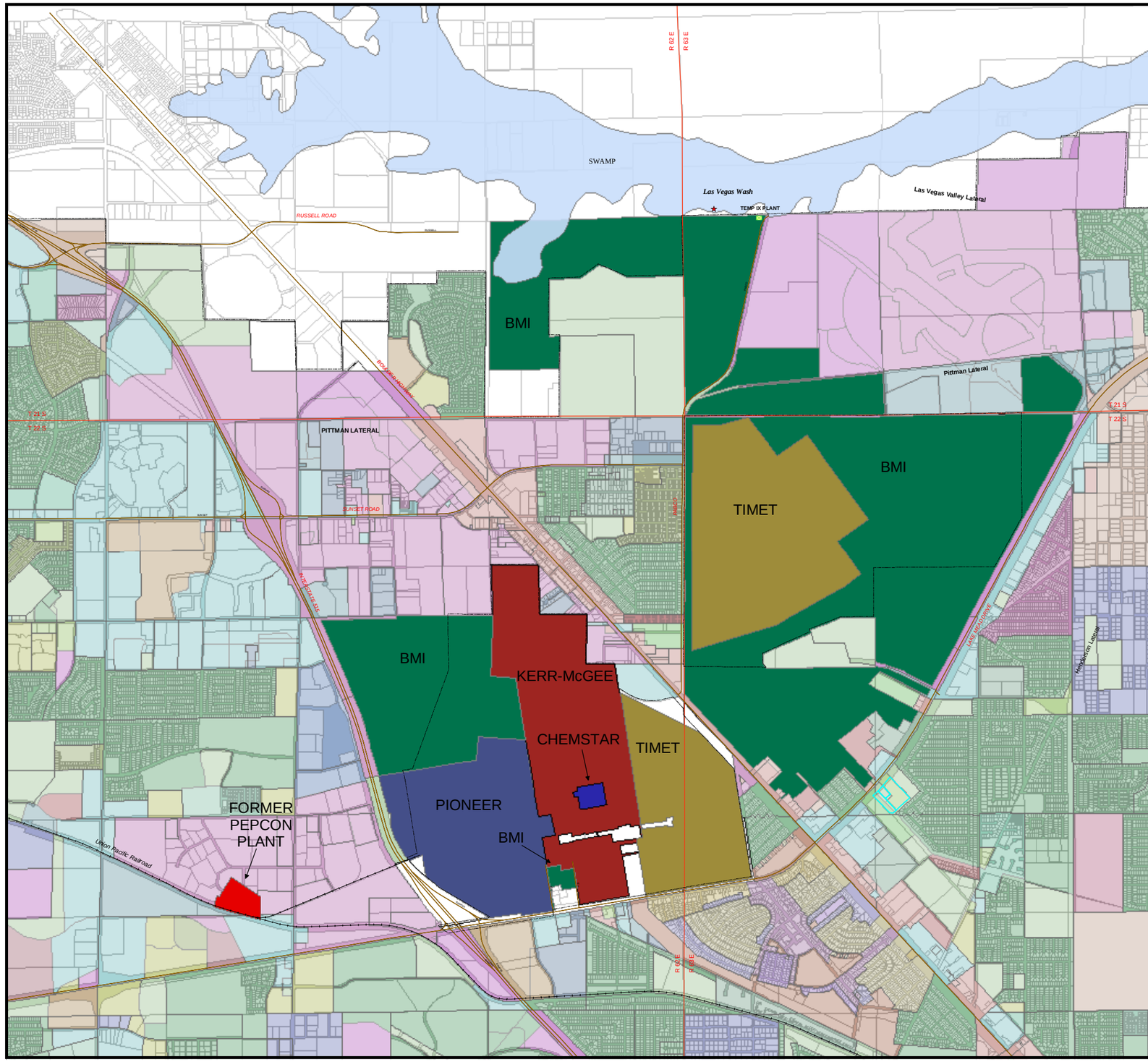
FIGURE 4

**OLD P-2, P-3 PONDS AND FORMER DIESEL FUEL STORAGE TANK AREA SUPPLEMENTAL SAMPLING LOCATIONS**

Kerr-McGee Chemical LLC Facility

Henderson, Nevada

| | | | |
|---|---|---|---|
| DRAWN: M. SCOP | DATE: 1/11/2005 | PROJECT NO. 04020-023 | REV. 1 |
| FILE NO. 4020004KK | CHK BY: | | |




## Legend

- Other
- CA Auto Mall Commercial
- CC Community Commercial
- CH Highway Commercial
- CN Neighborhood Commercial
- CNTY County
- CO Office Commercial
- CT Tourist Commercial
- DCC
- DH Development Holding
- DHC
- DP
- DRH
- DRL
- DRM
- IG General Industry
- IL Limited Indusrty
- IP Industrial Park
- PS Public/Semipublic
- RH-20 High Density Residential
- RH-24 High Density Residential
- RH-30 High Density Residential
- RH-36 High Density REsidential
- RM-10 Med Density Residential
- RM-16 Med Density Residential
- RM-8 Med Density Residential
- RS-1A Low Density Residential
- RS-2 Low Density Residential
- RS-4 Low Density Residential
- RS-6 Low Density Residential
- RX-5 Trailer Estate
- RX-8 Trailer Park

See Attached Sheet for Legend Descriptions

## Legend

### County Industrial Parcels

- BMI
- Chemstar
- Kerr-McGee
- Pioneer
- Timet

FIGURE 5
**LAND USE ZONING**

KERR-McGEE CHEMICAL LLC FACILITY
HENDERSON, NEVADA

N

0 2,250 4,500 9,000 Feet

henderson_area_zoning.mxd

## FIGURE 5 –Land Use Zoning, *Legend Definitions*

**CA, Auto Mall Commercial**

To provide sites for new automobile dealerships and related uses.

**CC, Community Commercial District**

To provide sites for community and regional retail shopping centers containing a wide variety of commercial establishments including retail stores and businesses selling home furnishings, apparel, durable goods and specialty items; restaurants; commercial recreation; service stations; and business, personal, and financial services. The CC District is most appropriate along Boulder Highway, Lake Mead Drive, and other locations adjacent to the intersection of two arterials as depicted on the Henderson Master Streets and Highways Plan or the intersection of a major arterial and a beltway interchange.

**CH, Highway Commercial District**

To provide sites for auto-oriented commercial uses including hotels, motels, service stations, car washes, automobile sales and services, drive-in restaurants, offices, limited warehousing, and commercial services.

**CN, Neighborhood Commercial District**

To provide sites for businesses serving the daily needs of nearby residential areas and for small-scale offices while establishing development standards that prevent significant adverse effects on residential uses adjoining a CN District.

**CO, Commercial Office District**

To provide areas primarily for high-quality, low-rise office development that will be compatible with nearby residential uses and that will protect these office developments from potential disruption by incompatible commercial and industrial uses. Secondary commercial uses whose primary purpose is to serve the businesses and employees of the district are allowed.

**CT, Tourist Commercial District**

To provide sites for visitor-oriented uses, including casinos, hotels, motels, resort complexes, commercial recreation facilities, restaurants, travel trailer and RV facilities, and limited residential development in a mixed-use project.

**CM, Mixed-Use Commercial**

To provide sites for a mixture of residential uses with commercial, office, research and development, and/or public uses. Residential uses are intended to complement the nonresidential uses and create a pedestrian-friendly environment with decreased reliance on individual vehicles. Such uses shall provide innovative opportunities for mixed, unified developments with distinguishable design features.

**DCC, Downtown Core Commercial District**

The purpose of the DCC, Downtown Core Commercial District, is to create an attractive, pedestrian-oriented environment that functions as the shopping, office, arts and entertainment center of downtown.

**DHC, Downtown Highway Commercial District**

The purpose of the DHC, Downtown Highway Commercial District, is to create an inviting gateway to downtown that transitions from auto-oriented uses on Lake Mead Parkway and Boulder Highway to the more pedestrian-oriented Downtown Core Commercial District by consolidating smaller lots and providing access from arterial streets.

**DP, Downtown Public District**

The purpose of the DP, Downtown Public District, is to provide an attractive, functional arts and entertainment hub, government services, recreational opportunities, and medical services for downtown Henderson.

**DRH, Downtown High-Density Residential District**

The purpose of the DRH, Downtown High-Density Residential District, is to encourage a greater mix of housing types and to increase the number of residents within the downtown area by providing opportunities for high-density residential uses, including apartments or condominiums.

**DRL, Downtown Low-Density Residential District**

The purpose of the DRL, Downtown Low-Density Residential District, is to improve the quality and visual appearance of downtown's residential neighborhoods while providing opportunities for low-density residential development on smaller lots. The district is intended to preserve the general character of existing residential development in downtown neighborhoods, while encouraging compatible infill development and redevelopment.

**DRM, Downtown Medium-Density Residential District**

The purpose of the DRM, Downtown Medium-Density Residential District, is to encourage a greater mix of housing types in the downtown area by allowing single-family attached homes on individual small lots. A greater number of housing opportunities results in more people to support and invigorate the downtown area at all hours of the day and night.

**IG, General Industrial District**

To provide and protect existing industrial sites and allow for continued operation of existing general industry, manufacturing, extraction, salvage, and related activities, subject to performance standards and buffering requirements to minimize potential environmental impacts. Accessory office uses and some small freestanding offices are allowed.

**IL, Limited Industrial District**

To provide areas appropriate for low-intensity industrial uses, including light manufacturing, warehousing and distribution, research and development, and commercial services, and to protect these areas, to the extent feasible, from the disruption and competition for space from unrelated retail uses, primary office uses, and general industrial uses. Conversion of buildings and sites to general office use is permitted only as expressly stated in this Development Code. Secondary office uses on the site are allowed.

**IP, Industrial Park District**

To provide and protect sites for research and development facilities and limited industrial activities including non-nuisance production, distribution, and storage of goods, but no raw materials processing or bulk handling, in a landscaped setting. Offices and support commercial services are permitted in mixed-use projects. Accessory office uses are allowed.

**PS, Public and Semipublic District**

To allow consideration of a large public or semipublic use separately from regulations for an underlying base zoning that may or may not be appropriate in combination with the public or semipublic use; permit consideration of establishment or expansion of a large public or semipublic use at rezoning hearings rather than at conditional use permit hearings only and give notice to all of the extent of a site approved for a large public or semipublic use by delineating it on the zoning map; and to allow the Planning Commission and City Council to consider the most appropriate use of a site following discontinuance of a large park or recreation facility without the encumbrance of a base zoning district that may or may not provide appropriate regulations for reuse of the site.

**RH, High-Density Multifamily Residential District**

The purpose and intent of the RH, High-Density Multifamily Residential District, is to provide opportunities for high-density residential uses, including duplexes, townhouses, apartments or cluster housing with landscaped open space for residents' use, at a density of up to 36 dwelling units per gross acre. Four types of RH Districts are created:

| District | Maximum Density (units per gross acre) |
|---|---|
| RH-20 | 20 |
| RH-24 | 24 |
| RH-30 | 30 |
| RH-36 | 36 |

## RM, Medium-Density Residential District

The purpose of the RM, Medium-Density Residential District, is to provide opportunities for medium-density residential uses, including single-family housing, duplexes, townhouses, apartments or cluster housing with landscaped open space for residents' use, at a density of up to 16 dwelling units per gross acre. Three types of RM Districts are created:

| District | Maximum Density (units per gross acre) |
|---|---|
| RM-8 | 8 |
| RM-10 | 10 |
| RM-16 | 16 |

## RS, Low-Density Single-Family Residential Districts

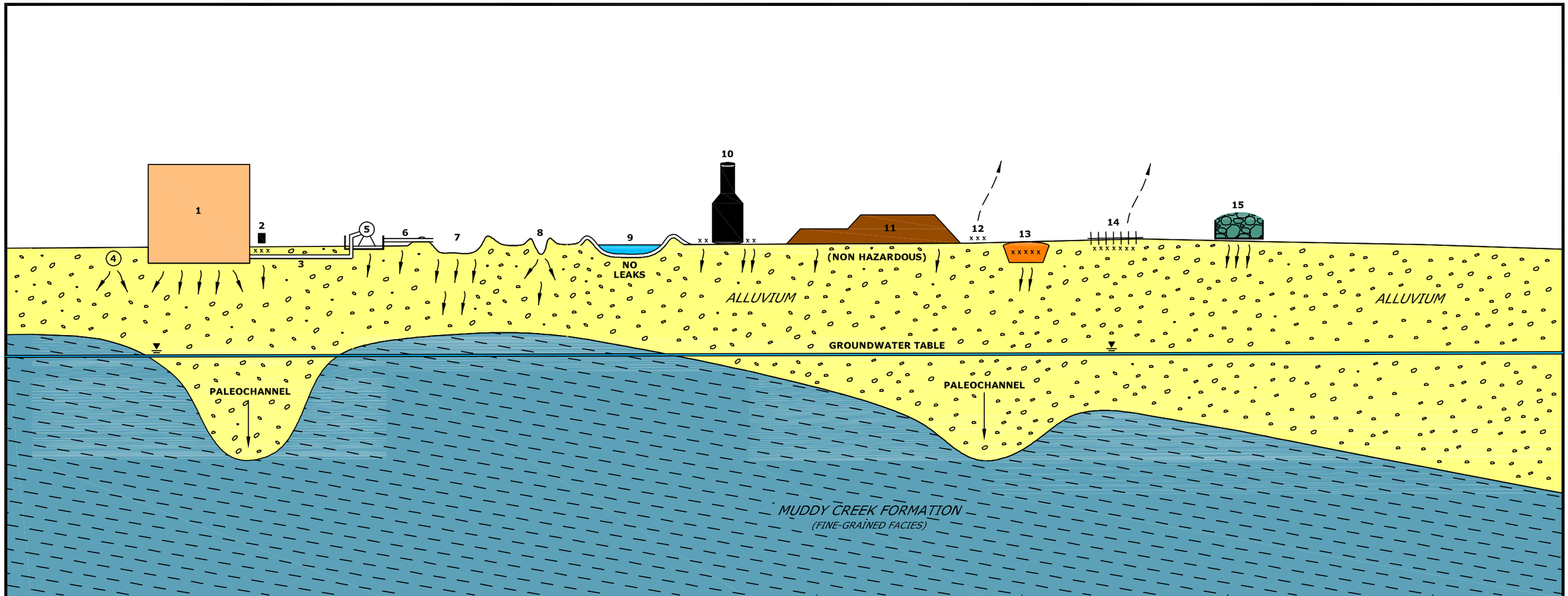
The purpose of the RS, Low-Density Residential Single-Family District, is to provide opportunities for single-family residential land use in neighborhoods at a density up to six dwelling units per gross acre, subject to appropriate standards. Existing attached units (duplexes) are allowed to remain as legal uses. Four types of RS Districts are established:

| District | Maximum Density (units per gross acre) |
|---|---|
| RS-1A | 1 |
| RS-2 | 2 |
| RS-4 | 4 |
| RS-6 | 6 |

## RX, Mobile Home Residential Districts

The purpose and intent of the RX, Mobile Home Residential District, is to provide sites for mobile homes or parks for permanent residents, parks with rental spaces, and parks where spaces are individually owned in a mobile home estate subdivision. Two types of districts are established: RX-5 for "mobile home estates" with a density up to five dwelling units per gross acre, and RX-8 for rental "mobile home parks" with a maximum density up to eight dwelling units per gross acre.

**These can be found on the following website: http://24.234.185.162/vic/**




POTENTIAL CONTAMINANT SOURCE AREAS

1 Process Plant (Manufacturing Unit)
2 Spills and Leaks from Storage Activities
3 Leaks from Underground Pipelines
4 Leaks from Underground Tanks
5 Spills from Above Ground Storage Tanks
6 Leaks from Above Ground Pipelines
7 Infiltration from Unlined Surface Impoundments
8 Infiltration from Unlined Stormwater or Process Effluent Ditches
9 Lined Surface Impoundments unlikely to leak, may be overtopped
10 Incidental Spills from Roasting Operation and management of blowdown water
11 Leaching material from Non Hazardous Waste Pile
12 Impacted Surface Soil Blowing off site
13 Hazardous Waste Landfill erosion of surface cover, leaking or leaching
14 Spills to soil along Rail Road line from Loading and Unloading materials
15 Leaching through ore storage piles

LEGEND

GROUNDWATER TABLE
RAILROAD TRACKS
POTENTIAL CONTAMINATION
POTENTIAL AIR EMISSION
POTENTIAL CONTAMINANT MIGRATION IN SUBSURFACE

ENSR INTERNATIONAL

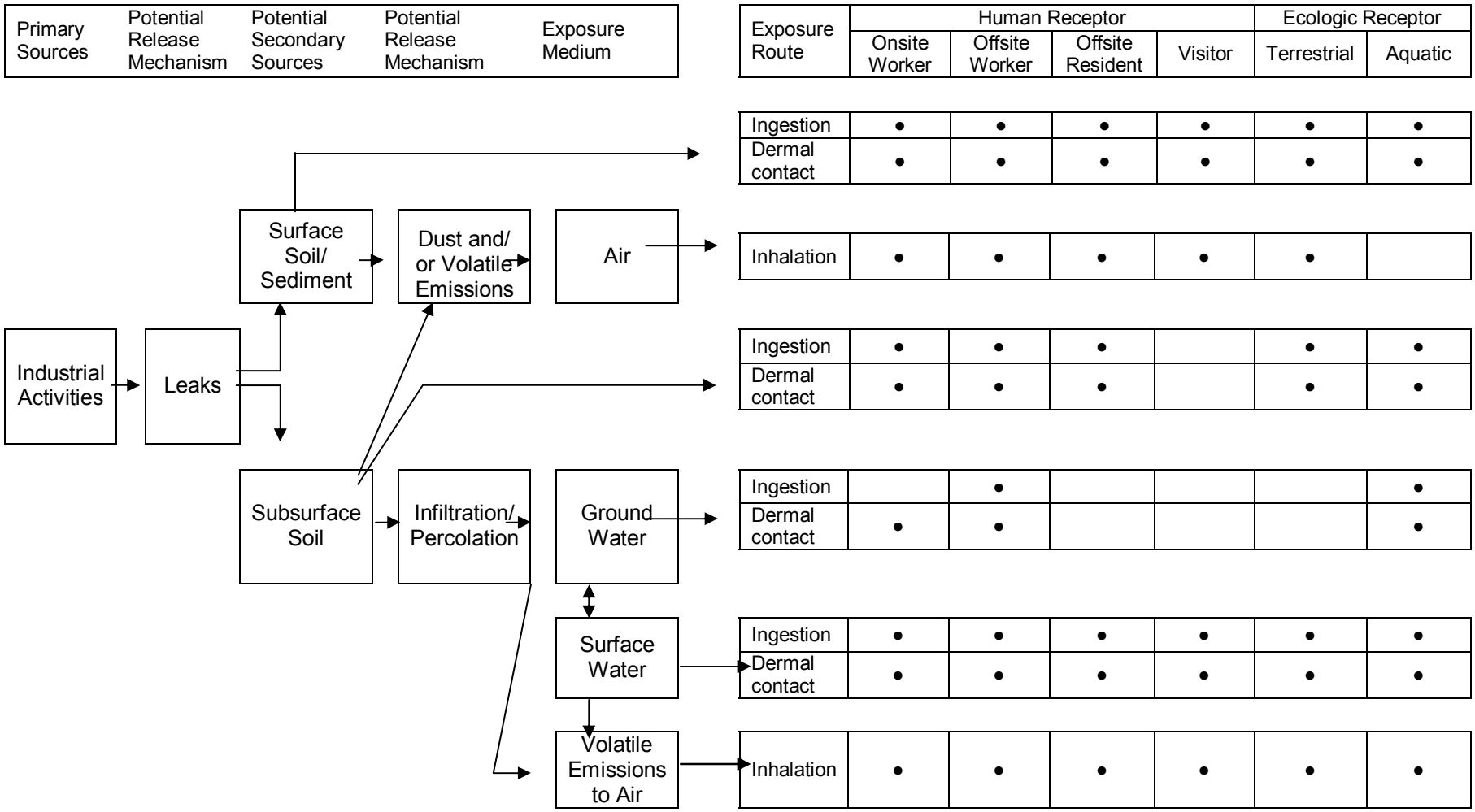
FIGURE 6

**CONCEPTUAL DIAGRAM OF POTENTIAL ON-SITE CONTAMINANT SOURCE AREAS**

Kerr-McGee Henderson Facility

Henderson, Nevada

| | | | |
|---|---|---|---|
| DRAWN: T. Burke | DATE: 12/30/2004 | PROJECT NO. | REV. |
| FILE NO. Schematic...2 | CHK BY: S. Bilodeau | 04020-023-100 | |



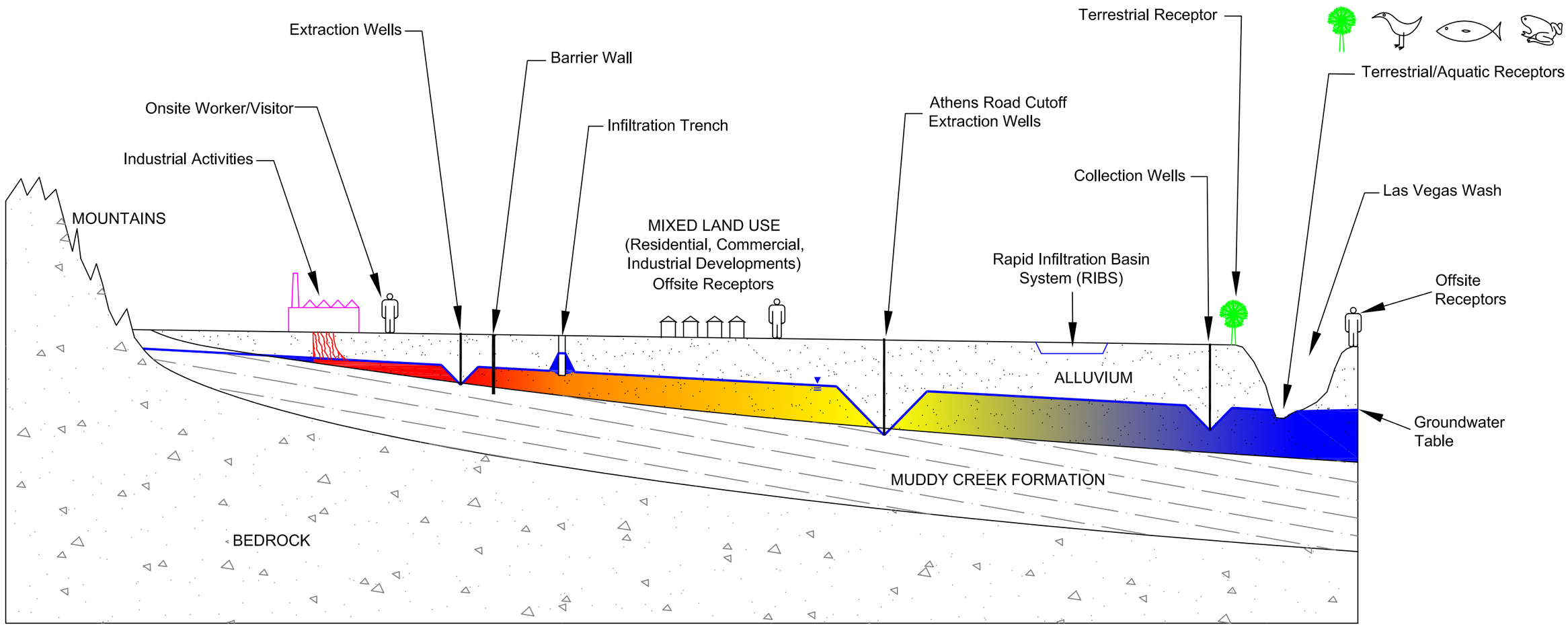

- Potentially complete exposure pathways for further consideration

FIGURE 7

**POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS**

KERR-MCGEE CHEMCIAL LLC FACILITY
HENDERSON, NEVADA

| | | | |
|---|---|---|---|
| DRAWN: J.S. | DATE: 01/06/2005 | PROJECT NO. | REV. |
| FILE NO.: Fig7ExpPath | CHK BY: R. Foxx | 04020-023-100 | 3 |




(NOT TO SCALE)

Explanation

Relative Ground Water Impact

Impacts — Minimal Impacts

ENSR INTERNATIONAL

Figure 8

**Conceptual Model Illustrating Remedial Action & Potential Receptors**

Kerr-McGee Chemical LLC Facility
Henderson, Nevada

| | | | |
|---|---|---|---|
| DRAWN: Sage DW | DATE: 1/7/2005 | PROJECT NO. 04020-023-100 | REV. 1 |
| FILE NO. Sch Cross Section | CHK BY: S. Bilodeau | | |