APPENDIX G

Geologic Cross Sections
LEGEND:
- Monitoring Wells
- Abandoned Monitoring Wells
- Soil Borings
- Historic Arroyo Trace Lines
- Property Boundary
- Historical Drainage Divide
- Cross-Section A-N

Existing Conditions:
- Asphalt Areas from Site Operations
- Paved Areas Completed to Category II Remediation Standard
- Lined Landfill Cell
- Lined Stormwater Pond
- Buildings

See figure E1-2
LEGEND:
- Monitoring Wells
- Abandoned Monitoring Wells
- Soil Borings
- Test Pit Locations
- Historic Arroyo Trace Lines
- Property Boundary
- Historical Drainage Divide
- Cross-Section A-N

Existing Conditions:
- Asphalt Areas from Site Operations
- Paved Areas Completed to Category II Remediation Standard
- Lined Landfill Cell
- Lined Stormwater Pond
- Buildings

FORMER EL PASO SMELTER SITE
EL PASO, TEXAS

EXPANDED VIEW – PARKER BROTHERS ARROYO

GRAPHIC SCALE

0 200 400 Feet
NOTES:
1. NORTHING AND EASTING COORDINATES ARE TEXAS STATE PLANE, CENTRAL ZONE (NAD 83 DATUM) AND ARE IN U.S. SURVEY FEET.
2. ELEVATIONS ARE BASED ON NGS VERTICAL CONTROL MONUMENT GMG, RECORD ELEVATION IS 3738.19 (NAVD 88 DATUM).
3. MEASURING POINT FOR ALL WELLS IS TOP OF CASING ON THE NORTH SIDE.

LEGEND:
- WELLBORE ID
- ORGANIC CONCENTRATION IN SOILS (PPM)
- RECENT WL
- GROUNDWATER ELEVATION (GAT)
- WELL SCREEN

K=0.18 HYDRAULIC CONDUCTIVITY (K) VALUES IN FEET/ DAY

DEFINITION:
AML = ABOVE MEAN SEA LEVEL
HIGH WL = HISTORIC HIGH GROUNDWATER LEVEL
LOW WL = HISTORIC LOW GROUNDWATER LEVEL
WL = WATER LEVEL
BGS = BELOW GROUND SURFACE

VERTICAL SCALE IN FEET
HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION: 4X
NOTES:

1. NORTHING AND EASTING COORDINATES ARE TEXAS STATE PLANE, CENTRAL ZONE (NAD 83 DATUM) AND ARE IN U.S. SURVEY FEET.

2. ELEVATIONS ARE BASED ON NGS VERTICAL CONTROL MONUMENT Q460. RECORD ELEVATION IS 3738.19 (NAVD 88 DATUM).

3. MEASURING POINT FOR ALL WELLS IS TOP OF CASING ON THE NORTH SIDE.

DEFINITION:

AMSL = ABOVE MEAN SEA LEVEL
WL = WATER LEVEL
NOTES:
1. NORTHING AND EASTING COORDINATES ARE TEXAS STATE PLANE, CENTRAL ZONE (NAD 83 DATUM) AND ARE IN U.S. SURVEY FEET.
2. ELEVATIONS ARE BASED ON NGS VERTICAL CONTROL MONUMENT Q460. RECORD ELEVATION IS 3738.19 (NAVD 88 DATUM).
3. MEASURING POINT FOR ALL WELLS IS TOP OF CASING ON THE NORTH SIDE.

DEFINITION:
- AMSL = ABOVE MEAN SEA LEVEL
- WL = WATER LEVEL

LEGEND
- WELL/BORING ID
- WELL SCREEN (GRAY INDICATES SCREEN IN AN ABANDONED WELL)
- HIGH/WL=
- ARSENIC CONCENTRATION IN GROUNDWATER (DATE)
- SCREEN IN SEMI-ANNUAL MONITORING NETWORK
- ARSENIC CONCENTRATION IN SOILS (mg/kg)
- HYDRAULIC CONDUCTIVITY (K) VALUES IN FEET/DAY
- WATER LEVEL
- TOTAL DEPTH OF BOREHOLE IN FEET BELOW GROUND SURFACE
- TOTAL ARSENIC CONCENTRATIONS IN GROUNDWATER
  - <=0.01 mg/L
  - >0.01 mg/L
  - >0.1 mg/L
  - >1.0 mg/L
  - >10 mg/L
- EPA Arsenic Maximum Contaminant Level (MCL) = 0.01 mg/L

TOTAL ARSENIC CONCENTRATIONS IN GROUNDWATER
- Silt
- Shale Bedrock (Mesilla Valley Formation)
- Clay
- Lower Permeability Sand/Gravel (Silty, Clayey, Cemented)
- Union Pacific RR
- Paisano Drive
- American Canal
- Canal Width=12'
  (Shown exaggerated due to acute angle of section)

EL PASO SMELTER SITE
EL PASO, TEXAS
CROSS-SECTION C-C'
LEGEND:
- Interim Site Monitoring Well
- Abandoned Monitoring Well
- Property Boundary
- Historic Arroyo Trace Lines
- Historic Drainage Divide
- Bedrock

Total Arsenic Contours (mg/L), August - September 2011
Water Level Contour (feet amsl)
Cross Section Lines
Approximate Parker Brothers Arroyo Saturated Thickness Extent
Permeable Reactive Barrier (PRB; size exaggerated)
Proposed Landfill Extent

Note:
- amsl - above mean sea level
- mg/L = milligrams per liter

Arsenic Texas Risk Reduction Rule - Protective Concentration Limit (PCL) = 0.01 mg/L

FORMER EL PASO SMELTER SITE
EL PASO, TEXAS
FIELD DEMONSTRATION OF GROUNDWATER REMEDY
IN PARKER BROTHERS ARROYO

PLAN OVERVIEW - PARKER BROTHERS ARROYO

FIGURE G2-1

Note:
amsl - above mean sea level
mg/L = milligrams per liter
Arsenic Texas Risk Reduction Rule - Protective Concentration Limit (PCL) = 0.01 mg/L
NOTE:
1. ELEVATIONS ARE BASED ON NGS VERTICAL CONTROL MONUMENT (GWL), RECORD ELEVATION IS 3738.78 (NAVD 88 DATUM).

LEGEND:
- SLAG
- SAND/GRavel, (Sm. Alluvium)
- Lower Pueblanfly (Int. Redbeds)
- Sand/clay (Fort Hounck formation)
- Sandstone (Mitad Formation)
- Shale bedrock (Vizcaya Valley Formation)
- Permeable Reaction Barrier
- Backfill (Low Permeability Material)
- Estimated Current Water Level

DEFINITIONS:
- AMSL = Above Mean Sea Level
- NAVD = North American Vertical Datum
- NGS = National Geodetic Survey

VERTICAL EXAGGERATION: 1:1
HORIZONTAL AND VERTICAL SCALE IN FEET

FORMER EL PASO SWELTER SITE
EL PASO, TEXAS
FIELD DEMONSTRATION OF GROUNDWATER REMEDY IN PARKER BROTHERS ARROYO

PRB-1 CROSS-SECTION A-A'
NOTE:
1. ELEVATIONS ARE BASED ON NGS VERTICAL CONTROL. MONUMENT CAMEL, RECORD ELEVATION IS 3738.78 (NAVD 88 DATUM).

LEGEND:
- **SLAG**
- **SAND/GRavel (DEPLETED)**
- **SANDSTONE BEDROCK (MOJOADO FORMATION)**
- **SANDSTONE BEDROCK (VESILKA VALLEY FORMATION)**
- **SHALE BEDROCK (VESILKA VALLEY FORMATION)**
- **PERMEABLE REACTION BARIER**
- **BACKFILL (LOW PERMEABILITY MATERIAL)**
- **ESTIMATED CURRENT WATER LEVEL**

DEFINITIONS:
- **AMSL** = ABOVE MEAN SEA LEVEL
- **NAVD** = NORTH AMERICAN VERTICAL DATUM
- **NGS** = NATIONAL GEODETIC SURVEY

VERTICAL EXAGGERATION: 1:1

HORIZONTAL AND VERTICAL SCALE IN FEET

FORMER EL PASO SMELTER SITE
EL PASO, TEXAS
FIELD DEMONSTRATION OF GROUNDWATER REMEDY
IN PARKER BROTHERS ARROYO

PRB-2 CROSS-SECTION B-B'