

APPENDIX D
GEOTECHNICAL LABORATORY TEST RESULTS



Client: Malcolm Pirnie Inc
 104 Corporate Park Dr.
 White Plains, NY 10604-3804

Report Date: December 06, 2013

Attn: Mr. Bill Sabatka
 Project Name: Field and Lab Testing - ASARCO
 El Paso, TX

Project #: 1237192037
 Work Order #: 64
 Lab #: 13555

Sampled By: Client
 Date Sampled: 11/22/2013
 Visual Description of Light Tan Silt Sand with Clay
 Material:

Project Manager: David Varela

SOILS / AGGREGATES

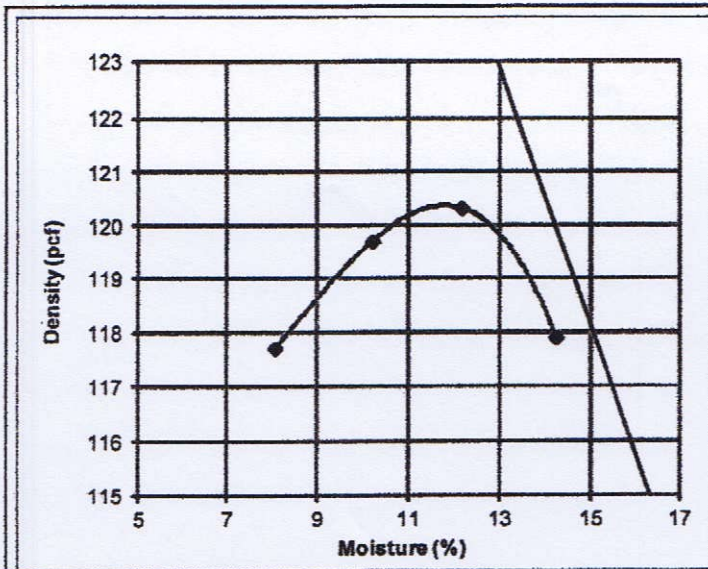
Sample Source: Cell 3, Subgrade

No Project Specification was Provided.

Sieve Analysis (ASTM C117-04/C136-06)

200 Wash Procedure: A

| Sieve Size | Passing |
|------------|---------|
| 1in. | 100% |
| 3/4in. | 100% |
| 1/2in. | 99% |
| 3/8in. | 99% |
| #4 | 99% |
| #10 | 99% |
| #40 | 98% |
| #100 | 60% |
| #200 | 33% |



Moisture Density Relationship: (ASTM D1557-02) Method: A
 Preparation Method: Dry Rammer Type: Mechanical
 Specific Gravity: 2.651 Assumed
 Maximum Density: 120.5
 Optimum Moisture: 12.0

Plasticity Index (ASTM D4318-05)

Liquid Limit: 24
 Plastic Limit: 17
 Plasticity Index: 7

Preparation Method: Dry Liquid Limit Method: A
 PI Air Dried.

Soil Classification (ASTM D2497-06) SC-SM

Reviewed By: 

sg

Distribution: Client: File: Supplier: Email: Other: Addressee (2)



Client: Malcolm Pirnie Inc
630 Plaza Drive #600
Highlands Ranch, CO 80129

Report Date: April 04, 2014

Attn: Mr. Steve Richey
Project Name: Asarco Site Remediation
Paisano Drive
El Paso, TX

Project #: 1437191031

Work Order #: 2

Lab #: 14152

Sampled By: Jessica Jimenez

Date Sampled: 4/3/2014

Visual Description of

Material:

Sample Source: Cell 3 Foundation Layer

Project Manager: David Varela

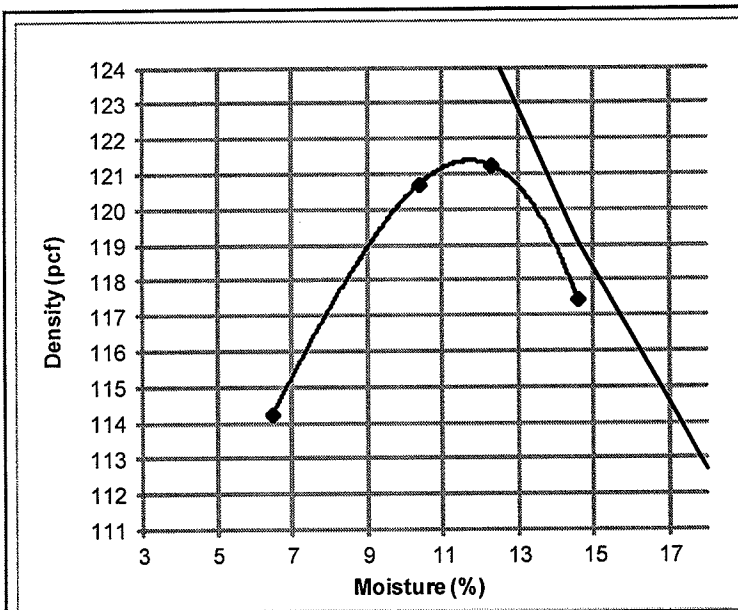
SOILS / AGGREGATES

No Project Specification was Provided.

Sieve Analysis (ASTM C117-04/C136-06)

200 Wash Procedure: A

| Sieve Size | Passing |
|------------|---------|
| 3/4in. | 100% |
| 1/2in. | 96% |
| 3/8in. | 96% |
| #4 | 95% |
| #10 | 94% |
| #40 | 92% |
| #100 | 71% |
| #200 | 45% |



Moisture Density Relationship: (ASTM D1557-02)

Method: A

Preparation Method: Dry

Rammer Type:

Mechanical

Specific Gravity: 2.651 Assumed

Maximum Density: 121.5

Optimum Moisture: 11.5

Reviewed By: _____

dv

Distribution: Client File: Supplier: Email: Other: Addressee (1)



Client: Malcolm Pirnie Inc
 630 Plaza Drive #600
 Highlands Ranch, CO 80129

Report Date: April 14, 2014

Attn: Mr. Steve Richey
 Project Name: Asarco Site Remediation
 Paisano Drive
 El Paso, TX

Project #: 1437191031
 Work Order #: 3
 Lab #: 14168
 Sampled By: Jessica Jimenez
 Date Sampled: 4/11/2014

Visual Description of Material:
 Sample Source: Cell 3 Anchor Trench Backfill

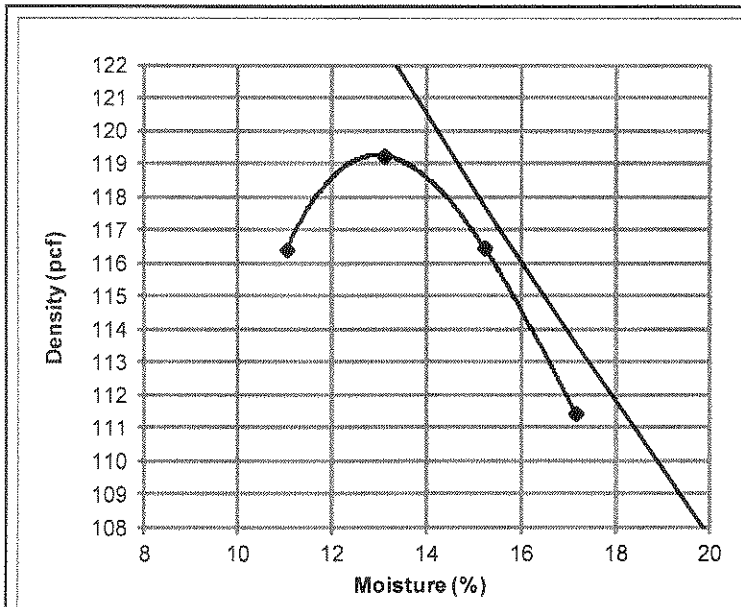
Project Manager: David Varela **SOILS / AGGREGATES**

No Project Specification was Provided.

Sieve Analysis (ASTM C117-04/C136-06)

200 Wash Procedure: A

| Sieve Size | Passing |
|------------|---------|
| 1/2in. | 100% |
| 3/8in. | 99% |
| #4 | 96% |
| #10 | 94% |
| #40 | 92% |
| #100 | 86% |
| #200 | 64% |



Moisture Density Relationship: (ASTM D1557-02) Method: A
 Preparation Method: Dry Rammer Type: Mechanical
 Specific Gravity: 2.651 Assumed
 Maximum Density: 119.5
 Optimum Moisture: 13.0

Plasticity Index (ASTM D4318-05)

Liquid Limit: 37
 Plastic Limit: 14
 Plasticity Index: 23

Preparation Method: Wet Liquid Limit Method: A
 PI Air Dried.

Soil Classification (ASTM D2487-06) CL

Reviewed By:
 dv

Distribution: Client File: Supplier: Email: Other: Addressee (1)



Client: Malcolm Pirnie Inc
630 Plaza Drive #600
Highlands Ranch, CO 80129

Report Date: April 21, 2014

Attn: Mr. Steve Richey
Project Name: Asarco Site Remediation
Paisano Drive
El Paso, TX

Project #: 1437191031

Work Order #: 4

Lab #: 14173

Sampled By: JJ w/Arcadis

Date Sampled: 4/16/2014

Visual Description of 3/8" Cover
Material:

Sample Source: Cell 3

Project Manager: David Varela

SOILS / AGGREGATES

No Project Specification was Provided.

Sieve Analysis (ASTM C117-04/C136-06)

200 Wash Procedure: A

| <u>Sieve Size</u> | <u>Passing</u> |
|-------------------|----------------|
| 3/8in. | 100% |
| #4 | 97% |
| #10 | 64% |
| #40 | 24% |
| #100 | 15% |
| #200 | 12% |

Reviewed By: 

sg

Distribution: Client File: Supplier: Email: Other: Addressee (1)



Client: Malcolm Pirnie Inc
630 Plaza Drive #600
Highlands Ranch, CO 80129

Report Date: May 13, 2014

Attn: Mr. Steve Richey
Project Name: Asarco Site Remediation
Paisano Drive
El Paso, TX

Project #: 1437191031
Work Order #: 5
Lab #: 14190
Sampled By: Jessica Jimenez
Date Sampled: 5/9/2014
Visual Description of 3/8"
Material:
Sample Source: Cell 3

Project Manager: David Varela

SOILS / AGGREGATES

No Project Specification was Provided.

Sieve Analysis (ASTM C117-04/C136-06)

200 Wash Procedure: A

| <u>Sieve Size</u> | <u>Passing</u> |
|-------------------|----------------|
| 3/8in. | 100% |
| #4 | 95% |
| #10 | 56% |
| #40 | 22% |
| #100 | 14% |
| #200 | 11% |

Reviewed By: _____

sg

Distribution: Client File: Supplier: Email: Other: Addressee (1)